Protectionism and Financial Services

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Mathias A. Müller

from

Hasle bei Burgdorf (Bern), Bäretswil (Zürich)

Approved on the application of

Prof. Simon Evenett, Ph.D.

and

Prof. James W. Davis, Ph.D.

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Preface

This dissertation is the outcome of a five-year research endeavour undertook while committed to subsequent full-time positions at UBS and at the Swiss Financial Market Supervisory Authority FINMA. Writing a dissertation is a significant academic challenge and although the following thesis is an individual work, it would never have seen the light of day without the help and support of those close to me.

First, my deepest gratitude goes to my thesis supervisors Prof. Simon Evenett, Ph.D., and Prof. James W. Davis, Ph.D., for their guidance, their inspiration and their encouragements throughout the years. I also thank Prof. Dr. Marlene Amstad for her valuable inputs and for her willingness to serve as a third member of my dissertation committee.

I am grateful to my fellow students at the School of Economics and Political Science for their extensive feedback, interesting discussions and for helping me safely navigate through the relevant administrative requirements. I would also like to thank my colleagues at UBS and FINMA for enduring my frequent absences and jumping in for me when needed.

Reconciling the requirements of a full-time position with those of a demanding academic undertaking would not have been possible without the support of my family in Nidau, Sion and Zurich, and most of all, of my wife Julia. Their continuous support and belief in me helped me through challenging times. It is to them that I dedicate this work.

Mathias Müller

Zürich, December 2019

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Abstract

Motivated by a hitherto largely unproductive discourse on the topic, this dissertation seeks to answer three simple yet fundamental questions: *What is financial protectionism? How does one measure it? What are some of its determinants?*

After having established the ill-defined nature of financial protectionism, as evidenced by the inconsistent use of the concept in mainstream media and in scholarly work, I draw on the international trade law literature and define it as the set of national policies which illegitimately and unnecessarily restrains international trade in financial services. This definition leads to a taxonomy which differentiates between four types: market entry restrictions, asymmetric regulation, asymmetric subsidies and capital controls.

Based on this definition, I propose measures for all four types of banking protectionism, i.e. the subset of financial protectionism that relates to banking services. These measures are inspired by the literature on non-tariff trade barriers and are designed to meet the criteria of objectivity, comparability, conceptuality and implementability. Analysis of the resulting measures for a sample of 63 countries between 2006 and 2013 reveals a gradual shift towards the most complex and opaque type of banking protectionism: asymmetric regulation. Market entry restrictions, asymmetric regulation and asymmetric subsidies were relatively more frequent in developed countries, while instances of capital controls were concentrated in developing regions. Instances of asymmetric subsidies peaked in the immediate aftermath of the global financial crisis and were much less common in later years. The overall extent of market entry restrictions and capital controls did not evolve significantly on a global scale, but there were clear differences among regions. By contrast, asymmetric regulation featured a clearly recognizable and globally homogeneous upward trend.

Building on the measures developed, I make an initial attempt to investigate some of the determinants of banking protectionism. I draw on the International Political Economy literature to develop three sets of hypotheses which I then test using panel data estimation methods. The results are contingent on the type of banking protectionism considered and suggest that more democratic, smaller countries and those with more effective prudential frameworks are significantly less likely to engage in overt and simple types of banking protectionism. Also, banking protectionism is less frequent in countries which are significant exporters of services or have lower levels of public debt. More developed countries are significantly less likely to make use of capital controls, but more likely to engage in all other types of banking protectionism.

Kurzbeschreibung

Die vorliegende Dissertation befasst sich mit drei grundlegenden Fragen: *Was ist Finanzprotektionismus? Wie lässt es sich messen? Was sind einige seiner Treiber?*

Ausgehend von der Feststellung, dass der Begriff uneinheitlich verwendet wird in der bisherigen Literatur, definiere ich Finanzprotektionismus als die Menge aller staatlichen Massnahmen, die den internationalen Handel mit Finanzdienstleistungen in illegitimer und unnötiger Weise beschränken. Diese Definition führt zu einer Kategorisierung, die vier Arten umfasst: Markteintrittsbeschränkungen, asymmetrische Regulierung, asymmetrische Subventionen und Kapitalverkehrskontrollen.

Basierend auf dieser Definition schlage ich Masseinheiten für die vier Arten von Bankenprotektionismus vor. Diese Masseinheiten sind von der umfangreichen Literatur über nichttarifäre Handelshemmnisse inspiriert, und erfüllen die Kriterien von Objektivität, Vergleichbarkeit, Konzeptualität und Umsetzbarkeit. Eine Betrachtung der Entwicklungen aller vier Arten für eine

Stichprobe von 63 Ländern zwischen 2006 und 2013 zeigt eine allgemeine Verschiebung hin zur komplexesten und undurchsichtigsten Art von Bankenprotektionismus: asymmetrische Regulierung. Markteintrittsbeschränkungen, asymmetrische Regulierung und asymmetrische Subventionen kommen häufiger in industrialisierten Ländern vor, während Entwicklungsländer eher auf Kapitalkontrollen setzen. Das Ausmass asymmetrischer Subventionen erreichte unmittelbar nach der globalen Finanzkrise einen Höhepunkt. Die globale Häufigkeit von Markteintrittsbeschränkungen oder Kapitalkontrollen hat sich über den betrachteten Zeitraum nicht wesentlich verändert, wobei deutliche regionale Unterschiede festzustellen sind. Bei der Anzahl Fällen asymmetrischer Regulierung ist ein deutlicher und global homogener Aufwärtstrend erkennbar. Aufbauend auf den erarbeiteten Masseinheiten unternehme ich einen ersten Versuch, einige der treibenden Faktoren von Bankenprotektionismus zu ermitteln. Gestützt auf die Literatur aus dem Gebiet der Internationalen Politischen Ökonomie entwickle ich Hypothesen, die ich dann mit Panel-Datenschätzungsmethoden untersuche. Die Gültigkeit der jeweiligen Hypothesen hängt von der Art des betrachteten Bankenprotektionismus ab. Die Ergebnisse deuten darauf hin, dass demokratischere, kleinere Länder oder solche mit wirksameren prudenziellen Rahmenbedingungen weniger auf transparente und einfache Formen des Bankprotektionismus setzen. Länder, die mehr Dienstleistungen exportieren und solche, deren Staatsverschuldung geringer ist, sind allgemein weniger protektionistisch.

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List of abbreviations

AIC	Akaike Information Criterion
AREAER	Annual Report on Exchange Arrangements and Exchange Restrictions
Art.	Article
BCBS	Basel Committee on Banking Supervision
BIC	Bayesian Information Criteria
BIS	Bank for International Settlements
BoE	Bank of England
CPI	Consumer Price Index
ECB	European Central Bank
EIB	European Investment Bank
ESMA	European Securities and Markets Authority
EWE	IMF-FSB Early Warning Exercise
EU	European Union
FATF	Financial Action Task Force on Money Laundering
FDI	Foreign Direct Investment
FE	Fixed Effects
Fed	Federal Reserve System
FSB	Financial Stability Board
FSP	Financial Services Provider
FT	Financial Times
FX	Foreign Exchange
G20	Group of Twenty

GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GTA	Global Trade Alert
HS	Harmonized Commodity Description and Coding System
IAIS	International Association of Insurance Supervisors
IHC	Intermediate Holding Company
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IPE	International Political Economy
LNI	Legitimacy Necessity Indicator (see 3.2.1)
MiFIR	EU Regulation on Markets in Financial Instruments
MFN	Most Favoured Nation
NPL	Non-Performing Loan
NTB	Non-Tariff Barrier
OECD	Organisation for Economic Cooperation and Development
OLS	Ordinary Least-Squares
RBI	Reserve Bank of India
RE	Random Effects
SATI	structure-adjusted trade intensity (see Pritchett, 1996)
shta	share of total bank assets controlled by foreigners
SMEs	Small and Medium-sized Enterprises
SNB	Swiss National Bank

SPS	Sanitary and Phytosanitary Measures Agreement
SSN	Superintendencia de Seguros de la Nación (Argentinian Federal Bureau of Insurance)
$STRI^{OECD}$	OECD Services Trade Restrictiveness Index
$STRI^{WB}$	World Bank Services Trade Restrictions Index
TBT	Technical Barriers to Trade Agreement
TiSA	Trade in Services Agreement
TPP	Trans-Pacific Partnership
TRN	Transnational Regulatory Network
UNCTAD	United Nations Conference on Trade and Development
UK	United Kingdom of Great Britain and Northern Ireland
US	United States of America
WPDR	Working Party on Domestic Regulation
WTO	World Trade Organization

1 Introduction

Significant changes in patterns of cross-border lending in the aftermath of the global financial crisis (GFC) have led some to declare the return of protectionism in the field of financial services, an idea which found a large audience after it was picked up by the media and a number of influential public figures including former US Treasury Secretary Hank Paulson and former British Prime Minister Gordon Brown (see Braithwaite, 2013 and Summers, 2009). This raises a number of important and interesting questions for economists and political scientists, the very first being: *Is that so?* Did we really see a sudden surge in financial protectionism after the GFC and if so, what were the drivers behind this surge? If not, why have states not resorted to protectionist measures to defend their domestic banks in times of crisis?

A meaningful inquiry into these issues presupposes that one can define and measure financial protectionism. In the next chapter of this dissertation, I therefore set the stage by addressing the simple yet essential question: *What is financial protectionism?* The need to define financial protectionism is justified by the wide variety of meanings attributed to the concept in the media and even in scholarly work. The definition developed in this dissertation accounts for the fundamental conflict between the domestic interest in regulatory autonomy and the multilateral interest in free trade by emphasizing that not all discriminatory measures or trade barriers in the field of financial services should be viewed as instances of financial protectionism, since some are necessary to achieve legitimate prudential objectives. The resulting taxonomy of financial protectionism encompasses four distinct types: market entry restrictions, asymmetric regulation, asymmetric subsidies and capital controls.

The rich literature on the measurement of non-tariff barriers serves as a backdrop for the following chapter, in which I operationalize the main elements of my definition – in particular the concepts of legitimacy and necessity – to propose measures for each of the four types. The measures proposed are designed to meet the criteria of objectivity, comparability, conceptuality and implementability. Due to data availability constraints, this chapter only addresses the subset of financial protectionism which relates to the banking sector. An analysis of the resulting measures for a sample of 63 countries between 2006 and 2013 reveals, amongst other things, a gradual shift towards the most complex and opaque type of banking protectionism: asymmetric regulation.

Having defined and measured it, I then attempt to explain banking protectionism by investigating some of its determinants. The final chapter of this dissertation draws on the International Political Economy Literature and introduces three sets of hypotheses which may provide valid accounts of variations in levels of banking protectionism across countries and years. The three sets of hypotheses are then tested in a quantitative empirical setting, focusing on the sample used in the previous chapter. The validity of the hypotheses proves to be contingent on the transparency and simplicity of the types of banking protectionism considered.

The objective of this dissertation is not to propose a comprehensive theory of financial protectionism. Rather, it should be seen as an initial contribution to the interdisciplinary bodies of literature on the nature, measurement and determinants of financial protectionism. The glaring absence of a consensus on the very definition of financial protectionism – as illustrated by the numerous meanings and merits attributed to it across the literature – has thus far frustrated constructive discussion of the phenomenon, whether among scholars, policymakers or the wider public. By developing a definition that is both substantiated

and transparent and then proposing initial applications of this definition, this dissertation seeks to demonstrate that a productive discourse on financial protectionism is in fact possible.

2 Defining financial protectionism

As a preliminary step, this chapter gives an overview of the theoretical foundations of international trade and financial services. After reviewing the relevant literature, I develop an approach which consists in applying the main precepts of several preeminent free trade agreements in order to propose a theoretical definition of financial protectionism. This definition then enables me to establish a taxonomy, thereby distinguishing between four types of financial protectionism: market entry restrictions, asymmetric regulation, asymmetric subsidies and capital controls. This taxonomy constitutes the conceptual basis of the remainder of my dissertation.

2.1 Theoretical foundations

This section provides an overview of the theoretical foundations of international trade, protectionism, financial services and financial regulation, while putting a particular emphasis on concepts which are relevant for my reasoning in subsequent sections.

2.1.1 International trade and protectionism

According to the classical Ricardian theory of comparative costs, the fundamental variable which explains both the existence and the varying patterns of international trade is technology. Differing levels of technological development will lead to differences in comparative production costs which represent a necessary condition for the presence of trade (Ricardo, 1817). Ricardo illustrated his theory with his well-known two-country, two-good model in which both countries are better off negotiating terms of trade that allowed each to specialize in the production of one of the goods.[1]

[1] An important implication of this model is that trade can make both countries better off even if one of them has lower absolute production costs for both goods.

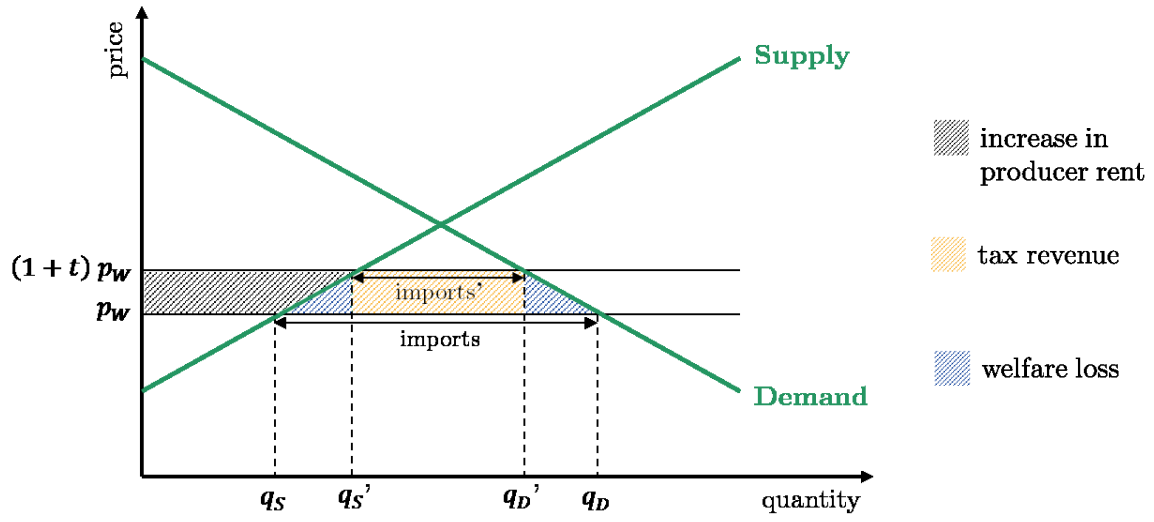
Subsequent generalizations of this theory have tended to confirm the positive welfare effects of trade as it allows countries to obtain commodities at lower costs than the local production costs, or to obtain commodity bundles which were unattainable under autarky (see Gandolfo, 2014). According to these generalizations, trade is beneficial for the parties involved because it increases both the quantity and the variety of goods available for consumption.

Other extensions focused on the causes of international specialization and trade. Differences in factor endowments play a central role in the prominent Heckscher-Ohlin model. The central theorem derived from this model states that a country abundant in one particular factor of production will have a production and export bias in favour of the good that uses this factor more intensively (Ohlin, 1933). However, in a seminal paper published in 1953, Leontief shows that the post-war United States exported labour-intensive commodities and imported capital-intensive ones, although the country was considered to be relatively more capital-rich. This outright contradiction of the Heckscher-Ohlin theorem is referred to as the *Leontief Paradox* and has been the object of intense scientific debate ever since. A significant part of this debate has revolved around the validity of the different assumptions underlying the classical models of trade: most notably, perfect competition, the absence of transport costs and the immobility of production factors (Gandolfo, 2014).

Both the theoretical and policy-oriented strands of research on international trade have traditionally emphasized the effects of protectionism – the economic policy of restraining international trade by means of different types of trade barriers. To this day, the standard partial equilibrium model remains a popular starting point for textbook introductions to this topic. In such a model, the introduction of a tariff **t** leads to a redistribution of consumer rent to producers and the state as shown in exhibit 1. Domestic consumption and imports of the commodity both decrease – by $|q_D q_D^{'}|$ and $|q_D q_D^{'} + q_S q_S^{'}|$ respectively – while

domestic output and fiscal revenue increase – by $|q_S q_S'|$ and t×$|q_S' q_D'|$. This redistribution of rent from consumers to producers can also be seen as a combination of subsidy and consumer tax equivalents: the effects of a tariff are identical to those of a consumption tax, the proceeds of which are used to subsidize domestic producers and increase fiscal revenues (Gandolfo, 2014). The main argument against tariffs in a model of this kind is that parts of the consumer rent cannot be re-allocated, thereby resulting in a net welfare loss.[2]

Exhibit 1 – Welfare effects of a tariff in a partial equilibrium model [3]



Indeed, traditional trade theory posits that tariffs entail costs for society, which are represented by the two blue areas in exhibit 1. The left triangle corresponds to the production costs of protection: the difference between the costs incurred to increase domestic production from q_S to q_S' after the introduction of the tariff and the lower costs that would have been incurred if the country had im-

[2] The net welfare loss corresponds to the difference between the decrease in the consumer rent and the sum of the increases in producer rent and tax revenues.
[3] Own representation based on Gandolfo (2014).

ported the corresponding commodity instead. Similarly, the right triangle corresponds to the consumption costs of protection as it represents the distortion in consumption due to the increase in the domestic price of the commodity. Parts of the literature also mention other types of costs such as administrative costs – created by the need to maintain an administrative structure in order to impose the tariff – and resource displacement costs – due to the increased use of domestic resources to produce the commodity in question, resources which need to be shifted from other sectors if one assumes full employment for instance (Gandolfo, 2014).

While discussing tariffs proves useful in theory, they are not the only or even the most common type of impediment to free trade. Examples of non-tariff barriers include the following:

- quotas – straightforward quantitative restrictions on the imports of certain commodities
- export subsidies – transfers by governments to domestic exporters which can take various forms such as direct payments, more favourable credit conditions or the insurance of certain risks
- customs clearance formalities – not only the absolute level of tariffs, but also the application of bureaucratic formalities linked to their imposition may curb trade
- government procurement – any measure aimed at limiting the incentives of the public sector to buy foreign commodities
- technical, safety, health and other regulations – differences in regulations across countries may represent serious impediments to free trade (Gandolfo, 2014)

Large parts of the scientific literature on this topic assert that the effects of trade restrictions on welfare are theoretically unclear, but many empirical studies have shown a significant negative effect on a commonly used proxy, economic

growth (see Roubini & Sala-i-Martin, 1991). However, when one relaxes some of the debatable assumptions of the Ricardian and standard equilibrium models, circumstances may arise under which protectionist measures actually do improve welfare. If, for instance, one abandons the assumption of constant world prices in the standard equilibrium model described above[4], the introduction of a tariff may in fact improve welfare in the imposing country.[5] Further extending the model to account for the game theoretical concepts of retaliation and counter-retaliation may, however, relativize the eventuality of welfare improvement through trade barriers (see McMillan, 1986). Proponents of Lipsey and Lancaster's (1956) general theory of second best may even question if it is even possible to reach general conclusions on the economic effects of trade barriers or trade-liberalizing measures.[6] Notwithstanding the above, the reasons for imposing trade barriers are frequently non-economic in nature; states often use arguments relating to national defence, national pride or foreign policy in order to justify protectionist measures (Gandolfo, 2014).

The debate on the virtues of international trade and barriers to it is ongoing and the attitudes of individuals and governments remain truly diverse (see Jäkel & Smolka, 2013). Contributing to this debate is not an objective of this dissertation. Nonetheless, it was necessary to address basic elements of the theory of international trade and protectionism as a means of generating some sympathy for the assumption used below stating that there exists – at least to some extent – a multilateral interest in free trade.

[4] One possible motivation would be to account for the fact that the introduction of a tariff in a certain large country may lead to a drop in world prices, as a consequence of the tariff-imposing country's size.

[5] Another frequently mentioned argument in favor of protectionism is its ability to protect infant industries: "a domestic industry cannot compete with well-established foreign firms and therefore it must be protected by a tariff, to give it time to grow up and become competitive with foreign firms" (Gandolfo, 2014, p. 256).

[6] Since "once one or more of the Pareto-optimum conditions is violated, it is not necessarily true that the (second) best situation is that in which all the remaining conditions are fulfilled" (Gandolfo, 2014, p. 264). Due to the interdependence between market failures, one action – e.g. a liberalizing measure – to correct a market failure – e.g. the absence of totally free trade – may actually decrease economic efficiency.

A further matter that merits being addressed within the context of this brief overview of the theoretical foundations of international trade and protectionism is the distinction between goods and services. Trade in services differs from trade in physical goods due to two important specificities: firstly, the particular importance of foreign investment and labour mobility due to the simultaneity of production and consumption and to the fact that services generally require a form of proximity between producer and consumer (see Brown & Stern, 2001); and, secondly, the higher density of regulation in the field of services. These two specificities have important potential implications with respect to both the likelihood and the shape of services trade barriers which "often serve the dual purpose of responding to market failures […] and protecting local suppliers from foreign competition" (Copeland & Mattoo, 2008, p. 84).

Article I of the General Agreement on Trade in Services (GATS) spells out the four modes of delivery of international services transactions[7]:

- cross border trade (mode 1) – services supplied from the territory of one country into the territory of another
- consumption abroad (mode 2) – services supplied in the territory of one country to consumers from another country
- commercial presence (mode 3) – services supplied through any type of professional establishment of one country in the territory of another country
- presence of natural persons (mode 4) – services supplied by citizens of one country in the territory of another country

Most trade barriers in the services sector are non-tariff barriers (Copeland & Mattoo, 2008). One of the reasons for this is the intangibility of services, which

[7] Factors such as technology, consumer preferences of the regulatory environment determine the level of substitutability between these modes and consequently have strong implications on the effects of services trade barriers (see Copeland & Mattoo, 2008).

makes it difficult to observe and therefore tax them. Furthermore, many services are supplied through commercial presence or the presence of natural persons due to the proximity requirement mentioned above, whereas tariffs, by definition, are only applicable to cross border trade. Lastly, the provision of services is often heavily regulated, which may have the effect – intentional or unintentional – of increasing costs and thus restricting access to domestic markets by foreigners. This last element in particular has far-reaching implications for my definition and analysis of financial protectionism.

> *"A challenge for trade-policy analysis is to isolate the protective effect of regulatory policy from the beneficial effects, and to suggest rules for liberalization that provide the benefits of increased trade while ensuring that other legitimate policy objectives are achieved. In many cases, trade liberalization may not be possible or viable unless it is accompanied by domestic regulatory reform."* (Copeland & Mattoo, 2008, p. 104)

2.1.2 Financial services

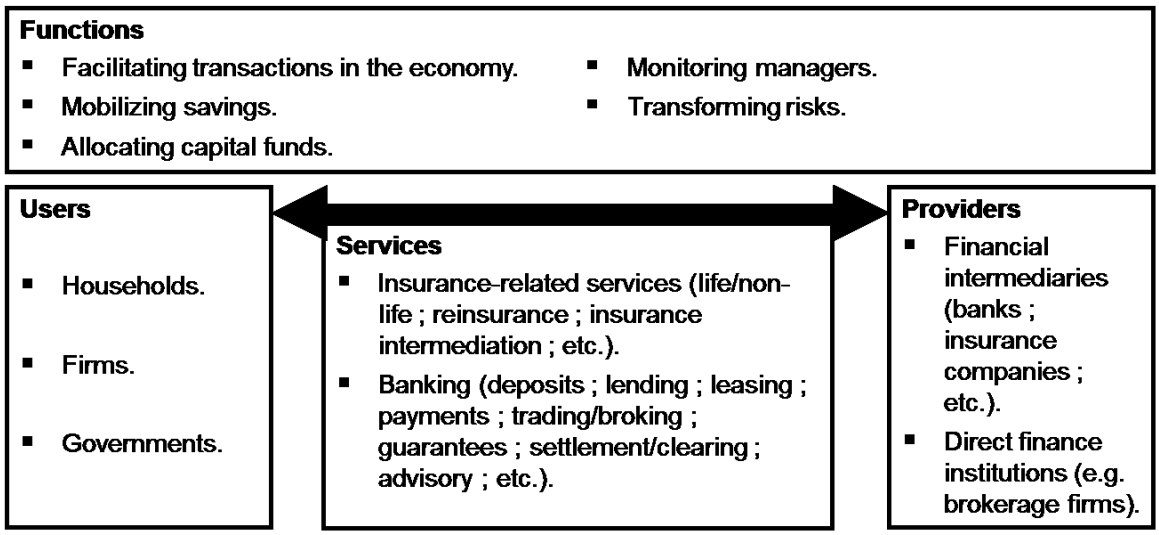
According to the World Trade Organization (WTO, 2015a), the main functions of the financial services sector include facilitating transactions in the economy, mobilizing savings, allocating capital funds, monitoring managers and transforming risk. The users of financial services are households, firms or governments. Financial services providers (FSPs) are either financial intermediaries[8] such as banks, savings institutions, insurance, finance, credit, leasing and investment companies, or direct finance institutions[9] such as securities or broker-

[8] "Institutions that create or acquire financial assets and obtain the funding for those assets by issuing liabilities" (Dobson, 2008, p. 290).

[9] Institutions "that facilitate transactions undertaken directly between the providers and users of funds" (Dobson, 2008, p. 290).

age firms (Dobson, 2008). Financial services can be broken down into insurance-related services[10] and banking or other financial services[11] (WTO, 2015a). The empirical part of this dissertation will focus mainly on banking services and especially on lending – mostly due to data availability considerations, but also because lending is arguably the most central of all financial services.

Exhibit 2 – Financial services: functions, users and providers



It is widely accepted that effective and efficient intermediation is facilitated by large markets and as such, international trade is of particular importance for the financial services sector.[12] Foreign FSPs have become significantly more present in national markets over the past two decades (WTO, 2015a). The disruptions of international wholesale and foreign exchange (FX) swaps markets during the GFC have highlighted the various approaches taken by FSPs in general and banks in particular to run their international activities (see McCauley et al.,

[10] Which "cover life and non-life insurance, reinsurance, insurance intermediation [...] and services auxiliary to insurance" (WTO, 2015a).

[11] "Such as the acceptance of deposits [...] from the public, lending of all types, financial leasing, all payment and money transmission services, guarantees and commitments, securities trading, underwriting, money broking, asset management, settlement and clearing services, provision and transfer of financial information, and advisory, intermediation and other auxiliary financial services" (WTO, 2015a).

[12] The European Banking Authority (2015), for instance, argues that „cross-border banking […] is fundamental to banks' business models".

2012 and Schoenmaker, 2013). *Multinational banks* run a decentralized model with sizeable foreign branches in multiple jurisdictions and fund their positions locally in host countries. Conversely, in the integrated model chosen by *international banks*, operations are run out of home countries via cross-border business, with funding originating from global wholesale and FX swaps markets. The choice of approach may be contingent on trade policy considerations in particular, as barriers to trade in financial services have distinct implications depending on the model chosen.

2.1.3 Financial regulation

Why is it that, as bluntly formulated by former US presidential candidate Mitt Romney during a televised debate, "you couldn't have people opening up banks […] in their garages and making loans" (Hochstein, 2012)? Busch (2008) highlights several specificities of the financial sector which, when combined, explain states' efforts at regulating it. First, an efficient financial sector is fundamental to the health of any economy as it provides consumers and businesses with credit. Second, the financial sector is a particularly vulnerable part of the economic system because of the high level of interdependency between financial institutions and the information asymmetries between the producers and the consumers of financial services. Holding other factors constant, the failure of an FSP has a bigger impact than the failure of a firm in most other sectors of the economy. Financial regulation is thus justified by the need to minimize both the probability and the effects of a financial crisis on the wider economy and to uphold a stable a competitive economic market. Those who are sceptical of financial regulation point to the many financial crises which regulators failed to prevent and the significant distortions that follow state intervention in market processes. One frequent criticism is that banking regulations such as deposit insurance schemes reduce the incentive for banks to monitor the quality of their

assets: a classic moral hazard situation (Busch, 2008).[13]

Financial regulation is not driven solely by economic factors. Political considerations also play an important role in government intervention in the banking sector (see 4). Busch (2008) argues that states not only aim to protect bank deposits in order to maintain the stability of the banking system but that they also strive to take advantage of the banking system "either to maintain control of monetary policy or to steer structural change through intervention in the credit allocation process". A wide variety of methods may be used to achieve these goals:

- partial or complete nationalization of the banking system
- direct or indirect intervention in the credit allocation processes
- the introduction of controls on capital movement
- the separation of commercial banks from investment banks
- the introduction of competition restrictions
- the introduction of general deposit insurance schemes (Busch, 2008)

Multiple financial crises have highlighted the potential gains derived from international cooperation in the field of financial regulation. As pointed out by Verdier (2013), many regulatory objectives cannot be achieved through unilateral actions by individual states, notably:

- facilitating cross-border supervision and enforcement assistance among regulators
- removing barriers to international finance by harmonizing regulatory requirements
- raising regulatory standards in states where there is substantial domestic political resistance
- securing durable collective action to raise prudential standards, and

[13] See further discussions of the benefits and disadvantages of financial regulation in Asmundson (2012), Barth et al. (2004) and Schoenmaker (2013).

- creating credible collective mechanisms to address situations in which unilateral action is counterproductive – e.g. cross-border bank resolutions.

Considering international cooperation in this field as a path-dependent process may help explain some of the defining features of the current regulatory framework, and it is therefore worthwhile to provide a brief retrospective on the evolution of international financial regulation in the post-war era (see Verdier, 2013).

The cornerstone of the post-war economic order negotiated at Bretton Woods was a stable monetary system which was intended to provide a foundation for reviving international trade. The Articles of Agreement of the International Monetary Fund (IMF) introduced a system of fixed exchange rates under which all currencies were pegged to the US dollar, while the dollar itself was pegged to gold (see IMF, 1944). Restrictions on current account transactions – such as those curbing international sales of goods and services – were prohibited, while the regulation of international capital movements through capital controls was encouraged. Under this system, countries that were in danger of running out of foreign currency reserves due to repeated current account deficits would benefit from temporary lending facilities from the IMF, provided they took steps to restore balance of payments equilibrium. International capital flows, such as those required for reconstruction and development, were intended to take place mainly through official channels, for example via the World Bank. International cooperation on financial regulation was virtually non-existent:

> *"Given the limited role contemplated for private international finance in the postwar order, it is unsurprising that its architects did not consider its regulation worthy of a legal framework comparable to those they designed for monetary affairs and trade."* (Verdier, 2013, p. 1412).

The situation changed after the abolition of the gold convertibility of the US dollar in 1971 and the ensuing collapse of the fixed exchange rate system, thereby reducing the need for capital controls to protect foreign currency reserves. These circumstances initiated a long-term trend of growing international capital flows and the development of hitherto largely insignificant FX markets.[14] In addition, increased FX and interest rate volatilities led to the emergence of a large derivatives market.[15]

The rise of global financial markets, reinforced by a series of technological developments, created new challenges for regulatory and supervisory authorities. The bankruptcies of several financial institutions such as Herstatt Bank in 1974 highlighted the cross-border dimension of bank failures and the need for regulatory coordination. The subsequent establishment of the Basel Committee on Banking Supervision (BCBS) by the G10 central bank governors marked the beginning of a wave of international coordination efforts within so-called transnational regulatory networks (TRNs), including the International Organization of Securities Commissions (IOSCO), the International Association of Insurance Supervisors (IAIS) and, more recently, the Financial Stability Board (FSB).[16] The content of the international standards developed by these TRNs was strongly influenced by the experiences of successive financial crises in the post-Bretton Woods era: the Latin American debt crisis in the 1980s, the Asian and Russian financial crises in the late 1990s, and the GFC in 2007-2008. Learnings from these events contributed to a shift away from the traditional

[14] The daily turnover of FX markets averaged $5.3 trillion in April 2013 while it was almost negligible in the late 1950s (BIS, 2013 & Helleiner, 1996).

[15] The average daily turnover on OTC interest rate derivatives markets alone was $2.3 trillion in April 2013 (BIS, 2013).

[16] „TRNs usually share several characteristics: their members are not states but specialized regulatory agencies; they are not created by treaty and have no international legal personality; they lack formal assemblies or voting procedures; the instruments they promulgate are not international binding; and, at least until recently, they do not systematically monitor or enforce compliance with those instruments" (Verdier, 2013). For Evenett (2017), the dominance of soft law approaches developed within TRNs in matters of financial regulation can be explained by the independence and seniority of the regulatory agencies involved.

prudential regulation of the 1990s, which focused mainly on monitoring individual transactions, towards a framework which puts greater emphasis on capital requirements and on monitoring banks' risk-management processes (Hellmann et al., 2000). The wide-ranging rescue measures and liquidity injections made necessary by the GFC led to a move towards macroprudential regulation, which consists of measures aimed at limiting financial system-wide distress, whereas previous regulations were distinctly microprudential in nature and aimed to limit the distress of individual institutions (Galati & Moessner, 2013; Ceccheti et al., 2011).[17]

Despite the magnitude of international capital flows and the multiple attempts to increase coordination at the global level, financial regulation ultimately remains nationally anchored (Houston et al., 2012). A further recent trend identified by scholars in this context is the shift in regulatory focus from home towards host jurisdictions: the responsibility for most new regulations affecting internationally-active FSPs does not lie with the country in which the FSPs are headquartered, but rather with the countries in which the financial services are provided (Ceccheti et al., 2011).[18]

In this kind of a context, self-interested political authorities may be tempted to use their regulatory authority to pursue goals other than simply promoting financial stability.[19]

2.2 Literature review

As mentioned above, one precondition for a meaningful examination of the

[17] The evolution of regulatory objectives is particularly obvious when one looks at the differences between the three different Basel regulatory frameworks.

[18] The consequences of this responsibility shift are sizeable: liquidity standards imposed by certain national regulators effectively prevent global FSPs from freely shifting capital from one branch to the other for example, thus leading to increased operative and capital costs and decreased incentives to provide financial services across national borders.

[19] As pointed out be Evenett (2017), one should be aware of the variety of political actors involved: "The domestic versus cross-border ramifications of financial sector activity can create cleavages between the various official actors interest in developments in this sector."

topic at hand is the availability of an unequivocal conceptualization. This is by no means trivial, as even a brief review of the literature shows the wide variety of meanings and merits attributed to the concept of financial protectionism. This is evidenced by this sub-section which attempts to provide an overview of the ways in which the term has been used in the media and in scholarly work so far.

In ***mainstream media***, financial protectionism is most frequently associated with the imposition of restrictions on cross-border capital flows. For instance, in a Financial Times (FT) column by John Plender (2012) it is linked to financial repression[20] which "in developed countries is about keeping capital within countries to help mitigate the funding burden, while in developing countries […] is about keeping volatile capital out to prevent overheating and inflationary pressure". An earlier FT contribution co-authored by Nobel Laureate Michael Spence similarly refers to it as a practice in which "governments restrict outflows of capital as a defence against rising interest rates for corporations and consumers" (Dobbs & Spence, 2011). Commentaries in established periodicals such as Forbes Magazine, the Economist or Handelsblatt assert that it includes restrictions on foreign direct investments (Roubini, 2009), particularly policies preventing sovereign wealth funds from investing in domestic markets due to "western fears that untransparent [sovereign wealth funds] would become instruments for political and economic power play" (Plender, 2009, see "Asset-Backed Insecurity", 2009 and Truman, 2007).

In the aftermath of the GFC, the concept has also often been used in connection with state bailouts of failing banking institutions. An article published on Seeking Alpha – a popular crowd-sourced content service for financial markets –

[20] Financial repression is defined as a set of policies enacted by self-interested governments which impose taxes, regulations or restrictions on the financial sector with the primary objective of "[extracting] rents from the private sector" (Hellmann, Murdock & Stiglitz, 1998).

suggests that the UK government "may have been guilty of financial protectionism when it rescued Royal Bank of Scotland and Lloyds Banking Group" in 2008 ("Report from Europe", 2009). Conversely, a 2010 Bloomberg News article relayed the declarations of a former Federal Reserve System (Fed) official stating that not bailing out foreign banks would have amounted to a "massive exercise in financial protectionism" (Keoun & Son, 2010).[21]

Further mentions of the concept in mainstream media have been made in a wide variety of other contexts. A South China Morning Post article refers to the "culture of financial protectionism" in South Korea which makes it difficult for foreign financial companies to achieve profits there (Li, 2013). A British tabloid article alluding to a series of investigations by American authorities into the activities of HSBC, Standard Chartered, Royal Bank of Scotland and Barclays cites attempts by British bankers to portray "the clampdown by American regulators as a form of financial protectionism" (Duncan & Salmon, 2012). A question in a FT interview notes the tendency of lenders to lend domestically as "a sort of financial protectionism" (Milne, 2009). An Australian Financial Review article portrays central bank efforts to maintain low interest rates as a "new form of a financial protectionism: shield bad businesses and leveraged households from the dispassionate decisions of free markets" (Joye, 2016). A contribution in Foreign Policy even seems to equate financial protectionism with the broader concept of trade protectionism when it uses the concept in order to summarize the trade policy of the then republican presidential candidate Donald Trump, which included new tariffs on Chinese goods, the non-ratification of the Trans-Pacific Partnership trade agreement, and withdrawal from the North American Free Trade Association (Francis, 2016). While the

[21] This was a response to an interpellation by Vermont Senator Bernard Sanders: "We're talking about huge sums of money going to bail out large foreign banks. […] Has the Federal Reserve become the central bank of the world?"; the Fed had set up a number of emergency financing facilities in the immediate aftermath of the GFC and foreign banks such as UBS AG and Barclays Plc had indeed been some of the largest users of these programs (Keoun & Son, 2010).

concept of financial protectionism is often poorly defined and inconsistently used in mainstream media, most contributions concur in portraying it as a set of policies that are largely undesirable (see also Darling, 2009; Lee, 2009; Nixon, 2012; Rodrik, 2009; Wessel, 2009 and Wray, 2009).

Some of the journalistic reports quoted above are based on statements made by current or former ***representatives of public institutions***. It is worth highlighting the lack of agreement among these officials with respect to the actual meaning of financial protectionism. Restrictions concerning international flows of capital, however, are a recurring theme. In a 2009 Wall Street Journal column, South Korean President Lee Myung-Bak urged G20 leaders to reject all forms of financial protectionism in order to "ensure that regular cross-border capital flows are not interrupted". When commenting on regulatory efforts in the aftermath of the GFC, former US Secretary of the Treasury Hank Paulson warned of the danger of financial protectionism, relating it to policies leading to "walling off markets, constricting cross-border access to capital and conflicting requirements for global firms [while supporting] regulatory, exchange, clearing houses or national financial institutions" (Braithwaite, 2013). In a speech by Timothy Lane (2013), the Deputy Governor of the Bank of Canada, financial protectionism is defined as "a range of measures designed to constrain cross-border capital flows, including capital controls which in some cases are accompanied by foreign exchange market intervention". A few years earlier, the Managing Director of the IMF Dominique Strauss-Kahn (2009) had characterized the concept in a different context as the "repatriation of capital by advanced country banks". In a similar vein, Indian Prime Minister Manmohan Singh complained about the "phenomenon of industrialized countries pressurizing their banks to give preference to lending at home […] a form of financial protectionism" (Kazmin, Lamont & Russell, 2009). Others are much more generic

but cautionary nonetheless: British Prime Minister Gordon Brown declared that the world needed to "ensure that we do not experience a new form of financial protectionism […] of retreat into domestic financial markets" (Wray, 2009).

Mentions of financial protectionism are relatively rare in the ***scientific literature***, perhaps precisely because there is no agreement on its meaning. With a few exceptions, they are also generally less prescriptive. One of the earlier explicit mentions was made by Rose and Wieladek, in their 2011 working paper in which they define it as "the nationalistic change in banks' lending behaviour, as the result of public intervention, which leads domestic banks either to lend less or at higher interest rates to foreigners" (p. 2). They later generalized the concept to include all "change[s] in preferences of domestic financial institutions, induced by public policy, which leads them to discriminate against foreign households and/or enterprises" (Rose & Wieladek, 2014, p. 2128). It is worth highlighting that in this framework, trade-restricting policies in themselves do not constitute protectionism; they merely cause it to happen. Rose and Wieladek take state support measures[22] in favour of banking institutions in the aftermath of the GFC as examples of such policies. Their initial focus on lending – as opposed to other types of cross-border financial services – is understandable as it features empirical data which is superior in terms of quality and accessibility.[23]

Another frequently cited article is Gallagher's (2012) piece on what he calls "the myth of financial protectionism". As suggested by its title, this contribution does not undertake to provide a workable definition of financial protectionism. Instead, it constitutes a fierce criticism of the way that the term has been used thus far, while referring to some of the contributions just mentioned.

[22] Nationalizations in particular.
[23] Data availability considerations are addressed in chapter 3 of this dissertation.

The author seeks to "counter the claims in the popular press, by some in the economics profession, and by some policy-makers, that capital controls are inherently protectionist measures", by providing a detailed overview of mostly uncontroversial economic theory concerning the merits of capital controls (p. 20). Rather than a differentiated treatment of financial protectionism, the article represents an open endorsement of the use of capital controls, which are portrayed as legitimate and effective instruments which support policymakers in their efforts to maintain macroeconomic stability, pursue an independent monetary policy, correct market failures and promote economic growth. Through its one-sided evaluation of past discussions on financial protectionism[24], Gallagher's treatment epitomizes the implicitly normative nature of much of the scholarly work on financial protectionism, an unfortunate temptation which this dissertation aims to avoid.

In a more nuanced commentary, Goldberg and Gupta (2013) point out that:

> *"in international banking, financial protectionism is a label that is sometimes wrongly applied because it refers to efforts to protect the stability of domestic financial intermediation (such as the availability of credit to households and businesses and the safety of deposits) rather than to protect domestically owned banks from foreign competition. Protections are not the same as protectionism."*

While Goldberg and Gupta do not endeavour to work out a more precise definition of financial protectionism, they rightly draw attention to the difficulty of differentiating between policies that address financial stability issues and those that are in fact attempts at shielding domestic incumbents from foreign competition – an issue that is addressed in greater detail in section 2.3.

Comparable forms of the phenomenon that I will refer to as financial protec-

[24] Gallagher (2012) even implies that the term simply should not be used in connection with capital controls.

tionism have also been discussed under other labels. Borchert, Gootiz and Mattoo (2014) refer to "policy barriers to international trade in [financial] services", stating that these include policies that explicitly discriminate against foreign services or services providers, but also "certain measures that on the face of it do not discriminate against foreign services providers [but that] may nevertheless restrict trade", such as quantitative restrictions, regulations or the absence of regulations. Cwik (2011) makes an implicit historical reference by speaking of "the new neo-mercantilism"[25] in an article presenting currency manipulation as a form of protectionism that does not, however, explicitly mention financial services. Clift and Woll (2012) lean on a famous phrase by former French Prime Minister Dominique de Villepin and characterize political discrimination in favour of insiders as "economic patriotism". Other related terms are "financial nationalism" (see Claessens, 2009), "banking nationalism" (see Epstein & Rhodes, 2014), "balkanization of the financial system" (see Reichlin, 2014) and "financial openness" (see Inclan & Quinn, 1997).

Two recent contributions on the topic deserve a more detailed account as they stand out in terms of their authors' resolve to develop a well-founded definition of financial protectionism.

In the first of these two papers, Beck et al. (2015) discuss some of the difficulties that arise when delineating the concept of financial protectionism. Drawing a parallel with the conventional definition of trade protectionism and referring to the dual role of financial sector policies, they note that "outright financial protectionism often refers to measures taken to protect the stability and competitive position of domestic financial intermediation, primarily – though not exclusively – by imposing requirements on foreign financial institutions" (p.

[25] The earlier British Prime Minister Gordon Brown made a similar link and reportedly warned of the emergence of "financial mercantilism" (Summers, 2009).

26). This definition would imply that the protection of domestic incumbents at the expense of foreign competitors constitutes the intent of these policies – regardless of whether that objective is explicit or concealed.[26] The effect of such policies is a decline in financial integration. Accordingly, Beck et al. establish and discuss five categories of policy measures which may have negative effects on financial integration: macro-prudential policies, geographic ring-fencing measures, financial repression policies, crisis resolution policies and financial sector taxes. However, the authors point out the problematic nature of the converse argument which states that all policies which lead to reduced financial integration are protectionist, since many post-crisis measures have been "taken for legitimate financial stability purposes and with no protectionist intentions" (p. 3). Furthermore, "even if one were to broaden the concept of financial protectionism to include [all] policy measures which lead to a decline in financial integration, it is debatable whether measures which have other primary objectives should be rejected on these grounds" (p. 36). The distinction between the intents and the effects of policies is fundamental from a conceptual perspective. The concepts of legitimacy and necessity used in later sub-sections are useful tools in this context (see 2.3).

The second paper is Kevin Young's 2014 article on the "complex and covert web of financial protectionism" in which he defines financial protectionism along the same lines as protectionism in other sectors, as forms of government intervention that protect the domestic financial industry from foreign competition. His goal when adopting a more traditional definition – while acknowledging that certain protectionist measures may in fact be taken as a means to pursue legitimate objectives such as financial stability – is to distance himself from the

[26] Like others before them, Beck et al. (2015) highlight the lack of transparency associated with such policies, thereby making it "very difficult in practice to determine whether policy measures actually constitute 'damaging' hindrances to financial integration or, alternatively, are intended for other 'prudent' purposes, such as ensuring the stability of domestic financial intermediation or restoring the public finances."

normative issues associated with financial protectionism and its merits and thus allow for comparisons across industries. His analysis of past usage of the concept of financial protectionism leads him to the following conclusion:

> *"What the varied uses of the term 'financial protectionism' help to demonstrate is that, like 'protectionism' more broadly, financial protectionism is both a normatively loaded term (i.e., associated with economic folly, especially among liberal economists) and a polyvalent one (i.e., used in different ways by different actors). In particular, it would seem that concerns over financial protectionism get muddied with concerns over new developments in government intervention into financial market activity. The language of financial protectionism itself has become strategic. Because protectionism has mainly negative connotations to much of the economic cognoscenti, financial protectionism is being used as a moniker of features of the post-crisis regulatory environment that some individuals and groups do not like."* (Young, 2014, p. 584)

Besides formulating a clear categorization of financial protectionist measures and highlighting recent developments, Young articulates outlooks for all three types of financial protectionism, namely market entry restrictions, asymmetric regulations and asymmetric subsidies; he expects the second type to remain the most relevant in the foreseeable future. Even though I will make the case against a sweeping disregard of legitimacy issues in later sections, Young's inquiry will provide a valuable reference point for my conceptualization efforts.

The above has highlighted the ill-defined nature of the concept of financial protectionism, as evidenced by its inconsistent use in mainstream media, official publications and even scholarly work. To circumvent the numerous scientific disadvantages of an unclear and normatively loaded object of research, this dis-

sertation attempts to develop an unequivocal definition and typology of financial protectionism by drawing on findings from a field of study which has long addressed similar issues, albeit in different contexts: international trade law.

2.3 Applying WTO precepts to financial protectionism

One of the fundamental issues in the field of international trade – and one which has attracted considerable attention from international trade law scholars – is the conflictual relationship between the multilateral interest in free trade[27] and the domestic interest in regulatory autonomy. As noted by Trachtman (2003), "while regulatory autonomy is needed to allow local regulation to respond to local conditions, there are times when [it] is abused as concealed protectionism". The issue is of particular relevance to financial services since financial regulation remains largely subject to the discretion of authorities at the national level, even if the problems it aims to solve are often not local in nature (see 2.1.3). One can speak of the coexistence of a trade or commercial perspective – which is concerned with the goals of free trade and competition – with a regulatory perspective – which aims to protect social values such as financial stability (Trachtman, 1996). These two perspectives are closely linked and potentially conflicting since financial services trade liberalization effectively increases global interdependencies in the financial sector, thereby amplifying risks to financial stability. Conversely, prudential regulation to tackle these increased risks may limit the extent of free trade in financial services. If left unchecked, protectionist states may thus seek to invoke financial stability considerations as a pretext for enacting prudential measures that are in fact solely aimed at shielding the domestic financial industry from foreign competition.

Even if it broadly fails to account for the specificities of financial services, the

[27] This assumption has been addressed in section 2.1.1 of this dissertation.

current multilateral trading system provides useful hints of how trade and regulatory perspectives may be reconciled. In this section I give an overview of the relevant disciplines contained in prevalent international trade agreements and develop a corresponding definition of financial protectionism. This definition distances itself from some of the reviewed literature by proposing that measures which restrict international trade in financial services should not systematically be deemed protectionist.

2.3.1 Free trade disciplines in WTO agreements

The WTO agreements referred to below represent a long-standing and particularly prominent effort to reduce barriers to international trade in goods and services. By promoting a higher degree of integration between participating states, they necessarily lead to a reduced domestic regulatory autonomy. As such, they have generated an extensive trade law literature that has focused, amongst other things, on issues surrounding the compatibility between the objectives of free trade and of domestic regulatory autonomy – a theme that is central to the definition of financial protectionism developed in this section.

The earliest of what will be referred to as WTO agreements in the remainder of this dissertation is the General Agreement on Tariffs and Trade (GATT). It was established shortly after the Second World War by 23 nations with the common objective of creating an international platform for the resolution of trade disputes and for the negotiation of world trade disciplines and tariff reductions. The GATT's main governing principles remained substantially unchanged for almost half a century, while efforts to reduce tariffs continued by means of so-called *trade rounds*, a series of multilateral negotiations held under the auspices of the GATT. The number of contracting parties increased steadily until it reached 123 nations during the Uruguay Round of 1986-1994 which led to a

new set of agreements and to the formal establishment of the WTO as an intergovernmental organization regulating international trade (WTO, 2015b).

The GATT has stimulated the liberalization of international trade in a number of ways, in addition to providing a framework for the negotiation of tariff reductions.[28] It has prohibited the use of import quotas and established most favoured nation (MFN) treatment among signatory states: under Article I of the GATT, members agree to give to the products of other members a treatment no less favourable than that granted to the products of any other country. No country can thus either be given special advantages or be discriminated against. Another central discipline of the GATT is the national treatment obligation stated in Article III, according to which the products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin. Members are thus prohibited from favouring domestic products over the imported like products of other members. The MFN and the national treatment disciplines enshrine non-discrimination as a fundamental principle of the GATT and have both been invoked on numerous occasions in the context of trade disputes among signatories.[29]

As a result of the Uruguay Round, the WTO replaced the GATT as an international organization, but the agreement itself was updated and in its current form still constitutes the WTO's overarching treaty concerning trade in goods. The trade round resulted in as many as 60 different agreements, annexes, decisions and understandings covering trade in both goods and services – whereas the provisions in previous agreements had exclusively been concerned with trade in goods (WTO, 2015b).

[28] These negotiations have also involved other topics such as technical barriers to trade, government procurement, subsidies and so on.

[29] The concept of protectionism distinguishes first and foremost between treatment accorded to *domestic* goods and services and that accorded to *foreign* goods and services. In the remainder of this chapter, I thus focus on the national treatment principle.

The General Agreement on Trade in Services (GATS) was developed as a response to the expansion of the service economy during the decades preceding the Uruguay Round, notably in the post-Bretton Woods financial sector (see 2.1.3). Concerns over a possible undermining of the ability of governments to pursue national policy objectives due to constraints on domestic regulatory powers led some countries initially to adopt a sceptical or even dismissive stance. The resulting agreement provides signatories with a high degree of flexibility (WTO, 2015b). This raises several issues in view of our object of study, as formulated by De Meester in a paper focusing on banking services:

> *"Even if the GATS seems the most logical international instrument for imposing some restraint on government support that distorts international competition in banking services, it includes only a few relevant obligations […]. These obligations are flexible because WTO Members were allowed to define themselves to what extent the obligations apply in the banking sector. Moreover, there is still uncertainty on the impact of these obligations […]. It is clear that such flexibility and uncertainty is due to political reasons. Negotiating parties did not want to commit to an international agreement that would endanger their policy space to safeguard financial stability. However, this flexibility and uncertainty need to be addressed by the WTO Members. If not, the GATS will not impose any credible restraint on WTO Members who use government support that creates international distortions of competition. Moreover, removing uncertainty will reassure WTO Members that the GATS does not stand in the way of measures that genuinely protect financial stability."* (De Meester, 2010, p. 62)

Because of their inconclusiveness, GATS obligations do not provide a workable framework for distinguishing between policies addressing legitimate financial stability concerns and those that are purely aimed at protecting domestic

FSPs from foreign competition. In other words, the GATS alone does not constitute a sufficient basis for a clear definition of financial protectionism.

It is worth noting that most other free trade agreements – whether multilateral, regional or bilateral – are equally inconclusive when it comes to financial services. As pointed out by Evenett (2017, p. 39):

> *"[...] the design and implementation of policies that seek to preserve financial stability have been 'carved out' of trade deals, that is, a wide-ranging exception had been developed for them."* [30]

The systematic inclusion of prudential carve-outs in free trade agreements relating to financial services relativizes the bearing of such agreements when it comes to striking a balance between the trade and regulatory perspectives. Nevertheless, agreements in other fields may be of help. Two other agreements negotiated during the Uruguay Round are particularly relevant in the context of this dissertation, even though both are concerned with issues unrelated to financial services. They are the Sanitary and Phytosanitary Measures Agreement (SPS) which sets out basic rules on food safety and animal and plant health standards, and the Technical Barriers to Trade Agreement (TBT) which seeks to ensure that regulations, standards, testing and certification procedures do not create unnecessary obstacles to trade. Both agreements "try to identify how to meet the need to apply standards and at the same time avoid protectionism in disguise" (WTO, 2015b). The interaction between the commitment to avoid unnecessary trade barriers on the one hand and the acknowledgment of the need for some form of regulation on the other hand is a theme that is equally central to international trade in financial services. The SPS and TBT approaches in that respect may therefore be helpful in developing ways of defining what should be qualified as financial protectionism.

[30] I do not attempt to make a detailed investigation of the geneses of these prudential carve-outs. Interested readers should look into Evenett's (2017) analysis of the negotiations relating to the Transatlantic Trade and Investment Partnership between the United States and the European Union for instance.

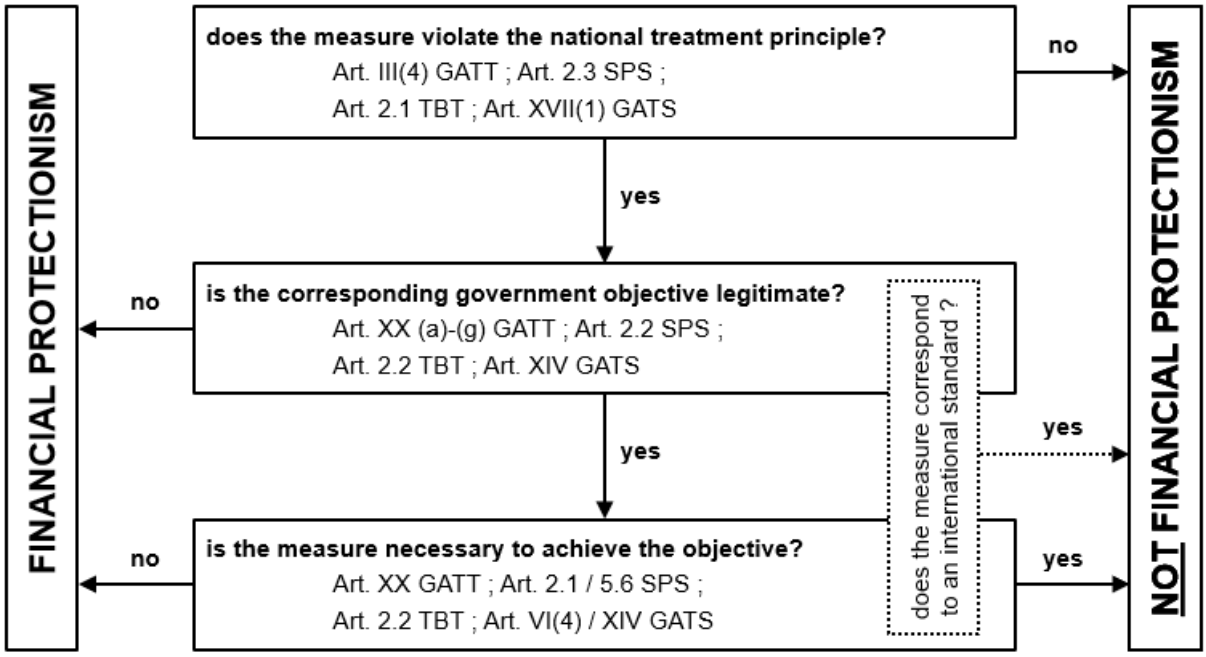
As pointed out by Trachtman (2003), while there are non-negligible differences between trade in goods and trade in services – or trade in services from different sectors – the similarities are sufficient to make it worthwhile to contemplate the respective approaches in agreements that only concern goods – GATT, SPS, TBT – or in an agreement which does not exclusively focus on financial services – GATS. The central objective of these WTO agreements – which is of equal relevance for the purpose of this section – is to constrain the regulatory autonomy of states – but not to abolish it. While none of these agreements contains a clear-cut approach to defining financial protectionism, they do offer valuable indications as to what such a definition might resemble by specifying a set of conditions under which regulatory autonomy should be maintained. A definition of financial protectionism would assuredly need to rely on the central disciplines featured in these agreements, specifically:

- the national treatment obligation, according to which foreign goods or services should not be treated less favourably than like domestic foreign goods or services, and
- the necessity criterion, stating that in cases where the national treatment obligation does not apply, measures imposing limits on international trade in goods or services should not be more burdensome than necessary to achieve legitimate policy objectives.

In the remainder of this section, I develop an approach to defining financial protectionism which rests on WTO disciplines. It is summarized in exhibit 3. The underlying argument combines trade and regulatory perspectives by stating that, while all FSPs should by default have full liberty to provide their services across borders, there is a set of conditions under which authorities must be able to impose restrictions on this liberty. Such conditions are contingent on the concepts of legitimacy and necessity. If they are fulfilled, the corresponding

measures should not be deemed to constitute financial protectionism. Conversely, measures which limit international trade in financial services[31] in a manner that is either illegitimate or unnecessary are to be viewed as instances of financial protectionism.

Exhibit 3 – Applying WTO disciplines to financial protectionism



2.3.2 Violation of the national treatment principle

Fundamentally, national treatment requires that foreigners and locals be treated equally. Correspondingly all activities taking place in one territory should be treated alike, whether conducted by foreign persons or nationals. As noted in Trachtman (1996, p. 63), national treatment may be viewed as neutral in trade terms, meaning that "where it is granted it connotes a regulatory system standing independently, neither inhibiting nor facilitating international trade". However, violations of the national treatment principle do have consequences for

[31] Thereby discriminating against foreign commercial interests.

trade. Whenever these consequences are negative[32], economic policies effectively restrain trade between states, which is the underlying concept of protectionism. In this dissertation, I therefore consider violations of the national treatment principle as a conceptual pre-condition for the presence of any form of protectionism, although – as already noted above and elaborated on below – such violations should not systematically be viewed as protectionist.

National treatment disciplines are included in all four WTO agreements, as shown in exhibit 4.

[32] This being the usual case – a notable exception is better-than-national treatment, which is also explicitly addressed in Art. XVII(2) GATS (see Trachtman, 1996).

Exhibit 4 – National treatment disciplines in WTO agreements

Art. III(4) GATT – „The products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin"

Art. 2.3 SPS – "Members shall ensure that their sanitary and phytosanitary measures do not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail, including between their own territory and that of other Members. Sanitary and phytosanitary measures shall not be applied in a manner which would constitute a disguised restriction on international trade."

Art. 2.1 TBT – "Members shall ensure that in respect of technical regulations, products imported from the territory of any Member shall be accorded treatment no less favourable than that accorded to like products of national origin and to like products originating in any other country."

Art. XVII(1) GATS – "each Member shall accord to services and service suppliers of any other Member, in respect of all measures affecting the supply of services, treatment no less favourable than that it accords to its own like services and service suppliers."

The GATT has included a national treatment obligation since its inception. The corresponding Art. III(4) – which only applies with reference to trade in goods – provides that "the products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin". This provision must be read in conjunction with the concessions regarding tariffs

made under Art. II GATT. It clearly prohibits outright protectionism such as entry restrictions for foreigners or the application of rules that are more stringent for foreign persons than domestic persons. Art. III(4) GATT has been interpreted in a large number of GATT and WTO cases, most of which having emphasized that differential treatment may be acceptable, as long as it is determined that the two goods concerned are not in a similar category and thus not "like" in the sense of Art. III(4) GATT (see Trachtman, 1996).

Art. 2.3 SPS stipulates that "Members shall ensure that their sanitary and phytosanitary measures do not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail, including between their own territory and that of other Members" and that "sanitary and phytosanitary measures shall not be applied in a manner which would constitute a disguised restriction on international trade". The second part of the provision is evocative of the *chapeau* of Art. XX GATT, which requires that measures exempted from the national treatment obligation must not be applied in a "manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade". The approaches underlying the national treatment obligations in GATT and SPS are fundamentally different. Under GATT the requirements of Art. XX only apply when a violation of the national treatment obligation under Art. III has been established, but no conditions are placed on the equivalent obligations in SPS. Another important difference between the agreements is that Art. 2.3 SPS constitutes a more general prohibition of discrimination among member states and as such includes no reference to the concept of likeness.

Art. 2.1 TBT follows Art. III GATT more closely by requiring that "Members shall ensure that in respect of technical regulations, products imported from the territory of any Member shall be accorded treatment no less favourable than

that accorded to like products of national origin and to like products originating in any other country". While it does refer to the concept of likeness, TBT does not feature any provision specifying circumstances under which violations of the national treatment obligation may be permissible.

Art. XVII(1) GATS provides that "each Member shall accord to services and service suppliers of any other Member, in respect of all measures affecting the supply of services, treatment no less favourable than that it accords to its own like services and service suppliers". This wording is largely similar to that found in GATT's national treatment provision contained. It is, however, preceded by "[in] the sectors inscribed in its schedule, and subject to any conditions and qualifications set out therein", meaning that the national treatment discipline contained in GATS is only valid if countries explicitly commit to it. The GATS therefore does not contain any general or unconditional national treatment obligation. Art. XVII(3) GATS specifies that "formally different treatment shall be considered to be less favourable if it modifies the conditions of competition in favour of services or service suppliers of the Member compared to like services or service suppliers of any other Member". By focusing on the effective implications of state measures on conditions of competition and not on their underlying intent, this GATS provision articulates a *de facto* standard for the national treatment obligation.

The Understanding on Commitments in Financial Services relating to GATS – a separate list of provisions adopted by several developed countries – also features no unconditional national treatment obligation. It does, however, specify the meaning of national treatment in the financial services sector by requiring that members "permit non-resident suppliers to supply, as a principal, through an intermediary or as an intermediary, under terms and conditions that accord national treatment", certain insurance and reinsurance services along with financial information, advisory and auxiliary services such as credit analysis,

portfolio research and advice, advice on corporate restructuring and strategy and advice on acquisitions. The Understanding specifically refers to the liberalization of access to payment systems, self-regulatory organizations, stock exchanges and clearing agencies. It does, however, authorize restrictions regarding access to lender of last resort facilities (Trachtman, 1996).

The Annex on Financial Services – an integral part of GATS – does not mention the issue of national treatment but provides in Art. 2(a) that members "shall not be prevented from taking measures for prudential reasons" and goes on to stipulate that "where such measures do not conform with the provisions of [GATS], they shall not be used as a means of avoiding the Member's commitments or obligations under [GATS]". This clause is referred to as the *prudential carve-out* and is reminiscent of Art. 2.3 SPS as it allows deviations from the national treatment obligation for specific reasons, while prohibiting states from invoking such reasons as a false pretext.

The concept of likeness is central to the national treatment disciplines contained in GATT, TBT and GATS. Fundamentally, if two products are not like, differential treatment does not constitute a violation of the national treatment principle. However, the meaning of *like* is not entirely clear as GATT and WTO dispute resolution have not yet been able to provide a consistent and predictable approach in this respect. The idea of likeness is even more elusive when one attempts to apply it to financial services:

> *"What makes two services "like"? For example, is the underwriting of a bond issues "like" a bank lending transaction? If so, why are different reserve requirements and capital requirements applicable? Does it matter for regulatory purposes that one transaction is effected by a bank that accepts insured deposits? […] More fundamentally, is it permissible to*

> *make distinctions between services on the basis of the identity and structure of the service supplier as well as the way the service appears to the consumer?"* (Trachtman, 2003, p. 62)

In the *Asbestos* case[33], the Appellate Body[34] argued that likeness is "fundamentally, a determination about the nature and extent of a competitive relationship between and among products". A commonly used estimate of this in the field of economics is the cross-elasticity of demand. In the *Border Tax Adjustments* Report[35], a GATT working group has identified four parameters of likeness assumed to approximate to this competitive relationship: the properties of the products, their end uses, consumer tastes, and tariff classification. However, the usefulness of a competitive relationship test for likeness may be questioned, since

> *"this test is relatively ignorant of factors that motivate regulation. The economic theory of regulation suggests that regulation is necessary precisely where consumers cannot adequately distinguish relevant goods – where they are in close competitive relationship. Thus a competitive relationship test for likeness will often result in a finding that goods that differ by the parameter addressed by regulation are indeed like, and should be treated the same"* (Trachtman, 2003, p. 62).

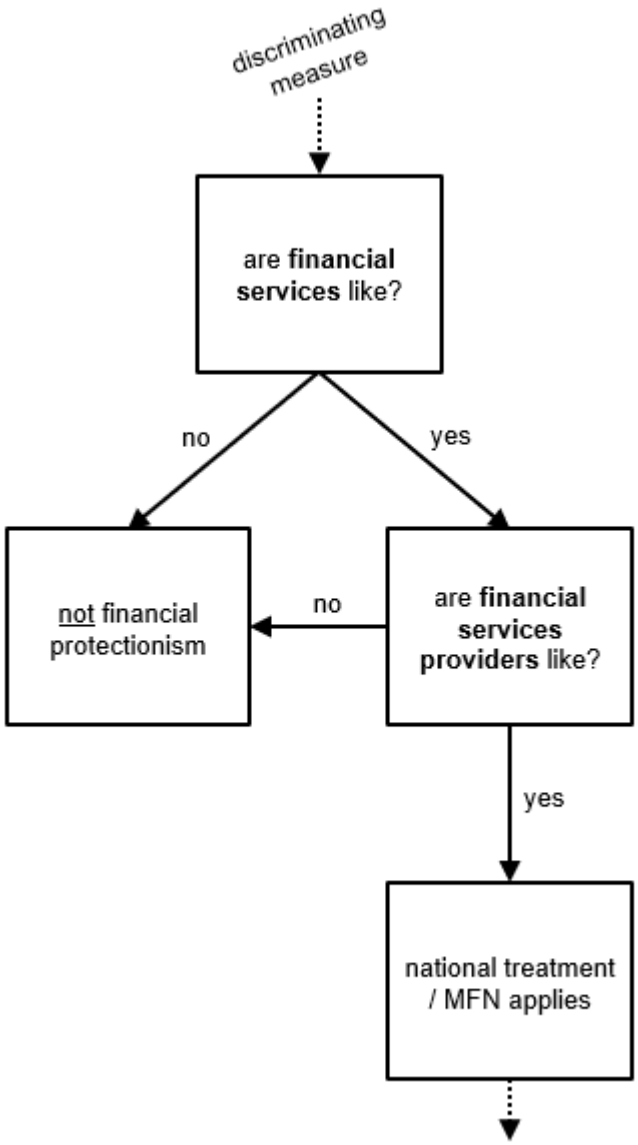
A further important element when considering likeness of services – and one that is not accounted for in WTO agreements focusing on goods – is the relevance of their suppliers, as indicated by the wording of Art. XVII GATS. Due to the simultaneity of production and consumption (see 2.1.2), the suppliers may themselves be considered an integral part of the fundamental properties of

[33] WTO Appellate Body Report: European Communities – Measures Affecting Asbestos and Asbestos-Containing Products, WT/DS135/AB/R [Asbestos Appellate Body Report].
[34] For an overview of the WTO dispute settlement mechanism, see WTO (2015c).
[35] GATT Working Party Report, Border Tax Adjustments, L/3464 [Border Tax Adjustments Report].

the services provided. Consequently, discrimination between seemingly identical financial services does not constitute a violation of the national treatment obligation if the FSPs providing these services are fundamentally different.[36] Thus, for services in general and financial services in particular, the likeness test should consider both the services themselves and their suppliers. The issue of likeness has not been addressed by GATS dispute resolution thus far, but trade law scholars suggest that the interpretation described above – and displayed in exhibit 5 – "is likely to be the interpretation that a WTO panel or the Appellate Body would apply" (Trachtman, 2003).

[36] For example, discriminating between a loan provided by a domestic bank and the same loan offered by a foreign hedge fund does not represent a violation of the national treatment principle as the two service providers are unlike.

Exhibit 5 – Applying the likeness test to financial services



The likeness test potentially combines trade and regulatory perspectives if one considers that the nature of regulation represents a fundamental property of a financial service or of its supplier. As such, discriminating on the grounds of non-equivalent regulation would not necessarily constitute a violation of the national treatment principle.[37] It is worth noting that such discrimination could

[37] As an example – and in analogy to the previous footnote: discriminating between a loan provided by a domestic bank and the same mortgage offered by a foreign bank that is subject to less stringent regulation does not represent a violation of the national treatment principle as the two service providers are unlike.

also be of a positive nature. According to the national treatment provisions in GATT, TBT and GATS, treatment of foreign products should be "no less favourable"; it is thus implicitly recognized that more favourable treatment may be warranted in certain cases – for example, when foreign regulation of financial service providers is shown to be considerably more stringent than domestic regulation. This represents a significant challenge from a trade perspective, as noted by Trachtman (1996, p. 68): "a regime of national treatment alone places the grant of such better-than-national treatment at the discretion of the host country, and thus allows a degree of disguised protectionism."[38]

It should be noted at this point, that several discriminatory regulations may rely on the implicit argument that home regulation of its supplier represents one of the fundamental properties of a financial service.[39] However, the relevance of this argument in view of the subject at hand is limited for two main reasons. First, strict adherence to the concept of likeness would be likely to lead to a fully permissive framework and render the provision of financial services across borders virtually impossible. Second, despite extensive WTO jurisprudence addressing likeness, the concept remains both abstract and peripheral. Abstract, because WTO dispute resolution has not been able to provide a predictable and consistent approach as to when two products should be considered like.[40] Peripheral, because

> *"the core of any non-discrimination principle does not lie in the threshold question of "likeness" (are two services/suppliers "comparable"?), but in the substantive test of whether the government, either de jure or de facto, favors domestic over foreign services or service suppliers (does*

[38] To the author's knowledge, better-than-national-treatment remains a largely theoretical concept in the financial services sector as a search for practical examples – current or past – did not lead to any results.

[39] This argument is implicit in the Market in Financial Instruments Directive in the European Union or Section 165 of the Dodd-Frank Act in the United States for instance (see 2.4).

[40] This may be traced back to the fact that likeness does not have a true economic meaning. Some therefore argue that the concept of likeness is context-dependent and that is should be "interpreted in light of the intention" (Horn & Mavroidis, 2004).

> *the regulation, either in law or in effect, distinguish based on national origin?)"* (Pauwelyn, 2008).

Recent WTO jurisprudence illustrates a trend that sees attention shifting from the national treatment discipline – and the concepts of likeness and *de jure* or *de facto* discrimination – towards the question of necessity. The introduction of the SPS and TBT agreements have played a key role here as they explicitly require the realization of so-called *necessity tests*, even when measures are not discriminatory. The concept of necessity is examined in detail in sub-section 2.3.4.

2.3.3 Legitimacy of government objectives

> *"A major challenge for the multilateral trading system is to secure the benefits of trade liberalization without infringing on the freedom of governments to pursue legitimate domestic objectives."* (Mattoo & Subramanian, 1998, p. 303)

As pointed out earlier, WTO agreements aim to constrain the regulatory autonomy of states, not to abolish it. They envisage a set of conditions under which violations of the national treatment obligation are permissible – and should thus not be designated as protectionist. According to the first of these conditions, the objective pursued by the government violating the national treatment obligation should be legitimate. Legitimacy is obviously not an entirely self-explanatory notion and one that may thus be interpreted differently by different stakeholders. WTO agreements provide some common ground but the relevant articles leave significant room for interpretation by the Appellate Body.[41] Consequently, judicial law-making in this area has attracted considerable attention from trade law scholars.

[41] In the GATT context for example: "the Appellate Body has in effect come to reign supreme over Art. XX and over the junctures between trade objectives and other public policy concerns" (Venzke, 2011).

Paragraphs (a)-(g) of Art. XX GATT specify a list of government objectives which may justify the use of measures that violate the national treatment obligation, such as the protection of public morals or human health, the conservation of finite natural resources, or the prevention of deceptive practices. In practice, Art. XX may serve as a justification for restrictions which would otherwise be considered GATT violations. The article requires a two-step analysis to determine in the first place whether the measures in question fall within the scope of one of the paragraphs, and secondly whether these measures infringe the requirements stipulated in the *chapeau* of Art. XX:

> *"Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:"* (Art. XX chapeau, GATT).[42]

The Appellate Body's interpretation in this respect has evolved considerably over time.

> *"[In the early phase of GATT], potential conflicts between trade and other policy considerations used to slumber underneath an agreed upon borderline separating normal trade policies from policies that struck everyone as unjustified and abnormal.[43] […] An insider network was rather successful in sustaining isolation from disturbing outside perspectives on trade law by creating and maintaining a very high threshold for policies to be justifiable under Art. XX"* (Venzke, 2011, p. 1115).

The early decisions in this context contributed to the creation of a categorical

[42] Emphases added.

[43] Venzke (2011) refers to John Ruggie's embedded liberalism compromise which is discussed in the last chapter of this dissertation.

standard that was primarily aimed at preventing protectionist policies from being permitted under Art. XX GATT, thereby making it virtually impossible to invoke Art. XX to justify deviations from the national treatment principle. In the early 1990s, the Appellate Body started shifting its emphasis from the individual paragraphs to the article's *chapeau*, which contributed to the emergence of a less rigid interpretative practice (see Venzke, 2011 and 2.3.4). Even after this shift, an assessment of the legitimacy of the corresponding government objective remains the initial step of any interpretation of Art. XX.

Art. XIV GATS is analogous to Art. XX GATT. The respective *chapeaus* are almost identical, and both are followed by a list of potentially legitimate government objectives. In GATS, such legitimate aims include public morals, public order or the protection of human, animal or plant life or health (Art. XIV (a)-(b) GATS). TBT also features a list of legitimate objectives: "[such] legitimate objectives are, inter alia, national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment" (Art. 2.2 TBT). By construction, SPS only considers objectives of a sanitary or phytosanitary nature and correspondingly only refers to "human, animal or plant life and health" (Art. 2.2 SPS).

In view of the objectives just mentioned, the concept of legitimacy as defined in GATT, GATS, TBT and SPS is of limited relevance for financial services. One must search elsewhere with a view to producing a list of legitimate objectives that is more relevant to the subject at hand. In WTO agreements, the only indication in this respect is provided by the prudential carve-out in Art. 2(a) of the GATS Annex on Financial Services:

> *"[A] Member shall not be prevented from taking measures for prudential reasons, including for the protection of investors, depositors, policy holders or persons to whom a fiduciary duty is owed by a financial ser-*

> *vice supplier, or to ensure the integrity and stability of the financial system."*

Deviations from the national treatment principle in the field of financial services may thus be justifiable from a prudential standpoint. Accordingly, legitimate objectives are to be found by considering the core objective of prudential financial regulation (see 2.1.3): financial stability, meaning the prevention of financial crises. Other potential objectives of states such as securing state financing, promoting domestic macroeconomic development or steering structural change through interventions in the credit allocation process are not prudential objectives and should thus not be considered legitimate under WTO logic. In the remainder of this dissertation, financial stability will accordingly be deemed to be the only legitimate objective that may justify deviations from the national treatment principle in the area of financial services.

2.3.4 Necessity

According to WTO adjudicatory practice, while the existence of a legitimate objective is certainly necessary in view of justifying a violation of the national treatment principle, it is by no means sufficient:

> *"As early as in the GATT era it was made clear that the legitimacy of the ends sought is not a matter for WTO scrutiny. Rather, the Panels were charged with examining whether the means chosen to achieve one of the objectives laid down in Article XX were 'necessary'"* (Delimatsis, 2008, p. 371).

To be deemed consistent with GATT obligations, state measures must thus not only be designed to achieve a policy objective that is legitimate according to Art. XX, they must also be necessary to achieve this particular objective. The concept of necessity is present in all WTO agreements addressed in this dissertation (see exhibit 6).

Exhibit 6 – Necessity in WTO agreements

Art. XX (a),(b),(d) GATT – „nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures necessary to"
Art. 2.1 SPS – "Members shall ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health […]."
Art. 5.6 SPS – "Members shall ensure that such measures are not more trade-restrictive than required to achieve their appropriate level of sanitary or phytosanitary protection, taking into account technical and economic feasibility."
Art. 2.2 TBT – "Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade. For this purpose, technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfilment would create."
Art. VI(4) GATS – "With a view to ensuring that measures relating to qualification requirements and procedures, technical standards and licensing requirements do no constitute unnecessary barriers to trade in services"
Art. XIV (a),(b),(c) GATS – „nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures necessary to"

The meaning of the term "necessary" has been one of the central themes in WTO jurisprudence so far. One of the main rulings in this respect in the GATT

context was the Thailand Cigarettes Report[44] which stipulated that:

> *"import restrictions imposed by Thailand could be considered to be 'necessary' in terms of Article XX(b) only if there was no alternative measure consistent with the General Agreement, or less inconsistent with it, which Thailand could reasonably be expected to employ to achieve its health policy objectives."*

Accordingly – and considering that the GATT's stated purpose is to reduce barriers to trade – a measure violating the national treatment principle should only be deemed permissible if it is the least trade-restrictive measure available to achieve a legitimate policy objective. In a later case[45], the Appellate Body refined the necessity requirement by affirming that GATT requires, among other things, that the benefits achieved from the pursuit of a legitimate policy objective should be proportionate to the costs in terms of trade restrictions:

> *"determination of whether a measure […] may nevertheless be "necessary" within the contemplation of Article XX(d), involves in every case a process of weighing and balancing a series of factors which prominently include the contribution made by the compliance measures to the enforcement of the law or regulation at issue, the importance of the common interests or values protected by that law or regulation, and the accompanying impact of the law or regulation on imports or exports."*

The Appellate Body consistently referred to both these elements – least-trade-restrictiveness and the process of weighing and balancing – in subsequent cases. In the 2001 EC Asbestos Report[46] for instance, it argued that a disputed measure was permissible on the grounds that no other alternative available

[44] GATT Panel Report, Thailand – Restrictions on Importation of and Internal Taxes on Cigarettes, BISD 37S/200 [Thailand Cigarettes Report].

[45] Appellate Body Report, Korea – Measures Affecting Imports of Fresh, Chilled and Frozen Beef, WT/DS161&169/AB/R [Korea Beef Report].

[46] Appellate Body Report, European Communities – Measures Affecting Asbestos and Products Containing Asbestos, WT/DS135/AB/R [EC Asbestos Report].

would have met certain health protection concerns to the same extent.[47] However, such clear-cut verdicts are rare since less trade distortive measures are conceivable in many cases. One important problem with the necessity test scheduled in GATT is that very few measures would pass it under a literal application of the least-trade-restrictiveness criterion. Mattoo and Subramanian (1998, p. 318) argue that this criterion should be complemented by an economic efficiency principle: "there should be a presumption in favour of the economically first-best instrument". In later sections of this dissertation, this principle is viewed as the main factor within the context of the process of weighing and balancing.

As a rule, necessity tests aim to achieve a balance between the conflicting goals of preserving regulatory autonomy and discouraging measures that unduly restrict trade by designating trade-restrictive measures as permissible only if they are "necessary" to achieve a legitimate policy objective (Working Party on Domestic Regulation [WPDR], 2003). While in GATT, the necessity requirement is framed as part of an exception – Art. XX GATT is usually not invoked until a deviation from the principle of non-discrimination has been established –, in SPS and TBT, necessity is an obligation that is valid independently of a possible violation of other principles included in these agreements.[48] That being said, the meaning of necessity under SPS and TBT does not deviate substantially from the above.

Art. 2.1 and 5.6 SPS both contain a least-trade-restrictiveness requirement. According to dispute resolution under Art. 5.6 SPS, an alternative measure may

[47] On a side note, this case is a telling instance of the recent shift in attention from the national treatment discipline towards the concept of necessity hinted at in 2.3.2. Addressing the issue of necessity in this case was largely superfluous since the Appellate Body had found earlier in the report that the two products in question were unlike, and that the disputed measure was thus not inconsistent with the national treatment obligation in Art. III(4) GATT.

[48] This has consequences for the attribution of the burden of proof in a dispute. If necessity is framed as an obligation such as in TBT or SPS, the complaining party must provide evidence of a Member's failure to adopt a necessary measure. If it is framed as an exception, as in the GATT, the Member itself must show that its measure was indeed necessary.

be considered less trade-restrictive than a contested measure – and this contested measure may therefore be designated as unnecessary – if three conditions are met. It must be reasonably available in terms of technical and economic feasibility; achieve an appropriate level of sanitary or phytosanitary protection; and be significantly less trade-inhibitory than the contested measure (Delimatsis, 2008). These conditions broadly refer to the concepts of weighing and balancing, legitimacy and least-trade-restrictiveness discussed above.

Two elements of the wording of Article 2.2 TBT deserve to be highlighted – beside the fact that it also contains an explicit least-trade-restrictiveness provision. First, the necessity test in TBT not only covers measures of trade-restrictive intent, but also those that have the "effect of creating unnecessary obstacles to international trade". Secondly, it requires that "the risks non-fulfilment would create" be considered, thereby implying the need for a cost-benefit analysis equivalent to the process of weighing and balancing required by GATT judicial law-making.

GATS contains two separate mentions of necessity. The first is to be found in Art. XIV GATS, which frames necessity as an exception, in analogy to GATT. The wording of Art. XIV GATS and Art. XX GATT is, in fact, almost identical. A legal analysis based on the former can therefore be expected to conform to WTO case law based on the latter and will not be elaborated upon at this point (see Delimatsis, 2008). The second mention of necessity is in Art. VI(4) GATS. While it does contain a mention of least-trade-restrictiveness, this GATS provision does not formally set out the elements of a necessity test. Rather it calls on signatories to negotiate disciplines to ensure that measures within its scope – i.e. qualification requirements and procedures, technical standards, licensing requirements and procedures – "do not constitute unnecessary barriers to trade in services". The resulting Working Party on Domestic Regulation has so far proven unable to provide significant disciplines in this respect (see Hoekman

& Mavroidis, 2015).[49]

Since the concept of protectionism implies a violation of the national treatment principle, the remainder of this dissertation will frame necessity as an exception, meaning that – as laid out in exhibit 3 – the necessity test will only become relevant after it has been determined that a measure infringes national treatment.

2.3.5 The relevance of international standards

Three out of the four WTO agreements referred to in this dissertation contain presumptions in favour of international standards (see exhibit 7). Under the SPS, measures that conform to such standards are to be viewed as necessary to achieve the legitimate objectives of human, animal or plant life or health. TBT stipulates that members should use international standards as a basis for their technical regulations. In a 2003 report, the WPDR confirms that TBT "creates a rebuttable presumption that measures in conformity with international standards do not create an unnecessary obstacle to international trade". The use of international standards is much more restrained in GATS as it only requires them to be considered when assessing whether a member is applying licensing and qualification requirements or technical standards that nullify specific commitments made under the agreement.

[49] Stalling negotiations within the Working Party on Domestic Regulation may have a been a triggering event leading 23 parties including the United States and the European Union to start negotiations on the so-called Trade in Services Agreement (TiSA). The negotiations are not public but leaked documents indicate that the inclusion of a necessity provision is being discussed.

Exhibit 7 – International standards in WTO agreements

Art. 3.2 SPS – "Sanitary or phytosanitary measures which conform to international standards, guidelines or recommendations shall be deemed to be necessary to protect human, animal or plant life or health"
Art. 2.4 TBT – "Where technical regulations are required and relevant international standards exist or their completion is imminent, Members shall use them, or the relevant parts of them, as a basis for their technical regulations"
Art. VI(5)(b) GATS – "In determining whether a Member is in conformity with the obligation under paragraph 5(a), account shall be taken of international standards"

While proposals to enhance the role of international standards in GATT or GATS have failed to gain broad support among negotiating parties, this dissertation adopts the approach of TBT and SPS by underlining the central relevance of such standards when determining whether a specific measure is legitimate and necessary, or if it amounts to financial protectionism. This choice is justified, on the one hand, by a global trend towards more frequent references to international standards within bilateral free trade agreements (see Gari, 2015).[50] On the other hand, as a result of regulatory coordination efforts in the wake of the GFC (see 2.1.3), international standards have gained unprecedented relevance in the field of financial services.

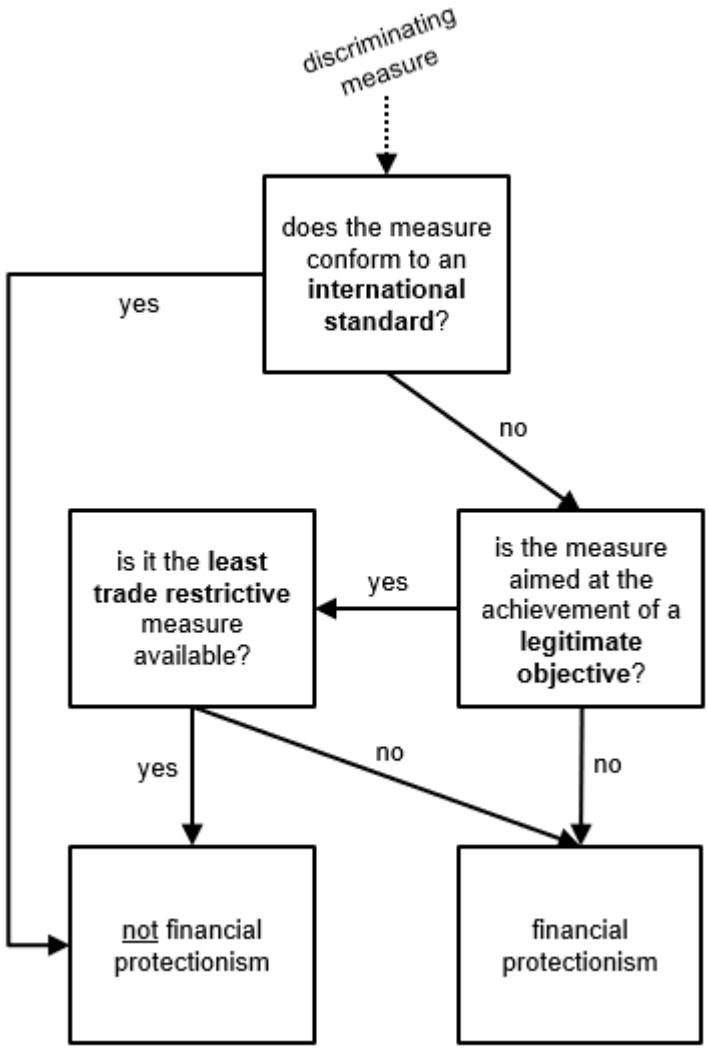
The FSB is widely viewed as the main transnational regulatory network in the field of financial services. In order to achieve its mandate defined by the G20, the FSB coordinates the efforts of relevant international standard-setting bodies, such as the Basel Committee on Banking Supervision (BCBS), the Inter-

[50] And within TiSA according to the leaked drafts mentioned in the preceding footnote.

national Association of Insurance Supervisors (IAIS) and the International Organization of Securities Commissions (IOSCO). The standards developed by these institutions – principally the Basel Accords, the Insurance Core Principles and the Objectives and Principles of Securities Regulation – are to be viewed as international standards within the meaning of the above, along with standards and principles agreed on within the framework of other broadly supported international bodies such as the Organisation for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF) and the Financial Action Task Force on Money Laundering (FATF).

The elements discussed in 2.3.3, 2.3.4 and 2.3.5 are put together in exhibit 8 – which should be viewed as a continuation of exhibit 5.

Exhibit 8 – Applying legitimacy and necessity to financial services



The approach discussed in this section is summarized in exhibit 3: I argue that deviations from the national treatment principle in the field of financial services should not systematically be characterized as financial protectionism, as they may be justified under a set of conditions, namely legitimacy and necessity. In other words, financial protectionism in this dissertation is defined as the policy of illegitimately and/or unnecessarily restraining trade in financial services between states. This definition constitutes the foundation of the taxonomy of financial protectionism as it is presented in the next section of this dissertation.

Before turning to this taxonomy, it is helpful to briefly mention the concepts of intent and effect. Observing the effects of potentially protectionist measures implies considerable challenges, but assessing the intents behind these measures is an even more ambitious undertaking since intents are not always stated and are sometimes deliberately concealed. Such assessments would need to be conducted on a case-by-case basis and could thus reasonably only be the object of a qualitative analysis considering a small number of cases only. In view of the quantitative approach adopted in the following chapters of this dissertation, I choose to focus on effects instead, even though intents will inevitably be alluded to when addressing specific cases. This choice may prove problematic when intents and effects do not concur[51], which is conceivable in three distinct cases: a deliberately protectionist measure does not have the anticipated effect; a measure that pursues another objective has a protectionist side-effect; authorities successfully conceal the protectionist intent behind a measure. Assuming that instances of the first case – poorly designed protectionist measures – are rare and arguing that any measure that has a protectionist effect ought to be considered as protectionist, the adverse consequences of focusing on effects are likely to be limited.

2.4 Taxonomy

As indicated by its often inconsistent use in mainstream media, official publications and even scholarly work (see 2.2), the concept of financial protectionism may refer to a wide variety of state measures which share the characteristic of protecting domestic FSPs from foreign competition. To my knowledge, the first scholar – and the only one so far – to make a serious attempt at producing a well-founded categorization of financial protectionism was Kevin Young

[51] If intents and effects concur, an analytical framework that considers effects only will logically lead to the same findings as another framework that considers intents only.

(2014) in his paper on what he calls "the complex and covert web of financial protectionism". While the definition introduced in section 2.3 will lead me to question some of Young's conclusions, his approach remains a helpful starting point considering my aim to propose a taxonomy of financial protectionism.

In his paper, Young applies the conventional definition of protectionism as used by the Global Trade Alert (GTA) – "a measure that introduces or expands discrimination between one or more foreign firms and their domestic rivals" – to the field of financial services (p. 581). The aspect of national treatment is thus central to his definition, while legitimacy and necessity considerations are deliberately neglected. In taking this approach, Young aims to distance himself from the normative issues associated with financial protectionism and its merits, and thus to allow for comparisons across industries. He argues that financial protectionist measures may be associated with any of the three following types:

- market entry restrictions (type 1) – shielding a domestic financial sector by imposing restrictions on market access by foreign firms
- asymmetric regulation (type 2) – shielding a domestic financial sector by giving foreign firms less favourable regulatory treatment
- asymmetric subsidies (type 3) – shielding a domestic financial sector through state aid to domestic financial institutions, thereby putting them at a competitive advantage relative to foreign rivals

Some examples and characteristics of these different types are displayed in the following exhibit.

Exhibit 9 – Different types of financial protectionism and their characteristics according to Young (2014)

	Type 1 *Financial Protection through market entry restrictions*	***Type 2*** *Financial Protection Through Asymmetric Regulation*	***Type 3*** *Financial Protection Through Asymmetric Subsidies*
Exemplified in cases of:	Canada's banking system; China's banking system	Argentina: investment requirements; Israel: reserve requirements; 'Ring-fencing' by UK, France, German, US regulators	Bailouts and other subsidies since the crisis, in a large number of countries; Can also take more subtle forms than explicit subsidization, such as debt guarantees.
Form of intervention	Most direct form	Both direct and covert forms	Both direct and covert form
Developments since the crisis	No significant expansion	Significant expansion since the crisis	Significant expansion during the crisis, but not significant since then

The main trouble with Young's paper is reflected by his treatment of capital controls:

> *"Some have equated the increased willingness of states to engage in such capital account management as a form of financial protectionism. Alarming to some has been the fact that international institutions traditionally very hostile to such policies […] have been lenient compared to past behavior. However, Gallagher (2012) has persuasively argued that*

> *rather than protectionism, these moves represent "the new correctionism" – means to achieve the end of counter-cyclical macroeconomic policies, to maintain monetary independence and to support the goal of financial stability."* (Young, 2014, p. 583)

Thus, on the grounds that such measures are justified by their ends, Young entirely dismisses capital controls as a type of financial protectionism. This approach is questionable for two reasons. First, it is inspired by the overly daring assumption that the totality of capital account management measures is taken in order to pursue the goals of counter-cyclicality, monetary independence or financial stability. Young all too quickly dismisses the possibility that capital controls may be imposed solely with the aim of shielding domestic financial sectors. Second, it stands in contradiction to his working definition and his stated intention of avoiding to define financial protectionism along normative lines. Capital controls effectively make the cross-border provision of financial services harder – if not impossible – and should thus clearly qualify as financial protectionism according to Young's working definition. Stating that they do not on the grounds that they are justified by certain ends constitutes a normative step in itself. Which ends should be deemed acceptable? At which point should one consider that the inevitably negative effects on international trade in financial services are, in fact, signs of financial protectionism? Why do the ends mentioned justify capital controls but not market entry restrictions, asymmetric regulation or asymmetric subsidies? This contradiction hints at the inevitable need to consider the concepts of legitimacy and necessity when discussing financial protectionism.

While the taxonomy of financial protectionism presented in this section is largely based on Young's work, it will depart from it by including explicit considerations of the notions of legitimacy and necessity. Accordingly, the definitions of type 1, type 2 and type 3 financial protectionism are partially adjusted

and a fourth type – capital controls – is introduced. Examples are used to illustrate each type.

2.4.1 Type 1 – market entry restrictions

With type 1 financial protectionism, domestic FSPs are shielded from foreign competition through outright and overt restrictions of market access by foreign firms. In his paper, Young (2014) takes the Canadian and Chinese banking systems as examples. While the activities of foreign banks in Canada are significantly limited by provisions of the Canadian Bank Act, China's – perhaps less surprising – objections to exposing the country to foreign banking competition can been seen as an essential part of a longstanding policy regime. In both cases, market entry restrictions have led to a small number of large domestic players dominating the domestic markets. Limitations on the foreign ownership of financial institutions represent a particular instance of type 1 financial protectionism which has been addressed extensively in past scholarly research – most notably in Rachel Epstein's work.

By definition, market entry restrictions stand in clear contradiction to the principle of national treatment, according to which all activities taking place in one territory should be treated alike, whether they are conducted by foreign persons or nationals. By making the nationality of the FSP the determining criterion of its permissibility, such restrictions inevitably lead to different treatment of foreigners and locals. The concept of likeness inherent in the national treatment discipline in certain WTO agreements does not relativize this assessment, since by their nature, market entry restrictions discriminate between suppliers and services that are identical – and thus like – in all respects but nationality.

As pointed out above, the present taxonomy – unlike Young's – considers that violations of the national treatment principle may be justifiable on legitimacy

and necessity considerations. In other words, some financial market entry restrictions should not be deemed type 1 financial protectionism. A first condition in this context is that the corresponding state measures should aim to sustain systemic stability. While it is entirely conceivable that some market entry restrictions would fulfil this condition, it seems equally plausible that most would hardly meet the least-trade-restrictiveness criterion envisaged by the necessity test.

An example of type 1 financial protectionism are the limitations imposed on foreign reinsurers via Resolutions 35.615 and 35.794 of the Argentinian Federal Bureau of Insurance (SSN), an agency that is subordinated to the Ministry of Treasury and Public Finances.[52] Following these resolutions enacted in 2011, the first USD 50 million of any individual risk must be reinsured by locally based reinsurers. Any amount in excess of this limit may be reinsured with foreign reinsurers under a number of conditions, including registration with the SSN, which is itself contingent on constraining requirements. By requiring that a portion of the risk be transferred to local reinsurers, this measure prevents access by foreign reinsurers to a certain portion of the Argentinian reinsurance market and thus represents a violation of the ***national treatment*** principle. Furthermore, the introduction of a case-by-case registration process for all amounts in excess of USD 50 million creates the potential for bias and corruption and consequently for further transgression of national treatment precepts. The SSN justified the measures by its intention to have better control of the reinsurance market, specifically mentioning the aspects of money laundering and overseas money transfers (Hawthorne, 2011). The ***legitimacy*** of the SSN's intentions may, however, be questioned in view of the agency's subordination to the government of President Cristina Fernández de Kirchner, who had a demonstrable

[52] GTA measure #9672.

tendency to pass protectionist measures in a pre-election context[53] according to the GTA database, Argentina was imposing more harmful trade limitations than any other country but Russia at the time. Even if the measures in question could be shown to be aiming at sustaining financial stability, they would certainly not pass the ***necessity*** test, nor could they be deemed justifiable under international guidelines as they stand in clear contradiction to central principles of the relevant IAIS standards (see Ruiz, 2012).

Another example of type 1 financial protectionism are the restrictions on foreign ownership as stipulated in the "guidelines for licensing of new banks in the private sector" published by the Reserve Bank of India (RBI) in February 2013: "the aggregate non-resident shareholding […] in the new private sector banks shall not exceed 49 per cent of the paid-up voting equity capital for the first 5 years from the date of licensing of the bank".[54] By making it impossible for certain investors to own controlling stakes in Indian banks on the grounds of their nationality, the RBI's guidelines violate the ***national treatment*** principle. In the corresponding discussion paper released three years earlier, the RBI points out the government's objectives of meeting "the needs of a modern economy" and creating "strong domestic banking entities and a diversified banking sector which includes public sector banks, domestically owned private banks and foreign owned banks", while admitting that capping foreign shareholding in new banks was likely to constrain the willingness of foreign investors to invest in Indian banking. The stated objectives of the RBI guidelines are not related to the core prudential objective of preserving financial stability and should thus not be considered ***legitimate*** in the sense of the above, thereby making a test of ***necessity*** superfluous.[55]

[53] Kirchner secured a second term in the general election held at the end of 2011.

[54] GTA measure #6663.

[55] It shall be reminded at this point that this dissertation does not aim to take a normative stance concerning the merits or flaws of financial protectionism. In casu: this particular instance of financial protectionism by the Indian authorities may help achieve objectives that some would characterize as desirable, such as improving access to banking services in rural areas.

The third country regime under the EU regulation on markets in financial instruments (MiFIR) is another – perhaps less widely discussed – example of illegitimate market entry restrictions. MiFIR entered into force in 2014 and defines the conditions under which FSPs domiciled in third countries may service professional clients in the EU on a cross-border basis, the key requirement being registration with the European Securities and Market Authority (ESMA). Since this requirement only applies to third country firms, the ***national treatment*** principle is violated. Under MiFIR, ESMA may only accept a registration if the European Commission has recognized the third country's legal and supervisory framework as equivalent. This might be considered a justifiable approach to achieving the legitimate goals of "investor protection, market efficiency and stability" (European Commission, 2016). However, the equivalence decisions by the European Commission have proven to be politically driven, meaning that they are not exclusively contingent on technical financial supervisory considerations.[56] On these grounds, the third country regime under MiFIR can hardly be considered ***legitimate*** and it should thus be viewed as a further example of type 1 financial protectionism. The political nature of the equivalence decisions taken by the European Commission also neutralize likeness considerations (see 2.3.2) as a potential justification of the third country regime under MiFIR.

Further examples of market entry restrictions that do not meet the criteria of legitimacy and necessity and thus constitute instances of type 1 financial protectionism are the nationalization of the foreign-run pension system in Bolivia in 2010[57], the restrictions on the participation of foreign capital in Russian

[56] In conjunction with the UK's decision to leave the European Union (EU) for instance, the European Union Committee of the UK House of Lords (2016) states: "Were the negotiations to result in the UK being treated in the same manner as any other […] 'third-country', the UK could find itself seeking equivalence under legislative provisions that are patchy, unreliable and vulnerable to political influence" (see also Glover, 2016).

[57] GTA Measure #4545.

banks according to the Federal Law No. 372-FZ of 14 December 2015[58] or the Australian authorities' prohibition of the acquisition of the Australian Stock Exchange by the Singapore Exchange in 2011[59].

2.4.2 Type 2 – asymmetric regulation

Under instances of type 2 financial protectionism, foreign FSPs face regulatory treatment that puts them at a competitive disadvantage relative to their domestic peers. Such instances appear most frequently in the form of additional regulatory requirements for foreign firms.[60] The wave of financial regulation triggered by the global financial crisis[61] combined with the fact that the responsibility for financial regulation – despite numerous coordination efforts within international TRNs – ultimately remains with national states is likely to have favoured this type of financial protectionism in recent years (see 2.1.3). While the incentives guiding policymakers are addressed in detail in a later chapter of this dissertation (see 4), it is sufficient at this point to consider that in a post-crisis setting, self-interested governments may be tempted to use their regulatory authority to pursue goals other than simply promoting financial stability. In other words, as rightly pointed out by Young (2014, p. 590):

> *"Unlike type 1 financial protectionism, the financial crisis has generated new opportunities for type [2] financial protectionism to flourish. The crisis has generated a plethora of new regulations at every level of governance, and this is an institutional environment in which there are many incentives to favor domestic institutions at the expenses of foreign rivals".*

[58] GTA Measure #10892.
[59] GTA Measure #2833.
[60] Or in the form of asymmetric enforcement of regulations which – on paper – apply equally to both domestic and foreign firms.
[61] As highlighted by Evenett (2017) amongst others, "it is important to recognize that as a result of the global economic crisis many governments, including those in Europe and North America, sought to strengthen the regulation of their financial sectors".

When compared to the other three types, type 2 features particularly complex and covert instances of financial protectionism, not least due to the complex and technical nature of financial regulation. On the one hand, the protectionist element is often just one component of the broader regulation among many others (Young, 2014). On the other hand, regulations which apply equally to all firms on paper may in effect have very different implications for foreign and domestic firms. For instance, type 2 includes cases of asymmetric enforcement of regulations which should otherwise apply equally to both foreign and domestic firms. The relatively complex nature of type 2 financial protectionism results in the following central feature of the taxonomy proposed in this dissertation, namely that measures which unnecessarily discriminate against foreign FSPs and which cannot be clearly attributed to any of the other three types are to be considered as instances of type 2 financial protectionism. In other words, type 2 may be viewed as an *all others* category of financial protectionism.

Regulatory measures that do not apply in identical ways to domestic and foreign FSPs constitute violations of the national treatment principle if they reduce the competitive advantage of foreign firms relative to domestic firms. However, according to the above, such measures should only be associated with type 2 financial protectionism if they fail the cumulative tests of legitimacy and necessity. While most discriminatory regulatory measures draw a certain degree of legitimacy from the broader financial regulations in which they are included, their necessity in terms of the core prudential objective of financial regulation may be less obvious.

The post-GFC context has generated multiple instances of financial protectionism through asymmetric regulation, the most notable of which have their origins in jurisdictions that are home to large financial centres. In the UK, for instance, the FSA attracted considerable attention when it enacted new liquidity

rules in December 2009.[62] According to these rules, banks operating in the UK need to be self-sufficient for liquidity purposes: "UK banks are expected to be able to stand alone, and therefore should normally monitor and manage their own liquidity separately from the liquidity of other institutions in the group" (FSA, 2009). By default, these self-sufficiency rules also apply to all subsidiaries and branches of foreign banks operating in the UK, and thus – since the establishment of a local subsidiary or branch represents a pre-condition to the offering of banking services in the UK (BoE, 2016) – to all foreign banking activities in the UK (FSA, 2008). The measure had drawn most concern within the framework of the corresponding consultation, as some respondents stated that the

> *"proposal […] could be seen as protectionist and potentially damaging to cross-border capital flows, possibly leading to the fragmentation of the global economy if other regulators were to follow suit and 'trap' liquidity locally"* (FSA, 2009).

The UK measure is an example of ring-fencing, a practice under which certain activities of internationally active FSPs are broken down along country lines. As pointed out by Goldberg and Gupta (2013):

> *"The practice can change the very nature of the global financial firm by reducing synergies and spillovers between various financial operations, while potentially helping with future resolution, should that become necessary, of financial firms that have a broad and complicated geography of assets and liabilities."*

While the UK regulation does not explicitly single out global foreign banks, it puts them at a competitive disadvantage relative to their UK peers since it effectively prevents them from managing their liquidity at a global level (see

[62] GTA measure #3997.

2.1.2).[63] In view of its asymmetric effects on domestic and foreign banks, the regulation constitutes a violation of the national treatment principle. The stated goal of the regulation meets the legitimacy requirements stated above since it is "a reduction of the likelihood (and expected cost) of systemic instability" (FSA, 2009). However, it can be argued that the regulation represents an unnecessary barrier to trade in financial services since the same objective could have been achieved through less restrictive measures – for instance: cooperation agreements with the relevant foreign supervisory authorities, as a means of defining procedures to deal with the failure of large global banks that are active in the UK. The conclusion of such agreements is largely technical in nature, generates limited administrative costs and could not therefore be rejected on the grounds of the process of weighing and balancing envisaged in the WTO framework (see 2.3.4).

The final rule of the Fed implementing Section 165 of the Dodd-Frank Wall Street Reform and Consumer Protection Act[64] represents another instance of type 2 financial protectionism by a country that is home to a large financial market. The rule requires foreign banking groups with USD 50 billion or more in US non-branch assets to form an intermediate holding company (IHC) for all of their US non-branch operations. These IHCs should be fully segregated – i.e. ring-fenced – from the rest of the groups and subjected to the same capital and liquidity requirements as domestic banking groups. The Fed rule is similar to the FSA rule discussed above in that the costs it generates are borne exclusively by foreign banks, which are thus put a disadvantage compared to their domestic competitors. The rule thus constitutes a clear breach of the national treatment principle[65] and produced strong reactions from foreign banks and po-

[63] Whereas the measure will have virtually no effect on domestic UK banks with large local deposit bases.
[64] GTA measure #9148.
[65] An argument based on likeness considerations should be dismissed for the reasons discussed in 2.3.2.

litical institutions when it was announced in 2013. The European Banking Federation (2013) designated it as "a clear discrimination which is not in line with the principle of national treatment as enshrined in both U.S. banking law […] and WTO law". Michel Barnier, the EU Commissioner responsible for financial services called the measure a "threat to harmonious global regulation" and spoke of the risk of a "protectionist reaction" and of "a fragmentation of global banking markets" (Barker & Braithwaite, 2013).[66] According to the Fed, the rule's objective is to "facilitate consistent supervision and regulation of the US operations of […] foreign [banks]" (Fed, 2014). While this objective may be considered legitimate in the above context, it can hardly be seen as necessary to achieve it. The conclusion of cooperation agreements with the few[67] relevant regulatory and supervisory authorities would have been a significantly less trade restrictive means of achieving the stated objective.

Art. 44 of the Swiss Capital Ordinance represents an example of a potential national treatment violation which draws its legitimacy and necessity from an international standard. This legal provision enables the Swiss government to impose a "countercyclical capital buffer" in order to shield the banking sector from periods of excessive aggregate credit growth. Even though it applies to foreign and domestic firms alike, the buffer may constitute a deviation from national treatment in effect since the costs it imposes on domestic and foreign will often differ.[68] However, the countercyclical capital buffer stipulated by Swiss law is a pure application of the Basel III, a regulatory framework agreed by all members of the BCBS. It should thus not be viewed as an instance of type 2 financial protectionism.

[66] As of late 2016, the EU commission was considering the introduction of a similar requirement at EU level, a move that was widely seen as a form of retaliation to the Fed rule (see Arnold, Barker & Brunsden, 2016).

[67] The number of foreign banking groups affected by the Fed's rule is limited and the headquarters of these groups are concentrated in a few jurisdictions.

[68] Large foreign FSPs active in Switzerland are typically less capitalized than their domestic peers and may thus find it more costly to raise the supplementary capital in a limited amount of time.

2.4.3 Type 3 – asymmetric subsidies

Under type 3 financial protectionism, domestic financial institutions are subsidized and thereby given a competitive advantage relative to foreign rivals. Such subsidies may take different forms, and be both overt or covert in nature. A particularly prominent form in recent years has been bank recapitalization. Bank recapitalization schemes involve direct state aid to financial institutions in view of enabling them to strengthen their capital base. Guarantee schemes represent another less direct but nonetheless far-reaching form. For instance, deposit guarantee schemes amount to a promise of reimbursement – usually by some state-controlled entity to depositors – of a certain share of deposits in the event of a bank failure. By contrast, debt guarantee schemes consist in a promise – by authorities to involved banks – to assume the loan obligations of a borrower in the event of default by that borrower. Guarantee schemes may be implicit. A much-discussed example in the aftermath of the GFC concerns the "perceived expectation of government support" in the case of systemically important institutions (BCBS, 2011). Such expectations could be more pronounced for state-owned financial institutions, a supposition which may have led Young (2014) to discuss bank nationalization as a form of type 3 financial protectionism.[69] Lastly, rules concerning access to central bank liquidity facilities may also represent a form of asymmetric subsidization if such access is contingent on nationality considerations.

By definition, asymmetric subsidization amounts to differential treatment of foreign and domestic FPSs and is therefore a violation of the national treatment principle. However, despite an obvious upsurge in such measures after the recent financial crisis (see 3.2.3), public criticism has remained restrained. This may be due to a shared understanding that the GFC had created an environment

[69] Bank nationalization can also be viewed as a form of type 1 financial protectionism as briefly stated in 2.4.1 or in Young (2014).

in which such measures were both legitimate and necessary.

Asymmetric subsidies draw their legitimacy from the potentially severe effects of an FSP-failure on the wider economy (see 2.1.3). Several asymmetric subsidization measures during the GFC were aimed at avoiding the otherwise imminent failures of large financial institutions. For instance, steps taken by the Swiss government and the Swiss National Bank (SNB) in October 2008 to bail out UBS – a bank with a balance sheet several times the size of its home country's GDP (see SNB, 2009) – can be seen in that light. However, some of the asymmetric subsidies allocated in recent years should be considered as instances of financial protectionism because they were either not exclusively motivated by the core prudential objective of maintaining financial stability, or not necessary to reach this legitimate goal. Nevertheless, as the following examples show, the concepts of legitimacy and necessity are not always clear-cut in the case of type 3 financial protectionism.

Since bank recapitalization schemes are usually tailored to the institutions helped, they can take very different forms. A typical example is the 2008 state support of the Aegon Group, a globally active insurer and one of the leading financial institutions in the Netherlands.[70] The aid took the form of an investment of EUR 3 billion by the Dutch State in convertible capital securities issued by to Aegon N.V., the holding company of the Aegon Group.[71] In its assessment, the European Commission (2008a) found the investment by the Dutch state to be a form of state aid and highlighted that:

> *"[given] that Aegon is active in the financial sector, which is open to intense international competition, any advantage from State resources to Aegon would have the potential to affect intra-Community trade and to distort competition."*

[70] GTA measure #1037.

[71] By the end of 2011, Aegon N.V. had exercised its options to buy back these convertible securities, and thus paid back all of the aid received, plus a premium of EUR 1.1 billion.

The Dutch state's aid constitutes a violation of the national treatment principle since it distorts competition in favour of a domestic incumbent. However, the European Commission (2008a) also found the aid to be permissible[72] "because it is necessary to remedy a serious disturbance in the Dutch economy". Preventing the failure of a large domestic institution may certainly be considered legitimate in the sense of earlier sub-sections. The necessity of the measure to achieve the legitimate objectives of sustaining systemic stability, maintaining the safety and soundness of financial institutions and protecting consumers is less clear. Bail-out measures passed in the heat of the GFC were often deliberately oversized because they were designed under time constraint and with the primary goal of restoring market confidence in the failing institution. With hindsight however, one can easily come up with a less trade-restrictive measure that would have led to the same result in this specific case: The Dutch state aid should therefore be considered as protectionist based on WTO logic.

Explicit state guarantees for certain liabilities of domestic financial institutions have been just as numerous as bank recapitalization schemes during and after the GFC. One representative example is the EUR 200 billion guarantee scheme announced by the Dutch authorities in October 2008[73]:

> *"[…] the Dutch authorities notified a guarantee scheme which aims at tackling the liquidity problems of financial institutions created by the drying up of the market of unsecured loans. As a consequence, fundamentally sound and viable financial institutions experience severe difficulties in their funding. The Dutch scheme aims at restoring these institutions' access to financing, so as to avoid disruptions in the provision of loans to companies and households."* (European Commission, 2008b)

The European Commission's assessment was practically identical to the case

[72] Meaning compatible with the Common Market according to Article 87.3.b. of the Treaty establishing the European Community.

[73] GTA measure #0662.

mentioned previously as it found the guarantee scheme to be both distortive relating to competition but an "adequate means to remedy a serious disturbance in the Dutch economy" (European Commission, 2008b). The scheme was thus legitimate from a financial stability perspective. However, as in the case of bank recapitalization programs, many guarantee schemes established during the GFC were deliberately disproportionate, the primary objective being to maintain confidence in the stability of financial institutions.[74] These state measures cannot be considered necessary, in the sense of the concept as described in 2.3.4. The Dutch guarantee scheme should thus be considered an instance of type 3 financial protectionism.

The support provided by the European Investment Bank (EIB) to Spanish bank BBVA in June 2016[75] is a more straightforward example of type 3 financial protectionism. As part of the European Fund for Strategic Investments, the EIB had agreed to provide a EUR 130 million guarantee on a portfolio of BBVA-loans to small medium-sized enterprises (SMEs), the goal being "to support new lending to lending to SMEs […] in Spain" (EIB, 2006). While the two Dutch measures discussed earlier were legitimate in view of the financial stability issues they were addressing, the EIB guarantee clearly should be designated as illegitimate. As stated in 2.3.3, promoting domestic macroeconomic development or steering structural change through interventions in the credit allocation process are not related to prudential objectives and should not therefore be considered legitimate under WTO logic. An assessment of the necessity of the measure is thus superfluous.

2.4.4 Type 4 – capital controls

According to the typology used by Wei and Zhang (2007), capital controls or

[74] The centrality of this objective may be led back to the long-known self-fulfilling nature of depositor and investor expectations regarding the health of financial institutions – see Merton (1948) or Summers (2000) for example.

[75] GTA measure #11959.

controls on capital transactions include "controls on capital (shares and bonds) and money market instruments, controls on direct investment, controls on personal capital transactions (e.g. loans) and controls specific to commercial banks (e.g., restrictions on lending to non-residents)". For most of the financial services provided by foreign FSPs as mentioned in 2.1.2, the transfer of capital is essential. As such, capital controls effectively prevent the cross-border provision of most financial services and thus overtly and consistently encroach on the national treatment principle:

> *"restrictions on capital movement (such as capital […] controls) substantially reduce the users' freedom to purchase services directly from foreign financial institutions and may also discourage entry"* (Kono & Schuknecht, 1998, p. 5).

Opposition to the use of capital controls has generally weakened since the GFC, and several economists have encouraged their use as macroprudential policy instruments (Eichengreen & Rose, 2014). In its *Institutional View* on the *Liberalization and Management of Capital Flows*, the IMF (2012) even acknowledges that capital controls can represent a legitimate element in the policy toolkit of states. However, counter to the implicit yet radical view presented in Gallagher (2012), I argue that not all capital controls should be seen as legitimate and necessary. Accordingly, those which are not should be viewed as instances of type 4 financial protectionism. The assessment of legitimacy and necessity can be conducted along the same lines as in the case of the other three types of financial protectionism.

Outflow restrictions implemented by the Cypriot authorities in March 2013 are the most widely discussed examples of capital controls in recent years. Cyprus' banking system was collapsing, largely due to its exposure to Greece which was experiencing a sovereign debt crisis since 2012. The introduction of the restrictions occurred within the framework of a rescue package agreed on between the government of Cyprus and representatives of the EU Commission,

the European Central Bank (ECB) and the IMF. The package included a set of measures aimed at recapitalizing the domestic banking sector, the central proposal being a one-off tax on bank deposits. While initial plans also envisaged losses on small deposits, the final agreement applied a 47.5% haircut to all balances in excess of EUR 100'000 at the country's two largest banks. In order to prevent an almost certain bank run after the announcement of this measure, the Cypriot authorities simultaneously introduced a series of capital controls essentially preventing large cash transfers[76] between domestic banks and from domestic banks to foreign institutions. These transfer and outflow restrictions were progressively phased out until April 2015 as the banking system recovered (Durden, 2015). The temporary capital controls infringed on the national treatment principle since they made it virtually impossible for foreign banks to conduct business in Cyprus between March 2013 and April 2015. However, they were arguably the least-trade-restrictive measures available to address the very real financial stability concern of a generalized bank run, as acknowledged by the European Commission (2013) for instance:

> *"Such exception to the principle of the free movement of capital must be interpreted very strictly and be non-discriminatory, suitable, proportionate and apply for the shortest possible period. In current circumstances, the stability of financial markets and the banking system in Cyprus constitutes a matter of overriding public interest and public policy justifying the imposition of temporary restrictions on capital movements."* [77]

As they were both legitimate and necessary, these capital controls should not be regarded as an example of type 4 financial protectionism.

Some of the inflow restrictions imposed by a number of emerging markets in the aftermath of the GFC constitute instances of type 4 financial protectionism. The capital flows prompted by low interest rate policies in developed countries

[76] Initially any transfer above EUR 5'000.

[77] See also the IMF's 2014 Article IV consultation report: "The banking sector remains vulnerable […], with external payment restrictions still needed to protect financial stability".

ignited a strong recovery in capital flows into emerging markets in the years following the GFC. From the perspective of emerging market economies, this sudden rise in inflows was linked with several concerns, including a potential loss of competitiveness in the tradable sector due to exchange rate appreciation and the potential development of asset price bubbles. Some countries took these concerns as a justification for the introduction of inflow restrictions, the most famous example being Brazil. Between 2009 and 2012, the country sought to curb inflows by adopting a range of measures such as taxes on portfolio inflows, reserve requirements on certain bank positions, and taxes on borrowing abroad (Chamon & Garcia, 2016). The governor of Brazil's central bank justified these measures which effectively put foreign FSPs at a competitive disadvantage relative to their domestic rivals by highlighting the "excessive capital flows into emerging economies" (Tombini, 2013). Large and volatile capital inflows may indeed have disruptive impacts on financial stability (IMF, 2012). Restrictions may therefore be legitimate and necessary under exceptional circumstances. However, in some cases, claims of legitimacy or necessity made by the respective authorities are poorly substantiated by financial data, giving rise to suspicions of covert protectionism. In the case of Brazil, data from the IMF's balance of payments statistics does indeed suggest a need for intervention since it shows a strong and sudden decrease in Brazil's financial account balance in 2008, hinting at a significant upsurge in capital inflows in the form of direct and portfolio investment.[78] One of the objectives of the next chapter of this dissertation is to develop measures of type 4 financial protectionism which have a clear and solid quantitative foundation.

By virtue of their long-standing use, the capital controls imposed by China certainly qualify as instances of type 4 financial protectionism. While China has

[78] The 2008 balance was a negative USD 25.3 billion whereas the corresponding average in the 7 years leading up to the GFC was a positive USD 1.7 billion. The capital inflows were logically accompanied by strong upward pressure on the Brazilian real.

taken successive steps to liberalize its current and capital accounts in recent years, restrictions on capital inflows and outflows remain stringent. In a Mundell-Fleming-Trilemma setting (see Mundell, 1963), one would say that China has so far consistently opted to restrict capital movements in order to pursue the objectives of a controlled foreign exchange rate and an independent monetary policy.

> *"China's capital control regime has two important features. First, capital controls tended to be tighter for cross-border flows thought to be more volatile than for more stable flows. Second, the regulatory regime over time has shifted from one biased against outflows towards one managing two-way cross-border capital flows in a more balanced fashion. Related to the latter is the tendency for policymakers to systemically "lean against the wind" in the sense that control measures over outflows are strengthened to resist depreciation pressures on the exchange rate and vice versa."* (Ma & McCauley, 2007, p. 268)

Because of these capital controls, foreign banks active in China are put at a disadvantage relative to their Chinese peers.[79,80] Referring to the series of outflow restrictions enacted in early 2017 for instance, a FT article stated the following:

> *"Overseas banks, whose domestic market share in China is tiny, have been more affected by the clampdown because they derive higher percentage of revenues from cross-border business. "This regulation is a bigger nightmare for foreign banks because we are more reliant on cross-border business than Chinese banks," one banker said"* (Kynge, Mitchell & Wildau, 2017).

[79] Irrespective of the other types of financial protectionism that foreign banks face in China.

[80] This is particularly obvious when one considers the four largest Chinese banks – Agricultural Bank of China, Bank of China, China Construction Bank, Industrial and Commercial Bank of China (all state-owned) – which are among the main beneficiaries of the recent state programs aimed at loosening capital controls.

The consistent violation of the national treatment principle over the past decades can hardly be considered legitimate in the sense of the above.

This dissertation does not aim to provide a thorough and conclusive analysis of the individual state measures referred to in this section because analysis of this kind would need to be the object of a case-by-case evaluation drawing on a more detailed knowledge of the respective national settings and of international trade law. Rather, the examples presented are meant to serve as brief exhibits of the taxonomy of financial protectionism introduced in section 2.4.

The need for a clear taxonomy was motivated by a literature review which laid out the ill-defined nature of the concept of financial protectionism, as evidenced by its inconsistent use in mainstream media, official publications and even in scholarly work (see 2.2). Financial protectionism in this dissertation is defined as the policy of illegitimately and unnecessarily restraining trade in financial services between states. This definition refers to two concepts which are central to WTO agreements: legitimacy and necessity (see 2.3). In doing so, it recognizes that there exists a set of conditions under which authorities must be able to impose restrictions on the liberty to provide financial services across borders, namely that such restrictions are necessary to achieve the core prudential objective of sustaining financial stability.

In the next chapter of this dissertation, I attempt to operationalize this definition by developing measures for all four types of financial protectionism.

3 Measuring banking protectionism

One of the more straightforward indicators used by scholars investigating patterns of national integration in international financial markets is the sum of a country's aggregate foreign financial assets and liabilities divided by its gross domestic product (see Kose et al., 2009 or Quinn et al., 2011). An overview of the evolution of this measure over the past two decades is displayed in exhibit 10. Besides a sudden drop in financial integration in the aftermath of the GFC, followed by an immediate recovery, one other common feature stands out across regions: what may possibly represent the beginning of a negative trend in the last two years of the data. In a post-GFC global context of rising financial markets and limited GDP growth, one of the few possible explanations for such a development would be a worldwide surge in barriers to trade in financial services and, possibly, financial protectionism. Does the recent drop in international financial integration really coincide with an upturn in protectionism? And more generally, how has the use of financial protectionism evolved in the recent past, and what were the drivers of this evolution?

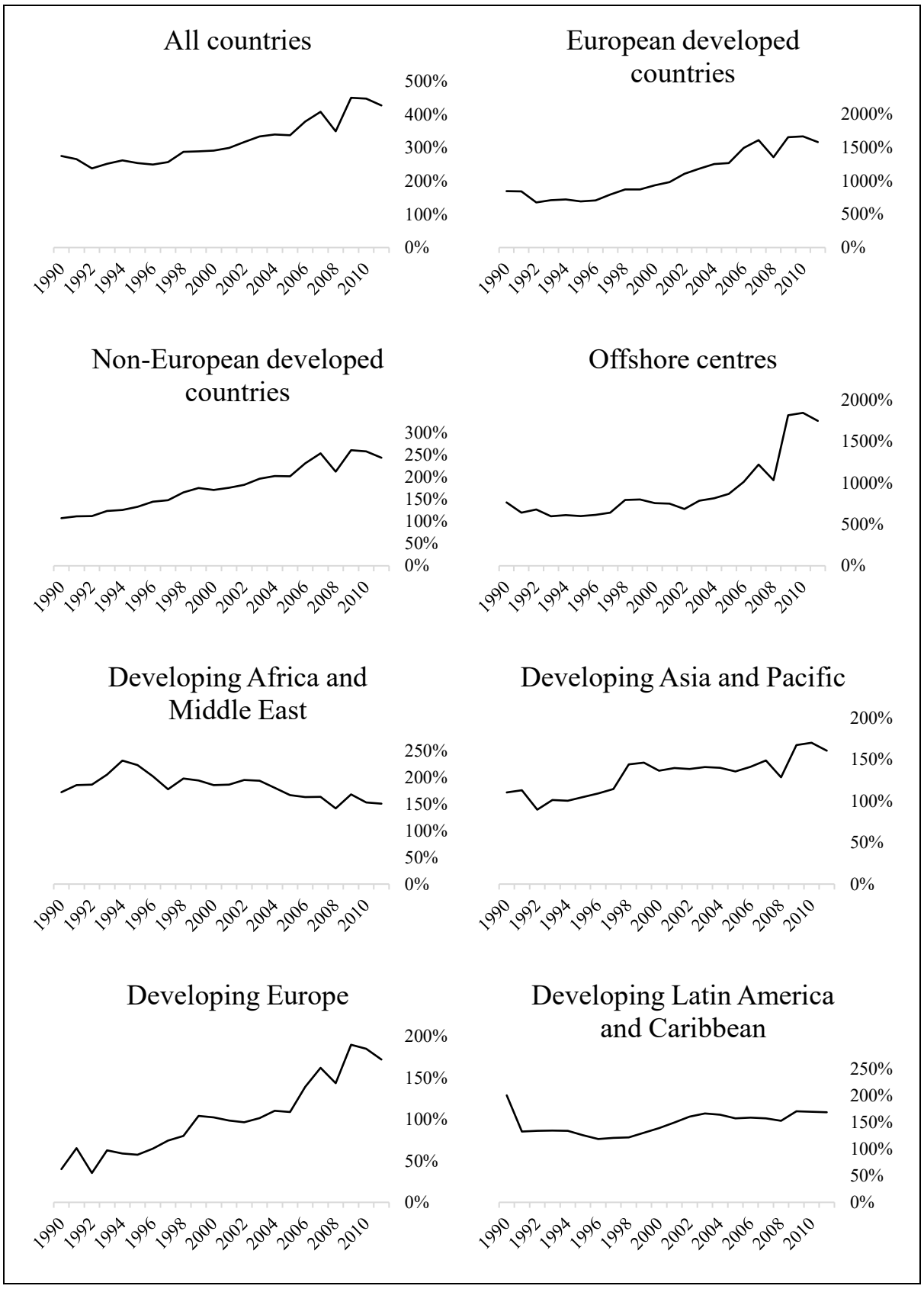
Any meaningful enquiry into the extent, evolution and determinants of the various forms of financial protectionism must be based on an unequivocal definition of financial protectionism and the availability of corresponding measures. Having defined financial protectionism in the previous chapter, and before addressing its determinants in the next chapter, this dissertation now turns to the issue of measurement.

The definition developed in chapter 2 accounts for the fundamental conflict between the domestic interest in regulatory autonomy and the multilateral interest in free trade by emphasizing that not all discriminatory measures or trade barriers in the field of financial services should be viewed as instances of fi-

nancial protectionism, since some are necessary to achieve legitimate prudential objectives. The corresponding taxonomy of financial protectionism encompasses four distinct types: market entry restrictions, asymmetric regulation, asymmetric subsidies and capital controls.

This chapter first gives an overview of the relevant literature on non-tariff trade barriers (NTBs). It then proposes measures for all four types of financial protectionism. The design of these measures is based on the definition developed in the previous chapter of this dissertation and on past scholarly work on NTBs. Data availability represents an important constraint with respect to the development of workable measures of financial protectionism. My treatment below relies on data that is in large parts only available in the banking space and I therefore – regrettably but deliberately – disregard other areas of the financial sector such as insurance, asset management and shadow banking. Consequently, and for the sake of clarity, chapters 3 and 4 of my thesis will henceforth exclusively refer to **banking protectionism** which is to be understood as the subset of financial protectionism relating to the banking sector. Correspondingly, and contingent on improved data availability, the generalization of some of the propositions and findings presented below constitutes a promising aim for future research on financial protectionism.

Exhibit 10 – International financial integration 1990 – 2011 [81]



3.1 Measures of non-tariff barriers in scientific literature

Distortions of international trade in services through simple tariffs are uncommon (see 2.1.1 and 2.4). All four types of banking protectionism under the taxonomy developed and applied in this dissertation – market entry restrictions, asymmetric regulation, asymmetric subsidies and capital controls – are non-tariff barriers (NTBs).[82] The rich literature on measuring NTBs thus seems a suitable starting point for any detailed treatment of measures of banking protectionism.[83]

As highlighted in this literature, the difficulties linked with measuring any policy targeting foreign services are threefold (Francois & Hoekman, 2010). Firstly, and as highlighted above (see 2.1.1), transactions involving services are complex, thereby giving governments countless degrees of freedom in restricting them and implying even less transparency than in the case of NTBs involving goods. Secondly, measuring international flows of services and the policies affecting them requires an unambiguous conceptual foundation which may be difficult to formulate. Thirdly, the availability of data relating to international trade in services is limited.

In view of these difficulties, there is no simple or undisputed approach to measuring NTBs to international trade in services[84] and the many and varied NTB measures featured in past scholarly work are often uncorrelated.[85] As highlighted by Deardorff and Stern (2008) and others, these measures can be either

[81] Own representation based on updated and extended version of dataset constructed by Lane and Milesi-Ferreti (2007). Financial integration is defined as the sum of gross stocks of foreign assets and liabilities as a ratio to GDP. Unweighted country averages are computed for each region.

[82] Whereas the converse statement is not necessarily true, as seen in the previous chapter: not all NTBs in the banking services sector should be viewed as instances of banking protectionism.

[83] NTBs are also referred to – perhaps more neutrally – as non-tariff measures or behind-the-border measures in parts of the literature (see Evenett, 2017 or Ferrantino, 2006). The consistent use of the notion NTBs throughout this dissertation is exclusively motivated by a quest for simplicity and should thus by no means be interpreted as a normative stance by the author.

[84] In the words of Wolf (2016): "the market for trade orientation indices has not yet produced a clear favorite".

[85] For instance, Pritchett (1996) finds that an "[examination] of the link between various empirical indicators used in the literature to measure trade policy stance reveals that, with minor exceptions, they are pairwise uncorrelated."

direct or indirect – direct measures departing from the observations of explicit policies or practices, and indirect measures aiming to infer the existence of barriers by estimating the discrepancies between actual economic data and what would be expected if trade was unhindered.

> *"Direct measurements have the advantage that one knows what one is measuring, and the disadvantage that they can only include those barriers that are in fact explicit and recognized. Indirect measurements have the advantage that their quantitative importance is known, at least in the dimension used to identify them, but the disadvantage that they may incorporate unrecognized frictions other than the policy impediments that one seeks to identify."* (Deardorff & Stern, 2008, p. 183)

Another common typology differentiates between incidence- and outcome-based NTB measures:

> *"Incidence-based measures attempt to measure the trade policies by direct observation of the policy instruments. […] Incidence measures are generally atheoretic. For instance, counting the frequency of NTBs is a (relatively) straightforward empirical exercise. […] Outcome-based measures of trade policy assess the deviation of the actual outcome from what the outcome would have been without the trade barriers. […] [All] outcome measures are sensitive to the model used in constructing the counterfactual of what would have happened under an alternative policy, usually assumed to be free trade."* (Pritchett, 1996, p. 308)

Most direct/incidence-based or indirect/outcome-based measures can be attributed to either one of the categories introduced in the following three subsections.

3.1.1 Price-based measures

A first indirect/outcome-based approach to measuring non-tariff barriers is to

focus on their price effects. Tariffs or NTBs, when effective, lead to an increase in the price paid by domestic consumers for a particular good or service (2.1.1). The difference between the price paid by consumers in presence of a trade barrier – p_b – and the price they would have paid if the trade barrier had not been introduced – p_{nb} – represents an instinctive gauge of the magnitude of the corresponding trade barrier. Under perfectly competitive conditions

$$t_b = \frac{p_b - p_{nb}}{p_{nb}}$$

is the implicit rate of protection, or tariff equivalent since according to basic trade theory, a tariff at the rate t_b would lead to the same price increase (see 2.1.1).

Nonetheless, two practical difficulties are tied to this ratio. The first difficulty is due to the partially theoretical nature of the prices mentioned. In particular, the price in the absence of trade barriers is not observable, which means that its value would have to be replaced by an imperfect proxy. More generally, the concept of prices is not always well defined, especially in the services sector. The second difficulty is more fundamental as it emerges when there is uncertainty over the mere presence of trade barriers. A comparison between both prices only seems sensible if it has been established that a trade barrier has been erected. However, detecting the existence of such barriers is one of the actual aims of NTB measures. Note that both issues do not arise in the case of tariffs on goods, since tariffs are – in theory – both observable and equal to the ratio above.

Before turning to a few examples, it is thus worth noting that price-based measures inevitably rely on several fundamental assumptions. A first set of assumptions concerns the validity of the price data used. This issue is particularly relevant for financial services as they often do not have straightforward prices. Consider the typical example of a bank waiving equity brokerage fees for a

client, just to increase the – from the perspective of the client often nontransparent – margin it earns on FX transactions by that same client. Defining the 'price' of an equity transaction in such a setting is certainly not a trivial undertaking. A second set of assumptions addresses the unobservability of prices in the hypothetical absence of NTBs. A conventional workaround to the issue of unobservable variables is the use of proxies. Proxies used or suggested in past scholarly work range from simple averages of international prices (see Baldwin, 1989 or Krishna, 1991) to long-run firm marginal costs (see Kalirajan et al. 2000). A last assumption would state that trade barriers are in place and that the price wedge that is computed is due – to some extent at least – to these very trade barriers.

Initial noteworthy efforts relating to price-based measures were made in work on the shipping industry, as summarized by Warren and Findlay (1999). In this line of work relating to the impact of policy variables on prices, price differences are derived from comparisons of the values of goods at the points of export and import. The differences are then subjected to statistical methods with a view to estimating their determinants. While comparing import and export prices may be a workable approach when applied to physical goods, it is, however, certainly less so in the case of services due to their intangibility and the simultaneity of production and consumption referred to above (see 2.1.1).

A second relevant effort was made by Kalirajan, McGuire, Nguyen-Hong and Schuele in their 2000 paper on the price impact of restrictions on banking services. Like other treatments of price-based measures that are based on price-cost margins, it departs from the underlying assumption that in the absence of trade barriers, markets would be competitive, and prices would thus correspond to firms' long-run margin costs. Using bank-level data on the net interest margins of 694 banks in 27 countries and a two-stage econometric approach ena-

bling them to control for features such as market structure, interest rate volatility and prudential measures, they isolate the price impacts of trade restrictions and find that such impacts are highest in Malaysia and Indonesia and lowest in the European Union and the United States. However, these price impacts are not of particular interest in the framework of this dissertation, unlike the compelling idea of using net interest margins, and the associated underlying assumption that such margins are mainly driven by prudential aspects and trade barriers.

The relevance of the price-comparison method is made clear by its frequent use in the literature on the effects of trade liberalization. One of the early and often cited examples in this respect is a study carried out by the Commission of European Communities (1988) on estimating the effects of removing trade barriers between members of the European Community on the path to a fully integrated internal market. The paper provides a daringly granular overview of the price reductions that may be expected for several goods and services, including different categories of banking, insurance and brokerage services.

As the concept of prices in the financial services space proves to be either unclear or at least unhelpful at times, it may be useful to look at interest rates instead. Lending – arguably the most central of all financial services in terms of its relevance to the overall economy – is also particularly well documented. Data availability considerations have led scholars in monetary economics and related research fields to make extensive use of interest rates – the price of lending – in their research. Interest rates may thus also prove useful with respect to the development of price-based measures of NTBs. An approach referred to in Dooley, Mathieson and Rojas-Suarez (1997, p. 3) makes use of the concept

of interest rate parity[86] to assess the degree of capital mobility in different countries: "interest rate parity conditions […] imply that the returns […] on comparable domestic and external financial instruments should be equalized with a high degree of capital mobility". One could thus consider the difference between the effective interest rates and the levels predicted by parity models as an indication of the strength of NTBs in the lending space. While there are number of caveats concerning this approach, as some of the factors necessary to operate parity functions are not always available for instance (see Dooley et al., 1997), one non-negligible advantage is that it is based on country-level data, which is generally more accessible than the bank-level data used in the approaches mentioned above.

A final measure that deserves to be mentioned in this sub-section is the cross-market premium of cross-listed stocks – the ratio between the domestic and the international market price of stocks that are simultaneously listed in several countries. This ratio is used in a paper by Levy Yeyati, Schmukler and Van Horen (2009) where it is taken as a measure of international financial integration. While the idea is compelling, many countries do not feature liquid stock markets, thereby complicating the operationalization of such an approach in the context of this dissertation.

3.1.2 Quantity-based measures

A second indirect/outcome-based approach to measuring NTBs is to focus on their quantity effects. Tariffs or NTBs, when effective, lead to a decrease in the quantity of a particular good or service imported into the NTB-imposing country (2.1.1). In analogy to the case of price-based measures as described in the

[86] "Interest rate parity is a no-arbitrage condition representing an equilibrium state under which investors will be indifferent to interest rates available on bank deposits in two countries." (Feenstra & Taylor, 2008)

previous sub-section, the difference between the quantity imported in the presence of a trade barrier – q_b – and the quantity that would have been imported if the trade barrier had not been introduced – q_{nb} – represents an instinctive gauge of the magnitude of the corresponding trade barrier. Under perfect competition, transforming the ratio

$$\frac{q_b - q_{nb}}{q_{nb}}$$

into a tariff equivalent requires further assumptions about the price elasticities of demand in the importing countries.

Much as in the case of prices, several practical difficulties are linked with applying this ratio to financial services. In particular, while the concept of quantity may be less elusive than that of price, q_{nb} remains a non-observable which needs to be replaced by an imperfect proxy. Furthermore, a comparison between both quantities is only useful once it has been established that trade barriers are actually in place. Accordingly, quantity-based measures rely on a similar set of assumptions as price-based measures concerning the validity of the data used on the one hand, and the presence of a quantity wedge and the fact that it can be attributed – to some extent at least – to the presence of trade barriers on the other hand.

Quantity-based measures may instinctively be more appealing than price-based measures since they are more closely related to an essential aspect of trade barriers, that is, the extent to which they effectively reduce trade (Deardorff & Stern, 1997). The greatest difficulty facing scholars using quantity-based measures is finding a valid proxy for the unobservable quantity of trade in the absence of NTBs. Finding a suitable proxy may even be harder than in the case of price-based measures since there is no quantity-equivalent to the often-used and directly observable proxy *world price*. In order to tackle this issue, and as illustrated by the next few examples, some have opted for the approach summarized by Deardorff and Stern (1997, p. 17):

> *"A general approach to measurement of the quantity effects of NTBs is possible […] using either a cross-commodity or a cross-country regression model to explain trade. Thus the object […] is to estimate what trade would have been in the absence of NTBs and to compare this to the trade that actually does occur."*

An initial body of literature that is of relevance in this respect relates to so-called gravity models. Originally referring to Isaac Newton's Law of Universal Gravitation which relates the force of attraction between two objects to their aggregated masses and the distance between them, gravity models were soon applied to economics and as a means to predict bilateral trade flows between two countries by viewing these flows as a function of country-specific variables such as the sizes of and the distance between the trading countries (see Walsh, 2006). An early attempt at applying the general idea of comparing effective bilateral trade data to model predictions in the field of services was made in a paper by Francois (2001), in which a country's demand for services imports is modelled as a simple function of the recipient country's population and GDP per capita. The corresponding regression estimates are used to compute levels of predicted bilateral trade and are then compared to actual trade flows and combined with a constant elasticity of import demand function to calculate tariff equivalents for a series of countries.

While gravity models make use of bilateral trade data, similar approaches have also been applied in a multi-commodity, multi-country setting, one of the most famous examples being Leamer's (1988) paper on measuring the economic effects of protection. Leamer models international trade as a function of resources supplies, prices of products of international markets, technology, tastes and natural barriers. He views the difference between the actual magnitude of trade and the values predicted by his model – the residuals of his regressions – as an

indicator of the level of artificial trade barriers. This approach rests on two essential but disputable assumptions which are discussed in greater detail below (see 3.2.5). In another widely-cited paper which uses a similar approach since it determines openness – or the absence of NTBs – relative to the predictions of a monopolistic competition trade model, Harrigan (1996, p. 23) emphasizes the centrality of the model used when computing quantity-based measures of openness:

> *"[Openness] is taken to be roughly synonymous with a large volume of trade. That is, a country is relatively open to trade if it has a relatively high volume of trade, after controlling for factors that economic theory suggests should influence the volume of trade in the absence of barriers, such as country size, output, and the current account. This requires a theory of what trade would be in the absence of barriers, and that theory must be plausible and specific enough to serve as a measuring rod for openness."*

The main weakness of quantity-based measures such as the ones just mentioned therefore comes from the "tremendous burden" they place on the models used to explain trade (Deardorff & Stern, 1997). Such measures are generally prone to upward bias since bad models naturally tend to overstate residuals: residuals logically increase as the explanatory power of a model decreases. A quantity-based measure can only be as good as the trade model it is based on.

A different approach is proposed by Warren and Findlay (1999). They refer to several papers aiming to investigate the impact of market entry barriers on the quantity of mobile telecommunications services consumed within an economy, rather than on the quantity that is traded. While the policy variable used – the number of mobile operators – seems overly simple and hardly transferable to the field of financial services, one of the merits of the discussion surrounding these papers is that it illustrates the multiple meanings of the term 'quantity'.

With this in mind, and considering that data availability considerations will play a central role in the remainder of this dissertation, it is worthwhile contemplating the idea that consumption data may be a valuable alternative to trade data.

3.1.3 Financial-based measures, frequency-type measures and others

Of the numerous other types of NTB measures that can be found in past scholarly work, two deserve to be mentioned in view of the topic at hand: financial-based measures and frequency measures. While financial-based measures – along with price- and quantity-based measures just discussed – represent indirect/outcome-based NTB measures, frequency measures belong to the category of direct/incidence-based measures because they are based on observations of explicit policies or practices as recorded by scholars or international organizations.

Financial-based measures are closely related to the approach mentioned under 3.1.1 which focused on bank net interest margins, departing from the underlying assumption that in the absence of trade barriers, markets would be competitive, and prices should therefore correspond to firms' long-run margin costs. The term financial-based measure was coined by Brown and Stern (2001, p. 270) in their review of an approach mentioned one year earlier by Hoekman:

> *"Hoekman (2000) has suggested that financial data on gross operating margins [...] may provide indirect information about the effects of government policies on firm entry and conditions of competitions. High margins may be attributable of course to a variety of economic and institutional factors. But since these margins may be indicative of relative profitability across sectors and between countries, they may yield insight about the relative size of existing barriers in individual countries/regions."*

Gross operating margins present non-negligible advantages in terms of data availability, since they can be easily computed for any firm that publishes earnings statements.[87] Furthermore, while net interest margins only deal with one aspect of the activities of a financial institution, gross operating margins allow for a consideration of FSPs such as (re-)insurers or asset managers which are not necessarily active in the lending space, but which are significant players nonetheless.

However, as pointed out by Warren and Findlay (1999), "an important limitation with the analysis of prices over costs is the propensity of protected firms to […] extract monopoly rents in the forms of inflated costs rather than excess margins". Consequently, an FSP that is shielded from foreign competition may stand out not only in terms of its operating margins, but also in terms of the absolute level of its cost base. Large variations in FSP cost bases could therefore also constitute a valuable indicator of the presence of NTBs in the financial services sector.

Frequency-type measures are based on country-level listings of observed trade barriers or liberalization commitments. The information contained in these listings is consolidated in the form of indices which serve as a gauge of the level of restrictiveness or openness of individual countries.[88] Scholars who have built such indices for the services field mostly dealt with available data sources such as the statistics provided by the United Nations Conference on Trade and Development (UNCTAD) and the list of commitments made under the GATS.

The UNCTAD trade analysis information system provides data on trade control measures including tariffs and non-tariff measures at an HS-based tariff line level[89] for 150 countries from 1988 onwards. The data is country-, sector- and

[87] This data is particularly easy to access in the case of stock-listed institutions.

[88] The issue of weighting – e.g. judgmental, equal, factor-analysis-based (see Deardorff & Stern, 2008) – is central.

[89] The Harmonized System (HS) of tariff nomenclature is a standardized system for classifying traded products and is maintained by the World Customs Organization. It differentiates between as many as 5'000 commodities in different sectors.

commodity-specific, which allows for the construction of a variety of measures that indicate the frequency of occurrence of NTBs. For instance, Deardorff and Stern (1997) use UNCTAD data to develop a frequency ratio which corresponds to the number of HS-product categories affected by NTBs as a percentage of the total number of product categories in a specific HS group. The ratio thus contains information about the share of commodity categories that are affected by NTBs but does not provide any indication of the magnitude and effectiveness of these NTBs. A decisive drawback of the UNCTAD database with respect to the study of banking protectionism is that the HS-categorization it uses does not include financial or banking services. One would thus need to exploit other data sources in order to apply a similar approach in the framework of this dissertation.

A potentially useful data source is the General Agreement on Trade and Services. Besides a main text containing general obligations and disciplines, and several annexes dealing with specific sectors, the GATS also contains country-specific schedules of commitments which represent the outcome of multilateral negotiations. The schedules – while differentiating between all four modes of services supply (see 2.1.1) – list the sectors that are being opened, the extent of market access given in these sectors, and any prevailing limitations on national treatment for each sector (WTO, 2017). Hoekman (1995) and PECC (1995) use the information contained in these country schedules to calculate frequency ratios which are "constructed based on the number of commitments scheduled in the GATS by individual countries that designate sectors or sub-sectors unrestricted or partially restricted in relation to the maximum possible number of unrestricted commitments" (Brown & Stern, 2001). Hoekman considers these frequency ratios as valid indications of the relative degree of restrictiveness of barriers to services trade across countries and sectors. Since as many as sixteen sub-sectors in the field of financial services are accounted for in the GATS

schedules, country-specific frequency ratios indicating the level of restrictiveness with regard to the cross-border provision of financial services can easily be computed. However, one important flaw of frequency measures based on the GATS is that they rely on the assumption that the absence of positive country commitments in the GATS schedules can be interpreted as indicating the presence of restrictions, which may in fact not be the case.

When compared to other NTB measures, frequency-type measures stand out in terms of their transparency and ease of computation. Furthermore, different frequency-type indicators are readily available from several dependable sources. When using such measures however, one should bear in mind that they are very often ordinal in nature, meaning that they are designed to indicate a relative degree of restriction between countries and should thus not be taken literally as tariff equivalents or an indication of the economic impact of the NTBs in question. Furthermore, one should be aware of the numerous assumptions that underlie not only frequency-type indicators, but also the databases they are based on.

Numerous ***other measures*** of NTBs have been proposed by various scholars and international institutions. Four databases which provide the foundation for some of these measures are referred to in later sections: the IMF's AREAER database, the Global Trade Alert, the World Bank's Services Trade Restrictions Database and the OECD's Services Trade Restrictiveness Index Regulatory Database (see 3.2.2, 3.2.3 and 3.2.4).

3.2 Measures of banking protectionism

Identifying instances of banking protectionism is not necessarily a straightforward task, even when attempted on a case-by-case basis. The previous chapter of this dissertation represented an attempt at mitigating this issue by proposing an unambiguous taxonomy. A more effective approach to distancing oneself

from the normative issues associated with the concept of banking protectionism may consist in developing clear and transparent empirical measures of the phenomenon. This is the aim of the present section.

Deardorff and Stern formulate the following summarizing principle in their 2008 paper on the empirical analysis of trade barriers: "[no] single methodology is sufficient for documenting and measuring barriers to trade in services". In line with this idea, this dissertation proposes different measurement methodologies for the different types of banking protectionism.

Before discussing possible measures in the following sub-sections, it is useful to put forward several desirable properties that any such measure should exhibit. Building on a widely cited effort by Edwards (1989), Krishna (1991) lists desiderata of measures of openness – a concept that is closely related to that of protectionism:

- Objectivity – "An index should be objectively defined, it should be a continuous index so that it can span the various shades of reality rather than being forced to be discrete";
- Comparability – "[An index] should permit comparability over time and space";
- Conceptuality – "First, the measure should be *model based*. Second, it should be based on some *primitive foundation*, that is, there should be some primitive concept that the measure is trying to implement. […] Third, the primitive concept should be *motivated*. There is little reason to measure something unless we think it is going to be important for something we are interested in for its own sake";
- Implementability – "[The] measure has a reasonable chance of being empirically implemented given current data".

Krishna's four desiderata are frequently referred to throughout the present section which addresses types 1, 3 and 4 before it discusses type 2 for reasons that

will become obvious hereinafter.

3.2.1 Considering legitimacy and necessity

The definition of banking protectionism introduced in the previous chapter of this dissertation suggests that measures which restrict international trade in financial services should not automatically be deemed protectionist as some of these measures may be necessary to achieve the legitimate prudential aim of sustaining financial stability. Considering the issues of legitimacy and necessity is no less delicate when attempted in an empirical setting rather than on a case-by-case basis. The approach taken below is to develop a country-level indicator of legitimacy and necessity (*LNI*) which – while inevitably failing to consider every element of the legitimacy and necessity concepts as provided by WTO jurisprudence – deals with the underlying notion of the vulnerability of countries to financial crises. Accordingly, vulnerability is taken as an empirical proxy for the legalistic concepts of legitimacy and necessity.

There is no general agreement among scholars of international institutions about what financial stability precisely is, but, as made clear in an overview by Houben, Kakes and Schinasi (2004), many define it negatively by portraying its opposite: financial instability, a notion that is equivalent to that of financial crisis. For instance, Wood and Allen (2006, p. 159)

> *"[…] define episodes of financial instability as episodes in which a large number of parties, whether they are households, companies, or (individual) governments, experience financial crises which […] have seriously adverse macro-economic effects."*

In a short article in 2009, IMF officials Ghosh, Ostry and Tamirisa characterize financial crises as follows:

> *"Whereas each differs in its details, nearly all reflect a confluence of*

> *some underlying economic vulnerability and a specific crisis trigger.*[90] *The underlying vulnerability is often a credit or asset price bubble, a balance sheet mismatch (excessive borrowing in foreign currency, at too-short maturities, or with inadequate capitalization), whereas the crisis trigger can be almost any event – political turmoil, terms of trade shocks, contagion from other countries, or, to take the example of the current crisis, the collapse of the subprime market […].”* (p. 35)

As crisis triggers are fundamentally unpredictable, international institutions aiming to ensure financial stability generally focus on the vulnerability dimension:

> *“Predicting the timing of a crisis has widely been considered a fool’s errand, and crisis models have a dubious record in this regard. However, there is value to be gained in identifying the key vulnerabilities that are likely to come into play in the event of a crisis.”* (IMF, 2010)

Even a brief analysis of the relevant literature shows that assessing the vulnerability of a country to financial crises remains a complex undertaking, and that the rules and thresholds used in this context are often contingent on the individual perspectives of the assessors.[91] It is by no means an objective of this dissertation to interfere in this ongoing debate. Instead, I choose to rely on the efforts of two international institutions which are widely regarded as authoritative in this field: the International Monetary Fund and the Financial Stability Board.

The IMF/FSB joint Early Warning Exercise (EWE) is the result of a post-crisis G20 mandate which instructed the IMF and FSB to identify vulnerabilities in the financial system and provide regular input for the deliberations of the G20

[90] Emphases added.
[91] In this spirit, financial stability could be framed as an intersubjective concept which varies over time.

and other institutions tasked with financial stability.[92] Due to the sensitive nature of many of their aspects, much of the information about the relevant methodologies is confidential. However, IMF and FSB staff have revealed some of the features of the empirical models and indicators used to identify sectoral and market vulnerabilities in the framework of the EWE (see IMF, 2010). These models and indicators can be attributed to any of the five categories shown in exhibit 11 (IMF, 2010).

[92] In the framework of this exercise, both institutions have taken leading roles in their areas of comparative strength, the IMF focusing on macroeconomic aspects, the FSB on financial and regulatory aspects (IMF, 2010).

Exhibit 11 – Overview of empirical models and indicators in the EWE: sectoral and market vulnerabilities [93]

External Sector Risks and Vulnerabilities	
Cross-border capital flows	External financing gaps
External imbalances	Probability of an external crisis
Exchange rate misalignments	
Fiscal Risks and Vulnerabilities	
Rollover and financing risks	Sensitivity of public sector debt to adverse shocks
Markets' perceptions of sovereign default risk	Contagion risk from fiscal distress
The required scale of fiscal consolidation	Probability of a fiscal crisis
Corporate Sector Risks and Vulnerabilities	
Leverage, liquidity and profitability	Stock valuation and default probabilities
Asset Prices, Market Valuation and Bubble Spotting	
Real estate bubbles	Feedback loops between NPLs and macroeconomic performance
Equity market bubbles	
Financial Market Risk Attitudes	
Global Financial Stability Map	Asset and market volatility

While attempting to re-develop the complex models underlying the EWE would be both highly speculative and beyond the scope of this dissertation, one can, however, replicate its essence by focusing on a few simple time series.[94] Accordingly, the *LNI* suggested in this dissertation consolidates four country-based yearly ratios that mirror the main categories highlighted in exhibit 11. Its fundamental proposition is that a given vulnerability in any of these categories should be deemed a proxy for the legitimacy and necessity of potential discriminatory measures relating to international trade in financial services. The choice

[93] Source: IMF (2010). In the EWE, these tools are "used to complement the qualitative views obtained in internal discussions and with outside experts" (IMF, 2010).

[94] If disclosed, the exact methodologies and outputs of the EWE could certainly be used in future research on banking protectionism.

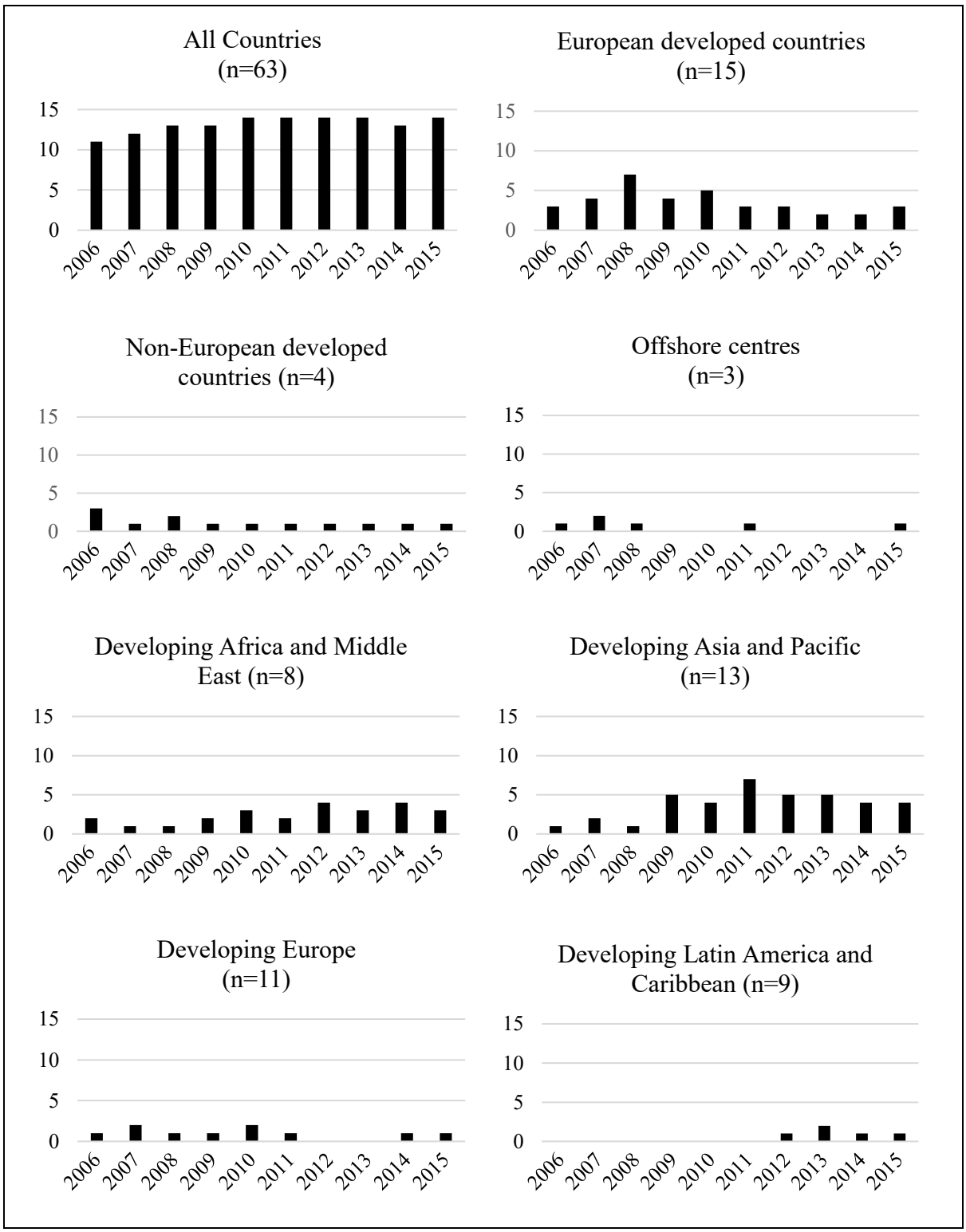
of the ratios mentioned below was driven principally by a need for simplicity, along with data availability and reliability considerations. Most ratios are also explicitly mentioned in EWE-related publications (see IMF, 2010).

The indicator chosen to assess *external risks and vulnerabilities* is the current account balance as a percentage of GDP[95]. Any country below the 5th percentile of values is deemed vulnerable. Public sector debt as a percentage of GDP[96] is taken as proxy for *fiscal vulnerabilities*. The 95th percentile is chosen as a threshold in order to single out the most indebted and hence vulnerable countries. The ratio of regulatory tier 1 capital to total risk-weighted assets[97] is used as a financial-sector-specific measure of *corporate sector vulnerabilities* by also applying a 95th percentile threshold. Finally, data on stocks traded as a percentage of GDP[98] is used to account for the *bubble spotting* and *financial market risk attitudes* categories. The 95th percentile threshold is applied on deviations from the averages of the previous 3 years in order to identify countries with sudden and significant increases in stock trading activity.

Current data on these four ratios is available for virtually all countries. However, the time frame used in this dissertation reaches back to 2006 – in order to include at least one large disruption, the GFC – and this necessarily reduces the sample size to 63 countries[99], which are, however, sufficiently evenly distributed across the country categories used in the statistics produced by the Bank for International Settlements (BIS). Exhibit 12 provides an overview of instances of legitimacy and necessity (hereafter *LNI* signals) across these country categories between 2006 and 2015.

[95] Source: IMF Balance of Payments Statistics Yearbook and data files, and World Bank and OECD GDP estimates (found on http://data.worldbank.org).
[96] Source: IMF (found on http://data.imf.org).
[97] Source: IMF Financial Soundness Indicator (found on http://data.imf.org). Missing data for Japan and the USA were proxied by a turnover-weighted average for the 10 largest banks in each country (data found on the orbis bank focus database, previously called bankscope [found on https://orbisbanks.bvdinfo.com]).
[98] Source: World Federation of Exchanges database (found on http://data.worldbank.org).
[99] In the future, the *LNI* could therefore be computed for a significantly larger number of countries.

Exhibit 12 – LNI signals 2006-2015



Globally, the overall number of *LNI* signals was fairly stable over the period in

question[100], though one can spot a slight increase during the GFC from 2006 to 2008. As shown by the other quadrants, most of this rise can be attributed to vulnerabilities in developed countries. At the height of the crisis in 2008, the list of developed countries considered vulnerable under the *LNI* methodology included Cyprus (because of its current account deficit), Norway (because of the weak capitalization of its banking sector), Germany, Switzerland and the United States (all three because of a sudden rise in trading activity on their stock markets). In the following years *LNI* signals are concentrated in developing countries in Asia and the Middle East. In 2011 for instance, vulnerable countries included India and Israel (bank capitalization) and Malaysia, South Korea and Thailand (stock trading activity). Several countries stand out as producing consistent *LNI* signals across the period under investigation, most notably Greece (current account and/or fiscal deficits), Italy (fiscal deficits) and Japan (fiscal deficits and/or trading activity). Noteworthy examples of countries which are not to be considered as vulnerable at any time between 2006 and 2015 include Argentina, Brazil, and France.

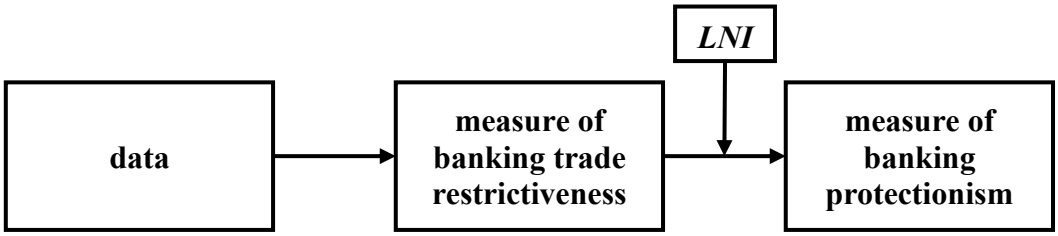
While the choice of ratios was guided by our treatment of the concept of legitimacy in the previous chapter of this dissertation, the *LNI* remains an empirical indicator and, as such, its performance is limited when it comes to capturing all the subtleties of the concept as laid out in WTO agreements and in the corresponding jurisprudence. Also, the percentile thresholds chosen in this sub-section are arbitrary and thus represent an imperfect proxy for the notion of necessity. Further and potentially more serious criticism may be directed at the underlying idea that necessity is a relative concept.[101] While these criticisms are justified, they must be considered in the appropriate context, as there is no ob-

[100] This is hardly surprising as the thresholds chosen are relative.

[101] Meaning that necessity is only considered as given when a country is more vulnerable than other countries in the sample.

vious path to mitigating them. To the author's knowledge, the *LNI* methodology constitutes the first attempt to consider the concepts of legitimacy and necessity in an empirical setting and, as such, represents a valuable proposition. Future research will likely be able to produce more sophisticated approaches in this respect.

Exhibit 13 – Developing measures of banking protectionism



A simple overview of the methodology used in the next four sub-sections is provided in exhibit 13. Available data is first used to construct a measure of banking trade restrictiveness which is then transformed into a measure of banking protectionism through the application of the *LNI*. This methodology is intentionally based on the definition provided in the previous chapter of this dissertation (see 2.3). Measures of banking trade restrictiveness correspond to violations of the national treatment principle, while the *LNI* is a binary indicator of legitimacy and necessity.

3.2.2 Type 1 – market entry restrictions

Under type 1 banking protectionism, domestic banks are shielded from foreign competition by restricting the access of foreign firms to the market. Examples include more stringent licensing requirements or outright limitations on the foreign ownership of domestic banks (2.4.1). One of the approaches followed by the WTO as a way of discouraging the use of such restrictions has been increased transparency through the requirement for GATS signatories to publish

their commitments with respect to market access (2.3.2). Based on these schedules of commitments, some scholars have built indicators of the degree of restrictiveness of market access across countries and sectors by weighing liberalization commitments against the maximum number of possible commitments (see Hoekman, 1995 and PECC, 1995). While such frequency indicators may be of interest to policymakers involved in multilateral trade negotiations, they are not suited as measures of type 1 banking protectionism for two main reasons. First, as mentioned above, they are based on the unsatisfactory assumption that the absence of positive country commitments in the GATS schedules can be interpreted as indicating the presence of restrictions (see 3.1.3). Second, frequency indicators are inevitably static by nature since they are based on schedules which are only rarely amended.[102] Those who are interested not only in the distribution of banking protectionism across regions, but also in its evolution over time, must therefore look elsewhere.

Promising efforts have been made by the World Bank and the OECD through the development of distinct but similar methodologies in the frameworks of the Services Trade Restrictions Database[103] and the Services Trade Restrictiveness Index Regulatory Database[104]. The World Bank database collects and publishes information across 103 countries and five sectors including financial services. According to the reference publication:

> *"the primary focus of the database is on policies and regulations that discriminate against foreign services or foreign service providers as well as certain key aspects of the overall regulatory environment that have a significant impact on trade in services"* (Borchert, Gootiiz & Mattoo, 2012, p. 7).

[102] Furthermore, the WTO I-TIP database only features current GATS commitments. I-TIP personnel was unable to provide historical data upon request.
[103] http://iresearch.worldbank.org/servicetrade/
[104] http://www.oecd.org/tad/services-trade/

To a certain extent, the measures covered could thus also be relevant for our treatment of type 2 banking protectionism – asymmetric regulations. Information was obtained either through the administration of a questionnaire in the case of non-OECD countries, or from publicly available sources for OECD countries. In both cases, government officials were asked to confirm the accuracy of the data. Within each sector, the database covers "the most relevant modes of supplying the respective service", which are deemed to be mode 1 – cross-border supply – and mode 3 – commercial presence – in the case of financial services (Borchert et al., 2012, p. 6). The database places particular emphasis on mode 3, most notably on legal forms of entry requirements, foreign equity restrictions, licensing limits and the transparency of licensing requirements. As a means of quantifying the text form information, the World Bank proposes the Services Trade Restrictions Index ($STRI^{WB}$), a measure that relies on a scoring and weighting methodology that is "simple, transparent and fairly robust" (Borchert et al., 2012, p. 17). While the methodology is not discussed in detail in this dissertation[105], one should note that it ultimately relies on expert judgement, as acknowledged by its architects: "[we] recognize the subjectivity of this approach. Yet […] there is no obviously superior method" (Borchert et al., 2012, p. 23). It should also be noted that the $STRI^{WB}$ is implicitly referred to as an indicator of type 1 financial protectionism in Young's (2014) paper.

One obvious shortcoming of the World Bank data is that it was collected in the context of a one-time effort over the period 2008-2010. By developing its own Services Trade Restrictiveness Index ($STRI^{OECD}$), the OECD goes beyond the World Bank's effort in this respect as it publishes yearly values. The $STRI^{OECD}$ project:

> *"creates regulatory profiles and indices for a large number of countries*

[105] See Borchert et al. (2012) for a detailed overview.

> *with a harmonized dataset based on actual laws and regulations currently in force, which allows for cross-country and cross-sector comparisons of trade barriers"* (Rouzet et al., 2014, p. 6).

Policies considered in the field of financial services include barriers to competition, regulatory transparency, restrictions on the movement of people and – more importantly considering the aim of this sub-section – restrictions on market entry such as limits on foreign direct equity stakes. The database only features 44 countries.[106] As in the case of the $STRI^{WB}$, the process of scoring, weighing and aggregating underlying the $STRI^{OECD}$ relies on expert judgement. Interestingly, "experts [assigned] a higher weight to restrictions on market entry […], reflecting the importance of commercial presence as the main form of trade in financial services" (Rouzet et al., 2014, p. 22).

As their methodologies are very much alike, the indices by the $STRI^{WB}$ and the $STRI^{OECD}$ must be judged similarly in the face of Krishna's desiderata (see 3.2). As evidenced by the centrality of expert judgement underlying their constructions, both indices are certainly not ***objectively*** defined. Both indices fare well in terms of ***conceptuality***: they are model based, aimed at a primitive concept – trade restrictions concerning financial services – and motivated considering the objective of this sub-section – they both feature sub-indices for market entry restrictions. However, both their ***comparability*** and ***implementability*** are very limited with regard to the development of measures of type 1 banking protectionism. In order to permit comparability across time and space and generate a reasonable chance of empirical implementation as an indicator of type 1 banking protectionism, the $STRI^{WB}$ would need to be updated more regularly, while the $STRI^{OECD}$ should include more countries featuring a better distribution across regions and development stages.[107] In their current form, both indices

[106] OECD members and 9 other countries.
[107] Neither development is planned to the author's knowledge.

are therefore not a satisfactory basis for a measure of type 1 banking protectionism.

To the author's knowledge, there have been no other meaningful efforts to systematically record laws and regulations that correspond to market entry restrictions in the field of financial services. This is hardly surprising considering the costs involved in building and maintaining databases that draw on such a wide variety of complex sources. Since no direct measure is available, one must consider the use of proxy variables. The ideal proxy should be a valid indicator of the presence of market entry restrictions and feature data that is available for a long period of time and a large number of countries. *Foreign bank ownership* meets both conditions as it is conceptually central to the indices just mentioned and available in various forms from several data sources.

One of the most substantial efforts to gather data on foreign bank ownership was made by Claessens and van Horen (2015). The database contains ownership information on a large number of commercial, savings and cooperative banks as well as bank holding companies in 138 countries for the years 1995-2013.[108] A variety of sources were used including annual reports, central bank publications, information from regulatory agencies and stock exchanges. For each bank, assets were pulled from bankscope[109]. According to Claessens and van Horen (2015), coverage is comprehensive since the banks included account for at least 90 percent of bank assets in each country. The database features two main outputs: a bank-level binary variable signalling foreign control[110] and a country-level continuous variable indicating the share of total bank assets controlled by foreigners (*shta*).

[108] The original database only covered the years 1995-2009. On request, Neeltje van Horen (Bank of England) kindly provided an extended version.

[109] Now called orbis bank focus database.

[110] A bank is deemed foreign controlled when 50% of its equity is in foreign hands. This bank-level variable can easily be converted into a country-level variable indicating the share of total banks controlled by foreigners.

Exhibit 14 – Chronological and regional distribution of share of total bank assets controlled by foreigners (in %), as recorded by Claessens and van Horen (2015) [111]

	European developed countries	Non-European developed countries	Offshore centres	Developing Africa and Middle East	Developing Asia and Pacific	Developing Europe	Developing Latin America and Caribbean
2006	20	8	56	34	25	62	40
2007	20	8	58	34	27	62	43
2008	20	7	54	33	27	64	42
2009	21	7	55	34	28	62	40
2010	21	6	55	34	27	61	39
2011	20	5	54	34	27	60	39
2012	20	5	54	34	27	59	38
2013	20	4	52	34	27	59	38

As a potential basis for a measure of type 1 banking protectionism, Claessens and van Horen's *shta* variable is inferior to the indices mentioned above with respect to conceptuality, as any other outcome-based proxy would be. However, it fully satisfies the requirements of objectivity, comparability and implementability. Exhibit 14 shows the distribution of this variable across regions and years. On average, values are clearly lower in developed countries.

The combination of *shta* with the *LNI* variable leads to a measure of type 1 banking protectionism that is consistent with the definition proposed in the previous chapter of this dissertation. As an intermediary step, *shta* is transformed into $10(1 - shta)$ in order to build a continuous scale from 0 to 10 and reflect the fact that foreign control of bank assets is intuitively negatively correlated with market entry restrictions. If the resulting values – our measures of type 1

[111] Each value corresponds the unweighted average for all countries in the respective region.

banking trade restrictiveness – meet the cumulative conditions of corresponding to an *LNI* signal and being above the cross-country average for the year in question, they are replaced by that cross-country average, thereby leading to our measures of type 1 banking protectionism. The second condition is used in order to prevent the unnecessary elimination of data variation in the case of countries that are not restrictive despite being *LNI* signals. Taking the average as a replacement value corresponds to an effort to minimize the variation generated by restrictive countries that are *LNI* signals.[112]

While a more detailed discussion of the distribution of type 1 banking protectionism according to this measure is left to section 3.3, exhibit 15 provides a preliminary overview of the most and least restrictive countries in our sample for the years 2006-2013.[113]

[112] Let us consider the obvious alternative, namely replacing values with 0 instead of the average. This would imply designating highly restrictive countries with *LNI* signals as perfectly open. This would be clearly unsatisfactory as it would generate misleading variation in the data. Such considerations are particularly important considering the aim of chapter 4 in which I use the variation in levels of banking protectionism in order to identify its determinants.

[113] Adjustments due to *LNI* signals are evenly distributed across the four ratios considered.

Exhibit 15 – Extreme values of type 1 banking protectionism

	2006	**2007**	**2008**	**2009**
most restrictive	Sri Lanka	Sri Lanka	Sri Lanka	Sri Lanka
~~(*LNI* signals)~~	Israel	Israel	Israel	Israel
	~~Saudi Arabia~~	Saudi Arabia	Saudi Arabia	Saudi Arabia
	~~Japan~~	~~Japan~~	~~Japan~~	~~Japan~~
	Philippines	Philippines	Philippines	Philippines
	Spain	Spain	Spain	Spain
	Thailand	~~China~~	China	~~China~~
least restrictive	Luxembourg	El Salvador	El Salvador	El Salvador
	Uganda	Luxembourg	Luxembourg	Luxembourg
	Kyrgyz Republic	Uganda	Kyrgyz Republic	Kyrgyz Republic
	Hong Kong	Kyrgyz Republic	Hong Kong	Hong Kong
	Croatia	Hong Kong	Croatia	Croatia
	Slovak Republic	Croatia	Slovak Republic	Uganda
	Russia	Slovak Republic	Russia	Slovak Republic

	2010	**2011**	**2012**	**2013**
most restrictive	~~Sri Lanka~~	Sri Lanka	Sri Lanka	Sri Lanka
~~(*LNI* signals)~~	~~Israel~~	~~Israel~~	~~Israel~~	~~Israel~~
	Saudi Arabia	Saudi Arabia	~~Saudi Arabia~~	Saudi Arabia
	~~Japan~~	~~Japan~~	~~Japan~~	~~Japan~~
	Philippines	~~Philippines~~	~~Philippines~~	~~Philippines~~
	Spain	Spain	Spain	~~China~~
	China	China	China	Spain
least restrictive	El Salvador	El Salvador	El Salvador	El Salvador
	Luxembourg	Luxembourg	Luxembourg	Luxembourg
	Hong Kong	Hong Kong	Hong Kong	Hong Kong
	Croatia	Croatia	Croatia	Croatia
	Uganda	Slovak Republic	Armenia	Slovak Republic
	Slovak Republic	Armenia	Russia	Armenia
	Russia	Russia	Czech Republic	Czech Republic

Data availability is the main constraint with respect to the development of measures of banking protectionism. In future, an extended OECD database will likely provide a more solid basis for a type 1 measure. In the meanwhile, one must cope with the drawbacks associated with using a proxy. First, Claessens

and van Horen's variable only considers banking, which is a subset – albeit the most significant subset – of the financial sector. Second, the use of the variable may conceivably lead to an overestimation of banking protectionism. Low levels of foreign bank ownership could be due to other factors – e.g. the historic strength of domestic FSPs – or disincentives – e.g. legal instability. Third and conversely, traditionally low levels of financial development could explain the strong relative presence of foreign players in protectionist countries. The investigation of the determinants of banking protectionism in chapter 4 of this dissertation will provide indications as to the seriousness of these drawbacks.

The measure of type 1 banking protectionism proposed in this sub-section is consistent with the qualitative assessments made in the previous chapter of this dissertation (see 2.4.1). The scores for both Argentina and India are substantially higher than the sample average.[114]

3.2.3 Type 3 – asymmetric subsidies

Under type 3 banking protectionism, domestic financial institutions are subsidized and thereby given a competitive advantage relative to foreign rivals. Such subsidies may take the form of direct state aid to financial institutions – e.g. recapitalizations – or less direct aid – e.g. deposit or loan guarantee schemes (see 2.4.3).

As highlighted by its extensive use in Young's (2014) paper, the Global Trade Alert (GTA) is a valuable source in view of an empirical investigation of such restrictions. Since 2008, the GTA database has been documenting various forms of government action which affect foreign commercial interests with respect to trade in goods and services, investment and labour force migration

[114] The third country regime under the EU regulation on markets in financial instruments (MiFIR) – the third instance of banking protectionism mentioned in 2.4.1 – is not identified by our measure as due to data availability aspects, the measure does not permit consideration of supranational entities such as the EU.

(Evenett & Fritz, 2017). Each database entry corresponds to a government action and specifies the sectors and products targeted, the type of policy instrument, the announcement and implementation dates, and the direction of change[115]. Since its inception, GTA has recorded almost 8'000 harmful state interventions, more than 200 of which relate to the financial sector[116]. 179 of these interventions represent forms of asymmetric subsidies (e.g. bailouts[117], loan guarantees, state loans, financial grants, interest payment subsidies and tax or social insurance reliefs) and are therefore potential instances of type 3 banking protectionism. A brief look at exhibit 16 seems to provide partial support for Young's (2014, p. 595) claim that:

> *"the financial crisis saw a veritable explosion of [type 3] financial protectionism, as many countries sought to protect their national financial sectors in the face of different kinds of economic stress which risked damaging wider segments of the economy"*.

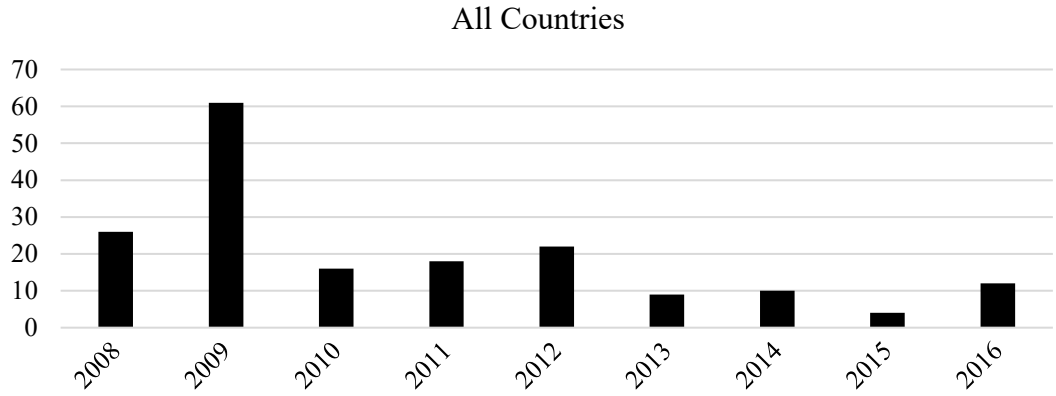
Relevant interventions are visibly concentrated around the years 2008 and 2009 and predominantly originate in European and developed countries. For instance, the GTA database includes 11 instances of bailouts or loan guarantees for the years 2008 and 2009 in Germany alone. Whether the recorded interventions actually amount to banking protectionism is discussed below.

[115] Harmful or liberalizing.

[116] *Financial sector* corresponds to the aggregation of the following sub-sectors as per version 2.1. of the United Nations Central Product Classification (https://unstats.un.org/unsd/cr/registry/cpc-21.asp): 711 (financial, insurance & pension services, excl. investment banking), 712 (investment banking services), 713 (insurance & pension services, excl. social security), 714 (reinsurance services), 715 (services auxiliary to financial services), 716 (services auxiliary to insurance & pensions) and 717 (services of holding financial assets).

[117] Capital injections or equity participations.

Exhibit 16 – Chronological and regional distribution of asymmetric subsidy interventions, as recorded by GTA



	European developed countries	Non-European developed countries	Offshore centres	Developing Africa and Middle East	Developing Asia and Pacific	Developing Europe	Developing Latin America and Caribbean
2008	22	2	0	0	0	2	0
2009	41	3	0	1	2	14	0
2010	14	1	0	0	0	1	0
2011	16	0	0	0	0	2	0
2012	19	0	0	0	0	3	0
2013	3	0	0	0	0	6	0
2014	5	1	0	0	0	4	0
2015	1	1	0	0	0	2	0
2016	8	0	0	0	0	4	0

To my knowledge, the GTA database represents the only systematic attempt to record data on asymmetric subsidies in the financial sector so far. It therefore forms the foundation for the incidence-based measure of type 3 banking protectionism proposed in this sub-section.

In order to build this measure, instances of asymmetric subsidies are broken down along the 63 countries in my sample and the years 2006 to 2013. An initial assumption concerning the absence of asymmetric subsidies in the years leading up to the GFC – from 2006 to October 2008 – is needed in order to compensate for the fact that there is no data for this period.

Interventions recorded in the GTA database cover a wide variety of designs and amounts and are thus not always comparable from a quantitative perspective. In the Netherlands during the GFC, for instance, state aid to Aegon N.V.[118] in the form of an investment of EUR 3 billion in newly issued convertible capital securities was no less significant than the deliberately disproportionate EUR 200 billion guarantee scheme in favour of several institutions in terms of maintaining financial stability (see 2.4.3). In particular. A second assumption thus concerns the irrelevance of the absolute number, sizes and lagged effects[119] of asymmetric subsidies. My intermediary measure of type 3 banking trade restrictiveness hence simply records the occurrence of one or more asymmetric subsidy instances for each country and years on a binary scale. Of the 504 country-year-combinations[120], 57 have positive values.

The resulting measure is both comparable and implementable. It can also be considered as sufficiently conceptual according to the meaning of the word as used in Krishna (1991) since it clearly implements a primitive concept – asymmetric subsidies – and is motivated. However, the measure doesn't "span the various shades of reality" due to its binary nature and thus cannot be considered as meeting the objectivity criterion. There is no obvious method of comparing the sizes of asymmetric subsidies across time and regions. As pointed out by Young (2014), one could consider fiscal outlays. However, a systematic consideration of such outlays is doomed at the outset by data availability aspects.

As asymmetric subsidies should only be associated with type 3 banking protectionism if they fail the cumulative tests of legitimacy and necessity, the binary measure of banking trade restrictiveness is transformed into a binary measure

[118] Aegon N.V. is Dutch financial conglomerate that is mainly active in the insurance sector, but it also provides banking services in the Netherlands.

[119] The effects of the interventions in question are naturally not limited to the year of the intervention itself. A possible method of considering this aspect would be the use of time decay or survival models. I refrain from adding this additional layer of complexity at this point, since the overarching objective of this dissertation consists in identifying the *determinants* of banking protectionism, not its *effects*.

[120] 63 countries × 8 years.

of type 3 banking protectionism through the application of the *LNI*. Each country/year combination that indicates instances of asymmetric subsidies is adjusted if it also corresponds to an *LNI* signal. 18 adjustments are made across the 57 initial positive values, more than half in the years 2008 and 2009. The corresponding country lists before and after application of the *LNI* are displayed in exhibit 17.

The origins of the adjustments are distributed across all four ratios considered for the construction of the *LNI*, albeit with a slight tilt towards sovereign debt as a percentage of GDP and regulatory tier 1 capital to total risk-weighted assets. For example, the nine Greek interventions between 2008 and 2012 are legitimized by a persistently high sovereign debt ratio, while the four bailouts and loan guarantees implemented in Portugal in 2008 and 2009 are substantiated by low bank capitalization ratio values.

Exhibit 17 – Instances of type 3 banking protectionism

	2006/2007	2008	2009	
protectionist	-	Australia	Austria	Luxembourg
~~(*LNI* signals)~~		Austria	Cyprus	Netherlands
		Belgium	France	~~Nigeria~~
		France	Germany	Poland
		~~Germany~~	~~Greece~~	~~Portugal~~
		~~Greece~~	Hungary	Russia
		Netherlands	Ireland	Slovak Republic
		~~Portugal~~	~~Italy~~	Slovenia
		Slovenia	~~Japan~~	Spain
		United Kingdom	~~Kazakhstan~~	~~United Kingdom~~
			~~Korea~~	United States

	2010	2011	2012	2013
protectionist	Austria	Belgium	~~Cyprus~~	Germany
~~(*LNI* signals)~~	Belgium	Germany	France	Russia
	~~Greece~~	~~Greece~~	Germany	Slovenia
	Ireland	Ireland	~~Greece~~	Spain
	Spain	~~Italy~~	Italy	
		Netherlands	~~Portugal~~	
		~~Slovenia~~	Slovenia	
		Spain	Spain	

The cases mentioned in the previous chapter of this dissertation are all reflected in our measure, with the notable exception of the Swiss government's bailout of UBS in 2008.[121]

3.2.4 Type 4 – capital controls

The cross-border transfer of capital is essential to the international trade in financial services, whether it is carried out on a cross-border basis or through the establishment of a local commercial presence. As such, capital controls effectively prevent the cross-border provision of most financial services and should

[121] GTA covers interventions since November 2008, whereas the UBS intervention took place in October 2008.

thus be considered as potential instances of banking protectionism (see 2.4.4). The IMF's publicly available Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) is without doubt the most exhaustive and widely used database on capital restrictions.[122] Since 1950, the AREAER has tracked the exchange rate and trade regimes of all IMF members and a small number of other countries.[123] It consolidates information available from various sources – including those provided in the framework of IMF staff visits to member countries – in consultation with the relevant national authorities (IMF, 2016b). With respect to capital transactions, the AREAER:

> *"describes regulations influencing both inward and outward capital flows. The concept of controls on capital transactions in interpreted broadly. Thus, controls on capital transactions include prohibitions, need for prior approval, authorization and notification; dual and multiple exchange rates; discriminatory taxes; and reserve requirements or interest penalties imposed by the authorities that regulate the conclusion or execution of transactions or transfers; or the holding of assets at home by nonresidents and abroad by residents."* (IMF, 2016a)

The presence of restrictions is recorded with binary yes/no variables across 13

[122] A large number of indicators have been derived from it. An overview of various "*de jure* indicators" of financial openness that are based either on the text or on the summary table of the AREAER can be found in Quinn, Schindler and Toyoda (2011). A first group of examples includes binary and other discrete variables which rank countries along their degree of financial openness – from partly open to fully closed. A second group combines discrete indicators for some or all of the categories included in the table to construct continuous indices. Examples are Abiad and Mody's (2005) financial integration index which takes the simple average of four of the AREAER tables variables, or Chinn and Ito's (2008) indicator which results from the use of principal component analysis on three table categories. As opposed to binary and cumulative-binary measures drawn from the summary table of the AREAER, *de jure* indicators based on its text allow for some account of magnitude or intensity of the corresponding restrictions. One example of such a coding of the AREAER text is Quinn's (1997) indicator on capital accounts regulations which covers two categories – capital flows by residents, and by non-residents – and includes an assessment of restriction intensity. A similar but more granular dataset was developed in Fernandez, Klein, Rebucci, Schindler and Uribe (2015) for the years 1995-2013.

[123] 189 countries were recorded as of 2017.

sub-categories[124]. Capital controls, like asymmetric subsidies, vary in terms of their effective impact. Consideration of this aspect would require a comprehensive case-by-case analysis that is out of the scope of the AREAER database and of this dissertation. To reflect variations in the frequency of capital restrictions across countries and years, an indicator is built by taking the equally-weighted averages of the binary variables for all 13 sub-categories and prorating the resulting values on a scale from 0 to 10. Regional averages for my sample are displayed in exhibit 18. This indicator is our incidence-based measure of type 4 banking trade restrictiveness.

While values are fairly stable over the time period considered, they are generally lower for developed countries and offshore centres. China, India and Sri Lanka generally display the highest possible score – 10, while China has a slightly lower score of 9.2 in 2012 and 2013. The least restrictive countries are the Netherlands, Ireland and Uganda with scores between 0.0 and 1.7. The largest cross-year standard deviations can be found in Cyprus – with a bounce from 3.3 to 10 between 2011 and 2013 –, Chile – with a rise from 0.8 to 6.7 between 2007 and 2008 – and South Korea – with a drop from 6.7 to 1.7 between 2006 and 2008.

[124] Controls on capital market securities; controls on money market securities; controls on collective investment securities; controls on derivatives and other instruments; controls on commercial credits; controls on financial credits; controls on guarantees, sureties, and financial backup facilities; controls on direct investment; controls on liquidation of direct investment; controls on real estate transactions; controls on personal capital transactions; provisions specific to commercial banks and other credit institutions; provisions specific to institutional investors. For details on each sub-category, see IMF (2016a).

Exhibit 18 – Chronological and regional distribution of capital controls frequency, based on the IMF AREAER database [125]

	European developed countries	Non-European developed countries	Offshore centres	Developing Africa and Middle East	Developing Asia and Pacific	Developing Europe	Developing Latin America and Caribbean
2006	4,1	4,8	2,8	5,9	7,4	5,7	3,8
2007	4,0	4,8	2,8	5,9	7,2	5,7	4,4
2008	4,0	5,2	3,1	5,9	7,0	5,3	5,1
2009	4,1	5,4	3,6	5,9	7,2	5,5	5,7
2010	4,2	5,6	3,1	6,0	7,2	5,2	5,8
2011	4,2	5,2	3,1	6,3	7,4	5,4	5,6
2012	4,6	4,8	3,1	6,3	7,5	5,0	5,8
2013	5,1	3,5	3,3	6,1	7,6	5,2	5,6

As a basis for a measure of type 4 banking protectionism, my measure of type 4 banking trade restrictiveness fully satisfies Krishna's (1991) criteria relating to comparability, conceptuality and implementability. However, it is not fully objective since it is not continuous. The indicator's discrete nature is due to the unavailability of data on the intensity and effectiveness of individual capital restrictions as mentioned above.[126] Given current data availability constraints, there seems to be no better feasible alternative.

A measure of type 4 banking protectionism is developed by combining the indicator of capital controls frequency and the *LNI*. As in our treatment of type 1, if the indicator values correspond to an *LNI* signal and are above the cross-country average for the year in question, they are replaced by that cross-country average. The second condition is used to prevent the unnecessary elimination of data variation in the case of countries that are not restrictive despite being *LNI* signals. Taking the average as a replacement value represents an effort to

[125] Each value corresponds the unweighted average of all countries in the respective region.
[126] I am not aware of any upcoming and significant effort to alleviate this issue.

minimize the variation generated by restrictive countries that are *LNI* signals. Exhibit 19 provides an overview of the most and least restrictive countries in my sample for the years 2006-2013. For the countries included in the exhibit, most *LNI*-related adjustments were made on the grounds of jumps in stock trading activity, perhaps indicating that such jumps are linked with sudden increases in cross-border capital flows.

This measure of type 4 banking protectionism is largely consistent with the three assessments made in the previous chapter of this dissertation (see 2.4.4). China consistently features among the most protectionist countries with exceptions in 2007, 2009 and 2013; the country was equally restrictive during these years but had corresponding legitimacy according to the *LNI* methodology.[127] The type 4 measure for Brazil does not feature any *LNI*-related adjustments and jumps from 4.2 in 2006 to 6.7 in 2009, which is clearly above the global average. The sudden rise in restrictiveness in Cyprus from 3.3 in 2011 to 9.2 in 2012 and 10 in 2013 reflects the banking crisis and subsequent imposition of the capital controls referred to in 2.4.4. However, while the corresponding interventions are deemed legitimate and necessary in 2012 due to particularly low levels of bank capitalization, Cyprus is – perhaps surprisingly – not an *LNI* signal in 2013. This highlights the fact that the measures proposed in this dissertation cannot be taken as full substitutes for case-by-case analysis of individual state interventions.

[127] 2007 and 2009: high levels of stock trading activity; 2013: low levels of bank capitalization.

Exhibit 19 – Extreme values of type 4 banking protectionism

	2006	**2007**	**2008**	**2009**
most restrictive	China	~~China~~	China	~~China~~
~~(*LNI* signals)~~	India	India	India	India
	Namibia	Sri Lanka	Sri Lanka	Sri Lanka
	Sri Lanka	Namibia	Namibia	Namibia
	Colombia	Colombia	Colombia	Colombia
	Macedonia	Macedonia	Malaysia	Malaysia
	Malaysia	Malaysia	Pakistan	Pakistan
least restrictive	Chile	Chile	Israel	Israel
	Armenia	Israel	Peru	Netherlands
	Israel	Costa Rica	Netherlands	Ireland
	Costa Rica	Peru	Georgia	Uganda
	Romania	Netherlands	Ireland	Peru
	Peru	Georgia	Uganda	Georgia
	Netherlands	Ireland	Costa Rica	Costa Rica

	2010	**2011**	**2012**	**2013**
most restrictive	China	China	~~India~~	~~India~~
~~(*LNI* signals)~~	India	~~India~~	Sri Lanka	Sri Lanka
	~~Sri Lanka~~	Sri Lanka	China	Cyprus
	Namibia	~~Malaysia~~	Malaysia	~~China~~
	Colombia	Pakistan	Pakistan	Malaysia
	Malaysia	~~Philippines~~	~~Philippines~~	Pakistan
	Pakistan	South Africa	South Africa	~~Philippines~~
least restrictive	Netherlands	Netherlands	Netherlands	Netherlands
	Ireland	Ireland	Ireland	Ireland
	Uganda	Uganda	Uganda	Uganda
	Peru	Peru	Peru	Peru
	Israel	Georgia	Romania	Romania
	Georgia	Romania	United Kingdom	Japan
	Armenia	United Kingdom	Hong Kong	Costa Rica

3.2.5 Type 2 – asymmetric regulation

Under type 2 banking protectionism, foreign banks face regulatory treatment that puts them at a competitive disadvantage relative to their domestic peers.

Such instances are most frequently implemented in the form of additional regulatory requirements for foreign firms, but they may also manifest in the asymmetric enforcement of regulations which, on paper, apply equally to foreign and domestic firms. The wave of financial regulation triggered by the global financial crisis combined with the fact that the responsibility for financial regulation ultimately remains with national states is likely to have favoured this type of banking protectionism in recent years (2.4.2).

Compared to the other three types, type 2 presents a particularly favourable setting for covert forms of banking protectionism due to the complex and technical nature of financial regulation. For instance, the protectionist element is often just one component of broader regulation (Young, 2014). As stated in 2.4.2, type 2 can be viewed as an *all others* category, meaning that it encompasses all instances of banking protectionism which cannot be clearly attributed to any of the other three types. Type 2 banking protectionism is difficult to identify, let alone on a large-N basis. To my knowledge, there is no database covering regulatory trade restrictions for the country sample and time period under consideration in this dissertation. Some form of indirect measure is therefore required.

3.2.5.1 SATI and Leamer approaches

Some inspiration may be found in the overview of the NTB measures provided in section 3.1. Not all approaches mentioned in that section are currently feasible. For instance, the possibility of developing price- or financial-based measures is greatly constrained by data availability; almost all sources featuring earnings data are set up at institution-level and are either incomplete or unreliable with respect to financial institutions in non-developed countries.[128]

[128] The IMF Financial Soundness Indicators database does feature country-level time series on banking sector return on equity and return on assets. However, they have only recently started covering a number of countries that could be deemed sufficiently large in view of the purpose of this sub-section.

Comparing prices of cross-listed bank stocks is not workable either since there is no single stock that is simultaneously traded on exchanges in all countries included in our sample.[129] However, two of the approaches mentioned in 3.1 are particularly appealing in the framework of this dissertation. Both are based on country-level data. The first approach relies on the idea that one could consider the difference between actual interest rates and the levels predicted by parity models as an indication of the strength of trade barriers in the lending space. The second approach is based on quantity-based measures in general, as summarized by Deardorff and Stern (1997, p. 18):

> *"A general approach to measurement of the quantity effects of NTBs is possible […] using either a cross-commodity or a cross-country regression model to explain trade. Thus the object […] is to estimate what trade would have been in the absence of NTBs and to compare this to the trade that actually does occur."*

One can implement this approach either by using bilateral trade data – in so-called gravity models – or in a multi-country setting.

While interest rate parity and gravity approaches are both workable and could form the object of further studies on the matter, I have chosen to develop a quantity-based measure in a multi-country setting, mainly because it involves a significantly less cumbersome and hence less error-prone data acquisition process. To do so, I draw on approaches proposed by Balassa (1985), Chenery and Syrquin (1989) and Leamer (1988).

The straightforward indicator of policy openness used in Balassa (1985) and Chenery and Syrquin (1989) is simply the magnitude of trade flows in relation to GDP, correcting for a small number of general country-specific characteris-

[129] To my knowledge. However, even if such a stock existed, the corresponding results would be heavily biased by firm-specific and market liquidity aspects.

tics such as per capita GDP and size. Pritchett (1996, p. 312) labels the corresponding measures as

> *"'structure-adjusted trade intensity' [(SATI)] [which] is simply the residuals from a trade intensity regression which indicate the amount by which a country's trade intensity exceeds (or falls short of) that expected for a country with similar characteristics."*

Both Balassa (1985) and Chenery and Syrquin (1989) therefore model international trade y as a function of a group of variables X.

$$y = \beta X + \varepsilon$$

In a simple cross-sectional regression model setting, they view the difference between the actual magnitude of trade y and the estimates of their model $\hat{\beta}X$ – i.e. the regression residuals – as an indicator of the levels of policy openness, respectively of the presence of artificial trade barriers.[130]

While the measure proposed by Leamer (1988) is also computed based on deviations between predicted and actual trade flows, it is more sophisticated in that the choice of variables X is not atheoretic but is instead based on an adjusted Hecksher-Ohlin model of trade flows (see 2.1.1). The resulting model features a larger number of – mostly factor-endowment-related – variables proxying resources supplies, the prices of products on international markets, technology, tastes and natural barriers.

Similar approaches have been adopted by other scholars since then, an often-cited example featuring in a paper by Harrigan (1996). A more recent example which focuses on the link between trade orientation and economic growth can be found in Wolf (2016). By letting factor-endowment-related considerations guide his choice of variables to be included the X-matrix, Wolf deviates from

[130] $\hat{\beta}$ is the estimate of the vector of coefficients β.

the atheoretic SATI approaches taken by Balassa (1985) and Chenery and Syrquin (1989). However, his paper falls short of developing a fully-fledged model of trade flows such as the one proposed in Leamer.[131]

Quantity-based approaches, such as the ones described above, rest on two central yet disputable assumptions: firstly, that artificial barriers are the only important variables omitted from the trade model, and secondly that these artificial barriers are not strongly correlated with the other variables included in this same model. Leamer (1998) admits that "[both] these assumptions are suspicious". Similarly, Wolf (2016) concedes that his approach greatly depends on the ability of factor endowments to explain trade flows. Accordingly, measures derived from quantity-based approaches can only be as good as their underlying trade models, thereby placing a "tremendous burden" on these models (Deardorff & Stern, 1997).

However, while these aspects undoubtedly constitute important drawbacks, it is also important to consider available alternatives and potential advantages. For Leamer for instance:

> *"Though these criticisms are serious, they need to be considered in the proper context. The question is not whether a particular method produces perfect measures of openness, since none will. The real question is which method seems likely to produce the best measures."* (Leamer, 1988, p. 4)

Wolf sees two significant advantages to his approach:

> *"First, as the non-distorted model [132] needs to be estimated, the goodness of fit of this estimation provides a natural criterion to assess the*

[131] Wolf (2016) himself views his measure as an example of Leamer's approach (1988) – even though he does mention Chenery and Syrquin (1989) in his literature overview.

[132] Meaning the model used to estimate what trade would have been in the absence of distortions.

> *quality of the index. Second, by directly focusing on the variable of ultimate interest, the approach cuts through the otherwise intractable aggregation problem [133] plaguing [other types of] measures."* (Wolf, 2016, p. 53).

Considering the murky nature of type 2 banking protectionism and the resulting unavailability of consolidated large-N data on instances of regulatory protectionism on the one hand, and Krishna's (1991) desiderata on the other, I conclude that there is no convincing alternative to a quantity-based approach to measuring type 2 banking protectionism. The measure proposed below is therefore largely inspired by the SATI and Leamer approaches.

3.2.5.2 Constructing a measure of type 2 banking protectionism

While Leamer considered a large set of commodities at a single point in time, the objective of this dissertation is to use a similar approach on a single commodity – banking services – and an eight-year time scale.[134] The simple model used in this dissertation is

$$y = \beta X + \partial Z + \varepsilon$$

where y is a measure of international trade in financial services, X a matrix of determinants of international trade in financial services, and Z is a matrix corresponding to the other 3 types of trade restrictiveness. Z is included as a means to control for the effects of the other types of trade restrictiveness on international trade in financial services. The remaining unexplained variation is deemed as type 2 trade restrictiveness. Correspondingly, the regression residuals – $y - \hat{\beta}X + \hat{\delta}Z$ – are my measure of type 2 trade restrictiveness.

Unlike Leamer (1988), I do not attempt to develop a fully-fledged theoretical

[133] By "aggregation problem", Wolf (2016) means the following: "depending on the variability of tariff rates and demand and supply elasticities, equal [distortive policies] may entail starkly different allocative consequences".

[134] In other words: Leamer used cross-sectional data, while I use panel data.

model of the determinants of international trade flows. Following Wolf (2016) however, I go further than the SATI approaches by requiring some form of theoretical or empirical underpinning for each variable included in the explanatory matrix X. Accordingly, the variables are drawn from the literature on the determinants of international trade in services:

- In their empirical analysis of bilateral services trade between 10 OECD members and other countries, Kimura and Lee (2006) identify the following significant determinants: population size, absolute and per capital GDP, an economic freedom index – a composite measure accounting for government size, security of property rights amongst others – and the distances between the trading partners. They also highlight the complementarity between goods and services trade.
- Francois and Hoekman (2010) confirm the importance of distances and find a significant relationship between bilateral financial services trade and foreign direct investment (FDI) flows.
- Referring to the Heckscher-Ohlin theorem (see 2.1.1), Arndt (2013) points out the relevance of "man-made conditions and resources favourable or necessary to efficient performance of financial services", among which are political stability, economic stability and a good infrastructure of complementary services.
- In a study of cross-border bank lending to large Asian and Latin-American countries, Jeanneau and Micu (2002) find that economic cycles and floating exchange rate arrangements have a significant impact on international bank claims.

Data availability considerations and an effort to keep the model simple are further important aspects with respect to variable selection. An overview of the resulting variables included in the model is displayed in exhibit 20.

Exhibit 20 – Variables: description and sources

Variable	Description	Source
CLAIMS	Total consolidated foreign bank claims of all banks headquartered in BIS reporting countries (consolidated for each country of counterparty)	BIS – consolidated banking statistics: all reporting banks, international claims, all instruments/maturities/currencies/counterparties World Bank – national accounts data: GDP (current US$)
GOODIMP	Goods imports as a percentage of GDP	IMF – balance of payments data: current account > goods and services > goods > debit World Bank – national accounts data: GDP (current US$)
GOODEXP	Goods exports as a percentage of GDP	IMF – balance of payments data: current account > goods and services > goods > credit World Bank – national accounts data: GDP (current US$)
SERVIMP	Services imports as a percentage of GDP (excluding financial services)	IMF – balance of payments data: current account > goods and services > services > debit IMF – balance of payments data: current account > goods and services > services > other services, debit > financial services World Bank – national accounts data: GDP (current US$)
SERVEXP	Services exports as a percentage of GDP (excluding financial services)	IMF – balance of payments data: current account > goods and services > services > credit IMF – balance of payments data: current account > goods and services > services > other services, credit > financial services World Bank – national accounts data: GDP (current US$)
FDIOUT	Outgoing financial direct investment as a percentage of GDP	IMF – balance of payments data: financial account > direct investment > net acquisition of financial assets World Bank – national accounts data: GDP (current US$)
CPIYOY	Year-on-year inflation (year-end values)	IMF – international financial statistics: prices, consumer price index, all items, percentage change, corresponding period previous year, percent
GDPCAP	GDP per capita	World Bank – national accounts data: GDP per capita (current US$)
GOVSTAB	Government stability index	International Country Risk Guide (ICRG): political risk components > government stability
LAWORD	Law and order index	International Country Risk Guide (ICRG): political risk components > law and order
FLOAT	Floating exchange rate binary	IMF – Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER): III. exchange arrangement > III.C classification > III.C.9 floating
TYPE1	Type 1 trade restrictiveness measures (pre-LNI)	Section 3.2.2
TYPE3	Type 3 trade restrictiveness measures (pre-LNI)	Section 3.2.3
TYPE4	Type 4 trade restrictiveness measures (pre-LNI)	Section 3.2.4

Ordinary least squares (OLS) regressions based on the model proposed may be exposed to the issues of heteroskedasticity – meaning that the variation in international trade in financial services is not constant over observations of some independent variables – and autocorrelation – meaning that there is a non-zero correlation between the different error terms (between type 2 trade restrictiveness in different countries). However, the consequences of both issues are not significant since they have no bearing on the relevant outputs: the regression

residuals.[135] Endogeneity – meaning the correlation of the (deliberately) omitted variable type 2 banking trade restrictiveness with some of the independent variables – is a more serious potential issue since it would lead to biased and inconsistent estimates and hence to biased residuals. Accordingly, the approach taken in this sub-section rests on the corresponding assumption that the independent variables included in the model are not strongly correlated with type 2 trade restrictiveness. The legitimacy of such an assumption can only be warranted by prudent model specification.

The matrix of determinants of international trade in financial services X was calibrated to this effect.[136] The inclusion of a matrix Z corresponding to the other three types of trade restrictiveness – thereby implying the assumption of a low correlation between type 2 and the other three types – may seem more problematic. Nonetheless, I argue that the assumption at hand is valid for two main reasons. Firstly, the supposition that national authorities determine all four types simultaneously is clearly contradicted by the cross-correlations between type 1, 3 and 4 trade restrictiveness as displayed in exhibit 21.

Exhibit 21 – Type 1, 3 and 4 trade restrictiveness: cross-correlations [137]

	TYPE1	TYPE3	TYPE4
TYPE1	1	0.15	0.25
TYPE3	0.15	1	-0.08
TYPE4	0.25	-0.08	1

These correlations show that the three types are neither substitutes nor complements.[138] There is no obvious reason to expect that type 2 does not share these

[135] OLS estimates remain consistent and unbiased in the presence of heteroskedasticity and autocorrelation.
[136] For instance, the variable FDIIN (incoming foreign direct investment) was discarded on these grounds, as regulatory banking trade restrictiveness is likely to curb incoming FDI.
[137] Data for each type corresponds to pooled values for all years in the sample (2006-2013).
[138] I also conduct three regressions, in each case using one type as an independent variable and the other two types as dependent variables. The resulting R^2 are all negligible.

characteristics with the other three types. Secondly, the joint determination supposition implies that national choices regarding all four types are made in a coordinated manner. This is, however, unlikely as the relevant competencies are often distributed among a number of distinct institutions. For instance, bailouts (type 3) are typically coordinated by central banks and governments, whereas market entry restrictions (type 1) are enacted by legislative authorities – parliaments in most cases. As evidenced by the examples in section 2.4.2, type 2 is a particularly murky and complex form of protectionism as it corresponds to measures that may be taken by a wide variety of distinct authorities such as parliaments and governments at the regional or national levels, central banks or supervisory authorities. A systematic joint determination of type 2 and any other type thus seems improbable.

While both assumptions underlying the approach taken in this sub-section are debatable, it is helpful to remind ourselves of Leamer's (1988) reasoning: "[the] question is not whether a particular method produces perfect measures of openness, since none will. The real question is which method seems likely to produce the best measures". To my knowledge, the scientific literature does not contain any other considered suggestion regarding the measurement of type 2 trade restrictiveness. In view of this fact, the approach suggested in this dissertation represents an initial proposition which may be flawed but is nonetheless valuable.

The outcome-based measure resulting from the approach proposed in this subsection is continuous and has a reasonable chance of being empirically implemented given available data. It is thus both objective and implementable within the meanings of the adjectives in Krishna (1991). It is also comparable since it allows for comparisons over time and space. It is less clear, however, whether

the measure fulfils Krishna's desiderata in terms of conceptuality.[139] In particular, one could argue that the measure is not clearly based on some primitive foundation. Given its theoretical nature, it is a highly indirect measure of type 2 trade restrictiveness, but here again, one needs to consider the paucity of alternatives when it comes to measuring a phenomenon which is both complex and covert. I argue that the measure proposed is a valuable first proposition.

As previewed in exhibit 20, the trade variable *y* used in this sub-section corresponds to the total consolidated foreign bank claims of all BIS reporting banks to counterparties located in the countries included in the sample. The data is drawn from the BIS consolidated banking statistics which include the claims of reporting banks' foreign affiliates, thereby accounting for the most relevant modes of supplying financial services: mode 1 – cross-border supply – and mode 3 – commercial presence (see 3.2.2). This variable is imperfect as it only covers a subset of international trade in banking services. Conceptually and when aiming to consider financial services in their totality, the financial services imports statistics from the IMF's balance of payments data would have led to a better variable. Nonetheless, the IMF statistics are unsatisfactory from a practical perspective as they do not cover all years and countries included in my sample.[140] I argue that the imperfectness of the claims data is an essentially theoretical issue because bank credit is the most significant of all banking services – or, more generally, of all financial services (2.1.2) – and because I expect the banks included in aggregated BIS data to cover a vast portion of international credit intermediation activity. The strong correlation between both data sets[141] – 0.74 – offers preliminary support for the idea that the issue is only

[139] Krishna (1991) explicitly addresses Leamer's (1988) work in this respect. However, her criticism focuses on parts of Leamer's approach which were not taken up in this sub-section.
[140] 31 observations are missing, notably for Ghana, Israel and – somewhat surprisingly – Spain. The use of the financial integration data by Lane and Milesi-Ferreti (2007) was discarded on similar grounds.
[141] Only considering values available in both sets.

of minor practical relevance. A further test of robustness was carried out by replicating the estimation described below with the IMF data as a dependent variable. It produced an almost identical outcome with the correlation between both resulting residuals sets being as high as 0.86. Both correlations hint at the possibility that the results of this sub-section may be valid not only for banking services, but also for financial services as a whole.

As mentioned above, Leamer (1988) examined a set of commodities at a single point in time, while I aim to consider a single commodity and a multi-year time scale. When applying a quantity-based approach using panel data, one first needs to select the appropriate estimation method.

An initial method consists in transforming the two-dimensional panel data into a one-dimensional pooled cross-section. Considering the data sample at hand, this means transforming a 63*8-matrix – corresponding to the observations for 63 countries across eight years – into a 504*1-vector in which each country appears eight times. The pooled cross-section can then be analysed using standard OLS. The unbiasedness and consistency of the *pooled OLS* estimates rest on the assumption that the observations are independently distributed across time. This assumption is violated in the presence of unobserved time-constant effects – in this case, unobserved country-specific factors which may be correlated with the other explanatory variables included in the model. *Fixed effects* estimation solves this omitted variable bias by eliminating the fixed effects from the model, thereby leading to unbiased and consistent estimates. If one assumes that the unobserved country-specific effects are randomly distributed and thus uncorrelated with the other explanatory variables[142], *random effects* estimation may be used to generate unbiased, consistent and efficient estimates (see Wooldridge, 2006).

[142] The pooled OLS estimates would also be unbiased and consistent in this case, but they would not be efficient.

According to my first assumption, type 2 trade restrictiveness is the only variable that is omitted from the model. The existence of unobserved fixed or random effects is thus ruled out from the outset, thereby justifying the use of pooled OLS with a view to generating unbiased coefficients and residuals.

Exhibit 22 – Variables: descriptive statistics

Variable	Mean	Median	Min	Max
CLAIMS	48.12	18.19	0.5387	1136.896
GOODIMP	37	30	7.66	193.74
GOODEXP	34	26	6.36	190.04
SERVIMP	10	7	2.11	55.82
SERVEXP	11	8	0.46	63.67
FDIOUT	13	1	-58.81	803.56
CPIYOY	4.57	3.49	-4.48	24.52
GDPCAP	21535	11381	336	115762
GOVSTAB	8	8	4.04	11.42
LAWORD	4	4	1.29	6.00
FLOAT	0	0	0.00	1.00
TYPE1	6.59	7.80	0	10
TYPE3	1.13	0.00	0	10
TYPE4	5.79	6.15	0	10

Descriptive statistics and correlations for the data at hand are displayed in exhibits 22 and 23. Min- and max-values in the descriptive statistics confirm that the sample features a wide diversity of countries in terms of economic development, exposure to trade and political stability, among other factors.

Exhibit 23 – Independent variables: cross-correlations

	GOODIMP	GOODEXP	SERVIMP	SERVEXP	FDIOUT	CPIYOY	GDPCAP	GOVSTAB	LAWORD	FLOAT	TYPE1	TYPE3	TYPE4
GOODIMP	1												
GOODEXP	0.89	1											
SERVIMP	0.58	0.56	1										
SERVEXP	0.54	0.40	0.90	1									
FDIOUT	0.09	0.06	0.45	0.50	1								
CPIYOY	-0.09	-0.15	-0.12	-0.18	-0.08	1							
GDPCAP	0.08	0.20	0.39	0.37	0.43	-0.47	1						
GOVSTAB	0.13	0.19	0.16	0.06	0.15	0.07	0.06	1					
LAWORD	0.17	0.24	0.35	0.39	0.24	-0.44	0.72	0.09	1				
FLOAT	0.02	0.02	-0.07	-0.03	0.00	-0.31	0.38	-0.03	0.43	1			
TYPE1	-0.33	-0.12	-0.18	-0.25	-0.22	-0.18	0.19	-0.09	0.16	0.08	1		
TYPE3	-0.06	-0.03	0.03	0.04	0.02	-0.20	0.21	-0.04	0.24	0.22	0.15	1	
TYPE4	-0.20	-0.17	-0.21	-0.20	-0.03	0.17	-0.26	0.05	-0.25	-0.19	0.25	-0.08	1

The model specified may be prone to multicollinearity as hinted at by the high correlations between GOODEXP/GOODIMP, SERVEXP/SERVIMP and GDPCAP/LAWORD. However, given that the main consequence of multicollinearity is an inflation of coefficient variance, this is unlikely to be a serious issue, as the six coefficients remain highly significant. More importantly, coefficients and residuals remain unbiased and consistent in the presence of multicollinearity. A series of regressions was conducted in order to test the validity of this statement: dropping some of the seemingly redundant variables had negligible effects on the residuals.

The full model regression results are displayed in exhibit 24.[143] I make no attempt to interpret or confirm the validity of the standard errors and t values which may be biased for the reasons mentioned above. I also do not endeavour to interpret the individual coefficients, some of which may seem surprising – particularly the negative coefficients for GOODIMP, SERVIMP and LAWORD, or the insignificant coefficients for TYPE3 or TYPE4.[144] As indicated by the R^2 value, the model has a high explanatory power, meaning that a

[143] All regressions in this dissertation are performed using the RStudio software.

[144] The negative coefficients for TYPE3 and TYPE4 would be particularly relevant for an investigation of the effects of banking protectionism, an investigation which is out of the scope of this dissertation.

large portion of the variance in the dependent variable is explained by the variances in the independent variables.[145] Since my assumption is that all unexplained variation should be traced back to type 2 trade restrictiveness, this is an essential property.

Exhibit 24 – Regression results [146]

CLAIMS			
	Pooled OLS		
	Coef	*(p-value)*	
GOODIMP	-1.827	*(0.00)*	***
GOODEXP	1.107	*(0.00)*	***
SERVIMP	-2.636	*(0.00)*	**
SERVEXP	6.552	*(0.00)*	***
FDIOUT	0.991	*(0.00)*	***
CPIYOY	1.170	*(0.15)*	
GDPCAP	0.002	*(0.00)*	***
LAWORD	-12.560	*(0.00)*	***
GOVSTAB	5.658	*(0.00)*	**
FLOAT	17.420	*(0.00)*	**
TYPE1	-6.458	*(0.00)*	***
TYPE3	0.276	*(0.74)*	
TYPE4	1.201	*(0.28)*	
R2	0.821		
n	504		

The residuals are taken from the regression output, thereby leading to one residual value for each of the 504 country/year combinations. I run a series of regressions using transformed variables (particularly natural logarithms and square roots) in order to test the robustness of my output. The resulting residuals sets are highly correlated in most cases, thereby offering some support for the validity of my output. The 504 values are then pro-rated on a 0-10 scale in order to generate a measure of type 2 banking trade restrictiveness.[147] The region and year averages are displayed in exhibit 25.

[145] R^2 remains unbiased in the presence of heteroskedasticity or autocorrelation (see Wooldridge, 2006).
[146] Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
[147] Where 0 corresponds to the largest residual (and thus to the lowest degree of trade restrictiveness) in the sample and 10 to the smallest residual (and thus to the highest degree of trade restrictiveness) in the sample.

Exhibit 25 – Chronological and regional distribution of type 2 trade restrictiveness [148]

	European developed countries	Non-European developed countries	Offshore centres	Developing Africa and Middle East	Developing Asia and Pacific	Developing Europe	Developing Latin America and Caribbean
2006	4.4	4.9	4.8	5.0	4.6	4.7	4.8
2007	4.6	4.9	4.6	4.9	4.6	4.7	4.9
2008	4.7	5.0	4.8	5.0	4.7	4.9	4.8
2009	4.6	5.0	4.9	4.9	4.7	4.8	4.8
2010	4.6	5.0	5.4	4.9	4.7	4.8	4.9
2011	5.0	5.1	6.7	4.9	4.8	4.8	4.9
2012	5.1	5.1	5.4	4.9	4.7	4.8	4.9
2013	5.0	5.0	4.4	4.9	4.8	4.8	4.8

The distribution has several noteworthy features. First, the variation across regions and years seems to be limited, as evidenced by the small difference between the highest and the lowest averages – 6.7 and 4.4. This is first and foremost a scaling issue, as the scale is heavily influenced by a few extreme values. Of a total of 504 values, only 20 are not between 4 and 6. Nevertheless, I have no theoretical reason to exclude these values from the sample. Also, one should bear in mind that the values displayed are regional averages masking country-specific variations.[149] Secondly, the averages show only a slight increase in type 2 banking trade restrictiveness in the immediate aftermath of the GFC, thereby hinting at the fact that national authorities did not instantly resort to type 2 protective measures. Thirdly, however, there was a clear pick-up in type 2 trade restrictiveness in 2011, especially in developed countries and offshore centres,

[148] Each value corresponds the unweighted average of the pro-rated values for all countries in the respective region.

[149] These country-specific variations across time are not particularly high when compared to the same variations for the other three types. Two notable exceptions are Luxembourg – with a sudden jump from a 0-3 range before 2011 to a 5-7 range after 2011– and Mauritius – with an extreme value of 10 in 2011. These features could build the basis for detailed qualitative analyses of type 2 banking protectionism in both countries.

which might be interpreted as a delayed reaction to the GFC. This lagged increase is largely consistent with the examples mentioned in the previous chapter of this dissertation as they only related to developed countries between the years 2009-2013.

The combination of the type 2 banking trade restrictiveness measure with the *LNI* variable leads to a measure of type 2 banking protectionism that is consistent with the definition proposed in the previous chapter of this dissertation. In similar fashion to the approach adopted for types 1 and 4 above, if the trade restrictiveness values meet the cumulative conditions of corresponding to an *LNI* signal and being above the yearly cross-country average, they are replaced by that cross-country average.[150] The adjustments made are evenly distributed across all four ratios used in the construction of the *LNI*. A preliminary overview of some of the extreme values of type 2 banking protectionism is provided in exhibit 26. A more comprehensive analysis of the results is left to section 3.3.

[150] The resulting values are pro-rated on a scale from 0 to 10 in order to have the same range of values as for the other three types of banking protectionism.

Exhibit 26 – Extreme values of type 2 banking protectionism

	2006	**2007**	**2008**	**2009**
most restrictive	~~Lebanon~~	~~Lebanon~~	~~Lebanon~~	~~Lebanon~~
~~(*LNI* signals)~~	Norway	Norway	~~Norway~~	Norway
	Russia	Russia	~~Switzerland~~	Russia
	Switzerland	~~Switzerland~~	Russia	United States
	Croatia	Czech Republic	Belgium	Switzerland
	Argentina	Argentina	Czech Republic	Belgium
	~~United States~~	Netherlands	Australia	Austria
least restrictive	Luxembourg	Luxembourg	Luxembourg	Luxembourg
	Ireland	Ireland	Cyprus	Cyprus
	United Kingdom	Cyprus	Ireland	Ireland
	Sri Lanka	Mauritius	Philippines	Hungary
	Portugal	Romania	Romania	United Kingdom
	Romania	Poland	Sri Lanka	Saudi Arabia
	Philippines	Portugal	Peru	Romania

	2010	**2011**	**2012**	**2013**
most restrictive	Mauritius	~~Mauritius~~	Mauritius	Norway
~~(*LNI* signals)~~	Norway	Luxembourg	Luxembourg	Switzerland
	Switzerland	Norway	Norway	Luxembourg
	~~Lebanon~~	~~Lebanon~~	Switzerland	Ireland
	Belgium	Belgium	~~Cyprus~~	Belgium
	Russia	Switzerland	Belgium	Georgia
	El Salvador	Singapore	United States	Russia
least restrictive	Luxembourg	Cyprus	Poland	Mauritius
	Ireland	Poland	India	Cyprus
	United Kingdom	India	Romania	Poland
	Peru	Romania	Netherlands	Hong Kong
	Romania	Sri Lanka	Indonesia	Indonesia
	Cyprus	Peru	China	India
	Hungary	China	Kyrgyz Republic	Namibia

3.2.5.3 Criticism and substantiation

The approach proposed in this sub-section is undoubtedly exposed to potentially serious criticism. One strand of criticism may focus on the initial assumption stating that all unexplained variation in banking services trade can be

traced back to type 2 banking trade restrictiveness. The validity of this assumption is highly contingent on the trade model used; the resulting measure can only be as good as the model itself, and a poor model leads to an overestimation of type 2 banking trade restrictiveness. Another strand of criticism may question the second underlying assumption – stating that type 2 banking trade restrictiveness is not strongly correlated with any of the other variables included in the model – and point out that a violation of this assumption would lead to biased measures. Both strands of criticism suggest paths for future research. Such research could focus on ways of improving the trade model and the estimation method[151] used or on substantiating the claim that all types of banking trade restrictiveness are not jointly determined.

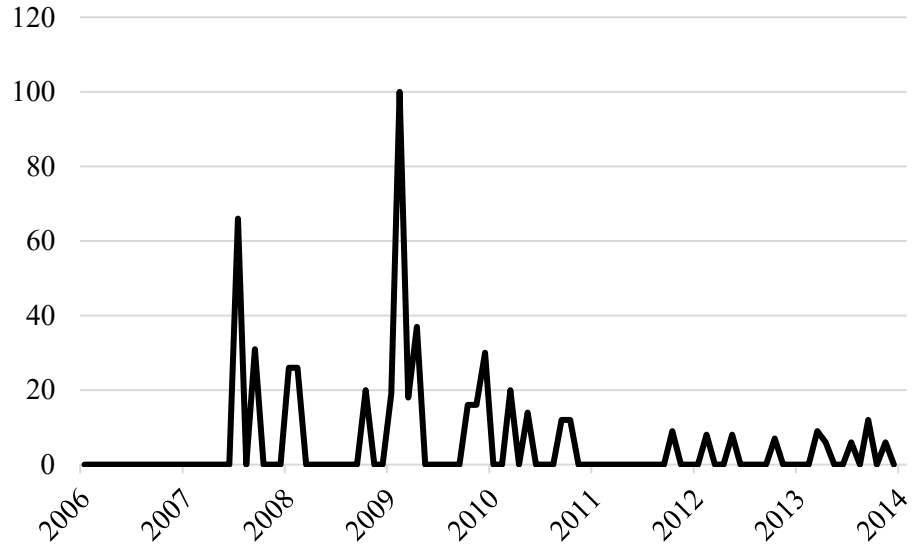
Drawing on Leamer (1988) and Wolf (2016), I argue under 3.2.5.1 that this criticism is not decisive considering the paucity of available alternatives on the one hand and the approach's potential advantages on the other. Furthermore, my ambition in this dissertation is not to produce a perfect approach, but rather to make an initial proposition and thereby provide a framework for scientific discussion of the question. In what follows, and as a way of stimulating that discussion, I attempt to confirm the validity of my approach by comparing its results to those generated using other methods.

Semantic analytics, although a promising tool in many other fields of research, is of little use in this context for a number of reasons. First, the use of semantic analytics is contingent on a basic common understanding with respect to the definition of the object of study. However, as illustrated by the wide variety of meanings and merits attributed to the concept of financial protectionism in the

[151] The estimation method chosen in this section (pooled OLS) is not uncontested. For instance, some of the panel data-based empirical literature related to Leamer's proposition features different versions of fixed effects estimators. The measure of trade openness proposed by Spilimbergo et al. (1999) is based on a regression which accounts for a time trend; a measure by Hiscox and Kastner (2002) is based on the results of a regression including dummy variables for each country and year, which is equivalent to a two-way fixed effects model.

relevant literature (see 2.2), this common understanding is virtually non-existent in our case. Obviously, semantic analytics is of even less help when investigating the more precise concept of type 2 financial protectionism. Secondly, to date, the use of the idea of *financial protectionism* has not been recurrent enough to allow for a meaningful breakdown across time and regions. The sporadic nature of the concept's use is evidenced, for instance, by the evolution of the number of corresponding Google searches over the time period 2006-2013 (see exhibit 27). The number of scientific publications mentioning the concept, while also featuring discernible peaks in 2009 and 2010, is also limited.[152]

Exhibit 27 – Google searches for "financial protectionism" (worldwide) [153]



As pointed out in my treatment of type 1 banking protectionism, state measures covered in the STRI databases by the World Bank and the OECD could also be relevant for type 2 banking protectionism (see 3.2.2). My earlier criticism still

[152] As evidenced by the number of google scholar results for the years in question: 11 for 2006 ; 18 for 2007 ; 45 for 2008 ; 126 for 2009 ; 101 for 2010 ; 82 for 2011 ; 54 for 2012 ; 82 for 2013.

[153] "Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. Likewise, a score of 0 means the term was less than 1% as popular as the peak." Source: Google Trends (found on http://trends.google.com/).

applies: in order to permit comparability across time and space and generate a reasonable chance of empirical implementation as an indicator of type 2 banking protectionism, the $STRI^{WB}$ would need to be updated more regularly, while the $STRI^{OECD}$ should encompass more countries featuring a better distribution across regions and development levels. Nevertheless, the available data can be used to make a partial assessment of the validity of the type 2 measure suggested above.

Of the nine yes/no-variables accounted for in the $STRI^{WB}$ database, six can be attributed to types 1, 3 or 4 banking protectionism. I use the remaining three – 'difference in licensing criteria for foreign and domestic applicants', 'nationality requirement for board of directors', 'right to appeal regulatory decisions' – as potential indicators of type 2. A simple procedure is applied in order to generate an alternative 0-6 score of type 2 banking protectionism.[154] However, the respective cross-sections of my type 2 measure and of the $STRI^{WB}$ scores are difficult to compare quantitatively, as only 10 of the 43 countries which are both in my type 2 measure sample and in the $STRI^{WB}$ database have a non-zero $STRI^{WB}$ score for 2008, the only year covered in that database. Both indicators[155] concur in characterizing Lebanon, Russia and the U.S. as restrictive. However, several countries which are relatively restrictive according to my type 2 measure – including the Czech Republic and France – are fully liberal according to the $STRI^{WB}$ database. The $STRI^{WB}$ database is of limited relevance in this context for two main reasons. First, the survey-based data seems overly subjective and therefore somewhat unreliable. It is quite astonishing for instance, that only two of the 43 countries surveyed have different licensing criteria for foreign and domestic banks, or that not a single developed European

[154] Countries get one point in each of the following cases: if there are differences in licensing criteria for foreign and domestic applicants ; there is a nationality requirement for the board of directors ; there is no way to appeal regulatory decisions. The $STRI^{WB}$ database features these three variables for two sub-sectors (lending by banks and acceptance of deposits by banks), thereby leading to a 0-6 scale.

[155] In this sub-section, I only consider my type 2 banking trade restrictiveness measures – i.e. my type 2 banking protectionism measure before application of the *LNI*.

country has a non-zero $STRI^{WB}$ score. Secondly, as seen above, type 2 banking protectionism is a particularly complex and covert form of protectionism (see 2.4.2) and is thus unlikely to be fully captured by the three simple variables in the $STRI^{WB}$ database.

Considering its significantly higher granularity, the $STRI^{OECD}$ database seems a more appropriate tool. It features information on 60 variables relating to international trade in commercial banking split across five categories: 'restrictions on foreign entry', 'restrictions to movement of people', 'other discriminatory measures', 'barriers to competition' and 'regulatory transparency'. While the first of these categories clearly relates to type 1 banking protectionism, the other four may be relevant to a treatment of type 2. I conduct a simple correlation analysis for the cross-section of 34 countries simultaneously featuring in the $STRI^{OECD}$ database and in the data sample used in this dissertation.[156] The analysis shows a positive correlation of 0.39 between my type 2 trade restrictiveness measure of the $STRI^{OECD}$ index for the category 'restrictions to movement of people', thereby providing some support for the measure proposed in this dissertation.[157] The correlation is particularly high for European and developed countries.

3.3 Distribution of banking protectionism across regions and time

Before turning to an analysis of the evolution of all four types for each of the

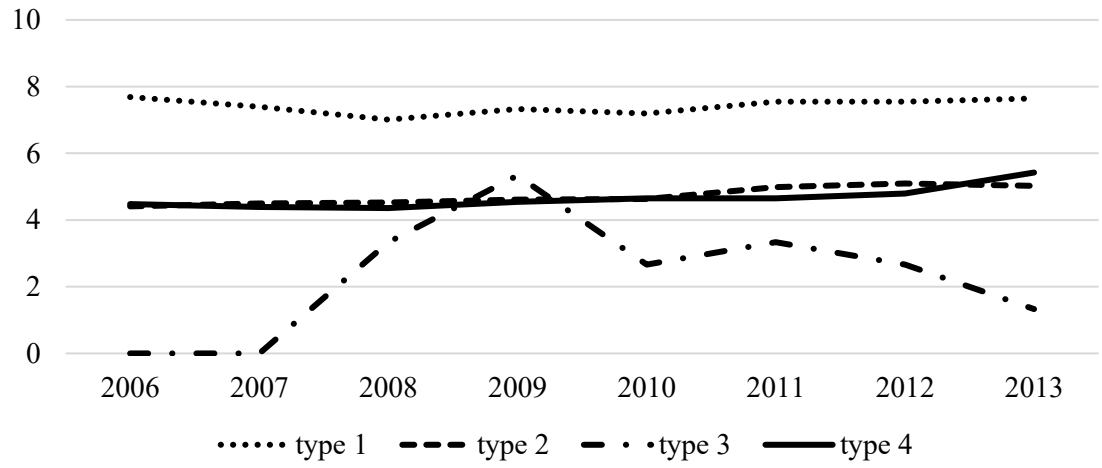
[156] The time periods covered by the $STRI^{OECD}$ database (2014-2016) and my data sample (2008-2013) do not overlap. In light of the low cross-year variation in the $STRI^{OECD}$ data, I compare the year 2014 in the $STRI^{OECD}$ with the year 2013 in my sample.

[157] The correlations for the other three categories are not significant. Here again, one could argue that given the complex and covert nature of type 2 banking protectionism and the corresponding impossibility of enumerating all relevant regulation types, one should focus on a proxy that meets the criteria of simplicity and observability. 'Restrictions on the movements of people' is the most suitable of the four categories in light of these criteria.

seven BIS country categories, it is important to be aware of an important limitation of the approach adopted in this dissertation in terms of comparability. While the four measures can be expected to allow for within-type comparisons across time and space, there is no reason to believe that they are helpful when it comes to conducting between-type comparisons for given points in time and space. This is due to the distinct methodological assumptions underlying the four different measures. For instance, one should not expect state measures leading to a score of 4 on the type 1 axis to have identical causes or effects as state measures implying an equal score of 4 for any of the other three types of banking protectionism. This is, of course, a significant shortcoming and a complex issue which should certainly be addressed in future research. Nonetheless, considering the current state of research on banking protectionism, the availability of within-type cross-country and cross-year variations already constitutes an important contribution. As shown in the remainder of this dissertation, both variations can be used to generate meaningful insights into the distribution and determinants of banking protectionism.

In this chapter's last section, I make use of the measures proposed above in order to provide an overview of the geographical and chronological distributions of banking protectionism relating to my sample, which includes 63 countries between the years 2006 and 2013. As comparisons across regions were already made to some extent in the previous sub-sections, the analysis below addresses each region separately and focuses principally, but not exclusively, on within-region comparisons.

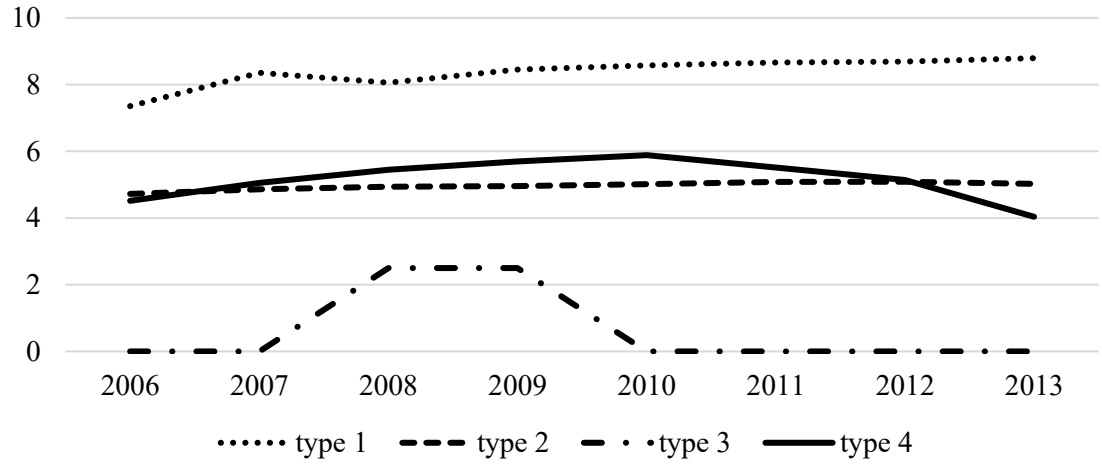
Exhibit 28 – Evolution of banking protectionism: European developed countries [158]



Overall trends in European developed countries show a slow but constant increase in type 2 (asymmetric regulation) and type 4 (capital controls) protectionism between 2006 and 2013. Type 3 (asymmetric subsidies) features relatively low levels at the beginning and the end of the time period investigated and two peaks in 2009 and 2011. By contrast, type 1 (market entry restrictions) scores are highest in the first and last periods and lower in the interim period, with discernible troughs in the years 2008 and 2010. As indicated by the country scores, Luxembourg is the least protectionist country across the board while Spain consistently belongs to the group of most protectionist countries. Some countries, however, are less consistent across types. France, for instance, features some of the highest type 1 scores while being broadly in line with the regional average for the other three types. Similarly, scores for Norway and Switzerland are skewed towards type 2 banking protectionism. Most *LNI*-related adjustments concern Greece, Portugal and Italy.

[158] For exhibits 28-35: values correspond to unweighted country averages.

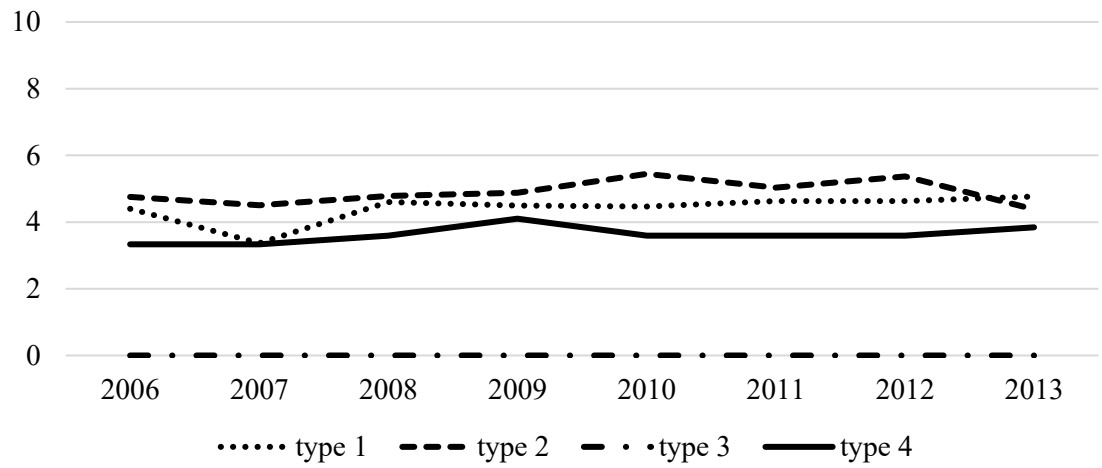
Exhibit 29 – Evolution of banking protectionism: Non-European developed countries



Score averages for non-European developed countries feature non-zero type 3 values in 2008 and 2009 only, a progressive but limited increase in type 1 protectionism, almost constant type 2 scores, and initially rising but overall falling type 4 scores. The type 2 averages are strikingly higher than the global averages. Country scores for the four countries in this category display a fairly homogeneous picture, with the notable exception of Japan which is by far the most restrictive country with respect to types 1, 3 and 4, but ultimately the least protectionist due to the many *LNI*-related adjustments.[159] Canada and Australia exhibit some of the highest type 1 scores across the whole sample, which explains the high regional averages.

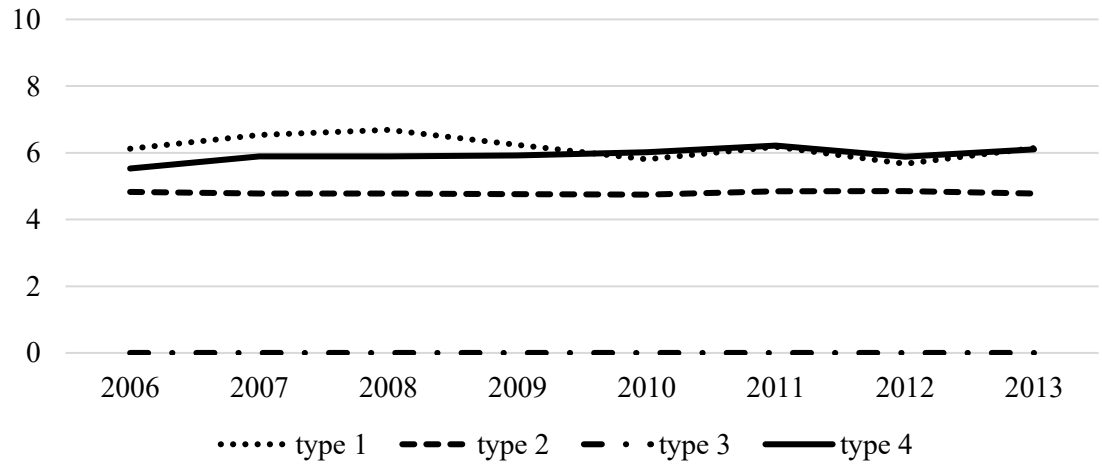
[159] Japan is one of only three countries in the sample (along with Italy and Lebanon) which feature *LNI* signals for all years considered.

Exhibit 30 – Evolution of banking protectionism: Offshores centres



Offshore centres are overall significantly less protectionist than countries in other regions. They do not feature any instance of type 3 banking protectionism for instance. Country values are homogeneous across the four types, with the notable exception of type 1. Singapore displays some of the lowest foreign bank ownership levels in our sample and therefore consistently ranks among the top ten protectionist countries in terms of market entry restrictions, while Hong Kong is one of the least protectionist countries according to this same measure.

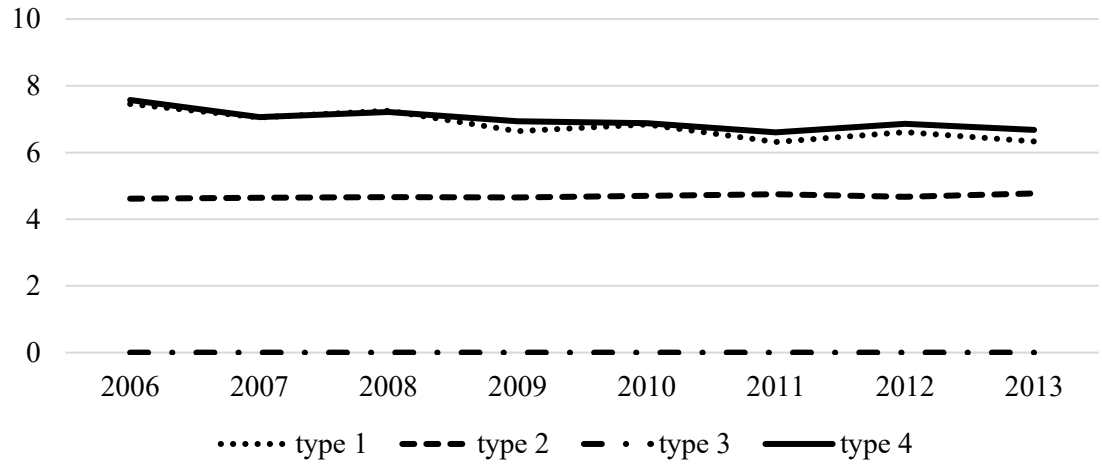
Exhibit 31 – Evolution of banking protectionism: Developing Africa and Middle East



Levels for Africa and the Middle East are broadly in line with global averages,

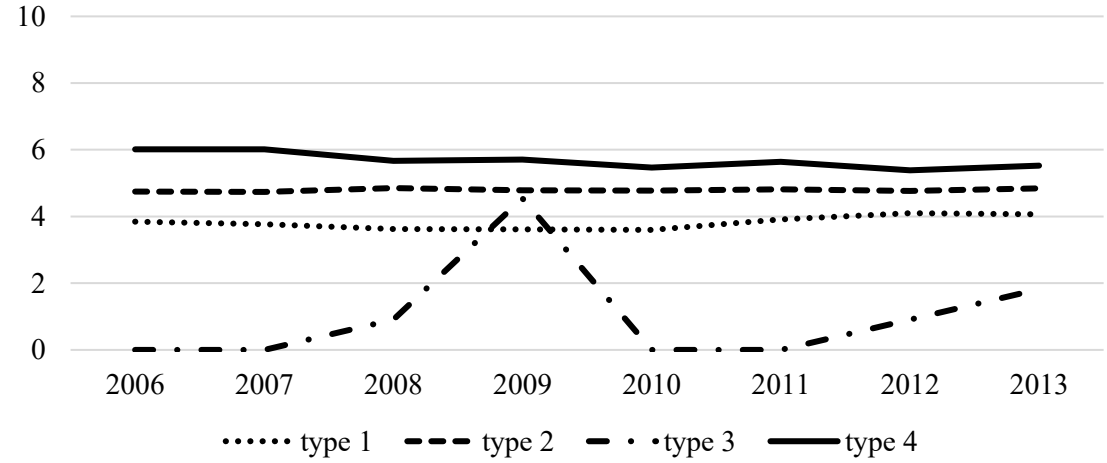
with the exception of type 3, as there are no corresponding instances in the eight countries included in the sample. The type 2 average is almost constant over the time period investigated. While there are no clear regional trends, type 1 and 4 averages are significantly more volatile. The country breakdown shows a very heterogeneous picture for these two types, with a group of countries including Saudi Arabia, Nigeria and Israel focusing on type 1, and another group featuring South Africa and Namibia leaning towards type 4. Uganda is the least protectionist country across the board. Most *LNI*-related adjustments concern Israel and Lebanon.

Exhibit 32 – Evolution of banking protectionism: Developing Asia and Pacific



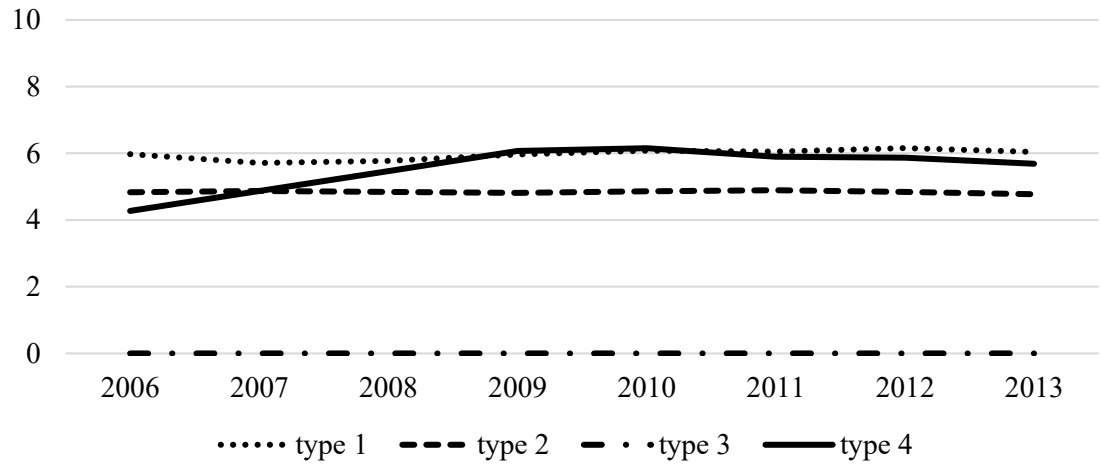
Besides the absence of type 3 instances and almost constant type 2 values which are in line with global averages, notable features of the Asia and Pacific region are the downward trends concerning types 1 and 4. Type 4 levels, however, remain above global averages. The larger members of this region – China, India, Indonesia and Pakistan – belong to the most protectionist countries globally with respect to types 1 and 4, despite several corresponding *LNI*-related adjustments. Smaller countries such as Armenia, Georgia and Kyrgyzstan are significantly more liberal. South Korea is somewhat open, except when it comes to type 1, especially in later years of the sample.

Exhibit 33 – Evolution of banking protectionism: Developing Europe



The Developing Europe region deviates from global averages mainly in terms of its significantly lower type 1 levels. Type 3 peaks in 2009, while types 1 and 2 remain constant, and type 4 trends downwards between 2006 and 2013. Poland, Turkey and Slovenia are the only recognizably protectionist country in the region in terms of type 1 banking protectionism. In a regional comparison Russia, the Czech Republic and Croatia display both the highest type 2 values and the lowest type 1 values. Type 4 is mainly concentrated in Poland, Macedonia and Turkey, while Slovenia features the most type 3 instances. The region features only few *LNI*-related adjustments.

Exhibit 34 – Evolution of banking protectionism: Developing Latin America and Caribbean

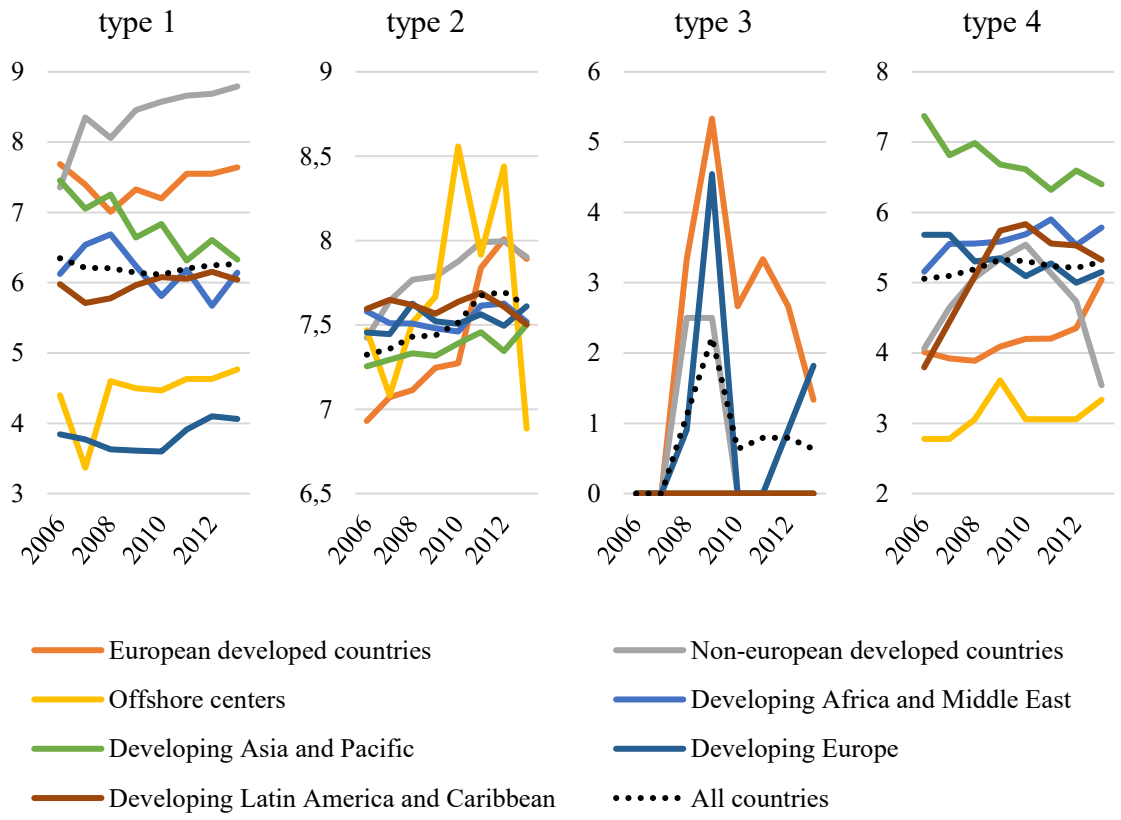


The Developing Latin American and Caribbean region does not feature any instances of type 3 banking protectionism. Type 1 and 2 levels are in line with global values. Type 4 levels are initially lower but rise between 2006 and 2010 before stabilizing around global averages. This increase was driven mainly by corresponding developments in Argentina, Brazil and Chile. Colombia, Bolivia and Brazil are the most protectionist in terms of market entry restrictions. Mexico is relatively liberal in terms of type 1, but protectionist in terms of type 4. Type 2 values are homogeneous across countries. Both the developing Europe and developing Latin American and Caribbean regions feature only few *LNI*-related adjustments.

The country category breakdown in exhibit 35 illustrates the geographical distribution for each of the four types. Type 1 is more common in European and non-European developed countries and less common in offshores centres and developing Europe. This type of banking protectionism is trending upwards in non-European developed countries and downwards in the Asia and Pacific region. Type 2 is trending upwards globally and is particularly widespread in

European and non-European developed countries.[160] Type 3 is only found in European countries – both developed and developing – and non-European developed countries. This type peaked in 2009. Type 4 trends downwards in the Asia and Pacific region and upwards in developed Europe, but remains more common in developing regions, with a strong increase in the Latin America and Caribbean region between 2006 and 2010.

Exhibit 35 – Evolution of banking protectionism: All country categories



Another approach to considering geographical specificities with respect to the four types of banking protectionism consists in making a country-wise comparison of how many of the *LNI* signals prompted actual *LNI*-related adjustments

[160] It should also be noted that the bulk of international trade in banking services originates in developed countries – as evidenced by both variables *y* considered in section 3.2.5.2, thereby accentuating the importance of this trend.

– in other words: how often countries made effective use of situations of legitimacy and necessity in order to restrict trade in banking services. A corresponding overview for the time period 2006-2013 is provided in exhibit 36. The overview confirms the existence of tendencies towards types 1 and 2 in developed countries and types 1 and 4 in developing countries.

Exhibit 36 – Restrictiveness-legitimacy ratios [161]

	type 1	type 2	type 3	type 4
European developed countries	53%	32%	22%	22%
Non-European developed countries	75%	72%	3%	47%
Offshore centres	33%	89%	0%	0%
Developing Africa and Middle East	47%	38%	6%	38%
Developing Asia and Pacific	62%	13%	12%	62%
Developing Europe	18%	5%	5%	18%
Developing Latin America and Caribbean	11%	11%	0%	22%

Let us return to the questions formulated in the introduction to this chapter. Does the recent drop in international financial integration really coincide with an upturn in protectionism? And, more generally, how has the use of banking protectionism evolved in the recent past? The above shows that the answers to these questions are largely contingent on the type of banking protectionism and the country category under consideration. While the approach taken in this dissertation does not allow for unequivocal conclusions with respect to the relative extent of each type of banking protectionism, it does lead to a number of valuable insights regarding the distribution of each type across time and space. For instance, market entry restrictions, asymmetric regulation and asymmetric subsidies are relatively more frequent in developed countries, while instances of

[161] Unweighted country averages for each region. Ratio corresponds to the percentage of *LNI* signals which prompted *LNI* adjustments (see 3.2). An overview of the geographical distribution of *LNI* signals can be found in exhibit 12.

capital controls are clearly concentrated in developing regions. Instances of asymmetric subsidies peaked in the immediate aftermath of the global financial crisis and are much less common in the later years of the sample. The overall extent of market entry restrictions and capital controls did not evolve significantly on a global scale, but there are clear differences among regions. Asymmetric regulation features a clearly recognizable and globally homogeneous upwards trend. Each of these insights naturally leads to a simple follow-up question: why? Or, more specifically, how can the variations in banking protectionism across time and space be explained?

In the next chapter of this dissertation, I use the measures just developed to conduct an empirical investigation of the determinants of all four types of banking protectionism.

4 Explaining banking protectionism

In chapter 2 of this dissertation, I define banking protectionism as the set of policies which illegitimately and unnecessarily restrict international trade in banking services. By considering the concepts of legitimacy and necessity, which are central to the international trading system as embodied by most multilateral trade agreements, this definition acknowledges that there exists a set of conditions under which authorities should be able to impose restrictions on the liberty to provide banking services across borders, namely that such restrictions are necessary to achieve the core prudential objective of sustaining financial stability. This definition leads to a typology of banking protectionism which includes four distinct categories: market entry restrictions, asymmetric regulation, asymmetric subsidies and capital controls. In chapter 3, I then propose measures for each of these four types and identify some type-specific and regional trends. Having defined and measured it, I now tackle the issue of explaining banking protectionism. *What are determinants of the variations in the levels of banking protectionism across time and space?*

Not least due to the underlying conceptual challenges, the scientific literature on this topic remains scarce, and there have been no meaningful attempts to identify determinants of banking protectionism. One noteworthy exception is Rachel Epstein's (2014, p. 767) work, in which she shows that states may take protectionist measures and seek to "maintain political authority over banks" for several reasons, including insulating their financial sector from global crisis, promoting macroeconomic development and securing their own financing.[162]

In an effort to make a productive enquiry into this largely unexplored field of study, I draw on the International Political Economy literature and proceed as

[162] Note that measures aiming to achieve the first of these three objectives would not necessarily be deemed banking protectionism under the definition used in this dissertation.

follows. First, I introduce three sets of hypotheses which may produce valid accounts of variations in the levels of banking protectionism across time and space. Next, I conduct empirical tests of the validity of these hypotheses by using the measures of banking protectionism developed in chapter 3. I conclude by summarizing my results.

4.1 Identifying hypotheses of banking protectionism

Building on chapter 2 of this dissertation, I define banking protectionism as policies which illegitimately and unnecessarily restrict trade in banking services between states. In the same chapter, I identify four distinct types of banking protectionism:

- Under *type 1* banking protectionism (market entry restrictions), domestic banks are shielded from foreign competition through outright and overt restrictions of market access by foreign firms.
- Under *type 2* banking protectionism (asymmetric regulation), foreign banks face regulatory treatment that puts them at a competitive disadvantage relative to their domestic peers.
- Under *type 3* banking protectionism (asymmetric subsidies), domestic banks are subsidized and thereby given a competitive advantage relative to foreign rivals.
- Under *type 4* banking protectionism (capital controls), restrictions on cross-border transfers of capital effectively prevent foreign firms from competing with domestic banks.

Past research on banking protectionism has been inhibited by a lack of agreement on the very definition of its object of study. Consequently, it has not yet produced a fully-fledged theory of banking protectionism, let alone one that is compatible with the typology adopted in this dissertation. While undoubtedly

a worthwhile undertaking, the development of such a comprehensive theoretical framework deserves a much broader backdrop than a single section in a dissertation. That said, when searching for potential explanations of the distribution of banking protectionism across time and space, it is not necessary to start from scratch. The International Political Economy (IPE) literature offers a helpful starting point.

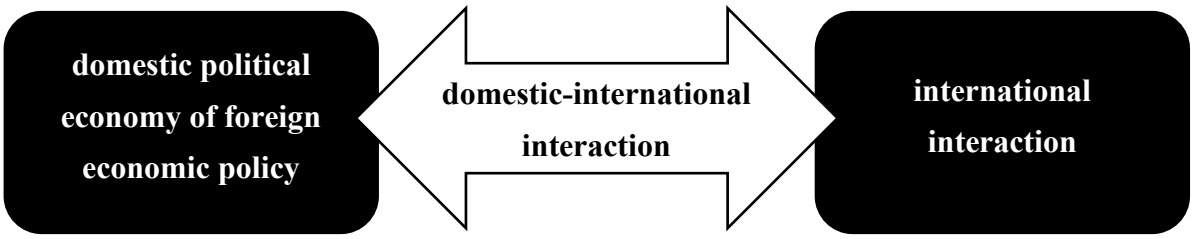
The IPE field emerged in the 1960s as an effort to break down some of the disciplinary boundaries within the social sciences, in particular between political science and economics, at a time when "most economists were ignoring politics, and international relations specialists saw political economy as 'low politics', minor, boring, and incomprehensible" according to Keohane (2009, p. 35). Keohane was one of the field's early contributors, along with Susan Strange, Stephen Krasner and John Ruggie. IPE is thus characterized by the use of a combination of tools and perspectives from a variety of fields, mainly political science and economics. IPE scholars, who do not always designate themselves as such, analyse a wide array of topics, with an established focus on issues related to foreign economic policy (Cohen, 2017).

The IPE literature on international trade, for instance, merges a political perspective, which views international trade as fundamentally different from domestic economic activity, with economic theory, which often does not make a distinction between the two. Accordingly, IPE looks at the political dimensions of the international exchange of goods and services across state borders, placing trade policy within the broader context of foreign policy. In doing so, it not only focuses on domestic factors affecting the formulation of national trade policies – as traditional political economy would do – but also accounts for international factors, such as policies enacted by foreign authorities or the international discourse on the merits of free trade (see Cohen, 1990 or Milner,

1999).

In view of its overall focus on foreign economic policy and on particular issues such as international trade, international finance or multi-national corporations (see Cohen, 2017), the field of IPE reveals itself as particularly relevant to the topic of banking protectionism.

Exhibit 37 – The three sub-fields of IPE according to Frieden and Martin (2002)



In their literature survey, Frieden and Martin (2002) identify three sub-fields of IPE research (see exhibit 37). The first large area is set at the domestic level and considers the economic interests at stake, the organization of these interests and the mediation of these interests through political institutions. The second is set at the international level and concerns strategic interactions among states. The last relates to the interactions between the former two and considers the impact of domestic interests and institutions on international interactions, and vice versa. As noticed by Frieden and Martin (2002) – and deplored by Cohen (2017) and Keohane (2009) – most of the IPE literature focuses on the first of these three areas.

Below, I introduce and test three sets of hypotheses which may produce valid accounts of variations in the levels of banking protectionism across time and space. In the interest of a balanced approach, the hypotheses are spread across all of the three sub-fields identified by Frieden and Martin. My choice of hypotheses is guided by three further considerations: their centrality within their

respective IPE sub-fields, their apparent relevance for banking services, and their testability considering the data available. Also, owing to the quantitative approach adopted in this chapter of my dissertation, the hypotheses explored below assume a positivist approach.[163] The three hypotheses are summarized in exhibit 38 and introduced in the following sub-sections.

Even when considered together, these three hypotheses are not intended to deliver a comprehensive explanation of banking protectionism. A more realistic aim of this dissertation is to take the first steps into a largely unexplored field of study and produce substantiated cues for further research.

[163] As opposed to a reflectivist approach, such as constructivism, which is generally less compatible with quantitative work. See Moravcsik (2003) for a short discussion of the reflectivist reluctance to quantitative hypothesis testing by a liberal scholar.

Exhibit 38 – Three hypotheses of banking protectionism

IPE sub-field	**Domestic political economy of foreign economy policy**	**International interaction**	**Domestic-international interaction**
Description	*• set at the domestic level* *• considers the economic interests at stake, the organization of these interests and the mediation of these interests through political institutions*	*• set at the international level* *• considers strategic interactions among states*	*• relates to the interactions between the former two* *• considers the impact of domestic interests and institutions on international interactions, and vice versa*
Hypothesis *Main proposition*	**Optimal obfuscation hypothesis** *Democracy reduces politicians' incentives to use simple, transparent trade barriers but increases incentives to employ complex, opaque ones.*	**State power hypothesis** *The structure of international trade is determined by the interests and power of states. Smaller countries are more likely to be supportive of liberal trade policies.*	**Stability hypothesis** *Support for liberal trade policies is secured through measures compensating individuals for potential losses due to free trade or reducing the probability of such losses.*
Inferences with respect to banking protectionism	Politicians in democracies have lower incentives to use simple and transparent forms of banking protectionism, and higher incentives to employ complex, opaque forms of banking protectionism.	Smaller countries benefit from international trade in banking services to a greater degree than larger countries. They should thus be more supportive of open banking markets.	Open banking markets require some form of social legitimacy, such as an effective prudential framework.
Main testable prediction	*Determinant: democracy* More democratic countries should display lower levels of type 1 and type 4 banking protectionism, higher levels of type 3 banking protectionism, and still higher levels of type 2 banking protectionism than less democratic ones.	*Determinant: share of global GDP* Smaller countries are less likely to engage in banking protectionism than larger countries.	*Determinant: capital adequacy ratios* Countries that display higher levels of bank capital adequacy ratios should display lower levels of banking protectionism.

4.1.1 Domestic political economy of foreign economic policy

Within the domestic political economy of foreign economic policy, variations in foreign economic policy are traced back to the interests at stake and how they are dealt with by domestic political institutions (Frieden & Martin, 2002). Scholars in this sub-field pay particular attention to the nature, intensity and organization of these interests, dealing with issues such as the identification of policy preferences and the influence of special interest groups. They also examine the effects of different types of electoral, legislative and bureaucratic institutions on authorities' incentives to respond to stakeholder interests.

Accordingly, a political economy of banking protectionism could include *three* sets of considerations. The *first* could relate to the preferences of its stakeholders – essentially, banking services consumers, voters, politicians and banks. It should be noted that these groups are by no means homogeneous. For instance, different banks are likely to adopt different stances on banking protectionism depending on the scale of their international activities. Likewise, individual depositors and large corporations in search of financing are unlikely to have identical views on the merits of banking protectionism, even though both are banking services consumers. The *second* could relate to the ways in which stakeholders attempt to convey their preferences to competent authorities. A central aspect in the context of banking protectionism is the role of lobbies such as banking associations. The *third* could relate to the role of political institutions when it comes to aggregating stakeholder preferences into economic policy and address questions pertaining to the legal capacity of various authorities to engage in banking protectionism and the degree of exposure of these authorities to stakeholder pressure.

Numerous hypotheses can be derived from these sets of considerations, thereby making this first IPE sub-field a promising basis for future research into the largely unexplored topic of banking protectionism. In the section below, I take

an initial step by exploring a specific hypothesis which pertains to several of the aspects just mentioned, while also being particularly well-suited to the data at hand.

The hypothesis in question is a variation of an argument which was introduced and tested by Kono (2006) in a paper on democracy and trade policy transparency. Kono questions the widely accepted idea that democracy promotes trade openness, a hypothesis that is rooted in the political economy of trade policy and which rests on three simple propositions: first, that governments are confronted with interest-group demands for protection and that they are responsive to such demands to some extent; second, that the vast majority of voters prefer more liberal trade policies because such policies increase their welfare as consumers; and third, that democratic governments are more responsive to voter demands than autocratic ones.

Kono does not refute these propositions but, with reference to an earlier contribution from Mansfield, Milner and Rosendorff (2002), he adds a further dimension by arguing that voters do not have perfect information about domestic trade policies. Since informing voters is costly, rational politicians[164] are more likely to concentrate their communication efforts on policies that are easy to explain. As a consequence, democratically elected leaders have an incentive to pursue trade liberalizing policies only if such policies are or can be made transparent. Conversely, they are largely enfranchised from voter scrutiny when it comes to more complex measures. As summed up by Kono (2006, p. 370):

> *"Political competition thus generates biased information: it informs voters about protectionist measures whose effects on consumer welfare are simple but tells them little about measures whose effects are more complex. Democracy thus reduces politicians' incentives to use simple,*

[164] Irrespective of whether they are in power or competing with politicians that are in power.

> *transparent trade barriers but increases incentives to employ complex, opaque[165] ones."*

Kono calls the resulting behaviour of politicians driven by electoral concerns *optimal obfuscation*.[166] He goes on to develop a simple model under which politicians define their positions on trade policy by considering expected gains in the form of votes and money, the former stemming from public support for liberal policies and the latter from interest group support for trade barriers. In his model, trade policy consists of decisions relating to the use of three types of trade barriers: tariffs, core non-tariff barriers (NTBs) – which correspond to price and quantity control measures – and quality NTBs – which correspond to the enforcement of product standards. These three types differ in terms of the complexity of their effects on consumer welfare, tariffs having the simplest and quality NTBs the most complex effects. The model's prediction is that "more democratic countries should have lower tariffs, higher core NTBs, and still higher quality NTBs than less democratic ones" (p. 374).

To test the validity of his hypothesis, Kono runs a series of regressions using the three types of trade barriers as dependent variables and two democracy measures as independent variables, along with a series of control variables accounting for other factors that may also affect trade policy. The coefficients for both democracy measures are negative and significant in the tariff regression, thereby indicating that more democratic countries have lower tariffs. Both democracy measures are positively signed – only one being significant – in the case of core NTBs, implying that more democratic countries have higher core NTBs. In the quality NTBs regression, the coefficients for both democratic measures are positive and significant – and higher than in the core NTBs regression – thereby suggesting that more democratic countries have an even

[165] Baldwin and Evenett (2009) would use the term "murky".
[166] This term was first used in a publication by Magee, Brock and Young (1989).

higher tendency to use quality NTBs. These results offer clear support for the optimal obfuscation hypothesis.

Besides being inspired by the literature on the political economy of protectionism[167], the optimal obfuscation hypothesis can also be linked with the positivist tradition of republican liberalism as described by Moravcsik (2010, p. 10):

> *"[Republican] liberal theory emphasizes the ways in which domestic institutions and practices aggregate and transmit such pressures, transforming them into state policy. The key variable […] is the nature of domestic political representation, which helps determine whose social preferences dominate state policy – thereby defining the 'national interest'."*

In Kono's framework, liberal voters and protectionist interest groups compete for the right to define this national interest. The outcome of this contest, as seen above, is not clear-cut.[168]

Kono's theory of optimal obfuscation stands out in the literature on democracy and trade policy as it represents a rare effort to make a clear distinction between different types of trade barriers. This makes an application in the framework sketched in earlier chapters of this dissertation reasonably straightforward.

The typology and measures at hand are appropriate instruments for testing the validity of Kono's argument – i.e. that democracy reduces politicians' incentives to use simple, transparent trade barriers and increases incentives to employ complex, opaque ones – with respect to the banking sector. As discussed

[167] The political economy of protectionism rests on the assumption that trade outcomes are endogenous to political processes. It views protectionism as a group of policies for which there is a market with self-interested buyers and sellers. Multiple variations of such a market have been suggested in past literature (see Grossman & Helpman, 1992, or Gandolfo, 2014), most suggesting a demand side consisting of voters, firms, and interest groups, and a supply side embodied by politicians and government officials.

[168] In various empirical publications, scholars have relativized the idea that democracy automatically leads to freer trade. Weck-Hanneman (1990, p. 390), for instance, argues that tariffs can be maintained or even increased in direct democracies, as the outcome of popular votes is contingent upon "the process of drafting the proposal, the individual decision to participate in the vote and the efforts to become properly informed about the alternatives put to the vote". O'Rourke and Taylor (2006, p. 3) provide another example: placing themselves in a Heckscher-Ohlin framework (see 2), they claim that "democratization should lead to more liberal trade policies in countries where workers stand to gain from free trade; and to more protectionist policies in countries where workers will benefit from the imposition of tariffs and quotas".

in chapter 3, the four types of banking protectionism differ *inter alia* in terms of their degrees of simplicity and transparency. Type 1 (market entry restrictions) features outright and overt limitations to domestic market access by foreign banking institutions. Type 4 (capital controls) represents another simple and transparent means of preventing foreign banking institutions from doing business in domestic markets. At the other end of the transparency spectrum, instances of type 2 (asymmetric regulation) are particularly complex and covert, not least due to the technical nature of financial regulation in general. Instances of type 3 (asymmetric subsidies) are hybrids in the sense that they are well documented and clearly identifiable, while their effects on foreign bank presence – and the associated higher levels in consumer welfare due to increased credit availability for instance – are less straightforward than in the case of type 1 or type 4. Kono's optimal obfuscation hypothesis thus prompts the following testable prediction in the framework of this dissertation:

Optimal obfuscation hypothesis

H1: More democratic countries should have lower levels of type 1 and type 4 banking protectionism, higher levels of type 3 banking protectionism, and still higher levels of type 2 banking protectionism than less democratic ones.

4.1.2 International interaction

Beyond the domestic political economy of foreign economic policy, the second large IPE sub-field concerns interactions between states at the international level. Scholars within this sub-field examine ways in which states relate to each other as they define their economic policies, along with the institutional forms taken by international economic relations (Frieden & Martin, 2002). Central aspects of the study of international interactions include the specification of

state interests and of the strategic context at hand. While the identification of state interests is rooted in the domestic political economy discussed above, the analysis of the strategic setting goes further by looking at how these interests interact. For instance, scholars may reflect on the incentives that states must cooperate on in order to realize common interests, or on how the relative positions of states in the international system affects their interests. Substantial parts of the research within this sub-field focus on the role of international institutions as a central feature of the strategic environment.

These aspects hint at multiple potential objects of study for an IPE of banking protectionism. A first – more descriptive – strand of research could explore the variation in state-level interests regarding the liberalization of trade in banking services. A second – more analytical – strand could focus on how these national interests affect each other. For instance, one could consider if and to what extent a country's banking trade policy is driven by other countries' banking trade policies in earlier periods, or by expectations as to how such banking trade policies may evolve in future periods. One could also investigate positional arguments by looking at how certain relative features of national banking sectors such as size or global interconnectedness influence banking trade policies. A third strand could consider the role of international institutions in promoting or hindering free trade in banking services.

As things currently stand, I do not hold the latter to be a promising field for empirical work, despite the extensive literature on the subject in relation with other types of economic policy. Much of the extensive work on the impact of international institutions on trade policy outcomes focuses on the multilateral trading framework established by the WTO (see Rose, 2004; Subramanian & Wei, 2007; Felbermayr & Kohler, 2010). As detailed in section 2.3, the multilateral trading framework as laid down in the main WTO agreements does not contain any meaningful provisions concerning banking services and there is

currently no other significant international institution prohibiting the imposition of trade barriers in the banking services sector.[169] As such, it seems reasonable to rule out the impact of international institutions on banking trade policies from the outset.[170] On a more general note, empirical work on the role of international institutions is particularly vulnerable to endogeneity issues, since such institutions are ultimately created by national states and are thus – to a certain degree at least – simple vectors of national policies. Isolating the causal impact of international institutions on national policies is therefore particularly difficult (Frieden & Martin, 2002).

Several recent instances of banking protectionism suggest that the positional argument may be more relevant. A common feature of many of the significant instances of banking protectionism detailed in chapter 3 – such as the Intermediate Holding Company requirement in the United States, capital controls in China, and third-country equivalence regimes in the European Union – is that they were initiated by authorities of large and powerful jurisdictions. This begs the question of causality: Do states engage in banking protectionism because they are powerful? This link between power and protectionism has been documented to some extent, both theoretically and empirically, with respect to trade in goods (see Gilpin, 2016; Alesina & Wacziarg, 1998). To date, however, there is no evidence as regards banking services. The following constitutes an initial effort to fill this gap.

Large parts of the literature on the interplay between power and foreign economic policy focus on the hegemonic stability theory, which contends that in-

[169] Certain preferential trade agreements or the European Banking Union may constitute exceptions in this respect and thereby represent potentially worthwhile objects of study for future research. In this dissertation, I choose to take an initial step by focussing on the most important multilateral trade agreements such as the GATT, the GATS, the TBT and the SPS (see 2.3).

[170] One could argue that the *absence* of institutions has certain implications according to institutionalist theory. The quantitative approach adopted in the next section is contingent upon variation in the independent variables, and I therefore leave the analysis of such implications to future qualitative research.

ternational economic openness is more likely in the presence of a single dominant state (see Milner, 1999; Krasner & Web, 1989; Eichengreen, 2000). Proponents of the theory often seek to corroborate their claims by referring to two historical examples of hegemons providing stability and promoting a liberalized international economy: Great Britain in the late nineteenth century and the United States in the decades following the Second World War. Their arguments are rooted in the literature on collective action, addressing the conditions necessary to the provision of the global public good of 'international economic openness', in a world of sovereign states with divergent norms and preferences, reflecting differences in economic development levels (see Olson, 1965; Kindleberger, 1981; Shaffer, 2004).

The hegemonic stability theory faces serious empirical challenges when it comes to explaining the rush towards the liberalization of international trade after the mid-1980s, a period which corresponded to a decline in U.S. hegemony, as shown by the fall in the U.S. share of world exports plus imports from 33.2% in 1948 to 27.9% in 1986 (Krasner & Webb, 1989), a trend which continues to this day. The period under investigation in this dissertation has seen a significant narrowing of the gap between the United States and China when it comes to trade in services.[171] When considering exports and imports of financial services as a discrete category, the United States in fact comes in second place after the United Kingdom in most years included in the sample.[172] The absence of a hegemon between 2006 and 2013 makes an empirical test of the hegemonic stability theory in the framework of this dissertation pointless.[173]

[171] According to IMF balance of payments data, the United States accounted for 11% of the exports and imports of goods and services by all 187 reporting jurisdictions, while the corresponding share of Mainland China amounted to 10%.

[172] However, the UK share decreased from 22% to 16% between 2006 and 2013, while the U.S. share increased from 16% to 19%.

[173] Furthermore, the rise and fall of hegemonies are long-term processes and a test of the validity of the hegemonic stability theory with respect to international trade in banking services would thus need to examine a much longer time period than the one considered in this dissertation. Also, while one could argue that the

Instead, I choose to focus on one of the theory's underlying contentions, namely that the distribution of power among states is a central determinant of national preferences and policies relating to free trade. I make the simplifying assumption that preferences and interests naturally translate into corresponding policies.[174] In order to address the validity of this argument, one must have a suitable indicator of potential economic power. Krasner and Webb (1989) mention several alternatives in their empirical assessment of the hegemonic stability theory, including aggregate size of the economy, per capita income, and economic growth rates. While I also consider the latter two in my empirical analysis – along with other standard macroeconomic control variables – I choose to focus on the first, as measured by share of global GDP.[175] Accordingly, the terms large and powerful are used interchangeably in the following sections.

What is the link between state power and protectionism? Parts of the literature implies that there is positive correlation between the two. According to Frieden and Martin for instance, "governments of large countries are more likely to be protectionist than governments of small countries" (2002, p. 138). However, such claims are often poorly substantiated and are rarely framed within a causal argument. One important exception is Krasner's seminal paper departing from the assumption that "the structure of international trade is determined by the interests and power of states" (1976, p. 317). Krasner argues that potential economic power is a central factor in explaining how national interests translate

absence of a hegemony has certain implications according to hegemonic stability theory, the quantitative approach adopted in the next section is contingent upon variation in the independent variables, and I therefore leave the analysis of such implications to future qualitative research.

[174] An investigation of this claim could be the object of further research under the first IPE sub-field mentioned above: the domestic political economy of foreign economic policy.

[175] I expect the further alternatives mentioned by Krasner and Webb (1989) (i.e. share of world trade, share of international investment, share of monetary reserves) to be highly correlated with share of global GDP. They could be used in future research to test the robustness of the analysis below.

into trade policies.[176] In what follows, I develop testable hypotheses by briefly addressing each of the four relevant state interests identified by Krasner.

The first state interest consists in maximizing *aggregate national income*. Krasner argues that the economic benefits of openness in the international trading system – while positive for all states – are generally inversely related to power. Smaller states should be particularly supportive of free trade, as they have higher ratios of trade to national product and do not benefit from the high factor endowments or potentials for economies of scale available to more powerful states. This is also likely to be the case for banking services. Smaller states should be more supportive of an open trading structure, regardless of whether they are developed – and therefore seeking to maximize the geographical reach of their domestic banking industries – or developing – and therefore particularly dependent on foreign sources of financing.

The second state interest, *social stability*, is imperilled by an open international trading system which subjects domestic economies to the imperatives of world markets. For Krasner, instability results from increased factor movements, particularly labour. However, this aspect is not as central when it comes to our object of study since only small shares of total national factor endowments are typically allotted to banking sectors.[177] It may play a role in the few cases of small economies, such as Luxembourg and Singapore, that are heavily dependent on the export of banking services.[178] However, one could argue that in such cases, social stability is not *imperilled*, but in fact *enhanced* by an open international trading system, since the success of these economies relies to a large extent on their access to foreign banking markets. Accordingly, these countries

[176] And ultimately the structure of international trade. In the second part of his argument, Krasner uses his framework to test the hegemonic stability theory.

[177] Even in an economy that is strongly focused on financial services such as Luxembourg, less than 5% of the population were employed in the financial services sector in 2010 (STATEC, 2017).

[178] In 2013, the ratio of services exports to GDP for both countries was 142% and 47% respectively, compared to an average of 12% for all countries in the sample. (Data on banking services exports was not available for all countries in the sample).

should be less likely to engage in banking protectionism or in other policies which may compromise an open international market structure.

According to Krasner, large states typically have stronger political positions as they are better equipped to cope with potential limitations to free trade, being less dependent on the international economy. For large states, the third interest, maximizing *political power*, is achieved under free trade, as they can then credibly threaten smaller states with deviations from free trade and thus coerce them into certain behaviours. In the case of banking services too, banking protectionism may be an effective threat against smaller states whose economies are generally more reliant on free trade in banking services as argued above.

Economic growth – the fourth interest addressed by Krasner – has been empirically associated with trade openness in smaller states. The association is more elusive in the case of larger states, whose economies are less dependent on international markets to efficiently allocate resources. In particular, large national economies are less dependent on foreign markets, both as sources of financing and as potential destinations for domestically produced banking services. They are thus likely to be relatively less supportive of open markets in banking services.

Of the four state interests considered above, three suggest that smaller states should be relatively more supportive of free trade in banking services, while one suggests the opposite. The empirical analysis below will provide indications as to which interests dominate. This sets up the two opposing hypotheses H2a and H2b.

The idea that the distribution of power among states is a determinant of banking protectionism may be more or less conclusive, depending on the type of banking protectionism considered. For instance, one could expect smaller states

whose economies are more reliant on international markets to have greater incentives to obfuscate trade restrictions in order to reduce the likelihood of harmful retaliatory measures. Conversely, more powerful states which are less vulnerable to retaliatory measures may be relatively more likely to opt for more transparent trade restrictions such as type 1 or 4 banking protectionism. This sets up H2c.

State power hypotheses

H2a: Smaller countries are less likely to engage in banking protectionism than larger countries.

H2b: Larger countries are less likely to engage in banking protectionism than smaller countries.

H2c: If H2a is true, then particularly so in the cases of type 1 and 4 banking protectionism. If H2b is true, then particularly so in the case of type 2 banking protectionism.

4.1.3 Domestic-international interaction

The third large IPE sub-field relates to the interaction between domestic and international factors as they affect economic policies and outcomes (Frieden & Martin, 2002). Explaining the mutual causation between both sets of factors is a complex undertaking, and it is no surprise that this is the least developed of the three IPE sub-fields. Three factors may be considered when analysing the interaction between domestic and international conditions: interests, institutions and information. Correspondingly, a first group of approaches within the sub-field focuses on how domestic interests, institutions and information are affected by the international economy, in ways which then feed back into national policies. A second group features analyses of how national governments

intermediate between the domestic and international levels.

Both approaches offer numerous potential objects of study for an IPE of banking protectionism. In view of the breadth and complexity of the domestic-international interaction sub-field, "a more disaggregated approach to the relationship between the national and the global helps […] formulate arguments amenable to empirical evaluation" (Frieden & Martin, 2012, p. 121). One such argument could be that expanding international trade in banking services strengthens domestic owners of the factors required for the production of banking services – such as capital, thereby enabling them to influence their authorities' banking trade policies.[179] Another argument could be that international trade in banking services limits the reach of policy alternatives available to governments, for instance by reducing their ability to tax capital.

As a first empirical step into the largely unexplored field of domestic-international interactions with respect to banking protectionism, I choose to investigate a hypothesis which finds itself at the crossroads of both of the approaches mentioned above, as it concerns both the way in which domestic interests and policies are shaped by the international economy and the role of authorities as intermediary institutions between the domestic and international levels.

The hypothesis constitutes an application of a concept introduced by John Ruggie in 1982. While Ruggie's audience was initially limited to the fields of political science and international relations, his narrative was soon picked up by scholars in other fields, in particular by economists interested in the interactions between trade liberalization and social protection in developed economies (Lang, 2006).

Ruggie frames his central argument about the trade regime as a response to

[179] This argument is related to the Stolper-Samuelson theorem, which states that free trade benefits domestically abundant factors of production and harms domestically scarce factors of production (see Rogowski, 1987).

hegemonic stability theory, which predicts that the presence of an economic hegemon "is likely to result in an open trading structure" (Krasner, 1976, p. 318), provided that this hegemon is committed to liberal objectives. By contrast, Ruggie (1982, p. 382) views the international economic order as being determined by "a fusion of power and legitimate social purpose". He illustrates his argument with a number of historical comparisons, for instance between the pre-World War I and post-World War II periods, which both featured the presence of a liberal hegemonic power[180], but were distinct in terms of the social purposes underlying their respective trade regimes – which he characterizes as "laissez-faire liberalism" in the former case and "embedded liberalism" in the latter.

By tracing historical variations of the international economic order back to changes in collective ideas about the legitimate social purposes for which power can be exercised, Ruggie draws heavily on constructivist thinking.[181] According to him, the shared objective underlying the post-war trade regime designed in the context of the Bretton Woods and subsequent GATT negotiations consisted in:

> *"[devising] a framework which would safeguard and even aid the quest for domestic stability without, at the same time, triggering the mutually destructive external consequences that had plagued the interwar period."* (Ruggie, 1982, p. 393)

The resulting "compromise of embedded liberalism" aimed for a liberalism of free trade that is embedded within a commitment to social interventionism at the domestic level. For instance, restrictions on current account transactions – such as the ones curbing international sales of goods and services – were largely prohibited, while other measures designed to ensure domestic stability – such

[180] The United Kingdom and the United States.

[181] Albeit without using the word "constructivism" in his paper. See Lang (2006) for a comprehensive analysis of the constructivist underpinnings of Ruggie's theory.

as domestic social transfers or the regulation of international capital movements through capital controls – were encouraged (see 2.1.3).

The empirical literature derived from the embedded liberalism theory focuses largely on distributional aspects and more specifically on the concept of policymakers combining steps toward free trade with compensation measures in favour of individuals potentially harmed by trade. As suggested by Ruggie, domestic support for free trade can be secured by embedding liberal trade policies within commitments to larger welfare states, an idea often referred to as the *compensation hypothesis* (see Ehrlich and Hearn, 2014). Past research on the topic is set at the macro level in most cases, comparing levels of trade exposure and government spending. Many, including Rodrik (1998), Adsera and Boix (2002) and Swank (2002), find that open economies have larger governments. Some, however, challenge the causal link, contending that it only exists in developed countries (Rudra, 2002), or that demands for compensation are in fact driven by deindustrialization or advances in technology – not by trade (Hays et al, 2005; Iversen and Cusack, 2000). Others test the compensation hypothesis at the micro level. Ehrlich and Hearn (2014), for instance, conduct a survey-based experiment to find that knowledge of compensation policies results in increased public support for free trade policies at the individual level.

Applying the compensation hypothesis to banking protectionism involves finding answers to two basic questions. First: why – if at all – should the public be compensated for low levels in banking protectionism. Second: what form could this compensation take?

To address the first of these two questions, one can turn to the rich literature on financial openness, bank competition and stability. In parts of this literature, it is claimed that "financial globalization in and of itself is responsible for the spate of financial crises that the world has seen over the last three decades"

(Kose, Prasad, Rogoff & Wei, 2009, p. 28). However, the empirical evidence is inconclusive, leading numerous scholars to question the validity of the claim (Kose et al., 2009). A related debate has developed between supporters of the *competition fragility hypothesis* – according to which competition promotes instability by encouraging risk-taking by banks as it erodes their franchise values – and proponents of the alternative *competition stability hypothesis* – which posits that a lack of competition prompts banks to use their market power to set higher interest rates, thereby increasing the likelihood of defaults and ultimately creating risks to financial stability (see Akins, Li, Ng & Rusticus, 2016; Beck, de Jonghe & Schepens, 2013 or Berger, Klapper & Turk-Ariss, 2008).[182] However, although scientific debate on the topic is unsettled, much of the mainstream media is markedly less equivocal. Numerous publications in the New York Times, Forbes Magazine and the Washington Post, for example, suggest that various dimensions of openness in international financial markets were among the pivotal causes of the recent GFC (see Lowy, 2017; Irwin, 2011; Kakutani, 2009; Moyer, 2009; Norris, 2009). In view of this apparent consensus, it seems reasonable to assume that public support for free trade in banking services may be contingent on the presence of compensation in the form of financial stability safeguards.

In the empirical literature referred to above, compensation takes the form of government spending. This may be a convenient variable in a research setting that considers international trade in general. The concept of compensation should, however, be refined when focusing on individual sectors. Ruggie himself addresses the implications of his theory for financial services in a number of publications, including a chapter co-written with Abdelal in 2009 in which

[182] The works referenced consider the broader notion of bank competition, as opposed to the more specific notion of foreign bank competition.

he gives a short historical account of the embedding of the international financial system from the pre-WW1 period of orthodox liberalism to the post-WW2 compromise which was designed by policymakers who "collectively shared a set of beliefs about the destabilizing consequences of short-term, speculative capital flows […] and the need for government autonomy from international financial markets" (p. 157). Ruggie suggests that the post-war era of embedded liberalism in the financial sector was only short-lived, as the free movement of capital soon became the norm again, kicking off significant growth in global financial markets.[183]

In a more prescriptive part of his account, Ruggie states that "the need to re-embed the financial markets is, momentarily, crystal clear" and proposes two objectives that should inform capital's place in embedded liberalism: "greater insulation of the real economy from the effects of financial crises; and greater policy autonomy from the short-term preferences of financial markets participants". Accordingly,

> *"[domestic] regulations and the international financial architecture should be organized to privilege current-account transactions (and particularly trade in goods and services) over financial-account transactions. […] National governments should fulfil their responsibilities to their citizenries and commit themselves to freer trade in goods and services, but requiring full capital liberalization without also creating effective regulatory underpinnings can undermine their capacity to do so."*

[183] Although he does not articulate the thought, Ruggie is likely to have considered the collapse of the Bretton Woods system of fixed exchange rates in the early 1970s as the starting point of the of the unravelling of the embedded liberalism compromise in the financial sector. The collapse of the fixed exchange rate system was a direct consequence of the abolition of the gold convertibility of the US dollar in 1971. Capital controls – which were previously considered necessary to protect foreign currency reserves – became obsolete and were lifted in many cases. These circumstances initiated a long-term trend of growing international capital flows and the development of previously largely insignificant FX markets. In addition, increased FX and interest rate volatilities led to the emergence of a large derivatives market. See 2 or Verdier (2013) for further details.

(p. 159)

However limited the desirability of cross-border capital movements[184] according to Ruggie, his argument highlights the idea that free financial markets should have some form of social legitimacy. While the potential sources of such legitimacy are numerous, I contend that the most relevant in the current setting are measures taken by authorities to ensure the stability of their domestic banking systems, thereby ensuring that they can continue to provide important social utilities such as safe havens for money and efficient payment systems (see Wolf, 2007). In other words, I argue that under the embedded liberalism theory, public support for free trade in banking services is secured primarily through the maintenance of an effective prudential framework.[185]

To this day, Barth, Caprio and Levine's (2013) effort represents the closest any scholar has come to producing a sufficiently granular and convincing overview of the quality of banking regulation and supervision for all countries and years included in my sample. However, their database only covers two of the eight years between 2006 and 2013. The use of a proxy thus seems inevitable. Of the many prudential instruments available to states – such as market disciplining mechanisms, self-regulation, financial safety nets, surveillance, supervision, regulation (see Houben, Kakes & Schinasi, 2004 or Allen & Wood, 2006) – capital requirements have certainly been the most prominently discussed among policymakers and the wider public during the period investigated in this dissertation, as evidenced by the considerable number of publications commenting on potential enhancements to the Basel prudential standards between

[184] And of the cross-border provision of financial services, for which transfer of capital is essential in most cases (see 2.4.4).

[185] Similar conclusions can be found in other publications unrelated to the embedded liberalism theory or any considerations of public support. A prominent example is Kono and Schuknecht's paper (1998, p. 32) in which the authors argue that "countries with stable financial systems and a sound macroeconomic and regulatory framework have every reason to apply a very broad liberalisation strategy and commit to far-reaching trade liberalisation across all modes of supply, with full integration into global capital markets through capital account liberalisation".

2006 and 2013. Capital requirements have one important advantage when compared to most other prudential instruments: they are easily quantifiable and thus comparable across countries and years. Since there is no readily available database of bank capital requirements for all of the 62 countries in my sample, I choose to focus on effective capital-adequacy ratios instead, thereby assuming that these are driven to a large extent by regulatory requirements. This leads to hypothesis H3a.

Public support for free trade may not only be conditioned by prudential measures taken to limit the probability and effects of a financial crisis, but also by perceptions relating to the capacity of governments to react effectively in the event of a crisis. The greater their trust in a government's ability to deal with an actual financial crisis, the less likely voters and consumers are to object to potentially destabilizing free trade in banking services. In the empirical section below, I account for this aspect by adding one variable proxying the capacity of governments to react effectively to a financial crisis: public debt as a share of GDP.[186]

When considering the role of public support with respect to specific policies, one should also account for the role of transparency. The public is less likely to require compensation for a policy of which they are unaware. Accordingly, the negative relationship between bank capital adequacy ratios and banking protectionism should be least significant in the case of type 2, the most complex and opaque form of banking protectionism. This sets up H3b.

[186] Ideally, the size of the banking sector as a share of GDP would also be accounted for in this respect. Unfortunately, this data is only available for a small number of countries in the sample at hand and I therefore refrain from adding a corresponding independent variable.

Stability hypotheses

H3a: Countries that display higher levels of bank capital adequacy ratios should display lower levels of banking protectionism.

H3b: The relationship hypothesized under H3a should be least significant in the case of type 2 banking protectionism.

A parallel can be drawn between the stability hypotheses – under which the most relevant source of legitimacy lies in ensuring the stability of domestic banking systems – and the definition of banking protectionism that was developed in chapter 2 of this dissertation – which suggests that measures which restrict international trade in financial services should not be deemed to be protectionist if they are necessary to achieve the legitimate prudential aim of sustaining financial stability. However, the perspectives taken in these two cases are different. While the hypotheses consider legitimacy as it is perceived by voters and consumers, the definition's aim is to account for an objective notion of legitimacy. The parallel at hand serves as a reminder of the simplifying assumptions which had to be made when developing measures of banking protectionism in section 3.2.

4.2 Testing hypotheses of banking protectionism

The set of hypotheses just introduced has never been the object of an empirical investigation focusing on trade in banking services. They suggest very different accounts of banking protectionism, particularly in times of economic crisis: while the optimal obfuscation hypothesis focuses on the implications of democracy on the use of the different types of banking protectionism, the state power hypothesis addresses the impact of countries' sizes on their attitudes to free trade in banking services, and the stability hypothesis concentrates on prudential measures as a means of securing public support for free trade in banking services.

In this empirical section, I test the validity of all three hypotheses. The method and the data are discussed in the first two sub-sections. The last sub-section features an overview of the results.

4.2.1 Method

To test the validity of the optimal obfuscation, state power and stability hypotheses, I conduct regressions of all four types of banking protectionism on the relevant variables of interest and on a set of control variables.

The empirical literature on the determinants of trade policy features a wide variety of methods, which may be categorized along two main dimensions based on the type of data used. The first dimension relates to the distinction between cross-sectional data and panel data. The second dimension differentiates between bilateral and multilateral data. As opposed to multilateral data, which is set at individual country level, bilateral data involves variables which are set at the country-pair-level – for instance bilateral trade flows, distances between states, or the existence of a shared border. The trade policy data used below stems from work underlying chapter 3 of this dissertation in which I provide measures of banking protectionism for a cross-section of 62 countries for each year between 2006 and 2013. The method used below conforms to the multilateral panel data approach underlying these measures.

When choosing a panel data estimation method, one should consider the assumptions underlying the different alternatives. Theory features three main options. The first method consists in transforming the two-dimensional panel data into a one-dimensional pooled cross-section. Considering the data sample at hand, this means transforming a 62*8-matrix – corresponding to the observa-

tions for 62 countries across 8 years – into a 496*1-vector in which each country appears 8 times. The pooled cross-section can then be analysed using standard OLS. The unbiasedness and consistency of the pooled OLS estimates rest on the assumption that the observations are independently distributed across time. This assumption is violated in the presence of unobserved time- or country-specific effects, an issue also referred to as unobserved heterogeneity. The second method, fixed effects estimation, solves this issue by averaging out the fixed effects from the model, thereby leading to unbiased and consistent estimates. If one assumes that the unobserved time- or country-specific effects are randomly distributed and therefore uncorrelated with the explanatory variables included in the model, a third method, random effects estimation, may be used to generate unbiased, consistent and efficient estimates (see Wooldridge, 2006).[187]

The suitability of each method is heavily contingent on assumptions regarding the presence and characteristics of unobserved effects. Even though the field of applied econometrics features several tools for selecting the appropriate estimation method, an assessment of the assumptions underlying each estimation method is ultimately rooted in theory. It seems appropriate therefore to briefly consider possible unobserved effects on banking protectionism.

By definition, country effects are specific to individual countries and do not change over time. Such unobserved – meaning unobservable or deliberately

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Considering a standard linear model with a dependent variable y_{it}, an explanatory variable x_{it}, an intercept $\propto$, a coefficient β, unobserved country effects u_i, unobserved time effects v_t and a well-behaved error-term ε_{it}

$$y_{it} = \alpha + \beta x_{it} + u_i + v_t + \varepsilon_{it} ,$$

the appropriate estimation method depends on the properties of u_i and v_t. If u_i and/or v_t are correlated with x_{it}, a **fixed effects estimator** would deliver consistent estimates of β. If u_i and/or v_t and randomly distributed and thus uncorrelated with x_{it}, one can also opt for a **random effects estimator**. If $u_i = v_t = 0$ – meaning that there are no unobserved country or time effects – the **pooled OLS estimator** is most efficient (Croissant & Millo, 2008).

omitted[188] – time-invariant country features may include cultural, social, historical or geographical characteristics. Conceivable examples in the case of banking protectionism are the historical strength of the domestic banking sector or widespread and deeply-rooted societal beliefs on the merits of free trade. Time effects are a symmetric case: they are time-specific and common to all countries. Possible examples include global events such as widespread economic and financial crises or international political tensions.

Assumptions made about the existence of unobserved effects are a key aspect to be considered when interpreting the results of the panel data regressions. Despite using several common control variables in my analysis below, I cannot rule out the presence of unobserved effects. As these may in turn be correlated with the multiple control variables, fixed effects estimation may be more adequate than random effects estimation in certain cases. In the results sub-section below, I thus report the results of all three estimation methods.[189]

As pointed out by Wooldridge (2006), while fixed effects is widely seen as a more convincing estimation tool, pooled OLS must be applied in certain situations, for example when the explanatory variable of interest is fairly constant across countries.[190] The Lagrange Multiplier and Hausman statistics – which are widely used across the econometric literature to choose from among panel data estimation methods – provide further guidance in this respect and I also report them below.

4.2.2 Data and model selection

The variables considered are summarized in exhibit 39.

[188] i.e. due to measurement difficulties or simply to a seeming lack of relevance to the study at hand.

[189] I only consider time fixed effects estimation and rule out the use of country fixed effects estimation, as this method averages out cross-country variation and thus only exploits within-country variation across time. Given the low within-country variation of many of the variables over the short time period considered, country fixed effects estimation is unlikely to lead to significant results.

[190] By construction, fixed time effects estimation only considers cross-country variation, as it averages out within-country variation across time.

Exhibit 39 – Variables: descriptions and sources

Variable	Description	Source
TYPE1	Type 1 banking protectionism (market entry restrictions)	Chapter 3
TYPE2	Type 2 banking protectionism (asymmetric regulation)	Chapter 3
TYPE3	Type 3 banking protectionism (asymmetric subsidies)	Chapter 3
TYPE4	Type 4 banking protectionism (capital controls)	Chapter 3
POLITY	Polity score ranging from -10 (hereditary monarchy) to +10 (consolidated democracy)	Polity IV database, Integrated Network for Societal Conflict Research (2018)
GDPSHARE	Share of global GDP (%)	World Bank – national accounts data
CAPRWA	Ratio of regulatory tier 1 capital to total risk-weighted assets (%)	IMF – financial soundness indicators (missing data for Japan and the USA were proxied by a turnover-weighted average for the 10 largest banks in each country [data found on the orbis bank focus database])
GDPCAP	GDP per capita (current US$)	World Bank – national accounts data
GDPGROWTH	GDP growth (%)	World Bank – national accounts data
CPIYOY	Change of consumer price index over last year (%)	IMF – international financial statistics
FX	Change of official exchange rate (per USD) over last three years (%)	IMF – international financial statistics
EXPDEP	Export dependence: services exports to GDP ratio (%)	IMF – balance of payments statistics World Bank – national accounts data
IMPPEN	Import penetration: change in services imports to GDP ratio (%) over last three years	IMF – balance of payments statistics
DEBTGDP	Public (central, state and local) debt as a share of GDP (%)	IMF – historic public debt database

The data on the dependent variables of interest – the four types of banking protectionism – stems from chapter 3 of this dissertation. All other data is either drawn from or based on publicly available sources. An assessment of the *state power hypotheses* is conducted using GDPSHARE as a measure of size. CAPRWA relates to the *stability hypotheses*. POLITY is the only independent variable which relies on some form of expert judgement.[191] It is one of the democracy measures set out in Kono's (2006) paper and I use it below to investigate the relationship between democracy and trade policy as specified by the

[191] Overlooking the numerous assumptions underlying any measure of GDP of consumer price indices (CPIs).

optimal obfuscation hypothesis. POLITY is a multidimensional measure of political competitiveness which ranges from -10 for full autocracies to +10 for full democracies. As pointed out by Kono (2006), the POLITY measure performs well when it comes to capturing the variation in political competitiveness in nominally democratic countries, a feature which proves particularly relevant in view of the sample at hand.[192]

The remaining variables are partly inspired by Kono's study. They are included to control for macro-economic factors which may affect trade policy but are only of limited interest with respect to the hypotheses at hand. GDPCAP captures the general level of economic development[193] while GDPGROWTH, CPIYOY and FX reflect shorter-term macro-economic circumstances. I add EXPDEP (the ratio of services exports[194] to GDP) to account for the possibility that more export-dependent countries may be less prone to engage in protectionism as it may provoke retaliatory measures from trading partners (see Gawande & Hansen, 1999). I include IMPPEN – the change in the services imports to GDP ratio over the last three years – because sudden increases in imports may lead to a surge in demand for protectionism (see Trefler, 1993). Finally, I account for the fiscal ability of states to react effectively to financial crises by including DEBTGDP.

Exhibits 40 and 41 feature descriptive statistics and cross-correlations for the pooled cross-sections of each variable.

[192] The other variable used by Kono corresponds to the sum of the legislative and executive indices of electoral competitiveness obtained from the World Bank's Database of Political Institutions. The maximum level of competitiveness is observed for 415 out of the 496 country-year combinations considered below, thereby showing that the vast majority of countries included in the sample were nominally democratic over the time period considered.

[193] Poor countries may be expected to have higher tariffs as they are more reliant on tariffs as a source of revenue. The higher product standards in richer countries may be also have an effect on the type of trade barriers used (see Kono, 2006).

[194] Trade data on financial services as a sub-sector was not available for all countries in the sample.

Exhibit 40 – Variables: descriptive statistics

	Mean	Median	Min	Max	n =
TYPE1	6.30	6.66	0	10	496
TYPE2	7.51	7.54	0	10	496
TYPE3	0.77	0.00	0	10	496
TYPE4	5.28	5.55	0	10	496
POLITY	7.23	9.00	-10	10	496
GDPSHARE	1.46	0.37	0.01	26.99	496
CAPRWA	12.87	12.58	2.18	32.68	402
GDPCAP	21535	11381	336	115762	496
GDPGROWTH	3	3	-14	15	496
CPIYOY	4.57	3.49	-4.48	24.52	496
FX	-0.90	-1.57	-35.87	53.72	496
EXPDEP	12.39	8.08	0.47	142.27	496
IMPPEN	0.35	0.11	-15.75	25.23	496
DEBTGDP	53.37	43.95	2.15	244.48	496

By construction, all four independent variables range from 0 to 10. Three are continuous variables with roughly equivalent means and medians, while the fourth – TYPE3 – is a binary variable taking the values 0 or 10, 0 being significantly more frequent as shown by the mean. Chapter 3 of this dissertation features an extensive discussion of the distribution of the four dependent variables. POLITY, the only discrete but non-binary measure, is clearly skewed towards higher values, thereby suggesting that the sample at hand mainly features democratic countries with high levels of electoral competitiveness. However, the sample also includes autocratic countries, as evidenced by the respective minimum value. It should also be noted that CAPRWA values were not available for all country/year combinations considered. The descriptive statistics for the remaining variables show that the sample is evenly distributed when considering share in GDP, development stages and prevailing macro-economic conditions.[195]

[195] In accordance with sound econometric practice, I use logarithmic transformations of all skewed and positive variables (i.e. GDPSHARE, GDPCAP, EXPDEP and DEBTGDP) in the regressions below.

Exhibit 41 – Variables: cross-correlations

	TYPE1	TYPE2	TYPE3	TYPE4	POLITY	GDPSHARE	CAPRWA	GDPCAP	GDPGROWTH	CPIYOY	FX	EXPDEP	IMPPEN	DEBTGDP
TYPE1	1													
TYPE2	0.02	1												
TYPE3	0.13	0.02	1											
TYPE4	0.23	-0.02	-0.06	1										
POLITY	-0.08	-0.02	0.15	-0.19	1									
GDPSHARE	0.21	0.08	0.08	0.01	0.02	1								
CAPRWA	-0.33	0.08	-0.14	0.00	-0.18	-0.18	1							
GDPCAP	0.20	0.00	0.22	-0.22	0.29	0.23	-0.19	1						
GDPGROWTH	0.01	-0.06	-0.33	0.11	-0.35	-0.08	0.14	-0.33	1					
CPIYOY	-0.16	-0.01	-0.18	0.17	-0.26	-0.19	0.19	-0.47	0.37	1				
FX	-0.15	0.03	-0.03	0.11	-0.05	-0.07	0.13	-0.22	-0.03	0.40	1			
EXPDEP	-0.24	-0.34	0.05	-0.14	0.11	-0.17	0.11	0.50	-0.08	-0.16	-0.07	1		
IMPPEN	0.07	-0.06	-0.02	-0.01	-0.06	-0.01	-0.10	0.02	0.03	-0.02	-0.10	0.04	1	
DEBTGDP	0.20	0.10	0.09	-0.07	0.23	0.27	-0.16	0.23	-0.30	-0.28	-0.02	0.09	-0.09	1

The four dependent variables are mutually uncorrelated apart from TYPE1/TYPE4 to some extent, suggesting that countries which impose market entry restrictions also tend to impose capital controls. There are no particularly strong correlations between any of the independent variables – an important pre-condition in view of distinguishing their respective effects on the dependent variables. Democratic countries tend to display higher levels of government spending and GDP per capita and lower levels of GDP growth and inflation. Also, richer countries tend to be larger, grow less fast and be more dependent on services exports.

A brief look at the correlations between dependent and independent variables offers preliminary support for the optimal obfuscation hypothesis, as the two overt types of banking protectionism – TYPE1 and TYPE4 – are negatively correlated with the democracy measure POLITY. The correlations also hint at the validity of the state power hypothesis, which states that large countries are more protectionist, particularly when it comes to TYPE1. Furthermore, the negative correlations between CAPRWA and TYPE1 and TYPE3 provide some

backing for the stability hypothesis. Of the seven control variables, EXPDEP seems to be most relevant considering the negative correlations with TYPE1, TYPE2 and TYPE4.

In an effort to strike the right balance between the complexity of the model and its goodness of fit, I use the Akaike Information Criterion (AIC). For each of the four types of banking protectionism, I estimate the models for all 128 possible combinations of independent variables with pooled OLS and compute the corresponding AICs.[196] The combinations are ranked using the averages of their AICs across the four dependent variables. The resulting top ten combinations are listed in exhibit 42. The optimal combination does not include CPIYOY, FX and IMPPEN, and I therefore drop these three variables from all models estimated below. To validate this choice, I replicate the model selection approach by using each of the 8 yearly cross-sections instead of the pooled cross-sections, and the Bayesian Information Criterion (BIC) and R^2 as alternatives to the AIC: the optimal combination is in the 90th percentile in all cases.

Exhibit 42 – Top ten predictors combinations as ranked by average AIC

predictors	*AIC*
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1624.26**
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH FX log(EXPDEP) log(DEBTGDP)	1624.52
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) IMPPEN log(DEBTGDP)	1625.49
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH FX log(EXPDEP) IMPPEN log(DEBTGDP)	1625.76
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH CPIYOY log(EXPDEP) log(DEBTGDP)	1625.81
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH CPIYOY FX log(EXPDEP) log(DEBTGDP)	1626.27
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH CPIYOY log(EXPDEP) IMPPEN log(DEBTGDP)	1627.07
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH CPIYOY FX log(EXPDEP) IMPPEN log(DEBTGDP)	**1627.50**
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP)	1629.24
POLITY log(GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH log(DEBTGDP)	1629.42

[196] Using the olsrr package in R. I only consider the 2^7=128 combinations which include the three variables of interest, namely POLITY, log(GDPSHARE) and CAPRWA.

4.2.3 Results

The results of all panel data regressions are displayed in exhibits 43 through 47.[197] They are broadly in line with the picture given by the cross-correlations above but give a more complete account of the relationships between the variables of interest. In a first sub-section below, I produce a descriptive overview of the main results by addressing each type of banking protection in turn. In a second sub-section, these results are then used to assess the validity of each of the hypotheses at hand.

To ensure the robustness of the results, I replicate the approach eight times, dropping one year of the data in each case. The corresponding results are reported in the Appendix. They are broadly in line with the overall results presented in this section.

Despite the inclusion of seven control variables to the three independent variables of interests, the explanatory power of the models remains limited in certain cases, as demonstrated by the subsided R^2 values. The variables therefore only explain a fraction of the variation in banking protectionism in the sample at hand. While this issue is less pronounced for the more transparent forms of banking protectionism (type 1 in particular) and could be mitigated to some extent by increasing sample size[198], one must ultimately acknowledge that banking protectionism is partly determined by factors which were not accounted for in the models. As explained earlier, my ambition is not to provide an exhaustive explanation of the phenomenon, but to conduct a test of the hypotheses at hand and generate substantiated cues for further qualitative research.

[197] All panel data regressions in this dissertation are produced using the plm package in R (see Croissant & Millo, 2008).

[198] As I point out in chapter 3, data availability represented a considerable constraint in my efforts to develop measures for the four types of banking protectionism. Improved data availability in the future will mitigate this constraint.

4.2.3.1 Type-wise overview

Under ***type 1 banking protectionism***, domestic banks are shielded from foreign competition through restrictions on market access by foreign firms. Examples include stricter licensing requirements or outright limitations on foreign ownership of domestic banks for instance (2.4.1). Of the four types, type 1 is undoubtedly the most overt and transparent form of banking protectionism. Between 2006 and 2013, it was relatively more common in developed countries, trending upwards in non-European developed countries and downwards in the Asia Pacific region.

Exhibit 43 – Type 1: regression results [199]

TYPE1									
	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.131	(0.00)	***	-0.120	(0.00)	***	-0.110	(0.01)	**
log(GDPSHARE)	0.523	(0.00)	***	0.509	(0.00)	***	0.752	(0.00)	***
CAPRWA	-0.111	(0.00)	**	-0.114	(0.00)	**	0.082	(0.00)	***
log(GDPCAP)	0.598	(0.00)	***	0.662	(0.00)	***	-0.134	(0.55)	
GDPGROWTH	0.110	(0.00)	**	0.172	(0.00)	***	0.010	(0.47)	
log(EXPDEP)	-0.437	(0.03)	*	-0.444	(0.03)	*	-0.043	(0.88)	
log(DEBTGDP)	0.786	(0.00)	***	0.820	(0.00)	***	0.315	(0.08)	.
R2	0.390			0.399			0.139		
n	402			402			402		
ESTIMATOR SELECTION									
Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE								
Hausman Test: (FE vs. RE)	p-value < 0.00 ► FE > RE								

The Lagrange Multiplier and Hausmann tests suggest the presence of unobserved time fixed effects and I therefore primarily consider the results of the time FE estimation.

[199] For exhibits 43-47: significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 / FE: Fixed Effects / RE: Random Effects.

The negative and strongly significant POLITY coefficient suggests that democratic states are clearly less likely to make use of the most transparent form of banking protectionism, even when controlling for macroeconomic factors reflecting fiscal or current account imbalances.

The log(GDPSHARE) coefficient is both positive and strongly significant. If other factors are constant, powerful states are therefore much more likely to engage in type 1 banking protectionism. Conversely, smaller states are less liable to impose market entry restrictions. One should note that this relationship is not result of the potentially higher dependence of smaller countries on services exports, as this effect was controlled for through the inclusion of the log(EXPDEP) variable.

The coefficient for the independent variable of interest CAPRWA is negatively signed and strongly significant, indicating that banking protectionism is less likely in countries that have more effective prudential frameworks, as proxied by levels of bank capital adequacy ratios. This finding is unrelated to the capacity of governments to react effectively to a financial crisis, an aspect which is controlled for by incorporating the variable log(DEBTGDP) in the regression model.

A consideration of the control variables shows that type 1 banking protectionism is significantly more likely to be found in countries with higher GDP per capita, stronger GDP growth, and higher debt as a percentage of GDP. Also, countries with economies that are more dependent on services exports are less likely to impose market entry restrictions.

Under ***type 2 banking protectionism***, foreign banks face regulatory treatment that puts them at a competitive disadvantage relative to their domestic peers. Such instances most frequently materialize in the form of additional regulatory requirements for foreign firms, but also as cases of asymmetric enforcement of

regulations which, on paper, apply equally to foreign and domestic firms (2.4.2). Type 1 and type 2 are at opposite ends of the transparency spectrum, instances of type 2 being the most complex and opaque category of banking protectionism.

Exhibit 44 – Type 2: regression results

TYPE2									
	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.012	*(0.22)*		-0.011	*(0.27)*		-0.011	*(0.43)*	
log(GDPSHARE)	-0.076	*(0.03)*	*	-0.071	*(0.04)*	*	-0.054	*(0.29)*	
CAPRWA	0.031	*(0.01)*	**	0.029	*(0.01)*	*	0.035	*(0.01)*	**
log(GDPCAP)	0.194	*(0.00)*	***	0.186	*(0.00)*	***	0.170	*(0.01)*	*
GDPGROWTH	0.010	*(0.35)*		0.011	*(0.42)*		0.011	*(0.28)*	
log(EXPDEP)	-0.235	*(0.00)*	***	-0.227	*(0.00)*	***	-0.176	*(0.05)*	.
log(DEBTGDP)	0.181	*(0.00)*	**	0.168	*(0.01)*	**	0.196	*(0.01)*	*
R2	0.072			0.062			0.216		
n	402			402			402		
ESTIMATOR SELECTION									
Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE								
Hausman Test: (FE vs. RE)	p-value = 0.87 ► FE < RE								

The Lagrange Multiplier and Hausmann tests suggest that RE is the most suitable estimation method. The coefficients for the three independent variables of interest are similar in the pooled OLS, FE and RE cases.

The POLITY coefficient is not significant, suggesting that democracy is not an important factor when it comes to explaining variations in the use of less transparent trade barriers such as type 2 banking protectionism.

The log(GDPSHARE) coefficient is negatively signed, albeit not strongly significant. This offers some weak support for the idea that smaller countries are more likely to engage in type 2 banking protectionism than more powerful countries, which stands in contrast to our finding in the type 1 case.

The CAPRWA coefficient is positive and strongly significant, thereby indicating that authorities in countries with effective prudential frameworks are more likely to impose type 2 policies, a finding which stands in contrast to that from the type 1 case. As suggested in the next-subsection, transparency is a helpful factor when it comes to explaining the contrasting results between the type 1 and type 2 regressions.

As shown by the significant results for both control variables log(GDPCAP) and log(DEBTGDP), asymmetric regulation is significantly more likely in richer countries and countries with higher levels of public debt. In line with the type 1 results, countries that are dependent on services exports are also less likely to engage in type 2 banking protectionism. However, short-term macroeconomic conditions, such as GDP growth, seem less relevant.

Under ***type 3 banking protectionism***, domestic financial institutions are subsidized and thereby given a competitive advantage relative to foreign rivals. Such subsidies may take the form of direct state aid to financial institutions such as recapitalization or less direct aid such as deposit or loan guarantee schemes (2.4.3). Instances of asymmetric subsidies are only found in European countries – both developed and developing – and non-European developed countries. The extent of type 3 banking protectionism peaked in 2009.

Exhibit 45 – Type 3: regression results

TYPE3									
	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	0.019	*(0.63)*		0.028	*(0.48)*		0.019	*(0.71)*	
log(GDPSHARE)	0.291	*(0.03)*	*	0.256	*(0.07)*	.	0.250	*(0.14)*	
CAPRWA	-0.026	*(0.55)*		-0.016	*(0.73)*		-0.014	*(0.77)*	
log(GDPCAP)	0.057	*(0.76)*		0.162	*(0.41)*		0.089	*(0.73)*	
GDPGROWTH	-0.202	*(0.00)*	***	-0.123	*(0.02)*	*	-0.192	*(0.00)*	***
log(EXPDEP)	0.409	*(0.10)*	.	0.357	*(0.15)*		0.361	*(0.28)*	
log(DEBTGDP)	-0.161	*(0.48)*		-0.035	*(0.88)*		-0.160	*(0.60)*	
R2	0.147			0.105			0.098		
n	402			402			402		

ESTIMATOR SELECTION	
Lagrange Multiplier Test (Honda):	p-value < 0.00
(Pooled OLS vs. RE)	► Pooled OLS < RE
Hausman Test:	p-value = 0.81
(FE vs. RE)	► FE < RE

The Lagrange Multiplier and Hausmann tests are largely irrelevant, as the regression results are very similar across all of the three estimation methods considered.

The POLICY and CAPRWA coefficients are insignificant. Democracy or the presence of effective prudential frameworks do not therefore seem to be material determinants of type 3 banking protectionism. The log(GDPSHARE) coefficient is positive and somewhat significant, which suggests that more powerful countries are more likely to engage in type 3 banking protectionism.

The most powerful variable by some margin in the type 3 case is log(GDPGROWTH). Asymmetric subsidies are significantly more likely to be found in countries experiencing an economic downturn. The coefficient estimate is robust to the exclusion of the post-GFC years 2008 or 2009 from the sample (see Appendix).

The cross-border transfer of capital is essential to international trade in financial services, whether it is carried out on a cross-border basis or through the

establishment of a local commercial presence. As such, capital controls effectively prevent the cross-border provision of most financial services and should therefore be considered as potential instances of ***type 4 banking protectionism*** (2.4.4). Together with type 1, type 4 constitutes one of the more overt and transparent forms of banking protectionism. Over the time period considered in this dissertation, type 4 trends downwards in the Asia and Pacific region and upwards in developed Europe, but remains more common in developing regions.

Exhibit 46 – Type 4: regression results

TYPE4								
	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.045	*(0.21)*		-0.041	*(0.25)*		-0.103	*(0.04)*	*
log(GDPSHARE)	0.139	*(0.27)*		0.156	*(0.22)*		0.116	*(0.61)*	
CAPRWA	-0.010	*(0.79)*		-0.018	*(0.67)*		-0.017	*(0.52)*	
log(GDPCAP)	-0.327	*(0.06)*	.	-0.355	*(0.05)*	*	-0.340	*(0.20)*	
GDPGROWTH	-0.003	*(0.93)*		-0.002	*(0.97)*		-0.010	*(0.57)*	
log(EXPDEP)	-0.563	*(0.01)*	*	-0.534	*(0.02)*	*	-0.065	*(0.84)*	
log(DEBTGDP)	0.182	*(0.39)*		0.138	*(0.53)*		0.437	*(0.05)*	.
R2	0.104			0.106			0.065		
n	402			402			402		

ESTIMATOR SELECTION	
Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► FE > RE

The Lagrange Multiplier and Hausmann tests suggest that fixed effects estimation should be the preferred method.

The POLITY coefficient, while only weakly significant, is negative. This suggests that more democratic countries are less likely to engage in type 4 measures. This finding is in line with the type 1 case but stands in contrast with results in the type 2 and type 3 regressions. These combined findings serve to strengthen the idea that transparency is an important factor in the context at hand.

Larger states are more likely to impose capital controls, even after controlling for factors such as GDP per capita and services export dependency. This result is in the line with the findings made in the type 1 and type 2 cases. However, the CAPRWA coefficients are not significant.

The only two significant control variables are log(GDPCAP) and log(EXPDEP). As in the type 1 and 2 cases, countries that are more dependent on services exports are less likely to impose capital controls. In contrast to the type 1 and 2 cases, however, type 4 banking protectionism is more likely in less developed countries.

4.2.3.2 Assessment of each set of hypotheses

An analysis across all four types proves helpful when interpreting the regression results, not least because the sets of hypotheses introduced in section 4.1 have varying implications depending on the type of banking protectionism considered. In the present sub-section, I therefore address each of the three sets of hypotheses in sequence and conclude with a brief consideration of the control variables. The results are summarized in exhibit 47.

Exhibit 47 – Regression results across all types [200]

	TYPE1			TYPE2		
	Pooled OLS	Time FE	RE	Pooled OLS	Time FE	RE
	Coef	Coef	Coef	Coef	Coef	Coef
POLITY	-0.131 ***	-0.120 ***	-0.110 **	-0.012	-0.011	-0.011
log(GDPSHARE)	0.523 ***	0.509 ***	0.752 ***	-0.076 *	-0.071 *	-0.054
CAPRWA	-0.111 **	-0.114 **	0.082 ***	0.031 **	0.029 *	0.035 **
log(GDPCAP)	0.598 ***	0.662 ***	-0.134	0.194 ***	0.186 ***	0.170 *
GDPGROWTH	0.110 **	0.172 ***	0.010	0.010	0.011	0.011
log(EXPDEP)	-0.437 *	-0.444 *	-0.043	-0.235 ***	-0.227 ***	-0.176 .
log(DEBTGDP)	0.786 ***	0.820 ***	0.315 .	0.181 **	0.168 **	0.196 *
R2	0.390	0.399	0.139	0.072	0.062	0.216
n	402	402	402	402	402	402

	TYPE3			TYPE4		
	Pooled OLS	Time FE	RE	Pooled OLS	Time FE	RE
	Coef	Coef	Coef	Coef	Coef	Coef
POLITY	0.019	0.028	0.019	-0.045	-0.041	-0.103 *
log(GDPSHARE)	0.291 *	0.256 .	0.250	0.139	0.156	0.116
CAPRWA	-0.026	-0.016	-0.014	-0.010	-0.018	-0.017
log(GDPCAP)	0.057	0.162	0.089	-0.327 .	-0.355 *	-0.340
GDPGROWTH	-0.202 ***	-0.123 *	-0.192 ***	-0.003	-0.002	-0.010
log(EXPDEP)	0.409 .	0.357	0.361	-0.563 *	-0.534 *	-0.065
log(DEBTGDP)	-0.161	-0.035	-0.160	0.182	0.138	0.437 .
R2	0.147	0.105	0.098	0.104	0.106	0.065
n	402	402	402	402	402	402

The domestic political economy of foreign economic policy generally deals with how interests are dealt with by domestic political institutions. According to the ***optimal obfuscation hypothesis***, one concept within this subset of IPE, democratically elected leaders have an incentive to pursue trade-liberalizing policies only if such policies are or can be made transparent. Conversely, they are largely free of voter scrutiny when it comes to more complex measures. Taking into account the underlying assumption that voters prefer more liberal trade policies because such policies increase their welfare as consumers, more democratic countries should be expected to be less likely to engage in simple,

[200] As mentioned above, the Lagrange Multiplier and Hausman statistics imply that fixed effects is the suitable estimation method for the TYPE1 and TYPE4 regressions, while random effects should be considered for the TYPE2 and TYPE 3 regressions. However, with just a few exceptions, the results are very similar across all three estimation methods, notably with respect to the three independent variables of interest POLITY, log(GDPSHARE) and CAPRWA. This is an indication that possible unobserved effects have no material bearing on the relationship between the independent variables of interest and the different types of banking protectionism.

transparent forms of banking protectionism such as type 1 (market entry restrictions) or type 4 (capital controls) than more complex, opaque forms such as type 2 (asymmetric regulation) or type 3 (asymmetric subsidies).

Optimal obfuscation hypothesis

H1: More democratic countries should have lower levels of type 1 and type 4 banking protectionism, higher levels of type 3 banking protectionism, and still higher levels of type 2 banking protectionism than less democratic ones.

The negative relationship between the independent variable of interest POLITY and the dependent variables TYPE1 and TYPE4 – strongly significant in the former case and weakly significant in the latter – is in line with the hypothesis that democratic states are clearly less likely to make use of the more transparent forms of banking protectionism such as market entry restrictions and capital controls, even when controlling for macroeconomic factors reflecting fiscal or current account imbalances. However, democracy does not seem to matter when it comes to explaining variation in TYPE2 and TYPE3, as highlighted by the less significant coefficients: democratically elected politicians are not more likely to make use of complex, opaque forms of banking protectionism than autocratic leaders. One possible explanation for this finding is that voters are in fact well enough informed about type 2 and type 3 banking protectionism to enable them to scrutinize the trade policy decisions of their authorities. Another set of explanations could be related to the idea that the interests of politicians and stakeholders are more complex than assumed under Kono's framework. In other words, politicians may be motivated by factors other than votes and money, and/or the preferences of voters and interest groups regarding trade policy may be neither constant nor homogeneous.

The international interaction sub-field of IPE concerns ways in which states relate to each other as they define their economic policies, along with the institutional forms taken by international economic relations. Some of this sub-field deals with positional considerations and how relative features of states contribute to shaping their respective foreign economic policies. The hypothesis at hand focuses on the international distribution of ***state power*** as a potential determinant of banking protectionism. A brief consideration of the four state interests according to Krasner (1976) suggests that powerful countries should be more likely than less powerful countries to engage in banking protectionism. Moreover, one could expect less powerful states with economies that are more dependent on international markets to have higher incentives to obfuscate trade restrictions, so as to reduce the likelihood of harmful retaliatory measures. I test these predictions using the share of global GDP as a proxy for state power.

State power hypotheses

H2a: Smaller countries are less likely to engage in banking protectionism than larger countries.

H2b: Larger countries are less likely to engage in banking protectionism than smaller countries.

H2c: If H2a is true, then particularly so in the cases of type 1 and 4 banking protectionism. If H2b is true, then particularly so in the case of type 2 banking protectionism.

While somewhat significant in all four panel regressions – with p values ranging between 0.00 and 0.29 – the coefficients for the variable of interest log(GDPSHARE) are positive for TYPE1, TYPE3 and TYPE4, but negative for TYPE2. Holding other factors constant, powerful states are more likely to engage in market entry restrictions, asymmetric regulation or capital controls,

which is in line with H2a. This finding is somewhat puzzling considering that certain factors central to the rationale behind this hypothesis are controlled for. By holding log(EXPDEP) constant in particular, I show that it is not a smaller dependence on international trade in banking services that drives powerful economies to be more protectionist. Conversely, smaller states are not less protectionist because they export a larger share of their GDP in the form of services. While the hypothesis stating that smaller states are less protectionist seems confirmed, the underlying reasons seem unclear.

The TYPE2 regressions results may provide a valuable cue. They indicate that smaller states are in fact significantly *more* likely to engage in asymmetric regulation – the most complex and opaque form of banking protectionism – than powerful states, thereby contradicting H2a and supporting the alternative H2b. The fact that smaller states are simultaneously less likely to engage in types 1, 3 and 4 banking protectionism and more likely to engage in type 2 banking protectionism suggests that transparency could be an important factor. As stated above, smaller states may have a greater incentive to obfuscate trade restrictions in order to reduce the likelihood of harmful retaliatory measures.[201] Conversely, more powerful states may be indifferent to the transparency of their trade restrictions as they are generally less vulnerable to retaliatory measures. In any case, hypothesis H2c is clearly confirmed.

Within the domestic-international interaction sub-field of IPE, scholars focus on how domestic interests and policies are shaped by the international economy and on the role of authorities as intermediary institutions between the domestic and international levels. I choose to focus on a hypothesis which constitutes an empirical application of Ruggie's concept of embedded liberalism, namely that

[201] And their effects on social stability or economic growth for instance.

domestic support for free trade can be secured by embedding liberal trade policies within commitments to some form of financial ***stability*** safeguards. I argue that public support for free trade in banking services is secured primarily through the maintenance of an effective prudential framework resulting in strong capital adequacy ratios. Accordingly, countries with more liberal trading policies should be expected to have higher capital adequacy ratios.

Stability hypotheses

H3a: Countries that display higher levels of bank capital adequacy ratios should display lower levels of banking protectionism.

H3b: The relationship hypothesized under H3a should be least significant in the case of type 2 banking protectionism.

The coefficients for the variable of interest CAPRWA are negatively signed in the TYPE1, TYPE3 and TYPE4 regressions, indicating that banking protectionism is less likely in countries with high bank capital adequacy ratios. However, statistical significance in only achieved in the TYPE1 regression. The corresponding coefficient in the TYPE2 regression is significantly positive. The validity of H3a is thus strongly dependent on the type of banking protectionism considered. Here too, a consideration of transparency and complexity aspects proves helpful when it comes to interpreting the results. The idea of states aiming to minimize public opposition to liberal banking trade policies lies at the very core of the stability hypotheses. However, the public is naturally less likely to oppose policies of which it is unaware. This may explain why the validity of H3a decreases along with the simplicity and transparency of the types of banking protectionism, as it clearly holds for the most simple and transparent type – market entry restrictions (type 1) – while it is equally clearly rejected for the most complex and opaque type – asymmetric regulation (type 2)

– while the results are unclear for the intermediate types – asymmetric subsidies (type 3) [202] and capital controls (type 4).

The coefficient for log(DEBTGDP) is positive for type 1, 2 and 4, offering some support for the idea that voters and consumers are less likely to back potentially destabilizing free trade in banking services if they have doubts about their governments' capacity to react effectively to a financial crisis. However, statistical significance is only achieved in the TYPE1 and TYPE2 regressions while the coefficient is largely insignificant in the TYPE3 and TYPE4 regressions. The strongly significant positive coefficient in the TYPE2 regression is puzzling in light of the above discussion relating to the relevance of public support in the case of nontransparent policies. The stability hypothesis does not provide a helpful explanatory framework in this respect.

The three sets of hypotheses at hand cannot be tested against each other, as they do not lead to conflicting explanations for variations in levels of banking protectionism. For instance, democracy and state power are not mutually exclusive as potential determinants of banking protectionism. However, one could ask which of these sets of hypotheses is more powerful when it comes to explaining the variation in banking protectionism across countries and years. I address this question by considering different predictor combinations and the resulting values for several standard information criteria. Exhibit 48 features the pooled data AICs for four combinations: the full model, and three models each of which excludes one of the three independent variables of interest – each of these variables being the main central predictor for one set of hypotheses.

[202] The missing linkage between asymmetric absence of a strong link bank capitalization and asymmetric subsidies is particularly interesting, as it suggests that low levels of bank capital ratios are not the main drivers of instances of bailouts and loan guarantees. The results indicate that a country's wealth and its short-term macroeconomic performance are much more relevant.

Exhibit 48 – AICs for full models and when excluding each of the three independent variables of interests

TYPE1	
POLITY log (GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1812
excluding POLITY	1826
excluding log(GDPSHARE)	1831
excluding CAPRWA	2282
TYPE2	
POLITY log (GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	843
excluding POLITY	843
excluding log(GDPSHARE)	846
excluding CAPRWA	1118
TYPE3	
POLITY log (GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1957
excluding POLITY	1956
excluding log(GDPSHARE)	1960
excluding CAPRWA	2320
TYPE4	
POLITY log (GDPSHARE) CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1883
excluding POLITY	1882
excluding log(GDPSHARE)	1882
excluding CAPRWA	2320

While dropping POLITY and log(GDPSHARE) do not lead to a significantly worse model fit, dropping CAPRWA does. A consideration of other information criteria such as R^2 or BIC leads to identical conclusions. The presence of effective prudential frameworks as proxied by bank capital adequacy ratios therefore explains more of the variations in all types of banking protectionism than democracy or state power. This suggests that the stability hypotheses are relatively more powerful.

The coefficients of the ***control variables*** are largely as expected based on the descriptive statistics (see 4.3.2). The log(EXPDEP) and log(DEBTGDP) coefficients are significant in the TYPE1, TYPE2 and TYPE4 regressions. Other factors held constant, states which are large exporters of services are less likely to engage in banking protectionism as they may fear harmful counter-measures. By contrast, states with high levels of public debt are more likely to engage in

banking protectionism. TYPE3 is strongly dependent on log(GDPGROWTH), while most other factors are insignificant. Asymmetric subsidies are more likely to be found in countries that are experiencing an economic downturn. This greater likelihood of asymmetric subsidies in times of lower economic growth could be traced back to a perceived[203] need for stabilization of the financial system. Another result worth noting is that more developed countries are significantly less likely to make use of capital controls, but more likely to engage in all other forms of banking protectionism. Developing countries thus clearly tend to favour capital controls as a form of banking protectionism. One possible explanation is that that capital controls are easier to implement than market entry restrictions and asymmetric restrictions and do not require the large financial commitments that are necessary for asymmetric subsidies.

While it was not conceived as an attempt to develop a fully-fledged theory of banking protectionism, this chapter succeeded in identifying some of its determinants. Democracy, state power and effective prudential frameworks are all important determining factors regarding the extent of banking protectionism across the countries and years considered in this dissertation. Transparency and simplicity prove to be central aspects when it comes to explaining the varying degrees of significance across these three independent variables of interest and the four types of banking protectionism. I find, for instance, that democratic states are less likely to make use of the more transparent and simple types of banking protectionism, that less powerful states are relatively more likely to engage in the most opaque and complex type of banking protectionism, and that the relevance of effective prudential frameworks decreases in line with the simplicity and transparency of the types of banking protectionism considered,

[203] The actual necessity of asymmetric subsidies to maintain financial stability has already been accounted for when constructing our measure of type 3 banking protectionism, as extensively discussed in chapter 3.

respectively holding other factors constant.

The above constitutes a modest first attempt at investigating the determinants of banking protectionism. The theory underlying the hypotheses at hand and the regression results hint at many promising paths for future research. Some of these are addressed below.

5 Conclusion

The far-reaching regulatory reforms which followed the global financial crisis (GFC) of 2007-2008 prompted numerous contemporary observers in academics, government and elsewhere to warn of the imminent threat of financial protectionism and of its dire consequences for an already ailing world economy. For some of these observers, this danger soon materialized in the form of a sudden and sustained drop in levels of cross-border lending. Others were less alarmed, arguing that reduced international capital flows were simply a manifestation of legitimate steps taken by governments to maintain financial stability.

More than ten years after the onset of the GFC, the topic remains highly relevant, as shown by the ongoing debate about the EU's intermediate parent undertaking requirement. According to this draft law proposed by the EU Commission, certain foreign banks would have to pool their EU operations under a single EU-based holding company. This is widely regarded as outright retaliation to similar rules which were imposed by U.S. authorities in 2014 and had been decried as protectionist by the EU Commission itself (Barker & Braithwaite, 2013).

Nevertheless, there is no consensus on the actual definition of protectionism as it relates to the financial services sector. Even a cursory look at the literature illustrates the wide variety of meanings and merits attributed to the concept of financial protectionism. As a consequence, the popular and scientific debate on the topic has been both excessively normatively loaded and disappointingly unproductive.

The objective of this dissertation is to enable and initiate a more constructive discourse by answering three simple yet fundamental questions: *What is financial protectionism? How does one measure it? What are some of its determinants?*

The need to tackle the first question was motivated by a literature review which revealed the ill-defined nature of the concept of financial protectionism, as evidenced by its inconsistent use in mainstream media, official publications and even scholarly work. Financial protectionism in this dissertation was defined as the set of national policies which illegitimately and unnecessarily restrains international trade in financial services. By considering two concepts which are central to WTO agreements – legitimacy and necessity – it aimed to strike a balance between the domestic interest in regulatory autonomy and the multilateral interest in free trade and recognized that there exists a set of conditions under which authorities must be able to impose restrictions on the liberty to provide financial services across borders, namely when such restrictions are necessary to achieve the core prudential objective of sustaining financial stability. This definition led to a taxonomy of financial protectionism that differentiates between four types: market entry restrictions, asymmetric regulation, asymmetric subsidies and capital controls.

Having proposed a conceptual framework that is both transparent and substantiated, and focusing on the subset of financial protectionism which relates to banking services, I then addressed the second question by developing measures for all four types of banking protectionism. These measures were inspired by the rich literature on non-tariff trade barriers and were designed to meet the criteria of objectivity, comparability, conceptuality and implementability. A consideration of the resulting measures for a sample of 63 countries between 2006 and 2013 reveals a gradual shift toward the most complex and opaque type of banking protectionism, asymmetric regulation. Market entry restrictions, asymmetric regulation and asymmetric subsidies were relatively more frequent in developed countries, while instances of capital controls were concentrated in developing regions. Instances of asymmetric subsidies peaked

in the immediate aftermath of the global financial crisis and were much less common in later years. The overall extent of market entry restrictions and capital controls did not evolve significantly on a global scale, but there were clear differences among regions. By contrast, symmetric regulation featured a clearly recognizable and globally homogeneous upwards trend.

Building on this effort, I then made a first attempt to investigate some of the determinants of banking protectionism. I drew on the International Political Economy literature to introduce three sets of hypotheses which may produce valid accounts of variations in the levels of banking protectionism across countries and years. I then tested the validity of these hypotheses by applying panel data estimation methods. Transparency and simplicity turned out to be recurring themes when interpreting the results relating to all three hypotheses. I found that democratic countries are less likely to use overt and simple types of banking protectionism, a conclusion which is in line with the *optimal obfuscation hypothesis*. Furthermore, a test of the *state power hypothesis* suggested that powerful countries are more likely than smaller ones to engage in overt and simple forms of banking protectionism, as they may be less vulnerable to potential retaliatory measures. Moreover, the results indicated that banking protectionism is generally less likely in countries that have effective prudential frameworks. However, the *stability hypothesis* became less conclusive as the complexity and opaqueness of the banking protectionism types under consideration increased.

The concepts, methods and findings presented in this dissertation are of relevance to scholars and policymakers alike. The former should see the greatest value in the conceptual framework provided, as it will allow them to overcome the obvious limitations inherent in the analysis of a poorly defined object of study. The latter may be more interested in the measures proposed, since they

represent a way of making better-informed decisions when evaluating a range of foreign economic policies. Both are likely to be receptive to the initial findings regarding the drivers behind a phenomenon that has become particularly relevant against the backdrop of post-GFC regulatory reforms.

By contributing to a hitherto largely uncharted field of study, this dissertation suggests numerous paths for future research.

Further research could, for instance, focus on refining the measures proposed in chapter 3. As pointed out above, these measures have a number of shortcomings. The most significant of these is that they are designed to allow for within-type comparisons across time and space but are not helpful when it comes to between-type comparisons for a given country at a given point in time. This shortcoming is rooted in the methodological assumptions underlying the different measures and addressing it would thus be a sizable undertaking. A less ambitious yet undeniably worthwhile objective might be to generalize the measures of banking protectionism proposed to encompass all forms of financial services. This objective is likely to be well within reach in the mid-term due to improved data availability.

However, some of the most promising areas for further research relate to our understanding of the determinants of banking protectionism. As indicated by the limited explanatory power of the models used in chapter 4 of this dissertation, much remains to be explored. The above analysis hints at a range of alternatives.

An *initial* – comparatively straightforward – way of improving our understanding of the determinants of banking protectionism would be to increase the sample size. Data availability was a significant constraint when developing measures for the four types of banking protectionism, limiting both the time

range and the width of the country cross-section. As illustrated by the methodological discussion above, improved data availability would be particularly beneficial if it enabled an expansion of the time range, thereby naturally increasing within-country variation.

A *second* possible path consists in departing from the quantitative approach adopted in this dissertation by making qualitative inquiries into some of the hypothesized relationships. The various cross-sections constitute a useful basis with a view to identifying countries that may be suitable for case studies, either because they conform to the expectations implied by theory or because they are outliers.

Thirdly, one could explore some of the numerous other hypotheses that can be drawn from the three sub-fields of IPE: the domestic political economy of foreign economic policy, international interaction and domestic-international interaction. The first of these sub-fields seems particularly promising in this respect. Research on the domestic political economy could relate to the role of political institutions when it comes to aggregating stakeholder preferences into economic policy and could address questions pertaining to the legal capacity of various authorities to engage in banking protectionism and the degree of exposure of these authorities to stakeholder pressure. Work on international interactions could focus on how these national interests affect each other. For instance, one could consider if and to what extent a country's banking trade policy is driven by other countries' banking trade policies in earlier periods or by expectations about how such banking trade policies might evolve in future periods. Efforts relating to domestic-international interactions could concentrate on a Stolper-Samuelson argument according to which expanding international trade in banking services strengthens domestic owners of factors needed in the production of banking services – such as capital, thereby enabling them to influence their authorities' banking trade policies.

The objective of this dissertation was not to propose a comprehensive theory of financial protectionism. Rather, it was meant as an initial contribution to the interdisciplinary bodies of literature on the nature, measurement and determinants of financial protectionism. The absence of a consensus on the very definition of financial protectionism has so far prevented constructive discussion of the phenomenon, whether among scholars, policymakers or the wider public. By developing a definition that is both substantiated and transparent on the one hand and proposing initial applications of this definition on the other hand, I have sought to demonstrate that a productive discourse on financial protectionism is both worthwhile and possible.

Appendix – Regression results: robustness checks [204]

Dropping data from 2006

TYPE1

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.136	(0.00)	***	-0.124	(0.00)	***	-0.130	(0.02)	*
log(GDPSHARE)	0.502	(0.00)	***	0.487	(0.00)	***	0.760	(0.00)	***
CAPRWA	-0.123	(0.00)	**	-0.128	(0.00)	**	0.094	(0.00)	**
log(GDPCAP)	0.580	(0.00)	***	0.644	(0.00)	***	-0.076	(0.75)	
GDPGROWTH	0.104	(0.00)	**	0.167	(0.00)	***	0.004	(0.76)	
log(EXPDEP)	-0.471	(0.03)	*	-0.476	(0.03)	*	0.098	(0.72)	
log(DEBTGDP)	0.818	(0.00)	***	0.849	(0.00)	***	0.221	(0.23)	
R2	0.390			0.399			0.138		
n	376			376			376		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE > RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1730
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1999
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1711**

TYPE2

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.011	(0.30)		-0.010	(0.35)		-0.009	(0.55)	
log(GDPSHARE)	-0.074	(0.04)	*	-0.070	(0.05)	.	-0.053	(0.31)	
CAPRWA	0.034	(0.01)	**	0.032	(0.01)	*	0.037	(0.01)	**
log(GDPCAP)	0.200	(0.00)	***	0.194	(0.00)	***	0.173	(0.01)	*
GDPGROWTH	0.011	(0.31)		0.011	(0.42)		0.013	(0.22)	
log(EXPDEP)	-0.242	(0.00)	***	-0.234	(0.00)	***	-0.181	(0.05)	.
log(DEBTGDP)	0.190	(0.00)	**	0.177	(0.01)	**	0.190	(0.02)	*
R2	0.075			0.065			0.143		
n	376			376			376		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.97 ► **FE < RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	940
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	936
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**807**

TYPE3

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	0.023	(0.58)		0.033	(0.44)		0.030	(0.60)	
log(GDPSHARE)	0.307	(0.03)	*	0.270	(0.06)	.	0.299	(0.13)	
CAPRWA	-0.050	(0.30)		-0.034	(0.49)		-0.043	(0.43)	
log(GDPCAP)	0.069	(0.73)		0.179	(0.39)		0.095	(0.72)	
GDPGROWTH	-0.205	(0.00)	***	-0.131	(0.02)	*	-0.193	(0.00)	***
log(EXPDEP)	0.432	(0.10)	.	0.374	(0.15)		0.397	(0.26)	
log(DEBTGDP)	-0.194	(0.43)		-0.074	(0.77)		-0.245	(0.45)	
R2	0.153			0.114			0.099		
n	376			376			376		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.96 ► **FE < RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1853
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2082
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1852**

TYPE4

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.036	(0.33)		-0.032	(0.39)		-0.107	(0.09)	.
log(GDPSHARE)	0.102	(0.42)		0.115	(0.37)		0.241	(0.30)	
CAPRWA	-0.010	(0.81)		-0.018	(0.69)		-0.006	(0.82)	
log(GDPCAP)	-0.290	(0.10)	.	-0.307	(0.09)	.	-0.614	(0.03)	*
GDPGROWTH	0.011	(0.77)		0.016	(0.74)		-0.003	(0.85)	
log(EXPDEP)	-0.605	(0.01)	**	-0.580	(0.01)	*	0.185	(0.58)	
log(DEBTGDP)	0.177	(0.41)		0.136	(0.55)		0.379	(0.10)	.
R2	0.106			0.107			0.048		
n	376			376			376		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE > RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2018
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2017
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1750**

[204] Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 / FE: Fixed Effects / RE: Random Effects

Dropping data from 2007

TYPE1

	Pooled OLS		Time FE		RE	
	Coef	*(p-value)*	Coef	*(p-value)*	Coef	*(p-value)*
POLITY	-0.129	*(0.00)* ***	-0.120	*(0.00)* ***	-0.100	*(0.02)* *
log(GDPSHARE)	0.500	*(0.00)* ***	0.480	*(0.00)* ***	0.738	*(0.00)* ***
CAPRWA	-0.131	*(0.00)* ***	-0.132	*(0.00)* ***	0.068	*(0.00)* **
log(GDPCAP)	0.595	*(0.00)* ***	0.664	*(0.00)* ***	-0.108	*(0.63)*
GDPGROWTH	0.111	*(0.00)* **	0.169	*(0.00)* ***	0.006	*(0.69)*
log(EXPDEP)	-0.436	*(0.04)* *	-0.446	*(0.04)* *	-0.063	*(0.82)*
log(DEBTGDP)	0.838	*(0.00)* ***	0.882	*(0.00)* ***	0.407	*(0.03)* *
R2	0.397		0.405		0.130	
n	372		372		372	

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE > RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2013
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1999
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1704**

TYPE2

	Pooled OLS		Time FE		RE	
	Coef	*(p-value)*	Coef	*(p-value)*	Coef	*(p-value)*
POLITY	-0.010	*(0.31)*	-0.010	*(0.35)*	-0.009	*(0.54)*
log(GDPSHARE)	-0.072	*(0.05)* *	-0.068	*(0.06)* .	-0.050	*(0.34)*
CAPRWA	0.035	*(0.00)* **	0.033	*(0.01)* **	0.037	*(0.01)* *
log(GDPCAP)	0.198	*(0.00)* ***	0.191	*(0.00)* ***	0.174	*(0.01)* *
GDPGROWTH	0.012	*(0.28)*	0.012	*(0.40)*	0.014	*(0.17)*
log(EXPDEP)	-0.233	*(0.00)* ***	-0.227	*(0.00)* ***	-0.170	*(0.07)* .
log(DEBTGDP)	0.178	*(0.00)* **	0.167	*(0.01)* *	0.173	*(0.04)*
R2	0.072		0.063		0.140	
n	372		372		372	

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.98 ► **FE < RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	997
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	992
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**800**

TYPE3

	Pooled OLS		Time FE		RE	
	Coef	*(p-value)*	Coef	*(p-value)*	Coef	*(p-value)*
POLITY	0.023	*(0.53)*	0.030	*(0.48)*	0.025	*(0.65)*
log(GDPSHARE)	0.319	*(0.02)* *	0.277	*(0.06)* .	0.308	*(0.12)*
CAPRWA	-0.049	*(0.33)*	-0.035	*(0.48)*	-0.039	*(0.48)*
log(GDPCAP)	0.068	*(0.73)*	0.176	*(0.40)*	0.098	*(0.71)*
GDPGROWTH	-0.204	*(0.00)* ***	-0.134	*(0.02)* *	-0.195	*(0.00)* ***
log(EXPDEP)	0.441	*(0.11)*	0.383	*(0.15)*	0.402	*(0.26)*
log(DEBTGDP)	-0.189	*(0.45)*	-0.050	*(0.85)*	-0.231	*(0.48)*
R2	0.154		0.116		0.100	
n	372		372		372	

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.94 ► **FE < RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2086
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2080
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1836**

TYPE4

	Pooled OLS		Time FE		RE	
	Coef	*(p-value)*	Coef	*(p-value)*	Coef	*(p-value)*
POLITY	-0.040	*(0.27)*	-0.038	*(0.30)*	-0.089	*(0.08)* .
log(GDPSHARE)	0.115	*(0.37)*	0.130	*(0.32)*	0.119	*(0.60)*
CAPRWA	-0.016	*(0.70)*	-0.024	*(0.58)*	-0.021	*(0.44)*
log(GDPCAP)	-0.307	*(0.08)* .	-0.335	*(0.07)* .	-0.368	*(0.17)*
GDPGROWTH	0.003	*(0.93)*	0.001	*(0.98)*	-0.010	*(0.58)*
log(EXPDEP)	-0.584	*(0.01)* **	-0.554	*(0.02)* *	-0.078	*(0.82)*
log(DEBTGDP)	0.130	*(0.55)*	0.090	*(0.69)*	0.346	*(0.15)*
R2	0.107		0.108		0.039	
n	372		372		372	

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE > RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2023
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2024
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1730**

Dropping data from 2008

TYPE1

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.121	*(0.00)*	***	-0.011	*(0.00)*	**	-0.115	*(0.00)*	**
log(GDPSHARE)	0.478	*(0.00)*	***	0.450	*(0.00)*	***	0.707	*(0.00)*	***
CAPRWA	-0.122	*(0.00)*	**	-0.121	*(0.00)*	**	0.068	*(0.00)*	**
log(GDPCAP)	0.681	*(0.00)*	***	0.766	*(0.00)*	***	-0.025	*(0.91)*	
GDPGROWTH	0.115	*(0.00)*	***	0.186	*(0.00)*	***	0.018	*(0.18)*	
log(EXPDEP)	-0.470	*(0.03)*	*	-0.499	*(0.02)*	*	-0.186	*(0.51)*	
log(DEBTGDP)	0.768	*(0.00)*	***	0.827	*(0.00)*	***	0.458	*(0.02)*	*
R2	0.407			0.418			0.155		
n	352			352			352		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): p-value < 0.00
(Pooled OLS vs. RE) ► Pooled OLS < RE

Hausman Test: p-value < 0.00
(FE vs. RE) ► FE > RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2011
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1999
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1603**

TYPE2

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.010	*(0.27)*		-0.010	*(0.30)*		-0.013	*(0.35)*	
log(GDPSHARE)	-0.068	*(0.04)*	*	-0.062	*(0.07)*	.	-0.059	*(0.23)*	
CAPRWA	0.036	*(0.00)*	***	0.035	*(0.00)*	**	0.035	*(0.01)*	**
log(GDPCAP)	0.202	*(0.00)*	***	0.191	*(0.00)*	***	0.187	*(0.01)*	**
GDPGROWTH	0.006	*(0.53)*		0.004	*(0.76)*		0.005	*(0.60)*	
log(EXPDEP)	-0.172	*(0.00)*	**	-0.163	*(0.01)*	***	-0.129	*(0.14)*	
log(DEBTGDP)	0.121	*(0.04)*	*	0.107	*(0.07)*	*	0.149	*(0.06)*	.
R2	0.077			0.068			0.239		
n	352			352			352		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): p-value < 0.00
(Pooled OLS vs. RE) ► Pooled OLS < RE

Hausman Test: p-value = 0.98
(FE vs. RE) ► FE < RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	961
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	956
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**680**

TYPE3

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	0.008	*(0.83)*		0.020	*(0.61)*		0.008	*(0.88)*	
log(GDPSHARE)	0.315	*(0.03)*	*	0.288	*(0.04)*	*	0.281	*(0.15)*	
CAPRWA	-0.020	*(0.66)*		-0.013	*(0.78)*		0.000	*(1.00)*	
log(GDPCAP)	-0.040	*(0.84)*		0.049	*(0.81)*		0.020	*(0.94)*	
GDPGROWTH	-0.219	*(0.00)*	***	-0.145	*(0.01)*	**	-0.208	*(0.00)*	***
log(EXPDEP)	0.438	*(0.09)*	.	0.400	*(0.12)*		0.327	*(0.35)*	
log(DEBTGDP)	-0.108	*(0.66)*		-0.017	*(0.95)*		-0.051	*(0.87)*	
R2	0.159			0.106			0.115		
n	352			352			352		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): p-value < 0.00
(Pooled OLS vs. RE) ► Pooled OLS < RE

Hausman Test: p-value = 0.91
(FE vs. RE) ► FE < RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2004
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1997
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1690**

TYPE4

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.050	*(0.17)*		-0.047	*(0.21)*		-0.114	*(0.02)*	*
log(GDPSHARE)	0.073	*(0.59)*		0.084	*(0.54)*		-0.017	*(0.94)*	
CAPRWA	-0.006	*(0.89)*		-0.010	*(0.81)*		-0.026	*(0.36)*	
log(GDPCAP)	-0.235	*(0.21)*		-0.252	*(0.19)*		-0.111	*(0.69)*	
GDPGROWTH	0.003	*(0.94)*		0.009	*(0.86)*		-0.008	*(0.68)*	
log(EXPDEP)	-0.639	*(0.01)*	**	-0.620	*(0.01)*	*	-0.380	*(0.28)*	
log(DEBTGDP)	0.240	*(0.29)*		0.214	*(0.36)*		0.534	*(0.03)*	*
R2	0.100			0.102			0.045		
n	352			352			352		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): p-value < 0.05
(Pooled OLS vs. RE) ► Pooled OLS < RE

Hausman Test: p-value < 0.00
(FE vs. RE) ► FE > RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2027
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2029
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1645**

Dropping data from 2009

TYPE1

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.126	(0.00)	***	-0.122	(0.00)	***	-0.118	(0.00)	**
log(GDPSHARE)	0.506	(0.00)	***	0.511	(0.00)	***	0.785	(0.00)	***
CAPRWA	-0.101	(0.01)	*	-0.108	(0.01)	**	0.083	(0.00)	***
log(GDPCAP)	0.644	(0.00)	***	0.643	(0.00)	***	-0.173	(0.48)	
GDPGROWTH	0.129	(0.01)	**	0.423	(0.01)	**	0.003	(0.90)	
log(EXPDEP)	-0.482	(0.03)	*	-0.467	(0.03)	*	0.040	(0.89)	
log(DEBTGDP)	0.807	(0.00)	***	0.780	(0.00)	***	0.253	(0.18)	
R2	0.387			0.389			0.140		
n	349			349			349		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE** > RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2021
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2009
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1604**

TYPE2

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.014	(0.18)		-0.012	(0.25)		-0.013	(0.34)	
log(GDPSHARE)	-0.074	(0.04)	*	-0.070	(0.06)	.	-0.061	(0.22)	
CAPRWA	0.033	(0.01)	**	0.030	(0.14)	*	0.037	(0.01)	**
log(GDPCAP)	0.200	(0.00)	***	0.195	(0.00)	***	0.184	(0.01)	**
GDPGROWTH	0.005	(0.75)		0.009	(0.55)		0.004	(0.77)	
log(EXPDEP)	-0.192	(0.00)	**	-0.184	(0.01)	**	-0.161	(0.06)	.
log(DEBTGDP)	0.152	(0.02)	*	0.142	(0.03)	*	0.165	(0.04)	*
R2	0.068			0.058			0.191		
n	349			349			349		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.99 ► FE < **RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1001
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	996
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**734**

TYPE3

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	0.008	(0.82)		0.009	(0.82)		0.006	(0.90)	
log(GDPSHARE)	0.219	(0.09)	.	0.204	(0.12)		0.206	(0.23)	
CAPRWA	-0.001	(0.99)		0.009	(0.86)		0.010	(0.83)	
log(GDPCAP)	0.115	(0.53)		0.140	(0.45)		0.142	(0.55)	
GDPGROWTH	-0.133	(0.01)	**	-0.114	(0.04)	*	-0.118	(0.02)	*
log(EXPDEP)	0.240	(0.30)		0.205	(0.38)		0.207	(0.49)	
log(DEBTGDP)	0.012	(0.96)		0.077	(0.74)		0.080	(0.77)	
R2	0.097			0.086			0.056		
n	349			349			349		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.99 ► FE < **RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1927
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1924
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1619**

TYPE4

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.063	(0.10)		-0.058	(0.14)		-0.116	(0.02)	*
log(GDPSHARE)	0.120	(0.37)		0.135	(0.32)		0.131	(0.58)	
CAPRWA	-0.011	(0.80)		-0.018	(0.68)		-0.026	(0.37)	
log(GDPCAP)	-0.316	(0.09)	.	-0.337	(0.08)	.	-0.374	(0.20)	
GDPGROWTH	-0.028	(0.59)		-0.020	(0.72)		-0.029	(0.32)	
log(EXPDEP)	-0.566	(0.02)	*	-0.538	(0.03)	*	-0.041	(0.91)	
log(DEBTGDP)	0.204	(0.38)		0.166	(0.48)		0.419	(0.09)	.
R2	0.102			0.103			0.050		
n	349			349			349		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE** > RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2031
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2034
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1637**

Dropping data from 2010

TYPE1

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.131	*(0.00)*	***	-0.120	*(0.00)*	***	-0.114	*(0.01)*	**
log(GDPSHARE)	0.534	*(0.00)*	***	0.526	*(0.00)*	***	0.703	*(0.00)*	***
CAPRWA	-0.101	*(0.01)*	*	-0.105	*(0.01)*	*	0.079	*(0.00)*	***
log(GDPCAP)	0.610	*(0.00)*	***	0.679	*(0.00)*	***	-0.050	*(0.83)*	
GDPGROWTH	0.110	*(0.00)*	**	0.178	*(0.00)*	***	0.014	*(0.34)*	
log(EXPDEP)	-0.425	*(0.06)*	.	-0.422	*(0.06)*	.	-0.115	*(0.69)*	
log(DEBTGDP)	0.771	*(0.00)*	***	0.809	*(0.00)*	***	0.310	*(0.10)*	.
R2	0.380			0.389			0.150		
n	343			343			343		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE > RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2029
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2017
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1585**

TYPE2

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.012	*(0.23)*		-0.011	*(0.31)*		-0.012	*(0.39)*	
log(GDPSHARE)	-0.063	*(0.08)*	.	-0.056	*(0.12)*		-0.050	*(0.29)*	
CAPRWA	0.032	*(0.00)*	**	0.030	*(0.01)*	*	0.037	*(0.00)*	**
log(GDPCAP)	0.202	*(0.00)*	***	0.193	*(0.00)*	***	0.188	*(0.00)*	**
GDPGROWTH	0.015	*(0.16)*		0.017	*(0.22)*		0.016	*(0.11)*	
log(EXPDEP)	-0.191	*(0.00)*	**	-0.180	*(0.01)*	**	-0.160	*(0.06)*	.
log(DEBTGDP)	0.155	*(0.01)*	**	0.139	*(0.03)*	*	0.181	*(0.02)*	**
R2	0.077			0.064			0.235		
n	343			343			343		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.68 ► **FE < RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	977
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	972
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**696**

TYPE3

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	0.028	*(0.51)*		0.036	*(0.42)*		0.031	*(0.58)*	
log(GDPSHARE)	0.306	*(0.05)*	*	0.277	*(0.07)*	.	0.299	*(0.15)*	
CAPRWA	-0.016	*(0.74)*		-0.005	*(0.92)*		-0.009	*(0.86)*	
log(GDPCAP)	0.061	*(0.77)*		0.174	*(0.45)*		0.096	*(0.73)*	
GDPGROWTH	-0.214	*(0.00)*	***	-0.129	*(0.03)*	*	-0.197	*(0.00)*	***
log(EXPDEP)	0.393	*(0.15)*		0.349	*(0.20)*		0.351	*(0.34)*	
log(DEBTGDP)	-0.213	*(0.40)*		-0.073	*(0.78)*		-0.227	*(0.49)*	
R2	0.153			0.108			0.104		
n	343			343			343		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.97 ► **FE < RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2053
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2048
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1694**

TYPE4

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.044	*(0.25)*		-0.041	*(0.30)*		-0.106	*(0.04)*	*
log(GDPSHARE)	0.131	*(0.33)*		0.148	*(0.25)*		0.086	*(0.71)*	
CAPRWA	-0.016	*(0.72)*		-0.024	*(0.59)*		-0.020	*(0.49)*	
log(GDPCAP)	-0.339	*(0.07)*	.	-0.369	*(0.06)*	.	-0.303	*(0.27)*	
GDPGROWTH	-0.007	*(0.85)*		-0.006	*(0.90)*		-0.012	*(0.55)*	
log(EXPDEP)	-0.551	*(0.02)*	*	-0.521	*(0.03)*	*	-0.101	*(0.77)*	
log(DEBTGDP)	0.217	*(0.33)*		0.168	*(0.47)*		0.430	*(0.07)*	.
R2	0.100			0.102			0.050		
n	343			343			343		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.05 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE > RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2033
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2035
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1607**

Dropping data from 2011

TYPE1

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.129	(0.00)	***	-0.119	(0.00)	**	-0.101	(0.02)	*
log(GDPSHARE)	0.559	(0.00)	***	0.546	(0.00)	***	0.728	(0.00)	***
CAPRWA	-0.108	(0.01)	**	-0.112	(0.01)	**	0.081	(0.00)	***
log(GDPCAP)	0.564	(0.00)	**	0.627	(0.00)	***	-0.083	(0.72)	
GDPGROWTH	0.106	(0.00)	**	0.168	(0.00)	***	0.005	(0.74)	
log(EXPDEP)	-0.386	(0.09)	.	-0.394	(0.09)	.	-0.111	(0.70)	
log(DEBTGDP)	0.740	(0.00)	***	0.771	(0.00)	***	0.335	(0.08)	.
R2	0.388			0.397			0.157		
n	342			342			342		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE > RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2031
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2015
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1580**

TYPE2

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.012	(0.24)		-0.011	(0.30)		-0.010	(0.48)	
log(GDPSHARE)	-0.086	(0.02)	*	-0.083	(0.03)	*	-0.053	(0.34)	
CAPRWA	0.024	(0.04)	*	0.022	(0.07)	.	0.034	(0.01)	**
log(GDPCAP)	0.179	(0.00)	***	0.175	(0.00)	**	0.145	(0.05)	.
GDPGROWTH	0.008	(0.43)		0.013	(0.37)		0.009	(0.36)	
log(EXPDEP)	-0.278	(0.00)	***	-0.271	(0.00)	***	-0.199	(0.04)	*
log(DEBTGDP)	0.220	(0.00)	***	0.211	(0.00)	**	0.227	(0.01)	**
R2	0.078			0.069			0.278		
n	342			342			342		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.31 ► **FE < RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	987
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	981
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**722**

TYPE3

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	0.026	(0.55)		0.034	(0.43)		0.028	(0.61)	
log(GDPSHARE)	0.259	(0.09)	.	0.216	(0.16)		0.244	(0.21)	
CAPRWA	-0.051	(0.28)		-0.040	(0.40)		-0.044	(0.40)	
log(GDPCAP)	0.041	(0.85)		0.162	(0.46)		0.082	(0.76)	
GDPGROWTH	-0.215	(0.00)	***	-0.129	(0.02)	*	-0.203	(0.00)	***
log(EXPDEP)	0.364	(0.18)		0.298	(0.28)		0.316	(0.36)	
log(DEBTGDP)	-0.252	(0.31)		-0.114	(0.66)		-0.245	(0.43)	
R2	0.152			0.100			0.117		
n	342			342			342		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.85 ► **FE < RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2029
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2024
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1671**

TYPE4

	Pooled OLS			Time FE			RE		
	Coef	(p-value)		Coef	(p-value)		Coef	(p-value)	
POLITY	-0.037	(0.34)		-0.034	(0.39)		-0.089	(0.09)	.
log(GDPSHARE)	0.186	(0.19)		0.206	(0.15)		0.140	(0.56)	
CAPRWA	-0.010	(0.81)		-0.019	(0.67)		-0.006	(0.84)	
log(GDPCAP)	-0.406	(0.04)	*	-0.443	(0.03)	*	-0.366	(0.19)	
GDPGROWTH	-0.014	(0.72)		-0.017	(0.74)		-0.015	(0.41)	
log(EXPDEP)	-0.472	(0.06)	.	-0.438	(0.09)	.	-0.048	(0.89)	
log(DEBTGDP)	0.165	(0.47)		0.111	(0.64)		0.396	(0.09)	.
R2	0.097			0.099			0.053		
n	342			342			342		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE > RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2047
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2046
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1615**

Dropping data from 2012

TYPE1

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.139	*(0.00)*	***	-0.128	*(0.00)*	***	-0.106	*(0.01)*	*
log(GDPSHARE)	0.542	*(0.00)*	***	0.527	*(0.00)*	***	0.751	*(0.00)*	***
CAPRWA	-0.098	*(0.01)*	*	-0.101	*(0.01)*	*	0.083	*(0.00)*	***
log(GDPCAP)	0.593	*(0.00)*	***	0.667	*(0.00)*	***	-0.100	*(0.67)*	
GDPGROWTH	0.105	*(0.00)*	**	0.173	*(0.00)*	***	0.013	*(0.37)*	
log(EXPDEP)	-0.424	*(0.03)*	.	-0.436	*(0.06)*	.	-0.077	*(0.80)*	
log(DEBTGDP)	0.743	*(0.00)*	***	0.783	*(0.00)*	***	0.266	*(0.16)*	
R2	0.381			0.390			0.159		
n	340			340			340		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE** > RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2035
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2022
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1577**

TYPE2

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.013	*(0.23)*		-0.012	*(0.27)*		-0.010	*(0.50)*	
log(GDPSHARE)	-0.068	*(0.08)*	.	-0.063	*(0.11)*		-0.037	*(0.52)*	
CAPRWA	0.026	*(0.03)*	*	0.025	*(0.04)*	*	0.034	*(0.01)*	*
log(GDPCAP)	0.171	*(0.00)*	**	0.165	*(0.00)*	**	0.144	*(0.06)*	.
GDPGROWTH	0.010	*(0.37)*		0.011	*(0.44)*		0.013	*(0.20)*	
log(EXPDEP)	-0.282	*(0.00)*	***	-0.275	*(0.00)*	***	-0.213	*(0.04)*	*
log(DEBTGDP)	0.204	*(0.00)*	**	0.196	*(0.00)*	**	0.210	*(0.02)*	*
R2	0.081			0.073			0.271		
n	340			340			340		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.77 ► FE < **RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	996
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	991
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**730**

TYPE3

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	0.018	*(0.67)*		0.031	*(0.48)*		0.017	*(0.75)*	
log(GDPSHARE)	0.295	*(0.06)*	.	0.262	*(0.09)*	.	0.279	*(0.15)*	
CAPRWA	-0.014	*(0.72)*		-0.005	*(0.92)*		-0.008	*(0.88)*	
log(GDPCAP)	0.075	*(0.73)*		0.190	*(0.39)*		0.109	*(0.68)*	
GDPGROWTH	-0.198	*(0.00)*	***	-0.101	*(0.08)*	.	-0.193	*(0.00)*	***
log(EXPDEP)	0.496	*(0.07)*	.	0.443	*(0.11)*		0.436	*(0.21)*	
log(DEBTGDP)	-0.217	*(0.39)*		-0.090	*(0.73)*		-0.191	*(0.54)*	
R2	0.150			0.103			0.112		
n	340			340			340		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value =0.62 ► FE < **RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2031
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2026
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1665**

TYPE4

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.044	*(0.27)*		-0.041	*(0.31)*		-0.097	*(0.06)*	.
log(GDPSHARE)	0.195	*(0.17)*		0.215	*(0.14)*		0.105	*(0.66)*	
CAPRWA	0.007	*(0.88)*		-0.001	*(0.99)*		0.003	*(0.92)*	
log(GDPCAP)	-0.348	*(0.08)*	.	-0.384	*(0.06)*	.	-0.382	*(0.17)*	
GDPGROWTH	-0.009	*(0.83)*		-0.012	*(0.83)*		-0.009	*(0.63)*	
log(EXPDEP)	-0.523	*(0.04)*	*	-0.491	*(0.06)*	.	-0.061	*(0.86)*	
log(DEBTGDP)	0.129	*(0.58)*		0.080	*(0.74)*		0.390	*(0.10)*	.
R2	0.103			0.105			0.050		
n	340			340			340		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.05 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE** > RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2046
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2045
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1607**

Dropping data from 2013

TYPE1

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.132	*(0.00)*	***	-0.119	*(0.00)*	***	-0.110	*(0.01)*	**
log(GDPSHARE)	0.576	*(0.00)*	***	0.560	*(0.00)*	***	0.824	*(0.00)*	***
CAPRWA	-0.105	*(0.01)*	**	-0.108	*(0.01)*	**	0.084	*(0.00)*	***
log(GDPCAP)	0.525	*(0.00)*	**	0.598	*(0.00)*	***	-0.134	*(0.57)*	
GDPGROWTH	0.114	*(0.00)*	**	0.187	*(0.00)*	***	0.013	*(0.37)*	
log(EXPDEP)	-0.385	*(0.09)*	.	-0.395	*(0.08)*	.	0.052	*(0.86)*	
log(DEBTGDP)	0.806	*(0.00)*	***	0.853	*(0.00)*	***	0.388	*(0.06)*	.
R2	0.399			0.410			0.171		
n	340			340			340		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE** > RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2026
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2009
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1566**

TYPE2

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.013	*(0.25)*		-0.011	*(0.31)*		-0.011	*(0.46)*	
log(GDPSHARE)	-0.099	*(0.01)*	*	-0.093	*(0.02)*	*	-0.084	*(0.15)*	
CAPRWA	0.025	*(0.04)*	*	0.023	*(0.06)*	.	0.030	*(0.03)*	*
log(GDPCAP)	0.196	*(0.00)*	***	0.187	*(0.00)*	***	0.179	*(0.02)*	*
GDPGROWTH	0.008	*(0.44)*		0.009	*(0.52)*		0.007	*(0.48)*	
log(EXPDEP)	-0.299	*(0.00)*	***	-0.289	*(0.00)*	***	-0.253	*(0.01)*	*
log(DEBTGDP)	0.224	*(0.00)*	***	0.210	*(0.00)*	**	0.237	*(0.01)*	**
R2	0.080			0.070			0.279		
n	340			340			340		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.96 ► FE < **RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	1004
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	996
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**739**

TYPE3

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	0.019	*(0.66)*		0.032	*(0.46)*		0.019	*(0.73)*	
log(GDPSHARE)	0.294	*(0.06)*	.	0.259	*(0.10)*	.	0.298	*(0.13)*	
CAPRWA	-0.009	*(0.85)*		-0.003	*(0.95)*		0.010	*(0.85)*	
log(GDPCAP)	0.107	*(0.62)*		0.209	*(0.34)*		0.129	*(0.63)*	
GDPGROWTH	-0.195	*(0.00)*	***	-0.103	*(0.07)*	.	-0.193	*(0.00)*	***
log(EXPDEP)	0.460	*(0.10)*	.	0.414	*(0.14)*		0.440	*(0.21)*	
log(DEBTGDP)	-0.063	*(0.80)*		0.062	*(0.82)*		-0.072	*(0.82)*	
R2	0.159			0.115			0.119		
n	340			340			340		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value = 0.62 ► FE < **RE**

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2039
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2034
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1670**

TYPE4

	Pooled OLS			Time FE			RE		
	Coef	*(p-value)*		Coef	*(p-value)*		Coef	*(p-value)*	
POLITY	-0.045	*(0.25)*		-0.040	*(0.31)*		-0.102	*(0.04)*	*
log(GDPSHARE)	0.216	*(0.12)*		0.233	*(0.10)*		0.132	*(0.57)*	
CAPRWA	-0.018	*(0.67)*		-0.024	*(0.59)*		0.038	*(0.16)*	
log(GDPCAP)	-0.401	*(0.04)*	*	-0.424	*(0.03)*	*	-0.339	*(0.21)*	
GDPGROWTH	0.002	*(0.95)*		0.010	*(0.85)*		-0.003	*(0.85)*	
log(EXPDEP)	-0.544	*(0.03)*	*	-0.517	*(0.04)*	*	-0.305	*(0.38)*	
log(DEBTGDP)	0.165	*(0.47)*		0.130	*(0.59)*		0.548	*(0.02)*	*
R2	0.124			0.126			0.075		
n	340			340			340		

ESTIMATOR SELECTION

Lagrange Multiplier Test (Honda): (Pooled OLS vs. RE)	p-value < 0.00 ► Pooled OLS < RE
Hausman Test: (FE vs. RE)	p-value < 0.00 ► **FE** > RE

AIC

POLITY log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2035
log(GDPSHARE) log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	2034
CAPRWA log(GDPCAP) GDPGROWTH log(EXPDEP) log(DEBTGDP)	**1595**

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Curriculum Vitae

Mathias Alexandre Müller

Born October 11th, 1984, in Bern / Switzerland

Education

University of St. Gallen	St. Gallen / CH
Ph.D. International Affairs and Political Economy	since 2014
London School of Economics and Political Science	London / UK
M.Sc. Finance and Economics	2008 – 2009
University of St. Gallen	St. Gallen / CH
B.A. Economics	2005 – 2008

Work Experience

Swiss Financial Market Supervisory Authority FINMA	Bern / CH
Economist and Policy Specialist – International Affairs Team	since Oct 2015
UBS	Zurich / CH
Advisor – Global Family Office Group	Oct 2010 – Sep 2015
EFG Financial Products	Zurich / CH
Intern – Product Management	Apr 2010 – Sep 2010
Wegelin & Co. Privatbankiers	Lausanne / CH
Intern – Family Office Services & Advisory	Sep 2009 – Feb 2010