

The Economy as a Strategic Theater

The Relevance of the Economy to the
Strategic Autonomy of a State

Vítor Augusto Brinquete Bento

Supervisor: Professor Doutor Heitor Alberto Coelho Barras Romana

*Thesis specially prepared to obtain the PhD degree in Social Sciences,
specializing in Strategic Studies*

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Dedication

To my grandchildren, *Graça* and *Francisco*, bearers of the future.

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Abstract

The aim of this thesis is to identify the relevance of the national economy to the strategic autonomy of a state and, more specifically, to answer the question: *To what extent is the national economy relevant to a state's strategic autonomy?*

For most of History, strategy has been concerned with war and the use of military force to solve interstate disputes. Military force was also the main instrument by which countries could rapidly expand their wealth or protect it from predatory threats from others. In recent times, this underlying environment has changed considerably. Economic conditions have evolved in a way that has allowed wealth quickly to increase just by making better use of domestic resources, and war has become less and less seen as a way to solve international disputes. In this new context, it is essential to recognize the economy as a relevant strategic theater where countries confront and compete with each other on an ongoing basis. Furthermore, the economy is the theater where most states – not risking their existence or aspiring to become world or regional powers – can act strategically. Therefore, theories of strategy must acknowledge and incorporate this new reality, and it is to this area of research that the thesis intends to contribute.

Strategic autonomy is a fundamental condition for the strategic options in the action of states. Much talked about in various political quarters, no one has managed to define the term well. Being an essential part of the research object, a clear and operational definition is therefore necessary, not only for the development of this research, but also for future uses by researchers and analysts.

With the economy recognized as a relevant strategic theater and with a definition of strategic autonomy, the path was opened to seek the answer to the research question into the realm of the economy. The size of a state's economy is a primary source of its economic power and this power is a source of strategic autonomy. Population size is both an anchor and a relevant scale variable, but its dynamic potential is limited. On the other hand, capital accumulation – physical and human, tangible and intangible –, together with the efficiency of its use, has far greater potential to change dynamically the size of an economy. Trade offers states an opportunity to expand their economic potential, providing the national economy with a world market and allowing it to specialize in segments where it can be more efficient or enjoy particular advantages. And, therefore, trade is the means to expand the economic size of the country beyond that which its limited domestic market could allow. Technology can also be a

generator of state power, providing opportunities to seize competitive advantage, both directly in the economy and indirectly on other fronts of power. Savings are crucial to building wealth, offering the power to realize, influence, pressure, and coerce, while also ensuring the nation is able to preserve control of its economy.

Finally, in order for the economic power generated by a country's economy to be fully projected in the strategic autonomy of the state – not forgetting how ownership and control is dispersed among several independent agents – it is necessary to share a common vision of the country's role in the world. This involves government, society in general, and its economic elite in particular being able to align private interest with the common interest of the country.

China and Germany provide two paradigmatic cases that validate the theoretical considerations advanced by this thesis.

Keywords: Strategy, National Strategy, Strategic Autonomy, Economy, Economic Power.

Resumo

Esta tese pretende identificar a relevância da economia nacional para a autonomia estratégica de um estado e, mais especificamente, responder à pergunta: *em que medida a economia nacional é relevante para a autonomia estratégica de um estado?*

Durante a maior parte da História, a Estratégia preocupou-se com a guerra e o uso da força militar para resolver disputas interestaduais. A força militar também foi o principal instrumento com que os países poderiam expandir rapidamente a sua riqueza e protegê-la de ameaças predatórias de outros, pelo que, de certo modo, a riqueza dependia da capacidade de ganhar guerras. Mesmo quando na Era Moderna o comércio se tornou num potente instrumento para o enriquecimento rápido, como mostram as repúblicas marítimas italianas ou as subsequentes potências dominantes do comércio oriental, como Portugal, a supremacia militar, especialmente no mar, continuou a ser fundamental para adquirir e manter os monopólios comerciais que permitiam o enriquecimento desejado.

Nos tempos mais recentes, a envolvente favorável às acções bélicas mudou consideravelmente. Por um lado, conquista e pilhagem deixaram de ser instrumentos a que os estados possam recorrer facilmente, pois terão pela frente toda a comunidade internacional. Por outro lado, as condições económicas evoluíram de uma maneira que permitiu aumentar rapidamente a riqueza apenas com um melhor uso dos recursos domésticos. E por fim, o potencial de destruição do mundo, resultante do armamento nuclear, juntamente com a menor vontade de lutar à medida que as sociedades se tornam mais afluentes, tornou paradoxalmente a guerra menos provável como modo de resolução de disputas internacionais.

Neste novo contexto, o poder militar permanece importante e é garante da estabilidade necessária, nomeadamente para o bom funcionamento das economias. E continua sendo uma fonte determinante na formação do poder nas relações internacionais. Mas esse poder é principalmente uma preocupação para os países que são, ou aspiram ser, potências mundiais ou regionais. Como tal, diz respeito a um pequeno número de estados. Para a maioria dos estados (incluindo potências económicas, como a Alemanha e o Japão) – que designamos por “estados comuns” por não serem ou não aspirarem a ser potências mundiais ou regionais e não terem a sua existência em risco –, e uma vez asseguradas condições de paz mundial pelas potências e pelas organizações para o efeito instituídas pela comunidade internacional, as suas aspirações – nas quais a prosperidade tem um lugar central – e os seus interesses disputam-se sobretudo no campo da economia.

É nesse campo que os países se confrontam e competem entre si continuamente. Não em confrontos diretos, como são os jogos de soma zero, mas em disputas indiretas, como se fossem corridas em que todos podem ganhar alguma coisa, ajustando as ambições às suas capacidades. Todavia, a competição económica, mesmo quando decorre em entornos cooperativos, não deixa de ser confrontadora, na medida em que os competidores disputam recursos mundiais – recursos produtivos e poder de compra – que são escassos por natureza. Só que essa disputa, mesmo sendo confrontadora, é um jogo de soma positiva, na medida em que o seu resultado amplia o conjunto dos recursos que disputa. Desta forma, a economia tornou-se um teatro estratégico relevante. É, pois, essa realidade que as teorias da estratégia devem reconhecer e incorporar, e é para isso que esta tese pretende contribuir.

A autonomia estratégica é uma condição fundamental para as opções estratégicas na ação dos estados. Muito se fala dela em vários quadrantes políticos – nomeadamente em França, nas instâncias da União Europeia e na Índia –, mas o termo nunca foi bem definido. Nos documentos europeus, subentende-se que a autonomia pretendida, sobretudo no caso francês, é em relação aos Estados Unidos (o que não é partilhado por muitos outros estados, incluindo a Alemanha). E na Índia, a autonomia estratégica é uma adaptação do conceito de não-alinhamento, usado durante a Guerra Fria, ao contexto subsequente ao seu fim. Neste caso, e para além da autossuficiência militar, o conceito de autonomia passou a estender-se também explicitamente ao campo económico.

Sendo uma parte essencial do objeto da pesquisa, foi necessário avançar com uma definição clara e operacional do conceito, não apenas para o desenvolvimento da pesquisa, mas também para usos futuros. Uma definição que tivesse em conta os instrumentos de poder ao alcance do estado, a estrutura do sistema internacional e as circunstâncias históricas.

Para esse efeito, e para orientar a procura da resposta à pergunta de pesquisa, foi desenvolvido um quadro analítico, assumindo que uma (grande) estratégia nacional, englobando todos os recursos do país e coordenando todas as políticas nacionais, é um instrumento estratégico fundamental de boa governação do estado. E para a eficaz afirmação do estado na esfera internacional, assim como para a promoção dos interesses fundamentais do país. Instrumento que terá que ter uma natureza determinada, mas dinâmica, ancorada num propósito claro que assegure o rumo, mas flexível o suficiente para atender aos desafios, muitas vezes inesperados, que o correr do tempo e a mudança de circunstâncias hão-de ir opondo no seu caminho. Sem um tal instrumento, o estado não terá um rumo definido e limitar-se-á a navegar as circunstâncias procurando delas tirar o melhor partido, mas sem a orientação

necessária para atender rápida e eficazmente à mudança da sorte circunstancial e sem perder o sentido do caminho. E porque a incerteza é o que de mais certo e permanente se tem no caminho do porvir, a autonomia estratégica – a margem de manobra para escolher meios e destinos possíveis – torna-se na melhor salvaguarda para lidar com as surpresas estratégicas que o futuro inevitavelmente colocará no caminho estratégico do estado. E por isso, uma boa estratégia nacional deve sempre conter, juntamente com os objetivos finais que pretenda atingir, o objetivo instrumental de preservação e ampliação da autonomia estratégica do país.

A autonomia estratégica depende dos instrumentos de poder de que o estado disponha ou a que possa recorrer e também da eficácia e eficiência de cada um desses instrumentos nas circunstâncias concretas em que o seu uso seja necessário. Isto porque certos instrumentos de poder são mais eficazes numa circunstância do que noutras, pelo que, por exemplo, uma potência económica pode, em tempo de paz, ter mais autonomia estratégica do que uma potência militar.

O poder económico é, pois, um dos instrumentos que pode proporcionar autonomia estratégica e em graus variados, consoante as circunstâncias, e é aquele sobre o qual esta pesquisa se debruça, como resulta claro do seu objeto. Como fatores mais relevantes para a construção do poder económico de um país e, por conseguinte, para a sua autonomia estratégica, foram destacados a dimensão da economia, a inserção nas redes mundiais de comércio, de conhecimento e de tecnologia, a capacidade tecnológica, a poupança, a riqueza e a parcimónia no recurso a fontes externas de financiamento.

A dimensão económica, em si, tem reduzida relevância estratégica se não for suscetível de poder variar em resultado de acções deliberadas dos decisores estratégicos dirigidas a esse objetivo. Assim, e relativamente a esta componente, o que se torna estrategicamente relevante são os fatores suscetíveis daquelas acções. O que não é (ou só o é em níveis muito limitados) o caso da população, que sendo uma âncora importante tem um reduzido potencial dinâmico. Mas é o caso do capital físico – dependente de investimento – e humano – dependente da formação – e da eficiência económica – dependente da organização no uso daqueles fatores e que se reflete na sua produtividade. O comércio com o exterior oferece aos países a oportunidade de expandir o seu potencial económico, proporcionando um mercado de dimensão mundial e dessa forma permite à economia especializar-se em segmentos nos quais possa ser mais eficiente ou desfrutar de vantagens particulares e, portanto, expandir o seu tamanho económico para além do que o limitado mercado doméstico poderia proporcionar. A tecnologia, sobretudo se dominada nas áreas de ponta, também é um gerador e um diferenciador de poder, do mesmo

modo que o seu não comando acarreta dependências limitadoras da autonomia. E a poupança é crucial para a acumulação de riqueza, que é, em si mesmo, uma fonte de poder que permite realizar, influenciar, pressionar e coagir, ao mesmo tempo que permite preservar o controlo nacional das economias nacionais. Controlo sem o qual a economia se torna dependente de centros estratégicos alheios, quando não adversos, aos interesses do país.

No entanto, há que ter em conta, que os processos de integração em cadeias globais, de comércio, tecnologia e finanças, ao mesmo tempo que criam oportunidades de expansão da autonomia estratégica, também podem criar dependências que, se não forem devidamente controladas, se podem tornar muito limitadoras da autonomia estratégica dos estados.

Finalmente, para que o poder económico gerado pela sua economia, mas disperso por vários agentes independentes na sua propriedade e controlo, seja plenamente potenciado na autonomia estratégica do Estado, é necessário que o governo e a sociedade consigam articular os seus interesses e compartilhar uma visão comum. do papel do país no mundo.

A China e a Alemanha representam dois casos paradigmáticos que validam as considerações teóricas avançadas pela tese.

Palavras-chave: Estratégia, Estratégia Nacional, Autonomia Estratégica, Economia, Poder Económico.

TABLE OF CONTENTS

Dedication	i
Acknowledgements.....	iii
Abstract.....	v
Resumo	vii
List of Tables	xiv
List of Figures.....	xvi
List of Abbreviations, Acronyms and Symbols	xviii
INTRODUCTION.....	1
METHODS AND MATERIALS	8
PART I – SETTING THE STAGE: CRITICAL LITERATURE REVIEW AND PROPOSED FRAMEWORK	16
CHAPTER 1. Evolution of the Thought on Strategy.....	16
1.1. Preamble.....	16
1.2. Strategy in Antiquity	17
1.3. Strategy in Modern Age	18
1.4. The Clausewitz “Revolution”: Strategy goes Political	21
1.5. From Clausewitz to Grand Strategy.....	23
1.6. Strategy: The Quest for Scientific Status	28
1.7. Art or Science?	31
1.8. Grand Strategy: Torn between War and Politics.....	34
1.9. From Grand Strategy to National Strategy.....	40
1.10. Critical Assessment.....	41
CHAPTER 2. Literature on Strategic Autonomy	49
2.1. Preamble.....	49
2.2. French Official Views	50
2.3. European Union Official Views.....	52
2.4. Other European Views	54
2.5. Indian Views	58
2.6. Critical Assessment.....	60
CHAPTER 3. Proposed Analytical Framework.....	66
3.1. Preamble.....	66
3.2. The National Strategy.....	66

3.3. Strategic Autonomy.....	70
CHAPTER 4. The Economy on the Central Stage of Strategy	80
4.1. Economy, Politics and Strategy	80
4.2. The Growing Role of the Economy in Social Life.....	83
4.3. Economy Gaining Strategic Relevance.....	86
4.4. Summing-up	91
PART II – RELEVANT ECONOMIC FACTORS FOR STRATEGIC AUTONOMY .	93
CHAPTER 5. Size Matters	93
5.1. The Importance of Size	93
5.2. Testing the Main Sources of Economic Size	95
5.3. The Role of Efficiency	101
5.4. Economic Dynamics	104
5.5. Income and Wealth.....	106
5.6. Summing-up	109
CHAPTER 6. Worldwide Webs: Trade and Technology.....	111
6.1. Trade.....	111
6.2. Political Implications.....	117
6.3. Global Value Chains	120
6.4. Technology and Networks	123
6.5. Summing-up	133
CHAPTER 7. Saving, Wealth and Finance	136
7.1. Some Basics on Economy and Finance.....	136
7.2. The Economic Role of Savings	138
7.3. The Strategic Potential of Savings	141
7.4. From Savings to Wealth.....	144
7.5. Foreign Assets and Liabilities	148
7.6. The Role of Currency	153
7.7. Summing-up	159
CHAPTER 8. Strategic Governance: Articulating the Sources of Economic Power	161
8.1. National Strategy and its Governance.....	161
8.2. Governance of the Economic Sphere of National Strategy.....	164
8.3. Foreign Control of Domestic Operating Firms	170
8.4. The Special Case of the Financial Sector.....	173
8.5. Summing-up	176
PART IV – TESTING THE THEORY	180
CHAPTER 9. Two Paradigmatic Cases.....	180
9.1. Preamble.....	180
9.2. The Case of China.....	181
a) Deng Xiaoping Development Strategy and the Proposed Framework of the Thesis.....	183
b) The Outcomes of the Strategy	186
c) Strategic Governance	190

d) Still a Way to Go.....	194
9.3. The Case of Germany.....	195
a) The Early Times.....	195
b) Economic Development.....	197
c) Strategic Culture.....	199
d) German Reunification.....	200
e) Strategic Governance.....	202
f) Final Considerations.....	206
9.4. Common Features.....	208
CONCLUSIONS.....	212
REFERENCES.....	224
Publications:.....	224
Databases:.....	257
APPENDIXES.....	260
APPENDIX A Historical Frequency of Certain Words Used in English, French, and German Literatures.....	260
APPENDIX B Supporting Data.....	265
APPENDIX C Explaining Military Strength Dependencies.....	286
APPENDIX D Calculations to Support the Research in Chapter 5.....	291
APPENDIX E Some Fundamental Identities of National Accounting.....	296

List of Tables

Table 5.1. Groups of Countries and their Shares	96
Table 5.2. Characterization of each Group: Average Values, 2017.....	97
Table 5.3. Cross-Country Correlations between Real GDP at Constant 2011 National Prices (2011 USD) and Identified Resources, 2017	97
Table 5.4. Regression Results for the Production Function (Data for 2017)	99
Table 5.5. World Wealth by Income Groups (2014)	108
Table 6.1. Convergence: GDP per capita at 2011 PPP Values – Indexes (High Income Group = 100).....	121
Table 6.2. Population living on less than \$1.90 a day (2011 PPP) (%)	121
Table 7.1. Prosperity, Investment and Savings (1990-2018)	139
Table 7.2. Performance Comparison of Top 3 and Bottom 3 Countries in each Group	140
Table 7.3. Top World Savers	143
Table 7.4. Estimated Wealth Stocks (% World Total Stock).....	146
Table 9.1. China Economic Performance against its Main Strategic Competitors	187
Table 9.2. China Economic Performance against its Main Strategic Competitors - Ratios ..	188
Table B1. Major US Military Operations since World War II.....	275
Table B2. Historic Evolution of the World Economy.....	275
Table B3. Outstanding Amounts of Financial Assets and Derivatives at End 2018.....	276
Table B4. Turnover of OTC Foreign Exchange Instruments, April 2019 – Daily Averages, in USDbn	276
Table B5. Economic Size of States (GDP) and Large Corporations (Turnover).....	277
Table B6. Top Military Spenders (average 2010–2018).....	278
Table B7. Composition of G20 (2019) and Economic Relevance of its Members (2018)....	278
Table B8. Top 30 Economies by GDP (2017)	279
Table B9. Simulation of Economic Sizes if the 15 Largest Economies Had the Same Economic Efficiency as the USA	280
Table B10. Simulation of Economic Dynamics of Largest Economies (1990–2017).....	280
Table B11. Secular Changes of Relative Economic Size of Top Economies	281
Table B12. Wealth and GDP of the Top 15 Economies (2014).....	281
Table B13. Exports of Goods and Services as a GDP Share (Top GDP Countries).....	282

Table B14. Most Valuable Companies (Stock Market)	282
Table B15. Operating Systems in Use Worldwide (Market Share, February 2020).....	283
Table B16. World Wealth Shares –Comparison of Sources	283
Table B17. Foreign Direct Investment – Top Net Players (2017)	284
Table B18. Top Net International Investment Positions (2017)	284
Table B19. Major International Currencies.....	285
Table B20. World Economic Rankings.....	285
Table C1. Regression Analysis (Military Power, GDP and Freedom)	287
Table C2. Database used for the Regression.....	288
Table D1. List of Countries and their Groupings.....	292
Table D2. Cross-Country Correlations between GDP and Potential Explanatory Variables (2017).....	293

List of Figures

Figure 0.1. Mixed Methodological Approach.....	9
Figure 1.1. Prosperity, Security and Survival Interactions	45
Figure 3.1. The Articulation of a National Strategy.....	68
Figure 3.2. The Dynamic of the (National) Strategic Process	69
Figure 3.3 – Strategic Autonomy within the Strategic Process.....	75
Figure 7.1 The Circuit of Savings, Investment and Income.....	138
Figure 8.1. The Political Process.....	163
Figure 8.2. Economic Power and Strategic Autonomy	165
Figure 8.3. The Working of the Economic Segment of National Strategy	166
Figure A1. Use of “Strategy” and “Tactics” (1800–1945).....	260
Figure A2. Use of “Grand Strategy”	261
Figure A3. Use of “Strategy” and “Strategic”.....	262
Figure A4. Use of Different Qualifications of “Strategy”	263
Figure A5. Use of “Theory of Strategy” (or Equivalents)	264
Figure B1. War Victims (Military and Civilian), Since 1600: Percentage of the World Population.....	265
Figure B2. Population and Welfare (Index Numbers: Year 1 AD = 100)	265
Figure B3. Time Series of World Exports at Constant Prices (1800–2018).....	266
Figure B4. The Web of Cross-Border Investments in 1999.....	266
Figure B5. Affluence and Willingness to Fight	267
Figure B6. GDP Per Capita (PPP, Constant Prices).....	267
Figure B7. World Population and Poverty	268
Figure B8. Evolution of the World Average Life Expectancy (Years).....	268
Figure B9. Traditional and GVC Trade (% of Nominal GDP)	269
Figure B10. World Exports (Logarithmic Scale).....	269
Figure B11. World GDP and World Exports (1913=100) (Logarithmic Scale).....	270
Figure B12. The Smile Curve	270
Figure B13. Accelerating Growth in Technology	271
Figure B14. Top 500 World Supercomputers (November 2019).....	271
Figure B15. Growth and Investment (Average Values 1990–2018).....	272
Figure B16. USD Exchange Rate against JPY and GBP	272
Figure B17. Foreign Direct Investment Restrictiveness (2018).....	273

Figure B18. Median Age of the Population	273
Figure B19. Population Age 65 Years and Over (% of Total).....	274
Figure C1. Military Strength (Regression Model)	289
Figure C2. Military Strength Based on GDP Alone.....	290
Figure D1. Estimated Cross-Country GDP Values and the Corresponding Real Values (2017)	294
Figure D2. Predicted Cross-Country Apparent Labor Productivity (Y/L) Values and Corresponding Real Values (2017)	295

List of Abbreviations, Acronyms and Symbols

a) Abbreviations and Acronyms

AI	Artificial Intelligence
AIIB	Asian Infrastructure Investment Bank
ARES	Armament Industry European Research Group
AUD	Australian dollar
BIS	Bank of International Settlements
BRI	Belt and Road Initiative
CAD	Canadian dollar
CDU	Christian Democratic Union (Germany)
CHF	Swiss franc
CNY	Chinese yuan
CSDP	Common Security and Defense Policy
CSU	Christian Social Union (Bavaria, Germany)
DM	Deutschmark or Deutsche Mark
DoD	Department of Defense
EC	European Community
ECB	European Central Bank
ECSC	European Coal and Steel Community
EEC	European Economic Community
EIA	Energy Information Agency
EMU	European Monetary Union
EU	European Union
EU15	The 15 member states (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the UK) that made up the EU shortly before its further expansion to include eight countries of Central and Eastern Europe (Czech Republic, Estonia, Hungary,

Latvia, Lithuania, Poland, Slovakia and Slovenia) on May 1, 2004. The EU15 represent more than 90 percent of the EU economy.

EUR	Euro (currency)
FDI	Foreign Direct Investment
FDP	Free Democratic Party (Germany)
FRED	Federal Reserve Bank of Saint Louis Database
FRF	French franc
FX	Foreign Exchange
G20	Group of Twenty
GATT	General Agreement on Tariffs and Trade
GBP	Great Britain (British) pound
GDP	Gross Domestic Product
GDPpc	Gross Domestic Product per capita
GFP	Global Firepower
GNI	Gross National Income
GNP	Gross National Product
GVC	Global Value Chains
HCI	Human Capital Index
HDI	Human Development Index
ifri	Institut français des relations internationales
IFS	International Financial Statistics (of the IMF)
IIP	International Investment Position
IMF	International Monetary Fund
IP	Internet Protocol
JPY	Japanese yen
MIC	Made in China

ML	Machine Learning
MNC	Multinational Corporation
MNE	Multinational Enterprise
MOE	Mixed Ownership Enterprises (China)
NATO	North Atlantic Treaty Organization
NSS	National Security Strategy
NYT	New York Times
OPEC	Organization of Petroleum Exporting Countries
OLS	Ordinary Least Squares (multiple linear regression)
OTC	Over the counter
OWID	Our World in Data (scientific online open-access publication from the University of Oxford)
POE	Private Owned Enterprises (China)
p.p.	Percentage points
PPP	Purchasing Power Parities
PRC	Popular Republic of China
PWT	Penn World Table
PWT 9.1	Penn World Table 9.1
RoW	Rest of the World
SEK	Swedish krona
SIPRI	Stockholm International Peace Research Institute
SOE	State Owned Enterprise (China)
SPD	Social Democratic Party (Germany)
UN	United Nations
UNDP	United Nations Development Program
UK	United Kingdom

US	United States
USA	United States of America
USD	United States dollar
USSR	Union of Soviet Socialist Republics (Soviet Union)
WB	World Bank (International Reconstruction and Development Bank)
WBD	World Bank Databank
WDI	World Development Indicators (of WB)
WEO	World Economic Outlook (of IMF)
WIPO	World Intellectual Property Organization
WTO	World Trade Organization
WWI	World War One
WWII	World War Two

b) Symbols used in economic equations:

A	Autonomous parameter in a production function
C	Private Consumption
CA	Current Account (with the Rest of the World)
E	Exports
G	Government Consumption
h	Human Capital Index (PWT9.1)
I	Investment (Gross Fixed Capital Formation)
K	Physical Capital Stock
K/L	Capital Intensity or Capital / Labor Ratio
L	Labor (Employment)
L/P	Employment rate
M	Imports
N	Natural Resources

O	Oil Production (1,000 barrels/day)
P	Population
R	Net Income received from the Rest of the World
S	Savings
S _N	National Savings
S _X	Foreign Savings
T	Territory (Country Area in Km ²)
TB	Trade Balance
TC	Total Consumption
Tf	Net Unrequited Transfers from the Rest of the World
W	Wealth
Y	GDP
YD	Disposable Income
Y/L	Labor Apparent Productivity
Y/P	GDP per capita

INTRODUCTION

The aim of the present research is to identify the relevance of the national economy – its resources, productive capabilities, productivity, organization, finance, international interdependencies, and the articulation between public and private activities – to the strategic autonomy of a state. More specifically, it seeks to answer the question: *To what extent is the national economy relevant to a state's strategic autonomy?* Furthermore, as the thesis makes clear, the aim of the research has been to contribute to knowledge by filling in two gaps in the theories of strategy identified in the literature review: recognition of the central role that the economy should play in strategic considerations and the meaning and role of strategic autonomy.

It may seem odd that a thesis dealing extensively with economic issues intends to fit into the area of Strategic Studies, but the explanation is very simple. In ancient times, domestic resources alone were not able to increase the wealth of countries (or equivalent polities); significant gains could be achieved only through the conquest and plunder of the resources of other polities. This required countries, either those with ambitions to extend their wealth or those committed to preserving it, to have suitable military power to attain their intents. It may be said, therefore, even if with some over-simplification, that military power and the ability to use it effectively were critical, both to expand wealth and protect it against predatory attacks – real or potential. Wealth, then, was dependent on the power to wage and win wars. Therefore, naturally, strategic concerns evolved around war.

Around the Modern Age, trade became a potent instrument for rapid enrichment, as shown by the experiences of the Italian maritime republics – e.g. Amalfi, Pisa, Genoa, and Venice – or the subsequent dominant powers of Eastern trade – Portugal first, or the Netherlands, later. Yet, even in these cases, military supremacy, especially at sea, was instrumental in acquiring and maintaining the monopolies of trade that warranted the desired enrichment.

In present times, this framework has changed substantially. On the one hand, conquest and plunder are no longer instruments that countries can easily resort to, as they must now face the scrutiny of the whole international community. On the other hand, income and wealth can be increased now simply by each country using its resources more productively. Income and wealth can then grow more and expand faster, becoming one of the most important instruments, if not the most important, in the rebalancing of power relations, including the militarily. It is

this ability, therefore – to be able to rapidly increase wealth with domestic resources – that now drives the capacity to accumulate and sustain military power, reversing the old order between military power and economic power. In this way, the creation of wealth – in short, the workings of the economy – has become a central element in the power relations between countries, including military power, and thus consequently there must be a corresponding capacity to embed this as a central element in strategic considerations.

Military power remains crucial in power relations, if nothing else, because it is the guarantor of the necessary conditions to grow the wealth of economies. Additionally, the military remains a determining source of power in the shaping of international relations. However, this is primarily a concern for countries that are, or aspire to be, world or regional powers and, to this end, need to avail themselves of the military force that can assure them a dominant role in their geographical targets. As such, this concerns only a small number of states. Today, most existing states are out of this league so to speak, for reasons of practicalities or by their own choice, as the cases of Germany and Japan attest. This vast set of countries are thus what could be called “common states” (as opposed to “power states”). These countries do not intend to conquer, nor risk being conquered, and do not feel that their existence is at risk, either because strong alliances guarantee protection or simply because the world powers and the organized international community have ensured a mostly peaceful world order. At the same time, the potential for the destruction of the world accumulated in the meantime, together with the declining will to go to war, as societies become more affluent, has significantly reduced the prospect of war. In such an environment, these “common states” just strive to provide a prosperous and secure life for their citizens.

To do so, states must interact in the world arena, where they must also deal with conflicting interests, while furthering their own interests and containing the interests of others. For such an endeavor, states compete, face hostilities, form alliances, and contend with adversaries and competitors (which are not necessarily the same thing); that is, they are engaged in all kinds of activities that are part of Strategy and upon which their ultimate success depends. Only they must achieve this without resorting, or scarcely having to resort, to the use or threat of military force. These actions and interactions have been reshaping the world and rebalancing power relations, mostly without shots being fired. And they take place mostly in the economic arena, or by resorting heavily to instruments related, directly or indirectly, with the power generated by their economies.

These changes in the balance of powers, resulting from the workings of the national economies, may eventually lead to a “Thucydides trap,” as Allison (2017) warned, and could end up triggering a war of global consequences. However, two points must be made. First, most of the examples drawn by Allison to support his warning occurred in the pre-nuclear age, when the potential power of a war to annihilate most of the humankind did not exist. And so much so that the Cold War was “cold” precisely because such a power had already come into being. Secondly, the said changes, which could lead to the “trap,” and eventually to war, are the result of successful economic strategies. Thus, to exclude economic developments from Strategic Studies would be a major weakness and a serious shortcoming, especially since we have witnessed how China’s spectacular economic performance over the past four decades has raised it from the status of an underdeveloped country to the most serious potential challenger of the current ruling power – the USA.

In this context, it is clear why it is essential to recognize the economy as a relevant strategic theater, in which countries confront and compete with each other on an ongoing basis. And it is the theater where most states – the “common states” previously mentioned – can act strategically. Therefore, theories of strategy must surely acknowledge and incorporate this new reality. It is in the closure of this theoretical gap that this thesis aims to contribute. The aim is to incorporate into the theory a reality in which, for most states, the economy has replaced military confrontation as the main theater where countries strive to improve their existence and compete with each other in that effort. If they do not compete directly as in a match, they do so indirectly as in a race. Bearing in mind that economic competition, being in general a positive sum game, and which can often take place in cooperative environments – in a kind of *cooptition* –, is, nevertheless, an adversarial game. Because the intervening players, whether private agents or states, are in constant dispute over resources that are scarce by nature.

It is true that the so-called discipline of geo-economics already attempts to fill this gap. The name was coined by Luttwak (1990) who came to define it as a “new version of the ancient rivalry of the states,” now expressed “chiefly by economic means” Luttwak (2000, p. 128). And the definition was further refined by Blackwill and Harris (2016) as the “use of economic instruments to promote and defend national interests, and to produce beneficial geopolitical results” (p. 1). These attempts do not seem to have succeeded in a completely satisfactory way, principally because the new discipline focuses on states’ use of economic instruments in a confrontational way, as evidenced clearly in Blackwill and Harris’s (2016) title – “War by Other Means.” However, most economic interactions between states take place not in direct

confrontation, but in indirect competition (and sometimes even in cooperative environments). Likewise, the greatest adversities that states face and have to respond to, in the economic arena, stem not from deliberate actions by other states, but rather from the interplay of so-called market forces which, in turn, result from the spontaneous actions of a dispersed multitude of actors, mostly private. Therefore, it is more by competing in the international market than by direct confrontation – even if by economic means –, that the prosperity of states finds favorable opportunities to expand.

On the other hand, the term itself does not seem an appropriate choice, as the prefix *geo* seems to follow what Nye (1995) deemed a fashionable cliché (p. 90), as if surfing the wave of *geo-denominations* (e.g. geopolitics, geostrategy). As Nye recalls, “politics and economics are connected [and] international economic systems rest upon international political order” (p. 90). Whereby in the realm of international relations economic interactions cannot be considered outside the realm of politics, which is where their consequences will be felt. But to account for this, the discipline of International Political Economy already exists. If the name chosen is to refer to the strategic implications of economic activity – either because of its consequences or because of the opportunities opened up by it for targeted actions –, it would be more appropriate to give it a name that highlights the two associated areas: Strategic Economics, Strategic Economic Policy, or Economic Strategy (even if these terms are less “flashy”).

Therefore, it seems the gap remains open in as far as incorporating within Strategic Studies this more complex reality of economic interaction between private agents and states (with their respective governments); the former being those that, acting in the international marketplace, autonomously, and in their own interests, are the main determinants of the major economic outcomes and the latter being the actors of international relations and upon which the political consequences of these outcomes fall, as well as the corresponding responsibility. It is this gap the current thesis seeks to close. And it is also for this reason that this thesis proposes to be considered in the scope of Strategic Studies and, more specifically, in the field of the Theory of Strategy itself.

Furthermore, this thesis deals with strategic autonomy, the understanding around which seems to reveal another weakness in Strategic Studies. Indeed, while strategic autonomy receives mention within many works, its specific meaning remains tantalizingly undefined. This is particularly true in the European context, where the expression has gained currency. Largely, it seems to be one of those terms used liberally as if everyone is supposed to arrive to the discussion with pre-knowledge about what it actually is, as if simply because everyone

knows the meanings of “strategic” and “autonomy” in isolation, they will immediately know what strategic autonomy means too. No one, however, seems to have explained what the concept is behind the term, which brings together two words, but whose meaning is not necessarily the sum of the meanings of each word used per se.

Strategic autonomy, as this thesis would have it, is a fundamental condition for states to assert their strategic options to guide their actions. Uncertainty is, as we are all well aware, the most certain and permanent expectation on the path to the future. In such conditions, strategic autonomy – having the latitude to choose available ways and achievable destinies – becomes the best way to safeguard against the strategic surprises that the future will inevitably place on the country’s strategic path. Thus, in the scope of its strategic autonomy, is the greater or lesser capacity of the country to respond to those surprises. For this reason, a good national strategy should always have, together with its final ends, both the preservation and expansion of the country’s strategic autonomy as a necessary instrumental objective. As a clear definition of the concept and its clear operationalization is necessary for this reason alone, and as its absence represents another gap in the theory about strategy, contributing to its closure is another aim of this thesis. For this purpose, the proposed analytical framework of the research offers a useful definition of the term and provides a practical operationalization for the concept.

Strategic autonomy depends on the instruments of power that the state possesses or can resort to, and on the effectiveness and efficiency of each of these instruments in the concrete circumstances in which their use is necessary. This is because certain instruments of power are more effective in some circumstances than in others, whereby, for example, an economic power in peacetime may have broader strategic autonomy than a military power.

Economic power is one instrument that can provide strategic autonomy to varying degrees depending on the circumstances, and that this is the focus of the current research becomes clear from its objectives. As to the most relevant factors for building a country’s economic power and, consequently, its strategic autonomy, the factors highlighted were the size of the economy, its active participation in global trade, as well as its stake in the knowledge and technology networks, technological development, savings, wealth, and parsimony in using external sources of financing. Savings in particular, which are crucial for the accumulation of wealth, in themselves are a source of power to realize, influence, pressure, and coerce, and are also an important resource to preserve national control of the main strategic centers of a country’s economy. Control is essential, for without it the workings of the economy – and the

power it provides – become dependent on strategic centers that are alien, if not adverse, to the country’s interests and therefore cannot be counted upon for the country’s strategic autonomy.

Finally, in order for the economic power generated by a country’s economy to be fully projected in the strategic autonomy of the state – not forgetting how its ownership and control is dispersed among several independent agents –, a shared vision of the country’s role in the world is necessary. This involves government, society in general, and its economic elite in particular being able to align private interest with the common interest of the country.

The current thesis is organized into three parts. Part One – Chapters 1 to 4 – corresponds to the “setting of the stage” for the core of the research. Chapter 1, through a critical review of the literature on strategy, recalls the historical evolution of strategic thinking and provides a critical assessment of its current status. Chapter 2 also develops a critical review of the literature on strategic autonomy to conclude that it is insufficient for the purposes of this research. Chapter 3 advances a proposed analytical framework for what a national strategy should be, encompassing the most relevant fields of action for a country’s success, and providing insight into what should be understood by strategic autonomy and how it is influenced, constrained, or expanded. Chapter 4 then discusses why the economy should take the center stage of modern strategic concerns. Although still within the “setting of the stage” of Part One, Chapters 3 and 4 provide a kind of transition to the research core, offering some preliminary validation of the assumptions behind the research question.

Part Two – Chapters 5 to 8 – highlights the main economic factors relevant to a country’s strategic autonomy, discusses extensively their individual relevance, and looks at the ways in which countries could employ them strategically. Chapter 5 deals with the size of the economy, the variables upon which its growth is dependent, and how deliberate action can help manage this. Chapter 6 deals with national integration into the worldwide networks of trade and technology and how this integration can provide the leverage to enhance strategic autonomy, but also how they can bring about strategic dependencies, which need to be carefully prevented. Chapter 7 discusses the importance of savings and finance in providing strategic autonomy, but also cautions on excessive dependency on external financing that can endanger such autonomy. Finally, Chapter 8 deals with the delicate knitting together of different and dispersed sources of economic power and their independent ownership, so as to turn them into an effective instrument of national strategic autonomy.

Part Three consists of one chapter – Chapter 9. This chapter tests the theoretical contributions, which allowed the research to answer the question it began by posing, with two practical cases, chosen as paradigmatic examples: China and Germany.

METHODS AND MATERIALS

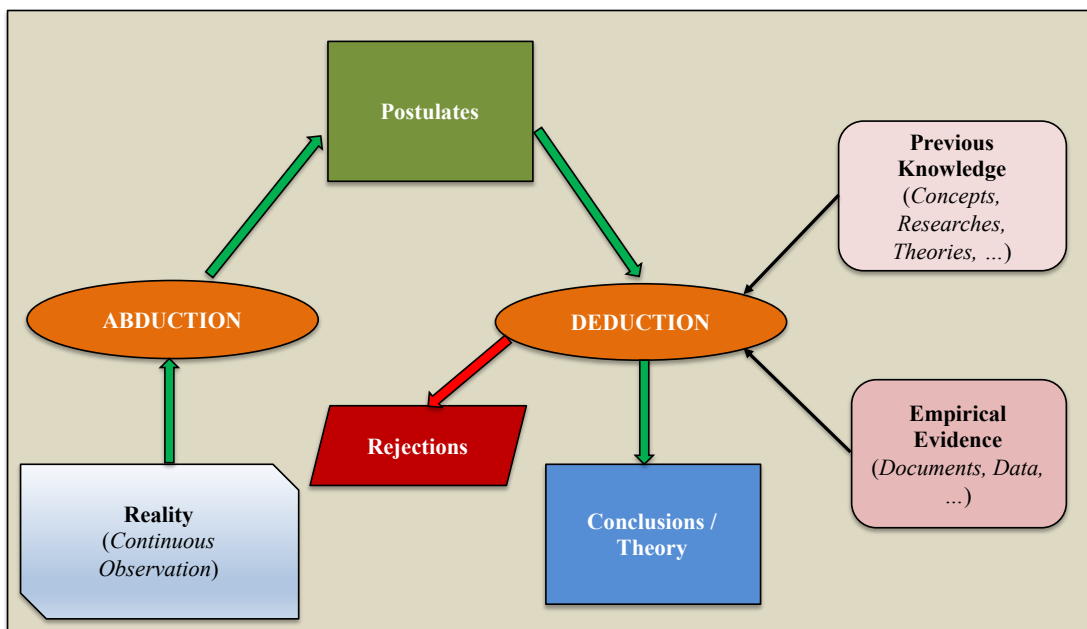
As stated in the Introduction, this research seeks to answer the question: *To what extent is the national economy relevant to a state's strategic autonomy?* The question is based on the assumption (which the research seeks to validate) that the economy has become, under the conditions in which the current world operates, at least since World War Two (WWII), a relevant strategic theater in which countries compete and confront each other, if not directly as in a match, indirectly as in a race. Additionally, to provide an adequate answer to the question, it was also necessary to identify and validate the economic factors that contribute most to the relevance under analysis and how the various sources of power resulting from these factors can leverage each other, to improve the strategic autonomy of the state.

It is well-known that social reality is very complex and dynamic in nature. Being composed of a vast multitude of actors, each of whom is autonomous and independent of mind, predicting their actions with any precision is impossible. Neither can deterministic models capture adequately the workings of social reality: it is not possible to conceive of all actors and their specific idiosyncrasies; how each actor reacts to identical stimulus is not always the same, whether in direction or in intensity or both; memory allows learning and thereby influences the responses to repeated events; and therefore the exact consequences of all their systemic interactions is fundamentally unpredictable with certainty. At most, probabilistic calculations can approximate these. This underlying reality has at least two practical consequences for the methodology followed in the current research. The first is that the “truth” about social reality is elusive and not apprehensible with the same certainty as the actual physical reality, whereby it can be inferred only approximately. The second is that the best way to infer such a “truth” is to postulate relationships from the careful and continuous observation of the said reality, subjecting these postulates to tests for consistency, through argumentative logic and continued appraisal as to their adequacy to reflect the reality through their (repeated) confrontation with it.

Within this epistemological view, the research followed a pragmatist methodology – widely based on a practical view that the world, in general, and at the social level in particular, is a multifaceted and dynamic complex. The better comprehension of this complexity requires interdisciplinary approaches and a combination of methods. Thus, the researcher resorted to a dialectic blend of mixed approaches – abductive and deductive – and methods – quantitative (mainly) and qualitative (subsidiary) –, following roughly the “third research paradigm”

(Johnson & Onwuegbuzie, 2004, p. 14). The main postulates the current research sought to validate, both as starting assumptions behind the research question and as exploratory relationships hypothesized to answer the question, were abducted largely from the author’s extensive practical and reflective experience developed over decades of professional practice within both the public and private sectors, in the academic field, and in the most prosaic fields of life. The validation of those postulates was then deduced – through logical argumentation from previous and related concepts (e.g. strategy, autonomy, economics), established knowledge, or findings from other research – and submitted to empirical verification, mostly by testing their statistical or historical fits (see Figure 0.1 below).

Figure 0.1. Mixed Methodological Approach



Source: Author’s design

The current research comprises three main parts, as mentioned in the Introduction: Part One, titled “Setting the Stage,” envisages establishing the analytical framework to address the answer to the research question. Mainly by deductive logic, supported by empirical evidence whenever possible, the intention of this first part is to validate the starting (implicit) assumptions of the thesis. Assumption (i) is that strategy cannot be confined to dealing with war or warlike situations, because otherwise, in a world that is mostly peaceful, most countries, without their survival at risk (as independent political entities), would be outside the scope of strategy and thereby be only the navigators of circumstances. Assumption (ii), to act strategically – that is, to be able to choose ends within their ambitions and prepare the ways and means to attain those ends – in the most convenient way, states need to dispose of, preserve,

and expand their strategic autonomy, because the degree of this autonomy provides the degree of freedom to choose those ends. Assumption (iii), where war is not the exclusive theater of strategy, and when what most countries seek, after survival, is prosperity then the economy must be a relevant theater for strategy, all the more so, as peoples and governments dedicate the greater part of their time and efforts to obtaining income and spending it to satisfy their needs and aspirations.

Chapters 1–4 of this research, which constitute Part One, are therefore devoted to demonstrating these three postulated assumptions and establishing an appropriate analytical framework to be used throughout. The four steps taken to achieve this were: Step (i), a critical review of the evolution of thought on strategy, following the chronology by which the logical course of such an evolution was being established, as well as identifying the circumstances that fostered this evolution, so as to deduce a concept and scope of strategy applicable to the circumstances of today's world. Step (ii), a critical review of the literature on strategic autonomy, which revealed that the use of the term was relatively recent and lacked a clear definition for the research to employ. Step (iii), the proposal of an analytical framework, based on the two previous deductions, integrating the concepts of national strategy and strategic autonomy – for which a proper definition and operationalization of the terms was advanced –, to be used throughout the research. Step (iv), to demonstrate, by logical argumentation, statistical evidence, and references to other thinkers on the subject, why the economy should be recognized as a relevant theater of national strategies.

Having gained plausible validation of the research's starting assumptions and established an appropriate analytical framework – whereby both the validation and the framework constitute a fundamental part of the thesis – the second and central part of the research could commence – to identify the main economic factors on which the strategic autonomy of a state mostly depends. The approach taken in Part Two, Chapters 5–8, continues as a dialectic (because it involves a kind of dialogue) between abduction and deduction. The postulation of the economic factors considered most relevant to the strategic autonomy of the state was abducted from the experience of the author, gained over many years analyzing the world economy and the main national economies. However, the plausibility of these postulates was validated further against empirical evidence, collected mainly from official statistical sources, findings from other research, and other documental proof, and against its internal consistency by logical argumentation. Statistical information and tools – from descriptive

statistics and statistical inference to correlation and regression analysis – were, thus, the main instruments used for the empirical validation.

Finally, Chapter 9, the single chapter that makes up Part Three, was applied to provide a more general validation of the theory arising from this research as a whole, after all its pieces had been assembled. As it was not possible to do this for all the countries in the world, a test was carried out applying the theory to the analysis of the development of two practical cases, chosen as paradigmatic. These two cases were China and Germany – the economies of which have performed leading roles in the prominence both countries have acquired in world affairs – having both started off in highly disadvantageous situations and notwithstanding that both took different strategic routes. Their national grand strategies since the end of WWII – although not explicitly stated by their leaders, but inferred from their practices, their official statements along the way, and the findings from other research – were compared with the predictions of the theory developed in the previous chapters.

As evidence of the empirical validation process during the research, most of the deductive steps that have been taken are illustrated with Figures (mostly graphics) and Tables, many of which are found in the Appendices. Obviously, the research has not based these demonstrations merely on the presentation of data collected from official statistics; rather, they present information resulting from exhaustive work – even when it may seem very simple – with the data, following appropriate methods of statistical analysis. Among them, and in addition to the more common ones, associations between variables were tested through the respective correlations, and possible causal relationships were tested through regression analysis. These regressions were carried out using the data analysis features available in the software Excel.

Sometimes, the available information from official or recognized sources was insufficient, requiring the construction of new series inferred by (well-explained) expeditious methods, such as, for instance, the wealth statistics developed in Chapter 7.

Although much of the thesis' supporting information is in the Appendices, some was considered relevant to substantiate observations made in the text, or necessary for its comprehension, whereby it was kept in the body of the thesis. In the main, the criteria used to allocate this information to the body of the thesis or to the Appendices was: (i) retain information relevant to demonstrate a point within the narrative text of the thesis; and (ii) move to the Appendices information that was mainly illustrative, or too bulky. A criterion as simple

as this could hardly avoid the emergence of grey areas, thus there may be some minor inconsistencies in its application.

A different criterion identifies the Tables and Figures in the body of the thesis and the Appendices. When identified by a number (Chapter number) plus a sequential number, separated by a dot (e.g. Figure 3.1 or Table 5.3), they are part of the text. When part of an Appendix (Appendixes A–E), they are identified by the letter corresponding to the Appendix in which they appear and a sequential number without a dot (e.g. Table B10 or Figure D2).

Unlike in the Appendices, where the Figures are made up of graphs or similar representations, all the Figures that appear in the body of the thesis – in Chapters 1, 3, 7, 8, and this specific section – correspond to diagrammatic representations of conceptual schemes exposed, or presupposed, in the text. The designs of all these Figures are by the author, although for two of them – Figures 3.1 and 8.1 – the author identifies and credits in the text their sources of inspiration. Figure 3.3 is doubly original, in that not only is it an original representation, but also corresponds to a conception that the author believes to be a creation that is original and unique to this thesis, which aims to fill an important theoretical gap on the subject.

Several statistical databases and sources were used. For the economic variables, the main sources were the following: (i) the International Monetary Fund (IMF), especially the World Economic Outlook (WEO) database (updated in April 2019) and the International Financial Statistics (IFS); (ii) the World Bank Databank (WBD), mostly its World Development Indicators (WDI); (iii) the Penn World Table, version 9.1 (PWT 9.1), released on April 11, 2019; (iv) the Maddison Project Database (updated in 2018), for very long historical data; (v) the United Nations (UN), for Demography and Human Development Indexes (HDI); (vi) the FRED Database of the Federal Reserve Bank of St. Louis (FRED); (vii) the Energy Information Agency (EIA) of the United States (US), for data related to energy; (viii) the Our World in Data (OWID) online resource of the University of Oxford; and (ix) the World Trade Organization (WTO). Other sources used sporadically are referenced when used.

Wherever possible, the author has made use of uniform sources to support the information presented. In many cases when referring to very distant periods, however, complementary sources or different sources for the same information had to be resorted to. In the main, preference was given to sources from the IMF and WB for contemporary data; however, when it was necessary to use historical data that was older than the beginning of the series of these sources, it was necessary to use sources with longer series of historical data (e.g. PWT 9.1 and the Maddison Project). A similar situation occurred when it was necessary to use

variables not covered by the preferential sources. This was the case with the modeling in Chapter 5, which needed information on the capital stocks and on the Human Capital Index (HCI), which was not available in the said preferential sources, and led to the modeling based on PWT 9.1 (which holds these variables in longer series for most the world's countries, despite having some apparent inconsistencies with other sources).

Although the United Kingdom (UK) ceased to be a member of the European Union (EU) shortly before completion of this research, it is still counted as a part of the organization and of the smaller sample – EU15 – used to represent the EU statistically. This sample, comprising the 15 member states that made up the EU shortly before the broad enlargement to the former communist bloc on May 1, 2004 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, UK) and representing more than 90 percent of the EU economy, was used in most EU statistical representations to ensure consistency over time and because, for some of the newer members, available data does not go back very far in time.

Some clarification of the terminologies adopted is necessary. While the thesis is about the strategic autonomy of the state, just as the title indicates, the state can be an ambiguous concept with different meanings depending on the circumstance in which it is used. It may refer to a politically organized society occupying and controlling a territory, or it may refer to the set of institutions that govern and represent such a political entity, which are distinct from other social components, usually encompassed under the designation of civil society. It may also refer to the broad sector that comprises, besides the governing apparatus, state-owned and administered organizations and assets, as opposed to privately owned and managed entities. According to the first understanding, an additional complication may arise, because a state under that definition may be sovereign or may be subordinate to a higher political entity, usually a federal state. The apparatus referred to according to the second understanding is usually designated in Anglo-Saxon terminology as government; but the same term, government, is also used to designate the executive branch of the governing political apparatus, to which the legislative and the judiciary branches also belong.

To be clear, therefore, throughout this work, and unless otherwise indicated, the following terminology is adopted. State, means, in line with the definition adopted by the 1933 Montevideo Convention on the Rights and Duties of States, “a person of international law” possessing a permanent population, a defined territory, government, and capacity to enter into relations with the other states (Article 1). In other words, then, it is a sovereign political entity,

interacting with similar entities in the world arena and having no higher sovereign entity to which it is subordinate. In this sense, it has the same meaning commonly assigned to the term “country,” and for this reason both state and country will be used interchangeably. As to the political and administrative apparatus by which states are governed, and since the work does not need to break down the internal structure of this apparatus, the broader, commonly used Anglo-Saxon designation, government, is adopted. As for the economic sector under state ownership, this is termed the “public sector,” unless it refers strictly to the activities comprising a government’s administrative sphere, in which case it will be called the government sector.

Despite Strategic Studies being central to the research, and more specifically Strategy, and by making instrumental use of knowledge from Economics, the thesis also draws upon knowledge from other scientific fields, such as Political Science and Philosophy, History, and International Relations, giving it a somewhat interdisciplinary slant. However, understandably, a word limit for the thesis constrains its content which, therefore, requires the author focuses on the main subject of the research. Thus, whenever it was necessary to draw on the knowledge of these other disciplines, the author relied upon concepts or theories with general acceptance by their respective mainstreams, so that they could be used as exogenous givens for the core of the analysis.

As a basic premise in the sphere of international relations, fundamental for strategic considerations, and therefore taken as a given for the development of this research, it was assumed that the international political system is composed of sovereign states, without any authority above them, notwithstanding the existence of international organizations with the objective of promoting cooperation between states and an agreed regulation of international relations. Moreover, states have interests that they envisage to protect and promote in the international sphere, the first of which is the preservation of their existence.

According to the nature and focus of the current research, Economics was used profusely as an instrument, and this scientific field, its concepts and theories, was drawn on extensively. Since many potential readers will not necessarily be well versed in these matters, it was deemed necessary to include slightly more extensive economic introductions to some chapters than would be the case were the thesis concerned with Economics itself. Some of these subjects will be very familiar to trained economists, and the concepts, as they are generally taught as subjects on economics courses, will easily be found in good textbooks. The explanatory inclusion of this knowledge does not intend to assume any originality in the subjects, therefore, but merely to serve as a necessary framework for understanding subsequent

developments. On the other hand, as trained economists will be aware, and on the matter of textbooks, it is not easy to assign authorial credits to underlying ideas, as they have become like the generic drugs available in medicine.

As to the matter of editorial style, where there was not any specific demand from the School to which the thesis is to be presented (as there is for document formatting), the American Psychological Association (APA) style was adopted, with some minor modifications for the benefit of the reader. Whenever paraphrasing, the reference will refer readers, not only to the referenced source, as recommended, but also to the page number, or numbers, from which the paraphrase is inspired.¹ This it is hoped will make it easier for the reader to identify the original idea or statement. In addition, and for the same purpose, when the source is an e-book (usually retrieved from Amazon.com in Kindle iOS format) without page numbers, the location number (loc.) of the sentence or sentences quoted or paraphrased in the text is provided along with the chapter to which the location belongs. Still with regard to e-books in Kindle iOS format, retrieved from Amazon.com, this identifying feature is referred to in the References at the end of the respective reference (as the Kindle format provider, Amazon, suggest is used in APA style references). Some other electronic based documents, by their nature, are not properly paginated and do not have, consequently, page numbers. Therefore, whenever these documents are cited, no page numbers can be offered for the citation (n.p. will be added, instead). And finally, the organization of the whole text deviates slightly from strict APA style, inasmuch as it is structured in parts, above the chapters, and the sections within the chapters are numbered to facilitate their identification and reference.

¹ This is particularly important where quotes are from sources not written in English and the translations of which, should, according to the adopted style, be treated as paraphrases.

PART I – SETTING THE STAGE: CRITICAL LITERATURE REVIEW AND PROPOSED FRAMEWORK

CHAPTER 1. Evolution of the Thought on Strategy

1.1. Preamble

Aristotle, who stated “he who is unable to live in society, or who has no need because he is sufficient for himself, must be either a beast or a god: he is no part of a state” (Aristotle, 1885, p. 3), implies that human existence is ontologically social. Socialization, in turn, requires the cooperation of large numbers for survival and reproduction (Harari, 2014: loc. 358/Chap. 2, loc. 2385/Chap. 8). However, at the same time, as human nature is also intrinsically competitive, human beings also feel motivated to dispute scarce resources, reproductive possibilities, territory, status, and power (loc. 76, 287/Chap. 1, 721/Chap. 2, 2363, 2374/Chap. 8). It is, then, from this “essentially competitive condition of human life” (Gray, 2015: loc. 394/Chap. 1), that Colin Gray derives the need for strategy, for in competition each contender faces the challenge of “how to cope with the potentially greater strength of others” (Freedman, 2013, p. 50). In order to meet the challenge, each party in the dispute must assess the potential strengths and the potential moves of their opponent or opponents and figure out the best ways to overcome the expected difficulties arising from such an assessment. To this end, humankind developed elemental strategic features that tend to be present across time and space, such as deception, coalition-formation, undermining the enemy’s alliances, and the instrumental use of violence (pp. 3 and 71). Strategy, therefore, is what orients the behavior of each contender in adversarial disputes, where the best course of action for each depends on what the other does, for the decisions of both contenders are interdependent, each depends on the decision of the other and on the expectations about the other’s behavior (Schelling, 1980, p. 3).

Therefore, strategy has been practiced from time immemorial by warlords and contenders in conflicts over power, either intuitively and experimentally or through ponderous reflection and study. Like all human experiences, the practice of strategy, and of the activities it enfolds, became a subject of analytical interest and systematization in “treatises” devoted to the spread of knowledge, distilled by reflection on experience, in order to facilitate the actions of future practitioners. But this knowledge *distillation* and systematization was not a linear or unimpeded process, for, as Freedman (2017) points out:

At the heart of the historical study of strategy is a tension between the consideration of strategy as practice, which is bound up with the history of human conflict, and strategy as theory. The theorists can draw on all the practice, but their task is complicated by the fact that many practitioners did not describe themselves as strategists or, if they did, the term meant something different from how it is now understood. (p. 91)

Thus, “whether or not they used the term ‘strategy’, writers since antiquity posited that strategy should be formulated on the basis of practical experience or theoretical reflections before being applied in war” (Heuser, 2010, p. 5). Therefore, and although the currently recognized scope of strategy is much broader (Yarger, 2006, p. 65), the earlier treatises revolve around the theme of war, describing, analyzing, or theorizing on military preparations, maneuvers, stratagems, and engagements. This should not come as a surprise, however, given that in those ancient times survival and security were the primary concerns of all peoples, notwithstanding their perceived political influence, territorial expansion, or high level of development, as was the case, for instance, for the Byzantine Empire (Dennis, 1985, p. vii). And the only way to expand a country’s wealth, or prevent it from being plundered by others, resided mostly in its capabilities to wage and win wars.

1.2. Strategy in Antiquity

It was in this light that the Roman civil engineer Sextus Julius Frontinus (1925), for instance, in the first century CE, defined strategy as “everything achieved by a commander, be it characterized by foresight, advantage, enterprise, or resolution” (p. 7); or that an unknown Byzantine author of the sixth century CE, considers “the science of strategy [στρατηγική] ... really the most important branch of the science of government,” but defines strategy (στρατηγική) – the art practiced “by the general [στρατηγός]” – very narrowly, as “the means by which a commander may defend his own lands and defeat his enemies” (Dennis, 1985, pp. 20–21). Emperor Leo VI (according to the assumed version of the original Greek text, trans. 2010), goes a bit further, making perhaps the first distinction between tactics and strategy. For him, tactics (τακτική) – the aim of which “is to defeat the enemy by all possible means of assaults and actions” – is defined as the “science of movement in warfare, ... the military skill that is concerned with battle formations,” and strategy (στρατηγική) as “how good commanders put their military training into practice, their drilling with stratagems, and putting together ways of defeating the enemy” (pp. 12–13).

Sun Tzu’s treatise (2016), written at some uncertain distant date, is perhaps the oldest of the texts on the subject or, at least, the most well-known ancient book about it, although it

was “introduced to the West only in the late eighteenth century” (Luvaas, 1988, p. 65). On the so-called Old World of our reputed Western Civilization, “treatises on the science and art of waging war, on strategy and tactics, were being written in Greek since at least the fourth century before our era ... by experienced battlefield commanders, ... theoreticians, armchair generals” (Dennis, 1985, p. 1); and by historians, and also written in Latin. Thucydides (5th century BCE), Xenophon (5th–4th c. BCE), Aeneas (4th c. BCE), Cato (2nd c. BCE), Polybius (2nd c. BCE), Asclepiodos (1st c. BCE), Livy (1st c. BCE–1st c. CE), Onasander and Frontinus (1st c. CE), Aelian and Arrian (2nd c. CE), Vegetius (4th c. CE) Maurice (6th c. CE) and Leo VI (9th c. CE) were recognized as outstanding authors on these matters during the classical period (Spaulding, 1933; Luvaas, 1988).² Their creativity was unmatched until modern times, and their influence extended over many centuries (Luvaas, 1988).

Very often, in the literature of Antiquity as well as in early modern literature, strategy and stratagems tended to overlap (Freedman, 2017, pp. 94–98). While Frontinus (1925) considered them “by nature extremely similar,” he referred to “stratagems” as “those things which fall under some special type,” such as those referred to above as part of strategy, and maintained that the “essential characteristic ... [that rests] on skill and cleverness, is effective quite as much when the enemy is to be evaded as when he is to be crushed” (p. 7). Likewise, the distinction between strategy and tactics was blurred for a very long time in the modern period (Freedman, 2017, pp. 93–98). This prompted Dennis T. George, the translator of Maurice’s *Strategikon* and Leo VI’s *Taktika* to note that, “paradoxically,” the first was “mainly about tactics (as defined by the Byzantines), and [the second] was mainly about strategy” (Freedman, 2017, p. 98).³ Moreover, Beatrice Heuser (2010) states that the “majority of authors before the French Revolution wrote neither about ‘strategy’ nor ‘tactics’ but about military matters in the tradition of the Roman author ... Vegetius” (p. 4).

1.3. Strategy in Modern Age

War and its art, continued to be the theme around which the reemergence of a literature on the subject of strategy revolved, beginning in the early sixteenth century with Niccolò Machiavelli. In fact, and according to Freedman (2013), “almost all disquisition on the subject – from that of Raimondo Montecuccoli in the seventeenth century to Maurice de Saxe in the eighteenth to Baron de Jomini in the nineteenth – was called *The Art of War*” (p. 50; italic in

² Only the authors whose works it was possible to accede are cited in the References.

³ The author was unable to find the primary source for this quote and Freedman did not identify it.

the original), to which Machiavelli's work, written earlier, should be added. Likewise, "On War" was the name chosen by Carl von Clausewitz for his nineteenth-century work, which became a classic in the literature about strategy.

The first spin-off of writing about strategy as a branch of the art of war, distinct from and superior to the more operational components of the same art, recognized as an attribute of the general, seems to have appeared in French modern literature with Joly de Maïzeroy's translation of the work of Leo VI, in 1771 (Heuser, 2010, p. 5). In fact, Maïzeroy (1771), in his *Observation du Traducteur* (Observation of the Translator) that apposed his translation, defines strategy (*stratégique*) as the art, in the hands of the general, of commanding, employing aptly and skillfully all the means, moving all the subordinate parts, and arranging them for success (p. 6). He explains that it is a science of the highest level, for it requires the talents of the mind and the virtues of the soul, and has philosophy, morality, politics, and history as its guiding lights (p. 6).⁴ The translator explains, in the same Observation, that he suspects the term *stratégique* has been "imported" from the Greek Στρατήγια (*Stratígia*), coming from the word Στρατηγος (*Strategos*) meaning a general or a commander-in-chief (pp. 5–6).⁵

Not long after Maïzeroy's translation,⁶ another French author, Comte Guibert, without using the word strategy, divides tactics into two hierarchical levels. First, the Elementary Tactics contains all the details of training, instruction, and exercise of a battalion, a squadron, a regiment; with the stated objective being the ability to move a regiment in all circumstances war can offer. The second, Grand Tactics, has higher-level objectives: to move an army according to the fullest extent possible, gathering all their bodies, bringing them together, and contributing to the execution of the great maneuvers of war. The Grand Tactics is the science of the generals. It encompasses all the major elements of war, which can be identified through the science of choosing positions and having knowledge of the country, or, more appropriately, of having insight into everything since it is the art of making troops act (Guibert, 1772, Book I, pp. 4, 5, 9; Book II, pp. 1–2).

⁴ The Greek version used by Joly de Maïzeroy must have been different (less complete) than the version used by the English translator of Leo VI (2010), because the term strategy is never translated, causing Maïzeroy to add it into the Observation, as the following quotation shows.

⁵ It is intriguing that Maïzeroy cites Στρατήγια (*Stratígia*) – the transliteration of which gave rise to the Latinized term "strategy," which shortly after became standard in Western literature – as the origin of the term that he adopted – *Stratégique* – whose direct transliteration corresponds more directly to the Greek word Στρατηγική (*Stratigiki*).

⁶ Heuser (2010) seems to have the chronology wrong. She attributes the chronological primacy to Guibert (p. 4) and assigns the publication of Maïzeroy to "shortly after the publication of Guibert's" (p. 5), but, in fact, Maïzeroy's translation was published in 1771 and Guibert's *Essai Général* was published in 1772.

Jeremy Black (2017) credits the Portuguese Marquis De Silva, an admirer of Guibert (Candela, 2011, p. 14), who likewise wrote in French, as the next author after Maïzeroy to use the term strategy (also written by De Silva as *stratégique*), (Black, 2017, p. 133). However, the Portuguese author does more than simply use the term; he bridges the conceptual innovations of the two preceding authors. Taking Guibert’s two levels of tactics, De Silva adds that the definition of Grand Tactics naturally refers to strategy, the highest degree in the art of war, attainable only after having achieved all the others (De Silva, 1778, p. 109). This is what De Silva defines as the science of the General, the teachings of how to prepare and plan for operations, and how to better employ and combine all the means supplied by the branches of tactics (p. 1). In addition, Freedman (2017) credits a Dutch army colonel, Norckhern de Schorn, who also wrote in French, as the first author to introduce the term “grand strategy,” although this had a different meaning then to that generally attributed to it in modern times. For Schorn (1783), strategy (*stratégie*, he writes, in contrast to the authors above⁷) – as the art of commanding and directing war operations – was the combination of all military knowledge in a leader. This he divided into two levels: the great (higher) and the lower strategies, the first being the field of a commander-in-chief and generals, and the second, also called the small war, being the field of staff officers and, to an extent, of the subalterns (pp. 198–199).

For a prolonged time, up to around the period of World War I (WWI), definitions of strategy, and the underlying understanding of the concept which, in essence, were inherited from antiquity, did not change in substance, but only in detail. Bülow (1806), for instance, stated that: “strategies relate to the positions and movements of the troops ... beyond the reach of enemy sight” (p. 92). While Jomini (1863) defined strategy as: “the art of properly directing masses upon the theater of war, either for defense or for invasion” (p. 13); and “the art of making war upon the map, [which] comprehends the whole theater of operations” (p. 69). Then Clausewitz (1976) offered a view, seeing it as “the use [and coordination] of engagements for the object of war” (p. 128). Discussing the detailed differences of all these definitions brings little added value to the purpose of this thesis. However, it is relevant to point out that what all of these definitions have in common is the confinement of the underlying idea of strategy to the “art of war” and related military operations. As such, strategy appears in practically all writings associated with tactics, both being composed of just two levels – with some internal

⁷ It is interesting to note that while the previous authors (Maïzeroy and De Silva) used the French word *stratégique* as a noun, Schorn used the noun that would prevail up to now instead, *stratégie*, and used *stratégique* as an adjective, as it is used today.

subdivisions, as already pointed out – of conducting military operations in a context of war, with tactics being a word more widely used than strategy, as Figure A1 illustrates.⁸

1.4. The Clausewitz “Revolution”: Strategy goes Political

Clausewitz, however, despite his narrow definition noted above, introduced an important new perspective to the theme: the relevance of the political element. He makes clear that it would be impossible to conceive a strategy, or adequately design a plan of action, without taking into account the specific political elements and context. De Silva (1778) had already hinted at the need to contemplate the political sphere in any strategy for war, stating that a general war plan requires the involvement of two strong levels, one being the realm of politics and the other dependent on military science (p. 303). However, the author did not elaborate much further on the subject, besides commenting that when the sovereign is also the commander of his army, like Alexander, Gustavus Adolphus, Charles XII, Czar Peter, or the King of Prussia, he embraces and combines the two spheres, ensuring only one principle of action and better coordination of its purposes. Yet, when this is not the case, as frequently happened at the time, then success depended on the ability of the sovereign to select capable and trusted people to whom he could delegate the necessary powers, in order to coordinate military actions on the political front (pp. 303–304). Jomini (1863) also alludes to the subordination of war to politics, suggesting that it is the statesman who concludes “whether a war is proper, opportune, or indispensable, and determines the various operations necessary to attain the object of war” (p. 14). The same author hints at why political considerations should be accounted for in strategic planning, by mentioning that “the political relations of the belligerents with their neighbours ... are considerations foreign in themselves to the art of fighting battles, but intimately connected with plans of operations” (p. 89). Jay Luvaas (1988) (in a somewhat exaggerated way) credits Machiavelli for having related “war and politics three centuries before Clausewitz” (p. 67). This is because of the role Machiavelli assigned to the armed forces in domestic politics (Gat, 1991, p. 2), and his defense of an army of citizens, instead of mercenaries whereby, in future wars, citizens would become soldiers, and in peacetime, soldiers would become (political) citizens (Machiavelli, 1675, Book Seven).

However, it was Clausewitz who actually introduced the conceptual integration of war with politics, and brought politics into the realm of strategy. The broadly used, over-simplified,

⁸ Appendix A (which contains all Figures preceded by the “A”) compiles the use frequency of words in an extensive archive of literature managed by Google Books and extracted with Google Ngram Viewer, a Google tool.

paraphrase of his thinking on the subject – war is the continuation of politics by other means – falls short of the true extent and wide implications of his revolutionary insight into the concept of strategy. It falls short because the full statement written by him was that: “war is not merely an act of policy but a true political instrument, a continuation of political intercourse, carried on with other means” (Clausewitz, 1976, p. 87). To this the author added, a few lines down, that “the political object is the goal, war is the means of reaching it, and means can never be considered in isolation from their purpose.” Thus, even if we were to infer from Jomini’s work that the statement as quoted above about the statesman’s role implied that war was an act of politics, to be decided by political power, Clausewitz goes much further. What Clausewitz says is that war is a “true political instrument,” and more than that, it is one among many “other means” of conducting “political intercourse” with other states. Furthermore, he says, when engaging in war, no one should see war as having any purpose in or of itself; the conductors of war ought to be mindful that its purpose is to serve a political end and that such a goal is the true purpose of war.

In another text, Clausewitz made himself even clearer about the implications of strategy in relation to his understanding of the role of war. In a letter of December 1827, written to the Prussian general-staff officer, Major von Roeder, Clausewitz states again that war is “the continuation of politics by different means,” and affirms that the consequence of this is that “the main lines of every major strategic plan are *largely political in nature*” (Clausewitz, 1984, p. 2; italics in the original). And, recognizing that his view – which he takes as “*almost self-evident*” – had “not yet been fully accepted,” as witnessed “by the fact that people still like to separate the purely military elements of a major strategic plan from its political aspects, and treat the latter as if they were somehow extraneous,” he offers a stark warning. All of strategy, he says, rests in the idea that “*war is nothing but the continuation of political efforts by other means*” (pp. 21–22, italics in the original). He then states that “there can be no question of a *purely military* evaluation of a great strategic issue, nor of a purely military scheme to solve it” (p. 21, italics in the original); and “whoever refuses to recognize [the interdependence] ... does not yet fully understand what really matters” (p. 22).

The full implications of Clausewitz *revolutionary thought* took a long time to fully catch on and his ideas are still not fully accepted today (e.g. Strachan, 2006, p. 48). However, the implications of this are rather wide reaching and consequential.

That the views of Clausewitz went unaccepted for quite some time is witnessed by the differences of opinion about politics’ role in war, which was assumed by his acknowledged

disciple field marshal von Moltke (the Elder). Notwithstanding the alignment with his master – whereby “policy cannot be separated from strategy, for politics uses war to attain its objectives and has a decisive influence on war’s beginning and end” (Moltke, 1993: loc. 721/War and Politics) – the first “Great General Staff” of the German Empire’s opinion diverged with a core belief. General Helmuth von Moltke believed “that once war had begun, political advisors and their considerations should play no role in military strategy and the conduct of operations” (loc. 198/Intro). Its agreement and disagreement with Clausewitz may be summarized in Moltke’s writing that:

Policy uses war for the attainment of its goals; it works decisively at the beginning and the end of war, so that indeed policy reserves for itself the right to increase its demands or to be satisfied with a lesser success. ... Strategy thus works best for the goals of policy, but in its actions is fully independent of policy. (loc. 855/On Strategy)

1.5. From Clausewitz to Grand Strategy

In any case, the main takeaway from the work of Clausewitz, which it is important to stress, is that his thought definitely introduced politics into the realm of strategy. It opened the door that freed the realm of strategy from the confines of military operations and the “art of war,” where it had been kept practically from the beginning. That door would lead to a much broader understanding of strategy and to the widening of its scope to embrace many other important fields of the existence, and subsistence, of political societies. This, in turn, would lead to multilevel – vertical as well as horizontal – approaches to strategy.

The evolution of thinking about strategy is not simply a refinement of a specific line of intellectual reasoning about a static reality. It is much more the consequence of the evolution of societies and especially of their complexification. Guibert (1772) had already pointed out how social evolution had consequences for both the conduct of war and its moral acceptance by contrasting the way war was waged by the ancients with the way it was waged in his day. He referred specifically to how Europe had become more civilized and wars less cruel, sparing cities and the countryside from vast devastation, respecting prisoners, and – interestingly he points out – how conquered peoples are often subject to lesser contributions in tax than paid to their former sovereigns (Tome I, p. 9). Extrapolating from Guibert’s thought, of relevance to this thesis, the diversity and complexity brought to social life by the progress of civilization increases the number and relative importance of the “other means” Clausewitz alludes to, whether for political intercourse with other states or for the advancement of national interests.

Indeed, if war is just one means of political intercourse with other states and the advancement of national interests, it is then just one piece – desirably small – of a multifaceted continuum of political interaction among states. This being so, and especially during prolonged periods of peace, the interests of each state, including the vital ones, have to be pursued outside the context of actual or potential war. Because, in these circumstances, the prevailing context is that of the permanent interaction of states and their interests taking place in the broader and multidimensional space of international relations. After all, although less deadly than war, these interactions have the same potential consequences, or more so, for the existential interests of competing states. Acting on these interactions without a strategy is, then, as unwise as engaging in a war without it. Therefore, the proper corollary of Clausewitz's views in contemporary times implies that *the great theater of strategy must be the continuum of political interaction between states, involving all actors, interests, and resources of political societies*, of which the military sphere is only a part.

The door opened by Clausewitz on strategy, liberating it from the strict military field where it had developed previously, would lead to the introduction of a new and higher level of strategy – grand strategy –, involving the political sphere and calling on all the resources of a state. The scope of this new level would evolve over time, as seen later in this chapter, but the first steps were those taken in the wake of Clausewitz's opening.

It is true that grand strategy had been mentioned before Clausewitz, mostly in France, as Figure A2 illustrates, but predominantly according to the same narrow understanding of the concept put forward by Schorn (1783) (see Milevski, 2016, Part I, Chap. 1),⁹ of being just one more level in the conduct of military operations. However, the first to enter through the door opened by Clausewitz were, interestingly, two naval strategists. These were Alfred Mahan in the US, and Julian Corbett in the UK – who, within a maritime context, widened the scope of strategy beyond the purely military field and associated it with a political and economic perspective, giving rise to the more modern concept of grand strategy (Milevski, 2016, pp. 27–28). Others, especially French authors, might have embarked on the modern concept of grand strategy before those mentioned in this section, with anchors of thought other than Clausewitz.

In fact, there are indications, besides the aforementioned Figure A2, that the term may have become currency in France before WWI, as suggested by the tone of the speech delivered

⁹ Milevski (2016, p. 15) quotes the statement of Schorn (1783, pp. 198–199) paraphrased above (section 1.3, p. 19), but assigns it to a different source: C. James (1805), pp. 862–63. Milevski's quote, however, is an English translation from the original French version of Schorn (1783), as James acknowledged.

by an American missionary in Panama, in 1916, stating that, “anyone who has had even a casual touch with Latin-American countries must have been impressed by the fact that what we want in this day is *what the French speak of as ‘grand strategy’*” (Mott, 1917, p. 275; italics added); and hinted at also by Milevski (2016, p. 44). However, no other source, direct or indirect, was found that might have allowed investigating this point further.

Mahan, more influenced by Jomini than by Clausewitz (Bassford, 1994, p. 95), is credited by Jon T. Sumida (1997) as the “inventor” of grand strategy, whose scope at a naval level envisaged “the relationship between naval power, economic development and international relations” (p. 6). In fact, and as acknowledged by Milevski (2017), although he “never used the term grand strategy, the results of [Mahan’s] writings would today be conventionally considered grand strategy, as they occupy a place between, and overlapping, standard definitions of strategy and policy” (p. 36), centered as they were “on the troubled interaction between war and commerce” (p. 32). Murray (2010) considers Corbett (2005) to have been the only one (of the earlier theorizers of grand strategy) “willing to draw on Clausewitz for understanding the fundamental nature of war as a means to understand the place of naval conflict in grand strategy” (p. 82). Corbett used the term grand strategy in his “Green Pamphlet” (alternating it with “major strategy,” as opposed to “minor strategy”). For Corbett, then, grand (or major) strategy:

[I]n its broadest sense has to deal with the whole resources of the nation for war. It is a branch of statesmanship [and] it also has to keep in view constantly the politico-diplomatic position of the country (on which depends the effective action of the instrument), and its commercial and financial position (by which the energy for working the instrument is maintained). (Corbett, 2005, p. 308)

Following a more direct link to Clausewitz, however, Fuller (1926) called on the following statement of the Prussian general, to conclude that “this *is* grand strategy” (1926, p. 106; italic added):

[N]o one starts a war – or rather, no one in his senses ought to do so – without first being clear in his mind what he intends to achieve by that war and how he intends to conduct it. The former is its political purpose; the latter its operational objective. This is the governing principle which will set its course, prescribe the scale of means and efforts which is required, and make its influence felt throughout down to the smallest operational detail. (Clausewitz, 1976, p. 579)¹⁰

¹⁰ Fuller was indeed quoting from an earlier translation of *On War* by J. J. Graham, published in 1918. The exact quote used by Fuller was “[N]o war is commenced, or, at least, no war should be commenced, if people acted wisely, without first seeking a reply to the question, what is to be attained by and in the same? The first is the final object; the other is the intermediate aim. By this chief consideration the whole course of the war is

Fuller then added that the grand strategists of his own time must offer something more than great men of arms of the past such as Cromwell, Marlborough, and Napoleon. The high commander “with political instinct; today ... must be also a psychologist and an economist” (p. 106), besides being “a politician and a diplomatist” (Fuller, 1923, p. 218). This is because, when war comes, the attainment of the political objective will require more just than the mobilization of military resources; it will require the mobilization of “all war-like resources towards the winning of the war.” Directing those resources to secure the political objective(s) is the task of grand strategy (Fuller, 1929, p. 5). To ensure proper coordination of this major task, the office of the “grand strategist” should be held by a “generalissimo, who will carry out the policy of the general staff if this policy be accepted by his government” (Fuller, 1923, p. 223). The generalissimo “should work in [the] closest co-operation with the national council, so that, between these two, the political minds of the nation” will be brought into touch with the realities of war and the realities of national life as influenced by war. Thus, it will be better able to deal with the pressures on both sides – public opinion about the politician and the realities of war realized by the “grand strategist” – and maintain articulation of the policy (Fuller, 1926, p. 106).

Besides the link to the political sphere, Fuller also brought the economy into the realm of grand strategy. Thus, supposing the grand strategist of contemporary times was also an economist, as already mentioned, his first duty should be “to appreciate the commercial and financial position of his country; to discover what its resources and liabilities are.” This is because “at any time and irrespective of prosperity, a nation can only afford to spend a certain sum of money as an insurance against war and ultimately, when war occurs, as a safeguard against defeat” (Fuller, 1923, p. 218). Then, following this view of the economist, who is both conscious of the scarcity of the resources available and of the need to use them efficiently, Fuller expanded his argument. He suggested that “there could not be two strategies, one for peace and one for war, without wastage, and therefore it could only be one strategy, and prepare[d] in peace for war, because during war, nothing is so uneconomical as improvisation” (p. 218). Anticipating what will be developed in Chapter 3, what Fuller seemed to have in mind was that ensuring strategic autonomy is fundamental to successfully engaging in war, and such autonomy has to be ensured before the war proper.

prescribed, the extent of the means and the measure of energy are determined; its influence manifests itself down to the smallest organ of action.” I chose to update the quote to the more recent and wider accepted translation, listed in the References.

Later on, and this is important for the principles to be developed later on in this thesis, Fuller would clarify that “‘grand strategy’ ... would be more comprehensible if called ‘political strategy’” (Fuller, 1929, p. 5). Furthermore, for Milevski (2016), “Fuller believed that the *contemporary age was determined by economics* due to the highly interconnected character of international trade” (p. 49, italics added). Therefore, “wars were not only waged in an economic milieu ... but their most important effects were manifested in the economic sphere” (p. 49). As a whole, Fuller’s basic assumption is “that the very purpose of grand strategy was to preserve civilization, *particularly economically*” (p. 48, italics added).

Then came Liddell Hart, whom most scholars consider the prime progenitor of modern grand strategy (Kennedy, 1991, p. 2; Silove, 2018, p. 34), but basically he was a follower of Fuller (Silove, 2018, p. 52), with some people even suggesting plagiarism (e.g. Freedman, 2013, p. 135). Hart, like Fuller, was marked by the violent impact of WWI and was “obsessed with the prosperity of the post-war peace” (Milevski, 2016, p. 54), whereby “his entire system of military strategic and grand strategic thought was based upon limiting war for the sake of limitation” (p. 45). For Hart, “the perfection of the strategy would, therefore, be to produce a decision without any serious fighting” (Hart, 1991, p. 324), and to recognize that:

[T]he role of grand – higher – strategy is to co-ordinate and direct all the resources of a nation, or band of nations, towards the attainment of the political object of the war – the goal defined by fundamental policy. Grand strategy should both calculate and develop the economic resources and man-power of the nation in order to sustain the fighting services. (p. 322)

In this context, unlike strategy, the horizon of grand strategy should be mindful of “the subsequent peace. It should not only combine the various instruments [– fighting power and financial, diplomatic, commercial, and ethical pressures –], but so regulate their use as to avoid damage to the future state of peacefulness, secure and prosperous” (p. 322).

It has not been the purpose of this section to relate the history of grand strategy, let alone discuss creative precedence. However, it is important to retain the following insights: (i) after Clausewitz’s incorporation of politics into strategic considerations, other thinkers followed through the door he opened and this gave rise to a higher level of strategic thought and planning, which would be called grand strategy; (ii) the horizon grand strategy foresaw would go beyond war, to be concerned with peace and prosperity; (iii) its aim should be as much to win a war, if it came to that, as to prevent the need to resort to it, and therefore war would have a diminishing role in the settlement of international disputes; (iv) the command of grand strategy is political, above all; and, finally (v), in the contemporary world, the economy is central to social life, and

international trade is not only crucial for economic prosperity, but also a source of international interdependencies, whereby the economy must be central to any grand strategy.

Fuller and Hart developed their thought in the aftermath of WWI,¹¹ highly affected as they were by the unnecessary bloodshed and destruction they had witnessed, whereby consequently their theorizing was marked by the concern of preventing a repetition of such physical and moral waste. However, this did not prevent the sequel to the epitome of violence that was WWII, but two noticeable developments took place after this last dreadful event: grand strategy won a much higher share than before in the literature (as Figure A2 confirms); and war became a resource less used to settle international disputes. While the two things may not directly relate to each other, they almost certainly do indirectly relate, even if the direction of causality, which is probably circular, remains uncertain. The fact that fewer wars were fought implies that states had to rely on other instruments to pursue national interests and resolve disputes, making room for the wider use – in the range of usable instruments and of the envisaged ends – of grand strategies whose scope become less and less military. Furthermore, the eventual higher effectiveness of such nonviolent strategies might have led to less and less need and willingness to resort to war.

1.6. Strategy: The Quest for Scientific Status

The studies on strategy boomed around and after WWII, as witnessed by the frequent use of the word in English, French, and German literature, over time (see Figure A3). Together with the significant quantitative progress, there was also a quest to turn the subject into a less descriptive and more analytical field, to make it less of an instruction manual or a repository of military experiences, maxims, and principles, and more of a scientific discipline.

Shortly after the war, Brodie (1949) regretted that preparations in the military still focused too much attention on the study of military history and the principles distilled from experience, which he felt was too vague and skeletal to equip the decision-makers adequately to face the upcoming challenges. Consequently:

[W]ith the techniques of war changing radically not only from generation to generation but from decade to decade, a list of theorems inherited almost intact from the early nineteenth century, however much

¹¹ The first edition of the main work of Liddell Hart, cited above, was published in 1954, thus after WWII. This, however developed an earlier work, *The Decisive Wars of History*, published in 1929. As Milevski (2016) points out, the definitions used in the newer work are the same as those used in the older (p. 53).

embroidered by examples even from recent military history, can hardly serve the function generally reposed upon it. (p. 470)

Therefore, unless the analysts were properly equipped intellectually to exploit the value of strategic insights, the net result of the studies of past military experiences was likely to be that of intensifying the military propensity to “prepare for the last war” (p. 472). He pointed out, then, that the approach to strategic problems needed “*genuine analytical method*” (p. 484, italics in the original). He suggested that economics could serve as an inspiration, because it was a science concerned with “the study of the efficient allocation of the national (or other community) resources for the economic ends set down by the community.” Likewise, strategy was “devoted to discovering how the resources of the nation, material and human, can be developed and utilized for the end of maximizing the total effectiveness of the nation in war” (p. 476). The marginal utility concept – “the change in utility an individual enjoys from consuming an additional unit of a good” (Hall & Lieberman, 2003, p. 126) – a common tool in economic analysis, for instance, could prove very useful in strategic analysis too, especially when pondering different allocations of resources or for setting up a “balanced force” (pp. 478–480). Less than a decade later, the same author acknowledged that the scientific approach to strategic problems had developed after WWII, but as to what concerned the approach to strategy proper, it was “still far from having found out how to do it scientifically” (Brodie, 1998, p. 27).¹²

In the late 1960s, a US military strategist was still complaining that he had “found no really satisfactory comprehensive study of strategy as a whole. ... With respect to strategy as a subject of study, its intellectual framework is not clearly defined, and its vocabulary is almost non-existent” (Wylie, 2014, p. 47).¹³ He felt that too much attention was devoted to the study of battles and other (strategic) minutiae. Thus, here was another author referring to the lack of studies focused on strategy in relation to warfare: “it is possible to study warfare, and be both fundamental and practical about it, without dissecting a battle or counting the bullets. ... What is necessary is that the whole of the thing, all of war, be studied” (p. 48). Not claiming that strategy was or aimed to be a science in the sense of the physical sciences, he advanced that it “can and should be an intellectual discipline of the highest order [and] strategic judgment can be scientific to the extent that it is orderly, rational, objective, inclusive, discriminatory, and

¹² Please note that, although the cited publication is from 1998, the content reproduces a speech delivered on September 18, 1958, at the US Naval War College in Newport, RI.

¹³ The first edition of this source dates from 1967.

perceptive” (p. 50). According to which view, the study of strategy was required to take its place in the intellectual world along with the other social sciences (p. 47).

In his 1960 book, *The Strategy Conflict*, Thomas Schelling, an economist dedicated to strategic studies (winner of the Nobel Memorial Prize for Economics in 1985), also deplored that:

The military services, in contrast to almost any other sizeable and respectable profession, have no identifiable academic counterpart. Those who make policy in the fields of economics, medicine, public health, soil conservation, education, or criminal law, can readily identify their scholarly counterpart in the academic world. (Schelling, 1980, p. 8)

However, in the Preface to the second (1980) edition of the same book,¹⁴ Schelling acknowledged that his previous somber picture had changed considerably. This led him to write that his earlier comments “about the low estate of military strategy in universities and military services [had turned, by then] so obviously wrong” (p. v). In fact, and as the aforementioned Figure A3 suggests, the study of strategy took an enormous leap after the 1960s, with the frequency of use of the words *strategy* and *strategic* in English literature, and their equivalents in French literature, multiplying three- and five-fold, respectively, between 1960 and 1990.

In the late 1960s, Bull (1968) ascertained that strategic thinking was “no longer the preserve of the military,” and that:

[I]n the United States and to a lesser extent elsewhere in the Western World, the civilian experts had made great inroads [in strategic studies]. They have overwhelmed the military in the quality and quantity of their contributions to the literature of the subject. ... [and] they increasingly dominate the field of education and instruction in the subject – the academic and quasi-academic centers of strategic studies have displaced the staff colleges and war colleges. ... [And that] a peculiarity of strategic thinking at [that time was] its abstract and speculative character. (p. 594)

Furthermore, he pointed out, the intellectual resources then being devoted to strategic studies were “without precedent and this [had] resulted in a literature of higher technical quality and a discussion of a higher standard of sophistication than [had] existed before” (p. 596). Already having come a long way, then, from the earlier criticisms.

In the UK, “international specialized centers for research and policy debate, funded by governments and foundations, especially the International Institute of Strategic Studies” developed (Kelleher, 2016, p. 96). It is evident that in France, which in the 1960s had succeeded

¹⁴ First edition 1960; second edition 1980.

in forging an independent doctrine thanks to the efforts of a generation of first-rate thinkers like Generals Beaufre, Gallois, and Poirier, currently there is a major decline in strategic research (Coutau-Bégarie, 2000, p. 787). This apparently boils down to the conclusion, the latter author acknowledged, that currently the US largely dominates the research on strategy (p. 787).

Nonetheless, the study of strategy did develop considerably after the 1960s. It evolved in at least three important directions: (i) analytical depth; (ii) greater coverage of the means and ends contemplated; and (iii) branching out to other areas of social activity other than war and warfare, as s Figure A4 illustrates.

It is worth noting the important progress that emerged from Lykke's (1989) famous article providing strategy with scientific backing. In this work, the author maintains that the concept of strategy can be expressed as a simple equation: "strategy equals *ends* (objectives toward which one strives) plus *ways* (courses of action) plus *means* (instruments by which some end can be achieved)" (p. 3, italics in the original). Put simply: $S = E + W + M$, as represented on the cover page of the article. The article, in fact, did conceptualize strategy in a workable and coherent model applicable to all strategic challenges, the key variables of which were used across the field in strategic studies. As Lykke had concluded in his article, such a "general concept can be used as a basis for the formulation of any type strategy – military, political, economic, and so forth, depending upon the element of national power employed" (p. 3).

1.7. Art or Science?

One question that comes up repeatedly is what is the nature of strategy? Is it a science, an art, both, or neither? Beatrice Heuser (2016) provides a very interesting and useful historic account of the use of both qualifiers generally associated with the definition of strategy (or war, as the concept often used in its stead). Starting with Frontinus – who may have been the first to qualify strategy as a science (p. 183) – the account ends with Clausewitz, to whom Heuser assigns the merit of having clarified the issue (p. 195). Clausewitz is merited for writing that, although "the term 'art of war' is more suitable than 'science of war', strictly speaking war is neither an art nor a science," but "it is rather part of man's social existence" (Clausewitz, 1976, p. 148). In Heuser's view, therefore, Clausewitz, by referring the study of strategy to the field of social sciences, was one of the fathers of strategy as part of the social sciences. For he "sought to come out of the impasse of seeing human endeavors as either something to be studied scientifically, or as something for which only the quest for practical prescriptions made sense" (p. 195).

However, it should not be ignored that, in the eighteenth century, Schorn (1783) – who is not mentioned in Heuser’s work – had already explained very clearly the difference between the two qualifiers – science and art – usually associated with the definition of strategy (war, as it was referred to at the time). Science, he wrote, consists in the perfect knowledge of the nature of objects, of their principles, maxims and rules, and it is acquired through study, by meditation, while the art consists in the ability to act in consequence of principles and rules drawn from theory, which can only be acquired by frequent exercise, by practices multiplied with many reflections. However, and although art always assumes science, and is even subordinate to it, the knowledge of science is not enough to the practice of the art, so a learned scholar can, at the same time, be very badly adroit in their practice, because the dexterity of acting can only be acquired by acts very often repeated with an observant mind. In a word, the difference between science and the art of war is between theory and practice. Schorn then provided an example of the painter or sculptor, for whom the understanding of the best treatises on these arts alone will not make them great artists (pp. 15–16). It can be posited, therefore, that the term “science” conveys the idea associated with theoretical reflection, while its practical applications, which would be more appropriately deemed as “applied science” like in any other scientific field, has been referred to by the term “art.” Indeed, what seems to be consistent in relation to the significance originally attributed to the words “art” and “science” in common parlance, is that the former is a “skill, practical ability to do something, a meaning reflected in the French and English word ‘artisan’ or skilled craftsman.” The latter, meanwhile, implies “abstract knowledge and reflection upon a subject, the theory (as opposed to the practice of art)” (Heuser, 2016, p. 180).

Strategy, therefore, may be viewed as a social science, having: (i) a purely theoretical branch, devoted to the study of adversarial situations, in order to abstract general concepts and extract laws, rules, and principles applicable to positioning, maneuvering, and engaging resources to best achieve the ends pursued by the contenders of those situations; and (ii) branches of “applied strategy,” concerned with the application, in the various spheres of adversarial situations – political, military, commercial, sporting, or otherwise – of the theories developed in the theoretical field.

However, specifically within the realm of the affairs of the state in pursuing national interests, strategic theory “should intend to achieve the better education of executive strategists, their political masters, and their military agents” (Gray, 2010, p. 9). Yet, many authors have devoted their work to theoretical reflections about strategy and a great number have even

attempted to put forward comprehensive theories of strategy. For example, Gray (2010; 2015; 2018), in which the author plays around with his 23 (initially 21) *dicta* on strategy. There is Ribeiro (2017), focused on the essence of the strategic process. Martel (2014), whose intention was to set out the conceptual foundations of grand strategy and provide “greater analytical clarity about the definition of grand strategy” (p. 2). There was also Bartholomees (2012), with a collection of essays on the subject. Yarger (2006), whose aim was to provide the “essential terminology and definitions, explanations of the underlying assumptions and premises, and substantive hypotheses that explain the nature of the strategic environment and the role and expectations of strategy” (p. ix). Foster (1990) even proposed a conceptual foundation to the task of elaborating a theory of strategy.

Currently, many universities offer courses and programs, under the auspices of strategic studies or security studies, on the theoretical and practical aspects of strategy understood in this sense. Figure A5 witnesses the increased interest around the theory of strategy after WWII, and especially since the 1960s. Caution is due, however, for an important element of the interest revealed in that figure, particularly since the 1980s, refers to business strategy.

Strategy, however, even if confined to the realm of state affairs in pursuance of national interests, splits off into theoretical and applied branches, with the first devoted to epistemological and theoretical approaches and the second devoted to the practical aspects of putting strategies to work. Gray (2015) makes just this sort of distinction by assigning strategy, singular, to express a general theory “applicable to all historical times, places and circumstances,” while using strategies, plural, to refer to “the choices made by particular historical people and institutions, given the assets available to them at the time and the unique desiderata of their contexts” (loc. 341–342).

As to the “art” (of strategy), this now is an anachronism, due to no such qualifier being in use in any other academic field. In economics, a science to which strategy has some similarities, the reference to art was eliminated in the nineteenth century by Alfred Marshall, who put an end to the matter by stating that economics “is therefore a Science, Pure and Applied, rather than a Science and an Art” (Marshall, 1895, p. 118). Perhaps in recognition of the anachronism, the US Department of Defense (DoD) *Dictionary of Military and Associated Terms* has amended the part “the art and science of ...” in its definition of strategy (in use up to September 2006). Instead of reading “the art and science of developing and employing instruments of national power in a synchronized and integrated fashion to achieve theater,

national, and/or multinational objectives,” it now reads less controversially: “a prudent idea or set of ideas for developing and employing ...” (Thomas, 2007, p. 49; US DoD, 2019).

As Schorn noted, art has more to do with individual skill and talent. Thus, it is worthwhile studying the experiences of talented practitioners, to abstract some regularities, rules, and principles from such studies, make use of them as generalized scientific principles and techniques and use them to enrich the body of knowledge of the corresponding sciences (strategy, in the case). However, it is the principles and techniques that are worth teaching, with supporting examples taken from the experiences studied, for while the special talents of specific actors is admirable, it can neither be taught nor learned. Yarger (2006) seems to agree with Schorn’s position, writing:

While theory is an important aid for educating the mind, it is not a substitute for ‘genius’.... History’s great strategists ... had the ability to perceive the realities and relationships of their environment, and apply them successfully in developing strategy. (p. 2; see also Clausewitz, 1976, pp. 100–102)

Furthermore, Yarger (2006) also warns that “true genius is rare, and some say that it is no longer applicable in the modern, complex world” (p. 2).

1.8. Grand Strategy: Torn between War and Politics

The study of strategy in general has focused predominantly on the “art of war.” The classic works on the subject, as well as those of many recent authors have approached strategy from the perspective of actual or potential warfare. Mahnken and Maiolo (2008), for example, introducing a series of articles they edited on Strategic Studies, put a lid on the matter very firmly stating that “the strategy is about winning the wars” (p. 2).

To understand the origin of this emphasis on war, one must take into account how most of history recounts conquests, territorial expansion, and recurrent use of force, or its threat, to resolve disputes and assert the power of tribes, dynasties, or states and empires that are politically more articulated. Thus, naturally, in these circumstances, military power was decisive for the survival, expansion, and competition of these entities. However, this is generally no longer the case.

Notwithstanding, many authors, especially from the US, still associate strategy and grand strategy with the military realm or war. Strachan (2006), for whom “strategy is about war and its conduct” (p. 48), perhaps takes the narrowest view of such an association. Hooker (2014) takes a more open view, but still dwells on the notion of force, saying that grand strategy “*can be understood simply as the use of power to defend the state*” (p. 1, italics in the original),

adding that it “is fundamentally about security in its more traditional meaning” (p. 14). Colin Gray, however, recently, has broadened the scope of strategy and given it more room in the political realm; he writes, for example, “Strategy can be about many things, but primarily it must always be about politics” (Gray, 2015: loc. 315/Chap. 1). Yet, still Gray sticks to his oft-repeated statement that “strategy is the bridge between military power and political purpose” (Gray, 2006, p. 1; Gray, 2015: loc. 539/Chap. 1). This leads Bartholomees (2012), a Professor of Military History at the US Army War College, to point out that Gray, by continuing to “link the definition of strategy to force [,] ... is mixing definitions of war and strategy” (p. 15).

Murray (2010) also stresses the link to war in the case of grand strategy, which he understands to lie “at the nexus of politics and military strategy and thus contains important elements of both” (p. 83). This approach leads the author to write that “grand strategy is a matter for great states and great states alone” (p. 75), implying that “great” should be understood as the more powerful (militarily). In support of his argument Murray quotes a passage from Thucydides (1954), in which the Athenian negotiators, in the Melian Dialogue, say that “in fact the strong do what they have the power to do and the weak accept what they have to accept” (Thucydides, 1954: Book V, para. 89).

Several other US authors take a similar line in their thinking, tying grand strategy to war or military activity. An explanation for this probably lies in US foreign policy. The fact that the US, being a dominant power since WWII and the most dominant since the end of the Cold War, must possess and have the capability to make use of a strong military power in order to establish order – the so-called *Pax Americana* – in the anarchic world of sovereign states. The consequence of this has been that the US, in its role of *policing* the international order, has been almost permanently at war, somewhere and against someone, since WWII, as Table B1 illustrates.

While it is quite easy to understand this link between strategy, the military, and war when applied to a dominant power like the US, having assigned themselves a special responsibility to maintain international order, it does not have to apply to what we might call, by analogy with “middle class” in political sociology, the “common states.” These make up most of the international community of states, without any military power to speak of, but for that which is needed in order to defend themselves against external attacks (and sometimes not even for that). Nevertheless, these states prosper, and in some cases yield considerable influence in world affairs. Therefore, saying that these states cannot have a grand strategy is perhaps narrowing the concept too much. However, Murray does just this in the statement quoted above,

in which he stresses still further: “no small states, and few medium size states, possess the possibility of crafting a grand strategy” (p. 75). It is only possible to understand this sort of statement, however, by taking a quasi-imperialist view of grand strategy, along the lines of the analyses of Luttwak (2009; 2016), or Mitchell (2018), for example.

However, is it possible to explain the social and economic successes of Germany, Switzerland, or Singapore, for example, by taking a similarly radical view of grand strategy? Germany, which ranks after France and the UK in terms of military strength (Global Firepower [GFP], 2019), nevertheless is the most influential European state on the world stage and the most powerful within the European Union (EU). Germany holds the fifth position in the Human Development Index (HDI) (United Nations Development Program [UNDP], 2018), which gives the best indicator of balanced prosperity (the US, the Russian Federation, and China, the three top countries in military strength, rank 13th, 49th, and 86th, respectively). Switzerland, which ranks 33rd in military strength and assumes the status of neutrality, does not even belong to the EU, but holds second place in the world, after Norway, in the HDI. Singapore, which is without natural resources it is worth noting, and with a relatively weak military power, had the highest GDP per capita in Purchasing Power Parities (PPP) in 2018 (excluding the special cases of Qatar and Luxembourg). This is seven places above the US, when in 1980 Singapore ranked 27th, that is, 17 places below the US (WEO [IMF], 2019). Thus, if going by the American standard, whereby the two most sought-after ends are security and prosperity (United States, 2017, pp. 2, 55; Mr. Y, 2011, pp. 5, 10, 11, 13; and Vick, 1984, p. 3), then these three countries (Germany, Singapore, Switzerland) are very successful. It will be difficult to sustain an argument, therefore, that the successes of these countries were achieved by mere chance or accident of circumstances, rather than by some sort of grand strategy, in spite of not having won any wars in the period. Because, as Brands (2014) notes:

[T]he real criterion for grand strategy is not whether there exists a single document fully outlining that grand strategy from the outset; it is whether there exists a coherent body of thought and action geared toward the accomplishment of important long-term aims. (p. 6)

An opposing view to Murray’s comes from Peter Layton (2018). His view, which originates from a medium-size state (Australia), acknowledges that “strong states ... have a considerably more diverse range of practical grand strategic alternatives available than weak states” (p. 22). Yet, despite that, he also affirms that “smaller states with more constrained resources may have a greater need for a grand strategy than great powers” (p. 29), and notes how “strong grand strategies have made states stronger” (p. 22). This is likely to have been the

course of action taken by Germany, Singapore, and Switzerland in their efforts to maximize the effect of their scarce resources. *What may eventually reconcile the two opposing views is the concept of strategic autonomy*, an idea developed in Chapter 3, which allows a view whereby Murray's "great states," by the power that they can amass, avail themselves of much more strategic autonomy than smaller or weaker states.

This said, however, most authors today acknowledge that grand strategy belongs to the realm of politics and that it should involve all of the nation's resources. The main turning point in this understanding came during WWII via Edward Mead Earle (1948), who realized that "as war and society have become more complicated ... strategy has of necessity required increasing consideration of nonmilitary factors, economic, psychological, moral, political, and technological." This is why, he argued, "the highest type of strategy – sometimes called grand strategy – is that which integrates the policies and armaments of the nation that the resort to war is rendered unnecessary" (p. viii).

The context of international relations has changed considerably since WWII. On the one hand, the availability of nuclear weapons and their potential for mass destruction has substantially altered the world's strategic landscape. This, paradoxically, has made the world a safer place by greatly reducing the risk of war and the inherent risk of death by the direct or indirect action of war (see Figure B1). On the other hand, economic prosperity has grown exponentially (Figure B2), and an intricate web of economic interdependencies has been built through international trade (Figure B3) and cross-investment between countries (Figure B4), the disruption of which – caused, for example, by widespread war – would have a devastating effect on world prosperity. This development has not only made the recourse to war less attractive (especially among more affluent societies) but, at the same time, paradoxically, made states vulnerable to multiple, more frequent, and far more significant threats than the military type. The power of states has become contestable, even in the management of internal policy objectives, by intangible forces – usually dubbed as *markets* and their agents – which operate primarily in the economic and financial spheres.

Furthermore, affluence, brought by fast-growing economic prosperity, has made affluent societies far more attached to material goods and less prone to violence as a way of resolving disputes. This situation led Luttwak (1999) to state that:

With a few exceptions, there are now two kinds of countries: (1) over-populated/large-family countries such as Iran willing to accept casualties even in huge numbers but too poor and too disorganized to keep armed forces that can fight effectively beyond their borders; (2) high-income/small-family countries that

keep very costly armed forces that have all sorts of theoretical capabilities which they cannot use, except for remote no-risk/low-risk bombardment, unchallenged naval operations etc. (p. 129)

Along the same lines of argument, Bachofner (2014) considers that the societies of the latter group, which correspond roughly to the affluent Western world, are post-heroic, “characterized by law, trading, pursuit of prosperity, and peacefulness,” and whose “governments assert again and again that they never want to endanger the lives of their own soldiers.” Meanwhile, Robert Cooper (2000), with a similar connotation, refers to the emergence of the postmodern state, by which he means mostly Europe and Japan (p. 29), as a state where “foreign policy becomes the continuation of domestic concerns beyond national boundaries Individual consumption replaces collective glory as the dominant theme of national life. War is to be avoided; empire is of no interest” (p. 32).

In fact, at the end of 2014, Gallup International carried out a survey covering 63 countries in which, among other questions, respondents were asked whether they would be willing to fight for their country (Stoychev, 2015, pp. 283–285). Overall, only in 56 percent of the surveyed countries did 50 percent or more of the respondents answer yes. Crossing these results with the Gross National Income (GNI) per capita of the surveyed countries, obtained from the World Bank Data Base (see Figure B5), a clear negative correlation emerged between economic affluence and the willingness to fight, thus confirming the thesis of the post-heroic societies applied to economically affluent countries. In fact, drawing a line of affluence at 30,000 US dollars (USD) equivalent in PPP, 34 of the countries surveyed by Gallup (57%) were considered less affluent and the remaining 26 (43%) more affluent.¹⁵ In 82 percent of the less affluent countries, more than 50 percent of the respondents showed a willingness to fight for their countries, while in only 15 percent of the more affluent countries did more than 50 percent of respondents say they were willing to fight for the country. The sample group average of the willingness to fight in each country was 64 percent for the less affluent group and 34 percent for the more affluent.

Interestingly, the survey included 17 countries of the EU, a recognized area of economic affluence. Only in three of these – Finland (74%), Sweden (55%), and Greece (54%) – did more than 50 percent of respondents show a willingness to fight for their country. The average positive responses in these 17 countries was 33 percent, with minimum values in two of the most affluent countries, Germany (18%) and the Netherlands (15%). In addition, it is interesting

¹⁵ Three of the surveyed entities were not included in this exercise (Fiji, Papua New Guinea, and the Palestinian territories).

to note that, at the world level, another country that lost badly in WWII, Japan, presented a minimum value (11%).

Even for one of the world's dominant powers – the US – support for the country's involvement in war fades quickly, as Kissinger (2011b) points out:

[I]f I look at the history of American involvement in the wars ... since World War II, there's a striking development in that we entered a series of wars with universal acclaim. There was almost always wide bipartisan support, no significant opposition to enter in Korea, Vietnam, Iraq, Afghanistan. And then, as the war developed, the domestic support for it began to come apart. And the point would be reached at which the dominant debate was exit strategy. (n.p.)

Coming from a different analytical direction, Coutau-Bégarie (2000) considers that the imposition of Brodie's (2014) proposal in contemporary times – to analyze strategy in quasi-economic terms – marks a transition from power politics to welfare policies. This, Coutau-Bégarie asserts, has restricted the relative share of the state budgets to defense, which means that it is no longer enough to simply have the means of force: the nation state must also be able to integrate them into a true policy, to convert force into power (p. 787).

Under this profound change of context for international interactions, naturally, war has lost relevance as an instrument for the resolution of conflicts. Yet, to some extent, this is not true among the dominant powers, which remain committed to policing the world order and/or sustaining their dominant positions; nor to the less affluent, more belligerent societies. War has become, then, “only” a (desirably) small part of a multifaceted continuum of political interaction among states, the implication being that this broader continuum has morphed into the great theater of grand strategy, as already stated at the end of section 1.4. Inevitably, the concept of grand strategy must be adapted to this evolution of reality and be less war-centered and much more politically centered. Academic thought seems to have been following this sort of a path.

Therefore, moving to more recent opinions, this evolution has indeed been reflected, for instance, in Layton (2018), with the statement that “if grand strategy serves policy, that policy does not necessarily have to be only concerned with wars, military matters or armed threats” (p. 19); Martel (2014) goes a step further, to note that:

In its practical application, grand strategy is not and never has been simply about war or the conduct of war – in fact, war often represents a failure of grand strategy. ... It embraces all the actions and policies pursued by the state as it conducts foreign and domestic economic policies in both the short and long term. (p. 4)

Meanwhile, Brands (2014) posits that “a grand strategy is a purposeful and coherent set of ideas about what a nation seeks to accomplish in the world, and how it should go about doing it” (p. 3); at a date a little earlier, Kennedy (1991) concluded that:

The crux of grand strategy lies therefore in *policy*, that is, in the capacity of the nation’s leaders to bring together all of the elements, both military and nonmilitary, for the preservation and enhancement of the nation’s long-term ... interests. (p. 5, italics in the original)

From this brief overview, maybe it is possible to conclude that grand strategy in its broadest sense has definitely moved from the field of war and military affairs, where the term was born, to the field of politics. Most authors recognize this area of vast scope – politics – as the current location of grand strategy in the present-day world. In this frame, it is understandable how the view of grand strategy has changed into “a purposeful and coherent set of ideas about what a nation seeks to accomplish in the world, and how it should go about doing so” (Brands, 2014, p. 3). As Martel (2014) asserts, the implementation “depends on marshaling the domestic foundations of national power to strengthen the state’s long-term interests” (p. 47), for this is what may make it “the highest form of statecraft” (Brands, 2014, p. 1). Seen in this light, therefore, grand strategy fits in quite well in the picture of performance shown by the three countries cited above as an example of non-military success (Germany, Switzerland, and Singapore).

1.9. From Grand Strategy to National Strategy

Taking this more political tone, along the ensuing wider scope of ends to be pursued and a greater arsenal of usable instruments, grand strategy not only distanced itself from military strategy, but also, in addition, won a more encompassing national connotation. The term *national strategy* (see Milevski, 2016, p. 97) replaced the phrase grand strategy, which was used in its broadest sense as the higher strategy of the state, as Milevski states, because the main use of the term “stemmed from government ... [and] the government acts as representative of the nation” (p. 98). Notably, however, *national strategy* is sometimes confused with *policy* (Murray, 2010, p. 76; Milevski, 2016, p. 128), which it should not be.

The higher strategy of a state should indeed be qualified as national, for it encompasses all of the undertakings of a state. It should not, however, be confused with policy, because from several definitions, this has a different, and somehow narrower scope. In fact, Scruton (2007) defines policy as “the general principles which guide the making of laws, administration and executive acts of government in domestic and international affairs”; the *Cambridge Dictionary*

proposes it as “a set of ideas or a plan of what to do in particular situations that has been agreed to officially by ... a government”; and the *Oxford Dictionary* defines it as “a course or principle of action adopted or proposed by an organization.” Following this perspective, Foster (1990) views policy more as a current course of (political) action, “relatively more transitory, [and] less stable” (p. 55) than a national strategy should be.

Foster’s position, in fact, would be made more durable by adding Martel’s comment (2014) that the grand strategy (or national strategy) is “designed to operate on a global scale ... over the long term” (p. 34) and should “be central to developing and perpetuating a systematic approach to and broad[ly] about how the state should conduct its foreign and domestic policies” (p. 42). This view suggests an enveloping stance, acting more as a “conceptual framework that helps nations determine why they want to go there,” representing “an integrated scheme of interests, threats, resources, and policies” (Brands, 2014, p. 3). This also helps policymakers in “figuring out how to align today’s initiatives [i.e. policies] with tomorrow’s desired end-state” (p. 4), which should be the culmination of such strategy.

In this sense, therefore, the national strategy should frame policies in a certain way. This is a pertinent point, on one hand, because if the various policies undertaken by a government “are to be consistent, coherent, and mutually supportive, they must be understood to be but pieces in the larger conceptual mosaic that is strategy” (Foster, 1990, p. 55). On the other hand, also because “in the absence of grand strategy, decisions are severely complicated by a systemic preference to resolve immediate rather than long-term problems” (Murdock & Kallmeyer, 2011, p. 545). Therefore, “identification of grand strategy’s proper role as higher than that of policy is not uncommon and only grew more popular as time marched on” (Milevski, 2016, p. 128). After all, as stated by Robert Kennedy (2010), “policies serve strategy. Strategy comes first” (pp. 22–23).

1.10. Critical Assessment

The literature on strategy has evolved over time and throughout history, adapting itself to the changing circumstances surrounding its objectives and to the consequent modifications in the nature of them. Since for most of history, prevailing circumstances involved the recurrent use of force, or its threat, equating strategy with the art of war was common over a long period. Even after strategy gained semantic autonomy, war – actual or potential – remained its main objective historically. As social life and state interactions became ever more complex, the study of strategy responded by incorporating more components into its analysis and expanding itself into circles of varying scope, some concentric and focused on different levels of the concept –

strategy itself – and other eccentric and dedicated to different fields of the concept (e.g. management or sports). The result of the first expansion into concentric circles was the concept of the grand strategy, embracing the use of a wider range of resources than just the military, and gradually this school of thought began envisaging the pursuit of a broader span of ends that did not involve the defanging or the destruction of adversaries. However, war continued to hover over the objective of this new concept.

The circumstances created since the end of WWII and the end of the Cold War, particularly the exponential growth in affluence, of trade, and cross-border financial flows, has multiplied manifold the complexity of societies and the interdependencies between countries, making the interests of nations far more intertwined. At the same time, the emergence and expansion of nuclear weapons gave rise to the prospect of an end to civilization in the event of a total war, but this had the paradoxical consequence of making recourse to war less likely to resolve interstate disputes. These new circumstances also changed the ground and the nature of adversarial disputes between countries. On the one hand, while these disputes have become less militarily oriented and more economically focused, on the other, they have ceased to be predominantly “matches” where players face each other and play in opposite directions, such as tennis. They have become much more like a “racing competition,” where players run in the same direction against each other, such as in motor racing or in corporate competition, but where all players can win something simultaneously. Take an Olympic race, for instance: an athlete who does not win a place on the podium nonetheless might have excelled in terms of his or her own record, or his or her country’s national record, which could have been his or her reasonable aim for entering a race with more powerful competitors from the start. The same is true of states, in their quest for prosperity, for example. By having their economies competing in the global marketplace, every state may improve the prosperity of their societies, even if at different rates.

Within this new world frame, therefore, the relevant theater for the higher level of state strategy, a true national strategy, from a perspective that embraces all of the nation’s actors, interests, and resources, has turned out to be a multifaceted temporal continuum where its interactions with other states occur continuously. However, as the current study of strategy has not yet fully incorporated the new conditions and factors that have gained relevance in the competition between states, this has left an important analytical gap open for the current research to contribute to filling in.

Furthermore, as Paul Kennedy (2010) has shown, no state can expect to play a dominant role in world affairs forever and, as history has also taught, it is unreasonable for countries to expect eternal prosperity. Great powers rise and fall and sovereign polities¹⁶ – empires, kingdoms, nation states – are born at some point in history, either they emerge as new, or merge with, or split from, other polities, to eventually die at another juncture as a result of having been conquered, fused with, or dissolved into other polities. It is true that some countries, very few in fact, for example China and Japan, claim a millennial existence, but it is also true that it sometimes takes a great conceptual stretch to recognize every continuous history claimed as being of a single polity. On the other hand, the existence of a polity is a dialectical combination between continuity and renewal, reflected in its self-interpretation, its existential aspirations, and the way it interacts with other polities. Continuity is ensured by the sequential overlapping of succeeding generations that guarantee the permanence of an identity culture. And renewal results from generational succession itself, and, above all, from the realization of the need to adapt to the ever-changing circumstances – political, economic, and cultural (in the broadest sense), which envelope the continued successful existence of any country.

Germany is a good example. Having become a single state only in the last third of the nineteenth century, it saw its power status go into true rollercoaster mode throughout the twentieth century. From a twice dominant military power that catastrophically led the world into two highly destructive wars, Germany was twice-defeated, occupied, and split into two states for nearly half a century, only to re-emerge as a self-assumed “civilian power” (Brummer & Oppermann, 2016, p. 2). However, committed to the principles of “never again war” and “never again alone” (Dalgaard-Nielsen, 2005, p. 344), Germany has grown to become the fifth largest economy in the world, the dominant economic power of Europe, and the main influence in the governance of the EU, especially of its monetary union.

Then take the case of China. This country began the twentieth century as an underdeveloped country, divided by the main Western powers into internal spheres of influence, under their rule, to be later occupied and dominated by Japan from 1931 to around the end of WWII. Following the end of the war, the country then inflicted further destruction upon itself through a civil war, first, and then by destructive communist rule thereafter. China entered the 1960s with an economy that was less than one-fifth of that of the US and one-third

¹⁶ Using the term polity in this context – instead of state or country – provides a broader scope and a more open concept. Therefore, this is felt to more appropriately encompass a wider historical range of political experiences, many of which occurred well before the existence of what we know today as “nation states.”

of that of the former Union of Socialist Soviet Republics (USSR), and a GDP per capita equivalent to 5 percent and 11 percent, respectively, of those two countries (see Bolt, Inklaar, Jong & Zanden, 2018). However, over the last 30 years, and largely thanks to important reforms introduced in the 1980s, China's economy has grown from less than 30 percent of that of the US to become practically on par (measured in PPP¹⁷), and now has an economy five times larger than that of Russia. Upon which success, China has emerged to become, as it is today, the main contender to dispute the hegemony of the US.

The point of these considerations, therefore, is that it may be pointless for a country to set objectives too far into the future, given that the levers that shape the results in such a distant end are largely unpredictable, and definitely are beyond the direct control of the present abilities. However, the country, to make the best use of its potential, should have a long-term vision to guide its existence, including concrete ends it aims to achieve as it steers its course into the future, and an idea of how these ends may be achieved. Basically, what the citizens of a country desire is to be able to prosper, and in order to do that they need the country to be both secure and capable of preserving its political existence. It is therefore up to the government to provide the basic conditions for these ambitions to be fulfilled. And that should fall within the scope of a national strategy.

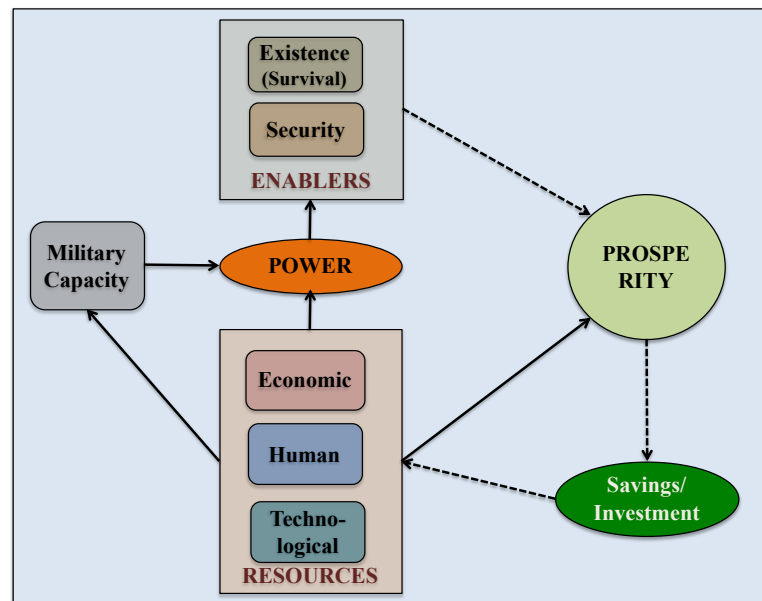
Material well-being alone does not confine the prosperity to which societies aspire. Prosperity encompasses spiritual (psychological) well-being, including the cultural values with which society identifies and which identifies it. On the other hand, prosperity is not an end pursued only in absolute terms; the pursuance happens in relative terms in comparison with other societies, which turns the pursuit of prosperity into a competition in which each country seeks to converge towards or outperform the prosperity of other countries.

Security and prosperity, together with "political existence" (or simply existence, i.e. survival or independence), which is sometimes subsumed into the former, are the ends most sought-after by all countries, as already mentioned, and therefore these are the main (and most common) ends of national (grand) strategies. Prosperity, by the logic of things, may have a higher aspirational rank in the strategy, but security (including "existence"), because it is a necessary condition for the attainment of prosperity, has a higher practical rank, and therefore takes priority, when setting the strategic objectives. Nevertheless, prosperity cannot be about the aspirational realm alone, because it is upon it that ultimately the main levers of power

¹⁷ Chapter 5 will explain the difference between using PPP and an international currency for economic comparisons among countries.

needed to ensure existence and security are sustained. President Barack Obama clearly pointed this out in his first National Security Strategy: “our prosperity serves as a wellspring for our power” (United States, 2010, p. 9). The statement by Obama implicitly recognizes that, without prosperity, power will be difficult to sustain and will eventually falter. Therefore, ultimately, the relationship between the three main strategic ends – existence, security, and prosperity – are intertwined in a dialectic of interdependences, as Figure 1.1 illustrates.

Figure 1.1. Prosperity, Security and Survival Interactions



Source: Author’s design

If a country has, or aspires to the role of a global or regional power, or if it faces a real or potential threat to its existence or integrity, naturally security and survival will stand out as its strategic priorities. Should this be the goal, then, the country will allocate a greater proportion of its material and intellectual, psychological, and physical resources to these priorities, notably by strengthening military capabilities. However, when a country does not hold, or aspire to hold such a role and does not face an existential threat, it is also natural that the pursuit of prosperity takes over as its main strategic concern. This is the case when the country feels protected from threat, either because it is part of a security community – i.e. a group of states “that will not fight each other physically, but will settle disputes in some other way” (Deutsche, Burrell, Kann, et al., 1957, p. 5) –, or simply because the world has been made relatively peaceful by the institutions of international governance. In fact, Buzan (1991) argues that this is “the dominant feature of the post-Cold War era ... among the major centers of

capitalist power” (p. 436), which includes most European countries and most countries on other continents as well.

In this context, Japan and Germany provide good examples of countries that project power simply by way of their prosperity, as both have transformed themselves from defeated military powers occupied by their opponents at the end of WWII, to leading and influential economic powers, despite choosing the “civilian” avenue (e.g. Maull, 1990) to affirm their power. Yet, even for countries with power status, prosperity must be at the forefront of their strategic concerns – as past US National Security strategies have shown – because without it, this status would be at risk or increasingly out of reach. Furthermore, for those who aspire to a power status, China, as already mentioned, provides another good example of the relevance of prosperity, because it was via prosperity that the country managed to climb from its underdeveloped status to become the main challenger to the US.

Sometimes countries stray from their pursuit of prosperity, due to the dissemination of fictional political narratives about threats to national integrity and idyllic descriptions of national achievements. Often, to support this type of propaganda, there is rigorous control of the flow of information within the society, such as in North Korea and Venezuela currently, for example, or such as the case of the former Communist Bloc in the not so distant past. This reversal of strategic priorities is often the result of internal problems rather than an external threat to state security. Normally, the situation will come about because (often an unelected) elite takes control of the government apparatus and uses the said narrative, along with repressive mechanisms, to control the rest of society and preserve its privileges. However, even in these cases, sooner or later, the lack of prosperity will tire the community, worn down by a prolonged expectation of unfulfilled promises, and begin to undermine the social belief in which such regimes attempt to legitimize their existence, leading to their eventual overthrow.

Military capabilities will always be of relevance, but for the most part, and for most countries, this will not be a primary concern. Prosperity, on the other hand, will always tend to be at the forefront of national strategies, whereby the pursuit of prosperity is nowadays the main ground upon which most countries compete. This competition can be, and most often is, a positive-sum game (a competitive race), where everyone can gain, even if some gain more than others do, and where cooperation in some areas can be mutually beneficial. Cooperative competition, if it is possible to call it that, indeed is the objective of the multilateral institutions created to promote world trade, financial cooperation, and cross-border investment. However, in the end, competition cannot be anything but adversarial, because the players – private agents

or states – compete among themselves for resources that are mostly scarce by nature. And the outcomes of this contest may change the relative positions of contenders to a point that their role in terms of the power they hold is affected, either in the world stage or in certain regions, or give rise to undesirable dependencies, which may even endanger political autonomies.

In fact, as experts recognize:

The ability to achieve national prestige and influence rapidly by focusing on economic growth, together with the costs that modern military technology imposes on any attempt to achieve those goals by military means, has led to a vast shift of strategy from geopolitical aggressiveness and territorial disputes to economic priorities. (Overholt, 2009, p. 16)

Therefore, to omit or only to scantily consider this angle of analysis in strategic studies – that is, the continuing relevance of economic prosperity to national strategies and the friendly or adversarial competition its pursuit induces – constitutes another relevant shortcoming in the field of strategic studies, which this research intends to contribute to overcoming. The intention of this thesis is not to disregard the classical issues that inform strategic studies, nor to leave aside considerations of the importance of military issues, which are acknowledged as crucial in the end. The intention is to point out that most countries do not intend to involve themselves in wars or war machinations, but simply to devote themselves to the best type of living possible. This, therefore, as a central consideration in the existence of a country, cannot be treated as if it were strategically irrelevant.

There are understandable reasons behind why these gaps in strategic studies have existed for such a long period. Primary among these is that the US conducts most strategic studies from its position as the dominant world power and in relation to its responsibility to not only preserve its own status but also to maintain the world order. These responsibilities make the US a kind of hegemonic state according to Cooper's (2000) "modern order" (pp. 16–19), whereby it must rely on a dominant military capability to fulfill those responsibilities. War, therefore, is an ever-present scenario in the strategic considerations of the US. On the other hand, the country's two most direct strategic competitors – China and Russia (see United States, 2017, p. 51) – also need to maintain a strong, ready-to-use military capability to support their roles as the main challengers to the perceived hegemony of the US. Some other regional powers also form part of Cooper's "modern order." Therefore, it is understandable that these states will continue to apply a more classical approach to strategy.

However, for most states, military needs are predominantly defensive (of their territory) and their security is largely protected by the pacifying role played by the dominant power over the world order, and, furthermore, they have no ambitions to expand their territory. These states, here dubbed the “common states,” exist in a reasonably peaceful context, their main ambitions lie in bringing prosperity to their societies, promoting their cultural values, and influencing the course of world affairs. Meanwhile, most of the threats they face, including to their security in a broad sense, are economic in nature. And they, their ambitions, and their actions to pursue them, cannot be left out of the reality of strategy. Thus, particularly, it is in relation to these states and their circumstances where the shortcomings mentioned in the strategic studies field are felt most keenly.

CHAPTER 2. Literature on Strategic Autonomy

2.1. Preamble

Since this thesis deals with the strategic autonomy of a state, it is necessary to clarify this concept before advancing further with the research object. This is especially true since the term strategic autonomy has not been used much, if at all, throughout the history of strategic thinking. As Mauro (2018) – who has already recently extensively reviewed the literature on the theme – ascertains, “there is no hint of it to be found in Machiavelli, Napoleon, Clausewitz, Metternich or Aron. Nor is there any trace in the writings of 20th-century thinkers such as Liddell Hart, André Beaufre or Edward Luttwak” (p. 82).

In recent times, the term has been used more often, particularly (but not exclusively) in two specific instances – Europe and India – although with varying and sometimes inaccurate meanings and scope, and implicitly with the idea of autonomy being used specifically in relation to the dominant power of the United States. Notwithstanding such inaccuracies, the use of the expression and the context of such use may pave the way for constructing the concept needed for the current thesis.

In Europe – more precisely, in the EU – the use of the expression had become more frequent since the end of the Cold War and then has intensified since Donald Trump was elected president of the United States. In this context, the use of the expression underpins the political aspirations of the EU and some of its Member States to assume responsibility for their own security and to have the capacity for autonomous external intervention, reducing or eliminating the dependency the EU has had on the US since WWII, as will be seen below. In this respect, and inasmuch as Europe has significant economic capacity and advanced cultural values, which guarantee it sufficient autonomy in those fields, the use of the term strategic autonomy has mainly had the EU military capacity in mind. The EU does indeed aim to have such a capacity, not only for its own security, but also to be able to project its influence in world affairs, pursuing, to that end, autonomous politico-military objectives.

As for India, the term has been used with a broader understanding and somehow as an intellectual derivative of the nonalignment policy established after independence by the country’s first Prime Minister, Jawaharlal Nehru, and pursued by the country during the Cold War.

As for the US, in spite of much of the published work on strategy coming from there, it is notable that the issue of strategic autonomy is largely absent from the literature or the

thinking. This is likely to be due to the US's perception of itself as a dominant world power, which it has been for several decades. Thus, US thinkers may see strategic autonomy as something that refers to the relationship with a higher or dominant power, and consider that it is therefore meaningless for their country.

2.2. French Official Views

In the EU, the term strategic autonomy has been widespread in many documents originating from community bodies – Council, Commission, Parliament, and so on. The term, according to Mauro (2018), is mainly French-inspired. The first mention in France is in the White Paper on Defense, published in 1994 (French Republic, 1994). Here, recognizing the need to reflect on the implications of the new strategic environment after the end of the Cold War, it states how the future of deterrence and the modalities of French *strategic autonomy* are at the heart of the country's reflections.

Even if not specifically identified as such, the underlying meaning of the term used in the French document was associated with the ideas of independence and freedom of political action. It states how the fundamental choice of France in 1959, in favor of the nuclear strategy, was based on the country's desire to ensure, in all circumstances, both independence and freedom of political action. Therefore, the document recognizes that in the context of having to deal with many unspecified threats, which do not require the use of nuclear weapons, its *strategic autonomy* would depend on its mastery of key functions other than on the nuclear. This includes intelligence – in particular information that allows predicting autonomous events and mastering complex situations – where the political, military, and regional dimensions of strategy are intertwined, and strategic mobility, that is, the ability to move freely and deploy forces in a timely manner to the right place (French Republic, 1994, pp. 52–53).

Continuing with official government documents, the White Paper of 2008 (French Republic, 2008) goes only a little further in clarifying the concept. It does mention in passing the components of the country's strategic autonomy, which are nuclear deterrence, freedom of judgment, and the freedom of decision and action by the Head of State, the first of these based upon the possibility that the Head of State will independently hold at his or her discretion a wide range of options and a variety of means. In addition, the document recognizes the primary importance of intelligence, upon which the above-mentioned freedoms depend, as well as of the country's ability to preserve its strategic initiative and autonomy in decision-making.

However, the 2013 White Paper (French Republic, 2013) elaborates on these components somewhat. It associates strategic autonomy with the freedom of decision and the freedom of action. It states how strategic autonomy should enable France to take the initiative in operations that it deems necessary to preserve its security interests. It takes the principle of strategic autonomy as the basis for its external intervention strategy; and recognizes that strategic autonomy is dependent upon the capabilities to confer autonomy of appreciation, planning, and command, as well as critical capacities that underlie the autonomy of decision and operational action. This strategic autonomy should allow France to take the initiative in operations that it deems necessary to preserve its security interests and, where appropriate, to federate the action of its partners, particularly within the EU.

The 2017 Review of the National Defense and Security Strategy (French Republic, 2017), however, includes some interesting additions to clarify the concept of strategic autonomy – which became commonplace in French documents of this sort – in the mind of French authorities. Thus, on the one hand, and in relation to the scope of this thesis, the document clarifies what it includes: first, factors that increase the resilience and cohesion of the nation and safeguard its central functions; and, second, the means of conducting an effective and fully engaged diplomatic policy inseparable from the action of the French armed forces. Furthermore, more precisely, the document advances why it is inadvisable to consider strategic autonomy in exclusively military terms – for it requires close coordination with civilian instruments such as diplomacy and development as well.

On the other hand, the Review states how the objectives of strategy become no more than mere aspirations unless adequate resources to achieve them are put into place. It states how the substance in the concept of strategic autonomy, for France, rests on a political base composed of two pillars: a high degree of industrial and technological autonomy and the means and resources to ensure operational autonomy. To this end, a key factor has been maintaining the excellence of the French “Defence Industrial and Technological Base,” on which the technological superiority and strategic autonomy of the country depends. Once again, the 2013 document reaffirms the association of strategic autonomy with freedom of evaluation, decision, and action.

A document, which originates with the French think tank Institut français des relations internationales – ifri –, and builds on the 2013 White Paper, which may mean that it is associated with the official view, connects strategic autonomy with the ability to enter the theater of operations first. This view combines the concepts of “entering first,” in matters of strategic

autonomy, reactivity, and political influence, on the one side, and the ability to deploy an intervention of force on a non-contiguous territory whose control is contested by the enemy, on the other side (Brustlein, 2016, p. 24). However, the same document also acknowledges that preserving the national scope for maneuver and strategic autonomy requires considerable financial investment (p. 63).

A more recent, semi-official document (Faure, 2018), written by the President of the *Union des associations d'auditeurs de l'Institut des hautes études de défense nationale* (Union-IHEDN), considers how strategic autonomy correlates with independence and sovereignty. It states that the two main objectives of this are to be able to guarantee the survival of the country in the face of serious threat; and to be able to defend and promote French values and interests around the world. These objectives, in order to be effective, require “having: information capacity and action to act without the authorization or control of anyone; and [to have the] diplomatic and political means to gather partners around action” (p. 7).

Nevertheless, in the case of France, the author adds that there are three important constraints limiting strategic autonomy, which need alleviating in order to increase the degree of France’s autonomy. The first is budgetary (due to the tight conditions under which public finances operate in France, leading to the erosion of military means); the second derives from the network of alliances – NATO and the EU – in which France is involved; and the third derives from the country’s insufficient scientific and technical potential.

Although the constraints Faure refers to relate to the particular situation of France, the idea of constraints on the strategic autonomy of a country is highly relevant to the current thesis. The notion that these constraints derive fundamentally from an unavailability of resources able to be mobilized in order to achieve the desired objectives or to protect and promote relevant interests is very important, and can be generalized to help develop this thesis. *The financial constraint, in particular, will always be present, to a greater or lesser extent, as a conditioner of strategic autonomy.*

2.3. European Union Official Views

Although the French seem to be “the only ones to use the word strategic autonomy,” even if they are not “the only ones to be looking at re-orienting their military strategies” (Mauro, 2018, p. 8), they do seem to have succeeded in instilling the term into the strategic thinking of the European institutions. The many EU documents on the subject attest to this. Brustlein (2018), for instance, acknowledges that “as a concept, strategic autonomy has appeared only

recently in the debate on the EU Common Security and Defense Policy, and after considerable controversies,” adding that “French strategic policy can be a useful point of departure to discuss what strategic autonomy might be in a European context” (p. 2). However, the same author also acknowledges that the fuss France has made over strategic autonomy has also put other European partners on guard because:

[T]he centrality given to strategic autonomy by French elites and the fact that France championed strategic autonomy as a goal for Europe certainly explain some of the concerns of allies in the burgeoning debate on European strategic ambitions – simply put, the fear that France would love to commit the EU to a Gaullist turn, pushing it to sever the transatlantic link while bolstering French influence. (p. 2)

In fact, alongside France a number of EU countries are explicitly concerned with European strategic autonomy (see Arteaga, Jermalavicus, Marrone, Maulny & Terlikowski, 2016). The issue somehow is a matter of contention between the two strong pillars of the EU, the so-called Franco–German axis. “In Germany, most people hesitate to pursue strategic autonomy for Europe. They say it is far too ambitious and therefore unrealistic, and probably too expensive anyway” (Puhl, 2018, p. 1). For Puhl, similar to the French view, European strategic autonomy involves a strong and solid industrial base, protection of its armaments, and a high-performing technological base. However, as this would require government ownership or influence in the industrial sector, inevitably it is at odds with the German view that prefers to leave economic activity in general to “a competitive private sector, holding government influence to a low level” (p. 3). Moreover, to agree on a common pursuit of European strategic autonomy, “it would be necessary to align the German culture of military restraint, which the majority of Germans support, and the French culture of autonomous military operating capabilities, which goes without saying for the French” (p. 2).

The first European Union document to harbor the expression strategic autonomy, according to Mauro (2018, p. 11), was “the annual report of the European Parliament on the implementation of the European Security Strategy and the Common Security and Defence Policy of 10 March 2010.”¹⁸ The Rapporteur of this document (European Parliament, 2010), certainly not by chance, was the French Member of the European Parliament, Arnaud Danjean, chairman of the Subcommittee on Security and Defence, which is a part of the Committee on Foreign Affairs. The document, however, does not elaborate on the underlying concept, saying

¹⁸ It is noteworthy that the first document from the European Union on European Security, produced by the European Council in 2003 (European Council, 2003), makes no mention of “strategic autonomy.”

only that “the Union must enhance its strategic autonomy through a strong and effective foreign, security and defence policy” (para. 6). Furthermore, to do so, it calls on “European national defence procurement agencies” to adopt European preference “in some areas of defence equipment where it is important to maintain strategic autonomy and operational sovereignty from a European perspective” (para. 68).

It was not until 2013 that the European Commission attempted to clarify the concept, equating strategic autonomy with being “able to decide and to act without depending on the capabilities of third parties,” for which “security of supply, access to critical technologies and operational sovereignty are therefore crucial” (European Commission, 2013, p. 3). Nevertheless, the subject has been little elaborated since: As Varga points out, despite strategic autonomy becoming “a key catch-phrase in the recent CSDP [Common Security and Defence Policy] debates and EU documents ... [,] its specific meaning has never been defined in official documents” (Varga, 2017, p. 5).¹⁹

Moreover, even a relatively recent document (European Policy Centre, 2016) fails to elaborate. Ambitiously titled *Shared Vision, Common Action: A Stronger Europe: A Global Strategy for the European Union’s Foreign and Security Policy*, the Vice President of the European Commission and High Representative of the Union for Foreign Affairs and Security Policy, Frederica Mogherini, writes in the Foreword that, “the Strategy nurtures the ambition of strategic autonomy for the European Union.” However, the meaning of the concept becomes no clearer, not even by stating that “an appropriate level of ambition and strategic autonomy is important for Europe’s ability to promote peace and security within and beyond its borders” (p. 9); and that “a sustainable, innovative and competitive European defence industry is essential for Europe’s strategic autonomy” (p. 46).

2.4. Other European Views

Documents produced by independent European entities, such as think tanks, more concretely clarify what ought to be understood by strategic autonomy. Mauro (2018) points out how strategic autonomy made “a few fleeting appearances in a few works of the 1970s, but with no real doctrinal development” (p. 17). And referring to a work by the French think tank, *Institut Montaigne*, Mauro writes how it “would provide the first doctrinal definition of strategic autonomy” (p. 17). This document provides a bit more substance and clarity to the idea, saying

¹⁹ Mauro (2018) describes extensively the use of the expression strategic autonomy throughout many documents emanating from the European Union institutions. As it does not clarify the meaning of the expression in any of them, this suggests that the EU assumes the concept to be common knowledge (pp. 11–16).

that strategic autonomy is not about undertaking everything, and doing everything alone, but rather it is about preparing to be always in a position to act either by mobilizing other shared means, or acting alone in case of a specific threat or damage to vital interests (*Institut Montaigne*, 2002). Strategic autonomy should, then, the report advances, be a continuous construction between the diplomat and the military, the state and civil society.

The understanding of strategic autonomy behind this document, on the one hand, links its scope to the capacity to forge alliances – to expand mobilizable resources – and, on the other hand, links the build-up of resources to a dialectical and continuous process involving the different components of political society. In this regard, and although the statement only refers to the military and diplomacy as means of government action, the underlying reasoning can easily be extended to other fields of action, such as economics and culture, for example. However, of even greater importance is the reference made to the binomial government–civil society, and its implicit articulation, as the foundation of the strategic autonomy of a state.

The aforementioned author Gergely Varga, of the Hungarian Institute for Foreign Affairs and Trade, associates the idea of resources, namely financial means, to the concept of strategic autonomy, as “traditional defence policies in nation states centred around three basic questions: the required capabilities, how to finance them and when to use them” (Varga, 2017, p. 4).

In a Report produced by the Armament Industry European Research Group – ARES (Arteaga, Jermalavicus, Marrone, Maulny & Terlikowski, 2016) the authors provide a definition of strategic autonomy, confined, though, to the defense field. They state that it can be “capability driven,” the main “objective [of which] is to provide [the] armed forces with [the] capabilities necessary to ensure the country’s essential security interests,” or “technology driven,” whereby the aim is “to identify the technologies necessary to ensure” those interests (p. 31).

In another Report for ARES co-written by a group of different contributors (Camporini, Hartley, Maulny & Zandee, 2017), the Abstract recognizes that “the difficulty of defining the scope of that strategic autonomy represents a handicap” (p. 3). One of the co-authors, Dick Zandee points out how “in many publications and seminars, the issue of strategic autonomy is discussed. Yet, it is difficult to find a definition of what it means” (Zandee, 2017, p. 11). Interestingly, having pointed out the difficulties in defining the concept, Zandee suggests that, “one of the rare definitions comes from the Indian scholar Arunoday Bajpai,” an author whose view will be addressed in the next section.

Zandee, however, attempted to bring clarification to the idea, stating very clearly that: EU strategic autonomy can only be realised if the required military forces are available to provide a credible backup to political, diplomatic and economic action, and, if needed, to be deployed in support of such action. ... Thus, strengthening European military power is the key to strategic autonomy. (p. 12)

The “words on strategic autonomy now have to be turned into deeds” (p. 15) he concluded.

In the following section of the same Report, Keith Hartley takes the same line as his co-author, asserting that “whilst the notion of European strategic autonomy often arises in various EU policy papers, it has not been a central feature of policy and a comprehensive definition has not been provided” (Hartley, 2017, p. 16). The author had already noted on the previous page how “Europe defines its strategic autonomy in terms of its ability to act and co-operate with international and regional partners wherever possible while being able to operate autonomously where and when necessary” (p. 15). The more interesting contribution (particularly applicable to the current thesis) by Hartley, however, comes from his attempt to introduce an economics perspective to strategic autonomy, which he believes “can offer valuable and original insights into the understanding” of a concept that “is often assessed from the perspective of politics, strategic studies, the military and industry.” (p. 15)

An economic perspective should, among other things, bring about a cost-benefit analysis of the resources allocated to the hard provision of autonomy (i.e. the military means), vis-à-vis the allocations of the same financial resources to other ways of attaining the desired objectives. Therefore, in Hartley’s view, if strategic autonomy prompts the need for military equipment, this may also support the development of industrial defense capabilities, which may bring collateral, economic, and social benefits, for example, jobs, technological advances, and positive contributions to the balance of payments. However, the author provides a counter position to this: as, since prosperity is also one of the great objectives of a nation, and devoting resources to military means implies deviating the resources from other uses, some consideration should be given to the welfare outcome resulting from this alternative allocation of scarce resources. Dealing with the implied trade-off belongs entirely with the political sphere, and depends on the social preferences of the nation:

Nations will differ in their willingness to pay for varying amounts of independence and the willingness to pay will vary with their views about the threats they face and their willingness to accept and pay for varying degrees of risk. (p. 17)

Remarkably, like Zandee, Hartley elaborates on the meaning of strategic autonomy, and in particular on the introduction of the economic perspective, beginning with the definition of Indian author, S. Kalyanaraman, another author who will be dealt with in the next section.

Ronja Kempin, from the German Institute for International and Security Affairs and Barbara Kunz, from the French Institute of International Relations (IFRI) offer an appraisal of the notion of strategic autonomy “currently at the heart of security and defence policy debates in Brussels and in EU capitals,” asserting that it comprises “three indispensable building blocks”: (i) political autonomy, that is, “the capacity to define foreign and security policy goals and to decide over the tools to be used in their pursuit”; (ii) operational autonomy, “defined as the capacity, based on the necessary institutional framework and the required capabilities, to independently plan for and conduct civilian and / or military operations; and (iii) industrial autonomy, meaning “the ability to develop and build the capabilities required to attain operational autonomy” (Kempin & Kunz, 2017, p. 10).

In turn, Arteaga (2017) states that if “the concept of strategic autonomy is reduced to its operational dimension ... [, it] becomes little more than a military equipment catalogue.” He acknowledges how “only a few of the larger countries have their own criteria for strategic autonomy that can be applied to the EU,” and that Germany and Italy do not have such a concept (pp. 3–4). Thus, unable to gather much enthusiasm for the idea, “European strategic autonomy began to be driven more by its industrial and technological component” (p. 2). However, Arteaga adds an interesting twist to the concept as applied to the EU, by attaching two components: “operational sovereignty,” that is, the ability of the Commission “to act without depending on the capabilities of third parties,” and “technological sovereignty,” such as having “an industrial focus that included access to essential technologies and security of supply” (p. 2). He also contributes an interesting definition of the concept of strategic autonomy, sharing Spain’s concept, which associates the term “with possession of capabilities to attend to the national interests,” these being capabilities that “should provide the armed forces with operational advantage and freedom of action in its independent and multinational interventions” (p. 4). Furthermore, Arteaga also recognizes that scarcity of budgetary resources is a conditioning factor of strategic autonomy (p. 6).

Two members of American think tanks, in an online *Foreign Affairs* article, also ventured to provide a definition for strategic autonomy, as applied to Europe. For them, “strategic autonomy means, first and foremost, a vision for Europe as an actor on the world stage capable of defending itself at home and pursuing its objectives abroad. ... In the short

term, strategic autonomy means urgently shoring up European military capacities and capabilities” (Haddad & Polyakova, 2018). Notwithstanding the implicit military-centered approach to the concept, the authors add as a cautionary note: “strategic autonomy should, however, not solely be based on defense and security.” They recall, for example, “the United States expansive use of extraterritorial sanctions”; and as a way to point to the significant imbalance between Europe and the United States’ ability to mobilize their economic powers, they cite the uneven role played by the dollar and the euro, concluding that “*sustainability and competitiveness of the monetary zone*” are paramount to European strategic autonomy (italics added).

In addition, Mauro (2018), who has guided much of the existing literature on strategic autonomy, provides his own definition for the term, in spite of the digression made by other authors, which is quite restrictive and military-based: strategic autonomy is “no more and no less than the ability of a state to decide upon and to wage war alone” (p. 22).

More recently, recognizing “strategic autonomy” as a term perceived in many EU capitals “as being anti-American,” and seeing “‘European sovereignty’ as an equally problematic term, some authors have offered an alternative: “strategic sovereignty.” To Leonard and Shapiro (2019), for example, this term suggests a “better organizing principle,” the purpose of which is to “allow the Europeans to decide their policies for themselves and bargain effectively within an interdependent system” (p. 13). They continue:

Talking about ‘sovereignty’ [envisages creating] ... circumstances in which – if Europeans have a clear and shared sense of what they want to do in the world – they are able to achieve it ... [, while] the term ‘strategic’ refers to setting rules at a global level rather than getting into the weeds of national life. In this sense, sovereignty is not to be taken from EU member states but recovered from other great powers, such as China, Russia, and the US. Above all, it does not mean trying to end interdependence. (p. 13)

2.5. Indian Views

Strategic autonomy has become a term more frequently used in Indian strategic studies. However, in this case, one can say that it is the result of an evolution of language as much as the assigning of a new name to an old political orientation in Indian international relations – nonalignment. In fact, nonalignment has been the keyword and the conceptual ground of the international strategy and foreign policy pursued by India practically since its independence. Setting it up, the first prime minister of India, Jawaharlal Nehru, envisaged its purpose: “to avoid India’s entrapment in great power rivalries and to enable India to focus on internal development” (Tanham, 1992, p. vi). For the success of such a policy, and consequently for

India to acquire greater autonomy, Nehru “believed that India must develop its own capabilities” and “emphasized the need for economic and industrial self-reliance” (p. 57).

With the end of the Cold War and the move away from a bipolar world to a unipolar one, the term nonalignment became less and less meaningful, and the more contemporary term strategic autonomy replaced it. The conceptual replacement-process involved associating the two expressions and equalizing them. Thus, “non-alignment ... is aiming to endow India with strategic decision-making freedom, namely a kind of strategic autonomy based on the full recognition of its national interests” (Xinmin, 2014, p. 13). While “Strategic autonomy has been the defining value and continuous goal of India’s international policy ever since the inception of the Republic [, d]efined initially in the terminology of Non-Alignment” (Khilnani, Kumar, Metha, Menon, et al., 2012, p. iv). Finally, with the older term replaced by the newer one, sometimes a technological-evolutionary tone surfaced: “Nonalignment 2.0 thus boils down to strategic autonomy” (Wulf & Debiel, 2015, p. 30). These last two authors provide important conceptual framing around the term, explaining that strategic autonomy “is also *a question of creating sufficient power resources* for India to be able to articulate its own interests in foreign policy and in the shaping of the world order” (p. 30, italics added).

At the same time, other Indian authors have attempted to comprehensively define the concept of strategic autonomy. For example, Arunoday Bajpai, Professor of Political Science (and alluded to by Zandee, 2017, as mentioned on p. 55 above), provides an answer online at *Quora*, stating that “Strategic Autonomy refers to a foreign policy posture, whereby a nation maintains independent outlook and orientation in foreign affairs with respects to the issues defining her core strategic interests” (Bajpai, 2016). Meanwhile, S. Kalyanaraman (2015), from the Indian Institute for Defence Studies and Analyses (also alluded to by Hartley, 2017, as mentioned above on p. 57), advances an alternative definition:

Strategic autonomy denotes the ability of a state to pursue its national interests and adopt its preferred foreign policy without being constrained in any manner by other states ... [and that] the practice of strategic autonomy is a function of the power capabilities possessed by a state and of the structure of the international system in a particular historical era. (n. p.)

In a comprehensive study regarding the evolution of Indian foreign policy, identified appropriately as a quest for strategic autonomy, Schaffer and Schaffer (2016) reiterate India’s position, whereby the concept of strategic autonomy represents a kind of update to the former concept of nonalignment. The authors point out that an important element of such a concept “was a determination [by India] to stand on its own and avoid being placed in a position of

relying on other powers for its security and well-being” (p. 34). However, these two authors add some important touches to realize a definition. On the one hand, they state how the purpose behind the idea of strategic autonomy is to “maximize ... [Indian] freedom of action” (p. 302) and how the concept “has increasingly been interpreted by more recent governments” (p. 308) in this way, equating the term with “maximizing one’s options” (p. 309). On the other hand, they recognize that complete (or full) strategic autonomy cannot realistically be achieved (p. 34), especially in a globalized world, thus implying that the realization of the concept will always be constrained by external forces or scarcity of internal resources, but add that such realization “is not incompatible with coalition building” (p. 215).

This view is tantamount to acknowledging that a reliance on alliances could be a way to mobilize external resources, to leverage the (naturally scarce) internal ones, and broaden the scope of what can be realized, as long as the benefits derived from these alliances exceed the costs that inevitably they will impose (to other aspects of strategic autonomy). In this regard, the authors point out that “joint action on security issues with other countries, especially major powers, are warily examined through the filter of protecting India’s strategic autonomy” (p. 62). They also comment on the opening up of the Indian economy to the world following the end of the Cold War, particularly under the government of Narendra Modi, and on the new economic relationships developed since then, saying that:

India has undertaken economic negotiations it never dreamed of before, including creating free trade areas, but has lost none of its determination to *scrutinize carefully the impact on India’s economic welfare and to maintain its strategic autonomy*. (p. 309, italics added)

2.6. Critical Assessment

The literature review of strategic autonomy revealed several gaps, including the absence of a suitable definition of strategic autonomy.

The official approaches to the subject of strategic autonomy reflect the strategic views of the actors who devised them (e.g. France, India, and the EU) and their particular contextual circumstances. With regard to the EU, despite its institutions producing a large collection of documents on the use of the term strategic autonomy, and though this has become something of a buzzword, what stands out is a surprising imprecision of the concept (as if there is a presupposition that the meaning is already generally known) and an almost exclusive focus on military and defense issues. Moreover, the EU documents also make apparent Europe’s concern (not shared by all European countries, though) to maintain autonomy from the United States.

The EU's concerns have increased since the election of President Donald Trump in 2016 according to Mauro (2018), who points out that in the two years from Trump's election to the time of his writing "no less than six studies have been published" referring to strategic autonomy (p. 18).

Within the EU, France has been the most assertive at promoting the idea of strategic autonomy, but "in theory, strategic autonomy is the beginning and end of the defense policy," although in practice the country is aware that "'complete' strategic autonomy would require budgetary resources" significantly beyond the capabilities of the state (Mauro, 2018, p. 27). It is also worth noting in relation to the argument set out in Chapter 1 the economic implications underlying this consideration.

To understand the near-obsessive concern France has with the concept of strategic autonomy, which almost exclusively focuses on military capabilities, it is helpful to recall the memorandum written by Alexander Kojève in 1945 for General de Gaulle (Kojève, 2004). Meanwhile, it is also worthwhile recalling that France, which was occupied by the Germans during WWII, still managed to be recognized as one of the victors at the end of the war. Under these circumstances, what Kojève wrote revealed the terrifying prospect (for France) of becoming a strategically irrelevant "small nation" crammed between what the country feared would become the two dominant world empires – the Anglo-Saxon and the Slavo-Soviet. Furthermore, compounding this perceived danger was the prospect of the regeneration of Germany as an economic power, which it was feared, could eventually join and further strengthen one of the two envisaged empires. Therefore, in the context of the advice given by the philosopher-strategist Kojève, France's aim, which was to gain strategic autonomy by widening its area of influence in the European continent, is understandable. Under the leadership of de Gaulle and upon the advice of Kojève, the objective was to create a Latin empire, or as later came to be the case, a European Community, with the Anglo-Saxons held at bay (recall how the UK was barred from joining the European Economic Community (EEC) during the de Gaulle period), and acquire nuclear power. This may also help to explain the narrow view France seems to have taken in its approach to the issue of strategic autonomy, which seems to focus excessively on military capabilities, while disregarding the potential of other sources of power to produce strategic autonomy perhaps with a broader scope.

This is a view that Sigmar Gabriel (2019)²⁰ seems to corroborate in comments that appear well placed to meet the purposes of the current argument: “in 1954, the formation of a [European] defense union ... was rejected by the French Parliament, which feared becoming too dependent on the US.” Furthermore, he continues, “during the negotiations of the Élysée Treaty less than a decade later, French President Charles de Gaulle saw an opportunity to push for more Western independence from the US.” Ashoka Mody (2018) similarly acknowledges how:

French President Charles de Gaulle viewed the Élysée Treaty as a way of creating a united European front against the US’s economic and political might. But Adenauer needed the reassurance of the US’s political and military support; and US President John F. Kennedy was anxious to retain Germany as an important political ally. (n. p.)

Additionally, in relation to the French fear that Germany would be dragged into one of the “two dominant empires,” Gabriel (2019) also states that “*France’s goal today is the same as it was back in the 1960s, when it first acquired nuclear weapons: to free Germany and the European Union from America’s overwhelming influence*” (italics added).

Putting the reasons for France’s attitude aside, France’s extremely strong view has kept many European countries on their guard about the idea of strategic autonomy, as mentioned by Brustlein (2018). As Puhl (2018) states, this is a view that is somewhat at odds with German political philosophy, which another statement from Gabriel (2019) corroborates:

Germans should not overlook the fact that both agreements [the Élysée and Aachen treaties] enshrine a political strategy that is at odds with Germany’s long-standing approach of balancing the friendship with France alongside strong transatlantic relations with the US and the UK. (n. p.)

This notion, therefore, underlines why “France and Germany view the world differently: Whereas integration into the Western liberal order is enshrined in the German constitution, French foreign policy is guided by the country’s national interests at any given time” (Gabriel, 2019). All of this may well help explain, therefore, why European documents seem to adopt such a vague tone when dealing with the concept of strategic autonomy.

It is true that French official views also associate strategic autonomy with freedom of political action, vesting in the political decision-makers a wide range of options to decide upon and a variety of means to act with, and acknowledge the need of coordination between political and civilian instruments. However, while none of these ideas is further developed, they

²⁰ Sigmar Gabriel was Germany’s Vice-Chancellor between 2013 and 2018.

nonetheless always emerge associated with military means and as a way to leverage such capacity.

Remaining with Europe, the documents produced by private organizations, such as think tanks, have contributed usefully to clarifying the concept of strategic autonomy. Arteaga et al. (2016), for instance, refer to autonomy as “capacity driven,” which is a point mentioned, explicitly or implicitly, by other authors (see Arteaga et al., 2016, p. 31; Wulf & Diebe, 2015, p. 30). To which Varga (2017) adds that the required capabilities depend also upon either owning or borrowing the financial resources necessary to mobilize them. Zandee (2017) agrees about the importance of military power to ensure the level of autonomy desired, but sees military might in the context of a “credible backup to political, diplomatic and economic action” (p. 12).

Hartley (2017), in turn, provides an economics perspective on the issue. He argues that autonomy (implying the military sort, indicated by his association with independent action) is not an absolute value, and as such, recommends using it as an object in trade-offs with other relevant objectives or ambitions. For example, Hartley’s suggestion of making strategic autonomy more implicitly associated with the objective of security, prompts him to remind readers that prosperity is also a fundamental objective of a country. This means, therefore, that: providing countries do not see security as an absolute risk; they understand major threats as distant risks; and are willing to accept varying degrees of external protection, they will be willing to trade-off or forgo a degree of prosperity, and to devote resources to provide their own security autonomously. Haddad and Polyakova (2018) also take the economics perspective, pointing to the fact that autonomy has an economic base too, which is why the competitiveness of national economies should not be ignored.

Prior to the contributions outlined above, the *Institut Montaigne* (2002) had already stressed that strategic autonomy could not achieve everything alone, and drawn attention to the potential of directing resources to the development of alliances and the need to leverage internally the potential for constructive dialogue between the government and civil society.

Nonetheless, as informative as these contributions may be, significant gaps remain to gaining an appropriate definition of what strategic autonomy is, or should be understood as. The problem lies in that many of them fail to develop the useful hints they offer the discussion, and that none of them produces a conceptual framework sufficiently comprehensive to hold the concept.

However, note that the acknowledgement of the budgetary constraint made explicitly by those who advocate predominantly a military approach to strategic autonomy, in essence, is an acknowledgement that strategic autonomy depends not only on military capacity but also on other capacities, some of them upstream from the military ones (and upon which these depend). Mainly this is the economic capacity of the country. Therefore, in contradiction to their own arguments, this means the authors mentioned in this section are in fact suggesting that the strategic autonomy of a state is much more than a military or defense issue and, ultimately, in the long run, is mostly an economic issue.

Indian strategic culture has approached strategic autonomy from a broader perspective, the origins of which lie in the policy of nonalignment set-up earlier by India's first prime minister, Jawaharlal Nehru, and which, besides military self-reliance, also envisaged "economic self-reliance" (Tanham, 1992, p. 58). Managed as a nonalignment policy during the period of the Cold War as a way to avoid (over-) conditioning by the then-two superpowers, the idea of strategic autonomy appeared as a sort of *Non-Alignment 2.0*. This policy has since been the object of much reflection, with the intention to frame it more appropriately within the strategic context that developed after that the Cold War ended.

The definition proposed by Bajpai (2016) is not that useful, mainly because it is too elliptical and verges on a form of wishful thinking. But the one provided by Kalyanamaran (2015) is the most comprehensive among all the definitions offered, and comes closest to the definition envisaged for the current research. Kalyanaraman's definition focuses on the state's ability to pursue the national interest, which, in turn, depends on three fundamental things: (i) the power capabilities possessed by the state (state capacity); (ii) the structure of the international system (external environment); and (iii) the particular historical era (circumstances). However, this picture remains incomplete, because the capabilities on their own do not sufficiently define strategic autonomy. Owning a strong military capability, for instance, may be of little use in most circumstances, as an example presented below in Chapter 3 clarifies. Therefore, accounting for the effectiveness and efficiency of the available power capabilities is also essential to an assessment of the degree of strategic autonomy.

Schaffer and Schaffer (2016) also mention the "maximization of one's options," thus implicitly referring to the existence of constraints, because, as is known, an optimizing exercise is bound by the constraints (externally) imposed on the variable to be optimized (see Luenberger & Ye, 2008). Yet, in general, albeit that they refer several times to strategic autonomy, they do not provide much of a doctrinal contribution.

Therefore, among all the literature reviewed in this chapter, none provides a satisfactory definition suitable to the purposes of the current thesis as pointed out several paragraphs above in this section. Some approaches came close, but then failed to elaborate to give rise to a suitable conceptual framework. A suitable definition of strategic autonomy should be independent of particular circumstances or interests and account, at the very least, for the following constitutive aspects: (i) power capabilities; (ii) scarcity of resources; (iii) effectiveness and efficiency (of the available resources) to generate power; (iv) the surrounding circumstances; and (v) timeframe.

CHAPTER 3. Proposed Analytical Framework

3.1. Preamble

Bearing in mind the result of the analysis developed in the preceding chapters, which served as a basis for the development of the thesis proper, this chapter will now introduce and formulate the analytical framework or conceptual model that will guide the following chapters. The framework contains some assumptions and consists of two major components. It assumes that: (i) for most countries – that is, those that do not claim to be or act as either global or regional military powers, and display no ambitions for territorial expansion – the use of force or its threat is inappropriate, inapplicable, or unacceptable in the political context present for most of their existence; (ii) most of the challenges faced by states, in most circumstances, are of a competitive rather than confrontational nature (i.e. more of a “race” than a “match”); (iii) the economic sphere is the theater where most states’ interactions take place and where most threats to national stability arise; and (iv) economic competition, even when developed in contexts of international cooperation, is ultimately adversarial (both in relation to other states and powerful private actors), inasmuch as the players dispute access to scarce resources, whether of natural origin or accumulated by human action (e.g. capital, knowledge and talent).

As to the components of the framework, both of which are fundamental, the first is that a (grand) national strategy to guide the state action in the realization of its existential ambitions, and which may be more or less explicit, is an essential piece of good state governance. The second is that strategic autonomy is a key variable, both for the design and or the execution of any strategy. For it is on this autonomy that the state’s ability to maneuver depends, in order to cope with unexpected adversity, to choose the most convenient objectives at any given moment, alongside the best ways to achieve them, and ultimately to evade inconvenient dependencies that may jeopardize its existential autonomy. Preserving and extending national strategic autonomy must therefore be a fundamental concern of any national strategy.

3.2. The National Strategy

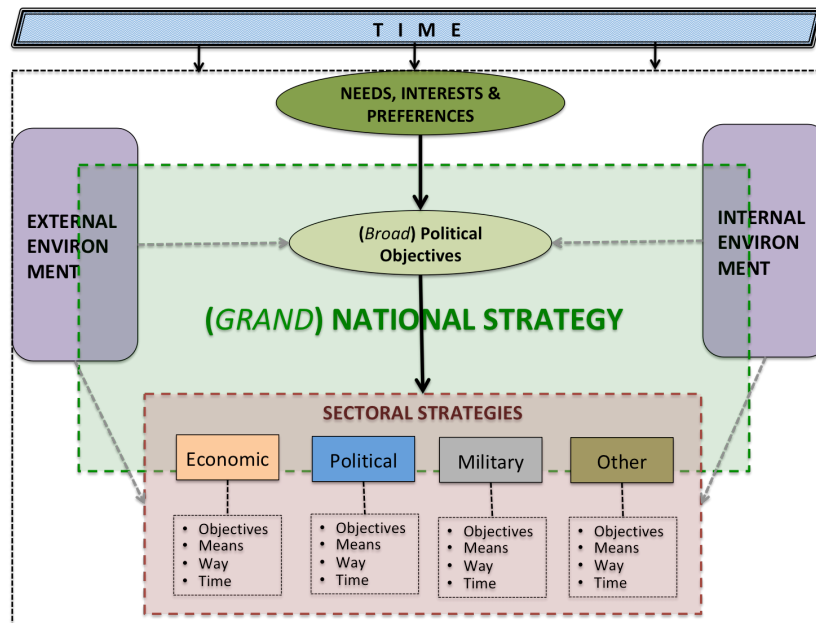
An essential piece of good state governance must involve a national (grand) strategy, acting “as the intellectual architecture that gives form and structure to foreign policy” (Brands, 2014, p. 3). It must also contain the assertion of the state in the international sphere and the advancement of the national interests, and provide “the sustained focus that is necessary to succeed in medium-and long-term rivalries,” within the “competitive nature of international politics” (p. 8).

Certainly, a state can operate and succeed without a strategy simply by navigating the circumstances, especially if it is part of a bloc – a security community, for example – from which security and prosperity can trickle down. However, and holding to the maritime metaphor, a state navigating the circumstances of the world without a strategy is akin to a ship trying to navigate the high seas without a map and proper guidance gear. If circumstances are favorable, it may not be possible to take full advantage of the situation, thus losing relative power against those that are better prepared, and, if circumstances become adverse, unpreparedness will highlight vulnerability to the turn of events, and adversity will do more harm. Therefore, and no matter how much flexibility the path of improvisation may provide in some uncertain occasions, the unpreparedness is likely to lead to poor results and, in particularly adverse situations, even result in serious endangerments to the interests of the state. Such a path, then, can hardly be considered a valid alternative of good state governance.

As part of a good governance, a state should always have a clear and consistent idea of what it intends to achieve in the short and in the long run, so as to be able to leverage the circumstances that may favor such achievement and to prevent, or limit, the damage that unfavorable circumstances may bring. The strategy to attain the objectives derived from such an idea should encompass all available or mobilizable resources. And it should be dynamic and flexible in its operation, in order to better respond to the challenges and adversities to its purpose that the unfolding of time and the consequent changing circumstances will place in its way. This strategy does not need to be either highly detailed or overly rigid; it should be adaptable, without losing sight of what its end-purposes are.

Figure 3.1 below illustrates how, within the analytical framework proposed by this thesis, a comprehensive national (grand) strategy ought to be the “strategic hat” of state action and guide how it articulates with the environment and the sectoral strategies or policies, including military strategy.

Figure 3.1. The Articulation of a National Strategy



Source: Author’s design, inspired by Ribeiro, 2017, p. 119; Vick, 1984, Fig. 7; and Yarger, 2006, Fig. 1

As a strategy, it also needs to bear in mind Lykke’s equation, linking ends, means, and ways, and to recognize that, by nature, the resources available at any one time are always going to be scarce for the multitude of needs or ambitions of the state. Prioritization, “ruthless prioritization” (Brands, 2014, p. 4) of these needs and ambitions is then a crucial task in deriving the strategic ends and objectives to be achieved over time. The prioritization exercise need not be constrained by the resources available at the start of the process, but will need to ensure they are available as and when they become necessary. It is, though, essential in guiding the optimal staggering of the objectives over the strategy’s time horizon.

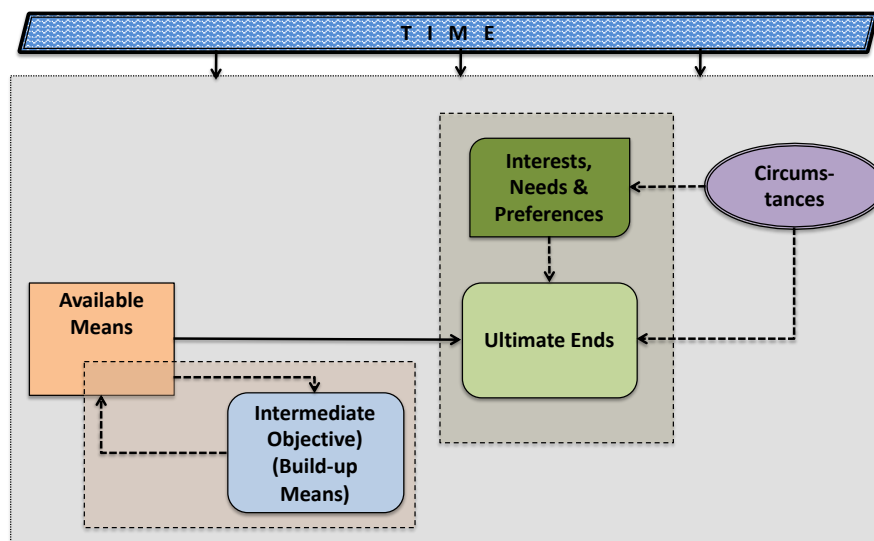
Building up the resources necessary to achieve the desired ends in due time should, therefore, be a relevant part of the strategic process, for, as R. Kennedy (2010) reminds, “a well developed strategy may include efforts that lead to an enhancement of means” (p. 15). This process is, then, dynamic and involves, in addition to prioritizing needs and ambitions, staggering the ends over the available timespan, having in mind that, at any point in time, “the ends dictate the means to be employed, and the means available impose constraints on the ends that can be pursued” (Foster, 1990, p. 52).

A national strategy, therefore, must be dynamic in its working, given, on one hand, the intrinsic uncertainty with which the unfolding of time will confront it and, on the other hand, the aforementioned interdependence between ends and means. To deal with the uncertainty, a national strategy does not need to be in itself uncertain or erratic. It only requires preserving at

all times the strategic autonomy necessary to respond, in the best way, to the changing circumstances. Yet, it must do this without losing sight of the intended final ends and of the hierarchy of preferences under which these ends were prioritized. In this sense, a national strategy provides the guiding role for both the policies and the selection of their current objectives, as well as “the crucial link between short-term actions and medium/long-term goals” (Brands, 2014, p. 4).

As to the said interdependence between ends and means, the strategy must incorporate the build-up of the necessary means over time as an intermediate objective, as Figure 3.2 also illustrates. In such a case, incorporating an open loop of means and objectives into the strategy will turn it into a spiral of ends and intermediate objectives whose realization is spread over the available timespan, instead of having it defined solely by a static table of final outcomes to be attained at the end.

Figure 3.2. The Dynamic of the (National) Strategic Process



Source: Author’s design

To be more specific about the role of time within strategy, it should be borne in mind that the essence of a successful strategy, rather than defining the ends, is the build-up of resources needed to achieve the intended ends. Without the appropriate resources, ends are no more than mere ambitions. For this reason, strategy should be viewed as a dialectic process of ends and means played over time. The longer the timeframe defined or available to achieve the intended ends, the greater the possibility of accumulating the resources needed to achieve them, the broader the scope of achievable ends to choose from, and the greater the probability to succeed in their attainment. The shorter the expected or available horizon of time, the more the

ends will depend on available resources from the start. Therefore, an appropriate long-term strategy ought to be conceived as a kind of spiral of short-term strategies, which will unfold over the horizon of the long-term strategy and whose objectives should include the build-up of the resources necessary to achieve the long-term ends.

3.3. Strategic Autonomy

A national strategy should encompass all the undertakings of the state, as it has been asserted above. Therefore, the strategic autonomy of a state must also be understood within the wider realm of state interactions and take into account all the means – political, diplomatic, economic, military, and ideological – that can protect and advance the interests of the state and promote its influence on world affairs, in a competitive global environment.

Having this in mind, and building on the insights drawn from the literature reviewed in Chapter 2, the proposed definition for the concept of *strategic autonomy*, and which will be used throughout this thesis, is *the leeway available to choose, adopt, and pursue achievable ends, within a relevant timeframe, given the power capabilities available, and their effectiveness, in the prevailing circumstances*. The definition can apply to any sort of entity endowed with autonomous decision-making over the ends, and sovereignty over the means (e.g. to states or corporations). For the purpose of this thesis, the entity concerned shall be the state.

The operative word in this definition is *achievable*, because if not achievable, the ends would just rest into the realm of ideals, where everything can be dreamed of, and would therefore have little strategic relevance.²¹ Achievability is thus what makes the ends strategically relevant. In this way, then, the strategic autonomy defines, and confines, the range of options available for a state's strategy. To be achievable, the ends (and inherently the strategic autonomy) are dependent on: (i) the power capabilities possessed, or susceptible to be mobilized, within the relevant timeframe; (ii) the effectiveness, and efficiency, of those capabilities; and (iii) the prevailing circumstances of such a time. Power, in this context, should be understood, as “simply put” by Nye (2002), as “the ability to effect the outcomes you want, and if necessary, to change the behavior of others to make this happen” (p. 4); or, even more simply put, should be taken as the ability to achieve the intended ends. And power capabilities should be understood as the resources, tangible and intangible, that yield said power, or, in the words of Yarger (2006), should be seen as the instruments of power (pp. 5–9). Therefore, the terms “resources,” “power capabilities,” and “instruments of power” are used interchangeably

²¹ In such a case, the definition would be closer to Bajpai's definition as quoted in Chapter 2 (p. 59).

in the current thesis. For, just as the ends can fall into different realms of the state activity (political, economic, social, cultural, military, etc.), so too can those instruments.

The closest concept to the proposed definition is the *freedom of action* principle of strategy (see Ribeiro, 2017, pp. 166–168). But this principle, inspired by Beaufre (1998), is conceived and applied more in terms of military strategy (even when, in line with the post-Clausewitz approach, it contemplates the political realm), while strategic autonomy, as explained at the beginning of this section, encompasses the wider realm of all the state’s interactions.

Layton (2018) also comes close to the proposed definition when, referring to opportunism, considered by him to be a means-centric alternative to grand strategy, he says that “the broader the capabilities available and the deeper the capacities at hand, the wider the range of opportunities that may be taken advantage of” (p. 226). However, Layton is talking about something that is more like navigating the circumstances than strategy, because, as he recognizes, opportunism is not part of a strategy, but only represents the ability “to seize opportunities to address challenges as they arise rather than work towards a defined objective” (p. 225).

The instruments of power that can provide strategic autonomy to the state – that is, to make desired ends achievable – are the power-yielding resources owned by the government – political, diplomatic, social, economic, military, or other – and the resources that the government can mobilize alongside these by borrowing, renting or confiscating from other sources. Further than that, the government can still broaden the scope of the state’s strategic autonomy by leveraging those resources with resources of their own societies (developing the binomial potential as suggested by *Institut Montaigne*, 2002, and addressed on p. 55 above); or with resources of allies.

In the military sphere, it was not unusual, throughout history, for states to increase their military power by resorting to mercenary armies – from the “Ten Thousand” reported by Xenophon, to the Swiss Guards and the Varangian Guard, and many others (see Andrews, 2014); to incorporate legions of foreigners into their national armies; and to confiscate private and foreign resources, or borrow money, to sustain larger armies during relevant military campaigns.

In a broader view of strategy, such as that which forms this thesis, the scope of instruments that governments can mobilize, as well as the scope of the ends to be pursued, are

much wider. As an example, a government can borrow money, not only to widen its military capabilities, but also to invest in economic development, or to meet urgent needs such as those arising from a crisis. However, when resorting to borrowing, and whatever the envisaged purpose, it must be born in mind that even if it widens strategic autonomy initially – as it allows a wider range of strategic objectives to be achieved –, it also creates a dependency that may shrink that autonomy in the future – as resources have to be deviated from other ends to pay back the debt. This could be the outcome, unless the proceeds are used to obtain more permanent sources of strategic autonomy, as might be the case if the proceeds are used to promote faster growth of the economy (as shall be seen later).

A good example of engaging civil society and leveraging its resources for the pursuance of a state's strategic ends was the implicit alliance developed by Elizabeth I of England with the English pirates and privateers, like Drake and Raleigh, during the sixteenth and seventeenth centuries (see Jones, 2000).

When resorting to alliances and to the leveraging of a state's resources with those of autonomous allies, it should be borne in mind also that the extra strategic autonomy so acquired is a conditioned autonomy, not full autonomy. This is because the state has no sovereignty over those resources, which can be diverted by their owners, at any time, to attend to their own specific objectives. In other words, in the case of alliances, internal or external, the objectives of the state have to be negotiated with the objectives of the allied parties, whereby their reach is always conditioned to the will of the allies. Full strategic autonomy presupposes sovereignty over the means and decision-making autonomy over the ends.

Strategic autonomy, however, should not be confused with independence or sovereignty. Independence and sovereignty are binary situations: either you have it, or you do not; either you keep it, or you lose it. Autonomy is gradual and variable, ranging between full and none and may increase and decrease over time. Full and none are theoretical boundaries, which are unachievable in practice: no independent state is fully autonomous – not even the most powerful empires at the height of their power were totally free of constraints – nor is it completely devoid of autonomy, for in this case it could not be independent.

Strategic autonomy – the set of achievable ends to choose from – must also not be confused with political autonomy – the ability to autonomously decide on one's own ends, according to one's own preferences. In practical terms, political autonomy can be seen as “the autonomy of a state's policymaking *process*,” which Mearsheimer (2003: loc. 5847, Chapter 10; italics added) refers to, while strategic autonomy may be understood as the *content available*

for the policymaking. The breadth of both – process and content – may not be coincidentally wide or narrow, as a state may enjoy (close to) full political autonomy – that is, freedom to decide by itself –, while having a very narrow strategic autonomy – but with very few achievable ends to choose from.

In such a case, an alliance may present the opportunity for a trade-off between the two types of autonomy – political and strategic. By relying on the resources provided by allies to widen their strategic autonomy, states may have to surrender part of their political autonomy, constraining their ability to choose the ends according to their own preferences and being forced into accepting some preferences of their allies. Such acceptance is nonetheless a sovereign act, because the state may ultimately refuse any interference from the allies, so as to preserve full political autonomy, and choose to work with a narrower strategic autonomy and bear the consequences.

Two paradigmatic examples of these trade-offs can be taken from the European experience. The first is the wider (though conditioned) strategic autonomy acquired by Europe, by having its security guaranteed by the US through the NATO alliance. Being protected by its powerful American ally, Europe can devote more of its own resources to welfare objectives, so expanding the set of achievable objectives beyond what its own resources would have allowed. The US security umbrella extended over Europe allowed Western Europe (mostly) to devote more of its own resources to the financing of an enviable welfare state model, which was instrumental to its internal cohesion. This provided Europe with an apparent wider strategic autonomy, because having the security objective guaranteed by its ally enabled it to expand the range of achievable social objectives and devote more resources to its prosperity. However, part of that autonomy is conditioned and can be reversed by the ally. Not having sovereignty over the means that ensure its security – and which could also be used for other purposes –, Europe does not have full autonomy to choose or prioritize the ends to which those means can be assigned. And if the US decides to withdraw its security umbrella over Europe, this would mean Europe would have to take upon itself the full responsibility for its own security, building-up the required means for that purpose. To build the means, resources would have to be diverted from the welfare state model, forcing its terms to be redrawn to less ambitious objectives.

This example helps also to clarify the European anxiety about strategic autonomy. The dependence on the US did not restrain European strategic autonomy. On the contrary, it has expanded it, as shown above. What such dependence involves is a trade-off: less full strategic autonomy (but more conditioned autonomy, nonetheless) in the military field, for more strategic

autonomy in the social field. Therefore, and using the analytical categories developed in this section, it can be said that European anxiety reflected in the literature reviewed in Chapter 2 is about the conditioned strategic military autonomy, and that it disregards the additional strategic autonomy in the social field, acquired by the trade-off. Which is perhaps one of the reasons why Germany does not share the France's anxiety.

The second example is the experience of the European countries brought to the verge of bankruptcy during the euro crisis of 2010–2014 (namely Greece, Ireland, and Portugal), when they requested external aid from the EU and the IMF. The financial support provided to each country by these institutions (the so-called troika²²) was conditional on these countries' compliance with a harsh economic-adjustment program. The respective governments approved the measures of these programs and implemented them. These governments hold full sovereignty, because they could have refused to cooperate with the proposed measures and follow another course of action instead. The alternative course of action very likely would have resulted in a higher immediate social cost for the countries, whereby governments chose, with full sovereign power, to avoid the potential higher cost and to follow the troika's recommendations or demands instead. Governments, however, could have chosen to bear the higher short-term social cost, had they preferred to refuse any meddling of the allies in their own governance and preserve full political autonomy. However, in this specific case, the achievable ends available for the government to choose from – that is, their strategic autonomy – would have been a lot more restricted (had assistance not been accepted) because of the lack of financial resources. A clear case, thus, of a practical trade-off of some political autonomy for more strategic autonomy.

In other circumstances, but with similar implications, other countries – for example, Venezuela, North Korea, or Cuba – faced with a narrowing of their strategic autonomy, chose instead to exercise full political autonomy, refuse external assistance, and bear higher social costs. The fact that all of these countries had illiberal regimes, which could have been challenged by external assistance, may not have been indifferent to the choice they made.

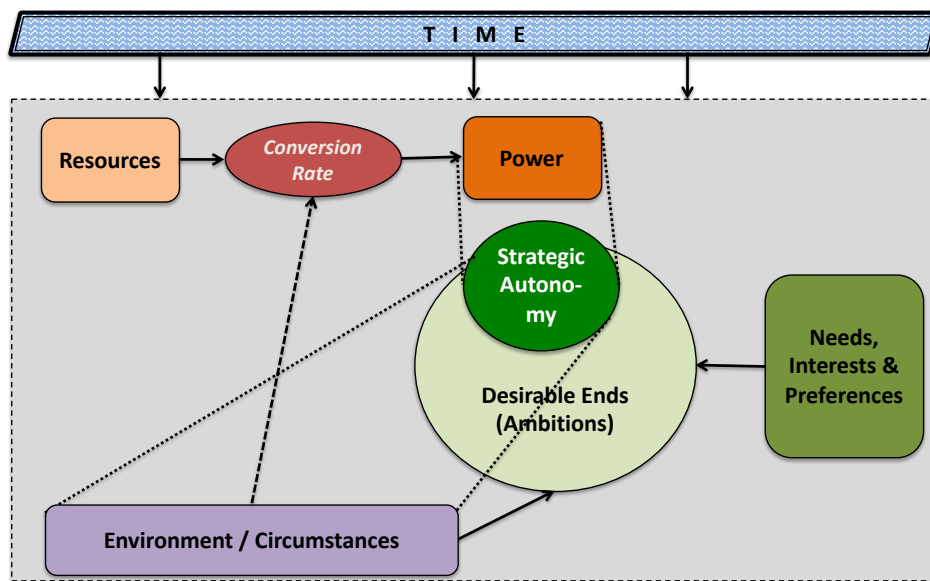
In his theory of strategy, Yarger (2006) discusses the relevance of interests, preferences, environment, and circumstances in the mechanics of strategy. Thus, as an “underlying assumption of strategy from a national perspective, ... all nation-states ... have interests that they will pursue to the best of their abilities,” these being their “desired end states categorized

²² Named the “troika” because the assistance programs involved *three* parties (the European Commission, European Central Bank, and the International Monetary Fund).

in terms such as survival, economic well-being, favorable world order, and enduring national group values” (p. 5). On the other hand, “strategy is subordinate to the nature of the strategic environment,” which will “possess both physical and metaphysical attributes,” and the international component of which consists of “the physical geographic environment, the international system, and other external actors—and their cultures, beliefs, and actions” (p. 7). Furthermore, strategy must take account of the “complexity and long-term possibilities inherent in the strategic circumstances” (p. 42).

These theoretical considerations provide a good background into which the concept of strategic autonomy defined in this section can be incorporated, in order to produce an analytical framework for its operationalization within the strategic process. This framework is illustrated by Figure 3.3 below.

Figure 3.3 – Strategic Autonomy within the Strategic Process



Source: Author’s design

According to the standard framework of strategy, the state develops ambitions out of its needs, interests, and preferences and under the influence of the prevailing environment (neighbors, world affairs, culture, geopolitics, etc.). These ambitions are represented in Figure 3.3 by the set of desirable ends. However, within the relevant timeframe, and given the resources available within that timeframe, it is only possible to achieve a small part of these desirable ends. These are the achievable ends, the setting of which, according the definition presented above, corresponds to the strategic autonomy of the state under the set conditions.

It is important to note, however, that the fact that all the ends within the strategic autonomy range are achievable does not mean that they are all achievable at the same time. It just means that every one of those ends is individually achievable under the prevailing conditions. A concrete strategy will thus have to choose the most convenient combination of those ends that can be simultaneously achievable within the available timeframe. Choice in this regard will be guided by the order of preferences of the decision-maker, with the view of optimizing the use of the available resources. In any case, it must be born in mind that no matter how broad the set of desirable ends is, any concrete strategy can only choose ends from within the narrower set of achievable ends available within the relevant timeframe.

It is equally important to note that some achievable ends may fall outside the set of desirable ends. However, the fact that those ends are *not desirable* does not mean that they are necessarily *undesired*. Some of them, in certain circumstances, may be useful “stepping-stones” to facilitate the achievement of future ambitions. This is the case of the short-term (undesirable) sacrifices that are sometimes necessary in order to obtain higher and long-lasting benefits in the future. The obvious economic example is the sacrifice of immediate consumption in order to save resources to invest in the generation of higher future income, which, in turn, will provide the opportunity for a higher level of future consumption. Or, in a warlike context, the sacrifice of prosperity to finance the additional military means necessary to ensure a country’s security or to defend it from a potential threat to its existence.

Coming back to the previous example of the financial rescue of a number of European countries during the euro crisis, the achievable ends allowed by the troika programs may not have been all (socially) desirable. Yet, achieving them made it possible to remove or soften the financial constraints that would have prevented the future achievement of other desirable ends (e.g. greater prosperity).

The set of achievable ends corresponds to the strategic autonomy available to the state at any given point in time, as already noted. The size of this set – that is, the breadth of strategic autonomy – depends, as Figure 3.3 suggests, on the instruments of power (resources) that the state can mobilize, as well as on the effectiveness and efficiency of those instruments in achieving the intended ends. This effectiveness, which the figure represents as the *conversion rate* of the resources is, in turn, dependent on internal factors – such as organizational capacity and skills at managing the available capabilities (including leadership) – and also on the external circumstances.

The “conversion into power” is a term commonly used with reference to warlike contexts and applied to military power. In this sort of context, it tends to refer to the ability to turn other resources into military power or into any form that may enhance military power (see Tellis, Bially, Lane & McPherson, 2000). In this framework, however, *conversion* and *conversion rate* refer to the ability to transform the intrinsic potential of an instrument of power (i.e. a resource of any nature) into actual power in order to achieve intended ends, such as to gain influence in world affairs. More concisely, it is the ability to transform resources into intended outcomes.

When referring to instruments of power, and for the purpose of this research, it is not relevant to determine or specify whether they fall into any of the usual analytical categories of power – hard, soft, smart, sharp, or otherwise. What is relevant is their effectiveness at generating the intended outcomes.

One example from the present-day reality may be useful to set down here to explain the importance of the conversion rate of different instruments of power. France has far greater military resources, whereby it is a stronger military power than Germany. However, this power, for most of the time and in most circumstances, especially in the current European context, does not provide France with much strategic autonomy, because, as Judt (2011) has signaled, such power “is based on a nuclear weapon that the country cannot use [and] an army that it cannot apply on the continent itself” (p. 86). In contrast, Germany, with a weaker military power, has more strategic autonomy because it has greater economic power, and its economic power yields more leeway for achievable ends (i.e. provides more strategic autonomy) and gives the country greater ability to exert its influence over other countries, European affairs, and world affairs in general. We may, then, state that the economic power of Germany, in the present European circumstances, has a higher conversion rate into actual power (and into strategic autonomy) than the military power of France.

A note of caution is due when addressing the effectiveness and efficiency of the resources to be used for strategic purposes. While effectiveness – which it is possible to define as the appropriateness of an instrument to achieve an intended result – is concerned with getting things done, efficiency – the ability to obtain an intended result with the minimum use of resources – is about optimizing the use of resources (see Productivity Commission, 2013). Therefore, as Yarger (2006) asserts, in strategy, “efficiency is subordinate to effectiveness. ... This is not to say that efficiency is not desired. Good strategy is both effective and efficient” (p. 14), but the dominant purpose of strategy is to achieve the intended result. That is to say that

getting the intended results are more important than trying to optimize the way they are obtained, which may end up jeopardizing their timely attainment.

In addition to the instruments of power (resources), two other variables represented in Figure 3.3 are highly relevant to strategic autonomy: circumstances and time. Circumstances act upon strategic autonomy in the same way that winds act upon the speed of a ship or an airplane. If favorable, the scope of strategic autonomy will expand to a given amount and structure depending on the resources available, just as tailwinds will increase a ship's speed while the power of propulsion remains unchanged. Conversely, if the circumstances become unfavorable, they will shrink strategic autonomy, just as headwinds will slow the ship. The way in which circumstances act upon strategic autonomy is mainly through the influence they can have on the conversion rates of the various instruments of power, increasing or decreasing them. Therefore, and since the conversion rate of each instrument of power may change with the circumstances, it can be said that such rate is circumstantial, whereby some instruments may be more powerful in certain circumstances and become less powerful in others.

Coming to the previous example of France versus Germany, a warlike circumstance in Europe would make the military power of France more effective for strategic autonomy than they are at present in peaceful circumstances. Likewise, in circumstances where the country felt its existence under threat, Germany might wish to have a stronger military capability. However, in the present circumstances, where the country is part of a peaceful EU, such capability would be of little help for its ambitions; it could even be counterproductive (for reasons that will be seen in Chapter 9). And, venturing outside Europe, in circumstances ideologically favorable to the US, like those prevailing in the world after the end of the Cold War, American soft power – e.g. values and culture – is more effective than in circumstances of generalized hostility to the leading power, as seems presently to be more the case.

Time, in turn, introduces a dynamic dimension into the strategic framework, whereby all variables are in constant flux. And it creates the opportunity to add resources to those available at the outset of a strategy, expanding the power available, as already seen in the previous section: the shorter the time span available, the greater the rigidity around access to resources, making strategic actors more dependent on current circumstances; and the longer the time span available, the more are the opportunities to build-up resources and the less the dependence on the circumstances prevailing at any moment.

Time is represented in Figure 3.3 by the elongated parallelogram at the top, and its representation seeks to convey the idea of the dynamic it brings to the framework, both by the

wave-pattern within the banner it forms at the top and by the arrows that attempt to denote the influence of time over all the other components. Two things must therefore be noted: (i) with the flow of time, everything can change – interests, preferences, environment, circumstances, the ability to mobilize resources, and the conversion rate of the instruments of power; and (ii) the longer the time horizon available to decision-makers, the more flexibility they have for strategic management.

The fact that everything can change does not mean, however, that anything will change; or that all the variables will change at the same pace. The content of some variables is long-lasting (e.g. the vital interests of the state, as well as its neighborhood) and the content of some others (e.g. social preferences and culture) may change slowly over time. Circumstances, though, can change and reverse its direction (between favorable and unfavorable) very quickly, becoming the main source of strategic surprise.

Furthermore, time is a fundamental variable for the dialectic between ends and means, alluded to before, allowing, as it unfolds, more means to be built-up and, consequently, more desirable ends to become achievable ends. Thereby, in the short term, the extent of strategic autonomy is somewhat fixed and will work as a “given” in the strategic planning of the state (for such a time horizon). It can be expanded if the efficiency of the available resources can be improved through better organization and management, but unless these resources have been managed in a very incompetent way, the scope for improvement in a short time horizon is very limited. Over the long term, though, the extension of strategic autonomy can prove to be more manageable, and its management – preserving and expanding its breadth – should be an active concern of any ongoing strategy.

CHAPTER 4. The Economy on the Central Stage of Strategy

4.1. Economy, Politics and Strategy

Two leading intellectuals of the late nineteenth century, from opposite sides of the political spectrum, held very similar views about the central role of the economy in social organization. Coming from the liberal point of view was Alfred Marshall, a highly influential economist, who began his main work of 1890 stating that:

[M]an's character has been moulded by his every-day work, and the material resources which he thereby procures, more than by any other influence unless it be that of his religious ideals; and the two great forming agencies of the world's history have been the religious and the economic. Here and there the ardour of the military or the artistic spirit has been for a while predominant: but religious and economic influences have nowhere been displaced from the front rank even for a time; and they have nearly always been more important than all others put together. (Marshall, 1895, p. 1)

In the same book, Marshall points out that the historical discourse has shown “how inextricably therefore the religious, political and economic threads of the world's history are interwoven” (p. 351).

Coming from the other side of the political spectrum, Karl Marx advanced that:

In the social production of their existence, men inevitably enter into ... relations of production appropriate to a given stage in the development of their material forces of production. The totality of these relations of production constitutes the economic structure of society, the real foundation, on which arises a legal and political superstructure and to which correspond definite forms of social consciousness. The mode of production of material life conditions the general process of social, political and intellectual life. (Marx, 1859: loc. 72–76)

Yet, although taking different routes, both authors recognized, more or less explicitly, the determinant role the economy played in shaping social structures and the course of history.

Later, in the mid-twentieth century, the great American thinker of strategy, and one of the earliest to define the role of grand strategy, Edward Mead Earle (1986) pointed out in *Makers of Modern Strategy* (first published in 1943) how “only in the most primitive societies, if at all, is it possible to separate economic power and political power” (p. 217). Furthermore, in the same volume, having discoursed on Adam Smith's notorious *Wealth of Nations* (1776), he notes that, “the forms of economic organization in large measure determine what are to be the instruments of war and the character of military operations” (p. 222), before concluding that “it is inevitable, therefore, that military power be built upon economic foundations” (p. 222).

More recently, the National Security Strategies (NSS) issued by US presidents since 1987, under the imposition of the Goldwater-Nichols Act of 1986, deserve to be highlighted because they – coming from the currently dominant military power – have stated repeatedly from the beginning, sometimes explicitly and sometimes implicitly, the strategic relevance of the economy for the success of the country.

President Reagan issued the first of these NSS documents in 1987 in the context of the Cold War. It lists very clearly “a healthy and growing US economy” as the second of the five “key national interests which [the] strategy seeks to assure and protect” (United States, 1987, p. 4), specifying that among the principal objectives to support these national interests are:

- to promote a strong, prosperous and competitive US economy, in the context of a stable and growing world economy
- to ensure US access to foreign markets, and to ensure the United States and its allies and friends access to foreign energy and mineral resources
- to promote a well-functioning international economic system with minimal distortions to trade and investment, stable currencies, and broadly agreed and respected rules for managing and resolving differences. (p. 5)

When it comes to identifying the “interrelated tools on which the success of [US] foreign policy depends” (p. 9), “military strength and *economic vitality*” (italics added) are second only to “moral and political example.” These formed part of a list of eleven instruments, which included economic assistance, trade policy, and private investment in developing economies – all of which belonged in the domain of the economy (p. 10). Even the first tool in the list – “moral and political example” – specifies that the “American spirit and *prosperity* represents a critical challenge to the ideology and the practical record of our adversaries” (p. 9, italics added). As to the link between “military strength and economic vitality,” the document also clarified how the “strong US military capability ... essential to maintaining the stable, secure environment in which diplomacy can be effective and [the] adversaries are deterred” is sustained by “America's economic power” (p. 10).

The NSS issued by President Reagan in the following year was even clearer. The redrafted list of instruments isolated “elements of national power” from “economic vitality,” making this a stand-alone element, with the clearer specification that “America’s economic strength sustains our other elements of power” (United States, 1988, p. 7). It then later on in the document emphasizes that, “we rely on the *size and strength of the US economy as our ultimate line of defense*” (p. 21, italics added).

More or less the same principles appear in subsequent NSS documents closer to the present time, such as President Obama's first NSS of 2010, in which he reinforced the long-held view by stating:

First and foremost, we must renew the foundation of America's strength. In the long run, the welfare of the American people will determine America's strength in the world, particularly at a time when our own economy is inextricably linked to the global economy. Our prosperity serves as a wellspring for our power. It pays for our military, underwrites our diplomacy and development efforts, and serves as a leading source of our influence in the world. (United States, 2010, p. 9)

In the second of President Obama's NSS documents, in the opening to the second paragraph of the signed Preface, he writes how "America's growing economic strength is the foundation of our national security and a critical source of our influence abroad" (United States, 2015).

The NSS document issued by President Trump in 2017, despite its more warmongering tone, similarly reiterates how "a strong economy protects the American people, supports our way of life, and sustains American power" (United States, 2017, p. 17).

Hillary Clinton, Secretary of State for the Obama Administration, was even more explicit about the connection between economics and strategy, stating in 2012:

We are shaping our foreign policy to account for both the economy of power and the power of the economy. ... So, our second major area of action is to look for ways to *explore economic solutions to strategic challenges*. (Clinton, 2012, pp. 2–3; italics added).

And the US Chairman of the Joint Chiefs of Staff, between 2007 and 2011, Admiral Michael Mullen, in a series of interventions made throughout the country in 2010, under the heading *Conversations with the Country*, quite assertively acknowledged that "the most significant threat to our national security is our debt" (CNN Wire Staff, 2010). This comment could be seen as the renewal of the exhortation left by George Washington in his Farewell Address, appealing for public credit to be cherished "as a very important source of strength and security" (Washington, 1796, p. 21). Robert Zoellick, former Deputy Secretary of State and former President of the World Bank, took the same line but was blunter still, writing that "today, the power of deficits, debt, and economic trend lines to shape security is staring the United States in the face" (Zoellick, 2012, p. 1). Warning also that the United States "needs a fuller appreciation of the links between economics and security to match the times" (p. 9), he pointed out how:

The national security perspective of state power overlooked a vital reality: that sound economic policies are the underpinning of both individual freedom and national power – not only military power, but also the dynamism, innovation, and influence of the economy and society. (p. 11)

Thus, when the world's dominant military power acknowledges so clearly the crucial role the economy plays in its strategic thinking and action, extending this as a general principle for any national strategy, that is, that *economics is a cornerstone of any national strategy*, it does seem justified to underline the point of the economy's pivotal importance to strategy. Such is the relevance of the economy to the strategy that it materializes in the three components of the Lykke's equation. As far as the *ends* are concerned, because prosperity, being one of the most sought-after outcomes of national strategies, as already stated, depends on the ability of the economy to continuously generate income as a necessary, albeit not sufficient, condition. As to the *means*, inasmuch as economic resources are the basis upon which all other resources, including the military, found themselves. Finally, as to the *ways*, it is through the workings of the economy and its operating apparatus that resources are transformed from rough material into usable means, which then allows these to be employed to attain some of the intended strategic objectives.

4.2. The Growing Role of the Economy in Social Life

World prosperity grew exponentially after WWII. The combined evolution of population growth and life expectancy suggests that better health and better economic conditions have led to longer lives. Meanwhile, increased GDP per capita indicates economic affluence, in the same way as a reduction in poverty suggests the widespread improvement of welfare conditions. These all provide a good account of the remarkable progress made since the war and illustrate how this progress can be viewed from a historical perspective (see Table B2 and Figures B6, B7, and B8). In less than two-thirds of a century, the world's population had trebled, but, nonetheless, the world's average GDP per capita has increased fourfold. The population living in extreme poverty has been reduced from almost two-thirds of the total to less than 10 percent, and the average life expectancy has risen from 48 years to more than 70 (a more than 45% increase).

On the other hand, there were astonishing volumes of international trade (Figure B3), particularly involving the breakdown of production processes and the dissemination of its different parts to various countries through the so-called Global Value Chains (GVC, see Figure B9). There are substantial cross-border investments (Figure B4), and outstanding amounts of financial instruments traded in a globally integrated market (Table B3). This intertwining of

national economies into a web of interdependencies, the disruption of which would have a major impact on their functioning, and could potentially have devastating effects on the prosperity of the whole world. The Latin American debt crisis of the 1980s, the Asian financial crisis of the late 1990s, and the broader economic and financial crises that afflicted the world economy between 2008 and 2014, together with their political consequences, are just some examples of the destructive effects of those disruptions. Such dire prospects, then, cannot fail to act as a strong disincentive to engage in wars (at least, and as noted, for the most affluent societies).

In this context of affluence and economic and financial dependencies, states have become vulnerable to multiple threats, more frequent and far more significant than the military kind, which, apart from natural disasters, were the dominant threats of previous times. In addition, states see their power frequently called into question, even in managing domestic policy objectives, by *intangible forces* – usually dubbed as the “markets” – which operate primarily within the economic and financial domain.

Foreign exchange markets transact in less than two weeks an amount equivalent to the annual GDP of the whole world (see Table B4). This makes it extremely difficult for most countries to have absolute control over their own currencies. Economic policies pursued by a country and regarded by “the markets” – that is, fund managers, financial investors, analysts, and rating agencies, among many other influential actors – as inconsistent or unsustainable may trigger an inconvenient depreciation of its currency (and hence of the whole wealth denominated in such a currency), constraining the policy choices of the country, even on the domestic front. However, on the external front, also, the disproportionate powers present in financial markets may expose countries to political pressures that could impair their ability to act. The limitations brought about by such vulnerability are demonstrated very well by the often-cited episode of the Suez crisis in 1956. This incident shows how the UK was forced to give up its attempt to control the canal because of the vulnerability shown by the British pound at the time, to which the markets reacted adversely, which led to the United States threatening to weaken the currency further (see Zoellick, 2012, p. 11; Kirshner, 1998, pp. 68–69).

High debt accumulation, particularly if denominated in currencies other than a country’s own, and / or held by foreign creditors, is another source of vulnerability that needs to be taken into account by states. A country with a high level of this type of debt becomes highly exposed to the sudden mood swings of “the markets” regarding the perceived sustainability of its debt, because it needs to rollover continuously the maturing loans that make-up such debt and,

eventually, to get new financing to sustain its continued activity. In such conditions, the country may see its financing requirements suddenly denied by investors and thus be driven towards bankruptcy and the consequent social and political hardships, unless it is willing to submit to the temporary tutelage of allies able and willing to come to its rescue. The recent euro-crisis brought about just this sort of need, with some European countries needing rescuing from the dire financial conditions they had woven themselves into, along with the social and political hardships that those rescues brought about. This provides a good example of the risks of such vulnerability, as already discussed in the Chapter 3 (p. 74).

Furthermore, in this interdependent and dynamic economic and financial context, many corporations, especially multinationals, have seen their business turnovers outgrow the GDP of many states – as can be seen in Table B5 – giving these corporations significant power in their interactions with the states. Ranking states and corporations together shows that: (i) there are only 25 countries (out of a total of 193) whose GDP is larger than the turnover of the biggest corporation (Walmart); (ii) seven corporations make up the top 50 of the list; and (iii) 41 corporations make up the top 100 (i.e. corporations make up 41% of the 100 largest economic entities). It is also worth noting that of those 41 corporations, 18 (44%) are from the United States and nine (22%) are from China.

Together, these vulnerabilities limit states' ability to act or freely pursue their desired ends – that is, they constrain strategic autonomy. Furthermore, this exposes the more vulnerable states to the intentional actions of third parties to precipitate adverse market reactions in order to further the interests of the latter at expense of the former.

On the other hand, the economic and financial strength of a country enhances its relative power in international relations, sometimes even more than its military capability. An interesting case, involving France and Germany, reported by Marsh (2009), is worth mentioning to illustrate the point. In 1988, when all the European countries still had their own national currencies, in a meeting between delegations from the two countries, German representatives suggested the creation of a Franco-German Defense Council “to provide for joint decision-making, particularly on the controversial issue of French battlefield nuclear weapons which could explode on German soil” (loc. 2923–24/Chap. 4). Jacques Attali, adviser to French President François Mitterrand, replied that in order to have a balance between the two sides, they ought to discuss the German atomic bomb. Faced with the astonished reaction of the German delegates, who stated that their country did not have an atomic bomb, Attali clarified, saying that he was referring to the German currency, the Deutschemark (loc. 2925–2931). This,

the advisor argued, was managed by a powerful and financially orthodox central bank (the Bundesbank), which seriously conditioned the room for maneuver monetarily of all the other Western European countries, but mostly that of France.

There are two ways to view the situation of the dependency of states on economic actors, often bundled into the loose designation of “the markets.” Seen from a negative angle, the constraints on the action of the states brought about by the considerable weight that the economy, and especially its financial side, has attained in modern social life, is concerning. It is particularly worrying that as a result of these changes, some diffuse actors have acquired extraordinary power to put pressure on states and, sometimes, to subject them to heavy-handed tactics, which, in practical terms, is an undue power given to politically illegitimate actors that subverts the political game of international relations. Seen from a positive angle, this power and these constraints are a healthy disciplinary force over abusive or opportunistic governments that are willing to sacrifice their nation’s long-term interests at the expense of short-term (electoral, mainly) political gains. Thereby the constraints may act in favor of the most durable interests of the country. In any case, these constraints exist and, as such, the national strategic processes must be ready to reckon with them.

4.3. Economy Gaining Strategic Relevance

In the present circumstances for the vast majority of the states, particularly in the so-called Western world, survival is not a primary concern. Thus: “economic issues – above all, the health of the global economy – replaced matters of war and peace as the major focus of national leaders because economic matters came to have greater effects on the countries they led” (Mandelbaum, 2014: loc. 61/Introduction), so that they “can afford to elevate economic priorities as never before” (Gelb, 2010, p. 37). As Clinton (2012) acknowledged:

Emerging powers are putting economics at the center of their foreign policies, and they are gaining clout less because of the size of their armies than because of the growth of their GDP. For the first time in modern history, nations are becoming major global powers without also becoming global military powers. (pp. 1–2)

Moreover, “for the postmodern state, sovereignty is a seat at the table” because, while maintaining “domestic control, especially the legal monopoly of force, ... internationally the emphasis has shifted from the control of territory and armies to the capacity to join international bodies and to make international agreements” (Cooper, 2003, p. 44). This suggests that the defense of national interests today will be served better by cooperation than by confrontation

and that “in economics, while competition is essential, cooperation is the rule” (Mandelbaum, 2014: loc. 107/Introduction). Whence:

Some observers have argued that sources of power are, in general, moving away from the emphasis on military force. ... In assessing international power today, factors such as technology, education, and economic growth have become more important, whereas geography, population, and raw materials are becoming less important. (Nye, 1990, p. 179)

And, as Luttwak points out, in the same vein,

Everyone, it appears, now agrees that the methods of commerce are displacing military methods – with disposable capital in lieu of firepower, civilian innovation in lieu of military-technical advancement, and market penetration in lieu of garrisons and bases. (Luttwak, 1990, p. 17)

Therefore, it could be said that “economics has to be the main driver for current policy, as nations calculate power more in terms of GDP than military might” (Gelb, 2010, p. 43). Whereby, the fundamental objective in this context “(aggrandizement of the state aside) could only be to provide the best possible employment for the largest proportion of the population” (Luttwak 1990, p. 20). Alternatively, to take a more straightforward assertion, “economic power is the bedrock of sustainable military and political power” (Frost, 2009, p. 6).

This said, it does not mean that the world has become an Olympian paradise of peace and prosperity where warfare, combat, coercion, and deterrence have ceased to be important or even decisive for the balanced functioning of the international system, far from it.

The world continues to function under anarchy, that is, a regime where there is no sovereign power above the states, and these are, consequently, the highest level of sovereignty. Thus, the tension between the various sovereignties tends to be the most natural condition. To put this in another way, “the international scene is still occupied by states and blocs of states” (Luttwak, 1990, p. 18), which remain what they have always been, “spatially defined entities structured to outdo each other on the world scene” (p. 19). In this context, therefore, despite the focus on the peaceful resolution of conflicts, resorting to international law, negotiation, and intervention by supranational bodies, especially the UN, military force continues to play a critical role in maintaining the international order, albeit dominantly used in a non-violent way, as an instrument of coercion and deterrence.

Therefore, in this context, the predominant role played by the economy towards the advancement of national interests applies to most states, as explained before, that are not, or do not intend to be, major powers (and which were dubbed in previous chapters as “common

states”), having entrusted their security to an alliance with one of the great powers or to the international community. However, for the regional and international powers, especially any that hold a responsibility in maintaining viable conditions for the working of the world economy, and for the achievement of the described prosperity, undisputed military power remains fundamental. For, as Nye (2010) makes clear:

Markets and economic power rest upon political frameworks: in chaotic conditions of great political uncertainty, markets fail. Political frameworks, in turn, rest upon norms and institutions, but also upon the management of coercive power. ... In this sense, the role of military power in structuring world politics is likely to persist well into the twenty-first century. Military power will not have the utility for states that it had in the nineteenth century, but it will remain a crucial component of power in world politics. (pp. 2–3)

Furthermore, not all peoples are equally prosperous or as attached to material well-being as, characteristically, post-heroic (or postmodern) societies are. There are still states and non-state actors operating in the “modern” and “pre-modern” world (Cooper, 2003, pp. 16–26) that are both materially more detached and belligerent. Thereby, the more advanced, and postmodern, states should not ignore the threat that those international actors pose to peace and stability, as well as the constraining effect it might produce upon their strategic autonomy.

In sum, the binomial “economic capacity / military capacity” remains active and sensible, notwithstanding that the relative effectiveness of the two components are likely to have changed places in favor of the first. It could be argued that all states enter into economic competition in order to assert their economic power and that only (or mostly) those states with the status, or aspiration of an international or regional power take part in the military competition.

The economy – its capabilities, potential, and vulnerabilities – cannot therefore be anything but a fundamental component of national strategies, since it is decisively a provider of strategic autonomy to states. In this sense, the economy has for power the same capacity for storage as money has for value. Besides other instrumental functions – such as unit of account and medium of exchange – one of the most important roles money plays is to act as a store of value, allowing people to “save purchasing power from the time income is received until the time it is spent” (Mishkin, 2004, pp. 45–47). In more practical terms, money allows people to accumulate wealth in a form that, having no intrinsic use value (besides the storage function), can be easily “transported” through time and has enough plasticity to be converted, at any time, into any good or service that at such time has an intrinsic use value for the holder. Thus, the

wealth and the power generated by the economy have the same kind of potential and fungibility to work as a “reserve of power”: it can be converted, at any time, into other forms of power – including military power – whichever is deemed more useful for the occasion. To be more specific, converting economic power into military power is easy, but the reverse is more difficult.

However, although the economy has taken on increased importance in modern times, its pertinence to the power of the states is not a new idea. Paul Kennedy (2010) has already shown how the military power of states has tended directly to correlate with their economic resources throughout history, and how the alternation among powers relates directly to the respective economic ascents and declines (see P. Kennedy, 2010: Introduction). Implicit in such findings, then, ultimately, was their economic capacity, which determined the durable military capacity of the world powers. Consequently, as Blackwill and Harris (2016) pointed out, countries that have attempted to overextend their military ambitions beyond their economic capabilities for a long period ended up in failure (p. 20). Therefore, it could be said that no major military power can sustain its role over a long period unless it is supported by corresponding economic capacity, even if it may be possible to maintain the discrepancy for a time in certain circumstances.

Primarily, the military capability of a state depends on its capacity to finance it. True, it also depends on several other variables, like technological development, but even these it is possible to some extent to purchase, whereby financial capacity is then the determinant enabler. This financial capacity that a state can mobilize for military ends, in turn, depends fundamentally on two crucial factors: (i) the ability of its economy to generate income; and (ii) the amount of income the government can appropriate and allocate to those ends. While the first factor is contingent on the size of the productive resources available to the economy and on the productive efficiency of their use, the second factor is generally dependent on the political regime.

In demo-liberal regimes, unless an imminent existential threat faces the country, the society will resist overburdening itself with taxation and/or to divert too much tax revenue from social ends to military allocation, therefore making it difficult for the state to sustain an oversized military apparatus. In authoritarian regimes, however, the government will find it easier to appropriate a larger portion of the national income and to prioritize the military allocation over social needs. And the more control the government has over the primary distribution of the income generated by the economy, that is to say, on the productive resources,

the easier this will be. In this way, the closer the regime is to a totalitarian state, the easier it will be to maintain a military apparatus disproportionate to the size of the economy.

In these cases, however, the regime may be risking its long-term sustainability, because the excessive resources required to maintain such disproportionate military strength relies upon the diversion of money from either productive investment or from societal consumption. According to the first alternative, the diversion of resources from investment will hamper the capacity of the economy to generate future income, widening the gap between intended military strength and economic capacity, and making it harder and harder to sustain it. As for the second alternative, depriving the population access to levels of consumption in line with the country's productive resources and, therefore, to a more balanced sharing of the prosperity that such resources could generate, will give rise to social discontent and resentment that eventually will lead to political tensions challenging the legitimacy of the regime and threatening its sustainability.

To test those two determinants of military strength – the economic capabilities of the country and the degree of illiberality of the political regime – regression exercises were run using data from 126 countries operating in the real world. The results, shown in Appendix C, turned out to be robust and those two factors proved capable of explaining in essence the military power of those states: GDP as the main explanatory variable, with a direct relationship, and the degree of illiberality as a complementary (less intense) explanation. Furthermore, all of the well-known states with illiberal regimes were shown to hold an over-capacity of military power in relation to what would be expected from the capacities of their economies. Table B6 further corroborates the weight of the illiberality of the political regimes in building up disproportionate military apparatus. This reveals that the top-five military spenders, as a percentage of their respective GDP, and on average between 2010 and 2018, are considered “not free” by the Freedom House report (2019) used as a source in Appendix C. Meanwhile, of the 15 countries that spent on average more than 4 percent of their GDP on defense over those nine years, only one – Israel (living under a permanent existential threat) – is considered “free” and four are considered “partly free,” while the remaining ten (two-thirds) are reported as “not free.” It is, therefore, highly plausible that the disproportionate military apparatus exhibited by illiberal regimes are motivated more by the defense of the regime than by the defense of the country.

These results seem, therefore, to confirm P. Kennedy's (2010) conclusion that the military power of a state is dependent on its economic capacity. And, further, that the *economic capacity of a country is, ultimately, at the root of its power and influence over the longer-term.*

In the short term, this relationship may be temporarily circumvented by subjecting the society to austere living conditions (e.g. North Korea) or by incurring external debt (to increase the financing capacity of the state); but, over time, the economic capacity to generate income will end up prevailing as an active restriction to military power and other sources of influence. Which, returning to P. Kennedy (2010), and notwithstanding temporary deviations from the trend, confirms that there is "a very significant correlation over the longer term between productive and revenue-raising capacities on the one hand and military strength on the other" (loc. 184/Introduction).

In a more recent evaluation, and in view of the considerable US loss in the share of world GDP since 1950, Allison (2020) acknowledges that "although GDP is not everything, it does form the substructure of power in relations among nations," whereby, with that loss, the strategic autonomy of the country has been narrowing. Or, in Allison's words, once "the United States' relative power has declined, [so] the menu of feasible options for policymakers has shrunk" (p. 32). This assertion can neatly translate to the language developed in section 3.3, which is to say that with the decline of its relative economic power, the strategic autonomy of the US has also declined.

4.4. Summing-up

Chapter 1 has already outlined how economic affluence has reduced people's willingness to fight, how nuclear weapons have paradoxically reduced the escalation of conflicts and turned another great war into a less likely scenario, and how both the accrued complexity of societies and the interdependencies among countries, have made their interests ever more intertwined. And, consequently, how economic competition and the quest for prosperity overcame military confrontation and territorial expansion as the main forms of interaction between states.

The current chapter, in turn, has demonstrated the increasingly important role the economy has played in the lives of states and, consequently, the role it has played in their interrelationships with other states. Moreover, this chapter has highlighted the growing centrality in the strategic considerations of states in specifically recognizing those of the dominant power – the US. Today, states are much more vulnerable to pressure on their

economies from the intangible forces of the so-called “market players” – which can greatly affect their freedom to choose their own goals and remain on the path of their internal policies – than they are to the more tangible threats from military power. Nowadays, economic vulnerability, therefore, contrary to experiences from the past, has overtaken military vulnerability as a source of strategic surprise for most states.

For all of these reasons, naturally, the economy has taken center stage in national strategies, and economic power – either by itself or by its easy fungibility into other circumstantially more convenient forms of power – has assumed a preponderant role in the strategic autonomy of states. This means, sustaining the hypothesis that this thesis began with, that national economies play a highly relevant role in the strategic autonomy of the respective states. Continuing on this line of reflection, and taking up the lead thread of this thesis, the following three chapters of Part II identify and demonstrate the main economic factors that shape the economic power of states, or which, in their absence, shape their vulnerability, and, consequently, determine the relationship of the economy with the strategic autonomy of states.

These factors must be assumed as fundamental variables to be addressed in national strategies. There are, of course, many other economic factors that can take on a greater or lesser relative importance in certain circumstances, but any attempt to identify all of them would be highly inefficient – given their marginal explanatory power – not to say questionable as to their final effectiveness. However, those on which the research will focus are of unquestionable effectiveness and of little circumstantial dependence, as many years of practical-professional experience have demonstrated to the author.

PART II – RELEVANT ECONOMIC FACTORS FOR STRATEGIC AUTONOMY

CHAPTER 5. Size Matters

5.1. The Importance of Size

Chapter 4 demonstrated the growing importance of the economy in a state's strategic considerations. In Chapter 3, strategic autonomy was defined as the leeway available to choose, adopt, and pursue achievable ends, within a relevant time frame and in the prevailing circumstances. Strategic autonomy was also seen to be contingent on the power capabilities possessed, or susceptible to being mobilized, and on their effectiveness within that time frame. Those power capabilities, in turn, depend on the resources available and on the rate at which these resources can be converted into actual power. The time comes now to join these two strands together – economy and strategic autonomy – in what is the main objective of this thesis: to evaluate the relevance of the national economy, as a source of power, for the scope of a state's strategic autonomy. For this purpose, economic power may be understood, in line with Martel (2014, p. 50), as the power derived from the use of the national economic resources to pursue the political objectives of the state.

Admittedly, “the most common indicator of economic power is the size of a country's gross domestic product (GDP)” (Frost, 2009, p. 14), that is, the sum of goods and services produced over a period of time (more commonly a year), converted into monetary units by their market prices (real or estimated).²³

However, a comparison of economic values between countries is made more difficult by the fact that each country, in principle, has its own monetary unit (currency). The monetary valuation of each country's economic variables is made at first in their particular currency, which does not allow direct comparisons with the economic variables of other countries, also expressed in their respective currencies; it would be like comparing pears with apples. To overcome this obstacle, the national values must be converted into a single unit of account. The

²³ A common alternative measure of economic size is the Gross National Income (GNI). GDP measures the total amount of products and services generated within the economy, regardless to whom (national or foreign) the corresponding income is due (e.g. the returns due to foreign direct investment (FDI)). GNI, however, measures the total income received by the residents, regardless of where it originated, whether domestically or abroad. The difference could be significant in cases where the national economy has a large proportion of foreign investment (e.g. in Luxembourg and Ireland, GDP, respectively, is 41 percent and 26 percent higher than GNI). The choice of GDP was made for practical reasons, among which the easier availability of data and the fact that it better represents the productive capacity of the country stand out.

choice of this standard unit poses another difficulty, however, since prices between currencies (exchange rates) may vary due to factors specific to the functioning of the foreign exchange markets, the variations of which imply changes in the valuation of the economic variables for reasons that may have nothing to do with economic activity itself. For goods and services that are tradable on international markets (i.e. that can be exported and imported), it is best to use a convertible currency to value products from different countries, as their tradable values do change according to the ups and downs of exchange rates. However, many goods and services produced in a country – for example, hairdressing, construction, utilities, and cleaning or plumbing services – can only be consumed near the place of production, mainly due to transport costs (i.e. they are not tradable in international markets), so their real value can differ considerably among countries, without the possibility of arbitrating these differences. Subjecting their valuation to the fate of exchange rates, therefore, does not constitute a fair comparison.

To address these different situations there is no perfect converter, whereby the choice generally alternates depending upon the purpose of the comparisons. This alternation occurs between the use of a convertible currency – usually the USD, as the main world currency – and the use of PPP converters. PPP converters are indices calculated based on the cost of living in each country, and this functions as a fictitious exchange rate, designed to equate the income needed to buy the same amount of goods and services in different countries. This is because the price of non-tradable goods and services in each country is correlated with its respective living standards, whereby they are more expensive in more affluent countries, which require a higher income to purchase the same amount of a product than in the less affluent countries. Therefore, a lower monetary income in a less affluent country may provide the same living standard – access to the same basket of consumption, so to speak – than a higher monetary income in a more affluent country. The aim of the PPP converters, then, is to make equivalent the different levels of monetary income necessary to buy the same basket of consumption in different countries. On the other hand, to compare the purchasing power of each country's national income in international markets – and, therefore, its potential international power – the use of a convertible currency (e.g. USD) and market exchange rates is more appropriate (see Callen, 2007). In short, PPP valuation is better to compare living standards, while a convertible currency is better to compare international power.

To return to the starting point of the current argument, the size of the economy is a reasonable basis for inferences about the power and influence the state is able to mobilize, as

seen in Chapter 4. This can be shown, for instance, by the composition of the G20²⁴ or the voting rights on the IMF Board (see Table B7). Indeed, the size of the economy is, among other things, an indicator of the potential resources that a state can assemble for its actions, including for military purposes. In turn, the main contributive factors to the size of an economy are, on the one hand, the productive resources available to the country – be it from natural endowments or from acquisition and accumulation – and, on the other hand, the efficiency with which these resources are used to generate economic output.

That the size of its national economy is a fundamental source of the economic power of a state, and therefore an important factor underlying its strategic autonomy, is somewhat evident, not only from what is shown in Table B7, but especially from the empirical evidence collected from practical life. However, to have strategic relevance – and not just be an exogenous variable taken into account by the strategist – such size has to be changeable, and the change must be influenced by deliberate actions upon some identifiable variables on which the change depends. That economic size is changeable, both in absolute and relative terms – that is, the relative positions between countries vary over time – is also evident from everyday experience. International organizations and analysts frequently report on the annual or quarterly growth rates of national economies, showing not only that the size changes, but also that change is different between countries. Tables presented later in this chapter will show how the relative size of the main economies has changed considerably over time. Therefore, this chapter seeks to identify the relevant variables and prove which are the ones that influence economic size and upon which strategic action can be directed to obtain an intended result.

5.2. Testing the Main Sources of Economic Size

There is an extensive literature on economic growth, which has identified many relevant factors underlying this growth and, consequently, the changeability of the absolute and relative size of national economies. Some of these factors are strictly economic and easily quantifiable, like physical and human capital or natural resources, and some are of a broader nature, more diffuse in their influence and more difficult to quantify – for example, quality of institutions, cultural factors, or knowledge accumulation.

²⁴ The G20 (or Group of 20) “is an organization of finance ministers and central bank governors from 19 individual countries and the European Union. ... Established in 1999 [the Group] aims to unite world leaders around shared economic, political and health challenges” (M. Crowley, 2019). Of the twenty countries with higher GDP levels, only Spain (13th GDP), the Netherlands (17th), and Switzerland (20th) are not part of the G20, while Argentina (25th) and South Africa (34th), although below the “top 20,” are members to ensure geographic diversification. Spain, however, has become a “permanent guest.”

The objective of the analysis this chapter pursues is to identify the main economic variables to help explain the different sizes of national economies and therefore the variables upon which to plan the direction of strategic action to preserve and widen the strategic autonomy of a state.

To this end, a sample of 133 countries with a population of over a million people, representing 98 percent of the economic size of the statistical universe of the database, was selected from the PWT 9.1 database. The data retained for analysis refer to 2017, which is the last year available in the database. This database was chosen because, in addition to being widely used by economists, it contains more relevant variables for the intended objective, on a comparable basis.

To account for different stages of development and specific characteristics, countries were distributed into five groups, as explained in Appendix D and listed in Table D1. Tables 5.1 and 5.2 below summarize the main characteristics of these groups.

Table 5.1. Groups of Countries and their Shares

Countries			Human Resources		Monetary (PPP)		Natural Resources	
Group	Number	%	Popula- tion	Employ- ment	Capital Stock	GDP	Oil Produc- tion	Territory (Area)
Rentiers	22	17%	7%	5%	5%	5%	44%	15%
Non-Rentiers	111	83%	93%	95%	95%	95%	56%	85%
<i>Advanced</i>	32	24%	15%	16%	43%	44%	21%	26%
<i>Developing</i>	79	59%	79%	79%	52%	51%	35%	59%
Oil Producers	81	61%	90%	90%	93%	93%	100%	90%

Explanation:

Rentiers	Countries whose rents from Natural Resources, in general, or from Oil and Gas, specifically, were more than 20% or 15%, respectively, of their GDP, on average over the last decade (2008–2017) (16 are oil producers)
Non-Rentiers	Countries that are not rentiers according to the definition above (65 are oil producers)
Advanced	Advanced Economies, according to the IMF classification (21 are non-rentier oil producers)
Developing	Non-Rentier Developing Countries (i.e. non- Advanced Economies), (44 are oil producers)
Oil Producers	Countries that in 2017 produced some amount of oil (21 are Advanced Economies)

Sources: Author's calculations, based on EIA (oil production), WB (area); and PWT 91 (for the rest)

Table 5.2. Characterization of each Group: Average Values, 2017

Groups	Employment Rate	Human Capital Index	GDP (PPP - Million)		Physical Capital (PPP-Million)	
			per Capita	per Worker	per unit of GDP	per Worker
	L / P	h	Y / P	Y / L	K / Y	K / L
All	45.0%	2.6	19.2	42.1	4.5	200.5
Rentiers	38.0%	2.1	16.8	38.4	4.4	171.2
Non-Rentiers	46.0%	2.7	15.3	42.9	4.5	206.3
<i>Advanced</i>	48.0%	3.4	42.6	86.9	5.4	453.6
<i>Developing</i>	45.0%	2.5	10.4	25.0	4.1	106.2
Oil Producers	45.0%	2.8	15.8	49.2	4.7	233.2

Source: Author's calculations, based on PWT9.1

To identify the main potential contributors to the size of national economies, cross-country correlations were calculated between GDP and each of the potential contributors: country, territory (as a proxy for available land); population (as the source of labor); oil production (as the most tangible, relevant natural resource); physical (or productive) capital; and human capital, whose index corresponds to the average number of years of schooling and returns to education per worker (Feenstra, Inklaar & Timmer, 2016, p. 12). These correlations are displayed in Table 5.3. (Correlations are also shown in Table D2 in greater detail).

Table 5.3. Cross-Country Correlations between Real GDP at Constant 2011 National Prices (2011 USD) and Identified Resources, 2017

Countries		Human Resources			Physical Capital Stock	Natural Resources	
Group	Number	Population	Employment	Human Capital Index		Oil	Territory
		P	L	h	K	O	T
Rentiers	22	0.509	0.442	0.444	0.966	0.911	0.449
Non-Rentiers	111	0.791	0.822	0.149	0.975	0.642	0.602
<i>Advanced</i>	32	0.990	0.986	0.213	0.986	0.862	0.600
<i>Developing</i>	79	0.932	0.972	0.061	0.989	0.484	0.610
Oil Producers	81	0.786	0.818	0.118	0.974	0.489	0.579

Explanation:

Human Capital Index (h)	Index based on average years of schooling and returns to education (see Feenstra, Inklaar & Timmer, 2016, p. 12)
Physical Capital Stock (K)	Capital stock at constant national prices, based on investment and prices of structures and equipment (expressed in 2011 USD)
Territory (T)	Country Area (Km ²) [Source: World Bank]
Oil (O)	Oil Production (barrels/day) [Source: EIA]

Sources: Author's calculations, based on EIA (oil production), World Bank (area); PWT 91 (for the rest)

The correlation coefficients suggest that the resources with the most influence over the size of economies are population (as a source of labor) and physical capital – which is the accumulated investment in productive assets (such as buildings, machines, equipment, and computer hardware and software), deducted from annual amortizations. Natural resources seem also to have a significant influence, and education, proxied by the HCI, shows a surprisingly low correlation. However, further tests will correct this problematic first impression as to the relative value of these two resources, devaluing the former and giving more value to the latter.

Dissenting with the norm, as is to be expected because a substantial part of their income comes from the sale of natural resources, the rentiers group shows a higher correlation between GDP and oil production (their main natural resource) and lower correlations with capital and population, which are the most relevant factors for all other groups.

Having identified the main potential contributors to the size of national economies – physical capital, human capital (people and education), and natural resources (using oil production and a country’s land mass as proxies) – the next step was to carry out cross-country regressions to determine the extent of their influence. For this, an adapted neoclassical production function was adopted:²⁵

$$Y = A * K^{\alpha} * L^{(1-\alpha)} * h^{\beta} * N^{\gamma} \quad (5.1),$$

where Y stands for GDP (constant national prices, converted into 2011 USD), A for the prevailing technology level, K for physical capital (same pricing and representation), L for employment (number of persons employed), h for human capital index, and N for natural resources. The tested natural resources were oil production (O), in thousands of barrels/day, and country territory (T) in Km^2 . This format of the production function has the advantage of providing GDP elasticities for each of the productive factors – that is, “the proportionate change in output caused by a proportionate increase in the input of one factor of production, holding the other factors constant” (Rutherford, 2002) – and which correspond to the respective parameters – α , $(1-\alpha)$, β , and γ .

To estimate the parameters using multiple linear regressions, the function must be transformed into a logarithmic form:

$$\ln(Y) = \ln(A) + \alpha * \ln(K) + (1-\alpha) * \ln(L) + \beta * \ln(h) + \gamma * \ln(N) \quad (5.2)$$

²⁵ This is not a thesis on economics, let alone on growth theories. Thus, although there are more up-to-date and sophisticated models and theories, this model is sufficient and appropriate for the purposes pursued by the current research.

(Note that A is a constant, whereby $\ln(A)$ corresponds to the parameter β_0 (intercept) in a standard multiple linear regression, and, consequently, $A = e^{\beta_0}$).

To make it easier to estimate the parameters of the function, ensuring that the elasticities of K and L are complementary – α and $(1 - \alpha)$ – the equation (5.1) can be transformed into its equivalent:^{26 27}

$$(Y/L) = A * (K/L)^\alpha * h^\beta * N^\gamma \quad (5.3)$$

the logarithmic form of which is:

$$\ln(Y/L) = \ln(A) + \alpha * \ln(K/L) + \beta * \ln(h) + \gamma * \ln(N) \quad (5.4)$$

Of the various regressions carried out using the Ordinary Least Squares (OLS) technique, natural resources (N), proxied either by the country's territory (T) or by its oil production (O), proved to be non-significant (with 95 percent confidence, the corresponding parameter can be accepted as being zero) or having little relevance (very low elasticity, and even so only for oil producers). Table 5.4 below lists the most significant regressions obtained, with and without the intercept (i.e. $A > 0$ or $A = 0$), as well as the corresponding estimated elasticities.

Table 5.4. Regression Results for the Production Function (Data for 2017)

Groups	Statistics			A	Ln (K)	Ln (L)	Ln (h)	Ln (O)
	Nr.	Adj. R ²	F	e ^{β_0}	α	(1- α)	β	γ
Non- Rentiers	111	0.924	674.0	0.548 <i>-5.45</i>	0.701 <i>19.55</i>	0.299	0.691 <i>4.39</i>	
<i>Advanced</i> <i>(*)</i>	32	0.978	689.7	<i>0.230</i> <i>-1.50</i>	0.743 <i>5.84</i>	0.257	1.208 <i>3.11</i>	
<i>Advanced</i> (no intercept)	32	1.000	55 793.8	-	0.581 <i>10.05</i>	0.419	0.783 <i>2.83</i>	
<i>Developing</i>	79	0.964	1 053.4	0.573 <i>-3.71</i>	0.701 <i>15.14</i>	0.299	0.633 <i>3.36</i>	
Oil Producers	81	0.889	215.	0.526 <i>-3.73</i>	0.737 <i>15.79</i>	0.263	0.515 <i>2.80</i>	0.029 <i>2.63</i>

(*) Numbers in red mean that the estimation of this parameter is statistically non-significant (null hypothesis accepted); in blue, mean t statistic

²⁶ There are other technical ways to estimate the parameters of the function ensuring that the elasticity of L is $(1 - \alpha)$, but their execution is more complicated and less practical.

²⁷ If $Y = A * K^\alpha * L^{(1-\alpha)}$, to simplify, then $(Y/L) = K^\alpha * L^{(1-\alpha)} * L^{-\alpha} = K^\alpha * L^{(1-\alpha-1)} = K^\alpha * L^{-\alpha} = (K/L)^\alpha$

The assumption from these results is that natural resources may be omitted straightforwardly as an explanatory factor for the differentiation of economic size,²⁸ whereby the applicable production function, instead of (5.4), should be the following:

$$Y = A * K^{\alpha} * L^{(1-\alpha)} * h^{\beta} \quad (5.5)$$

Figure D1 confronts the real values of GDP of the non-rentier countries with the corresponding values predicted by equation (5.5), using the parameters estimated for the group (see the first line of Table 5.4), that is, using:

$$Y = 0.548 * K^{0.701} * L^{0.299} * h^{0.691} \quad (5.6)$$

There are three interesting points to gather from the estimated parameters shown in Table 5.4. The first is that physical capital and education are the most relevant contributors to differences in economic size. A second point is that education – the building-up of human capital – seems to have more relevance (higher elasticity) in advanced economies than in developing economies. This could suggest a higher quality of schooling in the first group of countries, but most likely it reflects what Easterly (2001) refers to as “leaks of knowledge [and] matches of skills” (p. 145). According to this author, knowledge leaks, whereby “people who get educated in a society with little knowledge don’t benefit as much as those in a knowledge-abundant society” (p. 160), together with the possibility that one’s attainments matches those of the highly skilled people, thus leveraging one’s own acquired skills. Thereby, if nationwide skills are already high, the leveraging effect is high, but if they are low, the leveraging effect is also low (p. 160).

A final point is that the much higher elasticity of physical capital over labor’s elasticity (between double and triple), suggested by the regression results, may mean that part of the contribution of human capital (the quality of labor) is embedded in the use of physical capital. And this may be the result of the higher labor skills and knowledge required (and acquired) to operate the improved technological content of the new investments continuously accrued to the capital stock. In this circumstance, the contribution of human capital to the economic output becomes intrinsically associated with the use of physical capital, making it hard to distinguish its contribution from the contribution of physical capital proper. Whereby the regression takes them together and “imputes” the bundled contribution to physical capital alone (see Aghion & Howitt, 2009, p. 113; Mankiw, Romer & Weil, 1992, p. 417). Furthermore, part of the

²⁸ The omission of natural resources from this calculation does not mean that they are not relevant in absolute terms; it only means that their scalability is more limited.

“established” contribution of qualified labor may be captured also by the variable representing the prevailing level of technology (A), because the parameter estimates made without an intercept reduce the elasticity of physical capital and increase labor’s elasticity (see Table 5.4, line “*Advanced*, no intercept”).

A theoretical-practical note to close this section can be offered, in that in equations (5.1) to (5.6), it was assumed that capital and labor elasticities were complementary, that is, that they add up to one. This means that the production function does not contemplate increasing returns to scale, which is to say that adding more capital and labor does not increase the proportion of output created by these inputs. This is a conventional condition of the basic neoclassical model. It is not necessarily so in practice, however, as mentioned; for instance in Aghion and Howitt (2009, p. 58), and as many practical examples of scale economies could illustrate. Therefore, regressions were also run lifting the restriction on the elasticities of capital and labor, giving, for example, the following result for the non-rentiers group, where both elasticities add up to 1.02, indicating increasing returns to scale and confirming the point noted above:

$$Y = 0.398 * K^{0.705} * L^{0.316} * h^{0.688} \quad [\text{adj. } R^2=0.973] \quad (5.6a)$$

Aside from this – which is reflected mainly in a higher labor elasticity – both results are very similar. However, because the predictions for the tested countries were marginally better using (5.6) instead of (5.6a), and because equation (5.6) is equally useful for the next section, the decision was taken to stick with the more conventional formulation for the purposes of the current thesis.

5.3. The Role of Efficiency

So far, the analysis has focused on the direct contribution of productive resources to the size of the national economies. It is now important to note the role of efficiency in the use of these resources, which can considerably leverage their productive capacity. By investing in higher efficiency, resource-poor countries can overcome their shortfall and increase the size of their economies, even surpassing the economic size of countries with a more abundant resource base. Furthermore, the productive efficiency of an economy is also reflected in the affluence of the society – e.g. the level of income per capita – and, therefore, in its relative prosperity.

Efficiency can be measured in many ways, but for the purposes of the current argument, the simplest and most adequate is the average economic output generated per worker, the apparent labor productivity (Y/L), which is obtained by dividing the GDP (Y) by the number of

people employed (L).²⁹ Total factor productivity would be a better measure, but its calculation poses a number of practical difficulties that may render the results less informative in cross-country analysis than would be helpful here, and so the apparent productivity of labor will be the variable retained for the current exercise.

Table B8 lists the top 30 world economies in 2017.³⁰ It shows, for instance, that: (i) the four Western European countries that make up the top ten – Germany, the UK, France, and Italy – do so thanks to their higher efficiency; (ii) other less populous countries that show a proportionately higher economic size – for example, the Netherlands, Australia, Taiwan, Canada, Spain, and South Korea – are classified as advanced economies also thanks to their higher efficiency; and (iii) much larger countries by population – for example, Pakistan (6th), Nigeria (7th), Bangladesh (8th); Ethiopia (12th), or the Philippines (13th) – rank much lower in economic size, due to their very low level of economic efficiency.

Economic efficiency is derived mostly from physical capital, advanced technology, education, professional training, and capacity to innovate, among many other influencing factors. When moving from the microeconomic level – at the level of a firm – to the macroeconomic level – the aggregated level of the whole economy – other factors also become relevant, like the quality of institutions, culture, and networks, as explained in much of the literature on economic development (see Acemoglu & Robinson, 2012; Rodrik, 2003; Easterly, 2001). Again, however, their measurement poses complicated practical problems for cross-country comparisons, and, in the end, would have only a minor impact on the basic objective of this work.

With the associated technological improvements and job-acquired skills and education, the relevance to efficiency of physical capital per unit of labor – what is technically referred to as the capital-labor ratio or capital intensity (K/L) – can already be seen from the previous calculations. If we return to equation (5.6) and its estimated parameters for the non-rentiers group, and transform it into the following:

$$(Y/L) = 0.548 * (K/L)^{0.701} * h^{0.691} \quad (5.7)$$

²⁹ It is called “apparent productivity” because, although productivity depends on all the production factors and on the way in which they are combined, this calculation only takes account of labor as if it were the sole resource used by the productive process.

³⁰ The top 30 countries in GDP measured in USD, which, as mentioned above, represents better the countries’ economic power for international comparisons.

the relevance of the two variables – capital intensity and education – for economic efficiency (measured by the apparent labor productivity) clearly stands out. It suggests that both may act in complementarity, inasmuch as a simultaneous increase of 1 percent in each boosts the efficiency by almost 1.5 percent.

Furthermore, if the estimates for α and β shown in Table 5.4 are added for each group of countries, it becomes clear that the sum provides a larger value for advanced economies than for developing economies. This seems to reinforce the effect of “leaks of knowledge [and] matches of skills” mentioned above, which means that efficiency breeds affluence, which in turn favors efficiency, giving rise to a kind of self-enhancing virtuous circle. This same circle is also an enabler of economic power, because through efficiency, a smaller (i.e. less populous) state not only grows in economic dimension – acquiring more economic power – but, by becoming a more affluent society, it also acquires the power to provide more financial resources in the face of strategic challenges. In other words, it widens its strategic autonomy.

To stress the strategic relevance of economic efficiency, the examples of China and the US will underline the point. The two economies are roughly the same size if measured in PPP (see Table B8), although the US economy is considerably larger if measured in USD, which is a more relevant measure for economic power within the international sphere, as mentioned before. Nevertheless, China’s population is more than four times the population of the US, and the volume of employment is five times higher. Therefore, were the Chinese economy as efficient as the economy of the US, its size would be five times larger than that of the US (see Table B9). A similar reasoning could apply also to India (another populous country), although with a slight difference in relation to the smaller size proportion (3.5 times). Yet, even were China able to optimize efficiency to the point of only doubling the economic size of the US (still having less than half of the efficiency of the US), it might spend twice as much in defense for the same proportion of resources extracted from society for defense purposes (defense expenditure/GDP). Thereby, within a short time span, China could overcome the (quantitative) military power of the US.

Therefore, the only way for the US to maintain its economic world leadership, and its consequent broad leadership in world affairs, is to maintain the favorable efficiency gap. This, in turn, will depend on its leadership in technological development and on its control of key global value chains, as will be discussed below. On the other hand, for China to dispute US leadership effectively it needs to close part of the gap in economic efficiency, which seems an achievable objective over not too long a timespan. For that, it needs to accumulate more capital

– both physical and human –, master the more advanced technologies, and be able to command important value chains. Russia, for its part, is still the second biggest military power, a hangover from the days of the Soviet Union. In its heyday, the USSR was the world’s second largest economy, with a political regime that enabled the government to control most of the country’s economic resources, from which it extracted a substantial part to realize its own policies. And, while due to such an inheritance, Russia may possess advanced technological capabilities in the military sphere, and its efficiency gap compared to the US may be much lower than China’s, its population is much smaller than that of the US and its economy is less dynamic and innovative than China’s. Moreover, it is too dependent on natural resources and its rents. It can therefore hardly pose a strategic challenge to the US (or even China) on the economic front.

5.4. Economic Dynamics

Most of the analyses so far have been undertaken in static terms, comparing sizes and determinants between countries for 2017. However, the size of the economies, absolute and relative to their counterparts, can change over time as result of action upon the determining variables. Some economies may grow faster than others do, and the relative positions of all of them may change, as in any competitive race, with some countries gaining positions (i.e. relative power) and others losing.

Table B10 summarizes the dynamics of the largest economies (measured in PPP), between 1990 and 2017, which is broadly between the end of the Cold War and the most recent available data. The progress recorded by China and India over these almost three decades is impressive, with both showing fast growth rates, approaching those of the US.³¹ India climbed six positions in the world rankings, going from the ninth largest economy to the third. The outstanding economic performance of both countries can be explained in part by their substantial investment in capital stock and their remarkable progress in the education attainments of their workforce, which is reflected in the progress of their apparent labor productivity. However, and as suggested by the two right-handed columns of Table B10, China’s actual performance was considerably below what would have been expected from the increase in its resources, using equation (5.6) to predict the corresponding output.³² Taken at

³¹ Measured in PPP, China’s economy is already marginally larger than that of the US. However, and as explained above, PPP evaluations are more appropriate to compare living standards, but less appropriate to compare economic power. For that reason, the US, legitimately, is still considered the largest world economy. The table shows GDP measured in PPP, because the available data for the capital stock is also expressed in PPP, whereby to relate both variables, it is better to have them represented in the same unit value.

³² The parameters estimated for equation (5.6), being applicable to the whole sample, imply, implicitly, an average efficiency for the whole sample. Therefore, countries whose actual outcomes exceed those predicted by

face value, this comparison, between actual and predicted outcomes, suggests that China's economic progress was derived more from effort (investment in resources) than from efficiency (the actual growth was about two-thirds of what could be expected). Nevertheless, it is fair to say that these two countries – China and India – have expanded their strategic autonomy thanks to the considerable increase in the relative size of their economies.

Brazil, Indonesia, South Korea, and Turkey have also recorded important progress, their economies all having gained between six and ten percentage points (p.p.) compared to the US economy. The main losers in terms of relative size were Japan and Russia, who lost eight and six p.p., respectively, against the US, and almost 80 p.p. compared to China. It is worth noting that the main progresses were recorded mostly by Asian countries.

Taking a longer-term view, and resorting to the historical Maddison Project Database, the dynamics of the same group of countries over the last two centuries is displayed in Table B11. In the early nineteenth century and before the Opium Wars, China was the world's largest economy, followed by imperial Britain, colonizer of India at the time (see the last line of Table B11, "UK + India"), while the US was a smaller economy within the group at that time.

China then underwent a steep decline up until the third quarter of the twentieth century, when, after the reforms launched by Deng Xiaoping in late 1970s, it had a sharp recovery, regaining first or second place (depending on whether the evaluation is in PPP or USD market rates). In less than a century, the US moved from a relatively small economy to the largest in the world, a status that it has kept ever since, although its relative size economically peaked in the second half of the twentieth century. The UK, after the efforts of two devastating world wars in the first half of the twentieth century, and in the wake of the decolonization that followed WWII, retracted from being the dominant world empire to just being the second or third largest European economy (depending on the evaluation method). Russia, being the world's third largest economy by size at the beginning of the twentieth century and having established itself as a world power vis-à-vis the US, became a Eurasian empire (the USSR), and the world's second largest economy, with dominance over half of Europe and many parts of Asia, during the period of the Cold War. In the aftermath of the Cold War, however, it saw its empire imploding and became just a lesser world economy, albeit sustaining the role of the worlds' second largest military power.

the equation can be assumed to have a higher efficiency than the average. Likewise, those whose actual outcomes fall short of the predictions can be assumed to have an efficiency below average.

The point to address here is that economic size, absolute and relative, matters, but relative positions can change significantly in a relatively short time span, due to various economic dynamics. Therefore, the variables that determine economic size are strategically very relevant, especially in the long term, as the strategic autonomy of states depend upon them. Thus, thanks to its astonishing economic progress in the last quarter of a century, China has today far more strategic options at its disposal – which is to say wider ranging strategic autonomy – than before, to the point of becoming a challenger to the role of the US on many fronts. Conversely, Russia, having lost much of its economic influence, has seen its strategic autonomy shrink, notwithstanding the fact that, as stated, it remains the world’s second largest military power.

5.5. Income and Wealth

The analyses in the previous sections were based on economic flows – that is, variables whose value is measured over a span of time, often a year – of which GDP was central. Some stocks – that is, variables whose value refers to a particular point in time – were also used, like population, employment, or physical capital stock, but mostly as instrumental variables to explain annual GDP. However, the wealth of a country, which is a stock, is also a very important indicator of its economic power and potential. Among other reasons, this is because GDP and welfare “are underpinned by a country’s assets or wealth” (Lange, Wodon & Carey, 2018, pp. 2–3), which means that these are the underlying basis for generating the flow of income. This became apparent above when the natural resources, physical capital, and human capital – which are important components of a country’s wealth – were used as explanatory variables for GDP-generation power. Most asset stocks that make up the wealth of a country are the result of accumulated flows. This is the case, for example, for physical capital stock, which is the accumulation of periodic investment (a flow), deducted from the regular amortization (another flow) of older parts of the stock.

The problem with the use of wealth as an operational economic variable is that its value is not straightforward to calculate, often requires the use of some hard assumptions in the process, and, even when calculable, the value only becomes available with a considerable time lag. Under the heading “Wealth Accounting,” the World Bank has been calculating statistics on the wealth of nations and been publishing occasional reports, the last version of which was released in 2018 (see Lange, Wodon & Carey, 2018), but with the latest available data referring to 2014. For this accounting, the WB considers four forms of wealth: (i) human capital – measured as the discounted value of earnings over an employed or self-employed person’s

lifetime; (ii) natural capital – energy, minerals, agricultural land, forests, and terrestrial protected areas, measured as the discounted sum of the value of the rents generated over the lifetime of the asset; (iii) produced capital – machinery, buildings, equipment, and residential and nonresidential urban land, measured at market prices; and (iv) net foreign assets – the sum of a country’s external assets and liabilities (i.e. claims of residents on non-residents minus claims of non-residents on residents). It is important to note that, with the exception of the endowment of natural resources, all the other forms of wealth are the result of persistent investment and the accumulation of resources: human capital through education, vocational training, skills, and knowledge acquisition; produced capital through investment in productive assets; net foreign assets through net savings (external surpluses) and financial investments abroad; and even in natural capital, the endowments of nature may be enhanced by investment in making them usable or more productive. The wealth so measured is a good indicator, albeit far from infallible, of the future productive potential of a country. It is worth noting that, of those four wealth categories used in WB accounting, only the last one – net foreign assets – is a purely financial form of wealth. The ownership of natural and produced capital, notwithstanding these being made up of real assets, as described above, is also mostly represented by financial assets – that is, shares and debt instruments.

According to the WB Wealth Accounting, and as illustrated by Table 5.5 below, almost two-thirds of the world’s wealth is made up of human capital, while produced capital represents 27 percent and natural capital 9 percent. Richer countries have more human capital and less natural capital than the average, while natural capital accounts for most of the wealth of the poorer countries. In order to reinforce the findings outlined above, there is a perceived high correlation between what is held as produced and human capital and income level, with the richest countries owning around three-quarters of these two forms of world capital, while the possession of the poorer countries is almost negligible.

Table 5.5. World Wealth by Income Groups (2014)^{33 34}

Income Groups	Wealth Composition				World Share				Nr of Countries
	Human Capital	Natural Capital	Net Foreign Assets	Produced Capital	Human Capital	Natural Capital	Produced Capital	Total Wealth	
High income	68%	5%	0%	27%	75%	40%	73%	72%	44
Upper middle income	58%	17%	0%	25%	20%	39%	21%	22%	36
Lower middle income	51%	27%	-3%	25%	5%	18%	6%	6%	37
Low income	41%	47%	-2%	14%	0%	3%	0%	1%	24
World	64%	9%	0%	27%	100%	100%	100%	100%	141

Source: Author's calculation based on WB Wealth Accounting

To gain a perspective on how the top 15 economies fare in terms of wealth stocks, Table B12 lists their wealth, its composition, and how it compares with their GDP levels measured in USD (both wealth and GDP refer to 2014, which is the last year available on wealth statistics). The differences in wealth held by these countries are even more striking than the differences in GDP. The comparison also elucidates better why, in spite of China having broadly the same GDP as the US (when measured in PPP), the latter is still so much more powerful. It also indicates why this is likely to continue into the foreseeable future. Furthermore, it is important not to forget that this accounting does not include other pertinent forms of intangible capital, like: (i) knowledge capital, which comprises:

[C]omputerised information (software and databases); innovative property (patents, copyrights, designs, trademarks); and economic competencies (including brand equity, firm-specific human capital, networks of people and institutions, and organisational know-how that increases enterprise efficiency) (OECD, 2013, p. 22);

(ii) social capital – “networks together with shared norms, values and understandings that facilitate co-operation within or among groups” (Keeley, 2007, p. 103), as well as the associated levels of interpersonal trust; and (iii) institutional capital – institutions, their governance, and functioning efficiency.³⁵ If accounted for, these forms of intangible wealth would further clarify the present potential advantage of the US and other advanced Western economies.

³³ The Income Groups are those defined and used by the World Bank.

³⁴ Net Foreign Assets are excluded from the world share calculations, because the world total should be zero, by definition. In practice and due to accounting problems the statistics show a relatively small negative balance, with all the groups also showing relatively small figures. Therefore, and because its content would be meaningless, the column corresponding to this form of wealth was omitted from the table

³⁵ Platje (2008, p. 145) presents another definition – “institutions, ‘institutional governance’ and governance structures that reduce uncertainty, stimulate adaptive efficiency (i.e. the ability of a system to adapt to changing

The issue of wealth, addressed from the perspective of financial accumulation and its link to savings, will be taken up in Chapter 7.

5.6. Summing-up

The size of its national economy is a primary source of a state's economic power, and since the tools of a state's power are instruments of its strategic autonomy (see Chapter 3, section 3.3. Strategic Autonomy), the size of the economy is also an essential source of that autonomy. For a magnitude to be strategically relevant and not be only an exogenous given to be taken into account in the strategic process, that magnitude must be variable and its variation must be triggerable by deliberate actions exercised upon it, either directly or indirectly. Since the economy is the result of the interaction of a multiplicity of variables and decisions of economic agents, it was necessary to identify, at the level of macroeconomic aggregation, the economic variables on which the size of a national economy may depend most. Physical capital and human capital – volume of employment and its quality, as reflected in the level of education and in the professional skills of workers – together with the efficiency of their use, were identified as the most relevant variables to better explain the different dimensions of national economies. This conclusion is mostly in line with the standard research on economic development.

Furthermore, the current research has also proven that the accumulation of knowledge and skills in a society is a kind of self-propagating public good: The more the society as whole accumulates, the more each of its members can leverage their own abilities on leaks of knowledge from, and matching of skills with, other country members. This accumulation also turns out to be an enhancer of economic efficiency, whereby all of this, if properly oriented, can easily become a virtuous circle.

Therefore, this research has identified the most relevant variables influencing the strategic autonomy of states through the size of their economies. These are: physical investment – which results in the accumulation of capital stock; population, as a source of labor; quality of labor resources (obtained from education, work experience, and vocational training); and efficiency in the use of these resources in the productive processes – dependent on up-to-date technologies and innovation and on the quality of organizations and management.

conditions) and stimulates the functioning of the allocation system and sustainable production and consumption patterns.”

Efficiency – achieving greater and better output from the same amount of resources – is thus an essential source of economic size and power, whereby states with less resources (specifically population size), can overcome their relative scarcity and become economically larger than countries with greater amounts of natural and population resources.

Natural resources may be a primary source of economic size, but generally, their power to differentiate between countries is relatively small. However, if the resource in which the country is rich has a high strategic value around the world, this may provide the country with a disproportionate source (relative to its economic size proper) of economic power. However, for the same reason, this makes the country highly dependent upon the fate of the resource and, if it is a highly disputable resource, subject to security risks.

CHAPTER 6. Worldwide Webs: Trade and Technology

6.1. Trade

Trade among nations, empires, and their provinces, both near and distant, goes back to ancient times. Trade between Egypt and its neighbors, for instance, “dates to the eras before the unification of Egypt, c. 3000 B.C.E” (Bunson, 2002, p. 411). As for “Greece and the wider Aegean, local, regional, and international trade exchange existed from Minoan and Mycenaean times in the Bronze Age,” with “the earliest written sources of Homer and Hesiod [attesting] to the existence of trade (*emporía*) and merchants (*emporoi*) from the 8th century BCE” (Cartwright, 2018, n. p., italics in the original).

Trade was already multinational at this juncture, with:

Special permanent trading places (*emporía*), where merchants of different nationalities met to trade [, sprang] up, for example, at Al Mina on the Orontes river (modern Turkey), Ischia-Pithekoussai (off the coast of modern Naples), Naucratis in Egypt, and Gravisca in Etruria. From the 5th century BCE, Athens’ port of Piraeus became the most important trading centre in the Mediterranean and gained a reputation as the place to find any type of goods on the market. (Cartwright, 2018, italics in the original)

And trade was already imbricated with evolved financial arrangements, for example:

Maritime loans enabled traders to pay for their cargoes and the loan did not have to be repaid if the ship failed to reach safely its port of destination. To compensate the lender for this risk, interest rates (*nautikos tokos*) could be from 12.5 to 30% and the ship was often the security on the loan. (Cartwright, 2018, italics in the original)

As for the vast Roman Empire, trade was an equally relevant activity that expanded considerably, to the point that, according to McLaughlin (2014), “[t]he world changed when Rome annexed Egypt and gained access to the Red Sea shipping-lanes that led into the Indian Ocean” (loc. 171). The result of this was that “[w]ithin a decade, there were over a hundred Roman ships sailing to India[,] and the Mediterranean markets were suddenly inundated with goods from across the eastern world” (loc. 172). The opening of the Silk Roads had an even greater impact on world trade, making trade possible from the far reaches of East Asia to the westernmost parts of Europe and Africa. These routes were used from 130 BCE–1453 CE, having been established in China in the Han Dynasty, and surviving into the Middle Ages, expanding world trade considerably with significant social impact (Mark, 2018, n. p.). “In Bactria and other intermediary markets, for example, Indian spices, pearls, ivory and cottons

were exchanged for highly sought-after bales of unique Chinese silk,” with this trade changing “the fortunes, prospects and ambitions of the populations that occupied southern Asia” (McLaughlin, 2016, p. xviii).

Trade was a way of accessing goods that were otherwise unavailable in a country, whether due to a lack of natural resources, the technological capacity to produce enough of them to meet practical needs, or to satisfy luxury demand. In return, the country supplying the good could then extract more value from the resources and goods that it was able to produce in abundance. Notwithstanding that trade was mostly the reserve of private merchants, who conducted trade for personal profit, some strategic goods – like grain in ancient Egypt or advanced artifacts, especially for use by the military – were strictly under the control and supervision of the state. However, there was also a state interest beyond the private purposes of international trade, for its taxation provided an important source of revenue for its activities. In the case of the Roman Empire, for instance, “it is estimated that by the first century AD, foreign trade was supplying Roman government with perhaps a third of the income it required to finance the entire Empire” (McLaughlin, 2014: loc. 175). Among other benefits, throughout the history of the Roman Empire, this enabled Emperor Augustus to use “these new revenues to fund the first full-time professional army created by any ancient regime” (loc. 177). To that end, “international trade had to pass through designated custom posts,” where it was subject to fixed-rate taxes (loc. 230), thus minimizing “the intrusive tax burdens [the empire] imposed on its provincial subjects” (loc. 591). This favored the acceptance and legitimacy of the empire at the same time, which enabled the strengthening of its military power. Furthermore, as argued by McLaughlin (2016), use of trade to pursue other strategic purposes of the state was not exceptional, for example, in China:

Han policymakers believed they could use trade exports to cause foreign powers to be economically reliant on Chinese products and manufactured items. Then, if the foreign regime did not comply with Chinese authority, the Han could impose trade sanctions that would cause economic damage. (p. 32)

Which seems to demonstrate that from ancient times, the Chinese – and probably many other polities – already understood the potential strategic use of economic sanctions, as well as of inducing economic (and financial) dependencies.

The strategic importance of trade in ancient times led then, on one hand, to the forceful imposition of trade agreements by military campaign when they could not be achieved through peaceful negotiation, and, on the other hand, to the armed protection of caravans transporting valuable goods (Mark, 2018, n. p.).

In the Middle Ages, benefiting from a number of favorable circumstances (see Thorndike, 1917, p. 342), some Italian cities, notably Venice, came to dominate Mediterranean trade and to establish trade links with Northern Europe (Maddison, 2001, pp. 52–53). Furthermore, anchored within such a domain, they were able to build powerful states with vast geographical reach, which prevailed until the seventeenth century. To avoid dwelling too much on history, what it is important to note is that trade and the mastering of navigation techniques were, in these cases, the bedrock of state power and international influence. It was the pursuit of new trade routes, and their control, as well as the access to highly valuable, exotic products in Europe, which led the Portuguese, first, followed by the Spanish, Dutch, and the English afterwards, to engage in the Epic of the Discoveries. This was aimed at breaking the trade monopoly of Venice and the links with Mamluk Egypt (Findlay & O'Rourke, 2003, p. 16), and it gave rise to new world empires between the sixteenth and twentieth centuries.

The purpose of this short historical digression on world trade has been to point out that, besides its direct economic implications, international trade has always been politically and strategically relevant. Such strategic relevance became accentuated by the mercantilist doctrine that prevailed in Europe from the sixteenth to the eighteenth century, which stated that wealth was the main source of power and that more wealth, in the form of gold, could be accumulated from trade by maximizing exports and minimizing imports (see Magnuson, 2003). The much-quoted statement of Colbert epitomized the relationship: “trade is the source of finance and finance is the vital nerve of war” (Earle, 1986, p. 217). Trade’s importance was acknowledged in many epochal writings too. For instance, in one of Bolingbroke’s letters in *On the Idea of a Patriot King*, he reflected on the “situation of Great Britain, the character of her people, and the nature of her government [all of which] fit her for trade and commerce” (Bolingbroke, 1749, p. 184). This author concludes that “by trade and commerce we grew a rich and powerful nation,” because “[a]s trade and commerce enrich, so they fortify our country” (p. 184). There were also declarations of war made to force trade upon other countries, such as the war King William III of England declared on Louis XIV’s France, where, among many other motifs, it was mentioned that:

[F]orbidden the Importation of a great part of the Product and Manufactures of our Kingdom, and imposing exorbitant Customs upon the rest, notwithstanding the vast Advantages he and the French Nation reap by their Commerce with England, are sufficient Evidences of his Designs to destroy the Trade, and consequently to ruine the Navigation, upon which the Wealth and Safety of this Nation very much depends. (Robinson & Beard, 1908, p. 37)

This was also true of the Opium Wars that Great Britain and France imposed on China (see Pletcher, 2019, n. p.).

Nevertheless, generally up until the nineteenth century, economic life remained little more than a domestic affair, with exports representing less than 5 percent of the world's GDP (see Estevadeordal, Frantz & Taylor, 2002 p. 37; Vanham, 2019). However, in the nineteenth century, world trade experienced a sizable boost. In the sequence of the Industrial Revolution's technological developments, the links established by the new European-based world empires, progress in transportation – with the introduction of steamships, railroads, and the lowering of transportation costs (Findlay & O'Rourke, 2003, pp. 35–37) –, and the easing of trade barriers – namely tariffs (Bordo, 2002, p. 22) –, world trade experienced a strong boost. This progressed in two waves, corresponding to the so-called two waves of globalization (see Baldwin & Martin, 1999): The first wave came from the mid-nineteenth century to the outbreak of WWI, and the second was from the 1970s to the present, as Figure B10 illustrates.³⁶

With these two waves, trade ceased to be a residual part of national economies and became a crucial component, closely associated with the expansion of the economies themselves and with the welfare of the corresponding societies, as evidenced by Figure B11 and Table B13. However, more importantly, the exponential expansion of trade gave rise to an intricate web of commercial relations and interdependencies among world nations, offering them a wider market to absorb the expansion potential of their economies, as well as vaster and more diverse sources to satisfy their demand for goods and services, and so making the world economy more integrated.

Trade between countries allows each country to specialize its production in the goods and services where it may hold comparative advantages. Either because the production of such goods and services uses relatively more of the resources – e.g. capital, labor, land – that the country has more abundantly; or because the country may acquire greater efficiency in such products by scaling up the production processes. In fact, a comparative advantage in the production of a good arises when the opportunity cost of such production in one country (i.e. the goods competing for the same resources whose production has to be foregone) is lower than

³⁶ The authors plot the beginning of the second wave in 1960, but the main trade boost was evident from the 1970s, as Figure B10 illustrates.

it is in competing countries. On the other hand, trade also widens each country's range of possibilities for consumption, either in quantity or in product diversity.³⁷

Benefiting all countries engaging in it, trade is particularly advantageous for smaller countries, because the larger ones may already have a domestic market wide enough to absorb the scale of production necessary for the maximization of the productive efficiency of domestic industries, whilst still providing a wide spectrum of goods and services. However, the opportunity to trade in a globally integrated economy provides smaller countries with a scale big enough to optimize their productive efficiency, and thus to overcome the constraining dimension of their smaller domestic markets.

Trade, then, has become a key arena where countries today compete among themselves. In this arena, countries dispute the world purchasing power and compete for market share in order to expand the size of their economies and improve the welfare of their societies. This offers a good example of a “competitive running race” and a positive-sum game, where all the competitors may win, even if some win more than the others. Through trade competition, countries dispute a (naturally) scarce resource – world purchasing power or world demand –, while transforming this dispute into a positive sum game. This is so, because with the expansion of their own economies, by competing to preserve or increase their market share, countries also expand the world demand pool and create more opportunities for everyone to expand their production, making competition, fierce as it may be, into a virtuous circle that can benefit everyone. Figure B11, already mentioned above, illustrates the result of this spiral process very well.

A country may gain a competitive advantage, a crucial lever to gain market share, by becoming more cost-efficient or by offering products that are more desirable to the potential market. Cost efficiency, in turn, can be obtained in a number of ways: by lowering the cost of resources – namely labor, which is highly mobile between the country's sectors; by increasing their productivity – less resources needed per unit of product; or using a combination of both; it is the second of these that better favors simultaneous progress in the size of the economy and in the welfare of the society. The offer of more desirable products may result from better product quality and / or from products more in tow with the taste of consumers (see Benkovskis

³⁷ The content of this and some of the following paragraphs, which are technically more economics oriented, but necessary to frame the point being made in this section, is obviously not original. However, there are difficulties assigning credit to the ideas, because it is common knowledge among trained economists, and the information is readily available in many volumes on international economics, for example: Krugman, Obstfeld & Melitz, 2018.

& Woerz, 2015). Furthermore, the evolution of relative supply and demand in the world market may imply exogenous price changes of products in which a country trades, regardless how efficient the country may be. These changes may benefit or harm the country, depending on how they are reflected in its terms of trade (i.e. the ratio of its export and import prices). However, despite the exogeneity of the shock, it will be up to the country to adapt, adjusting its economy to the new market signals, so as to maximize benefits or minimize harm.

It has been recognized that international trade is mutually advantageous for all participants and for the world economy as whole. Because of this, countries – especially after WWII, with the creation of the General Agreement on Tariffs and Trade (GATT), in 1947 – engaged themselves actively in multilateral initiatives to promote trade by eliminating or lowering the barriers that may curtail its progress (see Van Grassek, 2013). It was thus in the wake of the importance gained by international trade that Germany and Japan became export-oriented economies after being heavily defeated in WWII, expanding their economies, and developing their technological skills to assume world-leading roles. Furthermore, it was through the same route that China moved from an underdeveloped economy, less than 40 years ago, to become the world’s second largest economy (the largest according to some accounts, as discussed before) and the main technological challenger to the US in both sophistication and leadership.

Openness to trade tends to favor all countries, as already shown, and as it is generally accepted in the mainstream economic literature: “conventional neoclassical theory demonstrates that the greater the degree of openness in the international trading system, the greater the level of aggregate economic income ... regardless of [the state’s] size or relative level of development” (Krasner, 2003, p. 21). Thus, engaging in trade increases the potential possibilities and available choices enjoyed by a country, providing it with a higher capacity to expand its economic power, and therefore its strategic autonomy. Germany, Japan, and especially China present very vivid examples of how it is possible to realize such potential by successfully engaging in export activities. These examples can be extended easily among others to, for example, South Korea, Taiwan, or Singapore. On the opposite side, North Korea, Cuba, and most of the former communist countries provide sound testimony to demonstrate how the closing of economies results in relative impoverishment and in the narrowing of available choices.

6.2. Political Implications

Therefore, “in today’s world, economic power has become largely synonymous with successful engagement with the global economy” (Frost, 2009, p. 15). Yet, even when beneficial for the society as a whole, trade does not necessarily benefit all social groups, and the entailed distributional effects may turn some groups into absolute net losers. Consumers in general make net gains with trade, because they gain access to cheaper and more varied products, but producers – landowners, capitalists, and workers – may gain or lose with trade, depending on how the activities of their sectors are impacted. Standard economic theory acknowledges that trade tends to favor the owners of the more abundant productive factor in the country and to have an adverse effect on the owners of the scarcer factors (see Manteu, 2008).

In practice, the results can be more complicated, if nothing else because, on the one hand, the economic structure of a country may be more complex, and, on the other hand, economic categories – consumers, landowners, capitalists, and workers – are intellectual abstractions. Real people may embody more than one category at the same time, making the social accounting of gains and losses less straightforward. For example, a worker wearing his/her consumer hat may benefit from lower prices, if his/her industry were dislocated to another country with lower production costs (most likely due to lowering wages) and its products replaced by cheaper imports. However, if with his/her worker hat, he/she finds it difficult to have the skills reemployed or is forced to accept lower wages, than he/she, as a person, may turn out to be a net loser. Notwithstanding these precautions, the acknowledgment that trade is mostly beneficial may be taken as a general rule.

Furthermore, the easing of capital mobility which accompanied trade liberalization into the so-called period of economic globalization – especially after the end of the Cold War, giving rise to a more integrated world economy – facilitated the worldwide dispersion of value chains within sectors, but, more importantly, within corporations (the so-called intra-firm trade: see Hwart & Verdier, 2013, p. 4). This resulted in the dislocation of entire factories, namely from advanced to less developed economies, with considerable social impacts.

In any case, the various social implications of international trade, especially the distributional effects for different groups, cannot but have an impact on the political sphere and lead to political bargaining, which, in turn, will have an impact on the policies of the state and its strategic options, particularly in regard to foreign policy. Rogowski (2003) and Alt and

Gilligan (2003) discuss how different sociopolitical coalitions towards trade policies may arise from different exposures to the consequences of engaging in trade with other countries.

Rodrik (2011) draws attention to two interesting and politically charged implications of trade. One is how an openness to trade has been accompanied by a correlative increase in the size of the governments, justified by the need to provide the social insurance demanded by citizens for the accrued risk of increased exposure to international forces (pp. 16–18).³⁸ The other is that the gains in efficiency obtained from trade – which are reflected in a higher total income – have to be measured against the size of its distributional consequences (pp. 54–60). For this comparison, Rodrik suggests the calculation of a “redistribution-to-efficiency ratio,” and he concludes, from experimentations, that “the gains from removing restrictions on trade run into diminishing returns as trade becomes freer and freer” (p. 59). Even more precisely, he states that the “reason for this is that the efficiency loss from tariffs rises with the square of the tariff, while the distributive effects are linear” (p. 291, f. n. 17). In a practical example, the author calculates that for the US, “where average tariffs are [already, at the time] below 5 percent, a move to complete free trade would reshuffle more than \$50 of income among different groups for each dollar of efficiency or ‘net’ gain created” (p. 57). In simple terms, this means that for every \$51 gained by one group, the other loses \$50, whereby the internal social disturbance may not compensate for the net social gain.

Grasping the reach of this particular example may help to better understand the reasons behind the surprising election of Mr. Trump as US President in 2016, and, moreover, his protectionist policies. Understanding this helps us to realize how the consequences of previous trade policies (favoring economic globalization) brought undesirable social consequences to the US; how these consequences induced a change of political actors; and how this change, in turn, impacted American foreign policy and President Trump’s strategic position on the world stage.³⁹ This illuminates, better than an extensive explanation could, how trade can influence strategic autonomy and the strategic course of states.

Trade is beneficial, at least up to a point, and allows the economic power of the country and its strategic autonomy to expand by overcoming the narrower scope provided by their domestic markets. The reverse, though, is that through entanglement in the web of trade a country creates dependencies. Such dependencies manifest themselves on both sides of trade –

³⁸ Rodrik (2011) assigns the primacy in signaling such correlation to Cameron (1978).

³⁹ Of course, this sequence of events and the consequences had additional influencing factors than the one isolated in this description, but what is pointed out here is relevant enough to be singled out.

on exports and imports. In terms of exports, part of the national income becomes dependent on the willingness or the continuous capacity of the client countries to buy these exports. In terms of imports, one country may become dependent upon another for some of the goods necessary for the well-being of society, particularly for their basic needs (e.g. food and medicines) and / or for the working of the economy (e.g. energy, raw materials, intermediate parts, technology). What this does is to make the country susceptible to the fate – recessions or bankruptcies, for instance – or the deliberate actions – threats, pressures, blackmailing, sanctions, or otherwise – of those parties upon which its business relationships have become dependent. This brings the potential risk of a sudden shrinking of its strategic autonomy, especially at inconvenient times.⁴⁰

The dependencies created by the world-trade web now entangle all the countries within it – some more, some less – giving rise to an interdependent world. The resulting network of multiple interdependencies one might view as a kind of natural hedging mechanism to mitigate the risks of single dependencies as already mentioned. However, belying this hedging mechanism is the fact that the threads brought by all parties to this tangle of world interdependencies are not symmetrical or similar in nature. Some of these dependencies are asymmetrical – some are highly asymmetrical – exposing particular vulnerabilities for the dependent countries and providing a particularly powerful lever for the countries on the other side of those dependencies (see Nye & Keohane, 2012, p. 9). Furthermore, these asymmetric dependencies may take different forms and have different strategic repercussions, depending on the number of parties involved in the dependency relationship and on the configuration of such a relationship: whether there is one party on each side of the dependency, or, if it involves several parties, how they are related – the few against the few, the many against the many, or the few against the many.

Energy, being a crucial resource for the economy and social life, is a particular example of this. Oil and natural gas are still the dominant source of primary energy capacity in the world, and 75 percent of its proven reserves are concentrated within nine countries (five of which are in the Middle East), according to EIA. This means that these countries hold an important lever over the rest of the world, whilst the rest of the world, to different degrees, is asymmetrically dependent on them and therefore highly vulnerable to their fate or their actions. Again, there is a reverse side: the exceptional leverage that those nine countries have over the rest of the world

⁴⁰ The Covid-19 pandemic crisis erupted during the final stages of writing of this thesis. It happens to provide an excellent example of the scenario described, whereby some countries became suddenly unable to acquire essential supplies (personal protection equipment, ventilators, some medicines) for which they used to rely on imports, because supply countries, also in need of the same products, forbade their export.

exposes the vulnerability of those out of the nine that do not have a corresponding dominance in other spheres of power, namely military power. That is, militarily weak oil producers are potentially vulnerable to intervention from countries that are more powerful.

An example of the potential destabilizing consequences of an asymmetrical dependency on oil was the 1973 oil shock – resulting from a sudden fourfold oil-price increase that followed a supply embargo dictated by the OPEC countries in October 1973 – and the ensuing disarray of the world economy for more than a decade (see Venn, 2002). An example of the reverse of such asymmetry is the continuous instability that has pervaded the Middle East for a very long time.

6.3. Global Value Chains

According to Subramanian and Kessler (2013), around the early 1990s, the world entered an era of deeper world economic integration, which they dubbed “hyperglobalization,” with world trade accelerating at faster growth rates than world GDP (pp. 3–4). Part of this business performance reflects the fragmentation of production and its distribution throughout several countries in an integrated slice chain, seeking optimal efficiency and giving rise to what is known in the literature as Global Value Chains (GVCs). This fragmentation, in turn, reflects what Baldwin (2006) called the “second unbundling” – as opposed to the “first unbundling” of the late nineteenth and early twentieth century, which “allowed the spatial separation of factories and consumers” (p. 7). The second unbundling went even further, and “spatially unpacked the factories and offices themselves,” fostered by “rapidly falling communication and co-ordination costs” (p. 15). The fundamental change in the structure of production brought about by the spreading out of GVCs has provided a remarkable opportunity for most developing countries to easily enter a global division of labor (Dollar, 2017, p. 9), rapidly industrializing by joining existing supply chains rather than building their own domestically (Ignatenko, Raeli & Mircheva, 2019, p. 3; Baldwin, 2011). This has brought about the fast income convergence of developing countries with advanced economies and a sharp reduction in world poverty, as Tables 6.1 and 6.2 below illustrate.

Table 6.1. Convergence: GDP per capita at 2011 PPP Values – Indexes (High Income Group = 100)

Income Groups	1980	1990	2000	2010	2018	2000-1980	2018-2000
Upper Middle Income (*)	48.9	40.3	32.8	39.5	39.9	-16.1	7.1
Lower Middle Income	10.7	9.7	9.1	12.3	15.1	-1.6	6.0
Low Income	6.4	4.9	3.7	4.4	4.5	-2.6	0.7
China	3.2	5.3	10.3	23.7	36.1	7.2	25.8

(*) Excluding China

Source: Author's calculation, based on World Bank WDI

Table 6.2. Population living on less than \$1.90 a day (2011 PPP) (%)⁴¹

Income Group	1981	1990	1999	2010	2015	1999-1981 (*)	2015-1999
High income	0.7%	0.6%	0.6%	0.6%	0.7%	-0.1%	0.1%
Upper middle income (**)	-	9.7%	9.6%	3.7%	2.6%	-0.1%	-7.0%
Lower middle income	51.6%	45.0%	38.1%	23.3%	14.1%	-13.5%	-24.0%
Low income	59.8%	63.0%	65.3%	49.0%	45.0%	5.5%	-20.3%
China	-	66.2%	40.2%	11.2%	0.7%	-26.0%	-39.5%
World	42.1%	35.9%	28.6%	15.7%	10.0%	-13.5%	-18.6%
World without China		27.6%	25.6%	16.8%	12.1%	-2.0%	-13.4%

(*) Italic means that difference is 1999-1990

(**) Excluding China

Source: Author's calculation, based on World Bank WDI

China constitutes a special case of convergence and poverty reduction, which will be dealt with in Chapter 9. But the convergence of other middle-income countries with the richer ones (higher income group) during the current century, the period of great expansion of GVC, is also remarkable and runs against the path followed in the previous two decades. The convergence is more remarkable, though, for lower-middle income countries than for upper-middle-income ones. The latter had lost considerable ground between 1980 and 2000, and the convergence during the twenty-first century, albeit notable, only recovered less than half of the previous lost ground. This may be a signal of what is known in the economic literature as the middle-income trap (see Im & Rosenblatt, 2013).

The results shown in Tables 6.1 and 6.2 above are in line with the more substantiated findings reported of Ignatenko, Raei and Mircheva (2019), who assert that the gains in income per capita are directly related to GVC participation and not to conventional trade (p. 5). The benefits of this participation extend even more to faster productivity growth and to the exposure of local firms to better information access, new markets and opportunities for fast technological learning, and skill acquisition (p. 11). In that strict sense, and insofar as this has allowed these

⁴¹ The chosen years were dependent on data availability: there was no data for 1980 and 2000

countries to acquire relative economic size and to accede to technology and knowledge, this movement has expanded their relative economic power and thus their strategic autonomy.

There is, however, a reverse side to this favorable view of the described development. Being a link in a value chain, rather than owning or controlling a whole chain, creates dependencies. On the other hand, the relative power of each link in the chain is directly associated, not only with the ability to contribute to its value but, above all, with the ability to access the distribution of the value created, and this distribution is considerably unequal among the various participants.

The functional distribution of the chain tends to follow a hierarchical pattern between what Baldwin (2006) called the duality between “headquarter economies” and “factory economies” (p. 23). The latter, basically made up of developing countries, tend to “engage in the more or less routine-tasks in manufacturing production facing stiff competition and generating little value added” (Stollinger, 2019, p. 6); and the former, some of which are advanced economies, “use their technological leadership and comparative advantages in knowledge and intangible assets to specialize in headquarter functions, R&D and profitable services” (p. 6). On top of their intrinsic value, headquarter functions, to which could be added the “ownership of financial assets, patents, brandings and copyrights of software” (Wade, 2019, p. 33), also have the advantage of falling under intellectual property protection, to which it is easier to associate market power and thus economic rent (Stollinger, 2019, p. 5). Rent, it should be pointed out, whose retention by this segment of the chain therefore provides a skewed distribution of the value generated throughout the chain. This uneven value distribution is portrayed by the so-called smile curve, whose exemplary representation can be seen in Figure B12, and whose empirical application has been demonstrated by Stollinger (2019) and Baldwin, Ito and Sato (2014) (applied to the Asian context in the latter). The developing countries tend to be located at the bottom of the curve, with the more labor intensive and more commoditized activities, while the advanced economies tend to own the upper parts of the smile with the more valuable, knowledge based, and protected activities.

Furthermore, these chains are normally designed by multinational enterprises (MNEs), as “complex heterogeneous networks of owned and controlled units (subsidiaries, branches, joint ventures, strategic partnerships and long-term contractual relations)” (Todeva & Rakhmatulin, 2016, p. 16), “out of strategic choices ... for specialization, diversification and integration” (p. 8). These MNEs then “control entirely their intra-firm trade, orchestrating trading relationships between countries, and hence, driving the global flows of goods, services,

intangible knowledge and payments up-stream and downstream the value chains designed by them,” using price mechanisms of their own design as “the most favoured mode of inter-unit control” (p. 8). Therefore, “Western, especially American, firms occupy the commanding heights of GVCs” (Wade, 2019, p. 33), which results in strong economic – and strategic, by implication – dependencies for countries in the lower segments of the chains. Such dependencies carry with them the risk of reversing the advantages gained by these countries, as mentioned at the beginning of this section. This will be all the more the case, if the social and political concerns arising from the effects of deindustrialization in the core countries trigger movements aimed at reshoring some of the activities of the production segments previously offshored to these countries (see IMF, 2019, pp. 19, 29–30). As seems to be the case with the protectionist measures put in place by the Trump administration in the US.

However, the asymmetry can work both ways. In the final stages of writing this thesis, the Covid-19 pandemic had wrought havoc by exposing the vulnerability in the opposite direction, arising from the closure or reduced production capacity of factories belonging to the industrial segments of these chains, due to the illness or forced confinement of the workers. Suddenly, the economies whose activities are located in the upper parts of the “smile curve” lost access to the industrial products originating in countries where the lower valued – but essential – activities of the chain were produced. The impact seriously challenged the hitherto effectiveness of these supply chains.

6.4. Technology and Networks

Today, the term “technology” has many elaborate definitions, and most dictionaries, in one way or another, identify it with applied science. However, by looking at its etymological roots, a more basic and practical view emerges. The Greek *tekne* relates to ideas of art, craft, or skill, and the Latin *texere* means to weave, although it later took on the extended meaning of fabrication or construction (Volti, 2010, p. 4). In this sense, technology may have preceded science itself, for the usefulness of its creations may have been realized long before the reasons behind why they worked, as one of the opening scenes of Stanley Kubrick’s masterpiece *2001: A Space Odyssey* brilliantly illustrates. For this reason, possibly the simpler definition provided by Wikipedia (<https://en.wikipedia.org/wiki/Technology>), and reproduced by many afterwards – “the sum of techniques, skills, methods, and processes used in the production of goods or services or in the accomplishment of objectives” – is the more appropriate and enduring in meaning.

Therefore, in this broader sense, “technology has functioned as a fundamental driving force in human history” (McClellan & Dorn, 2006, p. 437), without which “humans are a fairly frail species, and no human society has ever survived” (p. 8). Again, the opening scenes of *2001* demonstrate this excellently, at the same time bearing witness to the fact that technology provides power: power for humans to control nature and its resources, including other species, and power for some human groups to dominate others. Subsequent to its early usage, technology’s entanglement with science has amplified its potential far beyond what early forms of experimentation and discovery offered. And the differentiated technological capabilities of societies were soon reflected in their differentiated development and in the differentiated power of some of them to assert themselves over the others.

Technological progress was almost linear until the so-called Industrial Revolution of the late eighteenth and nineteenth centuries. Notwithstanding this, the differentiated technological capabilities often had an impact on the redistribution of world power. An example of this was the maritime empire in Asia, as well as the control of Eastern maritime trade routes in the sixteenth century established by the far-away and small country of Portugal, with a population of little more than a million people at the time. Achievements that heavily relied upon the country’s “*technological expertise* in fortress building, navigation, cartography, and gunnery ... [and] an investment over decades in shipbuilding, *knowledge acquisition*, and human resources” (R. Crowley, 2015, p. 274, italics added).

However, the industrial revolutions unleashed an exponential growth of technology that would soon change the world. Wrigley (2010) holds that the revolutionary transformation brought about by the First Industrial Revolution, as the first phase more recently has been dubbed, arose from the possibility of resorting to the use of inorganic energy – in this case, coal – thus releasing the dependence on organic energy, which had hitherto prevailed. The latter, resulting from the conversion of solar energy, operated by plant photosynthesis, to exploit the energy of men and animals, whose sustenance ultimately depends upon plants, had a very limited possibility of expansion, while the expansion of the inorganic energy would be practically unlimited (at least in the then-foreseeable future). The release of the constraint hitherto experienced increased productivity rapidly. This, in turn, fueled rapid economic growth, with an “average growth rate of 0.15–0.20% per annum, with high year-to-year variation and frequent setbacks, replaced by a much more steady growth rate of 1.5% per annum or better” (Mokyr, 2005, p. 1118).

The Industrial Revolution drew on the scientific revolution unleashed in the seventeenth century, which had closed the “social divide between those who knew things (*savants*) and those who made things (*fabricants*)” (Mokyr, 2005, p. 1138, italics in the original). This opened up the road to the applied sciences that would foster the exponential growth of technology. It also opened up the gap in economic development between the “West and the Rest” that brought with it a distribution of world power in favor of the former, disproportionate to the size of their populations. This sustained advantage of Western power, now fading somewhat, was mainly gained as the result of sustained technological advances, but the development and preservation of this power was only made possible by institutions that the West was able to develop (Mokyr, 2005, pp. 1162–1163).

Since the revolutionary industrial transformation based on coal and steam power, several other major industrial transformations have taken place, either using new forms of energy or giving rise to new industries. It has become conventional to designate these qualitative transformations by sequentially numbered revolutions. Thus, the First Industrial Revolution mentioned above, which took place from the end of the eighteenth century and into the beginning of the nineteenth, made use of coal and steam. The second revolution in industry happened around the last quarter of the nineteenth century, with the advent of electricity, the extensive use of oil and gas, the internal combustion engine, and massive increases in production. The third phase came at the end of the 1960s, with the development of electronics, computing, telecommunications, automation, and the use of nuclear energy. Finally, the fourth industrial revolution or just “Industry 4.0,” began from the end of the last century onwards, with the Internet, digitalization, interconnections, biotechnologies, and undoubtedly, more yet to come (see Schwab, 2016).

Holding the technological edge, especially if sustained, has always been a source of competitive advantage, whether military or economic, and as such, it has been a source of power and an enhancer of strategic autonomy. However, technological breakthroughs, up until the so-called fourth industrial revolution, took some time and occurred at a discrete scale. This latest revolution has involved a profound change in the processes of technological development and in the functioning of the economy. Six aspects of this environment of fast-rate change and what it entails deserve highlighting: (i) fast obsolescence of many innovative creations generated along the way; (ii) a network of globally disseminated interconnections to spread information near-instantaneously; (iii) an almost unlimited capacity for storing and processing information; (iv) the predominance of intangible over tangible assets as a basis of wealth and source of

income; (v) information (raw or processed) becoming the main economic resource and source of power; and (vi) instantaneity as a relevant temporal reference factor.

Figure B13 depicts the fast pace of change and recalls several examples of the rapid obsolescence of once state-of-the-art and relatively contemporaneous objects, such as VHS and Beta video technologies, floppy disks, diskettes, CDs and DVDs, beepers, basic mobile phone technologies and Blackberries, the Sony Walkman, the Discman, and MP3 players, to mention just a few.

The epitome of global networking technologies is the Internet. It provides “democratic” access to a veritable universe of information and knowledge, and allows the instant dissemination of information originating from any network terminal globally, thus allowing real-time sharing of any information / data / media worldwide. The estimate in 2019 was that 4.1 billion people were connected to the Internet (nearly 55 percent of the global population), and that 3.2 billion people used smartphones (Newzoo, 2019). This shows that most people in the world are technologically connected, even when mobile, two of the fundamental features of the contemporaneous world. The expectation is that the Internet will continue its rapid growth. A recent specialized commercial study (Cisco, 2019) forecasts “there will be 28.5 billion networked devices by 2022, up from 18 billion in 2017” (amounting to “3.6 networked devices per capita by 2022, up from 2.4 ... in 2017”) and that “annual global IP traffic will reach 4.8 ZB per year by 2022” (more than three times the traffic of 2017 traffic).⁴²

As far as storage capacity is concerned, a study by International Data Corporation (IDC) predicts that “the Global Datasphere will grow from 33 Zettabytes (ZB) in 2018 to 175 ZB by 2025” (Reinsel, Gantz & Rydning, 2018). To help visualize what this means imagine that 33 ZB is the equivalent of having 22×10^{21} books digitalized,⁴³ which is equivalent to 550 trillion (55×10^{13}) US Libraries of Congress.⁴⁴

As for processing capacity, the top 500 supercomputers in the world, as of November 2019 (see Figure B14 for country-specific distribution) have a total maximal processing capacity of 1.6 EFLOPS⁴⁵ (see TOP 500). China has almost half of these super-machines, and

⁴² ZB = zettabyte = 10^{21} bytes (1 followed by 21 zeros); IP traffic is the flow of data through the Internet, or using the Internet Protocol (IP).

⁴³ Assuming 300 pages and 8 MB (i.e. 8×10^6 bytes) per book.

⁴⁴ The US Library of Congress has around 40 million pieces: 25 million books and 15 million “non-classified print collections” (see <https://www.loc.gov/about/general-information/#year-at-a-glance>).

⁴⁵ FLOPS means **F**loating-point **O**perations **P**er **S**econd and the prefix **E** means “Exa” (10^{18}). Floating-point operations mean approximately single operations (mathematical or logical) involving numbers with floating decimal places.

the US has less than a quarter, although the US does have more tested processing capacity. Note that Ireland's position on the list is misleading, because it does not reflect the power *of* the country, but simply the power *in* the country, which relates to the fact that multinational (American) corporations own the computers, having relocated some of their overseas activities to the country. With regard to the world's total computing capacity, a study at the end of 2015 estimated it to be between 200 and 1,500 EFLOPS (AI Impacts, 2016). However, these figures – regarding global or individual capacities – change daily. Recently, a paper published in *Nature* (Arute, Arya, Babbush, et al., 2019) claimed that a quantum computer at Google had performed a task in 200 seconds, which “for a state-of-the-art classical supercomputer would take approximately 10,000 years” (p. 505). However, IBM, currently the owner of the world's fastest supercomputer, Summit, “contradicted this statement by saying that its supercomputer ... could have done the same in 2.5 days” (Schmidt, 2019).⁴⁶ Either way, the progress is remarkable.

In what concerns the growing intangibility of the economy, Mudambi (2008) recalls that:

The first industrial revolution of the 18th and 19th century moved value creation from the direct application of human labor to tangible assets like industrial plants and machinery. ... Over the last several decades ... the source of value has been shifting from tangible assets to intangible assets at an accelerating pace. (p. 699)

Haskel and Westlake (2017) took this argument further by noting that “the type of investment that has risen inexorably is intangible: investment in ideas, in knowledge, in aesthetic content, in software, in brands, in networks and relationships” (p. 15). Furthermore, many statistics confirm the growing intangibility of capital and economies: For one, in 2006, the April IMF WEO estimated that for all of the G-7 economies, intangibles accounted for nearly 30 percent of their stock of all long-term assets (p. 150). More recently, another IMF study puts the US's corporate intangible assets above tangibles, and a specific sample of 73 relevant firms showed “an intangible capital ratio (to book assets net of cash) of 67.8%” (Dell'Araccia, Kadyrzhanova, Minoiu & Ratnovski, 2017, pp. 10, 26). Interestingly, though, a clear world segmentation is emerging in this dichotomous investment trend, with the intangible assets “overwhelmingly concentrated in advanced market economies” (Mudambi, 2008, p. 709). Within advanced market economies, “the Mediterranean countries ... [are] at the bottom of the intangible

⁴⁶ As opposed to the stated 10,000 years.

investment pack, ... the Nordics, the United States, and UK at the top and the rest of Continental Europe in the middle” (Haskel & Westlake, 2017, p. 27). Domestic institutions contribute further to this division, as “countries with more restrictive hiring and firing [of labor resources] invest more in tangibles, but less in intangibles” (p. 32). The size of the domestic market is another determining factor, which reveals a particular adversity for smaller economies (p. 34).

This trend, whereby value creation is becoming increasingly dependent on intangible assets, has “made it possible to disaggregate the firm’s business processes into progressively finer slices” (Mudambi, 2008, p. 704), which in turn favors the split of value allocation associated with the “smile curve” of GVCs, already seen in the previous section. In fact, in some sectors “there are pervasive links between intangible investment, market power, and productivity gaps” (Crouzet & Eberly, 2019, p. 6). This “can generate scale economies and enhance productivity, creating ‘superstar firms’... [and] can also differentiate products and exclude competitors (branding, patent protection), which can confer power” (p. 7). Moreover, evidence “suggests that the accumulation of intangible capital has occurred hand-in-hand with the increase in the market share of industry leaders and the increasing concentration of US industries” (p. 5).

Therefore, intangible capital has been associated with the acquisition of market power and other competitive advantages, which tend to reinforce themselves and become virtual but effective barriers to competition, creating opportunities for a single company to dominate practically solely an entire business segment, producing a kind of race where the winner takes all. It is no coincidence that the companies that have become the world’s most valuable over the last decade (according to their market capitalization), as illustrated in Table B14, are mostly companies that have business models created around intangible assets and whose market value is also predominantly based on them. And also that these companies are recognized as having extreme market power. Furthermore, the heavy investment in intangible assets – patents, brands, marketing, networks, processes, and knowledge – has enabled firms located in advanced economies effectively to control GVCs, creating a biased distribution of the value they generate by taking over the activities located on the ends of the “smile curve” discussed in the previous section.

Meanwhile, data has become “to this century what oil was to the last one: a driver of growth and change ... [having] created new infrastructure, new businesses, new monopolies, new politics and – crucially – new economics” (*The Economist*, 2017a). A continuous stream of new data is being permanently uploaded, voluntarily (although not necessarily consciously),

into central collections. Users connect to social networks via the Internet, using their computers and smartphones, uploading a whole picture of their life to them, including highly personal aspects. Most of the data now collected and processed was widely disparately available previously, but its utility and value have always been constrained by what is known as the “information overload problem,” which describes an inability to extract useful meaning when too much information is available and there is little capacity to store and process it.

The two major transformations mentioned above – the explosive growth of storage and processing resources – have helped to overcome this problem. A further transformation has been the fast development of artificial intelligence (AI), especially the development of machine learning (ML) abilities, which enable computers to enhance their own data processing capabilities by incorporating acquired processing experience. As a result, the ability to store huge amounts of raw data and to quickly process it into meaningful information, which can be monetized or turned into forms of controlling power, has become a powerful economic machine. Once mastered, this transformational process of raw data, especially powered by ML techniques, makes this information usable for the development of networks, whereby raw data services sell the data to specialist providers for process feed. In this way, it is possible to turn the process into a business model in which both ends – data collection and network development – feed into each other in self-sustaining spirals that are hard for competitors to challenge, and which naturally lead to the winner-takes-all result mentioned above.

Such development feasts on the so-called data-network effect, which Turck (2016) identified in his blog. From the perspective of the industry leaders, what occurs is:

[Y]our product, generally powered by machine learning, becomes smarter as it gets more data from your users. In other words: the more users use your product, the more data they contribute; the more data they contribute, the smarter your product becomes ...; the smarter your product is, the better it serves your users and the more likely they are to come back often and contribute more data – and so on and so forth. Over time, your business becomes deeply and increasingly entrenched, as nobody can serve users as well. (n.p.)

Under such circumstances, individual members become in a sense trapped in the network, because it would be too costly to move to an alternative provider unless accompanied by a sizeable number of defectors. In addition, a massive defection would be too costly for a challenger to engender successfully. This is exactly the mechanism behind the successes of the digital platforms of the tech companies listed on the right-hand side of Table B14.

All of this may seem of minor concern to the objectives of the current research, but the technological environment described immediately above has important political and strategic implications. Not least because:

The asymmetric networks that make up much of the structure of a globalized world ... reflect the incentives of businesses to create monopolies or semi-monopolies, increasing returns to scale in certain markets, ... [But by building them], market actors inadvertently provide states, which are concerned with political as well as economic considerations, with the necessary levers to extend their influence across borders. Thus, structures that were generated by market actors in pursuit of efficiency and market power can be put to quite different purposes by states. (Farrell & Newman, 2019, p. 54).

In addition, with information having become a key resource, as noted above, it has gained crucial strategic relevance, which some even consider to have been “the world’s most consequential and contested geopolitical resource” (Rosenbach & Mansted, 2019, p. 1). Therefore, according to the same authors, “the pursuit of information power – involving states’ ability to use information to influence, decide, create and communicate – is causing states to rewrite their terms of engagement with markets and citizens, and to redefine national interests and strategic priorities” (p. 1).

Having the whole world almost entirely interconnected brings enormous potential for cooperation, but it also increases many vulnerabilities. On one hand, it allows direct engagements from a distance (e.g. cyberattacks), which could be aimed at acquiring crucial information from an adversary or competitor – for instance regarding security or productive technologies; it could be meant to destroy or disrupt relevant military or productive capacities; or it could simply be intended to disrupt social life. On the other hand, while most of the described technologies base their value on intangibility, their work relies on crucial tangible assets, such as buildings, machines, computer hardware, and infrastructure such as optical fiber, copper wires, and the like. In turn, this makes such work not only vulnerable to failures within such assets – accidental or intentional – but also makes it dependent on exposed bottlenecks and on the asymmetric distribution of those assets that “create the potential for ‘weaponized interdependence’, in which some states are able to leverage interdependent relations to coerce others” (Farrell & Newman, 2019, p. 45).

The Internet depends entirely upon a communications network that, no matter how extensive and dispersed it may be, is vulnerable to some chokepoints. An example of this sort of vulnerability is the infrastructure established in Loudoun County, Virginia. According to St. German (2019), “Loudoun County alone hosts more than 60 data centers which service around

3000 tech companies. Today, *up to 70 percent of the world's internet traffic flows through these centers daily*" (n. p., italics added). Another example is the submarine system of "nearly 350 cables – some cross oceans, others follow coasts down along continents" (Peterson, 2015) – with narrow concentrations at some points, which carry more than 97 percent of the intercontinental data traffic, including the Internet (Gerlach & Seitz, 2013, p. 6).

Although the Internet has been the focus thus far in this section of the thesis, there are other essential electronic networks that intertwine the world over, and to which the same vulnerabilities apply because they depend on the same communications networks already mentioned above. This includes the SWIFT network – a "global member-owned cooperative and the world's leading provider of secure financial messaging service," according to its own definition, and on which most interbank payments across countries are based. Another is the global networks of payment cards, Visa and MasterCard, for example, which carry most of the non-cash retail payments across the world. And there are many others besides.

There are several ways to weaponize networks, two of which Farrell and Newman (2019) identified as the "panopticon effect" – derived from the "the ability to glean critical knowledge from information flows" – and the "chokepoint effect" – which "involves privileged states' capacity to limit or penalize use of hubs by third parties (e.g. other states or private actors)" (pp. 55–56). The opportunity of weaponizing networks arises from the asymmetric distribution of both, their most relevant nodes and the technological capabilities, which is very much skewed towards "the United States and a couple of other key states and state-like entities (most notably, the European Union and, increasingly, China), ... although others may still be able to play a disruptive role" (p. 57). There are far blunter, "old-fashioned" means to play this disruptive role, as well. These include the concerns raised among some US military and intelligence officials that "Russian submarines and spy ships are aggressively operating near the vital undersea cables that carry almost all global internet communications," which could suggest that they "might be planning to attack those lines in times of tension or conflict" (Sanger & Schmitt, 2015).

Besides networks, other "key nodes, such as financial clearing systems, dominant market players and suppliers of crucial components, created critical vulnerabilities" (Newman, 2019, n. p.). Some of the globally relied upon, concentrated technologies, such as smartphones or computer operating systems are equally weaponizable, either as collectors of data or as tools to force or inhibit action whether via or upon their users. Ultimately, these vulnerabilities can

“be used by powerful states to coerce adversaries or cow insufficiently co-operative allies” (Newman, 2019, n. p).

These are not just theoretical or hypothetical considerations, because recent events in world affairs – often simplified as a trade war or political manipulation – may provide evidence that “the global networks that were supposed to tie countries together have become a distributed and complex battlefield” of major and smaller powers (Newman, 2019, n. p.).

As for the strategic value of information, the previously mentioned explosion in storage and processing capacity has greatly expanded the scope of intelligence work, whether defensive or offensive, turning information into an important resource in world affairs. The storage of and access to detailed information collected in each country has acquired significant potential power and consequently become a very sensitive security issue. Hence, the location of and access to sensitive information such as described here has gained strategic importance that cannot be underestimated. However, of even more relevance than the location of data is the control of software code (see Lessig, 2006), which is what allows data to be processed and governs its daily use by people and institutions. In this field, the operating systems of Internet terminals, the concentration of which Table B15 illustrates, constitute a chokepoint.

Another chokepoint is the network of retail payments, already mentioned, which, if interfered with, can seriously disrupt social life in a country or in an entire region. One example of this came as the result of US sanctions in 2014, when Visa and MasterCard suddenly blocked credit card services to a number of Russian banking customers (BBC, 2014). This incident did not significantly disrupt social life in Russia, mainly because the payment schemes involved were in use mostly by visitors and not widely used by citizens of the country. Nevertheless, it led to the defensive reaction of further control on the part of the Russian authorities over the country’s payment system, including the decision to launch a new national payments card (Finextra, 2015).

Meanwhile, intrusion into information storage centers and theft or destruction of similar sensitive information has become a twenty-first-century weapon of engagement, sometimes in an act performed by private agents on behalf of governments, or at the least where governments feign ignorance or responsibility of their actions (Rosenbach & Mansted, 2019, p. 8). All of these technological developments, then, which empower information as a crucial resource, are “not only directly changing how states compete and conflict with each other; it is also changing governments’ relationships with their own citizens. In turn, this is likely to alter the behavior of states to each other” (p. 11).

Worth noting further is that Europe is being left behind in the technology race, and that China has been asserting itself as the only serious challenger to US dominance in the field. For example, China has filed more patent applications since 2011 than any other country, with the gap between China and its competitors widening since then (WIPO, 2019, p. 14). In 2018, the number of patent applications the Chinese Office of Intellectual Property received was “similar in magnitude to the combined total of the offices ranked from 2 [USA] to 11” (p. 12). Moreover, the US and China’s computer power dwarfs that of the EU, as Figure B14 shows; even more significantly, there are no European companies on the right-hand side of Table B14. The United States and China have large domestic markets which allow companies to scale up in their own markets so as to dilute fixed costs, and then also to reach Europe and other parts of the world competing at marginal costs. Europe meanwhile, despite all the rhetoric about the single market, is but a collection of small and fragmented markets, each with its own idiosyncrasies and even national competition authorities, which regard their national markets as the reference market for their assessments, and is therefore unable to provide a competitive ground for scale. This, and the European propensity for overregulation, are certainly some of the reasons for the continent’s backwardness in this competition, and for its subsequent narrowing of strategic autonomy. Weakness that, from a strategic autonomy standpoint, may become more relevant than its military dependence on the US.

6.5. Summing-up

Since the nineteenth century, but especially since the end of WWII, the world has become highly integrated, creating an imbricated web of overlapping networks, some of which have developed asymmetrically, but which have nevertheless promoted an enormous expansion of world prosperity and the convergence of the poorer countries with the richer. World trade was the first of such networks whose exponential expansion gave rise to an extensive web of commercial relations and interdependencies among all countries of the world, which proved to be mutually beneficial to the participants and to the world economy as whole, but particularly advantageous to smaller countries. As favorable as trade is for a country’s entire economy, it has, nevertheless, important distributional effects that can have profound social and political consequences, becoming a determining factor in domestic power struggles.

Part of the trade expansion that has taken place over the last few decades reflects the fragmentation of production processes, which are distributed across various countries in the search for the optimal efficiency of each slice. However, all the slices are linked together in a global value chain, whose links and value-allocation remain under the control of the owners of

the knowledge, technology, and the intangible assets on which the chain depends. In turn, while the technological-development processes have rapidly accelerated, it has vastly increased human knowledge, our ability to do new and more sophisticated things, and to do things generally faster, better, and more efficiently.

The technological development has taken place in a very asymmetrical manner, concentrating the associated power in a reduced number of countries (and firms), especially in the most advanced ones. As technology evolves very quickly, this asymmetry tends to feed upon itself, and the more so because in a fully connected world, it is possible for those who can command sufficient financial resources to develop platforms that fuel their own expansion of network effects. This creates a virtuous circle, in that the more users a particular platform attracts, the more powerful and valuable it is; and the more powerful and valuable it is, the more resources and users it attracts – the end result of which is its being the only player on the field. Furthermore, however extended and scattered the networks may be, they are nonetheless exposed to chokepoints or narrow passages that make them vulnerable to serious disruption, also giving asymmetrical power to those who control these straits, and especially to those who, in addition, possess the adequate instrumentation to scrutinize and interfere with the traffic flowing through the networks.

In terms of strategic autonomy, world trade is mostly favorable, especially for smaller countries, since if used well, it favors the specialization of their economies – enhancing their efficiency – and the faster expansion of their size and prosperity. However, it does bring some additional vulnerabilities, because what favors specialization and expansion also creates dependencies by making the beneficiary economy reliant on events and developments that it cannot control, and which if triggered intentionally against it could undermine strategic autonomy. This requires, then, careful strategic management, positioning the country to better profit from trade opportunities while diversifying its markets and suppliers to prevent it from becoming too dependent on single events or counterparts. To avoid falling into a kind of middle-income trap – whereby a rise to this income level has been facilitated by the country's insertion into a GVC – particular care is required, especially if the national economy is positioned in the commoditized and low-value added segments of the chain. In this case, rising further up the chain becomes increasingly difficult because of an inability to climb the technology ladder (e.g. lack of skill or knowledge) or to acquire the necessary resources (e.g. finance, and other intangible assets) to reach the ends of the “smile curve,” where the most valuable activities in the chain are positioned.

With regard to technology and digital networks, the main threat to strategic autonomy stems from their asymmetrical development – especially for countries positioned on the unfavorable side of the asymmetry – and from the asymmetrical distribution of power that it brings. This is particularly true when this asymmetrical power is concentrated within a few actors whose platforms (privately owned but nationally headquartered) have a worldwide reach and dominance but whose strategic center is nationally located and dependent on the strategic interests of the host state. In the face of this asymmetry, the more inserted a country is in the reach of such platforms and the more its social life depends on them, the more vulnerable it becomes to disruptions triggered by them and the more its strategic autonomy risks being suddenly and abruptly constrained, especially at inconvenient times. Thus, designing contingency plans to prevent or minimize the effects of such disruptions is the minimum that a national strategy should contemplate in order to preserve the widest possible range of its strategic autonomy.

CHAPTER 7. Saving, Wealth and Finance

7.1. Some Basics on Economy and Finance

Income is continuously created in a country (save in exceptional circumstances) by the economic activity of its agents – households, firms, government, and the financial system – in interaction with the Rest of the World (RoW) via exports and imports. Income is, thus, the continuous flow of value generated by the productive factors of the country – namely, land, capital, and labor – and distributed to their owners. Wealth, in turn, is the stock of assets owned by the economic agents at any one point in time, and resulting essentially from the accumulation of saved income over time.⁴⁷ Explanations about the circuit of creation and distribution of income, investment, and wealth accumulation will feature in any good textbook on macroeconomics (see e.g. Hubbard, O’Brien & Rafferty, 2012, p. 28).

Chapter 5 has already addressed the importance of income as a representative variable of the size of a national economy, and has also touched briefly upon wealth.⁴⁸ In this chapter, the relevance is given to financial wealth, the process of its accumulation, and the role of finance in this process.

Finance provides a bridge between agents wishing to postpone consumption until a future period, by turning unspent income into savings, and those in the opposite situation of not having enough income for their intended expenditures, either for investment (mostly) or consumption. It also works as a kind of intertemporal bridge for each agent, between the time they find they have an excess of income (and save) and the time they find they lack enough income for their planned expenditure (and dissave, so to speak), or vice-versa. The financial system is where finance works, or, more precisely, it is the “set of interrelated institutions [intermediaries and markets] which collect savings and distribute them to borrowers, making

⁴⁷ Wealth may also comprise the endowment of natural resources and the build-up of intangible assets that make up “human capital,” such as talent, knowledge, and skills among other aspects, as seen in section 5.5 (p. 106). Natural resources, however, unless resulting from a new discovery of theretofore unknown sources, are somewhat static; and human capital, being relevant for the production potential of the country, is more difficult to express in monetary terms (albeit the WB attempted to make such a calculation, as shown in the aforementioned section 5.5) and to relate, in these terms, with other economic variables. For the purpose of this chapter, however, the relevant wealth is financial wealth, which results mostly from savings accumulation.

⁴⁸ The concept of wealth used in this chapter, as already stated in the previous footnote, is narrower than the concept used in Chapter 5 (Section 5.5. Income and Wealth). In Chapter 5, wealth included human capital and natural resources, in addition to produced capital and net foreign assets. In the present chapter, wealth is only the product of accumulated savings (plus or minus the change in valuation of the assets where wealth is embodied). It can, then, be said to be equivalent to financial wealth, which ends up invested in the physical (productive) capital stock (in the form of equity or loaned capital) of the country – which is close to the produced capital of Chapter 5 –, in assets held abroad – equivalent to the net foreign assets of that same chapter –, or in cash.

possible the separation of the ownership of wealth from the control of physical capital” (Rutherford, 2002, p. 150). It is this system that provides the opportunities and the instruments to channel the savers’ income surpluses to those with spending plans (mostly of investment) but not enough income. And as Frost (2009, p. 6) states, “a sound and prospering financial system is an indispensable foundation” of economic power.

Wealth, as mentioned, is mostly the result of savings accumulated over time, with savings corresponding to the “residue of income of the government, a firm or a household after all their expenditures have been incurred” (Rutherford, 2002, p. 361). The sum of all individual savings made by the residents in a country during a period of time (e.g. a month, a quarter, a year) is the national savings of the country for that period.⁴⁹

In any given period, the income generated by an economy has to be spent in the same period (see Appendix E for the basic identities of national accounts). If some agents produce (earn) more than they spend, other agents need to spend more than they produce (earn) in that period, for the economic circuit to balance. The financial system helps to channel the former’s surplus income to fill the latter’s income deficit, as mentioned above. This channeling of resources can be done directly – the surplus agent lends directly to the deficit agent; or it can be done indirectly – the former lends its surplus to a financial intermediary, usually a bank, which collects surpluses from various agents and then lends to the deficit agents. When borrowing from surplus agents, deficit agents acquire the right to spend the borrowed part of the surplus agents’ income, in the current period, in exchange for the right given to these agents to draw on their future income.

Households are usually net savers, whilst firms and the government, most of the time, are in need of someone else’s savings. If all domestic agents earn more than they spend in a given period, that generates a country’s net savings surplus that, by definition, can only be invested abroad (in the RoW). With this investment, the country acquires drawing rights on the future income of foreign countries. This aggregate net savings surplus generated by the country has a direct correspondence in an equal surplus in its current account (trade plus income transactions and net transfers) with the RoW. Conversely, if all domestic agents spend more

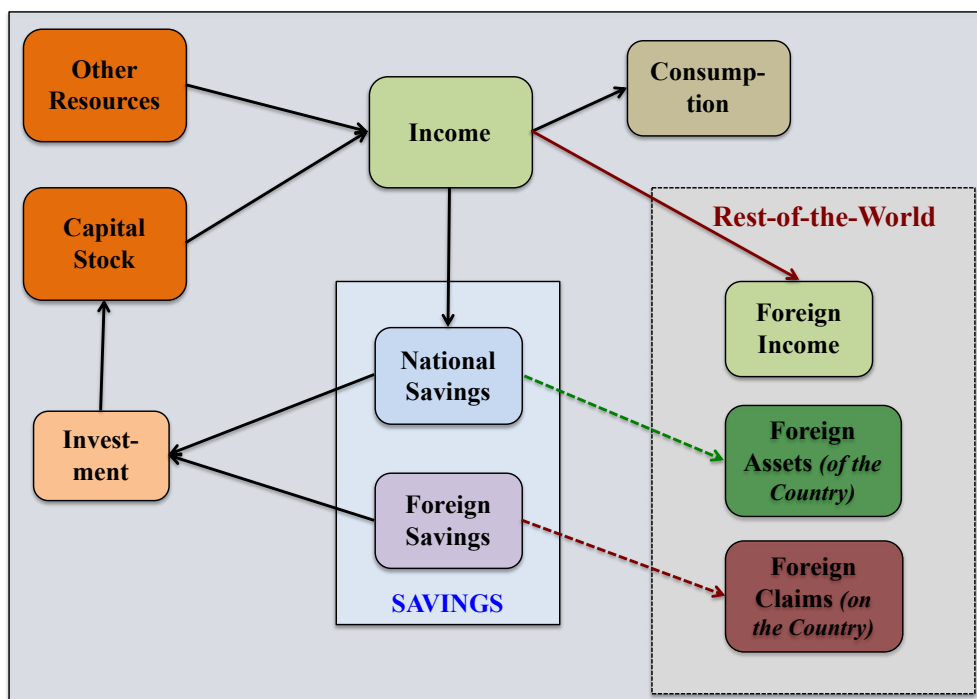
⁴⁹ In the System of National Accounts, what distinguishes the members of the “National Economy” from the members of the “Rest-of-the-World” (RoW) is the residence of those members and not their nationality (see United Nations, 2009, paragraph 1.48). Therefore, economic transactions taking place within the country, even if these transactions involve foreign residents, are accounted for as domestic transactions. And if a foreigner (by nationality) residing in the country (foreign resident) sells products to a national residing abroad, this is an export (i.e. a transaction between the National Economy and the RoW; see United Nations, 2009, paragraphs 4.10–4.15).

than they earn in any given period, the country generates a net savings deficit, requiring the importation of foreign savings (in the form of FDI or loans, mostly), with the country assigning to foreign countries, in return, drawing rights on its future income.⁵⁰

7.2. The Economic Role of Savings

Productive capital, as seen in Chapter 5, is a fundamental factor of production, the accumulation of which is essential in order to increase the income-generation potential of a country and, therefore, to the size of its economy. A country's capital stock at any time is the result of the accumulation of investments made over the years to date, minus the amortization meanwhile suffered by these investments. And the investment made by the country, in any period, corresponds to the savings mobilized in the same period, either from national or foreign origin. This relationship between savings and investment, as well as its implications in the economic relationship of the country with the RoW, can be seen in the circuit shown in Figure 7.1 below.

Figure 7.1 The Circuit of Savings, Investment and Income



Source: Author's design

⁵⁰ The previous footnote explained that the residence criterion, and not the nationality, determines what belongs to the National Economy or to the RoW. However, and regardless of such a precise definition, henceforth, for practical reasons considering the main object of this research, this thesis will be identifying "residents" with "nationals" (even if some residents are of foreign nationality) and "non-residents" with "foreigners" (even for nationals residing abroad). The difference is only material for a very small number of countries and is irrelevant to the conclusions of this research.

Table 7.1 below shows the performance of 89 countries (which are not dependent on oil rents, or similar interests and have a population of over one million people) grouped according to the World Bank's income classification. The variables displayed are: annual average growth rates of GDP per capita (or GDP per head of population) and of the population; average annual rates of investment (total savings/GDP),⁵¹ investment efficiency (or, more accurately, the marginal efficiency of capital, calculated as the ratio of GDP accrued over the course of one year, $GDP_t - GDP_{t-1}$, and investment over the previous year, I_{t-1}); and savings autonomy (i.e. the ratio between national savings and total investment, S_N/I). The averages are calculated over the long period between 1990 and 2018. The last column, however, refers to 2018 (the last year available) alone, and displays the ratio (in percentages) between the country's per capita GDP and the world average. The descriptive statistic indicators used for comparison are the average of the group, the median, the maximum, and the minimum.

Table 7.1. Prosperity, Investment and Savings (1990-2018)

Groups of Countries	Statistics	Average 1990-2018					2018
		GDP per capita Growth	Investment/Saving Rate (I/Y)	Invest-ment Efficiency ($\Delta Y_t/I_{t-1}$)	Savings Autonomy (S_N/I)	Population Growth	GDP per capita / World Average
I- High Income (31 countries)	Average	2.0%	23.4%	11.9%	103.9%	0.7%	267.0%
	Median	1.5%	22.6%	10.2%	102.7%	0.5%	256.9%
	Maxim	4.3%	33.0%	25.7%	162.0%	2.3%	555.3%
	Minim	0.5%	17.6%	2.7%	71.1%	-0.2%	128.8%
II- Higher Middle Income (24 countries)	Average	2.5%	24.2%	16.4%	92.3%	1.2%	95.5%
	Median	2.2%	23.2%	17.1%	89.2%	1.3%	93.3%
	Maxim	8.8%	41.5%	23.7%	107.2%	0.7%	100.2%
	Minim	0.1%	17.0%	3.4%	70.0%	-0.8%	46.7%
III- Lower Middle Income (22 countries)	Average	2.4%	23.5%	21.9%	90.4%	2.0%	38.7%
	Median	2.2%	21.9%	20.5%	89.2%	2.1%	34.5%
	Maxim	5.5%	28.9%	44.3%	100.3%	3.0%	41.6%
	Minim	0.2%	12.0%	11.1%	64.6%	0.8%	18.8%
IV-Low Income (12 countries)	Average	1.5%	20.3%	24.8%	65.5%	2.7%	11.9%
	Median	1.6%	22.6%	22.0%	66.5%	2.8%	13.0%
	Maxim	4.3%	24.1%	30.8%	78.1%	2.5%	12.9%
	Minim	-1.5%	10.8%	13.6%	30.7%	1.6%	3.9%

Source: Author's calculation, based on WEO database (April 2019)

A few interesting things stand out in Table 7.1. The first is that the poorest group invested less, but all three other groups had, on average, similar levels of investment (the total of national and foreign savings). The second is that, as predicted by the theory of economic

⁵¹ Note that, as stated, Investment equals Total Savings (from national or foreign origin), whereby the two variables can be interchangeable for analytical purposes

growth (see Barro & Sala-i-Martin, 2004, p. 17), capital efficiency decelerates as the capital stock increases (the capital stock level, here, is inferred from the per capita income level).⁵² The third is that the richer the group, the slower the population growth, which is also in line with what might be expected (p. 16). Last but not least, the richer the group, the higher the level of reliance on national savings, that is, the more financially autonomous it is. Interesting as these points are, they do not shed enough light on the strategic relevance of savings. Differences between groups become somewhat tautological, because they tend to emerge from differences in the level of income used to build the groups. Therefore, to overcome the somewhat clouded image of Table 7.1 with regard to the role of savings, the next step was to look for differences within each group. To this end, Table 7.2 compares the average performance of the top three players in each group with the bottom three. The hierarchy within the group was based on the growth rate of GDP per capita.

Table 7.2. Performance Comparison of Top 3 and Bottom 3 Countries in each Group⁵³

Groups of Countries	Category	Average 1990-2018					2018
		GDP per capita Growth	Investment/Saving Rate (I/Y)	Invest-ment Efficiency ($\Delta Y_t/I_{t+1}$)	Savings Autonomy (S_N/I)	Population Growth	GDP per capita / World Average
Group I	Top 3	4.2%	26.8%	19.9%	113.8%	0.8%	319.4%
	Bottom 3	0.6%	21.6%	4.4%	104.4%	0.4%	246.1%
Group II	Top 3 (*)	4.1%	26.1%	20.1%	87.6%	0.9%	102.4%
	Bottom 3	0.5%	22.8%	11.3%	80.7%	2.0%	60.1%
Group III	Top 3	5.2%	25.7%	37.3%	89.2%	1.7%	36.4%
	Bottom 3	0.5%	16.7%	21.9%	99.7%	2.8%	21.6%
Group IV	Top 3	3.3%	25.6%	25.7%	85.7%	2.5%	14.3%
	Bottom 3	-0.7%	13.7%	23.1%	57.2%	2.8%	9.5%

(*) Without China

Source: Author's calculation, based on WEO database (April 2019)

What stands out in Table 7.2 (reinforced by Figure B15) is that the highest economic growth is associated in all groups with higher investment rates, higher investment efficiency, and greater savings autonomy (except, concerning autonomy, for Group III – Lower Middle Income). The crucial relevance played by investment and the savings necessary for it is once more established. As to the relevance of the reliance on the country's own savings as opposed

⁵² Recall from Chapter 5 that the capital stock is a main enhancer of productive efficiency, and higher productive efficiency (more output from the same resources, namely labor) leads to higher GDP per capita. Therefore, higher GDP per capita suggests a higher capital stock.

⁵³ China was the top performer of the second group, but it constitutes a special case. For this reason, it has been excluded from the calculations in this table.

to foreign savings, with its associated dependencies – that is, savings autonomy – Table 7.2 points to a positive correlation between this autonomy and economic performance for all groups, except the lower-middle-income group, as already noted. This exception, however, may be explained by the argument that will be developed in the next section, that, to escape a poverty trap, and being unable to generate enough savings to invest in faster growth, poorer countries may need to rely on foreign capital to jump-start their economies into more rapid growth. In support of the argument, note, from Table 7.1, that the difference in average growth rates of GDP per capita, between the two lower income groups – the lower-middle-income and the low-income – is quite significant. This suggests that the top performers in the former group might have relied upon foreign capital to jump-start their growth, while in the latter group, countries were unable to generate, by themselves or by acceding to foreign sources, the investment resources to grow faster and get richer.

7.3. The Strategic Potential of Savings

The brief summary of the economic role of savings, and the social repercussions it may involve, seems to be sufficient to grasp the idea of the potential strategic impact of this economic variable. Savings provide the resources for investment, which is a potent enabler of future economic growth. It also provides the means for wealth accumulation, and this constitutes power in itself, as noted before. Therefore, savings are a potent generator of economic power, whereby a more detailed analysis of the extent to which it impacts strategic autonomy, and the issues that surround the conversion of savings into wealth and wealth into strategic autonomy, will be undertaken.

When a country resorts to foreign savings to finance its investment, it is akin to issuing to foreign investors claims on its own assets and drawing rights on its future income. Thereby, ceding – if foreign savings are used to purchase ownership of national companies – or mortgaging – if they purchase debt issued by nationals – the control over national assets. By generating enough savings on its own, on the other hand, the country develops the capacity to increase its productive output and ensure its national control. In this latter case, a state, piling up more power, preserves or expands its strategic autonomy, while in the former case, its autonomy, most likely, becomes compressed. This is “most likely” (and not surely), because – *sola dosis facit venenum* – it is the dose that makes the poison, or, to be more significant, the difference between poison and medicine is in the dosage.

The recourse to foreign capital may create strategic dependencies, at least in the short term, but may also be a way of extending long-term autonomy, whereby its use requires careful

management in a kind of dialectic game played with time. Without investment, low-income countries can easily fall prey to a poverty trap – they lack the resources to invest in growth and, without growth, they are unable to generate the necessary resources to invest. So, to avoid this trap and / or to undertake a fast catching-up (or convergence) process, only by resorting to foreign savings can the required jump-start be provided.

The country in such need may cede control of its assets (some more relevant than others) and for some time be in an uncomfortably dependent situation; but if properly used, under the direction of an intelligent national strategy, this dependence may be transitory and turn out to be the lever for a future and lasting extension of the country’s strategic autonomy. A careful dialectic played with time in the conduct of a national strategy is the cornerstone of such a transformation from an initial dependence to a lasting broader autonomy. An important safeguard in this process is to ensure that a significant fraction of the income accrued from the use of foreign savings remains in the country. Over time, as the country catches up, it must be able to generate enough savings to finance its own growth and to free itself from the transient dependence engendered to start the convergence.

Note that, as Figure 7.1 illustrates, a country may also generate more savings than it needs to finance steady growth. In this case, the country may acquire foreign assets, drawing rights on the future income of foreign countries (as represented by the green arrow). In addition to providing power over other countries, this can function as a kind of “war chest” from which to draw in case of need – for example, in a recession, or when a need to invest heavily and quickly arises, either for the purposes of war or for peacetime projects.

Mobilizing savings, national and foreign, for investment is pertinent to economic growth and, as such, is indirectly relevant to strategic autonomy. However, only the savings generated by national agents – national savings – are relevant for lasting strategic autonomy, since only these savings are translated into wealth held *by* the country (as opposed to wealth held *in* the country). In the short term, differences in saving patterns among countries may go unnoticed from a strategic standpoint (though not necessarily from an economic perspective), as their immediate consequences tend to be unremarkable. However, if left unchecked, in the long run they will be instrumental in shifting power. Hence their potential significant impact in the absolute and relative scope of strategic autonomy. Testifying to this, Table 7.3 lists the countries (19) that individually account for more than 1 percent of world savings (in 2018) and which, as a group, account for more than 80 percent. The table compares average rates of saving in the 1990s and in the current decade (that is, the first eight years of the current decade), as

well as how the corresponding volumes of individual country's savings weigh on the total volume of world savings. To better assess the impact of the volume of savings, the last two columns of Table 7.3 display the weight of each country's GDP in terms of global GDP in both decades as a reference variable for comparison.

Table 7.3. Top World Savers

Countries	Average Values (Within the Decade) (*)					
	Savings rate (S_N/Y)		Savings (% of World)		GDP (% of World)	
	1991-2000	2011-2018	1991-2000	2011-2018	1991-2000	2011-2018
China	39.6%	47.7%	4.5%	24.5%	2.7%	13.5%
United States	19.3%	18.9%	22.5%	16.7%	27.0%	23.1%
Japan	31.4%	25.9%	20.8%	6.6%	15.3%	6.7%
Germany	22.7%	27.5%	7.4%	5.0%	7.5%	4.8%
India	23.1%	31.6%	1.3%	3.3%	1.3%	2.8%
France	22.7%	22.1%	4.8%	2.9%	4.9%	3.5%
Korea	36.9%	35.4%	2.5%	2.4%	1.6%	1.8%
Russia	26.9%	26.8%	0.9%	2.4%	0.9%	2.3%
Italy	20.7%	19.0%	3.7%	1.9%	4.1%	2.6%
Brazil	17.2%	16.2%	1.5%	1.8%	2.1%	2.8%
Canada	18.3%	21.0%	1.7%	1.8%	2.2%	2.2%
United Kingdom	17.7%	12.6%	3.7%	1.7%	4.8%	3.6%
Australia	20.7%	22.6%	1.1%	1.6%	1.3%	1.8%
Indonesia	22.1%	31.9%	0.7%	1.5%	0.7%	1.2%
Spain	20.7%	21.1%	1.8%	1.4%	2.0%	1.7%
Saudi Arabia	15.1%	37.6%	0.3%	1.3%	0.5%	0.9%
Mexico	18.9%	21.2%	1.3%	1.3%	1.7%	1.6%
Netherlands	26.1%	29.1%	1.6%	1.2%	1.4%	1.1%
Switzerland	33.1%	33.3%	1.4%	1.1%	1.0%	0.9%
Group	23.4%	26.7%	83.4%	80.5%	82.9%	79.1%
<i>EU15</i>	<i>21.6%</i>	<i>21.9%</i>	<i>27.4%</i>	<i>17.5%</i>	<i>29.4%</i>	<i>21.0%</i>
World	23.3%	26.2%				

(*) Underlying values in USD, at constant 2011 prices

Source: Author's calculation, based on WEO database (April 2019)

The most relevant readings from Table 7.3 are: (i) China and the oil producers show the highest savings rates; (ii) there was a general increase in saving rates over the course of these three decades, particularly significant in China, India, Indonesia, and the oil producers; (iii) Japan and the UK were the notable exceptions, with a significant reduction in their savings rates; (iv) China shows the most extraordinary enlargement of its weight in total world savings (20 p.p.), much larger than the increase in its share of world GDP (11 p.p.),⁵⁴ while Japan (14

⁵⁴ Please note that the underlying data used in Table 7.3 is denominated in USD at constant 2011 prices, while in other comparisons made before, the underlying data were expressed in current purchasing power parities (PPP) valuation.

p.p.) and the USA (6 p.p.), at some distance, record the most noticeable declines; and (v) Russia's savings volume has relatively little relevance in the world (2.4%).

7.4. From Savings to Wealth

As impressive as the changes reflected in Table 7.3 may seem, they still cannot account sufficiently for the deeper impact that the change in savings patterns has had in relative power shifts. What appears in Table 7.3 as a change between two average points actually reflects a succession of recurring effects that have been materializing and accumulating year after year for over two decades. The exact consequences of these different savings patterns, and their accumulated effects, are not easy to calculate with precision, because there are no long-term wealth statistics that can be used to compare the end results of the different paths of savings accumulation.⁵⁵ In order to overcome this obstacle and to try to obtain a result that, while crude, may be useful for a reasonable assessment of these consequences, a calculation procedure was developed. Such a calculation was based on the idea that the wealth at the end of one year (t) is the result of wealth at the end of the previous year ($t-1$) plus the savings made during year t , minus the depreciation (or amortization) of physical capital:⁵⁶

$$W_t = W_{t-1} + S_{Nt} - \delta * K_{t-1} \quad (7.1).$$

In order to use equation (7.1) to calculate a wealth series, and because it is not possible to go back to the beginning of the accumulation process, it would be necessary to have a value for the wealth stock at the start of the series (i.e. time 0); otherwise, for most of the series (the oldest years), the values shown would be too small and meaningless, as they would only show the accumulation of savings from year 1 until then (so the smaller the number of years involved in the sum, the less significant this would be):

$$W_t = \text{SUM}_{k=1}^t S_{Nk} - \text{SUM}_k^t (\delta * K^{t-1}_{k-1}) \quad (7.2).$$

This would clearly be an insufficient solution because, among other drawbacks, wealth volumes would be unrealistically small in the early years of the calculation. To remedy this drawback, the capital / output ratios obtained from the PWT 9.1 database for 1980 (the first year of the WEO database), were used as proxies for the wealth stocks at the beginning of the

⁵⁵ There are at least two known databases: a World Bank database, already referred in Chapter 5, holding information from 1995 to 2014 for a wide variety of wealth sources (natural resources, human capital, produced capital and net foreign assets); and a Credit Suisse database from 2010 to 2018, referring mostly to financial wealth. Both databases cover a lesser time span and are not consistent, neither among themselves nor with data on savings.

⁵⁶ There may also be a valuation effect, but it can hardly be estimated, whereby it is omitted from the calculation with little presumed consequence for the final outcome.

series (year 0).⁵⁷ This calculation device is far more harmless than would be its omission, because any inaccuracies at the starting point will be diluted throughout the time series. Furthermore, the series was made to begin in 1980, although the analysis shown below only starts in 1990, to allow a period of time for those eventual inaccuracies to be diluted, leaving the period under analysis less “contaminated.” Based on such a ratio, it was possible to estimate a starting point (1980) – year 0 – for wealth stocks (assuming that, at that time, wealth stocks equaled the physical capital stocks):

$$W_0 = K'_0/Y'_0 * Y_0 \quad (7.3),^{58}$$

With resort to these calculation devices – resorting to the capital / output ratio of another database to infer wealth stocks at the starting point of the series –, and using a 4 percent annual depreciation rate,⁵⁹ a time series for wealth, measured in USD at constant 2011 prices, was built for all the countries from 1980 to 2018. Based on these constructed time series, it was then possible to draw Table 7.4, showing the evolution of world wealth shares for the countries (20) whose wealth in 2018 was at least 1 percent of the world’s wealth. The first two numerical columns show the estimated world wealth shares in 1990 and in 2018, with the third one showing the change between these two bordering years. The wealth share of the whole group remained largely unchanged over the time period covered by the analysis, but within the group there were significant redistributions of relative wealth, and, consequently, of the relative power associated with it.

⁵⁷ The World Economic Outlook (WEO) (of the IMF) database – the basis for these calculations – does not have values for capital stock, but is more accurate for savings rates and has more recent values than PWT 9.1. Rough as the result of this expedient may be, it is definitely better and more accurate than the calculation would be without it.

⁵⁸ The apostrophe in the K' and Y' variables means that they are taken from a different database (PWT 9.1) to that used for all other variables in the calculation (WEO).

⁵⁹ The Capital Stock (K) was calculated in the same as the Wealth Stock (W), replacing (total) Investment for Savings: $K_t = \text{SUM}_{k=1}^k I_k - \text{SUM}_k (\delta * K^{t-1}_{k-1})$. Although the most common (macroeconomic) depreciation rate must be between 5 percent and 6 percent, a slightly lower value was chosen to counteract some of the expected stock valuation effect.

Table 7.4. Estimated Wealth Stocks (% World Total Stock)⁶⁰

Countries	Estimated Wealth/World Total (%)			Estimated Wealth/GDP	
	1990	2018	Change	1990	2018
United States	24.7%	18.8%	-5.9%	3.3	3.4
China	2.4%	14.7%	12.3%	4.8	4.1
Japan	13.4%	11.6%	-1.9%	3.4	8.7
Germany	7.6%	6.4%	-1.3%	3.8	6.0
France	6.3%	4.4%	-1.9%	4.0	5.9
United Kingdom	5.7%	3.0%	-2.7%	3.8	4.0
Italy	4.5%	3.0%	-1.5%	3.1	5.5
India	1.5%	2.5%	1.0%	3.7	3.5
Korea	0.9%	2.2%	1.3%	2.4	5.0
Russia	1.4%	2.0%	0.6%	4.2	4.6
Canada	2.3%	2.0%	-0.3%	3.1	4.4
Spain	2.0%	1.7%	-0.4%	3.1	4.5
Netherlands	1.9%	1.7%	-0.3%	4.8	6.8
Brazil	1.4%	1.6%	0.2%	2.4	3.3
Switzerland	1.3%	1.4%	0.1%	4.1	7.4
Mexico	1.4%	1.3%	-0.1%	3.9	4.1
Australia	1.2%	1.3%	0.1%	3.0	3.5
Saudi Arabia	0.5%	1.1%	0.6%	3.4	5.2
Sweden	1.5%	1.0%	-0.4%	4.6	7.1
Indonesia	0.7%	1.0%	0.3%	4.0	3.6
Other EU15	6.1%	4.5%	-1.6%	4.2	5.5
Group	88.7%	87.2%	-1.5%	4.5	7.4
EU15	34.2%	24.7%	-9.5%	3.8	5.4

NOTE: Underlying values in USD, at constant 2011 prices

Source: Author's calculation, based on WEO (April 2019) and PWT9.1

The main things to note from Table 7.4 are that, on one hand, the EU (here proxied by the Group EU15) and the US have been losing considerable market share of the world's total wealth, but remain by far the wealthiest powers in the world. On the other hand, it is important to note that China has been catching up very fast. China, broadly speaking, has been the primary winner of relative wealth redistribution since the 1990s, and it is now the second wealthiest individual country in the world (third, if the EU is considered as a unified bloc). In addition, judging by the huge differences in savings rates shown in Table 7.3, China is quickly narrowing the gap between itself and the two wealthiest powers (the US and the EU).

Due to the aforementioned issues with the construction of the wealth database used in this calculation, the results shown in Table 7.4 should not be interpreted as exact values, but as

⁶⁰ Countries whose accumulated wealth represents more than 1% of the total world wealth. Notice that this refers to financial wealth (accumulated through savings), whereby it does not coincide with the content of wealth used in Chapter 5 and represented in Table B12, which contains also intangible human capital and natural capital. Only "produced capital" and "net foreign assets" represented in that table can be comparable (approximately) with the content of this table (see Table B16).

orders of magnitude and trends. In any case, in order to assess the reasonableness of this calculation, the results obtained from the constructed series were compared with the two other wealth databases, both of which also only have estimated rather than census values: the World Bank's (Lange, Wodon & Carey, 2018)⁶¹ and Credit Suisse's (Credit Suisse Research Institute, 2019). The time frames covered by these two databases are not entirely coincident with each other: the World Bank's database covers the period from 1995 to 2014 (with data at approximately five-year intervals), and Credit Suisse's database covers the period between 2000 and 2018 (with annual data). Neither are they coincident with our own series, which extend between 1980 and 2018, whereby comparisons cannot be entirely overlapped.

The confrontation of values of the three sources is presented in Table B16. As regards the general trend, all series seem to be basically aligned. The biggest misalignment is with Russia, for which the World Bank estimates a significant loss of relative wealth, while the other two sources estimate gains. The other visible differences concern the size, not the direction, of the major changes in relative wealth. All results point to considerable gains for China and losses for the European countries, the US, and Japan. Credit Suisse's database estimates higher losses for Japan than the estimates made in this research suggest. And the series constructed by this research seems to overstate Japan's wealth. Anyway, in trend, both of these databases confirm the conclusions already derived from Table 7.4.

It seems easy, therefore, to conclude that the savings made by the various countries over the last three decades have led to different accumulations of wealth. This, in turn, has produced a considerable change in the pattern of world wealth distribution, with the consequent worldwide redistribution of the relative power that wealth provides. This power manifests itself as much in the potential for economic growth – and its inherent impact on the economic dimension of countries – as in the potential of the financial capacity to influence others, either by enticement or by coercion. Accordingly, it would be reasonable to conclude that there was a significant redistribution of the economic power associated with wealth during this period, from the West to the East, bringing with it a corresponding redistribution of strategic autonomy for all the parties involved. Europe and the US will have seen the relative autonomy derived

⁶¹ As explained in footnote 48, only the components of produced capital and net foreign assets were used from this database for the comparison.

from this particular instrument of power tightened, while China will have seen its own autonomy broaden considerably.⁶²

However, the extent to which the state can avail itself of the power associated with the country's wealth for its own strategic ends – or whether the dispersal of that power by different actors restricts its use for these ends – is a matter that will be discussed in Chapter 8.

7.5. Foreign Assets and Liabilities

To jump-start a faster growth process, for quick economic modernization, or to attend to urgent and expensive needs resulting from a catastrophe or an imminent or prolonged war, recourse to foreign savings is an expeditious and effective solution. It widens the immediate strategic autonomy of the country, as it adds new resources (i.e. instruments of power) to the more limited panoply of national resources. Furthermore, if used wisely, it may be an instrument for a sustained widening of such autonomy in the long term. However, the use of foreign savings always has strings attached. For that reason – although useful as an enhancer of the resources available, when used to attain the desired ends in the intended time frame as part of a national strategy – the use of foreign savings has to be temporary and must have an endgame in mind.

One way to access foreign savings is to allow foreign entities to invest directly in a country's firms, either by letting them create new companies or buy ownership of existing ones. Likewise, when a country has an excess of savings over and above its investment needs, one way to use that excess is to acquire assets in other countries, either by setting up new companies, or acquiring property rights in existing companies.

This flow can be positive for the recipient country, as foreign investment can bring, besides financial resources, access to new or more advanced technologies, participation in value chains that leverage the country's resources, and the insertion of the national economy into highly valuable international networks. In that sense, it can enhance the country's capabilities, its power and influence, and, ultimately, the likelihood of it achieving its aspirations. It is also positive for the investing country, to which it presents valuable opportunities: the investors can obtain higher returns than in the home country; and their activities can be expanded into markets with higher growth potential, profit from geographical dissemination of value chains; get

⁶² Although there is no intention to develop the issue further, the author considers it relevant that the changes in world savings patterns and volumes, especially those involving China at the time of its economic growth spurt, were a fundamental cause of the financial crisis that erupted in 2008 (see Bento, 2018b, pp. 46–54).

resource-enhancing complementarities where they could be available; and neutralize competitors' opportunities for expansion.

However, foreign investment can also bring negative consequences for the host country. When a domestic firm is purchased or set up by a foreign firm, most likely the strategic center commanding its activity will be dislocated to the country where the buying company is headquartered. When that happens, the activity of the purchased firm will become subject to strategic logics that are not necessarily coincident, in some cases possibly even divergent, with national interests. In addition, relocating the strategic center of previously national companies reduces the employment opportunities for qualified, and especially highly qualified, nationals and reduces their access to the key positions of strategic direction. Some of these implications were addressed in the Global Value Chains section of Chapter 6 and will be further and more deeply developed in Chapter 8, where strategic governance is discussed.

To return to the broad picture of FDI, Table B17 shows who holds the top net creditor and debtor positions for FDI.⁶³ As can be seen, the European bloc EU15 (corresponding roughly to former Western Europe) holds 45 percent of the net creditor positions. Between the EU15, the US, and Japan almost 90 percent of all net creditor positions in the world are accounted for.⁶⁴ On the recipient side, China, Singapore, India, and Indonesia account for more than one-third of the net debtor positions.

Borrowing is another way, besides FDI, to accede to foreign savings. It is the quickest, most malleable, and more autonomous way to accede to these foreign resources for the purposes pointed out above, but it comes at the expense of building up foreign debt and its associated burdens. At some point, the debt will have to be paid, which means that the country will have to divert future resources (on top of the country's distributive needs) to meet the repayment. At the very least, the country will have to manage itself in a way that pleases creditors, who will then continue renewing their credits and allow the debt to rollover. This could mean, especially if the created dependence is significant, prioritizing the lender's views on the management of

⁶³ Table B17 reports net positions and not gross positions, which is more informative because some countries offer tax advantages that make them the preferred place to register investment. Hence, the gross flows on both sides, inward and outward, are greatly inflated in relation to the real flows of the country proper.

⁶⁴ Two notes of caution: (i) the total amounts for net outward (creditor) and inward (debtor) positions do not cancel out, as might be expected. This is most likely due to reporting problems; and (ii) the amounts imputed to the EU15 (and therefore to the total creditor positions) may be overstated. This is because 54 percent of those are reported by the Netherlands and Luxembourg, which are preferred location centers for tax-planning purposes and / or for the registration of holding companies. This likely implies an accounting overstatement of the outward flows and stocks of FDI; or, in other words, that the reported creditor positions do not correspond to those countries' real ownership of foreign assets.

domestic policy, for example. And in any case, even if the foreign debt stock can be rolled over, it still requires a regular apportionment of income to meet interest installments. The higher the debt and / or the higher the applicable interest rate, the higher the share of national resources that needs to be diverted from domestic use. And the greater this share, the greater the tensions, whether with the people – who will see this deviation constraining their expectations of prosperity – or with the creditors themselves – who will see the former tension as a risk to the reimbursement of their loans.

These tensions, and the underlying conditions, can easily snowball into an unsustainable debt problem, which could suddenly freeze or seriously shrink the country's strategic autonomy. The country may then be forced to resort to foreign assistance and to the consequent surrendering of the priorities of its policies to those of its rescuers. This situation, which often gives rise to social unrest and political instability, may even lead to revolutionary consequences.

Incurring in deficits in the current account with the rest of the world means that the country is not saving enough to finance its investments, which tends to shrink its strategic autonomy. Surpluses, on the other hand, mean that the country generates more savings than it can use domestically. These surpluses, then, have to be invested abroad, creating drawing rights on future foreign income. In a situation of need, these drawing rights can be exercised, bringing home the corresponding resources, whereby the external surpluses tend to widen strategic autonomy. However, the association between deficits and surpluses and strategic autonomy may not always be as straightforward as that.

If funneled into the reduction of dependencies from previous deficits, used to regain control of some relevant spheres of the national economy, or put towards getting rid of excessive foreign debts, surpluses are certainly wideners of strategic autonomy. The same is true when surpluses are used to build a “war chest” of claims on other economies, to be drawn from in the event of a sudden need or a reverse of fortune; or when lending is used as a source of power or influence over the countries receiving it. But this only works in the benefit of the surplus country, if its domestic economy is already running at full employment, and thereby additional investment may result in inflation and waste of existing resources. Or, anyway, providing the surpluses do not sacrifice the growth potential of the economy, through lack of investment, and, therefore, its future size. Because, if surpluses are the result of repressed living standards, by forcing continuous under-consumption, or refraining from making needed investment, then they are certainly detrimental to long-term strategic autonomy. Surpluses may increase the power of the state over other states where they are invested. However, if they

deprive nationals of improving their standard of living they threaten social cohesion, and if they deprive the economy of the resources necessary for its development the net result will most likely be adverse to long-term strategic autonomy.

The net stock of the investments made abroad minus the foreign investments made in the country – whatever the instrument: FDI, credit, or any other – corresponds to what is called the country’s International Investment Position (IIP) (IMF, 2009, Chapter 7). If positive, it means that the country is a net creditor to the RoW, which is a result of the accumulation of net surpluses on the external current account and the consequent export of national savings. If negative, it means that the country is a net debtor, a consequence of accumulated net deficits and the ensuing recourse to foreign savings.

Table B18 displays the top net creditors and top net debtors in the world. Japan, Germany, China (including Hong Kong), Taiwan, Norway, and Switzerland together hold three-quarters of all the net creditor financial positions in the world, which correlates well with the wealth shares shown above. Meanwhile, the US holds almost 50 percent of all debtor positions. The US debt position, high in absolute value, loses relevance when compared to the size of its economy (its negative position accounts for less than 40 percent of GDP). Therefore, in relative terms and compared to the size of their economies, the debtor positions of some EU countries – for example Ireland, Portugal, and Greece – put them in much more vulnerable and dependent positions. Furthermore, the US is in a much more comfortable position, because being the issuer of the world’s most-used currency and the main currency sought for investment of the foreign exchange reserves of other countries, as will be seen below, it is voluntarily financed, at a discount, by the rest of the world (see Du, Im & Schreger, 2017).

An interesting point should be made regarding the positions of the US and China in Tables B17 and B18. The latter table shows that China is a net creditor to the RoW, which could be expected having insight into the country developments on savings and financial wealth, already shown in Tables 7.3 and 7.4 above. However, and as Table B17 testifies, the country is a net recipient of FDI. Which means that most of the investments made by China abroad have been through lending, including to the US. In fact, and among other credits, China, as of the end of 2019, held 1069.9 billion USD (16%) of US Treasury bonds (see <https://ticdata.treasury.gov/Publish/mfh.txt>). The US, in turn, has the reverse situation: it is a net debtor to the RoW, while having the top net FDI position in the world. This means the country borrows heavily from foreign creditors to invest in, and control, companies working worldwide. It can do this at an advantage, because of the “exorbitant privilege” of being the

issuer of the main world currency (see Eichengreen, 2011; Du, Im & Schreger, 2017), as will be further developed in the next section.

The IIP – that is, the net creditor or debtor position in relation to the RoW at any given time – is the aggregate of all previous flows, deficits, and surpluses, as mentioned above.⁶⁵ Thus, it represents the net balance of all the partial effects of accumulated deficits and surpluses over time. Its straightforward linear interpretation – a creditor position is advantageous for strategic autonomy and a debtor position, revealing financial dependencies on other countries, is disadvantageous – can sometimes be misleading. Thereby, its proper qualification requires a deeper and more careful analysis than just looking at the balance. A debtor position, if not too large and if resulting from a temporary accumulation of external liabilities used for boosting the economy, which is expected to expand its size, may be favorable to strategic autonomy in the long run, providing that it is maintained at sustainable levels. A zero or positive balance can also conceal some serious vulnerabilities. Explanation for some vulnerabilities has already been given – chronic underconsumption with relative impoverishment of the population and / or underinvestment that sacrifices growth and the size of the economy – but others may be more complex. A null balance, for instance, which tends to be seen as good (not building dependency), may be the result of wealthy families, in a very socially skewed country, placing their wealth abroad to protect it from possible social unrest, thus depriving the country of those resources, while the government and firms need to borrow foreign resources or sell their propriety to foreign entities, for lack of domestic resources available to finance their activities. This would be a very vulnerable position for the country.

A debtor position, if large, however, tends to be always a sign of strategic vulnerability. If based on debt, which is mainly the case, this may easily spiral out of control, making the country financially unsustainable, vulnerable, and giving it a very narrow strategic autonomy. In Chapter 3, the example of vulnerable European members of the eurozone (e.g. Greece, Ireland, and Portugal) was already discussed. Other similar examples include the Latin American debt crises of the 1980s, the Russia and South East Asia financial crises of the late 1990s, and the recurrent Argentinian defaults, among many others. If based on FDI, it means that, most likely, the main levers that command the working of the national economy are under foreign control.

⁶⁵ Actually, the net position also accounts for the valuation effects suffered by the assets or liabilities that comprise such a position.

All the exemplified debt crises, however, took place in a relatively soft environment and under an international cooperative framework that helped to mitigate the most drastic consequences, felt mostly at the economic and social level, and which were reversed in a relatively short span of time. In past times, though, the strategic consequences could have been more dramatic. Right up until the nineteenth century, a default on debt could lead to a military intervention, as was the case before the Second Hague Peace Conference in 1907, when “it was accepted practice for states to use military force to collect debts owed to their nationals by other states” (Finnemore, 2004: loc. 618, Chapter 2). After all, rich creditor countries “had the gunboats to collect debts” (Dornbusch, 2000, p. 9).

Nowadays, reneging on foreign debt does not carry the risk of military intervention as it would have done in the past, but it still carries serious risks. It will likely make the country an outcast, barring its access to sources of foreign finance, and ultimately severely restricting its future strategic autonomy. Included in this restriction is the country’s dependence on foreign courts – from creditor countries or third parties – either by voluntary submission to its jurisdiction or by the self-appointed extraterritorial extension of the jurisdiction of these courts, which can arise from debt contracts that have been defaulted upon (see Jones & Webber, 2012). This dependence may even restrict the country’s ability to serve other performing contracts (see Schumacher, Trebesch & Enderlein, 2018; Cross, 2015).

This is exactly why George Washington felt it right to warn his successors and the American people in his farewell address that:

[A]s a very important source of strength and security, they [should] value public credit. One method of preserving it is to use it as sparingly as possible, avoiding costly occasions when cultivating peace, but also remembering that timely disbursements to prepare for danger often prevent much larger disbursements to repel; avoiding the accumulation of debt.” (Washington, 2000[1796], p. 21)

7.6. The Role of Currency

Since ancient times, currency has been both a symbol and an instrument of sovereignty, as well as an instrument for the sovereign (the government in modern times) to finance its activities. In the modern era, it has also acquired a central position in state policies – through monetary policy, to be more precise – adding power and potential vulnerability to the state at the same time. Power, because as mentioned above, it is an important instrument of policy in the hands of the government; vulnerability because, if mismanaged, it may expose the country

to external (economic) threats and interferences that could seriously restrict autonomy in policy decisions, domestic or foreign.

The episode of the 1956 Suez crisis, already mentioned in Chapter 4 (p. 84), is a good example of the narrowing of scope in foreign policy that can occur due to the vulnerability of the national currency. As for a change in domestic policies forced upon a country by market pressure on its currency, many examples could be invoked, but it may suffice to retain the reverse of policies “imposed” on François Mitterrand, shortly after he had been elected President of France, in 1981, with a left-wing platform, as recounted by Sachs, Wyplosz, Buitier, Fels and Menil (1986):

The Socialist attempt to revive the French economy sank on the shoals of rising inflation and a *foreign exchange crisis* by early 1983, so that the government of the left has in the end introduced a tougher, more market oriented programme than anything considered by the previous centre-right administration of Giscard d’Estaing. (p. 261, italics added)

As a more general advertence against the potential vulnerabilities posed by a currency, the statement J. M. Keynes attributed to Lenin can be recalled: “the best way to destroy the capitalist system [is] to debauch the currency” (Keynes, 1963, p. 77). By logical implication, if currency can destroy the entire capitalist system, it can certainly crush a country.

Because the two terms – currency and money – may sometimes be confused, it will be helpful for the purpose of this section to start with some definitions.⁶⁶ *Currency* means the monetary unit used by a country (e.g. USD, GBP, or FRF). It may also mean the physical form of money (e.g. coins and banknotes), but this usage refers primarily to the historical time when money had just a physical form. From here on in, only the first meaning of currency is used. The term *money*, in turn, may be used in four ways: (i) as a general concept, with the meaning commonly used by economists, that is, “anything which is immediately and generally acceptable for the discharge of a debt or in exchange for a good or service” (Rutherford, 2002, p. 269); (ii) referring to assets that qualify as money, which are usually coins, banknotes, and bank deposits (taking the form of accounting money, the most common form of money today); (iii) referring to the sum value of all those assets outstanding, which is also commonly referred to as money stock or money supply; or (iv) it may also be used, more rarely, in a way similar

⁶⁶ As mentioned in Chapter 5, what follows in this paragraph is common knowledge among trained economists, making it difficult to assign to any particular intellectual property by citation. It can be found in any good textbook dealing with economics, see “Money and Banking,” for instance, in Mishkin, 2004 (Chapter 3).

to the first definition of currency (e.g. money as a unit of account, that is, a sort of common denominator to refer to the monetary value of things).

Furthermore, money performs three basic functions: (i) as a unit of account, that is, the unit to refer to the monetary (or exchange) value of things, which is tantamount to saying the amount of money for which these things can be expected to be exchanged; (ii) as a medium of exchange to pay for goods and services or other assets; and (iii) as a store of value in which the purchasing power acquired through income received at one point in time can be hoarded until the time in which the holder decides to spend it (a savings store).

For a currency to be a safe store of value, it must be stable, because changes in its value are automatically reflected in the acquisitive power (or exchange value) of the underlying assets. The change in value may occur in the domestic economy – most commonly as purchasing power losses due to inflation – or in foreign exchange markets where the currency is traded against other currencies. The domestic value of money depends upon economic policies and mostly on fiscal and monetary policies, in that excessive money supply induces inflation and reduces the money's purchasing power. The external value depends on balance of payment developments – trade and capital flows – and on the trust of major financial investors and originators of cross-country capital flows. This trust, in turn, depends on the economic performance of the country, past and expected, and on the soundness of its institutions – that is, political stability, protection of propriety rights, social cohesion, macroeconomic stability, and sound policies in general.

Although a government may deliberately weaken the domestic value of its currency, as an exercise of power through inflation – to extract more income from society, using the so-called inflation tax –, the loss of external value of a national currency weakens the country's economic power. A currency depreciation devalues all the assets and liabilities denominated in it, with the consequent relative impoverishment of the holders of those assets and an enrichment of the debtors. If the currency has a broader use than the country where it is issued – that is, if it denominates assets and liabilities issued outside that country – the wealth redistributive effects associated to its depreciation will also extend outside the borders of the issuing country. An appreciation,⁶⁷ naturally, has the reverse redistributive impact.

⁶⁷ Devaluation and depreciation have the same meaning, and the same happens with revaluation and appreciation. Usually, appreciation and depreciation are used when referring to a continuous movement, normally induced by the market; revaluation and devaluation more often refer to discreet movements, normally decided by the authorities.

However, besides the redistributive effects of a change in the value of a currency, this change will also have an impact on the country's competitiveness. Thus, a country whose currency depreciates against others will see its export prices lower in international markets, gaining a competitive advantage; however, its imports become more expensive, fueling domestic inflation, and this will eat up some of that advantage. And a country whose currency has appreciated bears the opposite effects: exports become more expensive, losing competitiveness, and imports become cheaper and may also have a compensatory effect on the initial loss of competitiveness.

There is no intention to dwell on these technical issues of international economics; they are set out here only as an accessory to establish the ground needed to draw the strategic consequences. However, it is important to stress that the issues concerning the relative value of a currency have more to do with the dynamics of the currency and the underlying economic and political conditions of the issuing country, than with static comparisons. Accordingly, by restoring competitiveness, and if accompanied by other appropriate economic measures, a devaluation may be used to trigger the growth potential of an economy and to initiate a new phase of economic revitalization that will eventually be shown in the future strengthening of the currency. Conversely, an unjustified revaluation may trigger the reverse. Ultimately, the robustness of a country's currency will reflect the strength of its economy and, as mentioned, also the soundness of its social institutions. Furthermore, a currency's weakness or strength is considered depending on its dynamics over time – whether it tends to depreciate or appreciate, respectively – regardless of the absolute value of its exchange rate at a particular point in time. Figure B16 shows how the Japanese yen (JPY) has tended to become stronger over time (i.e. with a trend of appreciation against the other two currencies on the chart, USD and GBP). This is despite the fact that around 108 JPY is required to buy one USD. The GBP, however, has tended to be weaker over time (i.e. tends to lose value against the other two currencies) even though one USD is not enough to buy one GBP (it only buys about 80 pence).⁶⁸

Leaving aside the financial stage setting that has been necessary to analyze the strategic implications of a national currency, it should be emphasized that a currency is primarily an instrument of autonomy. It allows the country to define and manage its economic policy and, in particular, its monetary policy, facilitating independent choices about objectives and paths.

⁶⁸ October 2019 averages from the Federal Reserve Economic Data (FRED) Database, Federal Reserve Bank of St. Louis. Note that in the graphs a descending movement of the curve means an appreciation against the USD and an ascending movement means a depreciation.

It also functions as a valuation instrument. In this role, when the currency appreciates or depreciates vis-à-vis other currencies or other kind of international standards, all values in the country that are denominated in the domestic currency are automatically and simultaneously adjusted, in the same way that, in other aspects of social life, switching to daylight-saving time automatically updates all calendars in the country.

The autonomy to set a country's own policies provided by having a national currency, however, is limited by the impact that the chosen policies may have on its exchange rate. This impact, in turn, is dependent upon the perceptions that market actors, national and foreign, form about those policies, their convenience, and their possible consequences. In such a case, a trade-off may ensue, whereby the government may have to choose pursuing the course of the chosen policies and letting the exchange rate adjust and suffer the consequences; or changing the course of its policies so as to ensure a stable currency; or somewhere in between.

Moreover, the scope of autonomy available to manage the said trade-off will depend, among other things, on two key conditions: the consistency of the internal objectives themselves; and the amount of foreign currency liabilities (mostly foreign debt) that the country holds. If the policies are perceived as inconsistent, their social costs are difficult to bear and / or the financial dependence is already too high for the government to be able to resist market pressures with more foreign indebtedness, the actors in the financial markets may anticipate the inevitability of a currency devaluation, trigger a capital flight out of the country, and turn that anticipation into a self-fulfilling prophecy. The country may try to isolate the exchange rate from such destabilizing capital movements by imposing capital controls (i.e. restricting foreign access to assets denominated in the currency, as well as nationals' access to assets denominated in foreign currencies), but their effectiveness tends to be time limited (Carbaugh, 2010, p. 484–85). Recall the example above of President Mitterrand's forced change in policies after unbearable pressure was put on the French franc, to illustrate this point.

Sometimes, a small country intending permanently to evade the trade-off may choose to peg its currency to the currency of a major and economically strong trade partner, giving up an autonomous monetary policy and “importing” the partner's policy instead (see Kline & Shambaugh, 2010). And while this may lose the country autonomy, the loss is more apparent than actual. This is because, if the country's trade depends heavily on this partner, a stable exchange rate between the two currencies becomes more convenient, reducing uncertainty in the exporting sector, and allowing the authorities to concentrate on other fronts where autonomy can be extended (e.g. economic growth).

Foreign players may adopt a stable currency – perceived as sustainably strong and based on a solid economy, a strong society, and sound institutions – as a preferred denominator for their international trade and financial transactions, as well as for being a more stable store of value. Thus, the currency so adopted – directly, if to replace the domestic currency altogether, or indirectly, if used as the currency for international transactions and as an anchor for the domestic currency –, becomes an international currency (Cohen, 2011, p. 38). In this case, the currency issuer’s influence increases significantly and may even become “a form of hard power” (Cohen, 2013, p. 163).

Some currencies may be regionally relevant, but a broad international status is available only for a small number of currencies, namely the USD, followed by the euro and, to a lesser extent, the JPY and GBP, as Table B19 illustrates. The Chinese currency, CNY, given the size gained by its economy and its role as the leading exporter, is trying to reach this status. However, the closure of China’s institutions and the existence of capital controls in the country, which limit the use of the currency abroad, are major obstacles in the way of this aspiration.

Thus, under the current circumstances, the only true world currency, playing a wide role in world-trade invoicing and in the composition of central banks’ foreign exchange reserves around the world, is the USD. Its issuer, in addition to being the dominant military power, is still the largest economy in the world and has the deepest financial market, which gives it the aforementioned “exorbitant privilege” (see Eichengreen, 2011, p. 151), mentioned by some authors – a privilege by which means its economy ends up being subsidized by everyone else (Du, Im & Schreger, 2017; Krishnamurthy & Lustig, 2019). This represents a considerable strategic advantage that does not appear to be available for extension to other currencies anytime in the foreseeable future.

What is important to retain from this section, which is relevant to the formerly deemed “common states,” is that a currency provides scope for the strategic autonomy of a country. To avail itself of such autonomy, the country will have to preserve the stability of, and a sound foundation for, its currency. Otherwise, the currency may turn into a source of vulnerability and dependence, resulting eventually in the subordination of the country’s interests and preferences to the preferences of some other, which ultimately means a shrinking of its strategic autonomy. In such circumstances, with a practical inability to use the currency as an instrument of autonomy, it may be better to relinquish it by adopting, directly or indirectly (e.g. currency peg), either a foreign currency or a currency shared and jointly managed with other countries (e.g. the euro). In this case, the country may compensate for the lost autonomy in monetary

policy by devoting efforts towards the proper management of other policy instruments, and through this management, towards the strengthening of other sources of strategic autonomy, such as economic size and prosperity.

7.7. Summing-up

This chapter has set out to demonstrate that savings are a crucial economic variable in building and maintaining a country's strategic autonomy. Savings build wealth, and wealth builds power: to realize, influence, pressure, and coerce. Furthermore, because economic growth (and with it, economic size) depends so heavily on capital accumulation, as seen in Chapter 5, this accumulation is made up of investment; and savings is the means of financing investment. Therefore, to preserve their autonomy, countries should envisage internally generating – via households, corporations, and government – the savings needed to develop and control their economy. Transiently, or in controllable doses that compensate for the insufficient savings generated internally, a country may resort to foreign savings as a calculated means to enhance its long-term power and the corresponding strategic autonomy.

However, recourse to foreign savings is a double-edged sword. On the one hand, it increases the country's ability to achieve its immediate goals for development and is useful for jump-starting an economy or overcoming a transient difficulty. Yet, on the other hand, it creates dependencies that, if neglected, can seriously constrain future autonomy or even bring lasting subordination to the interests of others. Careful balancing and a cautious monitoring of its evolution is crucial if the recourse to foreign savings becomes necessary. Being open to use of this can prove instrumental to achieving the intended goals, but careful planning is essential to avoid turning it into a crippling dependency.

In particular, FDI requires a careful balancing act. It delivers technology, innovation, and efficient processes, helps to create jobs, and facilitates the integration of the national economy into the world economy. However, it can also make it more difficult to align the invested corporations with the state's strategic objectives.

Having a currency of its own is a source of autonomy for a country, as it allows more freedom in the management of its domestic policies. However, as a currency is also an inevitable source of interaction with the RoW, it becomes a source of vulnerability, subjecting domestic policy options to foreign scrutiny and pressure. Therefore, making these policies consistent with a stable currency can be a sound mechanism of self-discipline in pursuing a long-term development strategy, a reliable option for preventing short-term populist

opportunism that is detrimental to long-term goals, and a wise way to transform a potential vulnerability into a long-term enhancer of strategic autonomy.

CHAPTER 8. Strategic Governance: Articulating the Sources of Economic Power

8.1. National Strategy and its Governance

Developing a national strategy is a complex process. Planning is the easiest part, so to speak, as it is an exercise of coherence upon the classical tripod of ends, means, and ways. Obviously, it must address some necessary dialectics and the contingencies of changing circumstances. This makes planning less of a determinist exercise than it would be if it was dealing with simply static or perfectly predictable variables. One of these dialectics is between the desirable and the possible, to find a right balance. If too anchored in the desirable, the strategy may become unrealistic and thus impractical; if too anchored in the possible (at inception) it may become too complacent with the starting status quo, and its result will fall short of what it could eventually come to achieve. This leads to another important dialectic, mentioned previously, between the ends and means. The two dialectics are interconnected, because when the *desirable* is running ahead of the *possible*, it becomes necessary to build the means that can close the gap by widening the scope of the possible. Furthermore, as also already mentioned, time is the variable within which such dialectics play out.

Where the complexity of the strategic process manifests itself most impactfully is when it comes to the involvement of the actors upon whom the success of the strategy depends. The complexity manifests itself mainly in the need to ensure the alignments necessary to the preservation of a coherent will on the part of the state governance and a broad social ownership of the strategy, so that it remains valid and is properly executed during the time of its duration. In the case of the military, those alignments are simplified and made more effective by a hierarchical structure, an appropriate doctrine, and proper training. Therefore, unless the inconsistencies around the strategy come from the top – if the orientations from the political command become inconsistent, contradictory, ill-defined, or confusing –, the process, from design to execution, will become somewhat straightforward, with every relevant actor, supposedly, aligned with the strategy established in the proper hierarchical echelons. However, in other areas, where organization is looser and / or decentralized, and where relevant actors do not necessarily form a coherent, articulated, or consistent body over time, the process can be very complex.

Most of the literature on strategy presupposes, by deliberate analytical simplification, the existence of a single actor – the proper authorities – in what concerns the strategy of a state,

or it simply disregards the issue altogether. In practice, however, and as most people know well, the strategic “actor” is not a singular entity but a plural entity, whose plurality comprises several levels. For practical purposes, especially when it comes the time to act, the government of the state⁶⁹ can be seen as a single entity. However, this apparently single entity is itself composed of a multitude of actors, both institutional and personal. Institutionally, government, in its broad sense, is made up of different bodies: the executive body (or government, in the strict sense), the legislative body, and the judicial system. Furthermore, under this organic political structure, there is the administrative machine of the government. And in addition to this political and administrative governmental apparatus, account has to be made for many other organizations that are influential in the workings of that apparatus. This is the case of political parties and civil society bodies – trade unions, business associations, corporate representations, civic associations, and individual holders of factual powers, such as wealth – each with their own interests, preferences, needs and worldviews, all of which seek to prevail over the country’s governance.

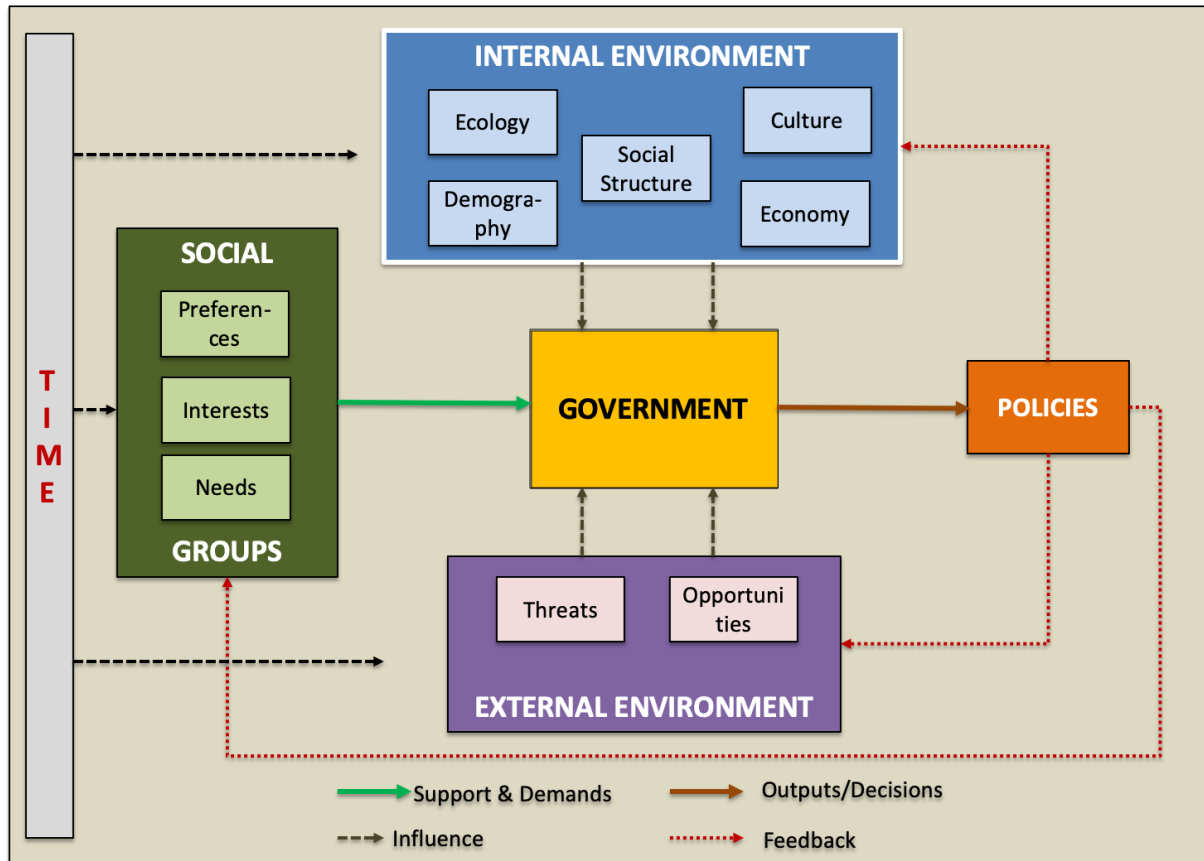
On the other hand, the bodies of the governmental apparatus – political and administrative – are composed of a multitude of individuals, each also with their own beliefs, interests, preferences, idiosyncrasies, personalities, and allegiances, which are reflected in their own interpretation of reality and in a selective understanding of their missions. This is what makes them more or less receptive to influences from different stakeholders in their decisions. And this, among other things, is a typical problem of the “principal-agent” theory (see Gailmard, 2014).

Consequently, the interests pursued by the government on behalf of the state may vary over time and even change abruptly, as a result of the greater or lesser convergence of interests and preferences of the most influential groups and on the relative success of each of them in the dispute – whether democratic or not – for influence over the government. In countries with greater social cohesion, it can be expected that there will be greater political stability and greater continuity in the objectives pursued by the state and, of course, in its strategic orientation. However, countries with less cohesion and / or greater heterogeneity of social interests and preferences will be more exposed to strategic instability.

⁶⁹ Recall that, according to the taxonomy set out in the methodological chapter, state is the political sovereign entity that interacts in international relations and which throughout this work has often been called “country”; and government is the broad political and administrative apparatus that governs the state.

Although it is not the purpose of this work to look too much into the field of political organization and process, the latter can, for the present analysis, be simplified as illustrated in Figure 8.1 below, which is partially inspired by Easton (1957).

Figure 8.1. The Political Process



Source: Author's design

In any event, as long as the state is reasonably functional and the government is stable, a national strategy can be designed and be set in motion by the government apparatus. And so long as there is lasting political stability – which is compatible with peaceful alternation at the helm of the government and in the relative favoring of social groups, provided there is broad agreement on the fundamental mission of the government, and sufficient social cohesion –, broad social adherence to, and ownership of, a national strategy can be expected. However, in the absence of such stability, this adherence may become too short-lived to secure broad social ownership and to ensure, over time, the consistency of objectives that go beyond the vital ends of existence and security. Even the objective of prosperity, in such conditions, may not be easily consensual, inasmuch as the global prosperity of a country may have different implications for each social group.

The implementation of a strategy, once agreed upon, will be reasonably smooth in everything that depends on the government machine, but it will be a more arduous and uncertain task when it has to engage the multitude of private actors that make up the society. This is not only because society constitutes a decentralized, often atomized structure, which gives rise to problems of coordination, but also because these actors, ultimately, are agents of their own interests. These interests may conflict with the strategic interests of the state, which may make the mobilization of such agents difficult, and may even trigger their passive or active opposition. This scenario of difficulties is present in particular in the economic segment of a national strategy.

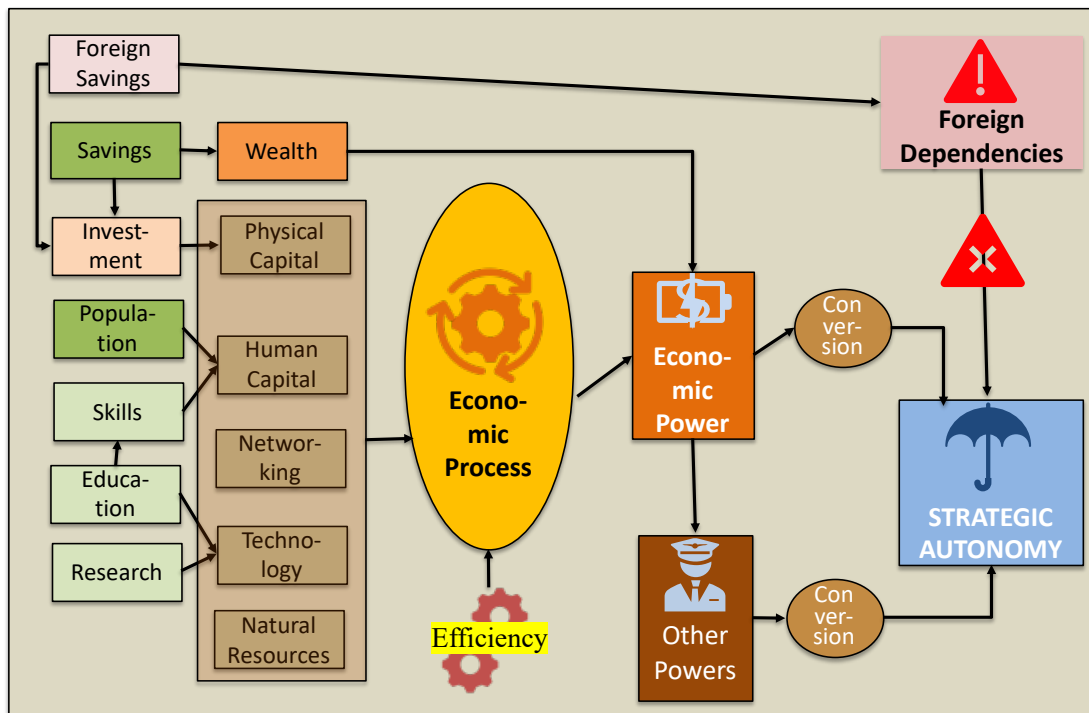
Therefore, the purpose of this brief introduction on strategic governance in general is to provide a background for a more detailed analysis of strategic governance in the economic sphere of national strategy.

8.2. Governance of the Economic Sphere of National Strategy

Economic power is amassed by a country through the means seen in Chapters 5 to 7 – that is, by the size of the economy and the capacity to generate income, savings and capital accumulation, innovation and technological advancement, higher positions in global value chains, among other aspects. Economic power has its own intrinsic capacities to act as an instrument to project influence and promote the interests and objectives of the state. In addition, it also functions as a currency to acquire other forms of power, notably the harder forms. Therefore, as an instrument of power and especially with the described plasticity, economic power, according to the theory put forward in Chapter 3, is a potential provider of strategic autonomy to the state.

Thus, and to facilitate the subsequent analysis of the challenges of strategic governance, Figure 8.2 below illustrates, as a broad picture, the process of amassing economic power and its potential transformation in the strategic autonomy of the state.

Figure 8.2. Economic Power and Strategic Autonomy



Source: Author's design

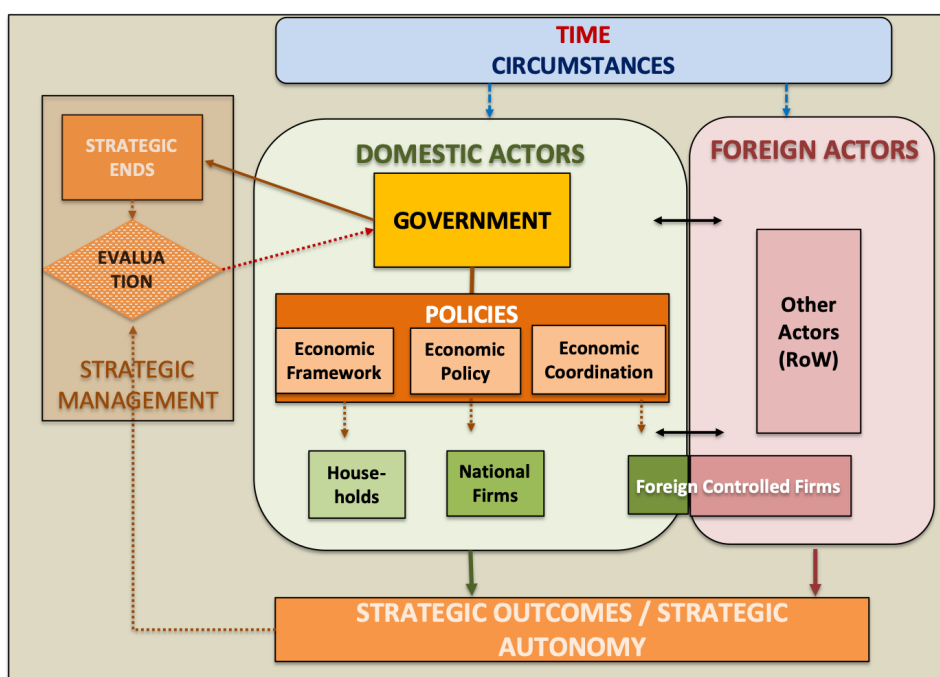
One of the challenges of strategic governance in the economic sphere is to combine effectively the development of economic power-building capacity, dispersed throughout the society, and the government's ability to use the power built-up by it for the purposes of national strategy. In other words, how to turn the potential strategic autonomy provided by the amassed, but normally dispersed, economic power into actual strategic autonomy for the state.

In centrally planned economies – where resource allocation and production decisions are made centrally by the government, which also owns and controls all major means of production – it is easier for the government to control the different sources of economic power and use them as it sees fit for strategic purposes. In market economies – where most means of production, and therefore most sources of economic power, are privately owned – fundamental economic decisions, including resource allocation, are decentralized to private and autonomous decision-makers who pursue their own interests, which do not always coincide with the social interest pursued by the government. Indeed, in a market economy, most economic outcomes are the consequence of choices and decisions made by private agents – firms and households – rather than by the government, although they may be influenced and conditioned by government policies. Certainly, this is true for the outcomes related to the variables analyzed in Chapters 5 to 7 as crucially relevant for the strategic autonomy of the state.

Nevertheless, centrally planned economies proved to be less efficient than market economies (see Moroney & Lovell, 1997; Tirole, 2017, p. 157), creating less economic power and so becoming relatively weaker over time. The example of the Soviet Union and the Soviet bloc of European countries was visible proof of this, as was the initial stages of Communist China, of which the Great Leap Forward was a dramatic example. China since then, and despite remaining a communist country, has adopted many market practices and privatized considerable parts of its economy, as will be seen in the next chapter, which furthered its subsequent economic success. But while a market economy is generally more efficient than a centrally planned economy, not all economies operating under the economic organization of the market are equally efficient, as seen in Chapter 5; some of them are highly inefficient, more inefficient than a planned economy.

In view of this, another challenge for strategic governance in the economic sphere is also to ensure that the whole economy, notwithstanding its dependence on a multitude of decentralized, private, and self-oriented decision-makers, is able to optimize the use of its resources, so as to maximize the creation of economic power. To this end, the government must act on three fronts – economic framework, economic policy, and economic coordination – as illustrated by Figure 8.3, below.

Figure 8.3. The Working of the Economic Segment of National Strategy



Source: Author's design

On the first front – economic framework – the government must provide the necessary conditions for the development of private economic activity, ensuring fair opportunities for private actors to carry out their activities in the conditionally most efficient manner and preventing abuses of market power. The term “conditionally most efficient” is intentional here to dispel the often-propagated myth that, in the market economy, profit maximization – or, more generally, the economic agent’s personal interest – is the absolute guide to economic activity, which could explain many abuses and violations that are often experienced. Clearly, however, any optimization exercise is conditioned, since an “objective is maximized ..., *subject to the constraints that may limit the selection of decision variable values*” (Luenberger & Ye, 2008, p. 1; italics added).

Concerning the constraints that condition the maximization of the objective in economic activity, the frequently ill-cited Milton Friedman was quite clear when, arguing on a controversy about corporate social responsibility in 1962, he stated that in a free economy: “there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits *so long as it stays within the rules of the game, which is to say, engages in open and free competition, without deception or fraud*” (Friedman, 2002, p. 133; italics added). And in a subsequent article, published eight years later in the *New York Times*, he was even more specific, clarifying that “in a free-enterprise, private-property system,” the responsibility of the corporate executive “is to conduct the business in accordance with [the business owners’] desires, which generally will be to make as much money as possible *while conforming to their basic rules of the society, both those embodied in law and those embodied in ethical custom*” (Friedman, 1970, italics added). The italicized parts of these two quotations are generally omitted when they are invoked as theoretical foundation for “wild capitalism.”

Towards that purpose, on the one hand, the government must provide the legal and regulatory framework for framing economic activity according to those principles and protect propriety rights. In addition, it must provide a proper institutional framework of governance, because, as Acemoglu and Robinson (2012) have demonstrated, “political and economic institutions, which are ultimately the choice of society, can be inclusive and encourage economic growth. Or, they can be extractive and become impediments to growth” (p. 173). Hence, “different institutions have different consequences for the prosperity of a nation, how that prosperity is distributed and who has power” (p. 175). This field, of institutions and culture, is generally the one, as the authors have extensively demonstrated, whose differences best

explain the various economic performances and efficiency levels among economies that adopt market mechanisms. This is eminently a political issue, since the choice of the institutions that frame a country's governance belongs within the realm of politics. And it is also in this realm that the various social groups struggle for control of the government and, through it, for the structure and control of other institutions in order to bias their functioning in favor of protecting their particular interests.

Lastly, but by no means least, the government must address the well-known market failures: (i) the creation of externalities, that is the impact (especially when negatively) imposed on third parties; (ii) the market power, which arises when a single player obtains a substantial influence over market prices, usually as a result of economies of scale; and (iii) the supply of public goods, which a private producer is unable to profitably provide, because those goods made available to one person become available to all the others without the possibility of the provider charging for it. The first two of these failures fall within the scope of this legal and regulatory framework. The third, the provision of public goods, can be addressed either by government's direct supply of the good or service or by giving this responsibility to private entities through concession contracts.

On the second front – economic policy – the government should use the available instruments, such as fiscal, monetary, and exchange-rate policies, incentives, industrial policies, and direct intervention, so as to ensure macroeconomic stability, prevent persistent imbalances and dangerous dependencies (like those associated with debt accumulation), provide economic guidance, and to induce the provision of savings, which ensure the domestic capital accumulation necessary to guarantee economic development, financial autonomy, and, ultimately, national control of the domestic economy.

The third front – economic coordination – is the most complex and may require more skillful political management and a strong rapport between government and society, or at least between government and the relevant economic actors, so as to align the interests of the private actors with the strategic interests of the state. This front should ensure the coordination of decentralized private activity – private and autonomous decision-makers pursuing their own interests – with the interests of the state and, consequently, with the objectives of the government's national strategy.

In an authoritarian regime, the alignment of objectives and interests is facilitated by the authority of the government imposing its will on dissenting actors. However, in a democratic regime, such coordination becomes more complicated. First, because private interests are not

necessarily convergent with each other and the government may not be entirely equidistant to arbitrate the divergencies. Different policies may have different distributional impacts for different groups, with gains for some and losses for others. Second, because too much proximity between the economic elite and the government can lead to the development of corruption mechanisms and the capture of the government, eventually subordinating the strategic interests of the state, and of the society at large, to the particular interests of that elite. And finally, because apart from the restriction of property rights, there are not many instruments that, in peacetime, the government can use for this purpose without jeopardizing the economic model of a market economy.

In Figure 8.3, above, it should be noted that it is the rectangle on the left that gives the process represented there the dimension of strategic management. Otherwise, the figure would represent only a common political process. It is the content of that rectangle that conveys the idea that the state has a strategy (towards which the political process is oriented), with a time horizon, and with defined ends and means. And it demonstrates that the government is regularly adjusting its policies according to the feedback obtained from monitoring the results of their implementation. It is this important feedback and control loop that makes it possible to ensure that the ends of the strategy will be assured in due time.

In any case, in countries with high social cohesion, strong cultural identity, and social alignment with that identity, on the one hand, and where, on the other hand, the national strategy itself is sufficiently intertwined with the society, the alignment of particular interests with the strategic interests of the state and its strategy is easier to achieve, and the pursuit of strategic objectives is more effective. A particularly important difficulty with this alignment is associated with who controls the strategic centers of the country's most relevant companies for economic activity and for its strategic autonomy. As long as these centers are located within the country and are culturally close to the country's vision and values, the alignment is easier. However, when these centers are located in a foreign country and are culturally closer to that country's vision and values, the alignment becomes obviously more problematic. Therefore, in a case where a country has become financially dependent, and turns out to be unable to ensure the national control of those centers, it will become strategically more vulnerable than a country that has managed to preserve its financial autonomy.

For this reason, it is essential for the strategic autonomy of a state, that, on the one hand, it has the necessary national capital to ensure control, at least of the most important of those centers. This, in turn, depends on the ability of its economic agents to generate the savings

necessary for this purpose. And, on the other hand, that national actors, especially the holders of capital, are able to articulate their interests and their actions, within the limits of the competition rules, in order to enhance the ability to exercise said control.

8.3. Foreign Control of Domestic Operating Firms

Some believe that capital has no homeland, pursues its own efficiency interests, is indifferent to political constituencies, and that only the prospective return on investment, guides its actions, the choices of location for its activities, and its strategic drive.⁷⁰ The second part of the claim – that only the prospective return on investment guides its actions – may even be true and the pursuit of economic efficiency may also be the guiding criterion for investment locations, but that neither makes capital stateless nor immunizes it from the political and social consequences of decisions concerning its use. In addition, these consequences are not without value to the political actors directly or indirectly affected, much less to the countries involved.

To demonstrate with an extreme example: countries “A” (the richer) and “B” (the poorer) are geographically contiguous and have only one company each. The owners of the company in country “A” take over the company of country “B” and merge the two companies, deciding to split its activities between both countries. Strategic command and the most valuable functions are to be located in country “A,” and more industrial and supportive activities dominantly (though not exclusively) are to be located in country “B” (geographic contiguity effectively favors such a split) – a sort of split along the “smile curve” seen in Chapter 6 (see p. 122). The division may even increase (industrial) wages in country “B” due to the increased efficiency in the production process resulting from the integration. This may even give rise to some industrial unemployment in country “A,” due to the relocation of some industrial activities to country “B” (accompanied by the migration of the unemployed workers from country “A” to country “B”). However, on top of being located in country “A,” the integrated company’s strategic command, as well as its most valuable functions, will, most likely, end up being filled predominantly by nationals of this country. The final consequence of this is that the economy of country “B” will become a branch of the economy of country “A,” with the

⁷⁰ Interestingly, the first time that this type of expression was used seems to have been by Napoleon Bonaparte, who has often been quoted (though without identifying the proper source), as having said that *money has no fatherland; financiers have no patriotism and no decency; their only goal is gain*. Even more interestingly, the second record of the expression’s use is attributed to Karl Marx, who, in the German edition of the *Civil War in France*, in 1870, added a sentence saying that “capital has no fatherland” (Marx, 1977, p. 34). Drucker (1993), also mentions that “‘Money has no fatherland’ is a very old saying,” but immediately adds that “the nation-state was invented in large part to disprove it” (p. 142).

resultant decline in the political relevance of country “B” and its dependence on country “A,” in a sort of quasi-colonial relationship.

The example is intentionally extreme, but it provides a very valid framework for visualizing the political consequences of economic decisions based on pure efficiency criteria. It can be argued that the division of activities presented in the example is arbitrary, and the conditions of efficiency may lead the split of functions to favor locations in country “B” or the filling of key places by nationals of this country. In the abstract, this might be true, but in practice it never is, as abundant real-life examples show, even if they result from less clear-cut situations than the one presented in the example. First, economic decisions are never made on the basis of pure efficiency criteria alone or based solely on criteria that can be measured objectively. They always involve a component of subjective judgment that is influenced, if not bounded, by the culture and other interests of the decision-makers. Further, this bias will be more prevalent in the decision the less clear-cut the efficiency differences forecasted for the alternatives in hand are. As Simon (1955) pointed out long ago, “there is a complete lack of evidence that, in actual human choice situations of any complexity, these computations [of perfectly informed rational analysis] can be, or are in fact, performed” (p. 104). Instead, the rationality of individual decision-makers within an organization is bounded by the organizational environment.

Second, the situation of outward economic asymmetry – country “A” is richer than country “B” – will tend objectively to favor decisions leading to the division of activities stated in the example (as seen with the “smile curve”). And third, because decision-makers in these events, even under the guise of mere economic decision-makers, are nonetheless ultimately (consciously or unconsciously) political decision-makers, influenced by their political views of the world. Therefore, in these terms, the political view of the decision-makers of country “A” will hardly prefer the political dominance of country “B” and the subordination of country “A.”

In real life, situations are not as extreme or black and white as suggested in the example, whereby the triggering conditions for cross-border investments may be more complex and their social and political consequences may be more nuanced. However, the general tone of the description will tend to predominate because, contrary to the simplistic view that has been associated with many liberal positions, economic relations do not work in abstract or in politically sanitized contexts. On the contrary, the functioning of the economy is based on social relations which, in turn, develop themselves in concrete social, political, and cultural contexts, being influenced by them and inducing upon them consequences that cannot be ignored.

Capital per se, seen as an abstract variable, may be stateless, but capital does not work or move by itself. It is mobilized and used by concrete persons (actual or legal) who are guided by ideas, beliefs, and interests, and, more generally, by the cultural environment to which they belong. Those persons are an integral part of concrete political societies and are inevitably associated with their interests and contingencies. Each individual, individually considered, may wish to assert himself or herself as independent of the political circumstances of his or her natural citizenship, but rarely, if ever, is this the case. However, as collective (legal) persons, companies cannot be seen just as a mere sum of the individual persons who compose or direct them. They have an existence of their own, possessing “a unique identity” that refers to “a ‘shared collective sense of what we are’ or to narratives that provide a sense of organizational continuity” (Todeva, 2006, p. 52). This establishes conceptual boundaries that “demarcate a distinction between members and non-members” (p. 51) and a culture associated with the institutional framework of their origin. In simpler terms, “cultural values and regulatory institutions help to constitute the nature of economic actors and guide their actions, thus affecting economic outcomes” (Whitley, 2005, p. 190). This implies, among other things, that multinational corporations are subject to the laws, rules, culture, and interests of their country of origin. And such umbilical attachment to a politically defined origin, together with the obligations that such attachment entails, may subject all activities of a company, wherever located, to the extraterritorial scope of the judicial systems of its origin. This, for example, may end up in the bounding of subsidiary host countries to the economic sanctions imposed on companies by the country of origin. In those terms, it is, at the very minimum, naïve to consider companies, or the capital that supports them, as stateless.

Therefore, the potential problem of foreign investment in a country does not stem from the origin of capital, as an economic variable or financial flow, but from who controls its use, and where the strategic center of that control is located. Especially in the case of foreign-based multinational corporations, it is known that “the control of the international business operations is usually by the headquarters, which coordinates strategically all transactions, exchanges and partnership relations” (Todeva, 2006, p. 184). Or, as Oatley points out (2019), the managerial control extended by multinational corporations across borders “enables firms based in one country to make decisions about how to employ resources located in another country” (p. 161). To put this more simply – using the definition of strategic autonomy proposed in Chapter 3, and the considerations made therein about its meaning and scope –, the parts of multinational groups located outside the country of headquarters, whether in the form of branches or

subsidiaries, do not have strategic autonomy, since they do not have sovereignty over themselves or over the means they use; nor do they have the ability to make final decisions about strategic ends. This is why they are strategically subordinate to the interests, preferences, and needs of the respective strategic center, that is, its headquarters.

With this in mind, arguing that capital is a stateless entity whose origin is irrelevant to the country's strategic autonomy risks falling into grave political and strategic naïvety. For this reason, many countries, even the most economically liberal ones such as the United States, impose limits on the acceptance of foreign investment, particularly in sectors or segments of activity that their governments consider strategic for the fundamental interest of the country (Masters & McBride, 2018). In fact, as Figure B17 illustrates, it is practically only in Europe that the naïve approach towards foreign investment seems to prevail. However, even in this region, things might be changing (e.g. Münchau, 2018; Chazan, 2019; Leonard, Pisani-Ferry, Ribakova, Shapiro & Wolff, 2019).

8.4. The Special Case of the Financial Sector

Where this issue is of particular relevance is in the financial sector, which is the intermediary that collects people's savings and allocates them to specific purposes, such as credit to companies, and thus to the development of the economy, or to other financial investments in the home country or abroad. One facet of this has particular relevance, in that while factories and other tangible assets associated with investment in other sectors cannot be removed from the country (although the underlying businesses can, but in that case, the tangibles can be reallocated to other owners), the assets dealt with by financial intermediaries are mere book-entry records, whose contents can be easily and effortlessly moved among different geographical locations in a very short time.

Thus, and since saving is a crucial factor in the development of a country, the possibility of allocating it to interests other than those of the country of origination constitutes a serious risk of weakening this country. This is not speculative argumentation. As a good example, take the Chinese company that bought Portugal's largest insurance group in 2014. The company cost one billion euros, but the acquired company immediately invested the same amount within the new parent group abroad, resulting in the acquisition having produced zero net capital inflow in Portugal (see Suspiro, 2015). After the purchase, the CEO of the acquiring company candidly admitted to the *Financial Times* that "owning that insurance company means we own €13bn in insurance assets that we can use for investment" (Waldmeir, 2014). To which the interviewer added in a comment that this had been the buyer's most important strategic move,

as it “gives him the funds he needs to buy overseas companies that can capitalize on China’s growing affluence” (n. p.).

Within the financial sector, banking is the most sensitive segment of a country’s interests, because in most countries, it captures the majority of peoples’ savings, especially the small savings; grants most of the credit; and supplies most of the money to the economy, besides providing the fundamental infrastructure for payment flows. Therefore, the banking structure has enormous political and strategic relevance for the autonomy of the country. The imbricate link of banking and politics was deeply analyzed by Calomiris and Haber (2014), who concluded that “a country does not ‘choose’ its banking system: rather it gets a banking that is consistent with the institutions that govern its distribution of political power” (p. 4). For this reason, they add:

[T]here are no fully ‘private’ banking systems; rather, modern banking is best thought of as a partnership between the government and a group of bankers, a partnership that is shaped by the institutions that govern the distribution of power in the political system. (p. 13; emphasis in the original)

It is certainly no coincidence that Calomiris and Haber titled the first section of their book “No Banks without States, and No States without Banks.” The conditions under which banks operate – such as regulation, supervision, enforcement of contracts – are the “outcome of a political process ... whose stakes are wealth and power,” and whose intervening parts are “those with a stake in the performance of the banking system: the group in control of government, bankers, minority shareholders, debtors and depositors” (p. 13). Taxpayers ought to be added to this list, since it is on their shoulders that the burden of banking crises often falls.

There is another important reason, to a certain extent complementary to the previous argument, why the control of foreign-owned banks and financial institutions operating in a country is a matter of particular strategic sensitivity. Firms in general typically borrow capital from lenders to leverage the owners’ equity (own capital), and, in sectors other than banking, the leverage ratio (borrowed capital / owners’ capital) can go up to five, though it is normally below this. However, in banking and some other financial businesses like insurance, that ratio can go up to 20 and sometimes more (see Gallo, 2015). That is, for each dollar or euro that the owners invest in a bank or in some other financial institution, 20 or more dollars are borrowed from other sources (mainly depositors) to use in the business, which is mostly lending to third parties. Thus, in case the business goes bankrupt, either because of mismanagement, or through deliberate misuse of funds, the local population – mostly common depositors – may lose,

potentially, 20 times more than the foreign owners of the business. This cannot fail to have profound political and strategic implications.

While for other companies, the borrowed resources come from banks or other well-informed and specialized investors, in banking, most of the borrowed money comes from the deposits made by ordinary people and represents a significant portion of their savings. The funds so raised, in turn, are transformed into credit to the economy, which is an indispensable input for its proper functioning, without which many activities would cease. Furthermore, bank deposits constitute the bulk of the money stock on which economies work, and by managing the flow of payments using these deposits, which is now the dominant form of payment in advanced economies, banks control the payment system – one of the basic infrastructures of a country. Without the proper functioning of the payment system, a country would find itself paralyzed.

All of these – holding savings, financing the economy, money creation, a smooth payment system – are essential social goods, which imports cannot easily replace. The adequate provision of these social goods depends on an intangible good, as important as it is perishable: trust. These goods (including trust), and the conditions for their production, thus have enormous social value, are strategic resources, which the government must guarantee to protect. Therefore, “the smooth functioning of a complex interdependent financial system is necessary for the normal functioning of the ... economy; anything that disrupts financial markets has an adverse effect on output, employment, and asset values” (Minsky, 2008, p. 48), and therefore, on social life.

Banks, however, with their high leverage ratios, have enormous destabilizing potential that can seriously disrupt a country’s social stability. And whenever they run into trouble, it is the country’s taxpayers who reluctantly come to the rescue in order to prevent depositors from getting hurt, a crisis of confidence being unleashed, or, ultimately, from risking a breakdown of the entire country. Therefore, having financial institutions whose strategic centers are foreign to the host country managing a significant part of this country’s banking assets, is to mortgage an important piece of the country’s strategic autonomy. Moreover, the constraining effects of such a situation are felt the most harshly in adverse circumstances, especially during a crisis. Among other implications, in a situation such as that, although it is the foreign interests that control the activity of the said financial institutions, they will support only a minimal portion of the risks they create, as most of these risks and their possible consequences stay within the country and, if materialized, will be borne by it.

It is not all negative: foreign control of banks operating in a country could bring innovation, competition, and different operating perspectives, which may result in higher economic efficiency and greater prosperity. However, it can also take away autonomous power from the country and endanger its stability and even its tranquility. As we are dealing with the strategic autonomy of the state, the articulation of the interests of the state with the interests of companies whose strategic center is located in another country may prove more difficult in cases of need. This is especially the case at a time when the interests of the two states – the host of the subsidiary company and the host of the headquarters of the group – are divergent.

As with many other situations with conflicting implications, the right balance depends on the quantity (of foreign presence) involved. Yet, one thing seems certain according to the framework described: Allowing foreign interests to control a large part of the banking system of a country is tantamount to shrinking the country's strategic autonomy. Therefore, again, the final impact of FDI on the strategic autonomy of the receiving country will depend on the balance of the positive and negative consequences outlined above. By leveraging national economic power, investment can enhance autonomy, but only if an appropriate balance can be achieved, by which the positive impact of broadening the economic potential of the country outweighs the negative impact derived from having parts of the national economy under the strategic control of foreign ownership. This is to say, only so long as foreign control is contained within reasonable quantitative and qualitative limits.

8.5. Summing-up

The power generated by a country's economy is a fundamental instrument for the strategic autonomy of a state, as this chapter has set out to show. The relationship between such power and that autonomy, however, is not linear. It depends on the "amount" of power generated by the economy, mainly with regard to the factors analyzed in Chapters 5 to 7, which can be called "potential power." However, it also depends on the capacity of articulation between the government and civil society, and especially with the economic elite, to ensure that the potential generated by the economy is reflected in the strategic autonomy of the state. This second part of the relationship is particularly important in democratic regimes with market economies, since in these cases, most sources of economic power are privately owned, dispersed, and independently managed.

The government can indirectly influence the behavior of private agents – for example, households and firms, consumers and investors – conditioning their decisions and orienting them in the most convenient direction for its objectives, mostly through the mechanisms for

regulating economic activity and the instruments of economic policy. Yet, ultimately, what these agents in general do, and for companies in particular, depends mainly on their specific interests, preferences, and capabilities. Therefore, unless there is an alignment between these specific interests and the state's strategic interests, there is no guarantee that the economic power generated by those agents is relevant to the strategic autonomy of the state. This is because there is not much – without requisitioning or intervening in underlying property rights – the government can do to ensure that this power serves the ends of a national strategy.

This will be the particular, but not exclusive, case where a company's control is subordinated to a strategic center located in another country. Even simply for cultural reasons and the resulting ordering of preferences, in such circumstances, a company's interests will more easily align with the strategic interest of the country of its headquarters. It is clear that the implications of such a situation will tend to be negligible for most companies, with little relative and differentiating importance to the country's economic fabric. But it can be highly relevant for companies located in parts of the economy that are particularly sensitive, those with great market power, or playing, in some way, a structuring role in the economy, as in the case of vital infrastructures and, in particular, the banking sector.

It is therefore up to the strategic governance of the state to ensure, on the one hand, the maximization of the potential power that the economy can generate, through: regulation favorable to economic activity and its efficiency; adequate incentives; and a stable, balanced macroeconomic framework. On the other hand, it must ensure the articulation of private interests with the general interests of the country, so that the potential power generated can be reflected in the strategic autonomy of the state and, therefore, in the conditions for the realization of its fundamental ambitions.

For this alignment, it is important that the political system is able to provide a consensus around the vision of the country's role in the world, without prejudice to the salutary democratic alternation in the government – and this must be a vision which society broadly shares. Under this social consensus, it becomes easier, almost automatic, for diverse private interests to align with the general interest of the country, and for private interests to leverage their share of power into a common strategic weight.

Then, it is also essential that the country as a whole – households, firms, and government – generate the savings necessary to finance its development (increasing its economic size) and to guarantee national control over the main strategic centers of the national economy. Even at the risk of appearing exaggerated, it can be said, in reinforcing the importance of this point, that

while in the past it was through military means that conquest or its prevention was achieved, in the present times, it is through capital that these two objectives can be pursued. Therefore, ensuring adequate capital accumulation – which requires the necessary savings store – should be seen the most effective weaponry of a state to defend itself from economic dominance by foreign interests.

It is also essential that the economic elite, in compliance with the principles of fair competition and the functioning of the market economy, also have the ability to work together to leverage the power to control its fragmented resources, in order to preserve national control and to foster the development of corporations which can be internationally competitive. The concern with national control of the main centers of economic decision-making in the country requires, however, a careful and parsimonious definition of what is truly relevant, from a strategic point of view, and adequate supervision of the activity of these centers. This will prevent a legitimate strategic concern of giving rise to rentier opportunisms, corruption, and counterproductive generalizations that can easily morph into undue protectionism.

The management of the two strands of the relationship between economic power and strategic autonomy – maximizing the economic potential, on the one hand, and transforming that economic power into strategic autonomy, on the other hand – can occasionally require trade-offs: The promotion of one can sometimes weaken the other. For example, an inflow of foreign capital can favor economic efficiency, but if used in excess, it can jeopardize the country's ability to control its own economy or it can bring about the country's subordination to the interests of other countries. However, excessive defensive preoccupation with this inflow can excessively sacrifice economic efficiency and, in the long run, the very prosperity of society, as well as its lasting autonomy.

In any case, decision-makers should bear in mind that for the strategic ends of the state, existence, and autonomy must precede efficiency. Which is to say that without its existence (and its political autonomy), economic efficiency is irrelevant to the state, while within an existing state, economic efficiency can always be improved. This much was recognized by the putative father of Economics, Adam Smith, who, acknowledged explicitly that “defense, however, is *of much more importance* than opulence” (Smith, 1776, Book 4, Ch. II; italics added), which can easily be understood as a warning that preserving existence, or national sovereignty, is far more important than maximizing wealth.

Therefore, the objective of efficiency must be subordinate to the objective of preserving the strategic autonomy of the state. This is a practical way of attending to the warning of Yarger

(2006), mentioned in Chapter 3: for strategy, effectiveness is more important than efficiency (p. 77). The preservation of the strategic autonomy of the state must therefore be included as one of the constraints of maximizing economic efficiency.

PART IV – TESTING THE THEORY

CHAPTER 9. Two Paradigmatic Cases

9.1. Preamble

To test the theoretical principles proposed and expounded upon in this thesis, two cases of strategic success were studied. Both countries have become major world powers, albeit of different natures, through the success of their economies, and for this reason were taken as paradigmatic cases. One, China, has considerably expanded its strategic autonomy – based on the enormous success of a strategy focused on economic development – and has chosen to use that broader scope to assume itself as a military power, willing to vie for leadership of the world order. The other, Germany, which was defeated in WWII and subsequently divided and occupied, eventually became a world economic power, a dominant power in Europe, and the unavoidable leader of its integration project. However, Germany chose to dispense with military competition and to simply confine itself to the status of “civilian power,” asserting its power and influence only by economic means.

The interest in choosing and confronting these two countries as test cases arises precisely from the diverging purposes that the two countries associated with their economic power. China used the accumulation of economic power to leverage the status of a classic power, the strength of which ultimately depends on accumulated economic power that can be subsequently turned into military hard-power. Germany, however, chose to assert itself only as an economic power, ostensibly dispensing with the military power base that could have led it towards another level of strategic ambition.

Because of the different circumstances involving the two countries, the following analysis will also have two different focuses. In the case of China, the focus will be on how economic power was built in a short time and from a base of underdevelopment, and how this build-up considerably expanded the country’s strategic autonomy and was instrumental in providing it with the hard power necessary to become a challenger to the dominant world power. This final outcome comes more into line with the “classical” build-up of strategic power. In the case of Germany, it was already a strong economy before WWII, but had its power substantially reduced and had to rebuild its economic base after its defeat in the war in order to compete with the Allies. Therefore, and since Germany stands out as a leading world economic power despite being defeated in the war, it is particularly interesting to examine its refusal to convert economic success into forms of harder power. Germany instead accepts a statute of

subordination in this field, and yet it has become the hegemon of Europe, over and above two other powers – the UK and France – with nuclear weapons.

9.2. The Case of China

China's success over the last four decades is the most obvious case in support of the arguments sustained throughout this thesis, and it provides validation of the statement that constitutes its title. In the late 1970s, Deng Xiaoping – the great reformer of China who would be seen as the great architect of the ensuing strategy (Cable, 2017, p. 1; Liu, 2018, p. 69) – recognized China as “still one of the world's poor countries” (Deng, 1979a).⁷¹ Such a situation, that is, the reduced size and the backwardness of its economy, imposed serious constraints on the country's strategic autonomy. Although this was not the expression used at the time, the significance of the narrow range of options available corresponds to the definition of strategic autonomy proposed in this thesis. In fact, Deng explicitly acknowledged that “to achieve genuine political independence a country must lift itself out of poverty” (Deng, 2012, p. 163). Furthermore, despite its solidarity with the poorer countries of the so-called Third World, in order to provide support to developing nations, China knew that it would have to raise its Gross National Product (GNP) per capita from around 300 USD to 1,000 USD (Deng, 1979b). It was also aware that the role played by the country “in international affairs was determined by the extent of [its] economic growth,” and that only if the “country becomes more prosperous, will [it] be in a position to play a greater role in [those affairs]” (Deng, 1980a). More significantly, though, “the return of Taiwan to [the] motherland – the reunification of the country” ultimately depended on the Mainland's ability to “surpass Taiwan, at least to a certain extent, in economic development ... Nothing else [would] do” (Deng, 1980a). And socialism, the existential purpose of the regime, could not be built “if the economy remains stagnant and the people's living standards remain at a very low level for a long period of time” (Deng, 1980b).

China, according to Swaine and Tellis (2000), has pursued a grand strategy with three interrelated objectives: (i) “the preservation of domestic order and well-being in the face of different forms of social strife”; (ii) “the defense against persistent external threats”; and (iii) “the attainment and maintenance of geopolitical influence as a major, and perhaps primary, state” (p. 14). And from this grand strategy was derived, in turn, a security strategy oriented

⁷¹ The quotes from Deng Xiaoping between 1982 and 1992 are extracts from the book in the References “Deng, X. (2012),” which is the third volume of the selected works of Deng, and which contains his writings from that time. As it was not possible to get access to the second volume, which collects Deng's work from 1975 to 1982, the quotes from this period are gathered from an internet publication of the volume, but for which there are no page numbers nor locations. Therefore, it was decided to list all the cited works individually in the references.

toward, firstly, “the maintenance of internal stability and *prosperity*” and, secondly, “the attainment of Chinese preeminence ... along a far-flung and vulnerable geographic periphery” (p. 15, italics added). And, as the same authors state, the Chinese authorities soon realized:

[T]hat only sustained economic success can assure (a) the successful servicing of social objectives to produce the domestic order and well-being long associated with the memories of the best Chinese states historically; (b) the restoration of the geopolitical centrality and status China enjoyed for many centuries before the modern era; (c) the desired admittance to the core structures regulating global order and governance. (p. 219)

Khan (2018) has a more parsimonious view of China’s grand strategy since Mao, which he considers as being just “to secure the state” (p. 245). As Khan recognizes, it is necessary to build up a solid economic base in order to secure the state, because it is “the economy [that] undergirds security” (p. 140), whereby “the development of national defense had to be subordinated to economic development” (p. 137). Whether with more elaborate or more simplistic intentions, after the consolidation of the new regime, China needed a bold and ambitious strategy to multiply the size of its economy in a short a time, so as to be able to attain its other strategic objectives, for example, reunification with Taiwan and geopolitical dominance. Within the analytical framework of this thesis, those objectives did not fall within the strategic autonomy of the country (they were not achievable), so China primarily had to expand its strategic autonomy through the rapid growth of its economy, in order for the grand strategy to turn those ambitions into achievable ends as quickly as possible. This is a perfect example of the dialectic between ends and means discussed in Chapter 3 (p. 69). Such a strategy was launched by the 3rd Plenary Session of the 11th Central Committee of the Chinese Communist Party at the end of 1978, and then reiterated by the 12th Party Congress in 1982 (Deng, 2012, pp. 7, 63).

The orientations of that plenary session set out a three-stage development strategy, the first step of which was to double GNP per capita during the 1980s. The second step was to double it again during the 1990s, so as to reach 1,000 USD per capita by 2000, and then the third was to quadruple it over the following 30 to 50 years, to reach “a medium standard of living” (Deng, 2012, p. 182).⁷²

⁷² This quote is from a talk Deng gave in April 1987.

a) Deng Xiaoping Development Strategy and the Proposed Framework of the Thesis

It is not the intention of this study to make a thorough analysis of the Chinese grand strategy or even of the strategy in point, let alone to enter into political or moral evaluations of their purposes. Merely, it is to point out the conformity of their developments and implicit framework with the conceptual framework underlying this thesis. So, a few more things still need to be highlighted in relation to the shaping of the strategy stated above. And there is no better source than the mastermind behind the strategy, because “it was Deng’s economic stewardship that put the PRC [People’s Republic of China] in a place where it could use economic power to its full potential” (Khan, 2018, p. 242). Even Kissinger (2011a) acknowledged that “the China of today – with the world’s second-largest economy and largest volume of foreign exchange reserves, and with multiple cities boasting skyscrapers taller than the Empire State Building – is a testimonial to Deng’s vision, tenacity, and common sense” (loc. 5005/Chapter 12).

First, recognition of the important and conditioning role played by circumstances in the unfolding of the strategy is necessary, as identified as a factor in Chapter 3 (p. 78). When talking to German Chancellor Helmut Kohl in October 1984, Deng explicitly recognized the important role of circumstances by saying that “China is very poor and wants to develop: it can’t do that without a peaceful environment” (Deng, 2012, p. 64). Two years before, in an exchange with the then-UN Secretary-General, Pérez de Cuéllar, he had been even more precise about how circumstances could interfere with the strategy, stating that China intended to reach the level of developed countries within the ensuing 30 to 50 years, and to that end it cherished “the hope of a peaceful international environment.” He acknowledged, however, that should war be imposed on it, its plans would simply be postponed for a number of years but would be resumed after the war ended (Deng, 1982). And in March 1986, in a talk with Prime Minister David Lange of New Zealand, he reiterated that the success of the modernization drive depended upon two factors, the first being domestic – the adherence to the “policies of reform and opening [up] to outside world” – and the second being the international circumstances of “a lasting peaceful environment” (Deng, 2012, p. 122).

Second, that strategy, in broad terms, is a dialectic between ends and means, performed over time, as explained in Chapter 3 (p. 69). Specifically, China wanted to modernize and strengthen its military capabilities (defense was one of the four modernizations set before the reform began, which remained the guiding orientations throughout the reform process). This

was recognized as impossible “without sound economic foundations,” and for that reason “science and technology should primarily serve economic construction” at that point (Deng, 1980a). But, if GNP was quadrupled by the end of the twentieth century, China would be quite powerful in terms of national strength, “because if [it] allocated 1 per cent of GNP to national defence, that would amount to \$10 billion and it would be easy to upgrade [its] military equipment” (Deng, 2012, p. 69). Interestingly, this calculation considers what can be a sustainably balanced level of income to be extracted from society for military purposes. Deng cites the experience of the Soviet Union, which allocated 20 percent of its GNP to national defense, thereby imposing such a “heavy burden on its back [that] the country bowed down,” while China “with \$10 billion could accomplish a great deal” (p. 69). But even for the purposes of the economic strategy, the intermediate objective of quadrupling the GNP by the end of that century would “be a significant achievement in another way too,” for it would “*provide a new starting point* from which, in another 30 to 50 years, [China would] approach the level of the developed countries” (p. 70, italics added).

Ultimately, to accomplish the aims of socialism, it was necessary to effectively develop the productive forces, and, in those initial circumstances, “the overriding task” was to throw the country’s “heart and soul into the modernization drive” (p. 117). Furthermore, the aim of the revolution was to liberate and expand productive forces, whereby “without expanding the productive forces, making the country prosperous and powerful, [the] revolution [was] just empty talk” (Deng, 1979c). So, objectives had to be negotiated through time, because some instrumental ones – e.g. prosperity and economic power – had to be achieved first, that is, they would be the required ground for achieving the most valuable ends of socialism. And for that purpose, “although a period of 20 years [sounded] quite long, the time [would] slip [by] very quickly” (Deng, 1980a).

In this case, however, the pursued strategic dialectic was also between ends and ways, inasmuch as, despite China being a communist regime, the authorities realized that if they wanted to attain the intended ends, they would have to draw “on some useful capitalist methods.” This was because “experience over the years [had] proved that a totally planned economy hampers the development of the productive forces” (Deng, 2012, p. 116). Market mechanisms and incentives, including private property and private initiatives, were therefore allowed to develop, albeit that “the basic means of production [are] still ... public[ly] owned ... [and] will remain predominant” (p. 71).

Finally, the relevant factors for the success of the economic strategy, and therefore for the intended widening of strategic autonomy, were the same as those pointed out in Chapters 5 to 7 of this thesis: economic growth, human capital, efficiency, openness to trade, technological development, savings, moderate but active use of foreign capital and experience, the country's solvability, and assurance of national strategic control of the economy.

As for economic growth, the ambitious goals and their rationale have been mentioned above. The need for human capital, and thus the qualification of human resources, was made very clear. At a meeting of party cadres in January 1980, Deng assertively stated the need to “master professional knowledge and skills,” because “economic construction involves a large number of trades and fields of expertise, each one requiring specialized knowledge and the constant accumulation of new knowledge.” He deliberately clarified that, despite the politics of the regime, the needs of the country demanded all qualified resources to be involved, and he imposed a particular responsibility on party cadres, noting that “being ‘expert’ does not necessarily mean one is ‘red,’ but being ‘red’ means one must strive to be ‘expert’” (Deng, 1980a). While the need to open up to foreign trade was acknowledged early in the process, it remained controversial for a while. In a speech at the 3rd Plenary Session of the Central Advisory Commission of the Communist Party, in October 1984, Deng stated clearly that “a closed-door policy prevents any country from developing,” and that the defined objective of quadrupling GNP was admittedly impossible to achieve “without the policy of opening [up] to the outside world.” Essentially, he recognized that it would not be possible to sell everything produced in China in the domestic market, and it would not be possible to produce at home everything that would be necessary for China (Deng, 2012, p. 70).

As for technology, it should be a top priority (Deng, 2012, p. 221), because “it has always been, and will always be, necessary for China to develop its own technology so that it can take its place in this field” (p. 224). To begin with, “advanced technology and equipment [should be] imported from the rest of the world” (Deng, 1978), as the country needed “experience in learning to absorb foreign science and technology” (Deng, 1979c). Once these imported technologies were mastered, they could then be used in other fields (Deng, 1979b). Relying on foreign capital was also proposed, whereby China encouraged “Chinese and foreign enterprises to establish joint and cooperative ventures and even [encouraged] foreigners to set up wholly owned factories in China ... as a supplement to the socialist economy” (Deng, 2012, p. 108). However, it was stated that the country should “take more than half of the earnings of joint ventures” (p. 71). Such trust would not pose a problem, because the “basic means of

production [would] still be state-owned,” and “even in a joint-venture with foreigners, half [was] still socialist-owned” (p. 71). Furthermore, the country “should not be afraid of borrowing money abroad, [but] *should not borrow too much*” (p. 155, italics added), as it was important to remain very careful about protecting the country’s solvency, without which “no one would invest in China” (Deng, 1979b). In any case, generating its own financial resources through savings was essential for the country and its strategic autonomy, so the incitement for the country to “economize as much as possible,” made it clear that it was not a short-term goal for one year or two, “but [extended] far in the future” (Deng, 1979b).

Many more examples and additions to the quoted statements could be provided to demonstrate the strategic relevance that Deng attributed to the economic factors identified in this thesis, as well as for his recognition of the relevance these considerations had for the state’s strategic autonomy. The examples provided are a collection of thought fragments from a long list of disparate interventions produced over a decade, and they do not constitute an organized theory or a formalized strategic framework. But this collection, in the one hand, proves that these thoughts were present in the mind behind the strategy and, in various ways, they shaped the success of the Chinese strategy that led the country to the international status it enjoys today, and which considerably expanded its strategic autonomy. And, on the other hand, it provides good proof for the theory developed in this thesis.

b) The Outcomes of the Strategy

It is not easy to make an accurate quantitative assessment of the extent to which the broad economic goals set by the strategy that emerged from the 3rd Plenary Session of late 1978 were achieved. In long-term economic statistics, there are changing valuation criteria, changing accounting criteria and perimeters, and data revisions which make it difficult to compare assessments or statements produced at different times. Comparing data in USD at 2011 constant prices (WEO), China’s GDP was multiplied by 2.2 (rather than by 4) between 1980 and 2000, but in 2018 it had already been multiplied by more than 16, which was the goal established for stipulated period of somewhere between 2030 and 2050. As for GDP per capita, the multiples achieved were 1.7 and 12, respectively, for those two reference periods.

Perhaps more significant is that, in direct comparison with the US, Chinese GDP, in 1980, represented 11 percent of American GDP, in 2000 it was still 12 percent, but in 2018 it reached 65 percent. GDP per capita – which also accounts for the population growth – followed roughly the same pattern: in 1980, Chinese values corresponded to 2.5 percent of the USA’s, in 2000, 2.6 percent, but in 2018 it already amounted to 15.3 percent.

Comparisons in real PPP (PWT 9.1), provide a slightly different picture. Chinese GDP and GDP per capita were, in 2017 (Penn tables only go up to 2017), 10 and 7 times higher than the correspondent values in 1980. But in comparison to the US economy, Chinese GDP, in 1980, was 27% of America’s while in 2017 it had already exceeded it.⁷³

In any case, the outcome of the strategy was a remarkable and unparalleled success, even if the success only became significantly impressive after 2000.⁷⁴ By 1980, China was the seventh largest economy in the world; in 2000, it was the sixth; and in 2010 it was already the second, as it remains today (measured in current USD). A note should be added that the population living in extreme poverty was reduced from 88 percent in 1980 to 2 percent at present (Roser, 2017). Tables 9.1 and 9.2 summarize the economic performance of China since 1980.

Table 9.1. China Economic Performance against its Main Strategic Competitors

Geopolitical Area	USD (2011 Constant Prices)							
	GDP (Billion)			GDP per Capita			Saving (Billion)	
	1980	2018	Avg Growth	1980	2018	Avg Growth	1980	2018
	Values							
China	708.7	11 917.8	7.7%	718.0	8 540.9	6.7%	98.9	5 978.1
USA	6 632.0	18 217.1	2.7%	29 136.0	55 649.9	1.7%	630.1	3 894.5
EU15	8 470.2	15 184.5	1.5%	23 937.6	37 349.4	1.2%	815.3	3 950.0
SUM	15 810.9	45 319.4	2.8%	10 080.2	21 283.9	2.0%	1 544.3	13 822.6
	Share in the Group (%)							
China	4.5%	26.3%	4.8%	7.1%	40.1%	4.7%	6.4%	43.2%
USA	41.9%	40.2%	-0.1%	289.0%	261.5%	-0.3%	40.8%	28.2%
EU15	53.6%	33.5%	-1.2%	237.5%	175.5%	-0.8%	52.8%	28.6%
China's World Rank (*)	#7	#2	-	#127	#71	-	#7	#1

(*) EU15 is not part of the rankings; only its individual countries

Source: Author’s calculations based on WEO (April 2019)

⁷³ To recall what was said in Chapter 5 about comparisons in USD and in PPP: As China is poorer than the USA, the prices of its non-tradable sector are lower than the corresponding American prices, whereby the same basket of products and services is cheaper in China than in the US, requiring, then, a lower income to acquire it.

⁷⁴ It should be noted that China joined the WTO in December 2011.

Table 9.2. China Economic Performance against its Main Strategic Competitors - Ratios

Geopolitical Area	Exports/GDP		Savings/GDP		Wealth (World Share)	
	1980	2018	1980	2018	1980	2018
China	5.9%	19.5%	32.4%	44.6%	1.6%	14.7%
USA	9.8%	12.2%	22.1%	19.0%	24.5%	18.8%
EU15		18.1%	22.3%	23.1%	40.3%	24.7%
SUM		16.1%	22.7%	27.1%	66.4%	58.2%
China World Rank (*)			#14	#4	#13	#2

(*) EU15 is not part of the rankings; only its individual countries

Sources: Author's calculations based on:

- (i) Export shares (except EU15) – World Bank
- (ii) Export share, EU15 – inferred from WTO Statistics for extra-EU trade of all 28 EU countries; no data available for 1980
- (iii) Wealth Shares – calculation explained in Chapter 7 (p. 106)
- (iv) All the rest · WEO (April 2019)

Based on the success of the strategy for the development of productive forces, to use Marxist terminology, China managed a wide enlargement of its strategic autonomy, which allowed it to reassess its role in world affairs and redefine its own ambitions in light of this new strategic context, because “ambition alters with circumstance” (Khan, 2018, p. 10). As to the context in which China became a military power, it endeavored to demonstrate this publicly in the military parade of the Chinese Republic's 70th-anniversary ceremony (see Hille & Liu, 2019); it has shown it is an economic power – having become the world's second largest economy; and that it is a technological power – as Table B14 testifies. Which, taken all together, has made the country the only credible challenger to American hegemony, as already stated.

It is in light of this new context that some of China's strategic initiatives have to be understood: primarily the Belt and Road Initiative (BRI) and the Made in China (MIC) 2025 plan. Rising above the close detail of BRI – its infrastructure projects and the rhetorical cultural envelope, namely – and appose its graphic representation onto the world map, it becomes clear that there is a deep strategic reach to the project. Such apposition becomes the graphic representation of a new Chinese grand strategy: the creation of a new world centrality – for the world to come in the future –, an alternative world view, opposed to the Western centrality that has dominated the world over, over the past two or three centuries. Mações (2019) goes even further, stating that BRI “is the Chinese plan to build a new world order replacing the US-led international system” (p. 6), and “is by design a project meant to encompass the whole world and the totality of human life” (p. 8).

China, over the past few decades, has amassed considerable potential power – economic, technological, and military – thanks to its enormous economic success, and has been turning this power into world influence and strategic assertiveness. As the country with the second largest savings pool and the largest accumulation of external surpluses against those of the rest of the world over the last quarter of a century, China has mustered considerable financial power. This power it has been employing to project its influence in the world and to dispute the Western dominance that has characterized international financial relations. Some of the more visible expressions of the financial capability that China has gained from its economic success and its frugality, include: lending to developing countries; investing in the infrastructure of developing and advanced countries; and taking controlling positions in Western companies. China has also been sponsoring the creation of an Asia-based supranational financial institution with a dominant Chinese influence – the Asian Infrastructure Investment Bank (AIIB) – rivalling the West-based World Bank and the Asian Development Bank; and has supported the infrastructure investments required by BRI in many countries.

As Horn, Reinhart and Trebesch (2019) point out in their working paper, the documentation in relation to China’s “expanding role in global finance” is poor, and this has led to a crucial lack of understanding and insight (p. 1). If everything – lending, portfolio investments, foreign equity, and direct investment – is accounted for, “China’s total financial claims abroad amount to more than 8% of world GDP in 2017” (pp. 5–6), culminating in a path “almost unprecedented in peacetime history, being only comparable to the rise of US lending in the wake of WWI and WWII” (p. 6). Furthermore, according to the same authors, “Chinese loans have helped to finance large-scale investments in infrastructure, energy and mining in more than 100 developing and emerging market countries” (p. 4). This situation creates considerable risk for some economies, because “for the 50 main recipients ... the average stock of debt owed to China has increased from less than 1% of GDP in 2005 to more than 15% of debtor countries’ GDP in 2017, at least.” This means that these nations’ debt to China accounts now “for more than 40% of [their] total external debt, on average” (p. 4). What is more worrying still about this lending is that, besides being almost all “official, meaning that it is undertaken by the Chinese government, state-owned companies or the state-controlled central bank” (p. 1), and being naturally “shaped by the geopolitical objectives of the Chinese government” (p. 2), “about 50% ... is ‘hidden’. Neither the IMF, the World Bank, nor credit-rating agencies report on these ‘hidden’ debt stocks, which have grown to more than 200 billion USD as of 2016” (p. 4).

The scope of this Chinese financial clout is already perceived as a threat by the US, whose last NSS document complains that “China is investing billions of dollars in infrastructure across the globe” (United States, 2017, p. 38). Furthermore, it is felt that these investments “reinforce its geopolitical aspirations” (p. 46), since the country is “using economic inducements and penalties, influence operations ... to persuade other states to heed its political and security agenda” (p. 46).

The potential strategic impact of the financial power that China has amassed with its accumulation of considerable savings is well acknowledged by Allison (2020), according to whom:

China can invest \$1.3 trillion in infrastructure linking most of Eurasia to a China-centered order. When Secretary of State Mike Pompeo announced that the United States would increase its own investments in the Indo-Pacific in response, he was able to come up with just \$113 million in new investments. (p. 32)

China is also vying for leadership on the technological front, notably with regard to artificial intelligence, biotechnology, and communications, whereby there is a fear that this area is becoming “weaponized” and a new front of power confrontation (see Newman, 2019).

On the more hard-powered front, China’s greater strategic autonomy, gained through its robust economy, has culminated in the strengthening of its military capabilities and in a greater demonstrative assertiveness of such capabilities as well. The extraordinary growth rates of its savings store have allowed the country to devote higher amounts of funding to defense, without sacrificing the expectations of its growing consumer society. It is now at the point where “Chinese and American military budgets will reach parity in 2028” and where “for conflicts close to the mainland or Taiwan ... China achieved full parity in 2017 and, by 2021, will deploy more fifth generation fighters in the area than the US” (Roberts, 2019). Even the most recent US National Security Strategy acknowledges that China “is building the most capable and well-funded military in the world, after our own” (United States, 2017, p. 25). With softer tones but leveraged upon the higher profile of its hard-power, China has also been an active promoter of alternative security alliances, such as the Shanghai Cooperative Organization.

c) Strategic Governance

The strategic governance of the economic sphere of Chinese strategy has been somewhat facilitated by the authoritarian nature of the regime. Of course, there were conflicting interests and preferences throughout the course of the strategy – from design to implementation,

from ends and means to ways. Although there were winners and losers, all disputes were somehow contained within the governing party. Even the objective of prosperity was not consensual at all points, because, as Deng reported in an interview with Frank B. Gibney, in November 1979, the “Gang of Four said it was better to be poorer under socialism, than rich under capitalism,” which he considered to be absurd (Deng, 1979c). However, as already mentioned, the 3rd Plenary Session of the 11th Central Committee of the Chinese Communist Party had already approved the outline of the economic strategy at the end of 1978, which was reiterated by the 12th Party Congress in 1982.

But, if the authoritarian structure of the regime and the government’s exclusive ownership of the main means of production ensured effective control of the strategy, its effectiveness, and above all the efficient use of available resources, was seriously undermined by that same structure and the strict economic planning associated with it. To overcome such disadvantages, Deng introduced and expanded market mechanisms to regulate the economy and allowed the privatization of many activities, including into the hands of foreign private investors. Thus, with regard to both strands of the challenge of governance of the economic strategy – power creation and power control – this tactic had a tangible effect. Such a path opened the economy up to more efficient conditions in the first strand, that is, it created more economic power; however, in the second strand, the coordination process necessary for the effective control of power became more complicated, as decentralizing economic decision-making processes meant allowing such decentralized economic decision-making to serve other interests. However, as he explained, Deng was aware of the risks and was confident that the path he proposed following was the most effective means to the envisaged end:

There is no fundamental contradiction between socialism and a market economy. The problem is how to develop the productive forces more effectively. We used to have a planned economy, but our experience over the years has proved that having a totally planned economy hampers the development of the productive forces to a certain extent. If we combine a planned economy with a market economy, we shall be in a better position to liberate the productive forces and speed up economic growth. ... In the course of reform, we shall make sure ... that the public sector of the economy is always predominant. ... The policies of using foreign funds and allowing the private sector to expand will not weaken the predominant position of the public sector, which is a basic feature of the economy as a whole. (Deng, 2012, p. 116)

However, as Che and Qian (1998) point out: “without secure property rights, private enterprises played only a minor role ... and by 1993 the private sector accounted for only about

15 percent of national industrial output” (p. 467). In 1994, a new Company Law was adopted, after which “the Chinese government began to convert SOEs [State-Owned Enterprises] to corporate forms,” with some of the capital partly privatized, becoming “mixed-ownership firms, where the ownership and management of the firms were shared among state and private shareholders” (Milhaupt & Zheng, 2016, p. 4). In 2003, mixed-ownership firms were estimated to account for 40 percent of China’s overall economy, with the expectation that, over the following five to 10 years, this would reach 80 percent (Yuqing, 2003). And by 2010, mixed ownership enterprises (MOE) and privately-owned enterprises (POE) accounted for 42.9 percent and 22.6 percent of the total assets of domestic industrial firms, respectively, and for 42.3 percent and 34.6 percent, also respectively, of the industrial value added in the same set of firms (Meyer & Wu, 2014, p. 7).

The 3rd Plenary Session of the 18th Chinese Communist Central Committee, held in November 2013, committed to “improving the property rights protection system” and to “vigorously developing a mixed economy.” It acknowledged that “property rights are the core of ownership,” being necessary “to improve the modern property rights system with clear ownership, clear-cut rights and obligations, strict protection and smooth flow,” and that “a mixed economy with cross holding by and mutual fusion between state-owned capital, collective capital and non-public capital is an important way to materialize the basic economic system of China.” For this purpose, it would allow “more state-owned enterprises (SOEs) and enterprises of other types of ownership to develop into mixed enterprises ... [and] non-state-owned capital to hold shares in projects invested by state-owned capital ... [and] mixed enterprises to implement employee stock ownership plans” (China.org.cn, 2014). And so, “some of the best-known Chinese firms ... are mixed-ownership firms. In particular, publicly listed firms in China are typically of the mixed-ownership type” (Milhaupt & Zheng, 2016, p. 4).

Notwithstanding this large expansion of private and mixed ownership companies, it should be borne in mind that “ownership and control do not always correspond in China” (Meyer & Wu, 2014, p. 2). This is because “state control is far more extensive in China than state ownership” (p. 9), inasmuch as “the state’s influence on firms in China extends well beyond the matter of ‘control’ in the corporate management sense. Indeed, ... in China’s present institutional environment, the state could exert influence over firms irrespective of its direct or indirect ownership stakes” (Milhaupt & Zheng, 2016, p. 5). And the communiqué from the 3rd Plenary Session also made clear that the authorities “must unswervingly consolidate and

develop the public economy, persist in the dominant position of public ownership, give full play to the leading role of the state-owned sector, and continuously increase its vitality, controlling force and influence” (China.org.cn, 2014). Thus, and as noted by Elizabeth Economy (2018), “the Chinese leadership has maintained its commitment to the dominant role of the state as opposed to the market ... [which] is reflected in the continued use of SOEs as agents of the Chinese state” (p. 108). And, as reported by Feng (2016) in the *New York Times*, “China’s top leader [President Xi Jinping] made clear ... that the Chinese Communist Party had the ultimate say over state companies.” In the president’s own words, “Party leadership and building the role of the party are the root and soul for state-owned enterprises. ... The party’s leadership in state-owned enterprises is a major political principle, and that principle must be insisted on.” Less than a year later, Hughes (2017) also reported, in the *Financial Times* that, “China’s Communist Party is writing itself into the articles of association of many of the country’s biggest companies in a blow to investor hopes that Beijing would relax its grip on the market.” The measure did not only involve SOEs proper, because on the following day another column in the same newspaper reported that “more than 30 Chinese companies listed in Hong Kong – representing more than \$1tn in market capitalisation – have added lines to their central documents that place the Communist party, rather than the Chinese state, at the heart of each group” (Due Diligence, 2017).

The Party’s influence on Chinese corporate governance, beyond purely SOEs, is actually much broader than appearances may suggest, because:

[It] is misleading to view private firms in China as insulated from the state in ways that set them apart from SOEs. Rather, the human agents managing Chinese SOEs and private firms respond in similar fashion to their institutional environment, fostering close ties to state bodies, seeking state largesse, and resisting government policies that are not in their interests. (Milhaupt & Zheng, 2016, p. 5)

These same authors, based on publicly available information, have:

[I]dentified 95 out of the top 100 private firms and eight out of the top ten Internet firms whose founder or de facto controller is currently or formerly a member of central or local political organizations such as People’s Congresses and People’s Political Consultative Conferences. (p. 10)

And by late 2018, Jourdan and Ruwitch (2018) reported in *Reuters* that the official Party newspaper had said that “Jack Ma, the head of e-commerce giant Alibaba Group Holding Ltd and China’s best-known capitalist, is a Communist Party member.” Alibaba, it should be remembered, and as Table B14 shows, is the most valuable Chinese company and one of the world’s leading technological companies.

So, all in all, and as Lucas (2018) reminds us, “even after four decades of market-based economic reforms, the party places a high priority on maintaining state control over the strategic uplands of the economy – from finance to energy and media.” Moreover, strict political control of the economic process also ensured that all major strategic centers of the national economy remained under national control.

Therefore, the strategic governance of the Chinese economic sphere has relied on strict political control of the decision-making process, even in what has been apparently decentralized into private units. Under these conditions, the alignment of strategic interests among the different levels of decision-making becomes more straightforward. Whether this effectiveness in the strand of power control has sacrificed efficiency in the strand of power creation remains to be seen (albeit apparently it did not). But the overall effectiveness of the economic strategy, shown by the results presented above, seems undoubtable. This raises an undeniable challenge to other forms of political organization, whose economic effectiveness historically has been assumed to be superior.

d) Still a Way to Go

The economy has raised China to a higher strategic level, from where it is able to dispute Western dominance over the world; already, China is recognized as the main challenger to US hegemony. Russia, having been the main American challenger during the Cold War, and having a high military capability, no longer has the economy or the innovative capacity to play the challenger’s role. Yet, despite all of success in the past, China is still a middle-income country, with a per capita GDP that is 15 percent of the US’s and 85 percent of Russia’s (in USD; 29 percent and 62 percent, respectively, in PPP). Furthermore, as Chapter 5 discusses, the entire Chinese economy still has an overall level of efficiency (measured by apparent labor productivity) that is about one-fifth of the efficiency of the US’s, in spite of its already-advanced technological capabilities. Moreover, the economy is showing signs of strain, high levels of debt, overcapacity, and domestic imbalances (see Congressional Research Service, 2019, p. 25; Sheng & Geng, 2018; Wolf, 2018), and after the long period of fast growth, it is expected to slow down in the coming years. Furthermore, and in spite of its advantage at present, Chinese demography is expected to develop in a rather adverse way, as it is expected to have a bigger problem with an aging population than Western nations (see Figures B18 and B19).

Therefore, to maintain a credible challenge to US dominance, China will continue to depend on the success of its economic performance. Again, this stresses the central argument of this thesis.

9.3. The Case of Germany

Germany is a relatively recent state, the result of a process of unification of several German-based states under Prussian leadership, the final phase of which was led astutely by Otto von Bismark, the Prime Minister of William I of Prussia. Already a military power, it quickly established itself as an industrial power and as one of the main European economies with imperialist ambitions, being one of the instigators of WWI. Defeated, and despite having undergone two highly damaging economic crises within two decades – a hyperinflation and a depression –, it regained the strength of an industrial power and reawakened those imperialist ambitions, eventually leading Europe to another destructive world war. Defeated once again and occupied by the winning powers, Germany was divided into two countries, East and West Germany, separated by the “Iron Curtain,” which came to define the split between the two sides of the Cold War.

a) The Early Times

New Germany – the West part to be more precise – was, on the one hand, feared from the beginning by the occupying powers – France, the UK, and the US – as a potential threat if allowed to rebuild itself entirely, but especially if it rearmed. And, on the other hand, it was consumed by “the burdens of the past and the constraints resulting from the division of Germany” (Bulmer & Paterson, 1987, p. 1).

Surrounded by suspicious partners, atoning for “the burdens of the past,” and with the desire “to ultimately reestablish German society as a legitimate part of Western civilization and thus to ensure a future sovereignty” (Harnisch, 2013, p. 74), West Germany deliberately adopted a low profile. Thus, entering into a dialectic with time (as Chapter 3 describes), it gradually rebuilt its strength. This follows the thought attributed to Deng Xiaoping that it is better to keep a low profile when in a weakened position. Germany then pledged to rebuild itself and restore its economic strength while renouncing any military protagonism. It adopted “a pacifist ... and post-heroic attitude throughout large parts of society and the political sphere,” under “the pledge of ‘*Nie wieder Krieg, nie wieder Auschwitz!*’ (Never again war, never again Auschwitz) ... deeply ingrained in the German public consciousness” (Weiss, 2016, p. 61). In strategic terms, and rationalizing retrospectively, it could be said that the objective of West

Germany's grand strategy was to gain international acceptance by disengaging from anything that could be perceived as a threat and engaging peacefully and cooperatively with the international community, while building a powerful economy.

The path toward economic strength itself, though, would not easily be accepted either. It "would have been perceived as a threat," had Germany not integrated with other European economies in "a political arena of co-operation" (Bulmer & Paterson, 1987, p. 7). European partners were in need of the German economic capacity for their own development and the Western Powers wanted to prevent West Germany from slipping into the Eastern bloc, while fearing that allowing the country to regain too much power would turn it into a potential threat to peace. They came to conclude that "if you could not destroy Germany, then join her up to a European framework in which she could do no harm militarily but much good economically" (Judt, 2010: loc. 2978/Chapter 4). Then, in 1952, Germany, together with Belgium, France, Italy, Luxembourg, and the Netherlands, initiated a European arrangement that started out as the European Coal and Steel Community (ECSC), which was joined by the European Economic Community (EEC) in 1957, both to be merged in 1967 into the European Communities (EC). This grew to 12 members and then transformed into the European Union (EU) in 1992; it then expanded further after the end of the Cold War to the current 28 members.⁷⁵

Germany then took advantage of the European common market that economic integration had put at its disposal, developing an export-led economy with high-growth potential. In this way, it would gradually strengthen its economic power, which would eventually impose itself on conditions that the course of history would meanwhile render more favorable. It soon became the largest and most powerful European economy and, because of this unavoidable reality, its ascendancy in European affairs was gradually and stealthily affirmed.

For a combination of reasons – including the occupying powers' perception of it as potential threat, "the burdens of the past" felt by German society, and the conditioned sovereignty (or semisovereignty as pointed out by Paterson, 2005) – over many years, West Germany "played a much less important political role in the EC than its economic strength suggested," having a sort of "split identity of 'economic giant' but 'political dwarf'" (Bulmer & Paterson, 1987, p. 1). Thus, during the time of West Germany's conditioned sovereignty, the

⁷⁵ By April 2020 when this thesis is submitted it will be 27 countries, after the UK has left. However, at the time of writing, and for almost the whole time the thesis has been progressing, there were 28 countries.

EEC was broadly comparable to “a Franco-German condominium, in which Bonn underwrote the Community’s finances and Paris dictated its policies” (Judt, 2010: loc. 7489/Chapter 9).

b) Economic Development

A monetary reform in 1948, aimed at resolving the monetary excesses and the repressed inflation of the Nazi regime, and to exorcise the ghost of the hyperinflation of the 1920s (Hetzel, 2002, pp. 20–24), introduced a new currency – the Deutschmark (DM) – and created a new central bank – the future Bundesbank. These new creations would soon become a world monetary benchmark and a beacon of credibility and monetary effectiveness, symbolizing “everything that Germany did right after the War” (p. 28). And in a short space of time, the German economy became a hallmark of macroeconomic stability, financial probity, thrift, industrial innovation, and export capacity that made it one of the world’s leading economies.

By 1960, West Germany was already the largest European economy and the third largest in the world (after the US and the Soviet Union) (PWT 9.1), as well as the world’s largest exporter. By the time the Cold War ended, although surpassed by China and Japan in world economic size, Germany remained by far the largest European economy, the world’s second largest exporter (after the US), and the world’s third largest saver in terms of volume (after the US and Japan). Furthermore, its currency was one of the best-respected and valuable in the world and served as the anchor around which most European currencies had their own monetary and exchange-rate policies defined. This strength was behind the episode told in Chapter 4, when Jacques Attali, adviser to France’s President Mitterrand, compared the power of the DM to an atomic bomb (see p. 85). So, by this time, Germany had already mustered considerable economic power.

In 1991, after the communist regimes in Eastern Europe imploded, West Germany absorbed former East Germany, which the so-called Iron Curtain had separated. Having realized the old dream of a reunited Germany, the country automatically expanded its territory by 44 percent, its population by 25 percent, and GDP by 14 percent (East Germany was much less economically efficient than West Germany). This larger Germany faced a world from which the specter of war – and mainly the imminent threat to Western Europe – seemed to have vanished, and where the liberal principles of free market and economic efficiency had become the beacon of economic organization and of international economic relations. And with an economic model largely based on these principles, Germany experienced its influence growing considerably and suddenly, and became more assertive in the use of its potential economic power. This greater assertiveness was particularly felt in the conduct of the EU and, above all,

in the founding and subsequent orientation of the European Monetary Union (EMU), as well as in the management of the new common currency, the euro.

To be fair, Germany was reluctant to set up a monetary union, which it considered premature in view of the state of European economic conditions, and to which the German population feared losing their most trusted institutions – the Bundesbank and DM – in exchange for weaker ones. The financial probity to which the country was accustomed, which was considered the basis of its economic success, would be replaced by looser stances, more tolerant of inflation and economic imbalances (see Heipertz, 2001, pp. 20–41). Pressed by the political circumstances surrounding the reunification process, Germany acquiesced to EMU, but imposed its own rules. Therefore, the parts of Europe that joined the common currency came under the governance of German monetary rules and culture, despite the diversity of the underlying national cultures; inevitably contradictions emerged, complicating the functioning of the union (see Bento, 2013). With the prevalence of its ideas and its economic and financial conceptual framework over the eurozone, Germany became a sort of hegemon of the area, in the Gramscian sense, to borrow the interpretation of Markovits, Reich and Westermann (1996, p. 706).

Germany's power over Europe was especially evident during the euro crisis that emerged out of the international financial crisis, when, as the main provider of the funds needed to rescue the struggling countries, and seen by the markets as the guarantor of financial stability, Germany virtually dictated the conditionality attached to the rescue packages and controlled the whole process. Not that these actions produced the best results, ultimately weakening Europe economically (see Bento, 2018a), and triggering divisive political reactions:

[This made] Berlin the target of anger among Greeks, Italians, and others who had once blamed the EU bureaucracy in Brussels for their hardships. Germans were angry, too, resentful at bankrolling other people's profligate ways. Outside Germany, there was talk of an anti-German 'common front', and inside Germany, there was a sense of victimhood and a revival of old fears of encirclement by the 'weak economies'. (Kagan, 2019, p. 116)

However, the dissection of this exercise of power, even though it may have had important consequences for the process of European integration, and therefore for the role of Germany and its recognition by others, is beyond the object of this thesis.

What is important for the purposes of demonstration in the current chapter is to state that the power acquired by Germany, as Table B20 bears witness, stems from: (i) the size of its economy – the fourth largest in the world, measured in USD, despite being only the 17th largest

population, which implies a high level of economic efficiency; (ii) its capital stock – the world’s fourth largest; (iii) its high level of human capital – ninth in the world ranking, but with an index very close to the top; (iv) a high reliance on exports – the world’s third largest exporter in USD, behind China and the US; (v) similar to the US, being one of the “most important hubs in complex GVC networks” (Li, Meng & Wang., 2019, p. 9); (vi) its thrifty propensity – the fourth largest saver by volume in the world after China, the US, and Japan, which favors the self-financing of the capital needs for the development of the country and made it the world’s fourth wealthiest country (according to the estimations explained in Chapter 7), and which allows for the strategic control of the most relevant German companies to be kept within the country; (vii) having relied on foreign capital provided by the Marshall Plan to help kick-start the economy after WWII, and remaining open to foreign capital inflows, but turning itself primarily into a capital exporter, the second largest net creditor against the rest of the world; (viii) a recognized high-level of technological capability (at least until the so-called fourth industrial revolution); (ix) an appropriate institutional framework; and (x) a strong currency based on an industrious and financially strict culture. All of these factors were identified in Chapters 5 to 7 as relevant contributors to economic power and to the strategic autonomy of the state.

c) Strategic Culture

In view of the constraints imposed by the victorious powers, but above all by the “Never again war” pledge, Germany chose to become a “civilian power,” like Japan (another defeated power in WWII). This means, according to Kirste and Maul (1996, p. 297): (i) as a power, helping to shape international relations in a non-violent way, setting itself apart from the behavior of great powers in terms of objectives and strategy; (ii) as a role, orienting the foreign policy towards values aimed specifically at the process of civilization of international politics; and (iii) as a medium, achieving a specific goal, based on specific instruments, including the passing of some sovereignty to supranational bodies. Put more simply, Germany pursued a value-oriented foreign policy rather than a calculated one, favoring nonviolent means of resolving international conflicts and resorting to supranational cooperative institutions.

A civilian power, however, also pursues national interests, although it attains these by means other than the military. West Germany then chose to pursue its interests and ensure economic well-being and security through supranational integration and a general willingness to cooperate (p. 300). Upon joining NATO, the country took on a role as a joint security producer while, more importantly, submitting its own security into the hands of the US. Thus,

by becoming a founder and a crucial cornerstone of European integration, Germany helped to solve the German problem, binding the nation to the Western world (and its values), while at the same time limiting “automatically ... Germany’s freedom of action” (Creswell & Trachtenberg, 2003, p. 15). Or, translated into the conceptual framework of this thesis, automatically constraining its strategic autonomy. So, West Germany devoted itself to developing its economy, creating prosperity, and building economic power.

d) German Reunification

Full sovereignty was only attained in 1990 with the Treaty on the Final Settlement with Respect to Germany, signed on September 12 by the two Germanies (West and East) and the Four Powers – the three Western powers already mentioned and the Soviet Union, which still had a military presence in East Germany. This treaty recognized: that “the unification of Germany as a state with definitive borders is a significant contribution to peace and stability in Europe”; that “with the unification of Germany as a democratic and peaceful state, [these Powers’] rights and responsibilities relating to Berlin and to Germany as a whole [had lost] their function”; and that “the United Germany shall have accordingly full sovereignty over its internal and external affairs.” The unified state, though, pledged to limit its military capacity by the “renunciation of the manufacture and possession of and control over nuclear, biological and chemical weapons,” and by reducing “the personnel strength of the armed forces ... to 370,000 (ground, air and naval forces).” Moreover, to settle the Eastern front and bring the Soviet Union agreement into the reunification and into the new geopolitical situation arising from it, from 1990 to 1994, Germany eventually transferred, “to the Soviet Union (and latterly to Russia) the equivalent of \$71 billion (with a further \$36 billion going to former Communist States of Eastern Europe)” (Judt, 2010: loc. 15324/Chapter XX). From then on, however, “prosperity was to be the answer [and] Germany would buy its way out of history” (loc. 15345).

It is important to remember that it was the economic power amassed earlier, along with the role as a civilian power it assumed, that enabled West Germany to fulfill a fundamental objective of its (implicit) grand strategy: to bring the two sides of the former country together. Had it become a military power, that objective would probably have been unattainable without a war or a threat of war. Therefore, it seems reasonable to say that Germany’s strategic autonomy, and the practical consequences of it, in this case, were broadened through the work of its economy more than would have been the case by the “classical” military approach to strategy.

German reunification, and the implosion of the so-called Soviet Empire that made it possible, changed the geopolitical configuration of Europe and significantly modified the circumstances surrounding Germany, which for a long time had constrained its strategic autonomy and favored its passive role as a civilian power. This paved the way for a significant change in its role in the international political and strategic concert, and in its attitude to international relations. As Harnisch (2013) concludes: “geopolitical changes re-created Germany as a natural hegemon in the middle of Europe which would pursue an influence-seeking strategy, maximizing its institutional power vis-à-vis other European great powers, such as France and the United Kingdom” (p. 81).

Such changes, coupled with the extraordinary power that reunification has put in the hands of Germany, have led some analysts to project admittedly pessimistic scenarios for the future of Europe. This was the case, for example, with Mearsheimer (1990), who predicted a nuclear proliferation in Europe and the disintegration of NATO and of the EU, with Germany becoming a dominant nuclear power. However, despite the remarkable economic power that in itself would qualify the country as the third or fourth most powerful country in the world, Germany has continually refused to match such power with a corresponding military power, and so contradicted such doomsday predictions.

Nevertheless, despite Germany’s preference for its role as a civilian power above being a provider of world security, troubling challenges to its intended role were soon confronting the country. Aimed at preserving world peace and security, its Western military allies required the country’s direct involvement in the military operations promoted by the international community. In the beginning, Germany succeeded in heading off such requests by managing to limit its participation to the “checkbook diplomacy” of generous financial contributions (Brummer & Oppermann, 2016, p. 4), but soon this was regarded in some quarters as selfish and cowardly (see Seppo, 2017, p. 106).

So, the most shocking dilemma posed to Germany by the new geopolitical circumstances came when the shrapnel of Balkan disintegration, unleashed by the end of the Cold War, forced Germany to face the contradictions of a “Venusian” civilian power in a “Martian” world, to use the terminology of Kagan (2004). Above all, a disturbing question faced the country: Was it possible to secure peace without the willingness to make war? Forced by circumstances to get involved in the stabilization of the explosive situation in the former Yugoslavia (which it had helped to aggravate with the unilateral recognition of Croatia and Slovenia’s independence), and, as a NATO member, to become militarily involved in Kosovo,

an ethical-political dilemma confronted Germany. It had to make a choice between two evils, a difficult moral challenge from which it was difficult to escape unscathed: Refuse war and give the green light to genocide (the Serbians over the ethnic minorities, especially Muslims), or prevent genocide by waging war on the perpetrators. In another circumstantial irony of history, this dilemma was resolved by the most unlikely pair of actors: Gerhard Schröder, leader of the Social Democratic Party and then Prime Minister, and Joschka Fischer, leader of the Green Party and then Minister of Foreign Affairs, both pacifists. A short time before, during the Gulf War, both “had taken part in demonstrations against the U.S.” (Friedrich, 2000, p. 2). Fischer solved the ethical dilemma in favor of war on the side of the US with a memorable speech. He argued on the grounds that of the two pledged principles – “never again war” and “never again Auschwitz” – the second of these, tantamount to never again genocide, trumped the first, and therefore it was Germany’s moral duty to break the first principle to secure the (most valuable) second one (Fischer, 1999). Thus, against its post-WWII stance, Germany engaged in direct combat for the first time since the war – although only with airstrikes and without troops on the ground – without a mandate from the UN and in territory previously occupied by the Nazi army (Seppo, 2017, pp. 100–130). This unintended development served to demonstrate, as Seppo argued, how “the old Clausewitzian principle that war was a continuation of politics with other means was still valid to a degree” (p. 122).

Anyway, the purpose of taking this tangent through a troubling period has been to point out that, notwithstanding this occasional and circumstantially dictated deviation from its course, Germany’s strategic culture did not change, and the country soon reverted to its intended stance as a civilian power focused on careful management of its economy. And to ascertain itself in world affairs essentially as an economic power. This can be shown, among other examples, by the predominance that the government has given to budgetary orthodoxy over the adequate equipping of its armed forces, which many consider to be decrepit, as well as the fulfillment of its financial responsibilities towards NATO (Buck, 2018; *The Economist*, 2018). It is therefore clear that its economy and corresponding instruments remain the main weapons in Germany’s arsenal and the main determinants of the state’s strategic autonomy.

e) Strategic Governance

In Germany – a democratic country and a market economy dominated by private propriety and private initiative – strategic governance is obviously more complex than in China. The political profile, whether at the level of government or in the political interaction between society and government, is more heterogeneous and more dialectical. In addition, having

decentralized economic decisions in a multitude of decision-makers with their own interests and scopes of power, naturally this makes the alignment of strategic interests and objectives more complex. Nevertheless, the success of German strategic governance has also been remarkable.

As for the government apparatus, Germany is a federal state, made up of 10 regional states (Länder) with their own governments and parliaments. At the federal level, political power is distributed between: the President of the Republic; the Parliament, with two chambers – the Bundestag, with the deputies, and the Bundesrat (or Federal Council), with the representatives of the Länder; and the government proper (i.e. the executive power). The Chancellor, who leads the government, “shall determine and be responsible for the general guidelines of policy.” The Federal Ministers, within the limits set by those guidelines, “shall conduct the affairs of his department independently and on his own responsibility” and whose differences of opinion shall be resolved by the whole government (German Constitution, 2014: Art. 65). The Federation conducts foreign affairs, but individual states should be consulted for the conclusion of treaties that affect them in some way (Art. 32). Likewise, “treaties that regulate the political relations of the Federation or relate to subjects of federal legislation shall require the consent or participation ... of the bodies responsible in such a case for the enactment of federal law” (Art. 59). The Constitutional Court has also proved to be an important decision-maker, including in foreign policy, by establishing the constitutionally acceptable scope of policy actions (Art. 93). And important regulatory functions, some with considerable political clout, are assigned to the Central Bank, the Bundesbank (some of which have since been passed to the European Central Bank – ECB).

As for the party system, there are two main parties – the CDU/CSU, in the Democratic Christian tradition, and the SPD, in the Socialist and Social Democratic tradition. A third party, the much smaller liberal-inspired FDP was, however, a determining factor in the formation of coalitions, alternating now and then with the two main parties, and actually becoming the longest sitting party in government prior to reunification. After reunification, the FDP lost power, and a new party – the Green Party, aligned with emerging social concerns such as ecology – gained the necessary votes to become relevant in political deals and to ascend to the government for a while. More recently, new parties have sprung up on the margins of the system, diverting the electoral base from major parties and complicating the government’s stability. However, and notwithstanding the natural democratic alternation in government, generally broad political continuity was ensured, inasmuch as “governance by consensus, with

the associated disappearance of the ideological distance between the main parties, became the norm for both the CDU/CSU and SPD” (Green & Paterson, 2005, p. 6).

But beyond the institutional apparatus of political governance, it is important to bear in mind that “the economy is governed through a corporatist policy consensus in which government, trade unions, and business leaders negotiate to regulate the economy while also relying on ‘expert institutions’, such as an autonomous central bank” (Harnisch, 2013, p. 76). Therefore, the broad political consensus between the parties that alternate in government, on the one hand, along with the “corporatist consensus” between the government and the most relevant economic actors on the other hand, has been paramount in providing political and social stability and, above all, in ensuring the alignment of interests and coordination of objectives of the different levels of decentralized decision-making with the strategic objectives of the state. Which is to say, this broad political consensus was essential for the effective strategic governance of the economic sphere of national strategy, which for Germany seems to be center stage of such a strategy. This has certainly been one of the key conditions behind the enormous success of the German economy.

Despite a highly decentralized model of economic governance, the alignment of objectives and interests is remarkable for having taken place without the forced coordination of a central authority. To the success of such spontaneous alignment and coordination, two interrelated factors have contributed decisively: a conceptual framework around the economy, a kind of ideology, widely shared, that has provided a consensual cultural context that favored the alignment; and a corporate culture and organization, coupled with an intertwining of common interests, which favored national control of the key strategic centers of the economy.

The conceptual framework around the economy rests on two pillars: Ordoliberalism and social market economy. Ordoliberalism is based on economic principles stemming “from the so-called ‘Freiburg School’ of the 1930s, a research program at Freiburg University led by economist Walter Eucken and law scholar Franz Böhm,” whose aim “was to investigate the interdependency of legal-institutional structures and economics” (Feld, Köhler & Nientiedt, 2015, p. 2). Its main tenets are competition, price stability, fiscal restraint, the importance of rules over discretionary economic policies, and the importance of the supply side over demand management (Matthijs, 2016, p. 142; Hillebrand, 2019, p. 6). In accordance with these principles, the government should refrain from intervening directly in the management of the economy – for it would be destabilizing – and should instead provide a set of rules and the constitutive principles for a perfectly competitive market, under which economic agents work

and compete. The government should also seek to have public finances balanced and on a sound path, and the central bank should conduct its monetary policy with the sole purpose of preserving the internal value of the currency, that is, ensuring price stability. The social market economy, in turn, was “introduced by Economics Minister Ludwig Erhard in 1948 ... and offered a socially conscious model of market capitalism” (Van Hook, 2004, p. 1). Its scope, in addition to incorporating Ordoliberalism, was widened to ensure social cohesion and economic co-responsibility between capital and labor, whereby “in a society in which national identity had been discredited, the social market economy gradually assumed a political and cultural significance in West Germany that transcended its ostensible purpose as a set of economic policies” (p. 1).

This broad cultural background fostered, in turn, not only the above-mentioned “corporatist consensus” in economic governance, but also a corporate culture where, as pointed out by Bourgeois and Lasserre (2010), employer and employees form a community entitled to the sharing of wealth: Without capital, there is no work (employers’ responsibility), and without work, there is no capital (employees’ responsibility). Further, the workers are entitled to participate in the management of the companies they work for within the so-called mechanism of codetermination (p. 195). All of this provides fertile ground for the easy alignment of social and private interests, all the more so because the German Constitution itself states that private property, being guaranteed, entails obligations and its use must serve the public good (Art. 14). This greatly facilitates strategic coordination by the government, notwithstanding a highly decentralized decision-making system.

As to corporate organization, Germany has also developed complex systems of ownership and control, utilizing pyramidal structures, network levers, cross-holdings, and governance mechanisms. This has been very successful in protecting German corporations from hostile take-overs (see Franks & Mayer, 2001; Moebert & Tydecks, 2007), thus preserving the main strategic centers of business activity under national control. National banks played a major role in this tangle of interests, entering boardrooms and leveraging control “by combining votes from stock they own directly, stock in bank-controlled investment companies, and securities they vote for [for] their brokerage customers” (Roe, 1993, p. 1993; Franks & Mayer, 2001, p. 6). These mechanisms, in addition to ensuring the national control of the key strategic centers of business, also favor the coordination of strategic interests and are ultimately an important instrument of effective strategic governance of the economic sphere.

f) Final Considerations

The choice to become a civilian power backed by its economic strength, while foregoing a prominent military role, may not have been merely the by-product of a culture marked by guilt and responsibility arising from Germany's confrontation with the consequences of its militaristic past (see Seppo, 2017, Chapter 5). It may have also been the best rational choice under the circumstances with which Germany and the Western world were confronted in the aftermath of WWII, the so-called "German Question."

On the one hand, and up to the end of the Cold War and reunification, Germany had its sovereignty restricted. Because, until 1955 it was "an occupied state, where the three western powers possessed considerable reserve powers, especially in the area of external relations, and Berlin was still under a Four Power status" (Paterson, 2005, p. 262). And with the so-called Bonn-Paris Conventions of 1952, it was subject to a kind of conditioned sovereignty. As an expression of this conditioned status, when incorporated into NATO, West Germany "was expressly denied any independent strategic planning capacity, the ability to engage in the development of ABC (atomic, biological and chemical) weapons or possession of any national units not assigned to NATO" (p. 263). Under these conditions, a more militarized option would have been of little value.

On the other hand, after regaining full sovereignty, had Germany chosen to match its economic power with a corresponding military power, such action very likely would have been viewed as a potential threat to peace. Undoubtedly, this would have triggered a preemptive reaction from the other Western powers (and eventually from the Soviet Union), which would significantly have undermined its strategic autonomy in the end. This may have made reunification unattainable and would have seriously constrained its economic strengthening.

Thus, becoming a civilian power under the protective umbrella of the dominant world power may have turned out to be the better choice for maximizing Germany's strategic autonomy and for gaining greater influence over international affairs in general, above all over European issues, a continent where its leading role has become obvious. Moreover, by refusing to be perceived as a security threat to the rest of the world, Germany (like Japan) may have made a far more valuable contribution to world security than if it had chosen to be a more active military participant. This development fosters the conclusion that by choosing to be only an economic power and to rely solely on its economic power, Germany succeeded in widening its strategic autonomy much further than if it had chosen to be a military power, by building-up the corresponding hard power. And also validates a crucial point of the framework developed in

Chapter 3, that the effectiveness of the instruments of power is circumstantially conditioned. And as experience has taught, the circumstances prevailing since the end of WWII, have favored the effectiveness of Germany's economic power more than they have favored the effectiveness of other countries' military power.

Looking to the future, the question arises of what Germany intends to do with the power it has amassed and, having become the dominant power in Europe, especially in the eurozone, how the country will use its position. Will Germany use its power simply to accumulate more power and to hoard it in a defensive and insecure "just-in-case" tactical stance; or, will it use its power to provide leadership and the public goods that a balanced development of Europe requires?

Paraphrasing what Kindleberger (1981, p. 247) wrote more generally about the world, Europe needs a stabilizer that commits it to providing the basic public goods necessary for stability, such as a market for distressed goods, a steady if not countercyclical flow of capital, and a lender of last resort to provide liquidity when the monetary system is frozen in panic. Germany, however, despite being the main beneficiary of the EMU (see Gasparotti & Kullas, 2019; Bento, 2018b, pp. 70–82) and having accumulated wealth all along, seems obsessed with – going back to Kindleberger's analytical references – what it perceives as free rides. Namely that the alleged profligacy of Southern Europe could bring about an excessive financial burden upon the country so as to undermine its standard of living. As a consequence, it recoils into a kind of defensive attitude, incompatible with what might be expected from good leadership. In the euro crisis, for example, Germany failed to provide the necessary leadership, acting too little too late. In the end, the collapse of the eurozone was prevented only by the practical overturning of the two most sacred principles of the conceptual framework of eurozone governance: no bailout (of countries in distress) and no monetary financing of governments, even if this ended up being provided indirectly, through the intermediation of other financial institutions.

Therefore, as argued by Kundnani (2012), Germany, "being more powerful within the EU than it has ever been, it is far from being a hegemon – and not because of its 'reluctance' to lead, but rather because it is not able or willing to make the sacrifices that hegemony entails." Moreover, by recoiling into the protection of its more immediate material interests, Germany has become more of a destabilizer than a stabilizer in the eurozone, with its continuing external surplus being tantamount to a "beggar-thy-neighbor" policy, in practice also tantamount to economic aggression towards its euro partners, particularly the most vulnerable ones. In an

often-quoted speech made in Berlin in 2011 (and later reported in the *Financial Times*), a former Polish finance minister stated his fears. He is quoted saying that he feared German power, less than he was beginning to fear its inactivity, because Germany had become Europe's indispensable nation and, as such, it must not fail to lead: not dominate, that is, but to lead in reform (Sikorski, 2011). However, this statement was preceded by the following less-quoted interpellation, which is fundamental to a better understanding of its reach:

We ask Berlin to admit that it is the biggest beneficiary of current arrangements and that it therefore has the biggest obligation to make them sustainable. As Germany knows best, she is not an innocent victim of others' profligacy. In addition, Germany, which should have known better, broke the stability and growth pact, and its banks recklessly bought risky bonds. (Sikorski, 2011, n. p.)

Kundnani (2012), however, seemed skeptical about whether Germany would be capable or willing to overcome the biased view of its economic model, stating that:

By encouraging Germany to overcome its reluctance to lead, there is a danger of exacerbating the tendency in Germany to impose solutions on the rest of Europe that may seem to be in Germany's interests but are not in the European interest. (n. p.)

Coming back to Kindleberger (1981), "leadership to provide the public good of stability, properly regarded, misunderstood as exploitation, or sniped at by free riders, seems a poor system, but like democracy, honesty, and stable marriages, is better than the available alternatives" (p. 252). Will Germany realize this, or are we to suppose that the great German writer, Johann Wolfgang von Goethe, was right when he stated, "the Germans are, certainly, strange people. By their deep thoughts and ideas, which they seek in everything and fix upon everything, they make life much more burdensome than is necessary" (Eckermann, 1850, p. 415). Or, putting it in a way that is more aligned with the theme of the current thesis and the purpose underlying the choice of this case study: the strengthening of Germany's national economy has considerably extended the country's strategic autonomy, but it remains to be seen whether the power underlying this extension will be used as a lever to extend Europe's strategic autonomy and stability, or, on the contrary, if it will end up threatening both.

9.4. Common Features

The two countries chosen for this test have many divergences, starting with the contexts described in the preamble to this chapter, running through the development stage in which they found themselves at the beginning of the period under analysis, and right up to their ambitions, culture, history, political regime, territorial size, and their status at the end of WWII. However,

for the purpose of this thesis, highlighting these two examples was a choice taken because they are both paradigmatic examples of the theory developed throughout this thesis. And, in particular, both showed that the rapid development of their national economies was instrumental in the considerable broadening of their strategic autonomy and in the consequent expansion of their influence in world affairs.

For different reasons, both states had their strategic autonomy substantially narrowed at the end of WWII. For Germany, after having been defeated and occupied by the Allies, and having its sovereignty under the tutelage of those same powers. And for China, despite its enormous size, being an underdeveloped and relatively poor economy. They both realized two things: that they needed time to overcome this limitation, and that they could only overcome it by strengthening their economies. And they also realized that only by lying low over the period required in order to strengthen themselves, could they be committed to the task of building the economic power they needed without arousing hostility.

Then, the two countries expanded their economies largely based on export capacity, which required maintaining highly competitive economies. Both resorted to external financing at the beginning of their development, as a starting boost, but quickly acquired financial autonomy through high levels of savings. With these savings, they were not only able to respond autonomously to the capital requirements of their fast development, but they also accumulated considerable financial wealth. And, through successive external surpluses, they became net creditors to the rest of the world, a position in which they can leverage considerable influence over other countries.

Furthermore, both countries achieved a high degree of national autonomy in their economic fabric, with practically all of their main companies having their strategic centers located at home and controlled by nationals, with particular emphasis on those in the banking sector. The methods by which they achieved this result, however, differed considerably. In the case of China, it was through tight political controls and the political and administrative limitation of property rights. In the case of Germany, it was through a web of complicities among the economic elite, based on a widely shared culture and a vision of the country and its role, as well as on a network of cross-participation mechanisms used to leverage the control of companies and their governance. In both cases, however, the exercise of these processes of control only became possible, without seriously compromising economic efficiency, thanks to the abundance of national capital as a result of a culture of thrift.

Another similarity is that the two countries have enjoyed considerable political stability. Since 1949, China has had six paramount leaders and Germany has had eight heads of government, while at the same time, the US has had 13 presidents, the Soviet Union/Russia has had nine leaders (six secretary-generals and three presidents), the UK has had 16 prime ministers, France has had 10 presidents (and 36 prime ministers), Italy 29 prime ministers, and Japan a multitude of prime ministers.

A further factor in common is that the two main facets of both country's success – trade surpluses and high savings – having helped them to accumulate considerable economic power and external influence, are now seen as a threat to world stability in general, and to European stability in the particular case of Germany. In the case of surpluses, this is because external balances are a zero-sum game, whereby for some countries to be in surplus, others have to be in deficit, and the former accumulate wealth whilst the latter accumulate debt and dependence (see De Grauwe, 2013; James, 2010; Krugman & Obstfeld, 2008, p. 536; Bento, 2018a, pp. 5–7). Therefore, the insistence on maintaining their high surpluses is indirectly forcing other countries to build up dependencies. Savings at too high a level are seen as a risk because, according to some interpretations, there is a savings glut threatening world financial stability and risking a new major financial and economic crisis (see Bernanke, 2005; Baldwin & Giavazzi, 2015, p. 34; *The Economist*, 2017b; Bento, 2018b, pp. 48–54).

These two fundamental factors of economic power – high savings and external surpluses – have been used by both countries as a lever to exponentiate their power and, intentionally or not, as a threat to weaken the dominant power. It is, therefore, in this light that the actions of the US Government regarding the exports from these countries, but mainly from China, must be interpreted. They are aimed at containing a threat and a potential adversary, and not merely the instrument of a “trade war,” as the media appears to report the situation.

However, the main difference between the two cases lies, as already mentioned in the preamble, in the different uses that each country made of the economic power they accumulated and with the greater strategic autonomy that this power has given them. Germany chose to share its autonomy in a process of peaceful integration with other countries that, having started as economic integration, may end up becoming political integration. It has refused to engage in the build-up of military power and in the consequent dispute for military supremacy. China chose a different path, strengthening itself militarily, assuming a growing assertive stance of regional power, and being willing to dispute the hegemony of the current dominant power. This

raises the fears referred to in the Introduction, that China may be leading itself towards the so-called “Thucydides trap.”

Evidently, the different paths the two countries under analysis chose did not arise solely from the unconditional will of their respective political societies. They were also fostered by the surrounding circumstances, notably related to their respective concerns over national security. While Germany has its security guaranteed by its participation in NATO and, above all, by the protective shield of the US, under which the country has chosen to protect itself, China’s security depends entirely upon its own capabilities. Under these conditions, it was easy for Germany to choose to assert itself as a civilian power and rise to the idealistic temple of Venus, even if it was existing in a Martian world, to return to the terminology of Kagan (2004). It would have been difficult for China – living outside the realm of the American Olympus – to renounce the armor of Mars in a world that continues to be dominated by human passions and where force has not yet been put aside as the *ultima ratio* of security.

Finally, an important point the two cases have in common is that their experiences, albeit diverse, fully validate the theory developed by this thesis, and have shown how fundamental national economies are for the strategic autonomy of states.

CONCLUSIONS

This thesis has sought to find a proper and well-founded answer to the research question: *To what extent is the national economy relevant to a state's strategic autonomy?* In seeking to validate the answer to this question, which was triggered by the assumption that the economy has taken center stage in the strategic competition between states in the current world climate, the scope of Strategy as a social science was tested.

The critical literature review, which followed the chronological evolution of the corpus of thinking about strategy, made it possible to identify a clear correspondence between the course of this evolution and the changing social circumstances that have taken place throughout history. Certain circumstances, within which the complexity of societies has developed both within themselves (socially) and in how they relate to each other (politically/strategically), stand out.

As the prevailing circumstances throughout most of history have involved the recurrent use of force, or its threat, for countries (or equivalent polities) to attain their goals, this has meant that for a long time strategy has been equated with the art of war. Even more so since, historically, the main way significantly to increase wealth was by conquering and plundering other people's resources. Wealth acquisition and preservation was therefore dependent on the power to wage and win wars.

As social life evolved to become more complex both domestically and internationally, the study of strategy attempted to broaden its scope to include fields beyond the strictly military. Yet, somehow, war continued to be strategy's central concern. However, there have been manifold increases to this societal complexity since the end of WWII, with the exponential growth of affluence, trade, and cross-border financial flows causing the interests of various countries to be highly intertwined. At the same time, growing economic affluence has reduced people's will to fight in wars, while nuclear weapons, paradoxically, have reduced the escalation of conflicts. Combined, these aspects have turned another major war into a much less likely scenario.

These new circumstances brought about a major change in the foundation and nature of adversarial disputes between countries. As people became a lot more concerned with personal prosperity, the focus of their ambitions tended to rest mostly on the prospect of peace. Thus, for as long as a reasonable global security can be secured through the machinations of cooperative arrangements and institutions set-up by the international community, in the main,

states' focus will remain firmly on how their economies compete in the global marketplace, to provide the prosperity sought by their peoples.

As adversarial disputes between countries became less militarily inclined and more economically centered, the direct confrontational “matches” between states transformed into competitive “races.” However, this competition, even when playing out in cooperative environments, is still adversarial. Adversarial, because players compete for the world’s resources – from productive resources to purchasing power –, which by nature are scarce. Yet, although adversarial, and contrary to military confrontations, economic competition is a positive-sum game, in that, when disputing these scarce resources, national economies grow, and, as they grow, they also expand the size of the world economy and, thereby, increase the available resources under dispute.

Through this competitive process, national economies can expand their size as well as their wealth. Meanwhile, the economies of each country will grow, albeit at a different pace. Therefore, with their economies expanding at different paces, the relative economic power of the respective countries will change over time, with some becoming more powerful and others less. The result of this, sooner or later, will be reflected in the relevance and influence of each state in world affairs, with the consequent political and strategic implications this brings.

However, if it is mainly through economic performance over time that countries become more or less powerful, the economy should have started to assume a central role, both in the strategies of each country and in the study of strategy as a social science. According to the literature review, however, this does not seem to be the case yet, and thus, as this was seen as constituting a gap, the current research set out to contribute to the closure of it.

Of course, military capabilities will continue to be relevant, if for no other reason than to maintain a reasonably secure world order, as mentioned above. Condition on which, it is acknowledged, the effective working of the economy depends. However, military capability is of far greater concern for the small number of states that play, or aspire to play, a role as world or regional powers. However, the majority of countries, dubbed by this research as “common sates,” while concerned with, and committed to their own security, they are far more likely to be the beneficiaries rather than active providers of the security afforded by the said world order. In any case, it would not make sense to exclude these latter states from the realm of strategy, all the more so since some of these less militarily committed states have more influence in the outcome of world or regional affairs than some states with stronger military power.

Therefore, with greater or lesser focus on military matters, depending on the country's circumstances, a (grand) national strategy should be an essential part of good state governance. Such a strategy must include all areas of activity relevant for the state, all instruments of power within its reach, and all strategic theaters in which its interests may be at stake and where its ambitions could be realized. And the economy cannot fail to have a central role in staging this strategy. Such a broader strategy, with the scope and focus envisaged here, should, at least for "common states", replace the anachronistic *national defense strategic concept*. All the more so since, in accord with the mechanics of today's world, capital has replaced, so to speak, military equipment in the arsenal of weaponry used in the conquest and defense of the "economic bastions" of a state.

A state can operate effectively and succeed without a defined strategy – with stated ends, the means necessary to attain them, and the ways to better use those means for the attainment of the intended ends, all duly articulated – just by navigating the circumstances. Especially if it is part of a bloc – for example, a security community – from which security and prosperity can trickle down. However, a state that navigates the circumstances of the world without a strategy is akin to a ship navigating the open seas without proper navigational gear. It is easy to get lost in bad weather, and, in good weather, difficulties finding and pursuing the best route could still present themselves, which is a serious competitive disadvantage in a race. That is, without a proper strategy, a country does not have the competitive edge to prosper as it should, and, with time, this will lose the country relative power.

A clear set of priorities must guide the national strategy, and although the strategy should account for the foreseeable challenges and adversities that may get in the way of its goal, it must bear in mind that most of these are unpredictable at the outset. Circumstances will unfold over the continuum of time, evolving in a seemingly uncontrollable way. Thus, as uncertainty is the most certain and permanent element of what can be expected, it will be of paramount importance for the state to preserve as much strategic autonomy as possible. Only then will the state be able to cope with the inevitable surprises that the uncertain future will throw in the way of its strategy. This is why ensuring a comfortable degree of strategic autonomy must be an instrumental objective of any strategy.

While dealing with the concept of strategic autonomy, the research identified another important gap. From reviewing the literature concerned with this term, no established or operational definition of the underlying concept emerged. This is why the research proposed

contributing to closing this gap also, offering a definition of the concept “strategic autonomy,” as well as its operationalization within the scope of strategy.

In practical terms, the research came to realize that strategic autonomy is about instruments of power and their efficacy, which may vary considerably in accordance with the circumstances. Following such a realization, the proposed definition was *the margin of maneuver available to choose, adopt, and pursue achievable ends, within a relevant timeframe, given the power capabilities available, and their effectiveness, in the prevailing circumstances*. The operative word in the definition is *achievable*, because without being achievable, the ends would lie in the realm of ideals, thereby having little strategic relevance. Thus, in order to be achievable, the intended ends depend on: (i) the instruments of power (power capabilities or resources) owned by the state, or susceptible to being mobilized within the relevant timeframe; (ii) the effectiveness of those instruments; and (iii) the prevailing circumstances within that timeframe.

Power capabilities comprise not only all the power-yielding instruments in the domain of government – political, diplomatic, social, economic, and military – but also all of the other resources the government may be able to mobilize, whether through borrowing, renting, or confiscating, from other sources. The government can also leverage its own resources, whether with those of its society or those of its allies, thus expanding the range of achievable ends beyond what their own resources might allow. However, the autonomy thus acquired is conditional: it depends upon the government sharing common objectives with the leveraged party, which may prove to be transitory and reversible, whereby true and unconditional strategic autonomy presupposes sovereignty over the means and political autonomy over the ends.

Strategic autonomy, however, should not be confused with independence or sovereignty. Independence and sovereignty are binary: either you have them or you do not. Autonomy is gradual and variable, shifting between the two unattainable extremes of total and none (without strategic autonomy there is no independence). But strategic autonomy presupposes sovereignty inasmuch as it belongs to, and can only be exercised by political entities which have sovereign control over the means on which strategic autonomy rests. On the other hand, the degrees of autonomy enjoyed by the two fronts, political and strategic, are not necessarily coincident. A state may enjoy full political autonomy – the ability to decide autonomously its own ends – while having a very narrow strategic autonomy – very few achievable ends from which to choose (for lack of means).

Alongside the instruments of power, strategic autonomy also depends – sometimes heavily – on exogenous circumstances, not only because these may create unexpected adversities (and strategic surprises) but mainly because they influence the effectiveness of those instruments, shrinking or stretching the conversion of their potential power into actual power to attain the intended ends.

As reality is in constant flux, time is a crucial element for strategy in general and for strategic autonomy in particular. Time brings with it two things: uncertainty, regarding the circumstances, but also an opportunity to build up the necessary means, which may be unavailable or insufficient at the time the strategy is set. With the unfolding of time, circumstances may turn unexpectedly adverse, reducing strategic autonomy (by dwindling the conversion rate of available instruments of power) and making the strategic objectives more difficult to attain. Yet, at the same time, it allows for an incremental accumulation of the essential means, so creating the opportunity to widening strategic autonomy and the attainability of the desired ends, over the timeframe of the strategy.

The essence of a successful strategy, rather than defining the ends, is the build-up of the means needed to achieve the intended ends. Without the appropriate resources, ends are no more than mere ambitions. Therefore, a national strategy should involve a kind of dialectic game played with time, where the intended objectives are staggered along its course, while the resources necessary to achieve them are accumulated. Therefore, the longer the time available, the greater the scope of achievable ends to choose from (i.e. strategic autonomy) and the greater the likelihood of success. And strategic autonomy, depending on the instruments of power, as referred to before, becomes part of the said dialectic played out over time, and through which power is accumulated.

As the objective of the research was to pinpoint the relevance of the national economy to the strategic autonomy of the state, the research focused especially on economic power and its main sources. It sought to identify these sources, as well as how each of them may influence strategic autonomy, singly and collectively. Although other studies about strategy have addressed many of these instruments, an integrated approach to all of them within the realm of strategy, not to mention strategic autonomy, was not found. Therefore, this central focus of the research, besides its being the main purpose, also aims to contribute to closing another important gap in Strategic Studies.

The primary source of economic power is the size of the national economy. However, size itself would be of little strategic interest if it could not be changed by deliberate actions of

strategic decision-makers. Hence, the research sought to identify the variables, susceptible of such action, that could most effectively influence the growth of national economies. Regression analysis showed (not surprisingly in view of most literature on economic growth) that there are three key variables on which the growth of national economies (i.e. the change of their size) depends: (i) physical capital, resulting from accumulated investment; (ii) human capital, corresponding to the combination of labor quantity (the number of people employed, which depends mainly on the size of the population) with labor quality, which tends to reflect the level of education, knowledge, and professional skills of the workforce; and (iii) the productive efficiency of the resources in use, which depends mostly on the organization of the productive processes.

Physical capital is indeed a crucial variable for expansion of the economy, because to its direct contribution to growth, it adds another indirect contribution through the way it acts as a lever to the improvement of human capital. New additions of physical capital bring new technologies, which require, but also provide (through their practical operation) a higher level of labor skills, with which the quality of the workforce is being enriched. Another interesting finding, which confirmed what some of the economic literature already alluded to, is that the impact of human capital on growth is stronger in the advanced economies than in the developing ones. This suggests that the accumulation of knowledge and skills has a self-reinforcing systemic mechanism through leakages of knowledge and matching skills among the members of a society, whereby the more advanced a society is (in terms of knowledge, skills, and inherent affluence), the more this mechanism multiplies its effects.

Efficiency – getting greater and better output from the same amount of resources – is another essential source of economic size and power, whereby states with fewer resources – particularly in territory and population sizes – can overcome the relative scarcity of these, to become economically larger than countries with more resources, by becoming more efficient.

The integration of national economies into global networks of trade, value chains, and technological interconnections is both a powerful lever of economic power and a source of potentially dangerous dependencies. For this reason, integration requires very careful monitoring by a well-managed national strategy, in order to maximize gains in economic power and minimize dependency, thereby safeguarding the country's strategic autonomy along the way.

If used wisely, trade is mostly favorable for smaller countries, since it favors specialization – enhancing efficiency – and accelerating expansion of their economies.

However, trade does present a number of vulnerabilities, because what favors specialization and expansion also makes the beneficiary economy dependent on events and developments over which it has no control and which could be triggered intentionally against the country. This requires, then, careful strategic management, positioning the country to better profit from trade opportunities while also diversifying its markets and suppliers to prevent it from becoming excessively dependent on single events or counterparts. Particular care is required with the insertion into GVCs, especially if the national economy is positioned in the commoditized and low value-added segment of the chain, to avoid being caught in a kind of middle-income trap. This trap arises when elevation to this income level has been facilitated by insertion into a GVC, but where rising further through the value chain becomes increasingly difficult because of an inability to climb up the technology ladder or to acquire the necessary resources (e.g. knowledge, finance, and other intangible assets) to reach the ends of the associated “smile curve” of value distribution, where the most valuable activities in the chain are positioned.

Technology is an important driver of progress. Its development, however, has taken place in an extremely asymmetrical manner, concentrated within a limited number of countries and firms, which tend to settle within the most advanced economies. As technology evolves very quickly, this asymmetry tends to self-propagate, as those that can command enough financial resources to develop platforms that fuel their own expansion on network effects can quickly converge to monopolist structures that end up dominating the world market of their segment. Thus, the main threat to strategic autonomy, especially for countries positioned unfavorably in this technological asymmetry, stems from asymmetrical development of the technology and from the asymmetrical distribution of power that it brings.

This is particularly the case when a few actors, whose platforms have a worldwide reach and dominance, have a strategic center that is nationally located and dependent on the strategic interests of the state where the platforms are headquartered. In the face of this asymmetry, the more inserted a country is into the reach of such platforms, and the more its social life depends on them, the more vulnerable it becomes to disruptions triggered by them and the more its strategic autonomy risks being suddenly and abruptly constrained, especially at inconvenient times. Thus, designing contingency plans to prevent or minimize the effects of such disruptions is the minimum that a national strategy should seek to do in order to preserve the widest possible range of strategic autonomy.

Savings are a critical economic variable for a state’s strategic autonomy. On one hand, because it is the financing source of investments and the accumulation of investments

constitutes the physical capital stock, the importance of which has already been pointed out. So, this provides a direct link between savings and growth and, consequently, with the economic power that growth implies. On the other hand, savings build wealth, and wealth builds power: power to undertake, influence, pressure, and coerce, as well as to resist the exercise of those same powers by others.

When a country generates scarce savings, it has either to forego investment or resort to foreign savings. This resorting may temporarily expand strategic autonomy – making possible to achieve more objectives – by providing additional resources to the country, whether to invest and stimulate growth or to overcome unexpected adversities and other transitory difficulties. However, resorting to foreign savings also creates dependencies. If in the form of foreign debt – i.e. if the country borrows from foreign creditors –, the borrowing will have to be repaid, diverting future income to that effect; if in the form of FDI in national companies, these national companies will become dependent on strategic centers aligned with interests foreign to the national interest. These dependencies, if neglected, will end up restricting, sometimes considerably, future strategic autonomy, whereby careful monitoring of the use of foreign savings is essential to prevent it from becoming a crippling dependency.

Control over its own currency is another important source of strategic autonomy, as this control allows the country more freedom in the management of its domestic policies. However, as currency inevitably is a source of interaction with the rest of the world, it may become also a source of vulnerability, placing domestic policies in relation to foreign scrutiny and pressure. While such pressure may reduce the country's autonomy externally, it may however also exert a disciplining effect on the domestic political front, by preventing the subordination of the state's interests to rentier interests aimed at capturing the government. Under these conditions, but ensuring that the policies pursued are consistent with a stable currency, a solid mechanism for self-discipline in the pursuit of a long-term development strategy can be built, and this can be a smart way to transform a potential vulnerability into a long-term enhancer of strategic autonomy.

Most of these sources of economic power involving economic interactions with the RoW, however, are double-edged swords; whilst they can bolster power, they can also increase the country's vulnerability. An appropriate comparison would be to see them like medicines, whose effectiveness depends on the dosage. Give the patient the right dose, and his or her condition and resistance may well be improved; give him or her too little, and the medicine

becomes irrelevant; while give a dose too large, and the medicine becomes poisonous, worsening the patient's condition and could even lead to death.

Another area the research has addressed is strategic governance, particularly with regard to the economic sphere of a national strategy. The main challenge on this front involves the management of two strands related to economic power. One strand involves creating the conditions to enable the various sources of this power to maximize their potential for creation and then transform that potential into real power. The other strand concerns the coordination of the multiple and dispersed sources of economic power, ensuring the alignment of all their interests with the interests of the state, so that the potential of accumulated power can become effective power for the state, and be used in favor of its strategic autonomy. This task is particularly challenging when the sources of economic power are privately owned and dispersed, having decision-making autonomy and pursuing interests of their own. And success depends largely on the nature of the political and economic regimes adopted by the state.

Market economies have been proven to be more effective than centrally planned economies at optimizing the productive use of economic resources and, therefore, in generating economic power. On the other hand, the alignment of the various sources of this power with the interests of the state, and the turning of this power into strategic autonomy for the state is more challenging in democratic regimes. In these regimes, private property prevails over the means of production, and the main sources of economic power are dispersed and managed independently by autonomous, decentralized units. In authoritarian regimes, however, the dominant role of the government over the economy makes it easier to turn economic power into a tool for strategic autonomy.

The alignment of private interests with the strategic interests of the state meets a particular challenge in the case of foreign-owned private companies. When the control of private companies is subordinated to strategic centers (the group's headquarters) located in another country, their interests are more easily aligned with national interests that are alien, if not adverse, to the host state's strategic interests. In the case of companies whose strategic control is located abroad, local subsidiaries may have operational autonomy but do not have strategic autonomy – they are not sovereign over their means, nor autonomous decision-makers over their ends. This challenge is of little importance when regarding most foreign-owned companies that have little relative and differentiating relevance in the country's economic fabric. But it will be particularly relevant in the case of companies that, alone or together, have market power in highly sensitive sectors of the national economy or that play some kind of

structuring role in it, as is the case with vital infrastructures and, in particular, the banking sector.

The alignment of interests and the mobilization of dispersed economic power for the strategic autonomy of the state requires, among other things, that the government, society as whole, and the economic elite in particular are aligned with a common vision of the role of the country on the world stage. Presupposing this common vision, the private owners of economic power can also organize themselves effectively to leverage their individual powers in optimizing national control over the national economy, and by doing so, thereby fostering the country's strategic autonomy.

It has been argued on occasion that the sort of alignment envisaged above leads to the protection of rentier interests, undermining economic efficiency, and thus the country's prosperity. This is because, as the argument goes, efficiency is ultimately the goal of all companies and, if they are allowed to freely pursue their own interests, they end up providing more prosperity to the country. In an ideal world that might be the case, but the real world operates in a way that is far more complex than such a naïve vision of economics might suggest. Foreign companies hosted in another country primarily pursue the interests set by their headquarters, and these do not necessarily align with the interests of the host country. This is particularly the case when the interests of these companies are mostly extractive, but even when this is not the case, if there are competitive interests at stake between the country of the headquarters and the host country there can be little doubt about which side will gain favor. As to the potential protection of rentier interests and other opportunisms, it is indeed a real risk. However, it can be prevented, or at least mitigated, with adequate regulation and proper and transparent mechanisms of institutional governance, in the public as well as in the private spheres.

Economic efficiency, being an important condition for economic growth, as pointed out above, cannot be either the sole or the dominant criterion to assess the strategic options regarding the economy. This is particularly true if it disregards who benefits and loses from such efficiency, and how. For strategic assessments, existence – preserving political and strategic autonomy for the state – must precede efficiency. A state's existence must ensure the principles and values that the people who formed its existence collectively own and these principles must be regarded as more important than the efficiency of the economy. Furthermore, by existing, however inefficient its economy may be, a country can always improve its efficiency and the level of well-being of its citizens.

Therefore, for as long as the people of a state have the will to exist as an independent state – which necessitates a level of strategic autonomy – it is the government’s duty to prioritize the preservation of the effective existence of the state. In doing this, governments should also bear in mind that it is not only military domination of the country that will strip it of its strategic autonomy; economic domination can produce the same outcome and, in the current world conditions, is more likely to do so.

To test the theory developed by this research, two countries – China and Germany – were chosen as paradigmatic cases in Chapter 9. China provides persuasive validation of the theory put forward by this research: After WWII and until the beginning of the 1980s, China was seen as an underdeveloped and poor economy, whose power derived mostly from the size of its population. Aspiring to be significant in world affairs, China recognized the need to acquire economic strength and implemented a long-term economic strategy. High growth was supported by exports and high investment, and this, in turn, was supported by a high level of savings. While keeping a low strategic profile, in less than four decades, China’s strategy catapulted it to the top of the economic league in terms of size; allowed it to become a capital exporter, with which it has leveraged a considerable power of influence over other countries and the world affairs; moved it to the forefront of technological development, with the power to challenge global technological leadership in some areas; and provided the country with a strong military power. In short, the strategic autonomy acquired through the development of its national economy allowed China, in a relatively short time, to position itself as the main challenger to the dominant world power – the USA.

Germany provides another good case for validation, with a different finale. Having been heavily defeated, then occupied at the end of WWII, within a few decades the country became the dominant power in European affairs. Discarding military power – through both external imposition and societal choice – in a relatively short time, Germany rebuilt its economic power both with an export-led strategy and by taking high-worth positions in the main GVCs. Germany soon became the largest and richest economic power in Europe and one of the richest countries in the world. Furthermore, within the prevailing external circumstances, its economic power gained a higher conversion rate – from potential to actual power – than the military power of militarily stronger European states, making it the most influential European country.

In both cases, China and Germany built their economic power gradually while keeping a low strategic profile. Both had fast-growing economies based on exports and high investment, with high levels of savings, which not only supported high investment but also ensured the

national autonomy of their economies. Both reached a significant degree of articulation between the sources of economic power and the strategic interests of the state. In the case of China, this was achieved by virtue of the centralized and strictly hierarchical political authority of the government over society. In Germany, the same was achieved by strong cultural alignment between all the different actors, who easily shared and engaged in a common vision of the country's role in the world, creating an effective articulation that included all the decentralized private decision-makers. Both countries leveraged their individual power in effective governance mechanisms, and ensured national control over their own economy. Therefore, having started out with only narrow strategic autonomy, both countries widened it considerably by making their economies stronger. An economic strength achieved by the success of very effective economic strategies, whose effectiveness, in turn, was based largely on the fact that the strategy was broadly shared by their respective societies.

The experiences of these two countries, chosen as paradigmatic cases to test the theory developed by this thesis, albeit offering diverse experiences, fully validated all of the points of the theory. Furthermore, both experiences also provided an eloquent and assertive answer to the research question with which the research started out. Indeed, both experiences confirmed the extent to which, and why, the national economy is fundamental to the strategic autonomy of the state.

Further research could explore more deeply and extensively the mechanisms of articulation between the different sources of economic power, and scrutinize the relationships between its main actors and the actors of political power in governance structures in the making of a successful national strategy. Further research could also consider the concerns around national dependence on foreign strategic centers of economic decision-making. Another possible front for possible future research could be to integrate the economic perspective of this research into a more systemic approach to strategy, incorporating all of its multifaceted aspects, and putting this in light of complex systems theory. A fourth front could be to investigate to what extent the changes in relative power positions, brought about by the outcomes of economic competition, which the current research has compared to a parallel track race, can turn such competition back into a more direct confrontation of players positioned in opposing fields (like a match). This is seen as pertinent, given the signals currently in what is denominated as a "trade war," currently taking place between the US and China.

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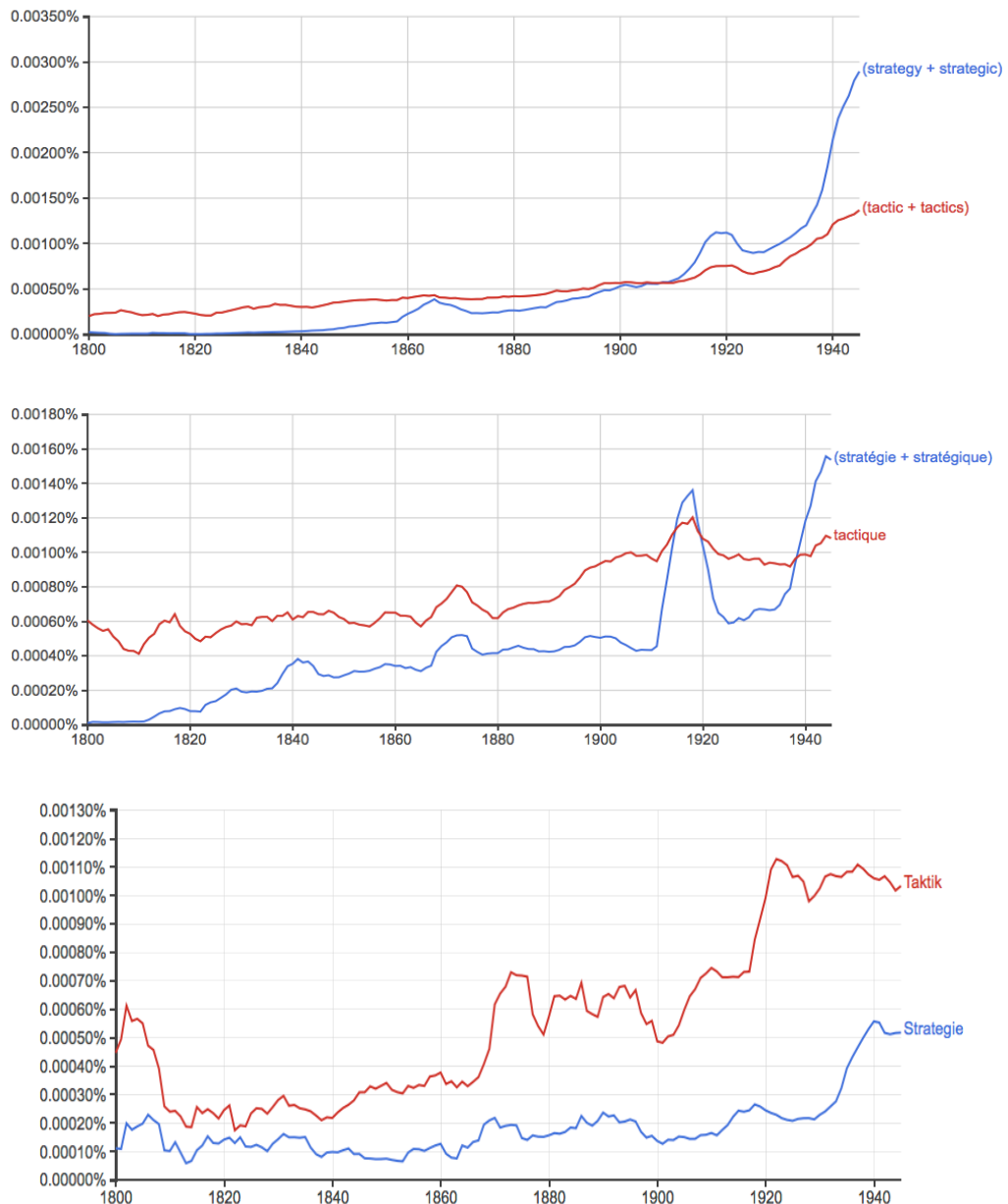
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APPENDIXES

APPENDIX A

Historical Frequency of Certain Words Used in English, French, and German Literatures^{76 77}

Figure A1. Use of “Strategy” and “Tactics” (1800–1945)



⁷⁶ Graphs to show the use-frequency of certain terms were drawn by Google Ngram Viewer or Google Books Ngram Viewer. This “is an online search engine that charts the frequencies of any set of comma-delimited search strings using a yearly count of n-grams found in sources printed between 1500 and 2008 in Google’s text corpora in English, Chinese (simplified), French, German, Hebrew, Italian, Russian, or Spanish” (Wikipedia)

⁷⁷ Please note the different (automatic) scales of the graphs.

Figure A2. Use of “Grand Strategy”



Figure A3. Use of “Strategy” and “Strategic”

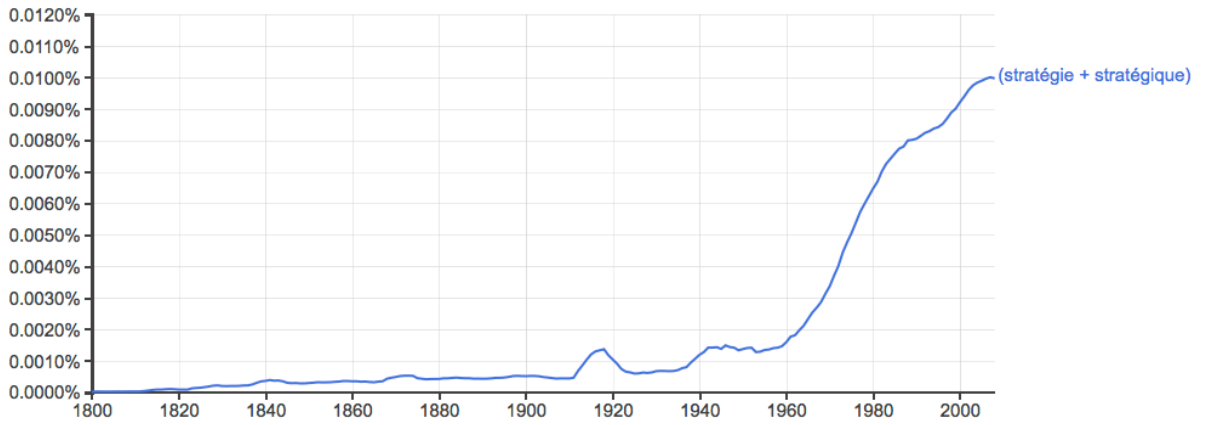
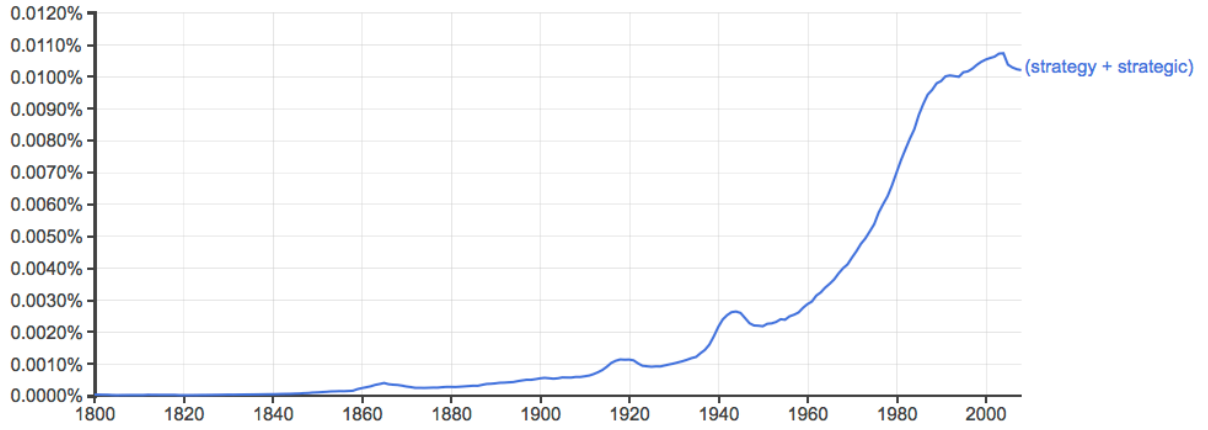


Figure A4. Use of Different Qualifications of “Strategy”

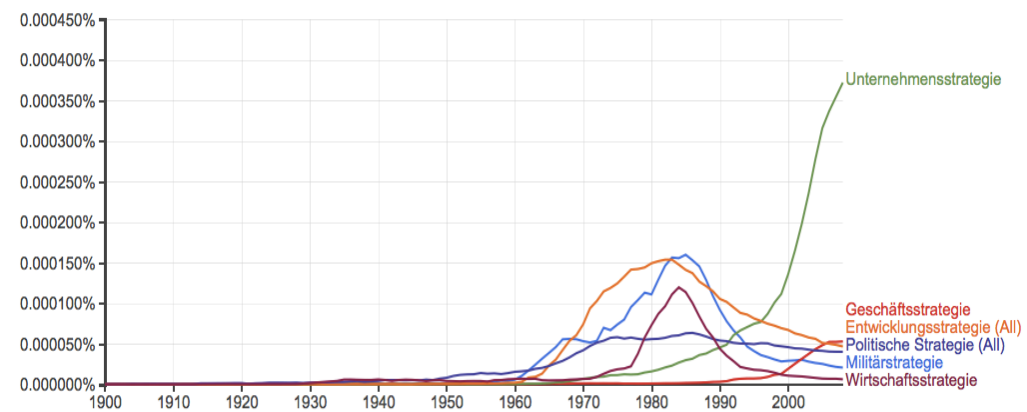
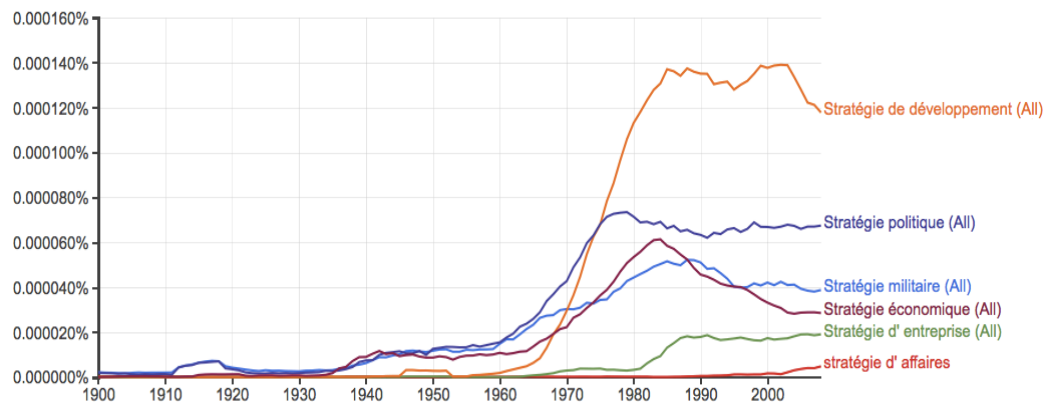
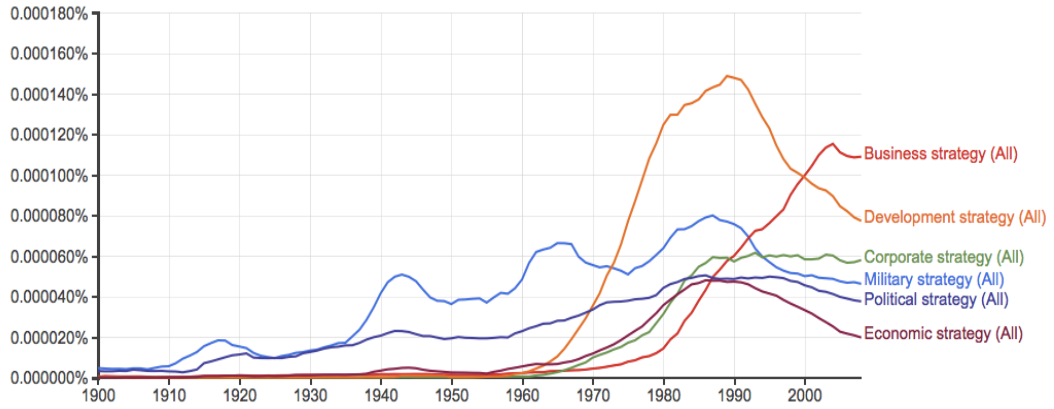
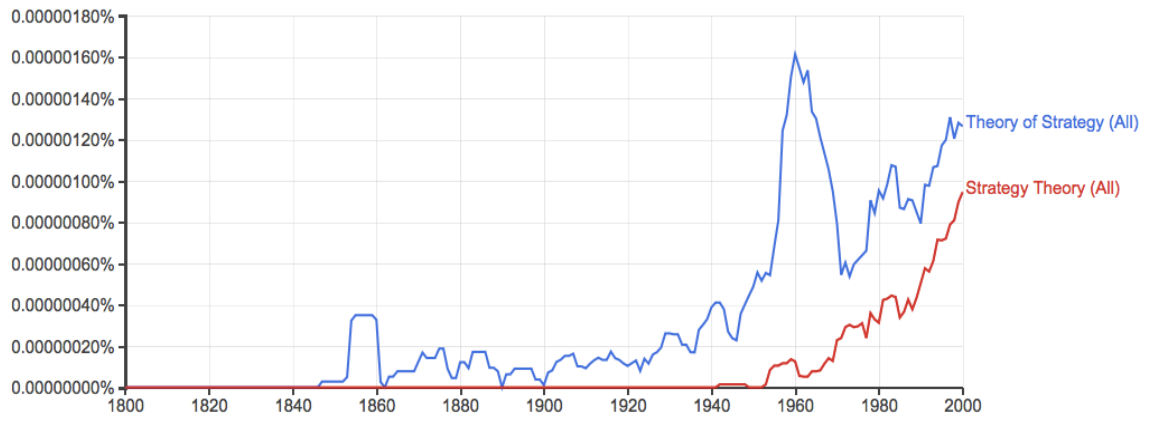


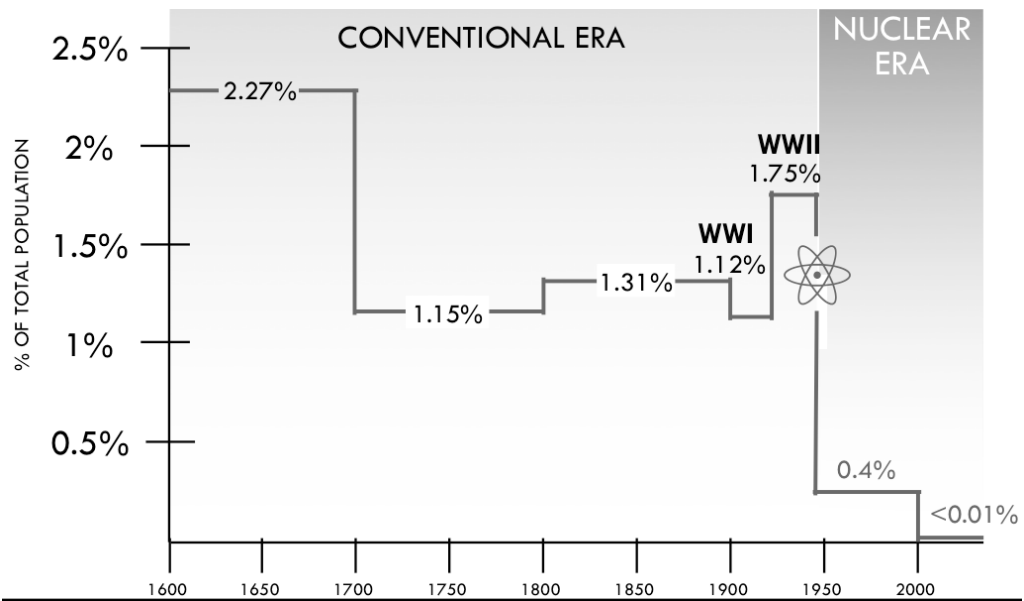
Figure A5. Use of “Theory of Strategy” (or Equivalents)



APPENDIX B

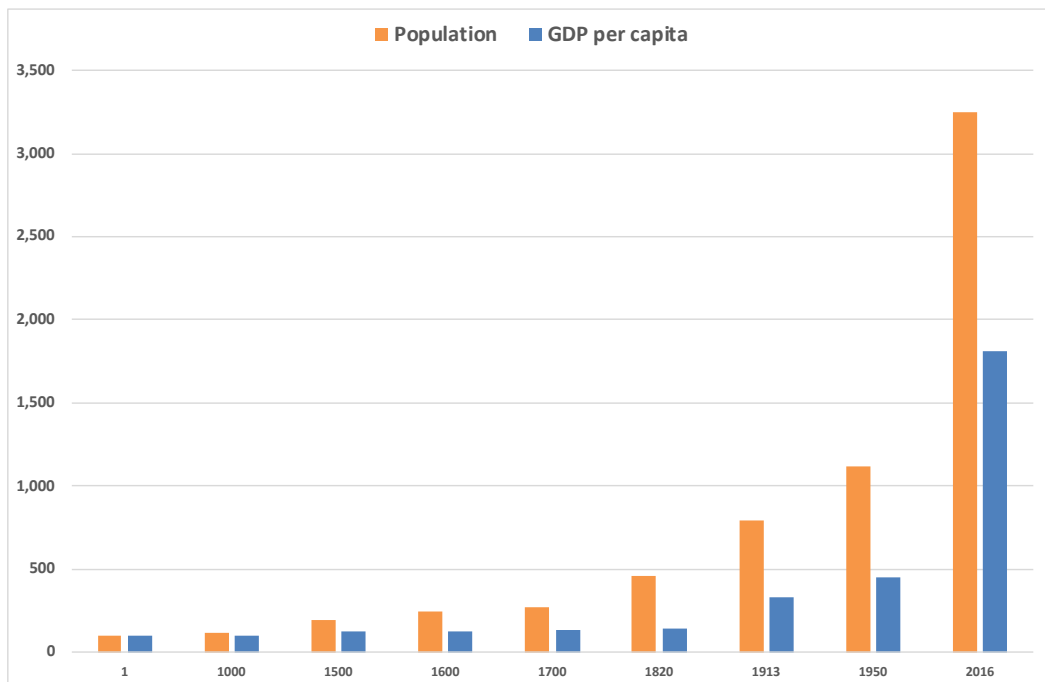
Supporting Data

Figure B1. War Victims (Military and Civilian), Since 1600: Percentage of the World Population



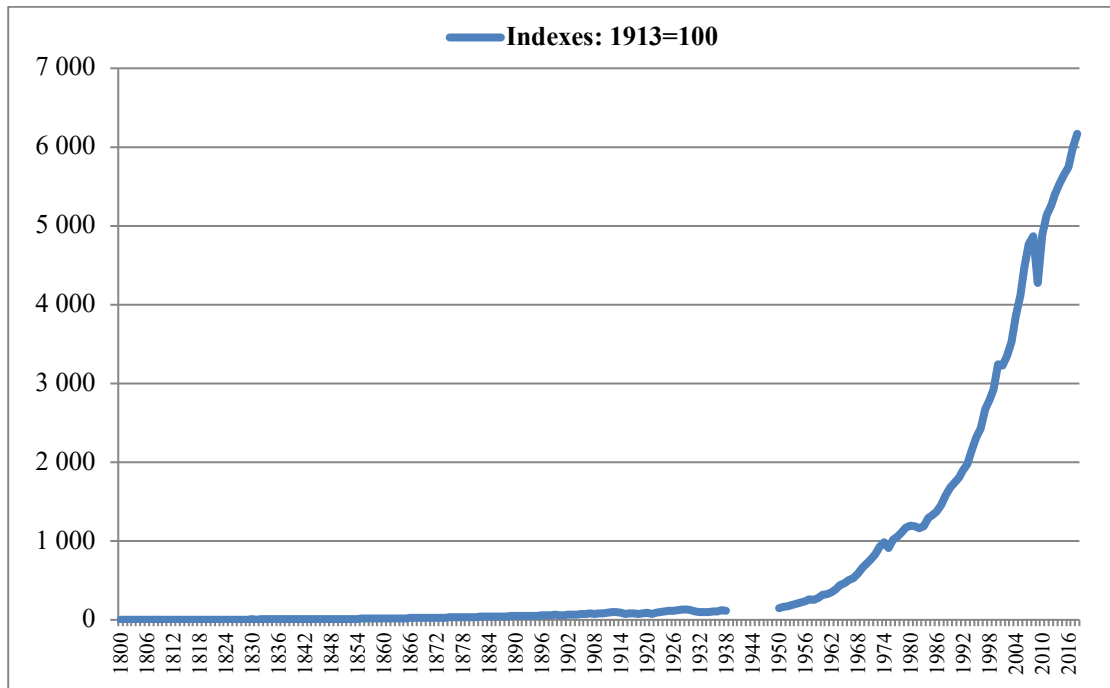
Source: US DoD (2018, p. 17)

Figure B2. Population and Welfare (Index Numbers: Year 1 AD = 100)



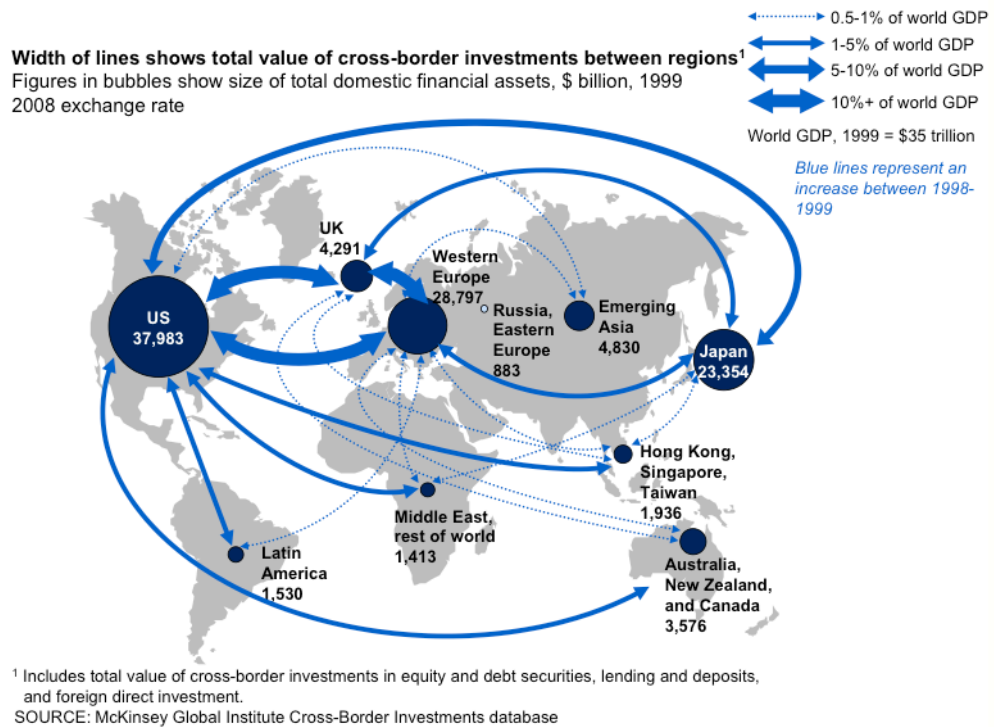
Source: From 1 to 1950: Maddison (2007); 2016: PWT9.1 and Bolt et al. (2018)

Figure B3. Time Series of World Exports at Constant Prices (1800–2018)



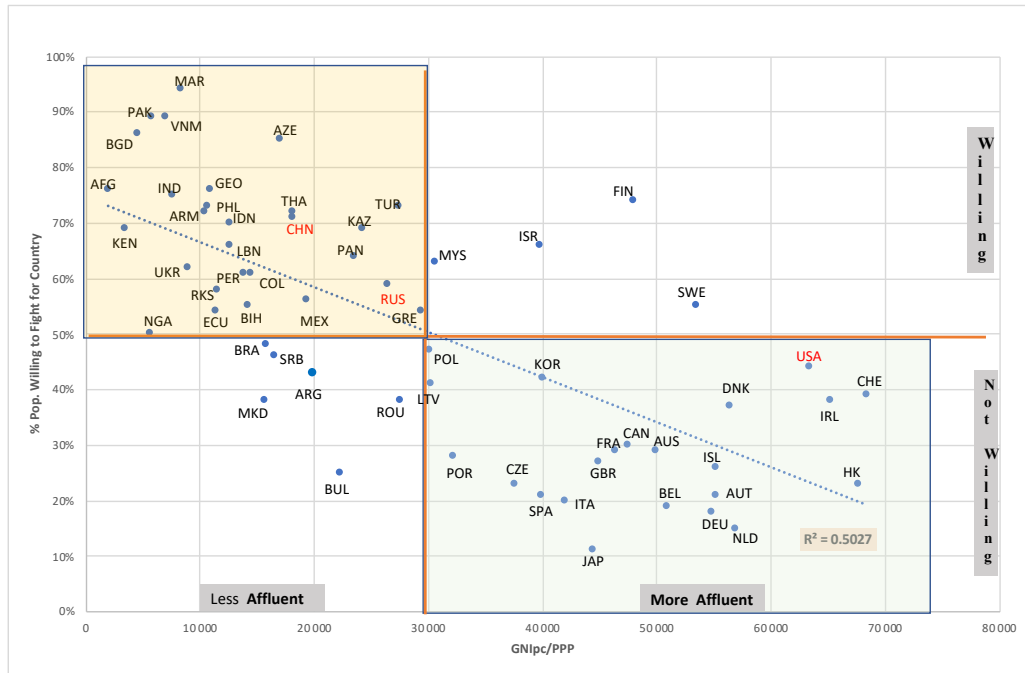
Source: Ortiz & Beltekian (2018) for data up to 1980 and WTO for the rest

Figure B4. The Web of Cross-Border Investments in 1999



Source: Roxburgh, Lund, Atkins, Belot, Hu & Pierce (2009, p. 17)

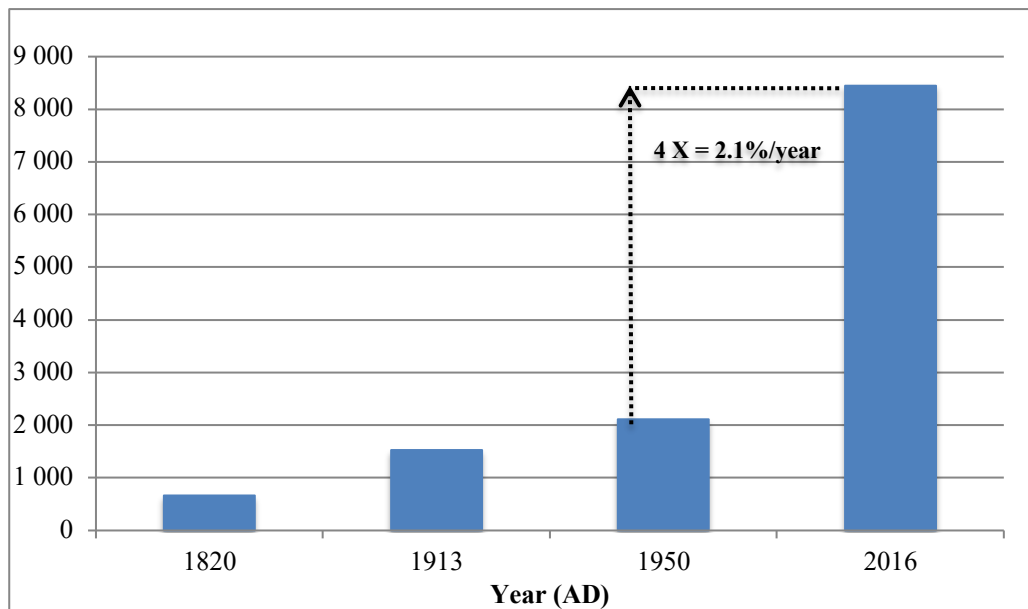
Figure B5. Affluence and Willingness to Fight



Note: 2015 Data

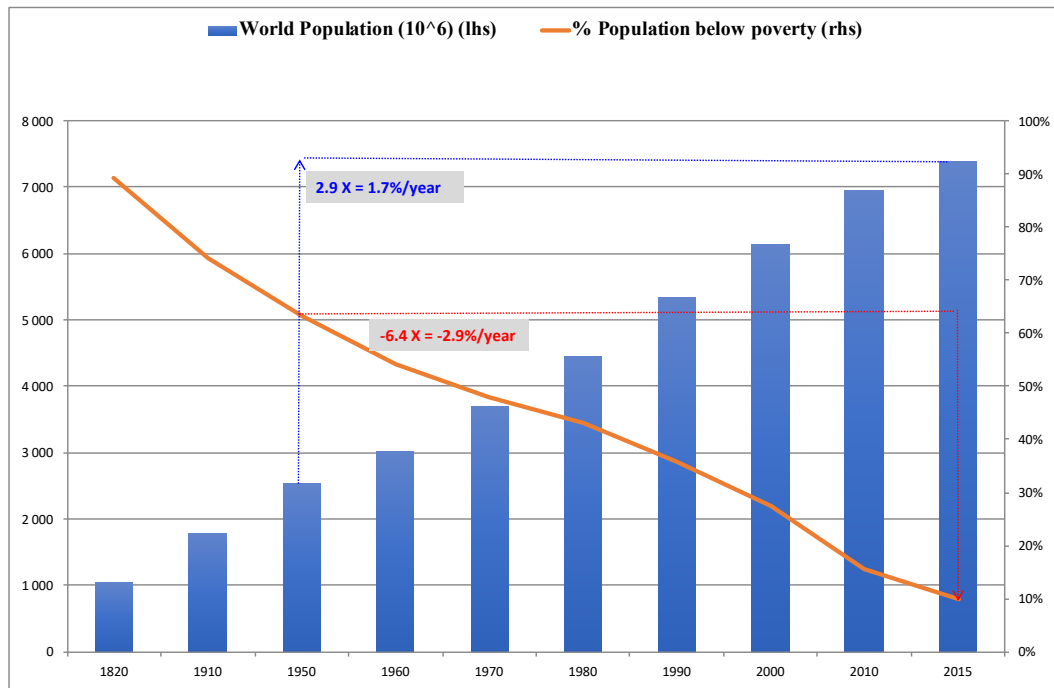
Source: Author's Calculation based on Stoychev (2015, p. 284) and World Bank (for GDPpc).

Figure B6. GDP Per Capita (PPP, Constant Prices)



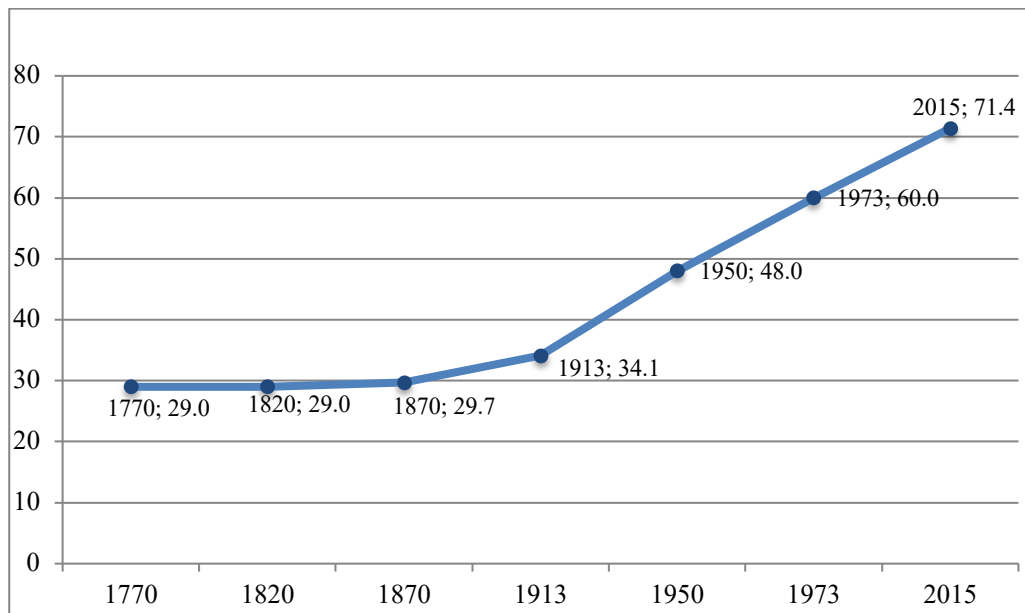
Source: Maddison (2007); 2016: Bolt, Inklaar, Jong & Zanden (2018)

Figure B7. World Population and Poverty⁷⁸



Source: On poverty: Hasell & Roser (2019); and World Bank Database (for 1981 onwards); population: 1820 and 1910 – Maddison Project Update (2018); 1950–2015: United Nations

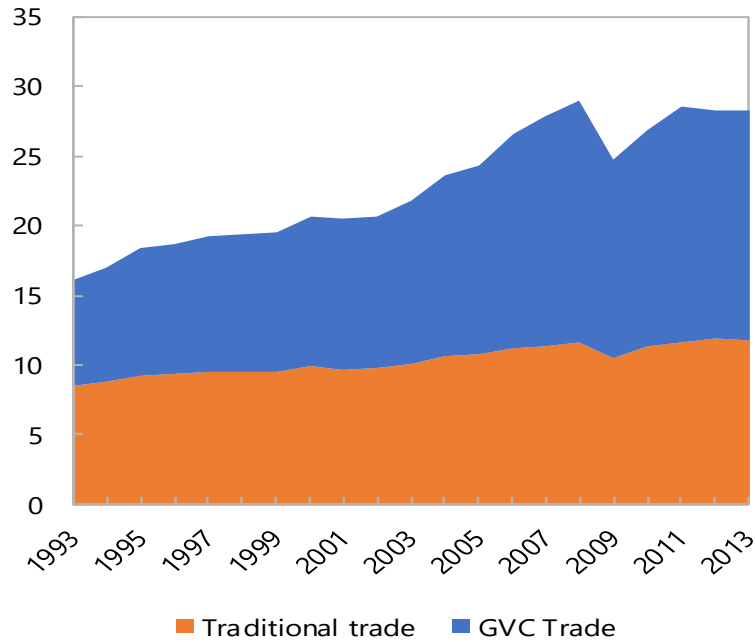
Figure B8. Evolution of the World Average Life Expectancy (Years)



Source: Roser (2019)

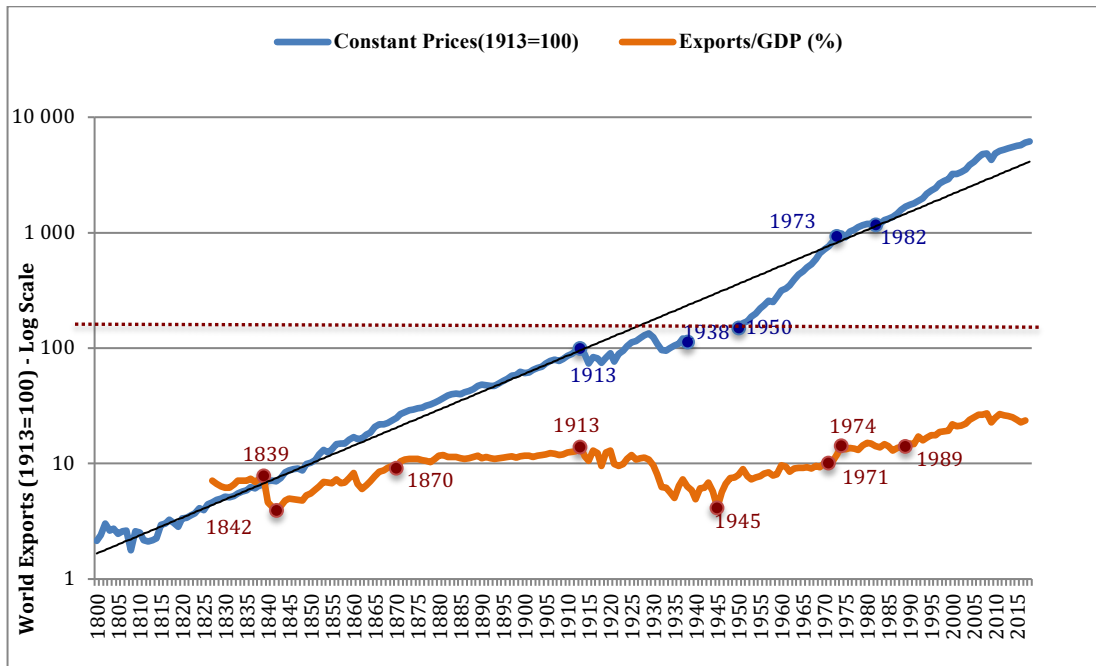
⁷⁸ The poverty line represents the percentage of the world's population who live on less than the daily equivalent of 1.90 USD (2011 PPP)

Figure B9. Traditional and GVC Trade (% of Nominal GDP)



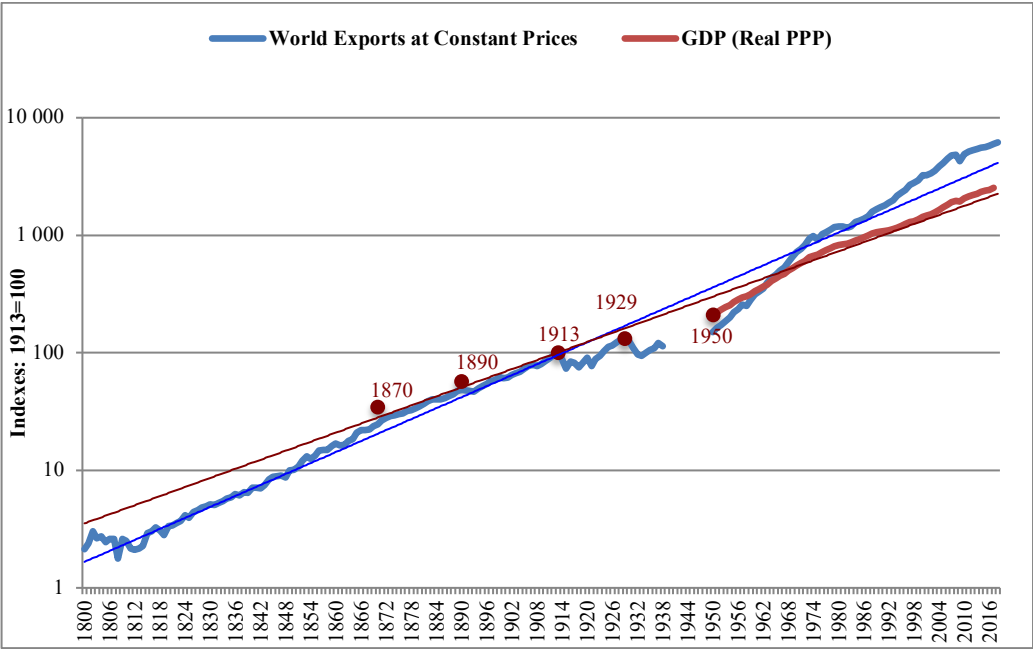
Source: Ignatenko, Raci & Mircheva (2019, p. 3)

Figure B10. World Exports (Logarithmic Scale)



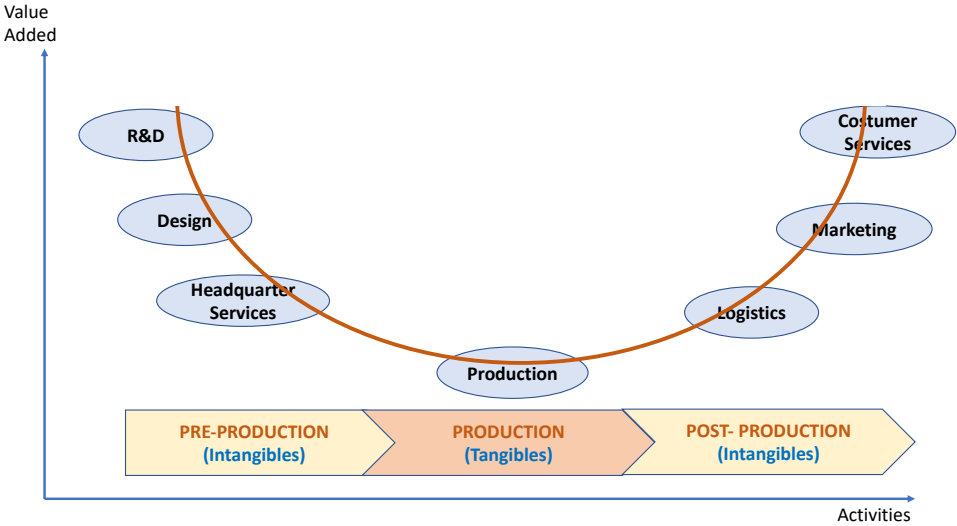
Sources: Export Volumes: OWID and WTO; Export/GDP: Fouquin & Hugot (2016), until 1949 and PWT9.1 onwards.

Figure B11. World GDP and World Exports (1913=100) (Logarithmic Scale)



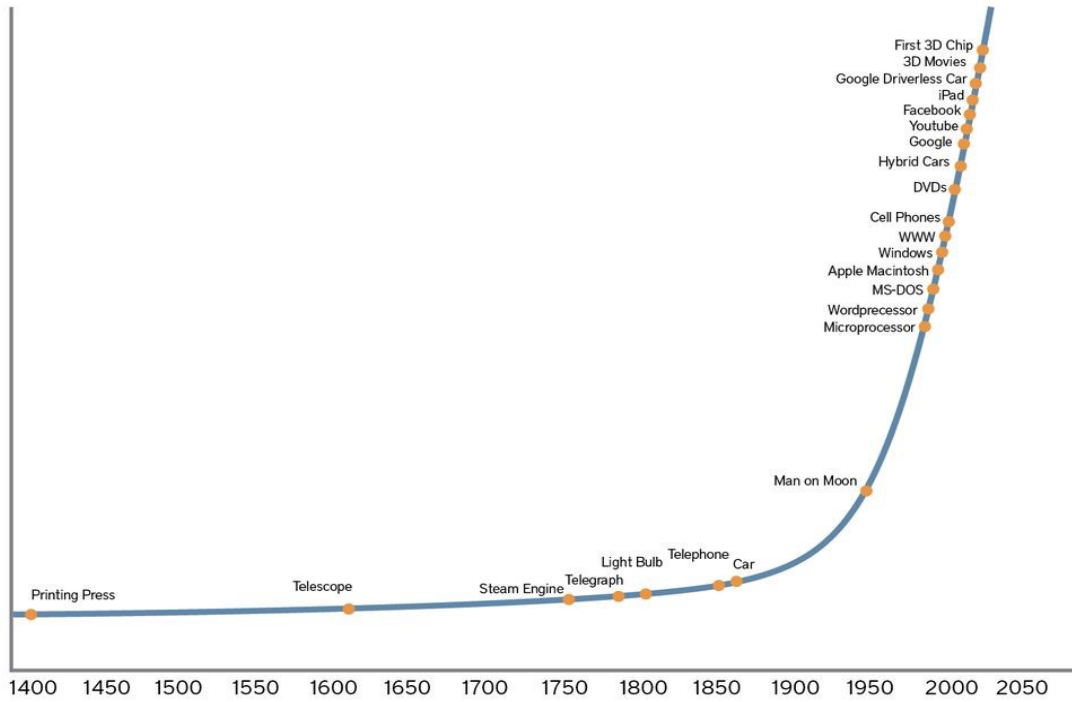
Sources: GDP: Maddison (2008); Export Volumes: OWID and WTO

Figure B12. The Smile Curve



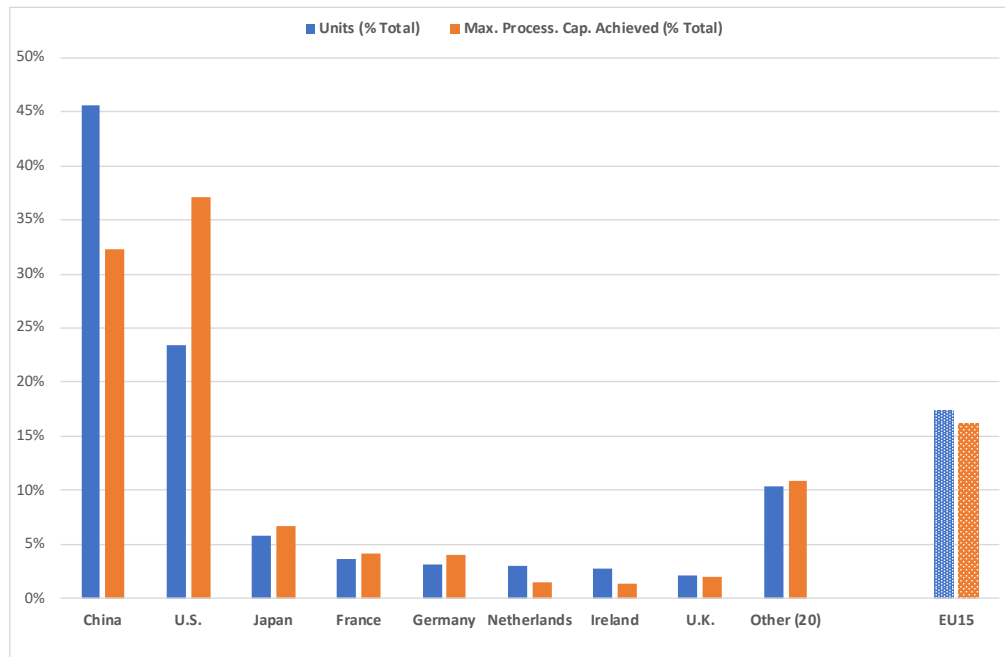
Source: Adapted from World Bank (2017, p.70, Figure 3.1)

Figure B13. Accelerating Growth in Technology



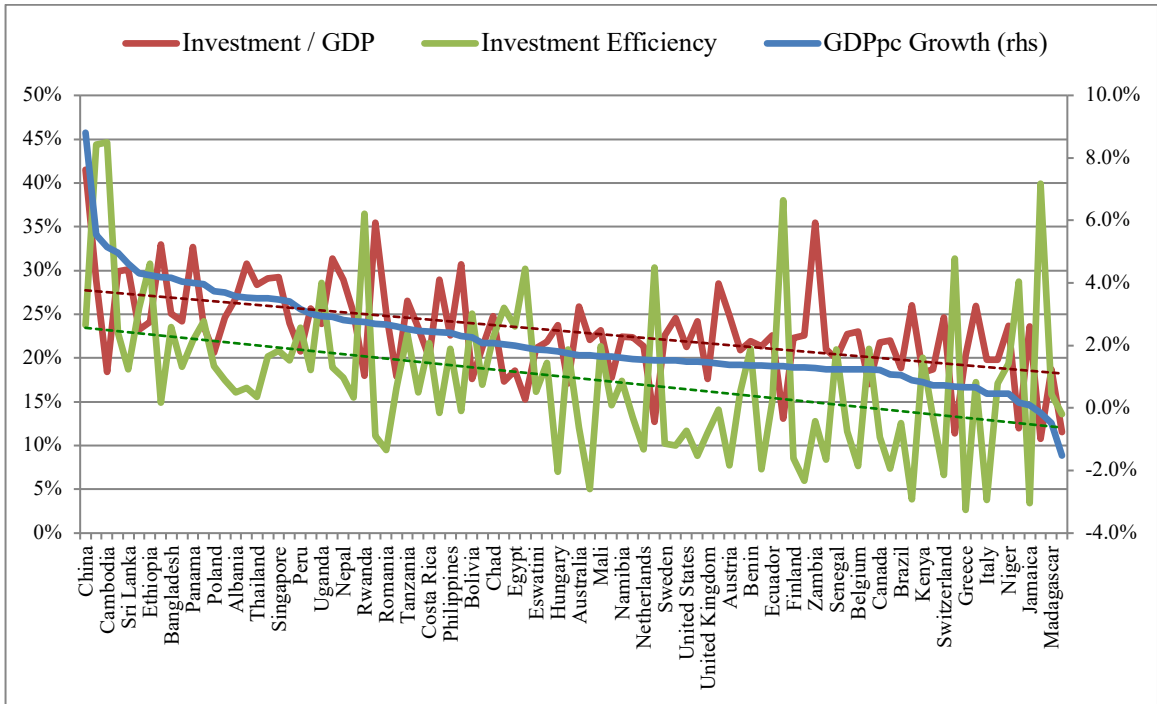
Source: Fok (2017)

Figure B14. Top 500 World Supercomputers (November 2019)



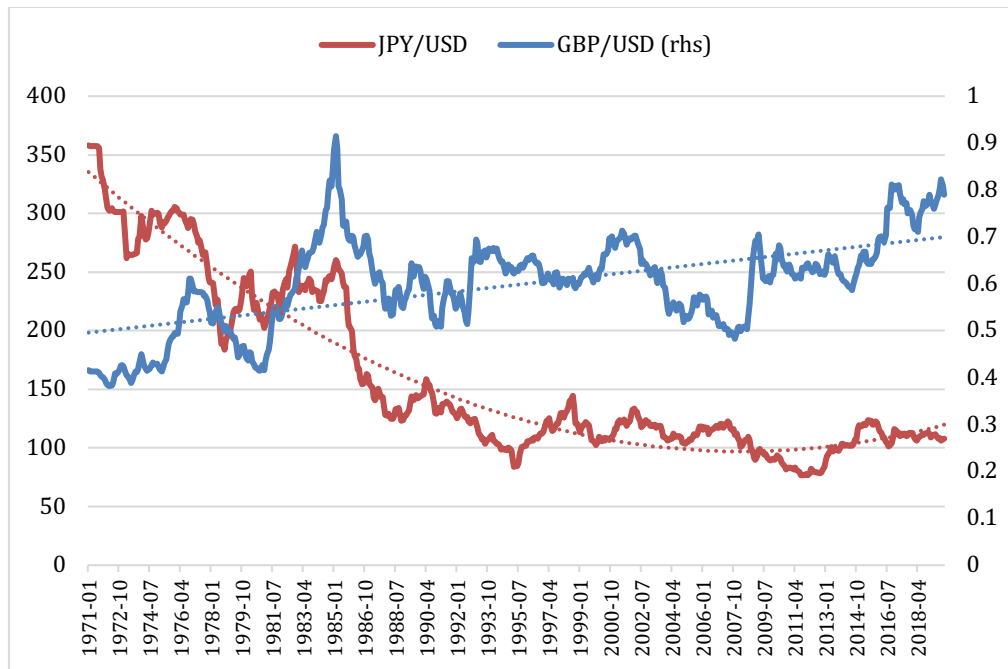
Source: Top 500

Figure B15. Growth and Investment (Average Values 1990–2018)



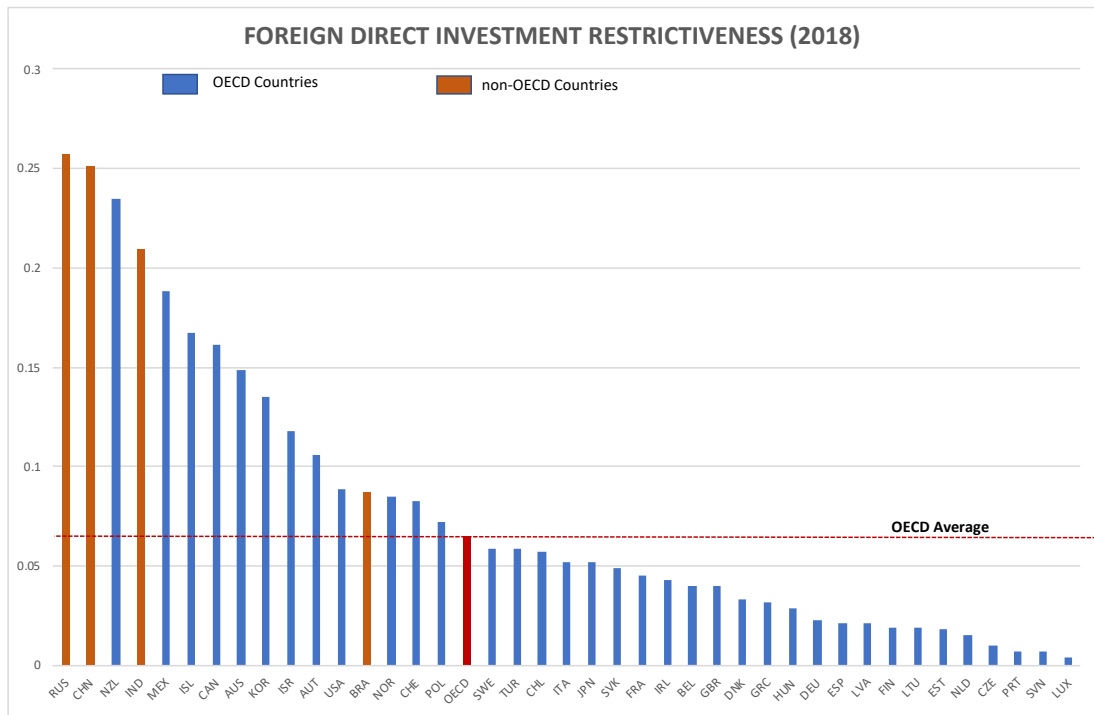
Source: Author's calculations, based on WEO (April 2019)

Figure B16. USD Exchange Rate against JPY and GBP



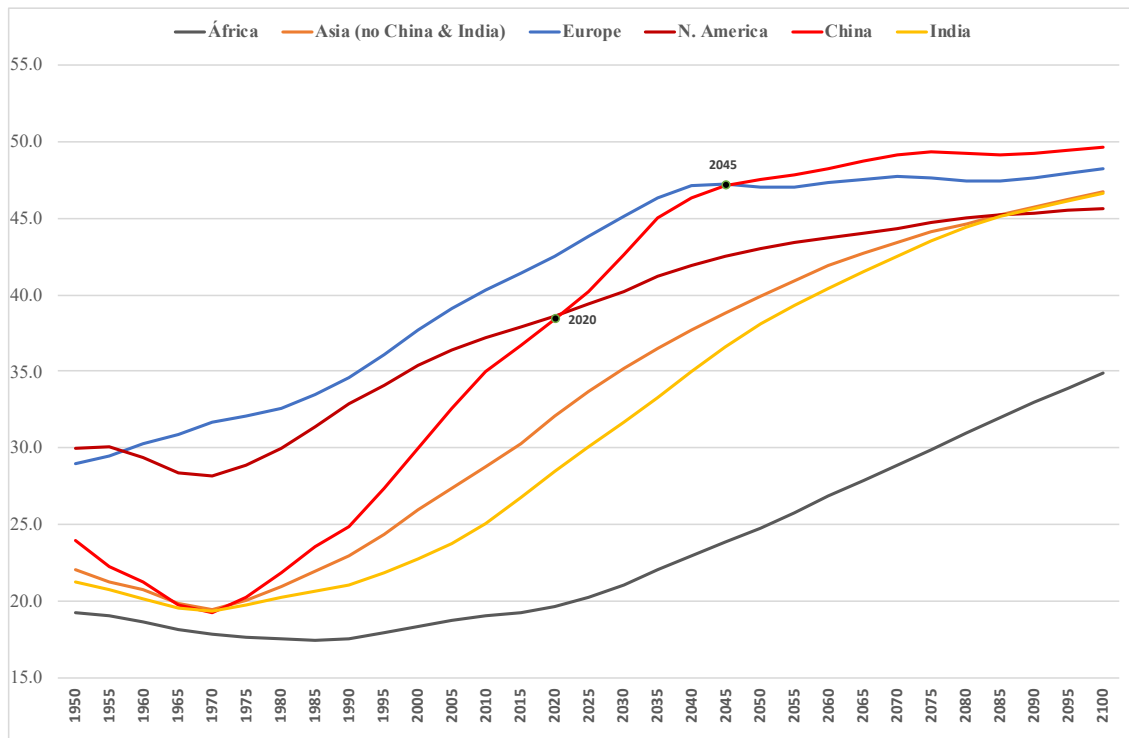
Source: FRED Database

Figure B17. Foreign Direct Investment Restrictiveness (2018)



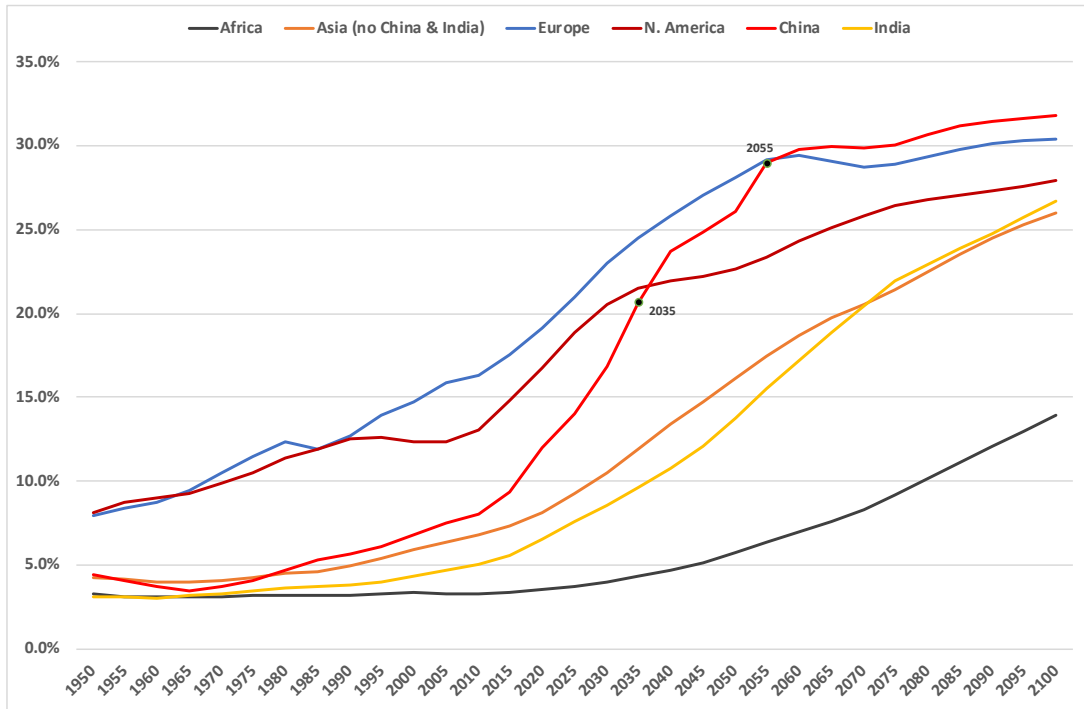
Source: OECD

Figure B18. Median Age of the Population



Source: United Nations

Figure B19. Population Age 65 Years and Over (% of Total)



Source: United Nations

Table B1. Major US Military Operations since World War II

Year	War
1950-1953	Korean War
1961	Cuba (Bay of Pigs)
1961-1973	Vietnam War
1965	Dominican Republic
1982	Lebanon
1983	Grenada
1989	Panama
1991	Gulf War (Kuwait and Iraq)
1993	Somalia
1994	Haiti
1994-1995	Bosnia
1999	Kosovo
2001–Present	Afghanistan
2003-2010	Iraq
2011	Lybia
2012-2019	Islamic State of Iraq and Levant (ISIL)
2017–Present	Syria

Source: Infoplease (2020)

Table B2. Historic Evolution of the World Economy

Year	Values ⁽¹⁾			Index Numbers (year 1 = 100)			Annual Average Growth Rate ⁽²⁾		
	GDP	GDPpc	Pop.	GDP	GDPpc	Pop.	GDP	GDPpc	Pop.
	<i>Billions 1990 USD</i>	<i>1990 USD</i>	<i>Millions</i>				%	%	%
1	105.4	466.8	225.8	100.0	100.0	100.0			
1000	121.2	453.4	267.3	115.0	97.1	118.4	0.01%	0.00%	0.02%
1820	693.5	665.7	1 041.7	658.0	142.6	461.3	0.21%	0.05%	0.17%
1913	2 733.2	1 524.4	1 792.9	2 593.1	326.6	794.0	1.49%	0.89%	0.59%
1950	5 335.9	2 110.7	2 528.0	5 062.4	452.2	1 119.5	1.82%	0.88%	0.93%
2016	61 956.4	8 449.9	7 332.2	58 781.0	1 810.4	3 246.9	3.78%	2.12%	1.63%
1950/0001				50.6	4.5	11.2	0.20%	0.08%	0.12%
2016/1950				11.6	4.0	2.9	3.78%	2.12%	1.63%
2016/0001				587.8	18.1	32.5	0.32%	0.14%	0.17%

¹ From 1 to 1950: Maddison (2005, pp. 376-379); 2016: Applying growth rates from Bolt, Inklaar, Jong & Zanden (2018) to 1950

² From the previous reference year

Sources: From 1 to 1950: Maddison (2007); 2016: Bolt, Inklaar, Jong & Zanden (2018)

Table B3. Outstanding Amounts of Financial Assets and Derivatives at End 2018

Financial Instrument	Source	Value (trillion USD)	% World GDP
Stocks	(a)	68.6	79.9%
Government Debt	(b)	65.2	75.9%
Household Debt	(b)	46.1	53.7%
Non-Financial Corporations Debt	(b)	72.9	84.9%
Financial Corporations Debt	(b)	60.0	69.8%
Total (Financial Assets)		312.8	364.1%
Derivatives ¹	(c)	544.4	633.8%

¹ Value refers to 2017; lowest value from range of estimates

Sources: Author's calculation based on:

(a) World Bank: (<https://data.worldbank.org/indicator/CM.MKT.LCAP.CD>)

(b) Oguh & Tanzi (2019)

(c) Desjardins (2017)

GDP – World Bank (<https://databank.worldbank.org/source/world-development-indicators#>)

Table B4. Turnover of OTC Foreign Exchange Instruments, April 2019 – Daily

Averages, in USDbn

	Total	Spot Transactions	Outright Forward	Swaps and Options	Currency Structure (%)
Total, "net basis" ¹	6 590	1 987	999	3 310	
% of World GDP (2019)	7.6%	2.3%	1.2%	3.8%	
By currency:					
USD	5 819	1 687	883	3 007	44.2%
EUR	2 129	616	256	1 168	16.2%
JPY	1 108	360	145	539	8.4%
GBP	844	240	109	463	6.4%
AUD	445	170	53	198	3.4%
CAD	332	122	43	153	2.5%
CHF	327	86	36	196	2.5%
CNY	284	97	36	139	2.2%
HKD	233	57	26	142	1.8%
Other currencies	1 659	539	411	615	12.6%

¹ Each foreign exchange transaction involves two currencies, whereby in the breakdown by currency each transaction is accounted to each of the two currencies involved. In the total, "net basis", each transaction is accounted only once. Therefore the sum of the transactions by currency is the double of the total, "net basis".

Source: Bank of International Settlements (2019)

Table B5. Economic Size of States (GDP) and Large Corporations (Turnover)

Rank	Name	Origin	Economic Size (USDbn) ¹	Rank	Name	Origin	Economic Size (USDbn) ¹	Rank	Name	Origin	Economic Size (USDbn) ¹
1	United States		19 485	35	State Grid	China	349	69	Daimler	Germany	185
2	China		12 143	36	Hong Kong SAR		342	70	CVS Health	United States	185
3	Japan		4 860	37	Singapore		338	71	Amazon.com	United States	178
4	Germany		3 657	38	Ireland		335	72	Algeria		167
5	United Kingdom		2 666	39	Denmark		329	73	Qatar		167
6	India		2 652	40	Sinopec Group	China	327	74	Kazakhstan		167
7	France		2 586	41	China National Petroleum	China	326	75	EXOR Group	Netherlands + Italy	162
8	Brazil		2 054	42	Malaysia		319	76	AT&T	United States	161
9	Italy		1 957	43	Philippines		314	77	General Motors	United States	157
10	Canada		1 647	44	Royal Dutch Shell	Netherlands + UK	312	78	Ford Motor	United States	157
11	Russia		1 579	45	Colombia		312	79	China State Construction Engineering	China	156
12	Korea		1 531	46	Pakistan		305	80	Hon Hai Precision Industry	Taiwan	155
13	Australia		1 330	47	Chile		278	81	AmerisourceBergen	United States	153
14	Spain		1 309	48	Toyota Motor	Japan	265	82	Industrial & Commercial Bank of China	China	153
15	Mexico		1 158	49	Volkswagen	Germany	260	83	AXA	France	149
16	Indonesia		1 015	50	Finland		254	84	Total	France	149
17	Turkey		853	51	Bangladesh		250	85	Ping An Insurance	China	144
18	Netherlands		832	52	BP	United Kingdom	245	86	Venezuela		144
19	Saudi Arabia		689	53	Exxon Mobil	United States	244	87	Hungary		142
20	Switzerland		680	54	Berkshire Hathaway	United States	242	88	Honda Motor	Japan	139
21	Argentina		643	55	Egypt		235	89	China Construction Bank	China	139
22	Taiwan		575	56	Apple	United States	229	90	Trafigura Group	Switzerland	136
23	Sweden		541	57	Vietnam		224	91	Chevron	United States	135
24	Poland		526	58	Portugal		221	92	Cardinal Health	United States	130
25	Belgium		503	59	Czech Republic		216	93	Costco	United States	129
26	Walmart	United States	500	60	Samsung Electronics	Japan	212	94	SAIC Motor	China	129
27	Thailand		455	61	Romania		212	95	Verizon	United States	126
28	Iran		454	62	Peru		211	96	Allianz	Germany	124
29	Austria		417	63	McKesson	United States	208	97	Kroger	United States	123
30	Norway		398	64	Glencore	Switzerland + UK	205	98	Agricultural Bank of China	China	122
31	United Arab Emirates		378	65	Greece		203	99	General Electric	United States	122
32	Nigeria		376	66	New Zealand		203	100	Angola		122
33	Israel		353	67	UnitedHealth Group	United States	201				
34	South Africa		350	68	Iraq		195				

¹ GDP for "States" and Business Turnover for "Corporations", both referring to 2017

Note: "States" are displayed in blue and "Corporations" in dark red

Sources: GDP: World Bank; Business Turnovers: Fortune Global 500 (2018)

Table B6. Top Military Spenders (average 2010–2018)

Country	Military Spending/ GDP - Average 2010-18	Freedom (Aggregate Score) 2019	Freedom Status 2019
Oman	9.7%	23	NOT Free
Saudi Arabia	9.5%	7	NOT Free
Libya	9.0%	9	NOT Free
South Sudan	5.9%	2	NOT Free
UAE	5.7%	17	NOT Free
Israel	5.5%	78	FREE
Algeria	5.2%	34	NOT Free
Jordan	4.8%	37	Partly Free
Lebanon	4.5%	45	Partly Free
Yemen	4.4%	11	NOT Free
Kuwait	4.3%	36	NOT Free
Azerbaijan	4.2%	11	Partly Free
Russia	4.1%	20	NOT Free
Bahrain	4.1%	12	NOT Free
Armenia	4.1%	51	Partly Free

Sources: Military Expenditure: SIPRI; Freedom: Freedom House

Table B7. Composition of G20 (2019) and Economic Relevance of its Members (2018)

Country	GDP			Population			IMF (% Vote)
	Billion USD	World Share	World Rank	Million Persons	World Share	World Rank	
United States	20 494	24.19%	1	328 801	4.39%	3	16.52%
China	13 407	15.82%	2	1 385 440	18.70%	1	6.09%
Japan	4 972	5.87%	3	125 846	1.70%	10	6.15%
Germany	4 000	4.72%	4	84 253	1.11%	19	5.32%
United Kingdom	2 829	3.34%	5	66 709	0.89%	22	4.03%
France	2 775	3.28%	6	67 223	0.87%	21	4.03%
India	2 717	3.21%	7	1 301 742	17.88%	2	2.64%
Italy	2 072	2.45%	8	60 556	0.81%	23	3.02%
Brazil	1 868	2.20%	9	211 465	2.79%	5	2.22%
Canada	1 711	2.02%	10	37 389	0.50%	38	2.22%
Russia	1 631	1.92%	11	143 833	1.93%	9	2.59%
Korea	1 619	1.91%	12	51 663	0.69%	27	1.73%
Australia	1 418	1.67%	14	24 743	0.34%	53	1.34%
Mexico	1 223	1.44%	15	121 656	1.67%	11	1.80%
Indonesia	1 022	1.21%	16	211 465	3.54%	4	0.95%
Saudi Arabia	782	0.92%	18	33 019	0.44%	41	2.02%
Turkey	766	0.90%	19	85 752	1.10%	17	0.95%
Argentina	518	0.61%	25	44 864	0.60%	32	0.66%
South Africa	368	0.43%	34	56 318	0.77%	24	0.64%
SUM	66 195	78.13%		4 442 736	60.71%		64.92%

Sources: World Economic Outlook Database (April 2019); IMF; and G20.org

Table B8. Top 30 Economies by GDP (2017)

Country	Advanced Economy	GDP Ranking		Population Ranking	World Share				% World Average	
		USD	PPP		GDP (USD)	GDP (PPP)	Population	Physical Capital	Human Capital Index	GDP (PPP) per Worker
SOURCE /NOTE:	(*)	(a)	(b)	(b)	(a)	(b)	(b)	(b)	(b)	(b)
United States	Yes	1	2	3	24.3%	16.1%	4.5%	12.5%	125.0%	191.6%
China		2	1	1	15.1%	16.2%	19.4%	21.1%	85.8%	38.6%
Japan	Yes	3	4	11	6.1%	4.7%	1.8%	5.1%	119.4%	125.4%
Germany	Yes	4	5	16	4.6%	3.7%	1.1%	3.5%	122.7%	150.3%
India		5	3	2	3.3%	7.6%	18.4%	6.6%	71.0%	26.6%
United Kingdom	Yes	6	10	22	3.3%	2.4%	0.9%	2.3%	125.7%	134.8%
France	Yes	7	9	21	3.2%	2.4%	0.9%	2.8%	106.7%	158.2%
Brazil		8	7	5	2.6%	2.6%	2.9%	3.2%	98.6%	46.5%
Italy	Yes	9	12	23	2.4%	2.1%	0.8%	2.8%	104.4%	152.8%
Canada	Yes	10	16	38	2.1%	1.5%	0.5%	1.5%	123.9%	139.8%
Russia		11	6	9	2.0%	3.0%	2.0%	3.0%	113.8%	78.5%
South Korea	Yes	12	14	27	1.9%	1.7%	0.7%	1.7%	123.5%	117.0%
Australia	Yes	13	19	50	1.7%	1.1%	0.3%	0.9%	117.8%	157.3%
Spain	Yes	14	15	30	1.6%	1.5%	0.6%	2.0%	98.4%	143.6%
Mexico		15	11	10	1.4%	2.1%	1.8%	1.8%	91.5%	66.5%
Indonesia		16	8	4	1.3%	2.5%	3.6%	3.5%	77.4%	38.0%
Turkey		17	13	19	1.1%	2.0%	1.1%	1.5%	81.7%	135.5%
Netherlands	Yes	18	25	63	1.0%	0.8%	0.2%	0.8%	112.6%	146.2%
Saudi Arabia (**)		19	17	40	0.9%	1.2%	0.5%	1.4%	89.2%	170.2%
Switzerland	Yes	20	35	87	0.8%	0.5%	0.1%	0.5%	123.3%	183.2%
Argentina		21	29	31	0.8%	0.7%	0.6%	0.5%	101.5%	61.2%
Taiwan	Yes	22	23	53	0.7%	0.9%	0.3%	0.8%	110.0%	144.0%
Sweden	Yes	23	40	80	0.7%	0.4%	0.1%	0.4%	114.2%	144.9%
Poland		24	24	37	0.7%	0.9%	0.5%	0.5%	113.8%	104.9%
Belgium	Yes	25	39	71	0.6%	0.4%	0.2%	0.6%	104.9%	153.3%
Thailand		26	21	20	0.6%	1.0%	0.9%	1.1%	91.7%	46.7%
Iran		27	18	18	0.5%	1.2%	1.1%	1.1%	81.0%	95.6%
Austria	Yes	28	42	86	0.5%	0.4%	0.1%	0.4%	112.3%	154.2%
Norway	Yes	29	50	103	0.5%	0.3%	0.1%	0.3%	121.8%	190.7%
United Arab Emirates (**)		30	31	83	0.5%	0.6%	0.1%	0.6%	91.6%	263.3%
SUM					86.8%	82.5%	66.3%	84.7%		

(*) According to IMF Criteria

(**) Notice that these countries are Rentiers (Oil Producers), whereby their apparent labour productivity is overstated

Sources: Author's calculations based on:

(a) IMF World Economic Outlook, April 2019

(b) PWT9.1

Table B9. Simulation of Economic Sizes if the 15 Largest Economies Had the Same Economic Efficiency as the USA

Country	Actual 2017 Values					Same Efficiency as USA	
	GDP Real PPP		Employment (Million)	Labour Apparent Productivity (Y/L)		GDP Real PPP (Predicted)	
	Million 2011 USD	Index (USA=100)		Thousand USD	Index (USA=100)	Million 2011 USD	Index (USA=100)
China	18 383 838.0	103.4	791.692	23 220.947	20.2	91 139 360.4	512.6
<i>EU15</i>	<i>16 483 629.3</i>	<i>92.7</i>	<i>186.672</i>	<i>88 302.480</i>	<i>76.7</i>	<i>21 489 665.3</i>	<i>120.9</i>
United States (*)	17 778 680.0	100.0	154.436	115 119.716	100.0	17 778 680.0	100.0
India	8 599 774.0	48.4	537.835	15 989.617	13.9	61 915 401.2	348.3
Japan (*)	5 147 025.5	29.0	68.296	75 363.552	65.5	7 862 210.6	44.2
Germany (*)	3 905 024.0	22.0	43.236	90 318.123	78.5	4 977 353.8	28.0
Russian Federation	3 251 424.5	18.3	68.887	47 199.328	41.0	7 930 262.6	44.6
Brazil	2 890 897.5	16.3	103.492	27 933.551	24.3	11 913 963.2	67.0
Indonesia	2 796 742.5	15.7	122.604	22 811.185	19.8	14 114 137.3	79.4
France (*)	2 652 826.3	14.9	27.905	95 065.890	82.6	3 212 430.9	18.1
United Kingdom (*)	2 589 545.3	14.6	31.981	80 972.624	70.3	3 681 586.4	20.7
Italy (*)	2 255 658.5	12.7	24.573	91 795.588	79.7	2 828 793.5	15.9
Mexico	2 245 201.0	12.6	56.198	39 951.475	34.7	6 469 520.9	36.4
Turkey	2 201 324.3	12.4	27.026	81 451.043	70.8	3 111 265.5	17.5
South Korea (*)	1 848 847.1	10.4	26.305	70 284.049	61.1	3 028 265.5	17.0
Spain (*)	1 654 669.4	9.3	19.175	86 291.387	75.0	2 207 463.3	12.4

(*) Advanced Economy (IMF classification)

Source: Author's calculation based on PWT9.1

Table B10. Simulation of Economic Dynamics of Largest Economies (1990–2017)

Country	GDP, real PPP (USA=100)			Factors of Production (Growth: 2017/1990)					GDP, Real Growth (2017/1990)	
	2017	1990	Δ	Employment	Human Capital Index (h)	Physical Capital	Capital/Labor Ratio (K/L)	Labour Apparent Productivity (Y/L)	Actual	Predicted (**)
China	103.4	31.7	71.7	20.3%	38.1%	1337.5%	1094.8%	516.2%	641.4%	970.4%
United States (*)	100.0	100.0	0.0	25.3%	8.8%	74.9%	39.6%	53.8%	92.7%	66.2%
<i>EU15</i>	<i>92.7</i>	<i>91.3</i>	<i>1.4</i>	<i>16.2%</i>	<i>14.2%</i>	<i>59.7%</i>	<i>37.5%</i>	<i>33.6%</i>	<i>55.2%</i>	<i>56.5%</i>
India	48.4	12.3	36.0	50.1%	42.8%	439.2%	259.3%	245.3%	418.2%	352.6%
Japan (*)	29.0	36.5	-7.5	4.9%	12.4%	53.7%	46.5%	24.8%	30.9%	47.7%
Germany (*)	22.0	21.6	0.4	9.5%	7.0%	44.0%	31.6%	38.1%	51.2%	38.5%
Russian Federation	18.3	24.6	-6.3	-7.9%	25.0%	2.0%	10.8%	28.0%	17.9%	16.3%
Brazil	16.3	9.5	6.8	47.5%	71.8%	101.5%	36.6%	27.4%	87.8%	135.0%
Indonesia	15.7	6.3	9.5	59.1%	22.2%	371.1%	196.1%	128.5%	263.6%	293.3%
France (*)	14.9	15.6	-0.6	17.2%	13.9%	62.9%	39.0%	29.5%	51.8%	58.9%
United Kingdom (*)	14.6	14.1	0.5	19.7%	17.5%	57.2%	31.4%	46.0%	74.7%	58.1%
Italy (*)	12.7	15.2	-2.5	7.6%	22.2%	48.3%	37.8%	12.6%	21.1%	51.5%
Mexico	12.6	10.5	2.1	97.3%	25.5%	119.8%	11.4%	1.2%	99.8%	130.7%
Turkey	12.4	6.1	6.3	72.6%	35.6%	312.9%	139.2%	92.0%	231.4%	265.7%
South Korea (*)	10.4	5.8	4.6	45.3%	29.8%	421.2%	258.8%	155.3%	270.9%	329.5%
Spain (*)	9.3	7.1	2.2	36.4%	21.1%	123.2%	63.7%	26.8%	72.9%	111.9%

(*) Advanced Economy (IMF classification)

(**) Using equation (5.6) of the main text: $(dY/Y) = 0.701*(dK/K) + 0.299*(dL/L) + 0.691*(dh/h)$

Source: Author's calculation based on PWT9.1

Table B11. Secular Changes of Relative Economic Size of Top Economies

Countries	GDP, PPP (2011 USD)					Relative Positions (within the Group)							
	Millions	Indexes (1820=100)				Shares within the Group					Changes in Individual Shares		
		1820	1900	1950	2000	2015	1820	1900	1950	2000	2015	2015-1820	1950-1820
United States	20 760.5	2 300.5	11 178.8	62 493.7	81 588.6	2.3%	19.1%	35.6%	31.6%	24.9%	22.5%	33.3%	-10.7%
China	325 374.0	95.4	107.1	1 625.1	5 135.9	36.3%	12.4%	5.3%	12.9%	24.5%	-11.8%	-31.0%	19.2%
India	164 096.4	138.2	180.3	1 537.7	4 424.0	18.3%	9.1%	4.5%	6.2%	10.7%	-7.6%	-13.8%	6.1%
Japan	32 046.0	255.4	790.6	13 066.4	14 620.9	3.6%	3.3%	3.9%	10.2%	6.9%	3.3%	0.3%	3.0%
Germany	56 396.7	581.4	950.5	5 503.1	6 512.0	6.3%	13.1%	8.2%	7.6%	5.4%	-0.9%	1.9%	-2.8%
Russia/ USSR	79 123.8	404.4	1 386.2	2 516.4	4 307.1	8.8%	12.8%	16.8%	4.9%	5.0%	-3.8%	8.0%	-11.8%
Brazil	5 061.4	402.6	3 060.0	39 247.2	64 621.2	0.6%	0.8%	2.4%	4.8%	4.8%	4.2%	1.8%	2.4%
Indonesia	16 349.4	349.5	712.5	7 323.9	16 209.8	1.8%	2.3%	1.8%	2.9%	3.9%	2.1%	0.0%	2.1%
France	58 343.8	329.2	621.7	3 540.8	4 209.3	6.5%	7.7%	5.6%	5.0%	3.6%	-2.9%	-0.9%	-2.0%
United Kingdom	68 835.6	445.2	789.8	2 716.8	3 510.2	7.7%	12.2%	8.3%	4.6%	3.5%	-4.1%	0.7%	-4.8%
Italy	62 142.1	204.9	490.1	3 239.0	3 237.9	6.9%	5.1%	4.7%	4.9%	3.0%	-4.0%	-2.3%	-1.7%
Mexico	7 904.4	373.4	1 506.0	17 206.0	24 032.0	0.9%	1.2%	1.8%	3.3%	2.8%	1.9%	0.9%	1.0%
Group	896 434.0	279.4	727.8	4 574.9	7 600.0								
UK + India	232 932.0	228.9	360.4	-	-	26.0%	21.3%	12.9%	-	-	-	-13.1%	-

Source: Author's calculation based on Maddison Project Database

Table B12. Wealth and GDP of the Top 15 Economies (2014)

Country	GDP (USD)		Wealth (USD)			Wealth Structure			
	Million USD	Index (USA=100)	Million USD	Index (USA=100)	Wealth/ GDP	Human capital	Natural capital	Net foreign assets	Produced capital
United States	17 521 747	100.0	313 575 227	100.0	17.9	78.0%	2.4%	-2.3%	22.0%
China	10 438 529	59.6	147 575 561	47.1	14.1	58.6%	14.0%	1.0%	26.4%
India	2 039 127	11.6	23 588 627	7.5	11.6	48.1%	26.0%	-2.4%	28.3%
Japan	4 850 414	27.7	72 710 058	23.2	15.0	63.8%	0.7%	4.2%	31.3%
Russian Federation	2 059 984	11.8	27 140 871	8.7	13.2	48.1%	24.9%	1.2%	25.9%
Germany	3 898 727	22.3	59 041 397	18.8	15.1	64.1%	1.1%	2.3%	32.5%
Brazil	2 455 994	14.0	38 924 621	12.4	15.8	65.5%	19.6%	-2.0%	17.0%
Indonesia	890 815	5.1	11 938 682	3.8	13.4	50.5%	20.1%	-3.2%	32.6%
France	2 852 166	16.3	42 525 295	13.6	14.9	64.8%	1.7%	-1.4%	34.9%
United Kingdom	3 034 729	17.3	41 849 527	13.3	13.8	70.6%	1.2%	-1.6%	29.9%
Mexico	1 314 564	7.5	13 851 533	4.4	10.5	53.7%	13.2%	-3.1%	36.1%
Italy	2 151 733	12.3	25 985 262	8.3	12.1	56.5%	2.0%	-2.5%	44.0%
Turkey	934 186	5.3	3 565 939	1.1	3.8	26.3%	27.9%	-12.9%	58.7%
South Korea	1 411 334	8.1	21 382 385	6.8	15.2	68.8%	0.9%	0.4%	29.9%
Spain	1 376 911	7.9	15 918 324	5.1	11.6	63.0%	3.0%	-7.7%	41.7%

EXPLANATION (Lange, Wodon, & Carey (2018:4):

Human capital - measured as the discounted value of earnings over a person's lifetime

Natural capital - energy (oil, gas, hard and soft coal) and minerals (10 categories), agricultural land (cropland and pastureland), forests (timber and some nontimber forest products), and terrestrial protected areas (for brevity, referred to simply as protected areas in the book). Marine-protected areas are not currently included. Natural capital is measured as the discounted sum of the value of the rents generated over the lifetime of the asset.

Net foreign assets - the sum of a country's external assets and liabilities, for example, foreign direct investment and reserve assets

Produced capital and urban land - machinery, buildings, equipment, and residential and nonresidential urban land, measured at market prices. For brevity, the term produced capital is used in the book to include produced capital and urban land.

Source: World Bank: WDI and Wealth Accounting

Table B13. Exports of Goods and Services as a GDP Share (Top GDP Countries)

Country	1960	1980	1990	2017
China	4.3%	5.9%	13.6%	20.0%
United States	5.0%	9.8%	9.3%	12.1%
India	4.5%	6.1%	7.1%	18.8%
Japan	10.7%	13.1%	10.2%	17.8%
Germany	0.0%	18.7%	22.9%	47.0%
Russia				26.1%
Brazil	7.1%	9.1%	8.2%	12.6%
Indonesia	11.5%	30.5%	27.3%	20.2%
France	14.4%	21.0%	21.0%	30.8%
United Kingdom	20.2%	26.1%	22.6%	30.1%
Italy	12.5%	20.2%	18.3%	31.2%
Mexico	8.5%	10.1%	18.7%	37.6%
Turkey	2.1%	5.2%	13.4%	24.8%
South Korea	2.6%	28.5%	28.5%	43.1%
Spain	8.4%	14.4%	15.8%	34.3%
Canada	17.0%	27.6%	25.1%	31.1%
Iran	13.8%	13.7%	13.3%	24.9%
Saudi Arabia		63.5%	40.3%	34.9%
Australia	13.0%	16.4%	15.1%	21.2%
Egypt	19.9%	30.5%	20.4%	15.8%
Thailand	16.1%	24.1%	34.1%	68.2%
Pakistan		12.5%	15.5%	8.2%
Poland				54.3%
Nigeria	9.2%	29.4%	21.0%	13.2%
Philippines	11.9%	23.6%	27.5%	31.0%
Netherlands	48.9%	50.4%	54.4%	83.0%
Argentina	7.6%	5.1%	10.4%	11.2%
Malaysia	64.5%	57.7%	74.5%	71.4%
South Africa	29.6%	34.3%	23.5%	29.8%
World	11.9%	18.9%	19.3%	29.4%

Source: Author's calculation based on WB databank

Table B14. Most Valuable Companies (Stock Market)

April 2009				April 2019			
Company	Sector	Country	Market Cap (\$B)	Company	Sector	Country	Market Cap (\$B)
Exxon Mobil	Energy	USA	337.6	Microsoft	Tech	USA	904.9
PetroChina	Energy	China	286.7	Apple	Tech	USA	895.7
Walmart	Retail	USA	204.6	Amazon	Tech	USA	874.7
ICBC	Bank	China	187.7	Alphabet (Google)	Tech	USA	818.2
China Mobile	Telco	China	175.1	Berkshire Hathaway	Conglom.	USA	493.8
Microsoft	Tech	USA	163.5	Facebook	Tech	USA	475.7
AT&T	Telco	USA	148.8	Alibaba	Tech	China	472.9
Jonhson & Jonhson	Pharma	USA	145.8	Tencent	Tech	China	441.0
R.D. Shell	Petro	Neth	139.3	Jonhson & Jonhson	Pharma	USA	372.2
Procter & Gamble	Pharma	USA	138.8	Exxon Mobil	Energy	USA	342.2

Source: <http://www.wabiz.org/Home/news/animationthetop20globalbrands2000-2019> (accessed December 11, 2019)

Table B15. Operating Systems in Use Worldwide (Market Share, February 2020)

Terminals	Android	Windows	iOS	OS X	Other
Smartphones	73.3%	-	25.9%	-	0.8%
All Systems	38.9%	35.3%	15.0%	8.1%	2.8%

Source: Statcounter: (<https://gs.statcounter.com/os-market-share#monthly-201902-202002> and <https://gs.statcounter.com/os-market-share/mobile/worldwide#monthly-201902-202002> (accessed April 1, 2020))

Table B16. World Wealth Shares –Comparison of Sources

Countries	Stocks (World Share %)									Changes				
	1995		2000			2014			2018		2014-1995		2018-2000	
	Own Calculation	World Bank (*)	Own Calculation	World Bank (*)	Credit Suisse	Own Calculation	World Bank (*)	Credit Suisse	Own Calculation	Credit Suisse	Own Calculation	World Bank (*)	Own Calculation	Credit Suisse
United States	23.4%	23.5%	23.7%	24.4%	36.2%	19.4%	20.6%	32.4%	18.8%	31.2%	-4.1%	-2.9%	-4.8%	-5.0%
China	2.8%	3.4%	3.5%	4.9%	4.0%	11.6%	13.5%	9.1%	14.7%	16.5%	8.8%	10.1%	11.2%	12.5%
Japan	16.2%	8.5%	16.8%	9.3%	16.5%	12.7%	8.6%	8.0%	11.6%	7.6%	-3.5%	0.1%	-5.3%	-8.9%
Germany	7.8%	8.7%	7.5%	8.2%	5.0%	6.6%	6.9%	5.1%	6.4%	4.6%	-1.3%	-1.8%	-1.1%	-0.4%
France	6.0%	5.2%	5.7%	5.3%	3.9%	4.8%	4.8%	4.9%	4.4%	4.4%	-1.2%	-0.4%	-1.3%	0.5%
United Kingdom	5.2%	4.0%	4.8%	4.4%	6.1%	3.4%	4.0%	5.9%	3.0%	4.5%	-1.8%	0.0%	-1.8%	-1.6%
Italy	4.3%	4.8%	4.1%	4.6%	4.7%	3.3%	3.6%	4.2%	3.0%	3.4%	-1.1%	-1.2%	-1.1%	-1.3%
India	1.4%	1.1%	1.4%	1.3%	1.0%	2.3%	2.0%	1.2%	2.5%	1.9%	0.9%	0.9%	1.1%	0.9%
Korea	1.3%	1.1%	1.6%	1.5%	1.5%	2.1%	2.2%	2.4%	2.2%	2.3%	0.7%	1.1%	0.6%	0.8%
Russia	1.2%	6.9%	1.1%	4.0%	0.3%	2.0%	2.5%	0.8%	2.0%	0.8%	0.8%	-4.4%	0.9%	0.5%
Canada	2.1%	2.2%	2.0%	2.5%	2.1%	2.1%	2.8%	2.9%	2.0%	2.6%	0.0%	0.6%	0.0%	0.5%
Spain	2.0%	2.2%	1.9%	2.3%	1.7%	1.8%	1.8%	1.8%	1.7%	2.3%	-0.2%	-0.4%	-0.2%	0.6%
Netherlands	1.9%	1.6%	1.8%	1.6%	1.1%	1.7%	1.5%	1.0%	1.7%	1.1%	-0.2%	-0.1%	-0.2%	-0.1%
Brazil	1.5%	2.9%	1.5%	2.6%	0.7%	1.7%	1.9%	1.1%	1.6%	0.8%	0.3%	-1.0%	0.2%	0.1%
Switzerland	1.4%	1.5%	1.4%	1.5%	1.1%	1.4%	1.2%	1.3%	1.4%	1.1%	0.0%	-0.3%	0.0%	0.0%
Mexico	1.3%	1.5%	1.4%	1.5%	0.8%	1.4%	1.5%	0.7%	1.3%	0.6%	0.1%	0.0%	0.0%	-0.2%
Australia	1.2%	2.0%	1.1%	2.0%	1.2%	1.3%	2.2%	2.6%	1.3%	2.4%	0.2%	0.2%	0.2%	1.2%
Saudi Arabia	0.4%	1.3%	0.4%	1.0%	0.2%	1.1%	1.1%	0.3%	1.1%	0.4%	0.7%	-0.2%	0.7%	0.2%
Sweden	1.3%	0.9%	1.2%	1.0%	0.4%	1.1%	0.9%	0.6%	1.0%	0.6%	-0.2%	0.0%	-0.2%	0.2%
Indonesia	0.7%	0.5%	0.6%	0.7%	0.3%	0.9%	1.2%	0.7%	1.0%	0.5%	0.2%	0.7%	0.4%	0.2%
Group	83.4%	83.8%	83.6%	84.6%	88.9%	82.5%	84.8%	87.0%	82.7%	89.6%	-0.8%	1.0%	-0.9%	0.7%

(*) Produced Capital + Net Foreign Assets

Sources: (i) Author's calculations based on WEO; (ii) World Bank Databank – Wealth Accounts; (iii) Credit Suisse – The Global Wealth Report

Table B17. Foreign Direct Investment – Top Net Players (2017)⁷⁹

FDI - Top Net Investors					FDI - Top Net Recipients				
	Net	% GDP	% Total	% Accum.		Net	% GDP	% Total	% Accum.
United States	1 987 843	10.2%	26.0%	26.0%	China (*)	-951 800	-7.9%	16.5%	16.5%
Japan	1 294 455	26.6%	17.0%	43.0%	Singapore (**)	-513 961	-152.7%	8.9%	25.4%
Netherlands	1 168 885	140.5%	15.3%	58.3%	Brazil	-380 888	-18.6%	6.6%	32.0%
Germany	655 283	17.7%	8.6%	66.9%	India	-360 446	-13.6%	6.2%	38.2%
France	577 141	22.3%	7.6%	74.5%	Mexico	-317 655	-27.4%	5.5%	43.7%
Canada	235 992	14.3%	3.1%	77.6%	Indonesia	-240 104	-23.6%	4.2%	47.9%
Italy	136 585	7.0%	1.8%	79.4%	Poland	-209 303	-39.7%	3.6%	51.5%
Korea	125 463	8.2%	1.6%	81.0%	Australia	-201 655	-14.5%	3.5%	55.0%
OTHER	1 450 055	9.9%	19.0%	100.0%	Saudi Arabia	-169 206	-24.6%	2.9%	57.9%
TOTAL	7 631 702		100.0%		Chile	-151 010	-54.4%	2.6%	60.5%
EU15	3 488 966	22.0%	45.7%		Kazakhstan	-126 092	-77.4%	2.2%	62.7%
					Czech Republic	-122 849	-56.9%	2.1%	64.8%
					Thailand	-116 960	-25.7%	2.0%	66.8%
					Romania	-90 824	-43.0%	1.6%	68.4%
					Portugal	-82 661	-37.6%	1.4%	69.8%
					Argentina	-80 373	-12.5%	1.4%	71.2%
					Nigeria	-78 322	-20.8%	1.4%	72.6%
					Peru	-75 596	-35.3%	1.3%	73.9%
					Turkey	-67 950	-8.0%	1.2%	75.1%
					Mauritius	-64 827	-488.6%	1.1%	76.2%
					Spain	-63 462	-4.8%	1.1%	77.3%
					Russia	-61 076	-3.9%	1.1%	78.4%
					New Zealand	-58 869	-29.4%	1.0%	79.4%
					OTHER	-1 191 871	-17.4%	20.6%	106.4%
					TOTAL	-5 777 761		100.0%	

(*) Data for outward positions were retrieved from the American Enterprise Institute's China Global Investment Tracker (<https://www.aei.org/china-global-investment-tracker/>)

(**) Data for outward positions were retrieved from the Singapore's Department of Statistics (<https://www.singstat.gov.sg/find-data/search-by-theme/trade-and-investment/direct-investment-abroad/latest-data><https://www.singstat.gov.sg/find-data/search-by-theme/trade-and-investment/direct-investment-abroad/latest-data>)

Note: Figures in red mean that only inward (debtor) positions were reported for these countries, implying the net values are the same as the inward ones

Source: Author's calculation, based on IMF data (with the signaled exceptions)

Table B18. Top Net International Investment Positions (2017)

Net Creditor International Investment Position						Net Debtor International Investment Position							
Countries	Individual			Accumulated			Countries	Individual			Accumulated		
	Million USD	% Total	% GDP	Million USD	% Total	Million USD		% Total	% GDP	Million USD	% Total		
Japan	2 909 075	19.3%	59.9%	2 909 075	19.3%	United States	-7 725 003	46.0%	-39.6%	-7 725 003	46.0%		
Germany	2 124 439	14.1%	57.4%	5 033 514	33.4%	Spain	-1 172 553	7.0%	-89.0%	-8 897 556	53.0%		
China	1 814 114	12.1%	15.0%	6 847 628	45.5%	Australia	-758 504	4.5%	-54.7%	-9 656 059	57.5%		
Hong Kong SAR	1 394 121	9.3%	408.0%	8 241 749	54.8%	Brazil	-669 787	4.0%	-32.6%	-10 325 846	61.5%		
Taiwan	1 180 824	7.8%	205.4%	9 422 573	62.6%	Mexico	-557 506	3.3%	-48.1%	-10 883 352	64.8%		
Norway	886 023	5.9%	221.8%	10 308 596	68.5%	France	-553 477	3.3%	-21.4%	-11 436 829	68.1%		
Switzerland	869 080	5.8%	128.0%	11 177 676	74.3%	Ireland	-526 938	3.1%	-158.9%	-11 963 766	71.2%		
Singapore	804 285	5.3%	238.9%	11 981 962	79.6%	Turkey	-459 419	2.7%	-54.0%	-12 423 185	74.0%		
OTHER	3 070 456	20.4%	22.2%	15 052 417	100.0%	India	-427 637	2.5%	-16.1%	-12 850 823	76.5%		
TOTAL	15 052 417	100.0%				Poland	-348 465	2.1%	-66.2%	-13 199 288	78.6%		
						Indonesia	-332 435	2.0%	-32.7%	-13 531 722	80.6%		
						OTHER	-3 261 256	19.4%	-34.2%	-16 792 978	100.0%		
						TOTAL	-16 792 978	100.0%					

Source: Author's calculation, based IMF, International Investment Positions

⁷⁹ Not all countries reporting inward FDI report their outward positions. To avoid excessively skewed net positions, data to fill in the missing information for two relevant countries in Table 18 – China and Singapore – had to be obtained from other sources

Table B19. Major International Currencies

World Trade		Trade Invoicing		Foreign Exchange Reserves (2018)		OTC Market on FX (Turnover)	
Country	Trade Share (*)	Currency	Invoice Share (*)	Currency	Share	Currency	Share (**)
United States	17.5%	USD	54.6%	USD	62.3%	USD	44.2%
European Monetary Union	38.3%	EUR	36.6%	EUR	20.4%	EUR	16.2%
United Kingdom	5.4%	GBP	2.5%	CNY	1.6%	JPY	8.4%
Japan	5.6%	JPY	2.5%	JPY	4.9%	GBP	6.4%
Switzerland	2.7%	CHF	1.0%	GBP	4.5%	AUD	3.4%
Other	30.6%	Other	3.0%	Other	6.2%	CAD	2.5%
						CNY	2.5%
						Other	16.5%

(*) Does not include China for lack of data on invoicing

(**) Normalized to 100%

Sources: (i) Invoice Shares: Author's calculation, based on Gopinath's (2016) Annex Sheet and on WB data (average of both flows, export and import; does not include China); (ii) Trade Shares: Author's calculation based on WB data (average of both export and import data); (iii) Currency Composition of Official Foreign Exchange Reserves (COFER), International Financial Statistics (IFS; (data extracted from <http://data.imf.org/> on December 22, 2019); (iv) BIS (2019, p. 10)

Table B20. World Economic Rankings

Rank	GDP (Current Prices)		Capital Stock (2011 Prices)		Human Capital Index		Exports (Current Prices)		Savings (Current Prices)		Net Creditor Position (2011 Prices)		Wealth (2011 Prices)	
	Billion USD		Billion USD		-		Billion USD		Billion USD		Billion USD		World %	
	2018	2017	2017	2018	2017	2018	2018	2011-18 (Avg)	2018	2018	2018	2018	2018	2018
	(1)	(5)	(2)	(3)	(1)	(4)	(5)							
1	USA	20 494	USA	45 433	Singapore	3.974	China	2 424	China	4 985.2	Japan	3 081	USA	18.9%
2	China	13 407	China	37 581	Israel	3.807	USA	2 350	USA	3 387.3	Germany	2 374	China	14.7%
3	Japan	4 972	Japan	18 973	Slovakia	3.794	Germany	1 738	Japan	1 335.0	China	2 130	Japan	11.6%
4	Germany	4 000	Germany	10 103	UK	3.758	Japan	864	Germany	1 014.5	Hong Kong	1 294	Germany	6.4%
5	U. K.	2 829	France	8 030	USA	3.739	France	797	India	677.8	Switzerland	898	France	4.4%
6	France	2 775	India	6 607	Canada	3.706	U. K.	795	France	593.3	Norway	812	UK	3.0%
7	India	2 717	UK	6 496	Korea	3.695	Netherlands	689	Korea	490.9	Singapore	812	Italy	3.0%
8	Italy	2 072	Italy	5 574	Switzerland	3.688	Korea	660	Russia	482.9	Saudi Arabia	632	India	2.5%
9	Brazil	1 868	Canada	4 558	Germany	3.670	Hong Kong	645	Italy	387.1	Netherlands	627	Korea	2.2%
10	Canada	1 711	Korea	4 551	Czech Rep.	3.666	Italy	607	Canada	360.8	Canada	564	Russia	2.0%
11	Russia	1 631	Brazil	4 137	Norway	3.643	Singapore	580	Brazil	360.4	Korea	413	Canada	2.0%
12	Korea	1 619	Spain	4 050	Estonia	3.616	Canada	512	U. K.	348.5	Russia	367	Spain	1.7%

Sources:

- (1) – WEO (IMF),
- (2) – PWT 9.1
- (3) – WB
- (4) – BOP/IIP (IMF)
- (5) – Author's Calculation Based on WEO (IMF)

APPENDIX C

Explaining Military Strength Dependencies

As explained in Chapter 4, the military strength of a state depends on the capacity of the state to finance it, which, in turn, depends on the capacity of the economy to generate income and on the portion of income that the state is able to appropriate and then allocate to military expenditure. Save an imminent foreign threat, the society will resist sacrificing too greater a part of the welfare of its citizens to sustain a military apparatus it considers disproportionate for its needs, and such resistance will be stronger the more freedom the political regime allows the society. In light of this, therefore, it would be reasonable to expect that a state's military strength could be explained in large part by its GDP – the capacity of the economy to generate income – and, complementarily, by the degree of the political regime's illiberality – the more illiberal the regime, the greater the capacity to extract income from citizens of the society to allocate to the military apparatus.

To test such an understanding the following data was collected: (i) the evaluation of the military strength calculated by Global Firepower (2019) for 2019, using “over 55 individual factors” and whose scores vary from 0 – a perfect score “realistically unattainable in the scope of the current GFP formula” – to more than 6 (Bhutan, the least powerful country, attained a score of 6.3988); (ii) the 2018 GDP in current USD, obtained from WB database (<https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?view=chart>; accessed April 1, 2020);⁸⁰ and (iii) the Aggregate [Freedom] Score calculated by Freedom House (2019), which varies from 100 – total freedom – to 0 – total absence of freedom. A regression analysis was run with this data.

The expectation would be that it would show a strong direct relationship between military strength and GDP (actually such a relationship should appear as an inverse one, i.e. with a negative coefficient in the regression, because the variable representing the military power is scored counterintuitively, i.e., the stronger the country the lower the score), and an inverse relationship, lower in intensity (i.e. less powerful than the former), between military strength and the degree of freedom enjoyed by the society (again, such a relationship should appear as a direct one, i.e., with a positive coefficient, for the same reason already explained).

⁸⁰ With the following exceptions: (i) data for Iran refers to 2017, for South Sudan to 2015 and Venezuela to 2014; (ii) data for Taiwan was obtained from WEO database of IMF; and data for North Korea refers to 2016 and was obtained from Bank of Korea (<https://www.bok.or.kr/eng/bbs/E0000634/view.do?nttId=230094&menuNo=400069>; accessed 01/Apr/2020)

As not all countries figured in the three databases, the exercise involved the 126 countries that are common to all of them.

The regression, performed with the software StatPlus associated with an Excel spreadsheet, was run using logarithms of the variables – $\text{Ln}(\text{Military Strength}) = \alpha - \beta_1 * \text{Ln}(\text{GDP}) + \beta_2 * \text{Ln}(\text{Freedom})$.

The regression results are shown in Table C1 and the databased used for the exercise is displayed in Table C2, both of which are set out below.

Table C1. Regression Analysis (Military Power, GDP and Freedom)

<i>Regression Statistics</i>								
Multiple R	0.87204927							
R Square	0.76046993							
Adjusted R Square	0.75657513							
Standard Error	0.41704855							
Observations	126							
$\text{Ln}(\text{Mil}) = 1.24607 - 0.44544 * \text{Ln}(\text{GDP}) + 0.19549 * \text{Ln}(\text{Freedom})$								
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	2	67.9204162	33.96020811	195.252729	6.7708E-39			
Residual	123	21.3933277	0.173929493					
Total	125	89.3137439						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.24607	0.18144091	6.867641205	2.863E-10	0.88691993	1.60522226	0.88691993	1.60522226
Ln (GDP)	-0.44544	0.02261578	-19.69586757	7.584E-40	-0.4902039	-0.4006708	-0.4902039	-0.4006708
Ln (Freed)	0.19549	0.04648234	4.205639028	4.97E-05	0.103479	0.28749689	0.103479	0.28749689

Table C2. Database used for the Regression

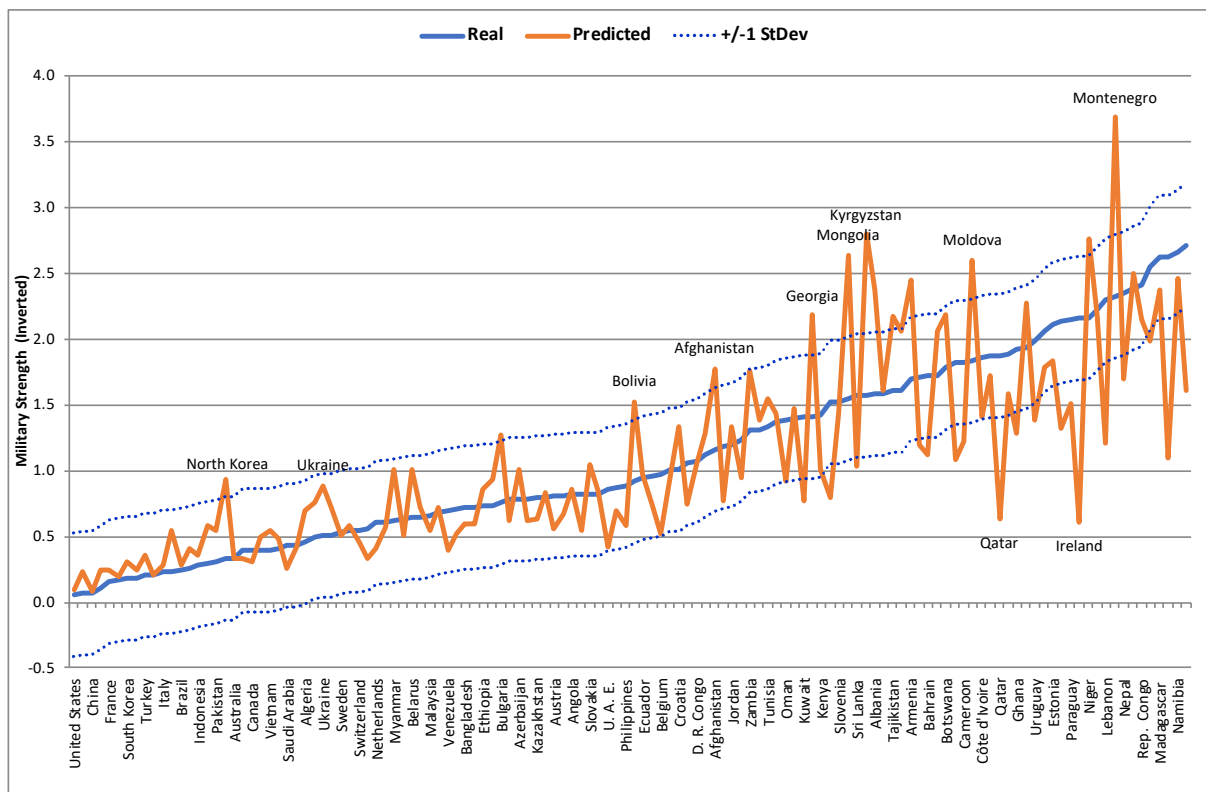
Country	Military Strength	GDP 2018 (WB)	Obs.	Freedom (Aggregate Score)	Country	Military Strength	GDP 2018 (WB)	Obs.	Freedom (Aggregate Score)
United States	0.0615	20 544.3		86	Bolivia	0.9139	40.3		67
Russia	0.0639	1 657.6		20	Ecuador	0.9451	108.4		63
China	0.0673	13 608.2		11	Portugal	0.9611	240.7		96
India	0.1065	2 718.7		75	Belgium	0.9633	542.8		96
France	0.1584	2 777.5		90	Sudan	1.0051	40.9		7
Japan	0.1707	4 971.3		96	Croatia	1.0067	61.0		85
South Korea	0.1761	1 619.4		83	Cuba	1.0565	100.0		14
U. Kingdom	0.1797	2 855.3		93	D. R. Congo	1.0631	47.2		15
Turkey	0.2089	771.4		31	Yemen	1.1208	26.9		11
Germany	0.2097	3 947.6		94	Afghanistan	1.1511	19.4		27
Italy	0.2277	2 083.9		89	Turkmenistan	1.1871	40.8		2
Egypt	0.2283	250.9		22	Jordan	1.1968	42.2		37
Brazil	0.2487	1 868.6		75	Libya	1.2349	48.4		9
Iran	0.2606	454.0	2017	18	Zambia	1.3035	26.7		54
Indonesia	0.2804	1 042.2		62	Serbia	1.3041	50.6		67
Israel	0.2964	370.6		78	Tunisia	1.3322	39.9		69
Pakistan	0.3087	314.6		39	Lithuania	1.3751	53.4		91
North Korea	0.3274	31.1	2016 (*)	3	Oman	1.3842	79.3		23
Australia	0.3277	1 433.9		98	Zimbabwe	1.3906	31.0		31
Spain	0.3921	1 419.0		94	Kuwait	1.4053	140.6		36
Canada	0.3941	1 713.3		99	Georgia	1.4098	17.6		63
Taiwan	0.3956	589.4	IMF	93	Kenya	1.4177	87.9		48
Vietnam	0.3988	245.2		20	New Zealand	1.5184	204.9		98
Poland	0.4059	585.7		84	Slovenia	1.5186	54.0		94
Saudi Arabia	0.4286	786.5		7	Mongolia	1.5447	13.1		85
Thailand	0.4302	505.0		30	Sri Lanka	1.5687	88.9		56
Algeria	0.4551	173.8		34	Kyrgyzstan	1.5688	8.1		38
Greece	0.4955	218.0		87	Albania	1.5783	15.1		68
Ukraine	0.5082	130.8		60	Uganda	1.5802	27.5		36
Czech Republic	0.5119	245.2		91	Tajikistan	1.6031	7.5		9
Sweden	0.5263	556.1		100	Chad	1.6041	11.3		17
South Africa	0.5405	368.3		79	Armenia	1.6888	12.4		51
Switzerland	0.5459	705.1		96	Tanzania	1.7109	58.0		45
Mexico	0.5574	1 220.7		63	Bahrain	1.7134	37.7		12
Netherlands	0.6063	913.7		99	Mali	1.7172	17.2		44
Norway	0.6103	434.2		100	Botswana	1.7786	18.6		72
Myanmar	0.6162	71.2		30	Guatemala	1.8203	78.5		53
Argentina	0.6274	519.9		84	Cameroon	1.8242	38.7		19
Belarus	0.6418	59.7		19	Moldova	1.8275	11.4		58
Romania	0.6461	239.6		81	Côte d'Ivoire	1.8514	43.0		51
Malaysia	0.6523	358.6		52	Latvia	1.8691	34.4		87
Peru	0.6841	222.0		73	Qatar	1.8696	191.4		25
Venezuela	0.6931	482.4	2014	19	Cambodia	1.8765	24.5		26
Nigeria	0.7007	397.3		50	Ghana	1.9231	65.6		83
Bangladesh	0.7156	274.0		41	Mozambique	1.9287	14.7		51
Colombia	0.7157	331.0		66	Uruguay	1.9867	59.6		98
Ethiopia	0.7361	84.4		19	Honduras	2.0554	24.0		46
Uzbekistan	0.7365	50.5		9	Estonia	2.1115	30.7		94
Bulgaria	0.7525	65.1		80	South Sudan	2.1281	12.0	2 015	2
Denmark	0.7767	355.7		97	Paraguay	2.1503	40.5		65
Azerbaijan	0.7791	46.9		11	Ireland	2.1579	382.5		97
Iraq	0.7813	224.2		32	Niger	2.1631	9.3		49
Kazakhstan	0.7908	179.3		22	Nicaragua	2.2228	13.1		32
Hungary	0.7957	157.9		70	Lebanon	2.2929	56.6		45
Austria	0.8007	455.3		93	Montenegro	2.3173	5.5		65
Chile	0.8054	298.2		94	Nepal	2.3472	29.0		54
Angola	0.8154	105.8		31	North Macedonia	2.3838	12.7		59
Singapore	0.8161	364.2		51	Rep. Congo	2.4035	11.3		21
Slovakia	0.8181	105.9		88	Bosnia & Herz.	2.5483	20.2		53
Morocco	0.8244	117.9		39	Madagascar	2.6168	13.9		56
U. A. E.	0.8555	414.2		17	Dominican Rep.	2.6208	85.6		67
Finland	0.8661	276.7		100	Namibia	2.6519	14.5		75
Philippines	0.8862	330.9		61	Laos	2.7113	18.0		14

(*) Source: Bank of Korea

The regression results seem sufficiently robust to validate the statement made above about the explanatory factors behind military strength. The Adjusted R-square is reasonably high and the coefficients – β_1 and β_2 – have the expected signals and are statistically robust, supporting the conclusion that the military strength shown by the existing states are largely explained by the aforementioned two factors.

Of the values predicted by the model, 75 percent of the residuals fall within one standard deviation from the real value, as shown in Figure C1. However, most of the “outliers” are smaller countries with reduced military power. Confining the results only to the 67 most militarily powerful countries (whose scores are below 1), only 4.5 percent of the predictions (for North Korea, Bulgaria, and Bolivia) have their residuals falling outside the interval of +/- 1 standard deviation around the real values (after retransforming them from their logarithmic to their original form).

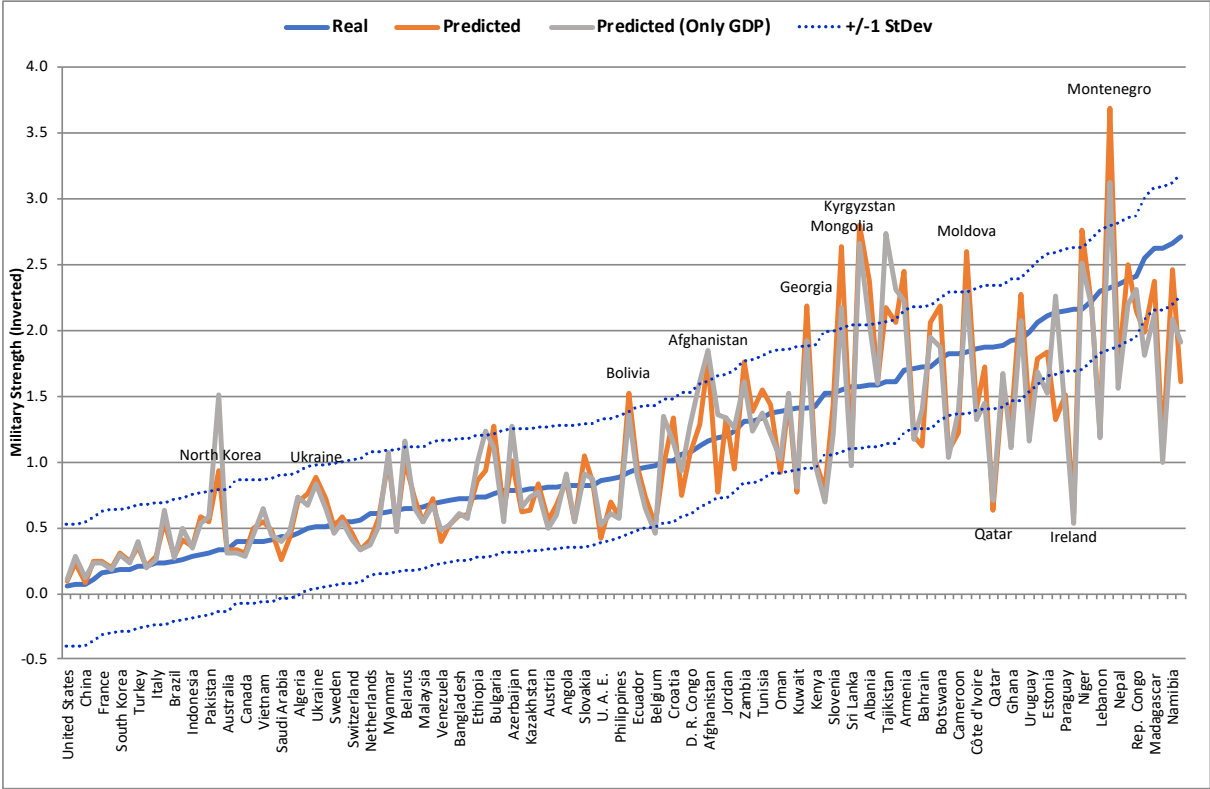
Figure C1. Military Strength (Regression Model)



An additional exercise was developed to illustrate the particular relevance of a regime’s illiberality to explain an “over-militarization” of the state relative to what would be proportional to the capacity of its economy. This exercise calculated what the predicted military strength of those states would be, based on their real GDP and assuming a perfect democratic-liberal

regime for all of them (i.e. with a freedom score of 100). Figure C2 shows the results of this exercise together with the predictions shown in Figure C1, which incorporate the actual degrees of illiberality. Only the 67 most militarily powerful (with a score below 1) are displayed.

Figure C2. Military Strength Based on GDP Alone



APPENDIX D

Calculations to Support the Research in Chapter 5

a) Database

Most of the calculations reported on Chapter 5 were based on a sample of 133 countries taken from the PWT 9.1 database and comprising countries with a population of over one million people and with data available for the necessary calculations. The sample represents around 98 percent of the economic values of the universe covered by PWT 9.1. The countries in the sample were divided into the following groups, according to their specific characteristics:

- a) *Rentiers* – those whose GDP contained on average, over the decade 2008–2017, more than 20 percent of rents originating from natural resources in general or more than 15 percent of rents originating from oil and gas, according to data from the World Bank (22 countries);
- b) *Non-Rentiers* – all the other countries (111) which, in turn, were subdivided into two other groups:
 - i) *Advanced Economies* – countries classified as such by the IMF (32)
 - ii) *Developing Economies* – all other countries (79), corresponding to the IMF group “Emerging Markets and Developing Economies”

Another group – *Oil Producers* – was created to include all the countries in the sample that were oil producers (81 countries) – *Rentiers* and *non-Rentiers* – for which statistics about production were collected from the Energy Information Agency (EIA). Table D1 lists the countries that are part of the sample, as well as the groups to which they were allocated.

Table D1. List of Countries and their Groupings

Country	Group	Country	Group	Country	Group	Country	Group
Albania	D/O	El Salvador	D	Lithuania	A/O	Senegal	D
Algeria	R/O	Estonia	A	Madagascar	D	Serbia	D/O
Angola	R/O	Ethiopia	D	Malawi	D	Sierra Leone	R
Argentina	D/O	Finland	A	Malaysia	D/O	Singapore	A
Armenia	D	France	A/O	Mali	D	Slovakia	A/O
Australia	A/O	Gabon	R/O	Mauritania	R/O	Slovenia	A/O
Austria	A/O	Gambia	D	Mauritius	D	South Africa	D/O
Bahrain	D/O	Germany	A/O	Mexico	D	South Korea	A
Bangladesh	D/O	Ghana	D/O	Moldova	D	Spain	A/O
Belgium	A	Greece	A/O	Mongolia	R/O	Sri Lanka	D
Benin	D	Guatemala	D/O	Morocco	D/O	Sudan	D/O
Bolivia	D/O	Haiti	D	Mozambique	R	Swaziland/Eswatini	D
Botswana	D	Honduras	D	Myanmar	D/O	Sweden	A
Brazil	D/O	Hong Kong SAR	A	Namibia	D	Switzerland	A
Bulgaria	D/O	Hungary	D/O	Nepal	D	Taiwan	A/O
Burkina Faso	R	India	D/O	Netherlands	A/O	Tajikistan	D/O
Burundi	R	Indonesia	D/O	New Zealand	A/O	Tanzania	D
Cambodia	D	Iran	R/O	Nicaragua	D	Thailand	D/O
Cameroon	D/O	Iraq	R/O	Niger	D/O	Togo	R
Canada	A/O	Ireland	A	Nigeria	D	Trinidad and Tobago	D/O
Central African Republic	D	Israel	A/O	Norway	A/O	Tunisia	D/O
Chile	D/O	Italy	A/O	Pakistan	D/O	Turkey	D/O
China	D/O	Jamaica	D	Panama	D	Uganda	D
Colombia	D/O	Japan	A/O	Paraguay	D	Ukraine	D/O
Congo (Rep)	R/O	Jordan	D/O	Peru	D/O	United Arab Emirates	R
Costa Rica	D	Kazakhstan	R/O	Philippines	D/O	United Kingdom	A/O
Côte d'Ivoire	D/O	Kenya	D	Poland	D/O	United States	A/O
Croatia	D/O	Kuwait	R/O	Portugal	A	Uruguay	D
Czech Republic	A/O	Kyrgyzstan	D/O	Qatar	R/O	Venezuela	R/O
D.R. of the Congo	R/O	Lao People's DR	D	Romania	D/O	Vietnam	D/O
Denmark	A/O	Latvia	A	Russian Federation	D/O	Yemen	R/O
Dominican Republic	D	Lesotho	D	Rwanda	D	Zambia	D
Ecuador	D/O	Liberia	R	Saudi Arabia	R/O	Zimbabwe	D
Egypt	D/O						

Legend:

A – Advanced Economies (IMF criteria)

D – Emerging Market and Developing Economies (IMF Criteria)

O – Oil Producer

R – Rentiers (author's criteria)

b) Main Correlations

As Chapter 5 explained, cross-country correlations between GDP and potential explanatory variables were calculated for the major groups, and the results are displayed in Table D2 below.

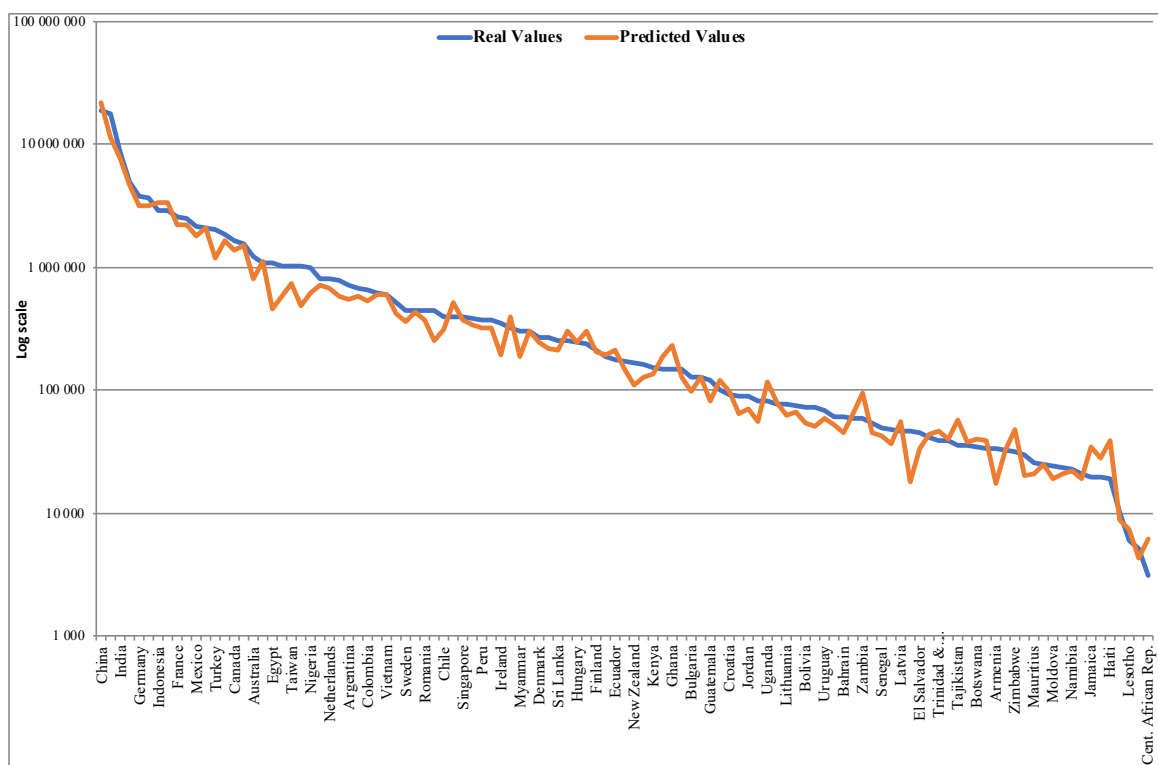
Table D2. Cross-Country Correlations between GDP and Potential Explanatory Variables (2017)

	Population (P)	Employment (L)	GDP (Y)	Physical Capital (K)	Human Capital Index (h)	OIL	Y/L	K/L	Area
NON-RENTIERS									
Population (P)	1.								
Employment (L)	0.9852	1.							
GDP (Y)	0.79071	0.82189	1.						
Physical Capital (K)	0.81727	0.87139	0.97481	1.					
Human Capital Index (h)	-0.08479	-0.06127	0.14877	0.13557	1.				
OIL	0.33951	0.35564	0.6422	0.56345	0.18433	1.			
Y/L	-0.07818	-0.06652	0.1816	0.15641	0.73345	0.18123	1.		
K/L	-0.08561	-0.06967	0.13292	0.13978	0.69402	0.09715	0.92716	1.	
Area	0.43472	0.45703	0.6021	0.57381	0.13179	0.88056	0.11461	0.04677	1.
RENTIERS									
Population (P)	1.								
Employment (L)	0.95232	1.							
GDP (Y)	0.50851	0.44232	1.						
Physical Capital (K)	0.47013	0.42881	0.96637	1.					
Human Capital Index (h)	-0.10837	-0.1087	0.44358	0.44135	1.				
OIL	0.32841	0.29844	0.91095	0.88959	0.41245	1.			
Y/L	-0.10934	-0.12401	0.58086	0.56424	0.65916	0.62628	1.		
K/L	-0.10886	-0.10947	0.57683	0.61727	0.65184	0.6002	0.96219	1.	
Area	0.61294	0.62393	0.44927	0.44098	0.27487	0.34442	-0.04413	-0.02463	1.
OIL PRODUCERS									
Population (P)	1.								
Employment (L)	0.98474	1.							
GDP (Y)	0.78565	0.81847	1.						
Physical Capital (K)	0.81365	0.86997	0.97379	1.					
Human Capital Index (h)	-0.13726	-0.10129	0.11774	0.10346	1.				
OIL	0.21821	0.22993	0.48859	0.41665	0.0744	1.			
Y/L	-0.14093	-0.12536	0.12054	0.089	0.51286	0.36096	1.		
K/L	-0.12928	-0.10809	0.11068	0.11432	0.55629	0.2356	0.90664	1.	
Area	0.40858	0.4328	0.5786	0.55047	0.11857	0.68958	0.05022	0.01208	1.

c) Explaining Differences in Economic Size

The predicted values for the 2017 non-*Rentiers* GDP, using equation (5.6) on p. 100 in the main text, are displayed in Figure D1, below, together with the corresponding real values. The predicted values show a convincing adherence and suggest a very good explanatory power for estimated function.

Figure D1. Estimated Cross-Country GDP Values and the Corresponding Real Values (2017)⁸¹

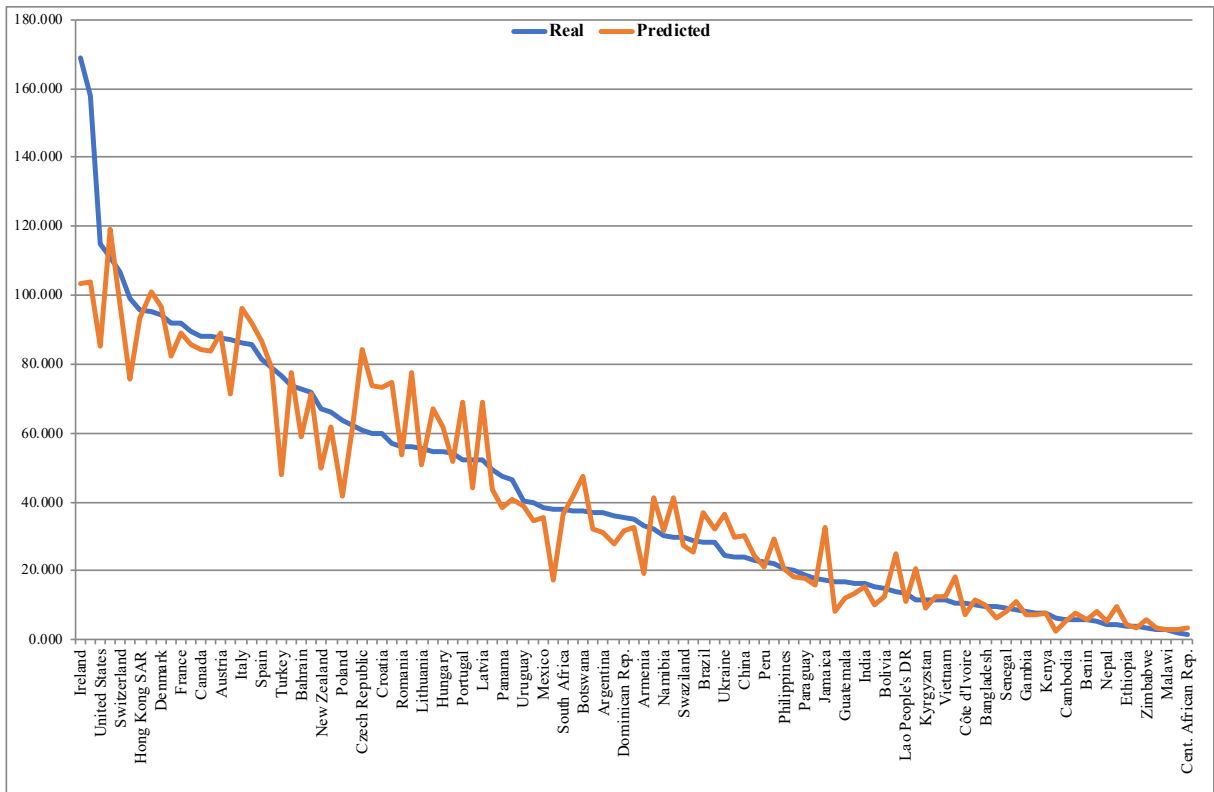


d) Estimating Differences in Economic Efficiency

The predicted values for the economic efficiency of the 2017 non-*Rentiers* (measured by the apparent labor productivity, Y/L), using equation (5.7) on p. 102 in the main text, are displayed in Figure D2 below, together with the corresponding real values. Once again, the estimations show a very good adherence to the real values, suggesting a very good explanatory power for the estimated function.

⁸¹ Although all the non-*Rentier* countries of the sample are represented in the graph, only half of them (in alternate order) are identified in the axis due to lack of space

Figure D2. Predicted Cross-Country Apparent Labor Productivity (Y/L) Values and Corresponding Real Values (2017)⁸²



⁸² See note 7.

APPENDIX E

Some Fundamental Identities of National Accounting

1. Basic Identities

The first basic identity of national accounting is:

$$Y = (C + G) + I + (E - M) \quad (\text{E1}),$$

where:

Y – Gross Output (Added Value) = Total Expenditure = Domestic Income,

C – Private (Household) Consumption (of goods and services),

G – Government Consumption (of goods and services),

I – Investment (Private and Government),

E – Exports (of goods and services),

M – Imports (of goods and services).

Some variables in this first basic identity, can be grouped into meaningful aggregates:

$$\text{Total Consumption: } TC = C + G \quad (\text{E2})$$

$$\text{Trade Balance: } TB = E - M \quad (\text{E3})$$

The second basic identity is the one linking Investment (I) and Saving (S):

$$I = S \quad (\text{E4}),$$

which, combined with (1), provides the (total) Saving identity:

$$S = [Y - TC] - TB \quad (\text{E5}),$$

whose components, in turn, are:

$$\text{National Saving: } S_N = Y - TC \quad (\text{E6}),$$

$$\text{Foreign Saving: } S_X = - TB \quad (\text{E7}).$$

Foreign Savings, being equivalent to the symmetric of the Trade Balance ($E - M$), corresponds to the net inflow of capital from abroad associated with the financing of this balance. The net inflow could be positive – if the Trade Balance is negative – meaning that the country must rely upon foreign savings to finance its investment, either by accepting the sale of ownership of its assets (FDI) or by borrowing from abroad (accruing to the external debt).

Alternatively, it could be negative – if the Trade Balance is positive – meaning that the country saved more than it invested and is “exporting” part of its savings, either by acquiring properties abroad or by lending to foreign parties. In the first case, foreigners acquire drawing rights on future national income, and in the second, the country acquires such rights over future foreign income.

2. Some Complexity

The fundamental relationships with the RoW are accounted for in the Current Account with that sector, which contains a number of relevant transactions other than just the Trade Balance. Thus, this fundamental Current Account (*CA*) corresponds to the following identity:

$$CA = TB + Tf + R \quad (E8),$$

where:

Tf = net (i.e. received – paid) unrequited Transfers (e.g. migrant remittances, grants) from the RoW

R = net Primary Income (e.g. salaries, interest, dividends) received or paid to the RoW.

Foreign Saving corresponds then, more accurately, to the symmetric of the *CA*, and equation (E7) should be rewritten accordingly:⁸³

$$S_X = -CA = -TB - Tf - R \quad (E9).$$

Likewise, equation (E5) has to be rewritten to incorporate this added complexity:

$$S = YD - TC - TB \quad (E10),$$

with:

$$YD = (Y + Tf + R) \quad (E11),$$

and where:

YD – Disposable Income

⁸³ Note that being Tf and R net values (the balance between inflows and outflows) they may be positive or negative.

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