Varieties of Globalization: Trade Openness, Bank Lobbying, and the Political Economy of Financial Liberalization

By

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For my parents,
Tae-Ryong Park and Hyang Sun Kim.

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Abstract

One conventional wisdom of the international political economy literature is that finance follows trade. There are substantial variations, however, among countries that are similarly integrated into the global economy that have chosen different levels of financial liberalization. Why do some countries develop larger, deeper, and more globalized financial markets than others? I examine this question with a new framework that takes into account structural changes in the global economic system and domestic lobbying. I find that governments are more likely to face pressures for financial liberalization from domestic banks when the country is heavily integrated into international trade but has not yet removed capital controls. On the other hand, domestic banks are more likely to pressure the government for financial liberalization when the private benefits of international capital inflows outweigh the benefits of private rents provided by the government domestically. Using my own dataset on global trade networks and government subsidies to the financial sector in 181 countries from 1980 to 2018, I find that countries that are integrated into the global economy with a domestic banking industry that depends on foreign credit will develop larger, deeper and more globalized financial markets. With this new framework that looks at the interaction between global and domestic factors, I provide an explanation for variation in the timing and degree of countries' financial liberalization. This study also contributes to the scholarship of international political economy by distinguishing financial liberalization from economic liberalization and explaining the many cases of financial liberalization that are not crisis-induced.

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Chapter 1

Introduction

Why do some countries develop larger, deeper and more globalized financial markets than others? With economic development, countries tend to move from having small, underdeveloped financial markets to much more liquid, deep and broad financial markets over time. Similarly, development is often accompanied with financial liberalization and deeper integration into global financial markets, although this is not always the case. By the late 1990s, many countries in Sub-Saharan Africa were experiencing economic growth and a surge of global capital inflow to the region resulting from deeper integration into international trade. Comparing the decades before and after 1995, Sub-Saharan Africa's average GDP growth rate doubled to 5.12% from 2.60% and cross-border capital flow reached a total of 469 billion dollars during 1995-2004, which was a 51.9% increase from the 308.7 billion dollars in the preceding decade.[1] Despite being late comers to global trade, many of these governments were quickly faced with the question of to what extent it should liberalize its domestic market to global capital inflows associated with deeper integration into the world economy. Four countries in particular, South Africa, Ghana, Kenya and Uganda had been integrated into international trade at varying levels. South Africa, known as Africa's trade hub was the most integrated, followed by Ghana and Kenya that were integrated into international trade at similar levels and Uganda the least. In respective order, their average level of integration into the global trade network during 1995-2004 was 107.41, 48.07, 45.80 and 23.3 in network centrality measure, where higher numbers suggest deeper integration into international trade.[2] By the mid-2000s, the financial markets of South Africa and

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[1] Capital flow measure includes foreign direct investment, portfolio investment, international debt, international reserves and international income payments (World Development Indicators 2022; Dreher 2006).

[2] In terms of trade flows, South Africa, Ghana, Kenya and Uganda had an average of 675.6, 60.8, 72.5, 21.9 billion dollars worth of trade during 1995-2004, in respective order (World Development Indicators 2022). I calculate the countries' trade centrality (betweenness) measures using COW's dyadic trade data (Barbieri, O. M. Keshk, and B. M. Pollins 2009). Relatedly, the four countries were at varying stages of economic development

Ghana remained closed while Kenya and Uganda completely liberalized their capital accounts. Kenya, however, was the only country to achieve a full-rounded financial development with a broader, deeper and globalized financial market. Today, Nairobi ranks as one of the top financial centers in Africa (Global Financial Center Index, 2021).

This phenomena is puzzling given the conventional wisdom of the international political economy literature that finance follows trade (Heckscher and Ohlin 1933; Krugman 1987; Obstfeld and Taylor 2004; Chinn and Wei 1998; Helliwell 1992; Jeanne and Korinek 2010; Devereux and Sutherland 2010; Forbes 2002; Clarke et al. 2003; Aizenman and Noy 2005; Lane and Tornell 1999; Corsetti, Pesenti, and Roubini 1999b; Bekaert, Harvey, and Lundblad 2006). According to this wisdom, South Africa's financial market should have the broadest, deepest and most globalized financial market and Uganda the least. South Africa, however, despite being highly integrated into international trade has one of the lowest levels of financial liberalization among the four countries to this day.[3] This is all the more puzzling given that South Africa has the broadest and deepest financial market in Sub-Saharan Africa which is not globalized.[4] Uganda, on the other hand, completely globalized its financial market in 1997 despite being the least integrated into international trade but failed to develop a broader and deeper financial market.[5] Uganda's case suggests that a country's integration into international trade matters for developing a broader and deeper financial market, while South Africa's case illustrates that the effect of trade on *globalizing* financial markets is rather complex. More importantly, case comparisons of Ghana and Kenya show that there are substantial variations in financial liberalization among countries that are similarly integrated into international trade, which is not just a unique phenomenon of Africa. I also find this phenomenon in 1980s East Asia. For example, Singapore was one of the first to become a financial hub among the Four Tigers in Asia that were equally important trade nodes in the global economic system, if not more. South Korea and Taiwan in the 1980s were focal points in world trade but did not evolve into major global financial hubs, while Hong Kong became a financial hub but did this almost a decade later than Singapore.

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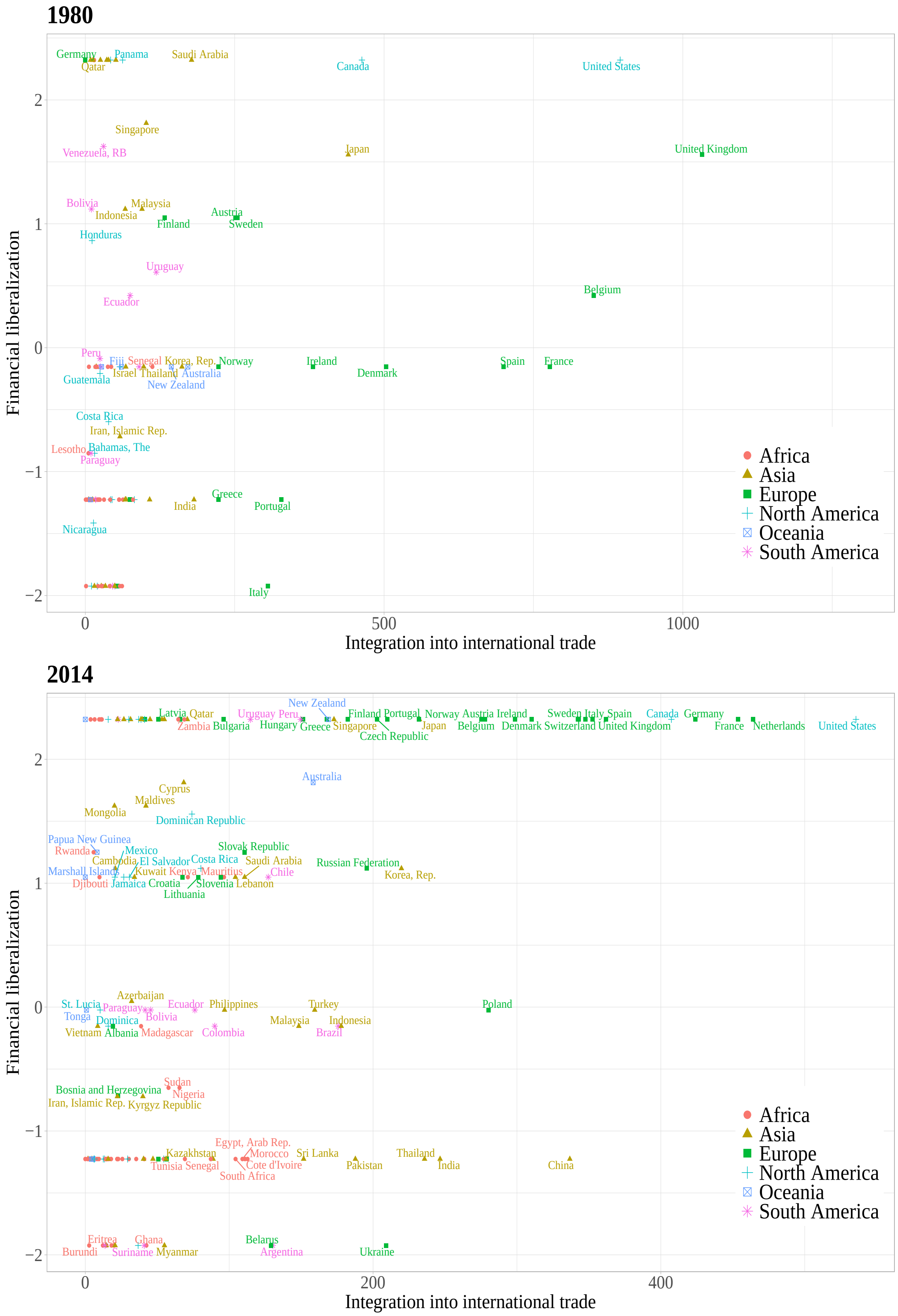
with South Africa classified as an upper-middle income economy, Kenya and Ghana both as lower-middle income economy and Uganda as a low-income economy according to World Bank's classification of income groups. See Chapter 1 appendix for full list of income group classifications according to the World Bank.

[3] Financial liberalization of South Africa, Ghana, Kenya and Uganda were -1.23, -1.23, 1.05 and 2.32 by 2005 in respective order, according to the most widely used Chinn-Ito index that measures capital account openness. The index ranges from -1.90 to 2.37 where higher numbers suggest more financial liberalization (Chinn and Ito 2008b, 2008a).

[4] By 2005 South Africa's financial market size and depth was 56.58 (% GDP) and 66.97 (% GDP), Ghana 42.38 (% GDP) and 32.11 (% GDP), Kenya 33.37 (% GDP) and 38.91 (% GDP) and Uganda 46.17(% GDP) and 19.32 (% GDP). Most recent data of South Africa shows that South Africa's financial market size and depth in 2017 were 68.52 (% GDP) and 72.18 (% GDP), respectively; World Development Indicators 2022; Gygli et al. 2018; Dreher 2006.

[5] Museveni's government of Uganda unilaterally decided to liberalize its financial markets in 1997 as an attempt to attract foreign capital after the long civil war that ended in 1994.

Figure 1.1: Integration into the Global Economy and Financial Liberalization



Note: The y-axis shows the level of capital account openness (Chinn-Ito index). The x-axis shows how integrated a country is in international trade in terms of their position in the global trading network (betweenness). I calculate this measure using COW's bilateral trade data; 2014 is its latest availability.

Figure 1.1 shows that such examples of trade and financial liberalization mismatch are perennial across time and space. In Latin America, I find that Chile has a more developed financial market than Argentina who is much more integrated into international trade than Chile. I find similar patterns for Poland and Hungary in eastern Europe, Qatar and Saudi Arabia in the Middle East, Kenya and Sudan in Africa, Cambodia and Myanmaar in Southeast Asia and many more. This pattern is consistent in spite of the global economic system's evolvement over time. As illustrated in Figure 1.1, the relative importance of a country in the global trade network is re-proportioned as more countries integrate into the global economy. For example, from 1980 to 2014, the maximum centrality measure a country has halved from a 1000 to 500. The level of relevance once enjoined by the leading western economies in the 1980s are shared with many more emerging economies by the 2000s. Notably, countries from Asia are more integrated into the global economy by the 1980s, and countries from Latin America, Africa and Eastern Europe have expanded their global economic relevance by the 2010s. Over time, more emerging economies are in position to make political decisions over financial liberalization, which used to be a political concern more frequently experienced by leading western economies.

This dissertation argues that the missing piece to the puzzle is the story of the domestic banking interests, and more importantly that the domestic banks' story taken together with the country's position in the global trade network can help generalize the political struggle for a larger, deeper and a globalized financial market across time and space. What Kenya and Singapore had, that Ghana, South Korea and Taiwan did not have, was a domestic banking sector that played key roles in successfully lobbying the government to implement capital account liberalization policies. More importantly, the context of these banks' lobby was deeply ingrained in the country's changing importance in international trade. In the cases of Kenya and Singapore, two conditions were jointly satisfied: deeper integration into international trade generated new sources of private rents for domestic banks and banks lobbied their government to financially liberalize when they saw that private benefits of international capital inflows outweighed the benefits of private rents provided domestically.

For Kenya, increasing regional trade activities generated new sources of private rents for the four major banks of Kenya – Kenyan Commercial Bank (KCB), Equity Bank, Fina Bank and Commercial Bank of Africa – and when the private rents associated with cross-border capital flow became substantial, the four banks actively lobbied the government for financial liberalization policies in 1996.[6] The East African Community (EAC), a customs union trade bloc between

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[6] Financial liberalization in 1996 was an endogenous process rather than being exogenously imposed, e.g. the structural adjust program (SAP) supported by the IMF and World Bank. Kenya had been on the SAP since the 1980s that focused on macroeconomic stabilization and trade stabilization but was repeatedly reported to be non-compliant in World Bank, contrary to countries like Ghana that had been reported to be highly compliant.

Kenya, Tanzania, and Uganda that revived in 1993, yielded an 159.3% increase in intra-regional trade between 1993-1995 compared to its preceding three years.[7] Out of the 1.28 billion US dollars worth of trade among members of the EAC during 1993-1995, Kenya's trade was 1.26 billion dollars, taking up 97.85% of the trade flow among member countries.[8] Given this context, Kenyan banks had two specific interests to lobby its government to implement financial liberalization policies. First, financially liberalizing their markets meant that Kenyan banks can borrow cheaply from the international credit market to fund investments in the growing domestic economy. Second, financial liberalization meant that Kenyan banks can follow their national firms across borders and expand their lending business in foreign markets. Given that many of the Kenyan manufacturing firms were expanding in the EAC member countries, penetrating members' financial markets would give Kenyan banks the opportunity to provide financial services to their national firms with efficiency and lowered cost. Additionally, Kenyan banks had comparative advantage in banking services over the EAC members whose banking infrastructure was still in its development stage, providing tremendous opportunity for the Kenyan banks if they were to successfully enter their markets. Thus, against the backdrop of increasing regional trade, Kenyan banks found more private rents attached to liberalization than that of imposing capital controls. Kenyan banks' lobby for financial liberalization now goes beyond lobbying their government. Kenyan banks have been repeatedly reported in World Bank reports to be actively leading the monetary union in EAC, while much of the financial agreements in EAC are stalled due to resistance from the banking sectors of the other EAC members (Brenton and Isik 2012). Today, KCB, the biggest bank in Kenya has a total 52 branches in EAC member countries.[9]

For Singapore, as more countries in East Asia integrated into international trade as early as the 1970s, dollars were accumulating in the region providing an apt opportunity for domestic banks in Singapore to benefit from hosting an Asian dollar market.[10] Hosting an Asian dollar market (ADM) meant that the host country completely liberalize and globalize its financial

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See Swamy 1994; CAE 2000. Kenya's SAP during the 1990s that focused more on fiscal balances. Thus, there are more circumstantial evidence to argue that Kenya's decision to liberalize in 1996-7 was a voluntary decision by the Kenyan government that came after the SAP program ended in 1995.

[7] Intra-regional trade of EAC between 1993-1995 was worth 1.28 billion US dollars, while between 1990-1993 it was only 495 million US dollars. I calculate the intra-regional trade volume among EAC members using COW's dyadic trade data; Barbieri, O. M. Keshk, and B. M. Pollins 2009; Barbieri, O. Keshk, and B. Pollins 2016.

[8] I calculate Kenya's trade volume with EAC members using COW's dyadic trade data; Barbieri, O. M. Keshk, and B. M. Pollins 2009; Barbieri, O. Keshk, and B. Pollins 2016.

[9] Members of the EAC has expanded to Burundi, South Sudan. As of 2022, KCB has branches in Tanzania (17), Uganda (15), Rwanda (17), and Burundi (3). This excludes the approximately 20 branches KCB used to have in South Sudan before the civil war in South Sudan (2013-2020); see Kenyan Commercial Bank Group's official website: https://www.kcbgroup.com/

[10] A dollar market meant that loans or bank deposits denominated in U.S. dollars could be made free of American regulation, and this would eventually facilitate the creation of an Asian bond market by mobilizing the surplus of dollars to meet local demands for long-term bonds.

market. While many authorities in the region, including that of Hong Kong, discounted hosting the ADM because of this reason, the lobby of Singaporean banks enabled the Singaporean government to host the ADM. The "big four" banks in Singapore (OUB, OCBC, DBS and UOB) had three specific interests to lobby the government for the financial liberalization which would enable the establishment of the ADM dollar market in Singapore: i) the creation of the ADM meant that Singaporean banks can tap into the Eurodollars in the market with lower interest rates, ii) Singaporean banks would be given the right to issue or float the Asian Currency Unit bond (eventually authorized to the Development Bank of Singapore (DBS) in 1971) and iii) opening the Singaporean financial market to foreign banks meant that Singaporean banks could also gain access to foreign markets under the reciprocity norm in banking industries.[11] These financial incentives from foreign credit were especially welcomed by the "big four" who had much to gain and little to loose, given that there were limited private rents generated from the domestic market and the government. Consequently, Singapore completed its series of liberalizing reforms by the early 1980s without much resistance from the banking industry, which is not usually the case in countries where government subsidy and protection are major financial incentives for the banking industry.

As illustrated by the two cases, only when a country's changing position in international trade is taken together with domestic banks' lobby for financial policies can we explain why some countries that are similarly integrated in the global economy have chosen different levels of financial liberalization. This dissertation seeks to show that the political struggle in Kenya and Singapore can be generalized across time and space to provide a general theory for when and why countries develop a broader, deeper and more globalized financial market. To give a preview, I argue that two factors jointly explain the degree of financial market liberalization of a country: how integrated a country is into international trade and the financial incentives of domestic banks. The former condition determines the extent of pressure governments face for financial liberalization from domestic banks while the second condition determines domestic banking sectors' preference for liberalization. Governments are more likely to face pressures for financial liberalization from domestic banks when the country is heavily integrated into the global economy. This is because integration into international trade makes the country attract larger and more globalized capital but also attract competition from foreign banks. On the other hand, domestic banks are more likely to pressure the government for financial liberalization when the private benefits of international capital inflows outweigh the benefits of private rents provided by the government domestically. Combinations of the two dimensions determine variations in the timing and degree of countries' financial liberalization.

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[11] Reciprocity norm in banking industries posit that the government of country A opens its market to the national banks of country B, if country A's banks wish to expand their branches to country B.

In the remaining sections of the introduction chapter, I first clarify the assumptions of my puzzle by untangling financial liberalization from trade liberalization in International Relations (IR). I then proceed to define and explain the variations in financial market development, the outcome of my interest. Third, I summarize the current state of literature and findings on financial market development in the political science research. Next, I give a preview of my argument and set up clear scope conditions followed by an illustrative example. Finally I discuss the theoretical contributions of this dissertation and end the chapter by providing the overall structure of the dissertation.

1.1 'Finance Follows Trade' as a Problem for International Relations

'Finance follows trade' is a problem for International Relations (IR), because it over-predicts the role of trade on a country's financial market development. Untangling financial liberalization from trade liberalization in IR, thus, is an important first step to not only make the puzzle more pronounce but to clarify the underlying assumptions for the discussions of this dissertation. The difference in trade liberalization and financial liberalization becomes most evident when we compare their relationship by three facets of liberalization: de jure liberalization, de facto liberalization and liberalization based on international agreements. De jure liberalization measures the extent of policies that lift barriers to cross-country trade or capital flows. De facto liberalization, on the other hand, measures the actual flows of capital or trade. Lastly, liberalization based on international agreements expands the de jure liberalization measure by including international trade and financial agreements. Details on the data source, measurement, and list of countries by income level are found in the chapter appendix. This section shows that the conventional understanding is only partially true. 'Finance follows trade' is a trend only found when focusing on de facto liberalization, while de jure liberalization shows that this trend only holds for high-income countries. Liberalization that includes international agreements, on the other hand, tends to inflate the extent of financial liberalization of countries in relation to trade liberalization.

First, Figure 1.2, plots the average de jure openness of finance and trade of countries in the aggregate level as well as by their income level. De jure financial liberalization here measures policy restrictions on capital outflows and inflows (Quinn and Toyoda 2008) while the de jure trade liberalization measures tariff rates (WITS, 2022). Both measures are from a scale of 0 to 100 which makes the two types of liberalization comparable. 0 means complete restrictions and

100 signifies complete removal of barriers.[12] The top figure in Figure 1.2 shows that there is an overall trend of convergence between de jure financial liberalization and trade liberalization. In the aggregate level, financial openness rapidly catches up with trade openness. However, when the trend is disaggregated to income levels, I find that the convergence of the two types of liberalization is predominantly driven by high income countries. While trade and finance converge in high-income countries, there are wider gaps between the two types of liberalization in middle and low income countries.

Second, Figure 1.3 plots the actual flows of trade and capital. De facto capital flows here is measured in terms of volumes of foreign direct investment (FDI), portfolio investment, international debt flows, international reserves and international income payments in percentage of GDP (Gygli et al. 2018; Dreher 2006). De facto trade flows measure imports and exports as percentage of GDP (World Development Indicators 2022). The two measures are comparable as they are both in percentage terms of GDP. ‘Finance follows trade’ is a trend that is most consistently found in this de facto relationship. Both in the aggregate level and in each income level, there is convergence between the the two types of flows. Given the convergence in de facto liberalization of trade and finance, the non-convergence in de jure liberalization of trade and finance is all the more puzzling. Similarly, when comparing de facto finance and de jure finance, I find that while the actual volume of capital have consistently increased over time, policy regulations to open up borders of these capital flows have shown more resistance. In sum, for all countries except for high-income countries, increase in trade flows have led to increase in capital flows but increase in trade liberalization policies have not necessarily led to increase in financial liberalization policies.

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[12] Essentially, Figure 1.2 shows the time time trend of Figure 1.1 but uses alternative measures that use the same scale so that they are more comparable.

Figure 1.2: De jure financial liberalization and trade liberalization by income group

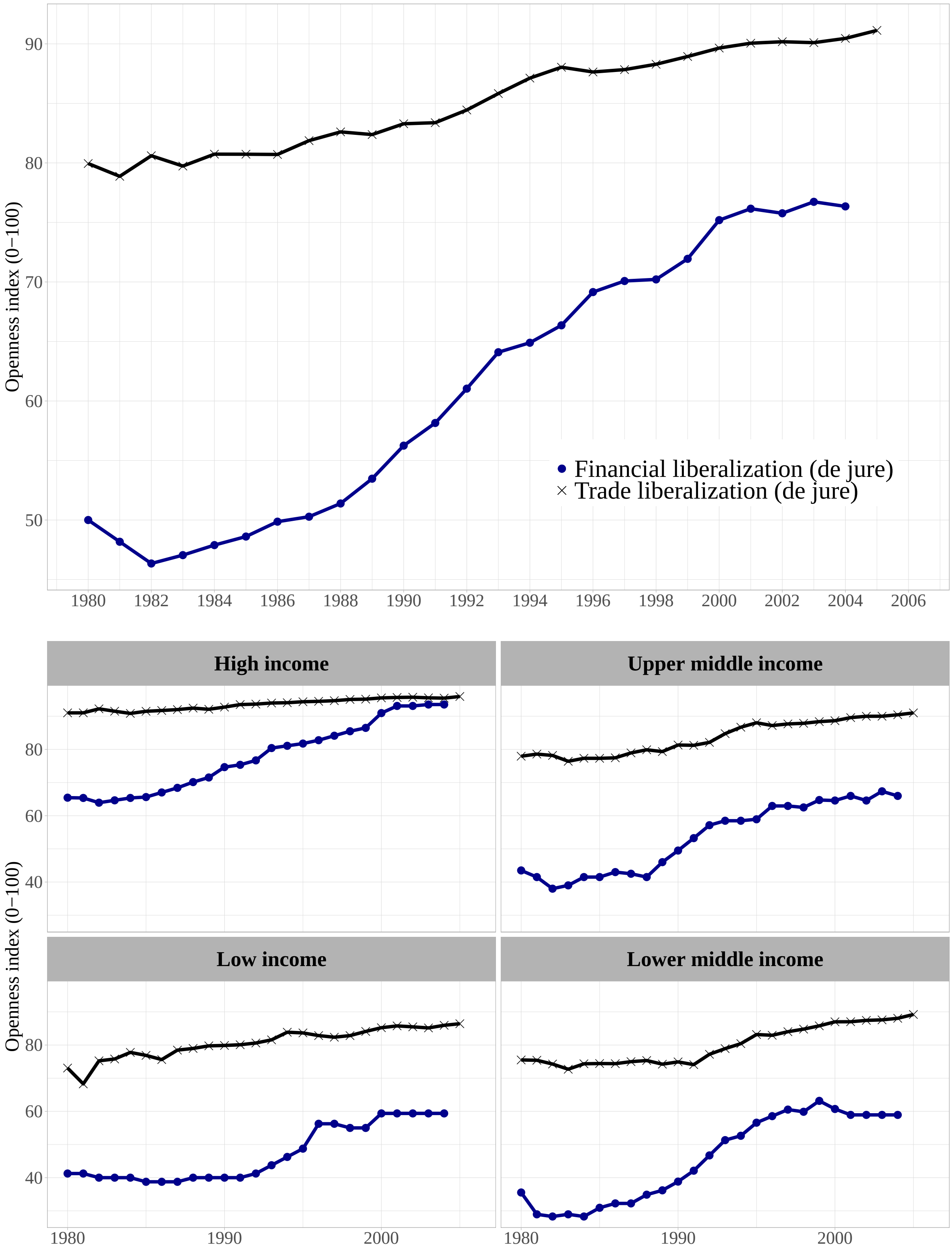


Figure 1.3: De facto financial liberalization and trade liberalization by income group

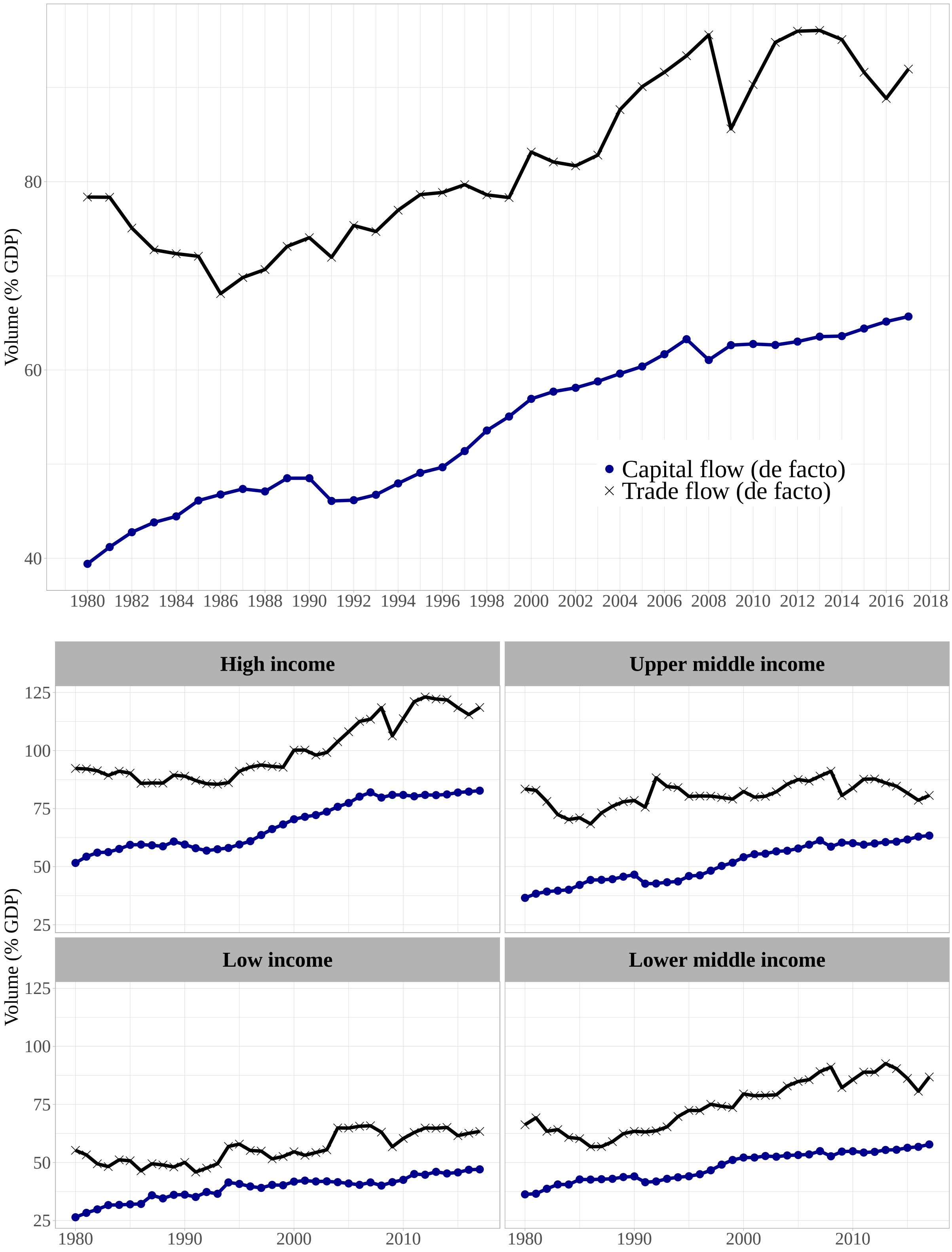
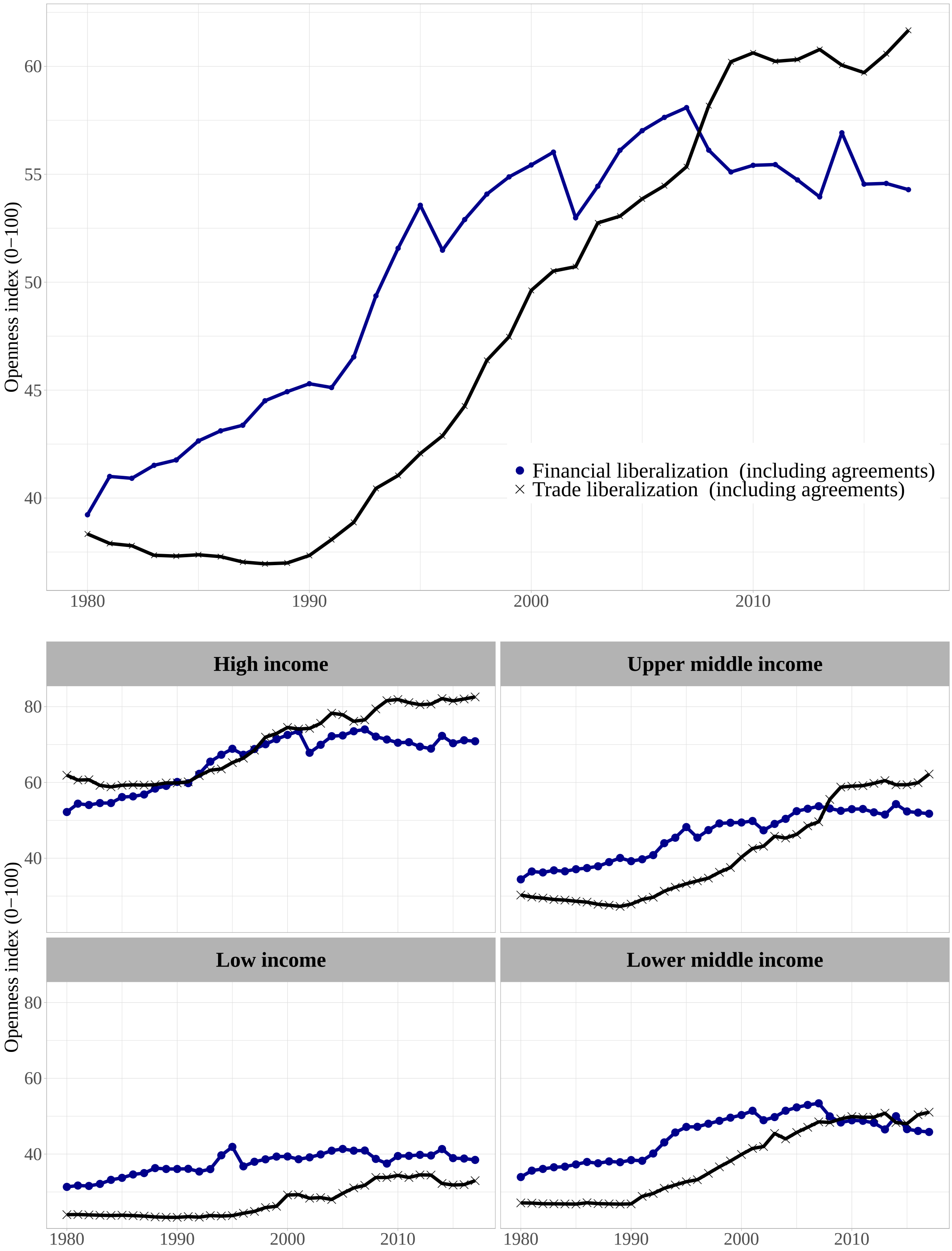


Figure 1.4: De jure financial liberalization and trade liberalization including international agreements



Third, Figure 1.4 plots the expanded de jure liberalization measure that includes international agreements. All measures used for this plot come from the KOF Swiss Economic Institute (2018; 2006) and has a scale of 0-100, which makes financial liberalization and trade liberalization comparable. KOF's financial liberalization measure includes the number of Bilateral Investment Agreements (BITs) and Treaties with Investment Provisions (TIPs) on top of traditional de jure measures of financial liberalization. KOF's trade liberalization measure includes the number of bilateral and multilateral free trade agreements along with traditional measures of de jure trade liberalization. The composition of measures, details and source can be found in the chapter appendix. When international agreements are included to measure the trade and financial liberalization of a country, I find that countries in general have higher levels of financial liberalization than trade liberalization. This is in stark contrast with previous plots that suggested the opposite relationship. Figure 1.4 suggests that when international agreements are included to the measure, financial liberalization are expected to be at higher levels.

The different facets of liberalization and the according relationship between trade and finance help clarify three underlying assumptions of this dissertation:

(1) In general, governments tend to liberalize their market to trade before liberalizing their market to finance.

(2) More trade flows are associated with more capital flows, but more trade liberalization policies do not necessarily correlate with more financial liberalization policies.

(3) International agreements that liberalize finance do not fully transfer over to domestic regulations.

The first assumption illustrates that, trade liberalization precedes financial liberalization. As shown in Figure 1.3 and Figure 1.2, trade flows and trade liberalization levels are higher compared to that of financial flows and financial liberalization. Countries may prefer less risky types of liberalization at first such as arms-length trade. If the partners are seen as more reliable, it proceeds to more complex trade deals which can in turn build the trust necessary for riskier investment and financial deals. Empirically, this progression from trade liberalization to financial liberalization is consistent with the experiences of the EU, in which members started their economic cooperation with a trade area, then a customs union, common market, and made its progression to a monetary union that uses a common currency (Balassa 2013).

The second assumption suggests that the politics of financial liberalization is different from the politics of trade liberalization. As shown in the puzzle, financial liberalization policies do not necessarily correlate with more trade liberalization policies. A common case for developing governments is to impose multiple exchange rates to lift all barriers to trade but limit capital account openness. Multiple exchange rates discriminate between the type of capital flows such that fixed exchange rates are applied for current account transactions but a floating exchange rate is applied for capital account transactions. In this case, there is free flow of trade-related capital but limited flow of non-trade-related capital like portfolio investments. The reverse case, in which a country enjoys high financial liberalization but limited trade liberalization, also exists as is the case for governments with tax-haven financial markets. Given that global financial flows increasingly incorporate more of the non-trade-related capital flows, overlap between trade liberalization and financial liberalization are thinning over time, and so are their politics.

Lastly, the third assumption suggests that while much effort for financial liberalization are being institutionalized in the international level via international agreements, less is being rolled over to domestic regulations. This is an important premise to note given that finance follows trade have often been supported by the the fact that many of the trade agreements include financial service agreements (FSAs) or treaties with investment provisions (TIPs) since the 1980s (Rodrik 2018). On a technical note, domestic rules on financial liberalization and FSAs or TIPs in trade agreements address different types of liberalization.[13] In practice, however, there are overlaps given that many of these provisions are focused on eliminating discrimination between domestic foreign service providers and non-resident (foreign) service providers. In the chapter appendix, I include a full discussion on FSAs and TIPs and financial provisions included in NAFTA and various other PTAs. Here, I simply note that while there are extensive provisions on financial services incorporated in both trade and financial agreements, its implementation to domestic regulations have been limited. This is mainly due to the fact that inclusion of these provisions are disproportionately lobbied by financial institutions of select countries such as the U.S. Our earlier case of the Kenyan banks' lobby at the EAC also demonstrates that much of the financial liberalization agreements in the EAC are stalled due to resistance from the banking sectors of other EAC members than those of Kenya (Brenton and Isik 2012).

In sum, 'finance follows trade' requires more nuance. On the one hand deeper integration into international trade leads to more capital flows in a country but does not necessarily lead to more capital account liberalization. On the other hand, international agreements on financial liberalization do not fully roll over to domestic regulations due to resistance in the domestic politics. This dissertation shows that the key is in understanding how the domestic politics surrounding financial liberalization policies interact with the country's changing position in international trade.

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[13] For a comprehensive discussion on this topic see Claessens and Glaessner 1998; Claessens and Jansen 2000.

1.2 Financial Market Development

The core function of a country's financial market is to provide a venue for suppliers and borrowers of capital. A highly developed financial market has sufficient money or liquid assets stocked and constantly flowing into the country enabling the exchange of savings and investments on a global level. Accordingly, size, depth and global openness are core dimensions that determine a country's financial market development. Thus variation that this paper focuses on is changes in these three dimensions – size, depth and capital market openness – where growth in one or all three dimensions signifies financial market development. Size shows the functional capacity of the market, depth indicates the stage of market development and global openness determines a financial market's level of integration to the global financial system.

Substantively, the three dimensions capture whether or not host governments have implemented policies necessary for financial market development such as the establishment of monetary institutions, monetary stability and lifting capital controls. As defined earlier, this paper's prime interest is the move towards a *global* financial market. This makes a country's capital account liberalization policies the crucial policy in determining whether or not it becomes a global financial power. Case studies in Figure 1.1 have shown multiple country cases that have big and deep financial markets but fail to become global financial market due to limited capital account liberalization efforts as well as South Africa in the chapter's motivating case.

The role of each dimension can be made more intuitive with a simple analogy of a water tank. To understand a water tank's performance, we would first want to understand its functional capacity such as the total amount of water it holds (stock size) and the rate of water flowing in a out of the tank (flow size). Second, we would also be interested in knowing its functional grade such as how much of that water is usable (depth). Lastly, understanding the regulatory capacity of the tank such as the openness of the tap (openness) that regulates the inflow and outflow of water would be important. In the same vein, a financial market's performance can be understood in terms of the size (stock and flow), depth (liquid proportion) and openness (barriers to free flow of capital across borders).

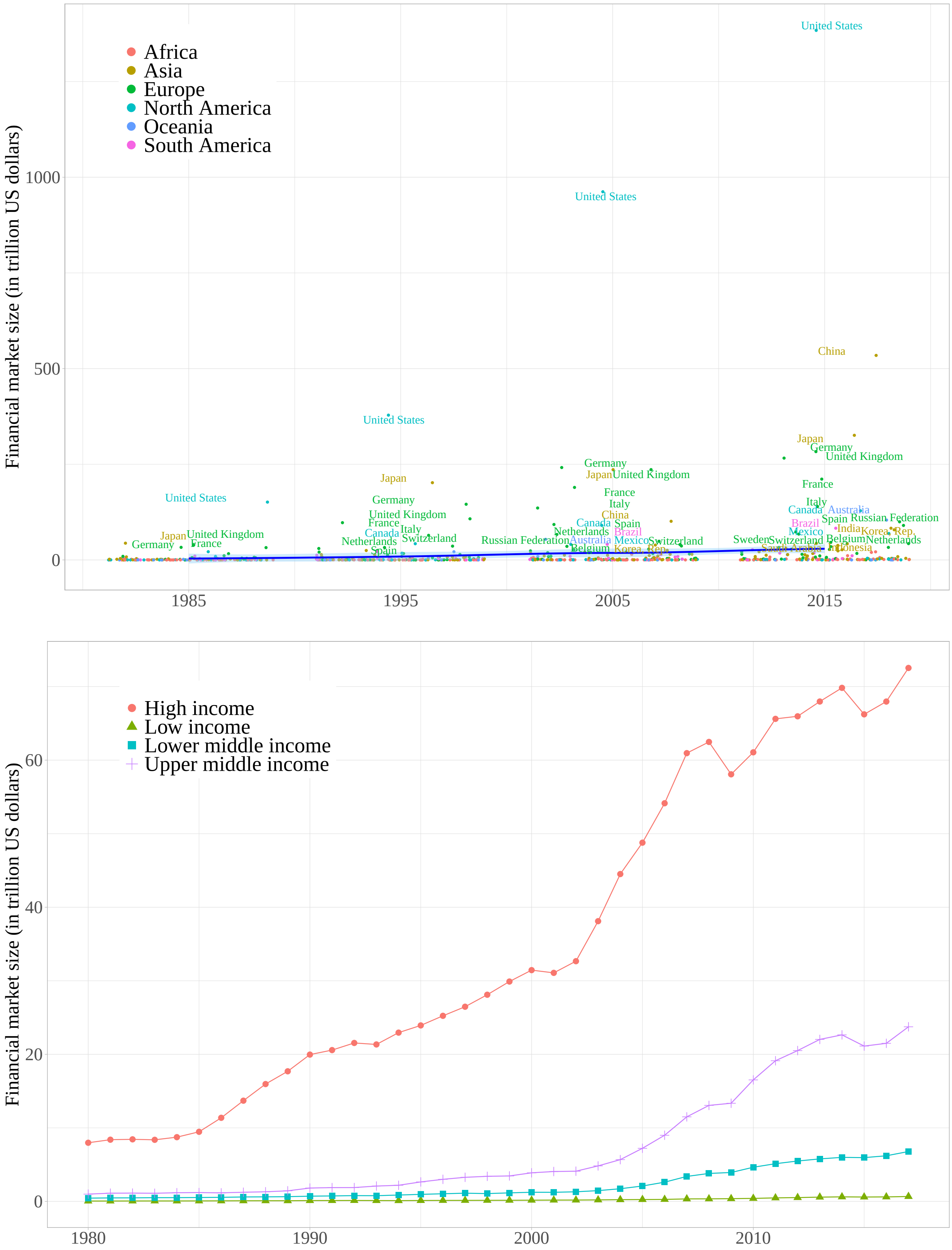
I take each of the dimension in depth to explain its concept and range of variation. The variations in the three dimensions show there are distinct gaps between income groups in financial market size and depth. However, there is less of that gap across income groups on financial market openness, with the exception of high income countries. Full list of countries by income level according to World Bank's classification and details on alternative measures for each dimension can be found in the chapter appendix.

1.2.1 Size

A financial market's size captures the functional capacity of the market. Capital flow and stock are two important indicators to understand the size of a financial market. Capital flow shows the amount of new capital entering or exiting the financial market, and capital stock shows the level of capital it can generate at any given point in time. A bigger financial market has more capacity to facilitate transactions between suppliers and borrowers at any given point in time. Figure 1.5 plots the financial market size by country, region and income groups. Financial market size here includes stocks and flows of foreign direct investment (FDI), portfolio investment, international debt, international reserves and international income payments in percentage of GDP. The top figure plots countries' financial market size in intervals of 10 years to show the leading countries with the broadest financial market. Country names are color-coded by continent to demonstrate the regional composition.

Three observations are worth highlighting from Figure 1.5. First, the top plot shows that leading countries for financial market size are mostly North American and European countries. Most notably, United Sates and the United Kingdom most consistently have the broadest financial market since the 1980s. More countries from Asia have markedly broadened their financial markets over time with Japan on the lead and then China. I find few countries from other continents leading broad financial markets except for Brazil and Australia post-2000. Second, the bottom plot shows that financial markets in general tend to get bigger over time but the slope of change varies across income groups. The gap in financial market size among income groups widen after the mid-1990s. Interestingly, this widening gap is not just a phenomenon across income groups but also within the same income group. For example the US and UK are both in the high income group. Nonetheless, the top plot shows that the US and the UK shared a smaller gap in 1985 with US a financial market size of 151.1 trillion US current dollars and UK 38.8 trillion US current dollars. By 2015, the financial market size of the US is 1383.7 trillion US current dollars while UK is only 266.1 trillion US current dollars in comparison. Third, financial market size is affected by global market conditions. For example, there is a slight dip in capital flows and stocks in the year 2007-2008 for high income and upper middle income groups which involves many of the countries that suffered from the 2007-8 financial crisis. Slight stagnation of capital flows in high income countries in the early 2000s also aligns with the recession in the early 2000s that impacted the US and the EU.

Figure 1.5: Financial market size by continent and income group over time



1.2.2 Depth

Financial depth is a financial sector's relative size to the economy which substantively captures the financial market's stage of development. Financial markets often start out as a government bond market or a banking market, evolves into a foreign bond market and eventually matures into a stock market. Depth increases with such progression in the stages of development because depth captures the efficiency of a market. It gives information about how much of the market's capital, both the stock and flow, can be converted to liquid instruments. Thus, a deeper financial market has more advanced financial markets. Figure 1.6 measures financial market depth in terms of liquid liabilities to GDP ratio, commonly known as broad money or in more technical terms, "M3". Broad money simply indicates how much of the capital in a market is liquid. Thus liquid liabilities account for cash and other assets easily converted into currency.[14] In many studies, this broad money is represented in ratio to GDP to observe the changes in the size of the financial system relative to the size of the economy.

Again, three observations are worth noting from Figure 1.6. First, the time trend in the bottom plot shows that there are gaps among income groups in financial market depth, but to a lesser degree than those of financial market size. High income countries are leading in financial market depth and their depth increases over time at a much steeper rate than any other income groups. Second, leading countries of deep financial markets are not saturated with western economies as it was the case for financial market size. In fact there is a much more diverse composition of countries. Notably, many countries in Asia lead the deepest financial markets. Third, I find that financial market depth is less affected by the global economy such as financial crises. This is consistent with our expectation. While flows and stocks that make up a financial market's size are more vulnerable to economic conditions as observed earlier, financial market maturity, represented by market depth is not something that fluctuates over a short span of time.

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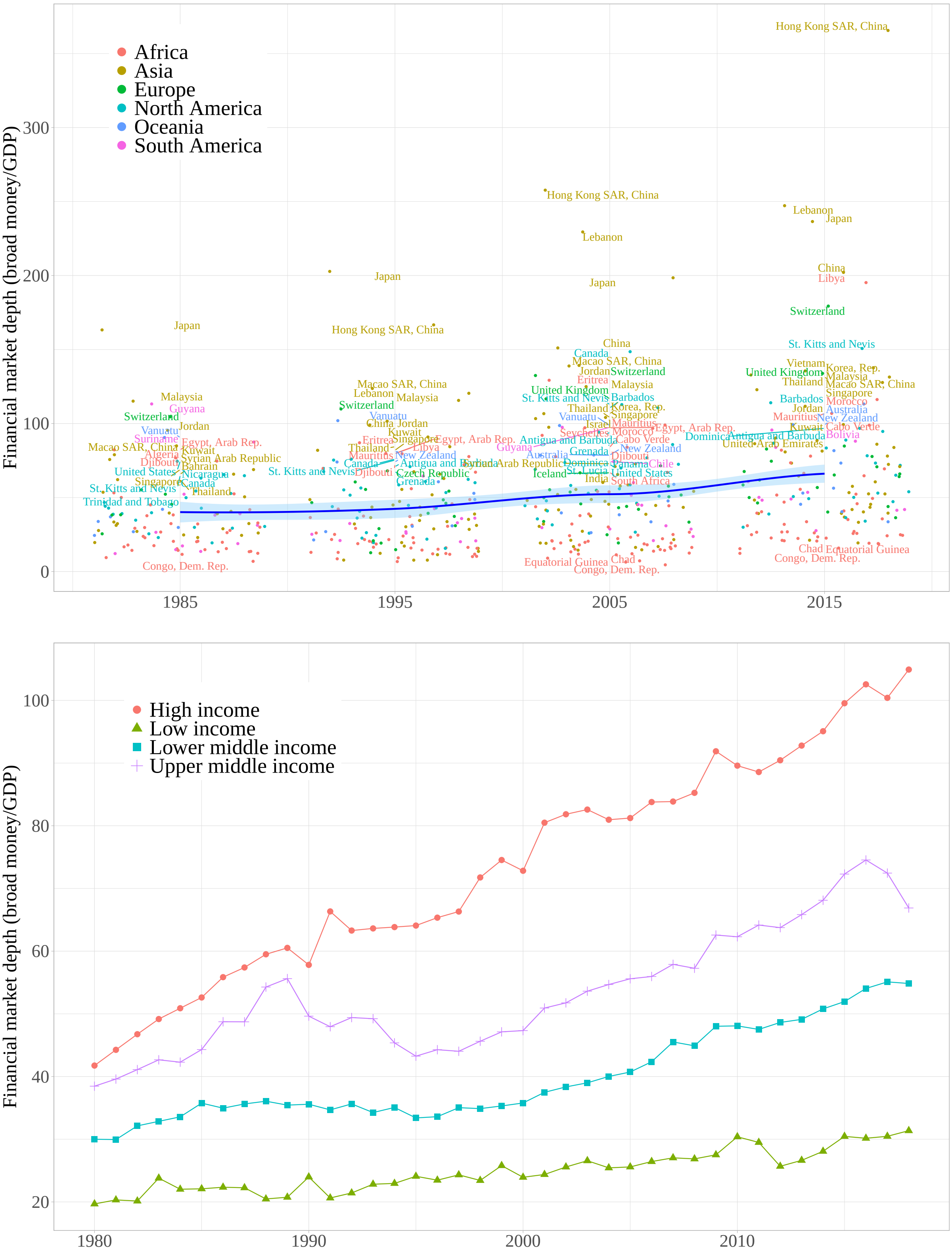
[14] The specific types of monetary assets that are included in the broad money are different from country to country in the strict sense, but generally includes national currency, transferable deposits, other deposits and securities other than shares.

Figure 1.6: Financial Market Depth



1.2.3 Openness

A financial market's global openness determines how much of its market activity is international. A globally open financial market has the highest level of capital market openness where all barriers that make movement of capital across borders expensive are removed. Consequently, a globalized financial market expands its activity to international suppliers and borrowers. There are a number of ways to measure openness of a country which is analyzed and compared in detail in the chapter appendix. For Figure 1.7, I use the most widely used financial openness measure, i.e. the Chinn-Ito index that ranges from -1.90 to 2.37 with higher numbers signifying more openness. As with many measures for capital account openness, the Chinn-Ito index is codified based on IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). The Chinn-Ito index is coded based on whether or not governments have i) restrictions on capital account transactions, ii) impose multiple exchange rates, iii) restrictions on current account transaction and iv) the requirement of surrender of export proceeds.

I take note of three observations from Figure 1.7. First, unlike the observations from financial market size and depth in Figures 1.5 and 1.6 where there were distinctive gaps among income groups, the difference in financial market openness among income groups are marginal when I exclude high income countries. The bottom plot of Figure 1.7 shows that while high income countries are the most globally open, all other income groups vary along the same range of being slightly open (above zero) to not being open (below zero). The scatter plot of countries in the top plot also show that the gap between countries are smaller. This observation is consistent even when using alternative measures for financial market openness.[15].

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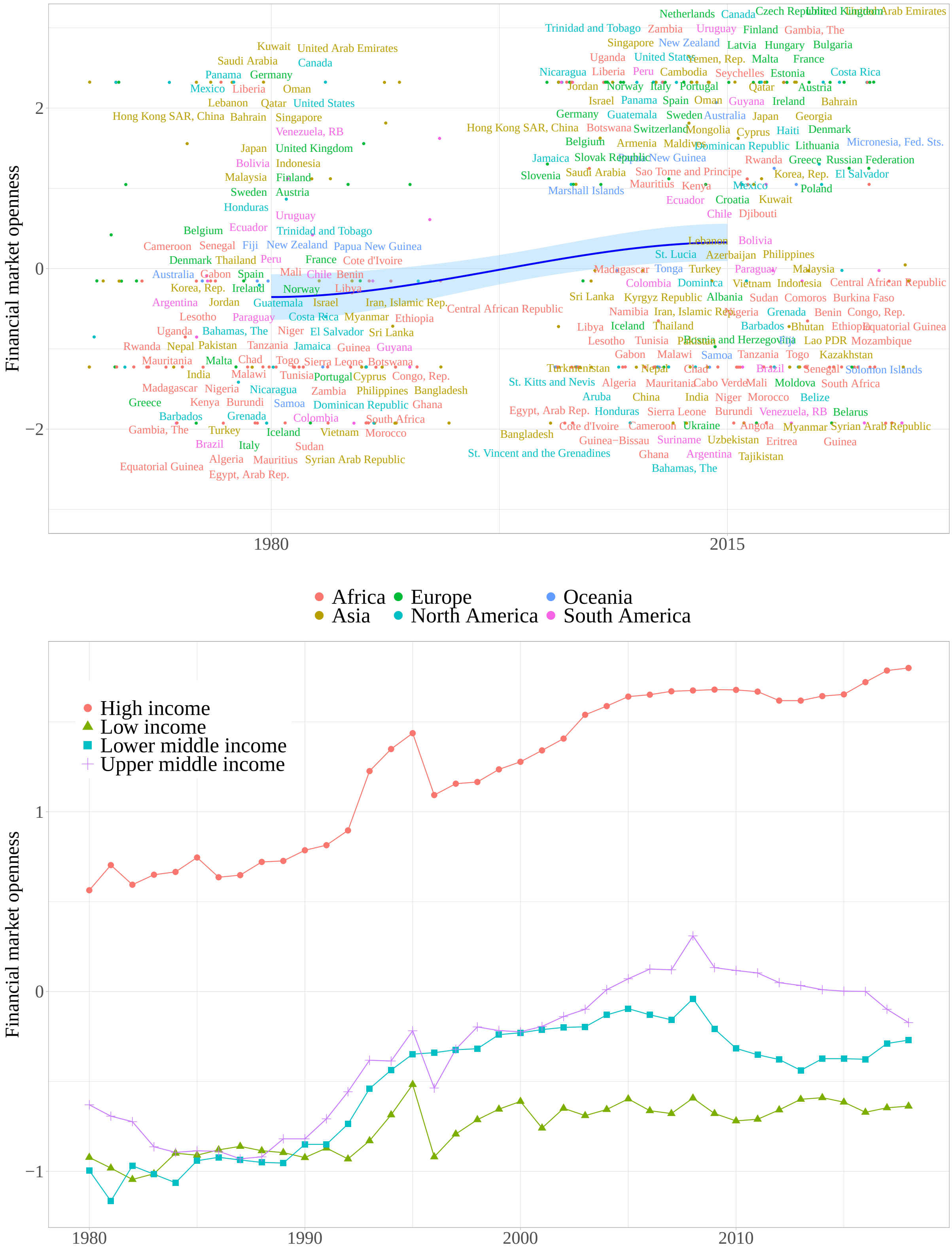
[15] See chapter appendix.

FIGURE 1.7: De jure Financial Market Openness



Second, the average slope represented by the blue line in the top plot of Figure 1.7 shows that countries in general have opened up their financial markets over time. This is also observable in the bottom plot given that all income groups have higher levels of openness in 2018 compared to 1980. While the overall trend has shown the global move towards more openness, the bottom plot demonstrates that this overall trend may be biased by the outstanding levels of financial market openness in high income countries. Excluding the high-income countries, there has recently been more move towards less financial market openness. In particular, the upper middle income countries saw a steady rise in their openness before 2007 but has turned course since dropping back their openness levels below 0 by 2015. Among the upper middle income countries are the BRICS -Brazil, Russia, China, and South Africa - except India which is categorized as a lower middle income group according to the World bank. On the other hand, lower middle income countries and low income countries on average have preferred rather closed financial markets. The chapter appendix lists the full list of countries for the income groups. Third, unlike the quick recovery of financial market size from financial crises, changes in financial market openness is gradual, can last a long time and to a degree path-dependent. Since the early 1990s, in fact, financial market openness has not changed significantly in the middle income and low income countries.

Understanding the three dimensions in full, and not selectively focusing on a single dimension, can help us understand financial market development holistically. As illustrated in the motivating cases, South Africa had a broad and deep financial market that was not globalized while Uganda had a globalized financial market that was not broad and deep. Only Kenya had a fully rounded financial development with a broad, deep and globalized financial market. While the three dimensions are not mutually exclusive - an open financial market often leads to broader markets and a deep financial market often leads to broader market - the combinations of the three dimension are unique across countries over time. Notably, the size dimension reflects the market conditions in the short term while the depth and openness dimensions are reflections of structural changes in the financial market that lasts for longer periods.[16]

1.3 Financial Market Development in Political Science Research

Existing literature on financial liberalization is divided into two camps based on how much one believes there is an overlap between the two types of liberalization. The first camp overstates the role of trade in finance and focuses on the system level. This set of literature follows the Hecksher-Ohlin model in treating trade movements and capital movements as substitutes. Thus they posit that global financial flows should follow the economists' classic gravity model of trade in that bigger, richer and geographically closer countries should be the ones enjoying greater flows of finance and the highest level of financial liberalization.[17] Or a variation of this argument is that the increased interdependence in the global level generates domestic and foreign political pressures for capital account liberalization.[18] For example, since the 1980s, trade agreements have increasingly come to incorporate investment provisions and financial service agreements (FSAs) to the extent that trade agreements have become analogous to financial agreements (Rodrik 2018). The problem with the gravity model approach is that there are too many deviations from the gravity model when it comes to explaining financial liberalization. The mismatch between actual flows of finance and trade is exacerbated with technological advancements over time where movement of capital is no longer bounded by distance and country size as is the case for trade. Moreover, Figure 1.2 demonstrated the mismatch in trade liberalization and financial liberalization while Figure 1.4 illustrated that international agreements do not necessarily roll over to domestic regulations that liberalize finance. To borrow the critique in Martin (2013), compliance to WTO's FSAs do not necessary mean policy changes in countries. The frequent deviations from the gravity model show that policies surrounding financial liberalization is more political in nature.

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[16] Put differently, openness can be understood as the de jure liberalization discussed in the earlier section while size and depth is the de facto liberalization.

As is the case for the GATT and PTA literature in trade, deviations from this underlying model have given much room for political explanations. Most prominent have been the literature on IMF programs and the crisis-induced financial liberalization model (Haggard and Maxfield 2009; Copelovitch 2010a, 2010b; Stone 2008; Vreeland 2003). This approach explains why countries that are not important nodes in the global economy implement financial liberalization policies. The crisis-induced liberalization model focuses on developing countries, or the least likely countries to financially liberalize according to the gravity model, that undergo rapid, unilateral liberalization in the aftermath of major economic crises. Specifically, Haggard and Maxfield (2009) show that these developing countries undergo rapid financial liberalization when they experience balance of payment crises where politicians unilaterally implement liberalizing policies to signal government's commitment to protect foreign investments and maintain fiscal and monetary discipline. The IMF literature, in a similar vein, show how developing countries that join the IMF program undergo extensive financial liberalization. In particular, Copelovitch (2010a, 2010b) provides insights for the deviations in the gravity model on why lesser economically integrated countries might be the ones experiencing the deepest level of financial liberalization. He finds that borrower countries that have the most economic connections with the major global economies or shareholders of the IMF (G5 countries; United States, United Kingdom, Germany, Japan, and France) are the ones facing less stringent terms of privatization and liberalization attached to their loan package, while borrower economies that are least connected with the major global economies (G5) are the ones receiving the most stringent terms for financial liberalization.

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[17] The 'power law' in network analysis is the equivalent of the gravity model. Power law entails that nodes with higher network centrality will attract more flows.

[18] On a more methodological note, this overlap is in huge part also caused by the operationalization of financial liberalization in many of the existing literature. The most commonly used index for financial liberalization is the Chinn-Ito index which measures the presence of capital controls on four categories: i)restrictions on capital account transactions ii) presence of multiple exchange rates iii) restrictions on current account transactions and iv) requirement or the surrender of export proceeds (regulatory restrictions). The first two correspond to capital account transactions while the latter two correspond to current account transactions. With the measure being composed of equal proportions of restrictions on capital and restrictions on trade, treating financial liberalization and trade liberalization as identical twins has been inevitable.

There are however, two important limits with the approaches of the first camp. First, while the gravity model addresses when and why countries *start* the process of financial liberalization, it doesn't provide answers to when and why a country might *deepen* its financial liberalization. This is largely due to treating trade transactions and capital transactions as substitutes, when in fact categories for capital transactions which are independent from trade are ever increasing such as portfolio investments. Second, while the crisis-induced liberalization model and the IMF literature gets at when and why financial liberalization might deepen in countries, it misses out on an entire class of cases that successfully achieved deep financial liberalization *without* the experience of a crisis. Furthermore, this approach does not explain why governments that joined the IMF program had not decided to financially liberalize prior to the crisis.

The second camp marginalizes the role of trade in finance and overstates the role of domestic politics to explain governments' implementation of specific financial policies. As a result, financial policies are studied independently from a country's stance on trade, effectively maintaining the "silos" of IPE (Copelovitch and Pevehouse 2015). In this camp, the more traditional studies have focused on domestic preferences over various financial liberalization policies (Frieden 1991; Verdier 1998; Steinberg and Malhotra 2014; Helleiner 1993; Brooks and Kurtz 2012). In democracies, preference over financial liberalization policies are contended across sectoral interests (Frieden 1991), industry competitiveness (Brooks and Kurtz 2012) or government preference for a welfare state (Helleiner 1993), while in non-democracies, preference over financial liberalization policies vary based on the authoritarian regime type (Steinberg and Malhotra 2014). Preferences also vary across the level of centralization in a government (Verdier 1998), and structural legacy of industrial policies (Brooks and Kurtz 2012), especially for developing countries.[19]

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19. The specific policies that each study looks at vary - some look at policies that strengthen monetary stability such as fixed exchange rates or the establishment of the central bank, others focus on more direct policies that lift capital controls. However, these are all necessary policies that promote financial liberalization.

More importantly, however, has been the literature that show how such preferences are aggregated to the policy level (Pepinsky 2013; Broz 1997). This set of literature predicts different outcomes for countries with different stages of development. Pepinsky (2013), for example, argues that banks in developing economies form strong banking cartels against policies that enable deep financial liberalization. In his case studies of Mexico and Indonesia, domestic banks preferred limited capital liberalization that strongly regulates capital flow involving foreign ownership. Broz(1997), on the contrary, have shown that banks in a major economy organize to push for complete financial liberalization. In his case study of the U.S., Broz shows that domestic banks in the U.S. organized to establish the Fed and internationalize the dollar because the U.S. banks saw that their private rents attached to internationalizing the dollar currency outweighed their private rents at home. The two studies provide an important insight that financial liberalization policies are dependent on the rent-seeking behavior of domestic banks. In the former case, domestic banks push for limited financial liberalization to protect their private rents from competition with foreign banks. In the latter case, domestic banks push for financial liberalization to maximize their private rents by internationalizing the dollar. What's missing is a theory that connects these two class of cases to understand when and why domestic banks' financial incentives change.

Accordingly, there are two problems with the approaches of the second camp. First, and the reason why the literature on preferences has become less popular, is that this approach does not provide a working theory for how these preferences are aggregated to the policy level. Second, and more importantly, literature that looks at the domestic lobbying banks misses the broader international financial conditions that shape their behavior as well. As a result, it fails to explain varying experiences like why domestic banks in developed economies like France also cartelize against financial liberalization or why domestic banks in developing economies push for financial liberalization policies even without the experience of a crisis.

In sum, the practice of the existing scholarship in over- or under-stating the role of trade in finance, or solely focusing on system-level causes or domestic causes, have left us miss out on an important opportunity to have a more generalizeable theory that explains the patterns of financial market development across time and space. My approach seeks to fulfill this gap by taking into account both the structural changes in the global economic system and domestic lobbying. I show that domestic banks' preference for financial liberalization change as a function of their source of finance and changes happening at the structural level in the global economy.

1.4 Argument in brief

In answering why some countries develop larger, deeper and more globalized financial markets than others, I make the argument that countries that are integrated into the global economy with a domestic banking industry that depends on foreign credit will develop larger, deeper and more globalized financial markets. My theory shows that two factors determine the politics of financial market policies: i) a country's integration into international trade and ii) whether the source of private rents for the domestic banks is at home or markets abroad. The first structural component posits that governments are more likely to face pressures for financial liberalization from domestic banks when the country is heavily integrated into international trade and finance but has not yet removed capital controls. This is because integration into international trade makes the country attract larger and more globalized capital but also attract competition from foreign banks. The second domestic component posits that domestic banks organize based on their cost and benefit calculations and will more likely pressure the government for financial liberalization when the private benefits of international capital inflows outweigh the benefits of private rents provided by the government domestically. Domestic banks, in some cases, enjoy substantial private rents behind a wall of capital controls, and they successfully lobby the government to preserve those rents. In other cases, however, the domestic financial sector decides that the benefits of global capital inflows outweigh those domestic private rents and shift toward lobbying for the removal of capital controls in order to fully enjoy those benefits. I find that both conditions need to be satisfied in order for countries to develop a larger, deeper and more globalized financial market.

1.4.1 Scope conditions

I do not limit my universe of cases as long as it involves countries with a functioning government. Minimum government stability ensures that the government has capacity to implement and enforce sustainable government regulations on capital markets. However, my theory may have the most explanatory power to a subset of cases that satisfy the following two conditions. First, my framework is most useful in explaining the many cases of financial liberalization that are not crisis-induced. For countries that experienced a crisis-induced liberalization, this framework helps to explain why they had not liberalized prior to the crisis. Second, my framework is most useful in explaining the general cases where countries develop a trading market before a financial market. In special cases like the tax-haven countries, deeper and globalized financial markets can develop without a traditional market or the countries' involvement in international trade.

For those cases, however, this framework may help to explain why they easily globalize but have difficulty developing broader financial markets.

1.4.2 An illustrative example

While many of my motivating cases show the argument's applicability to relatively recent emerging economies, the theory also explains cases further back in time and of advanced economies who were emerging economies themselves in earlier 20th century. For example, Switzerland was able to become a major financial hub post-World War II, despite capital controls being the global norm because i) Switzerland was increasingly becoming a major bond market in the European economy, and ii) the Swiss Bankers' Association led by the "Big Two" (UBS and Credit Suisse) pressured the government to continue implementing the Bank Secrecy Act, a liberalizing policy that facilitates free capital flow across borders. The Swiss Bankers' Association lobbied the government for such financial liberalization policy so that Swiss banks could continue serving the the French and the British banks who were heavily invested in the Swiss bond market to access its cheap loans. In contrast, Japan's experience in the 1980s shows less of a success story. Japan, despite the slowdown in economic growth at the time, was still i) an important player in international trade. However, the ii) highly cartelized banks in Japan, centered around Mitsubishi Tokyo and Sumitomo Misubishi Financial group, preferred limited financial liberalization as they were heavily reliant on government protection and subsidies. Japanese banks' dependence on the government for private rents was a legacy of Japan's financial system before the 1980s which intentionally favored domestic banks such that banking and securities firms were strictly separated, interest rates were controlled by the government and foreign exchange was tightly controlled. Disregarding the financial incentive structure of the Japanese banks, the Hashimoto government unilaterally enforced deregulation in the 1980s ('Big Bang' reforms), putting many Japanese banks at risk. Hashimoto's ambitious financial reforms ended with a rather mixed result where Japanese banks that were forced to compete with foreign banks, turned their investments to domestic projects that were less riskier and smaller in scale.[20] As a result, Japan achieved limited financial market development in the sense that it remained a domestic market despite its potential for a global financial market.

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[20] The Basel Accord standards implemented by the 'Big Bang' reforms required Japanese banks to acquire a very high standard of minimum capital adequacy ratio, a standard that many foreign banks in Tokyo fulfilled at the time but domestic Japanese banks could not.

1.5 Contribution

My contribution in this paper is three-fold. First, with this new framework that looks at the interaction between global and domestic factors, I provide an explanation for variation in the timing and degree of countries' financial liberalization that takes into account structural changes in the global economic system and domestic lobbying. This is different from previous approaches that solely focus on structural changes or domestic politics. In analyzing both levels, this framework helps to explain why some countries that are similarly integrated in the global economy have chosen different levels of financial liberalization. This framework also explains the many cases of financial liberalization that are not crisis-induced. It also helps explain why many Latin American countries did not financially liberalize prior to IMF intervention.

Second, this study contributes to the literature of international political economy (IPE) by distinguishing financial liberalization from economic liberalization. While existing studies often treat trade liberalization and financial liberalization as two sides of the same coin, this paper demonstrates that they overlap but are not entirely the same. Part of my puzzle is that countries with high levels of trade liberalization aren't necessarily countries with high levels of financial liberalization. I show that the effect of trade openness on financial liberalization is mediated by domestic factors. By unpacking how economic liberalization may or may not affect the dynamics of financial liberalization, this project attempts to bridge the gap between the literature of finance and trade in the scholarship of IPE.

Third, and more broadly, this study expands our understanding of financial power in the scholarship of international relations (IR). National wealth has long been a central focus in IR, yet we know remarkably little about how financial power evolves over time - that is, how much of the global capital systematically concentrates in a country at a given time, which not only determines the country's wealth but also the power it has in directing flows of global finance using its surplus of capital. Measures of financial power have often been replaced with economic size, military capability or institutional power in many of the classic theories of IR. The implicit assumption is that if a country is a global military, economic or institutional power, it is also likely a global financial power. This existing approach leaves out important financial powers that are mid-sized economies, non-military powers and even non-democracies like Switzerland, Luxembourg, and Singapore. By focusing on a country's financial market development to measure its relative financial power over time, this study seeks to restore the explanatory power of global financial powers in previous approaches to IR theories.

Finally, this project does not seek to leave the impression that establishing a globalized financial market is an absolute good in itself. Increased capital inflows from financial liberalization supplement domestic financing of investment, but they also pose challenges raising many key policy questions (Sachs et al. 1995; Dornbusch 1998; Summers 2000; Fischer 2003; Bhagwati 1998; Rodrik 1998; Stiglitz and Pike 2004).[21] While understanding the distributional consequences of financial liberalization is an important topic, the primary focus of this dissertation is to provide a plausible theory for why countries decide to implement such financial liberalization policies despite the costs and risks. Policy implications of this study, in fact, call for a more cautionary approach towards financial liberalization. The theoretical argument of this dissertation implies that financial liberalization without careful consideration of domestic banks' financial incentive structure will not bring the desired effects of financial market liberalization. As the case of Uganda in the 1990s and Japan in the 1980s have demonstrated in earlier sections, unilateral implementation of financial liberalization policies by the government despite domestic banking sector's preference against it, globalizes the country's financial market but fails to broaden and deepen the financial market.

1.6 Structure of the Dissertation

In chapter 2, I develop my theoretical framework for understanding variations in the timing and degree of countries' financial market development. I start the chapter by explaining the two components that determine the level of financial market development in a country: i) a country's integration into international trade and ii) the financial incentive structure of the domestic banking sector. For the first dimension I show that a country's integration into international trade matters because the changing composition of capital inflow from deeper integration into international trade makes governments more likely to face pressures for financial liberalization from domestic banks. For the second dimension, I emphasize domestic banks' agency as primary participants of capital markets and show that they are more likely to pressure the government for financial liberalization policies when the private benefits of international capital inflows outweigh the benefits of private rents provided by the government domestically. After identifying the significance of each dimension I discuss the observable implications for the combination of the two dimensions on financial market development. The chapter concludes with discussions on alternative explanations.

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[21] For extensive theoretical and empirical discussions on the benefits of free capital flow across borders see Sachs et al. 1995; Dornbusch 1998; Summers 2000; Fischer 2003. On discussions for concerns and potential harms of free flow of capital across borders, see Bhagwati 1998; Rodrik 1998; Stiglitz and Pike 2004. For low-income countries, most of the debates are primarily centered on the impact of financial markets on economic growth. For arguments that show the positive effect of capital market development on economic growth, see Nazir, Nawaz, and Gilani 2010; Levine and Zervos 1996. For discussions on its negative effects see Nuhiu and Hoti 2011; Osinubi and Amaghionyeodiwe 2003.

Chapter 3 tests the primary empirical implication of the theory using original measures for integration into international trade and government subsidies to the financial sector from 1980-2018. I run panel regressions that test the interaction effect of a country's integration into international trade and government subsidy to banks, on financial market size, depth and openness. I find robust results that are consistent with my theoretical expectations. As an empirical extension, I use an instrument variable to control for potential confounders and simultaneous bias that trade and financial liberalization may be simultaneously determined. My model results using an instrument variable consistently support the claims of my argument.

Chapter 4 employs network analysis to demonstrate the theory's relevance not just in the country-level but in the system level. I show that the evolution of financial market networks from 1980 to 2014 is not only driven by trade networks but also by node-level characteristics measured in terms of countries' government subsidy levels to the banking sector. Using my original network data on banking networks, I rerun my regression using a country's financial centrality as a proxy measure for financial market development and find consistent results.

Chapter 5 turns to the qualitative case studies in key regions. It demonstrates the theory's underlying mechanism by comparing successful and failed cases of financial market development. I select case studies from key regions to provide rich evidence in support of the causal mechanism laid out in my theory through process-tracing analyses of successful and failed cases of global financial markets. My in-depth case studies include comparisons of Kenya and South Africa in 1990s Sub-Saharan Africa, and Singapore and Japan in 1980s Asia. I also include shorter anecdotes of 1950s Switzerland, 1970s France, and Monaco to discuss my theory against competing alternative explanations.

In the concluding chapter, I sum up the contributions of this project and discuss the implications for capital markets and global finance more broadly.

Chapter 2

Theory: The Politics of Financial Market Development

The previous introductory chapter described the puzzling inconsistency with trade liberalization and financial liberalization: countries integrated into global trade are not necessarily integrated into global finance. The high levels of variation we see in financial market size, depth and openness among countries that are similarly integrated into global trade suggests that far more remains to be learned about the factors that lead to financial market development. Against this backdrop, this chapter establishes a theory of financial market development that explains when and why a government implements policies that broadens, deepens and globalizes its financial market. In particular, I highlight the agency of domestic banks and show that domestic banks' lobby for financial market policies need to be understood in the context of a country's position in global trade as well as its domestic financial incentive structure.

My theory argues that two key factors determine the degree and level of financial market development in a country: how integrated a country is into international trade and the financial incentives of domestic banks. The former condition determines when governments face pressure from domestic banks for financial liberalization policies while the second condition determines domestic banks' direction of lobby. Governments are more likely to face pressures from domestic banks on financial market policies when the country is heavily integrated into international trade. This is because a country's integration into international trade makes capital account liberalization a high-stakes issue for domestic banks and leverages domestic banks as the gatekeeping interest for complete capital account liberalization. The direction of the lobby, on the other hand depends on the second condition. Domestic banks are more likely to pressure the government for financial liberalization when the private benefits of international capital inflows outweigh the benefits of private rents provided by the government domestically. Combinations of the two dimensions determine variations in the timing and degree of countries' financial liberalization. The argument to come makes clear that two conditions need to be *jointly* satisfied for a country to broaden, deepen and globalize its financial market: a country's deep integration into international trade and the domestic banking industry's dependence on foreign credit.

In this chapter, I begin by discussing why the agency of domestic banks matters. I then discuss the two central components of my theory: a country's level of integration into international trade and the domestic banking industry's financial incentive. With the first component, I show that a country's integration into international trade brings three changes to its financial market that make financial liberalization a high-stakes policy for domestic banks and leverage domestic banks as the gate-keeping interest for complete financial liberalization. I also discuss why I focus on *integration* into international trade to theorize this effect as opposed to traditional measures of trade. For the second component, I discuss the two sources of financial incentives for domestic banks: government subsidy and foreign credit. I show what each financial incentive looks like and explain how they affect domestic banks' lobby for financial liberalization policies. After discussing the relevance of each component, I provide a model to understand the interaction of the two components. I then walk through a series of testable implications of the model. If each of the hypotheses shows to be true, it would offer compelling evidence in favor of my framework and indicate the need to update our preconceptions of the relationship between trade and finance. That is, trade helps explain the size of financial markets but the effect of trade on financial market depth and openness is mediated by domestic banks' rent-seeking behavior. Finally, I end the chapter discussing alternative explanations for my theory. I also discuss the kinds of evidence that would refute my argument.

2.1 Why Banks?

Banks are financial institutions licensed to receive deposits, make loans and provide financial services. While there are different kinds of banks, in general, banks are profit-seeking business firms that deal with money and credit.[1] Given that a global financial market is a venue for global suppliers and borrowers of capital, banks are extremely relevant in financial markets for the three roles they play: suppliers of domestic credit, intermediaries of foreign credit and providers of financial services.

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[1] There are several different kinds of banks including retail banks, commercial or corporate banks, and investment banks.

First, domestic banks are the main suppliers of domestic credit. Domestic banks function as the main mobilizer of savings and make profit by charging interest on the loans and debts they issue to borrowers. Second, domestic banks are intermediaries of foreign credit. Banks make profit from mobilizing money cheaply and lending at higher rates. Banks can borrow cheaply from international financial markets and lend it at a higher rate to domestic borrowers to make profit. Third, domestic banks are providers of financial services that intermediate borrowers and suppliers. Banks make profit from charging various financial service provisions. For example, domestic banks often intermediate between firms and investors to help firms issue shares of stock in an IPO or help with the firm's debt financing by finding large-scale investors for corporate bonds. Banks receive commission fees for such service.

As demonstrated, banks not only participate in capital markets first-hand but more importantly, policies that govern financial markets easily have direct consequences to their private rents. For example, if the government implements policies that control the inflow of foreign credit, it limits domestic banks' capacity as borrowers of foreign credit making foreign credits more expensive and banks' margin of profit from re-lending the credit minimal. Banks, thus, are the main financial actors and interest group that have the incentive to consistently organize and lobby the government for favorable financial market policies. Most of the existing literature on interest groups portray banks as a subcategory of international investors (Frieden 1991) or make predictions about domestic banks' preferences based on the country's level of development (Broz 1999; Pepinsky 2013). The former approach implies that banks' preference towards financial market policies are identical to that of exporters and international traders while the latter assumes that domestic banks' in developing countries always lobby the government for limited financial liberalization and domestic banks in developed countries lobby for financial liberalization. This approach however, fails to distinguish the unique role banks play especially when the country deepens integration into international trade, and neglects how domestic banks' preference is a function of a more underlying condition of their financial incentive structure. In the next two sections, I show how domestic banks' agency becomes distinct with the country's integration into international trade and explain how domestic banks' vary their preferences toward financial market policies based on their cost and benefit calculations of private rents.

2.2 Integration into International Trade (IIT)

One limit of the preference literature is that there are multiple competing preferences domestically yet we do not know which preference likely aggregates to the policy level. A country's integration into international trade (IIT) is an important factor that determines when governments receive higher pressure from domestic banks on financial liberalization policies because with more IIT 1) capital account liberalization becomes a high-stakes issue for domestic banks and 2) banks become the gate-keeping interest for complete capital account liberalization. I first explain the three changes that IIT brings on financial markets and how they lead to increased lobby from domestic banks to the government. I then discuss why the concept of a country's *integration* into international trade most accurately captures this effect as opposed to traditional approaches to trade.

2.2.1 The effect of IIT on financial markets

IIT affects a country's financial market in three ways: global capital inflow surges, foreign bank competition increases and capital account liberalization gets institutionalized half-way.

First, a country's increased IIT attracts more global capital (chapter appendix Figure B.1) and amplifies domestic banks' role as the suppliers of credit. When a country becomes an important node in the global trade network, surplus of short-term or long-term capital gets stocked in the country from being in-passing or the destination of trade. This availability of global capital generates opportunities for domestic banks as suppliers of credit. With more IIT, domestic banks find cheap access to foreign credit. The surplus of credit in the domestic financial market, in particular, makes the region an apt place to develop a market for long-term financing, also known as the bond market. Relatedly, domestic banks as financial service providers find that they can effectively expand their business in foreign markets by following abroad their now globally competitive national firms and provide financial services targeting those national firms. These benefits and opportunities brought by IIT, however, are available when the financial market is fully liberalized.

Second, a country's increased IIT also attracts foreign bank competition (chapter appendix Figure B.2) and threatens domestic banks' role as intermediaries of foreign credit. When a county is an important node in the global trade network, multinational firms locate their operations in this trading economy, and foreign banks seek to follow these firms to profit from providing financial services. This is a well-known phenomenon based on the prominent theory of international banking that banks follow their customers abroad (Yannopoulos 1983; Jean M. Gray 1981). These foreign banks have a comparative advantage in efficiency, offering cheap credit and other service related advantages such as prior knowledge of their national firms' needs. Thus a country's increase in IIT invites competitive pressure from foreign banks and foreign bank entry. This significantly threatens domestic banks' position as intermediaries of foreign credit.

When there is limited competition from foreign banks, domestic banks monopolize foreign credit borrowing and become the exclusive lender of foreign funds domestically. Foreign banks, once allowed entry, will cut through the intermediation of domestic banks and lend foreign credit directly to domestic borrowers such as firms. Domestic banks will face this threat of foreign bank competition when financial market is fully liberalized.

Third, a country's increased IIT liberalizes capital accounts to facilitate trade-related capital flow, but not necessarily for non-trade-related capital flow as shown in Figure 2.1.[2] Capital flow consists of two types of credits: commercial credits and financial credits. The former refers to trade-related capital flow and the latter refers to non-trade-related capital flows such as portfolio investments or foreign credit borrowing. Countries with high levels of IIT have strong export sectors that lobby the government for policies that facilitate cross-border capital flow such as fixed exchange rates (Frieden 1991; Broz and Werfel 2014) with the caveat that these policies may only apply to commercial credits. In practice, for example, governments may impose multiple exchange rates, such that fixed exchange rates are applied for commercial credits but a floating exchange rate is applied to financial credits. There exists myriads of forms in which similar regulatory capital controls can be imposed which are not limited to the multiple exchange rate system. Countries with high levels of IIT, however, show that the country already has partially liberalized its capital accounts to at least trade-related capital, if not fully to include non-trade-related capital.

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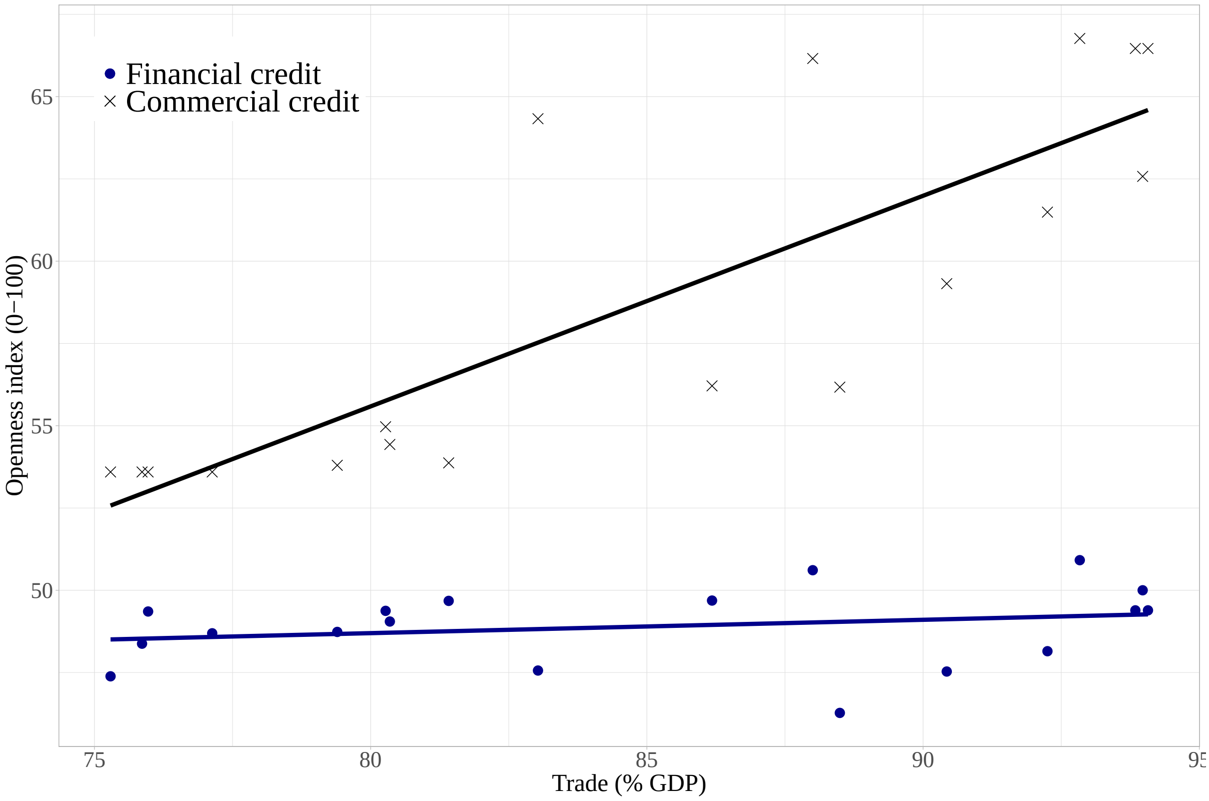
2. I use the available data for commercial credit and financial credit from Jahan and Wang (2016). The figure plots world's yearly average of trade (% GDP) against world's yearly average of commercial credits and financial credits from 1996 to 2013.

Figure 2.1: Effect of trade on types of capital flow



2.2.2 IIT as a political lever for domestic banks

The three changes discussed in the previous section provide the bases for why governments are more likely to receive pressure from domestic banks on financial market policies with increased IIT. The first two effects of IIT raises the stakes of financial liberalization for domestic banks while the third effect highlights domestic banks' role as the gate-keeping interest to complete capital account liberalization.

With IIT, financial liberalization becomes a high-stakes policy for domestic banks. IIT raises the stakes for domestic banks not only because greater volumes of capital are involved with IIT, but because domestic banks need to choose between two mutually exclusive options. On the one hand, domestic banks can lobby against financial liberalization to protect their position as the exclusive lender of foreign capital. On the other hand, they can support financial liberalization to get access to cheaper credit and more importantly gain investment opportunities such as creating a bond market using the stocked dollars from trade. In other words, domestic banks can either choose to fully liberalize and maximize benefits as providers of credit or choose to limit liberalization and maximize benefits from monopolizing the intermediation of foreign credit. The two options are mutually exclusive. Banks cannot extend their role as suppliers of credit if they themselves do not completely liberalize their own markets. This is because domestic banks can expand to foreign markets only when its own government allows foreign bank entry. This is a common reciprocity norm in international banking. For example, United States on the federal level welcomes foreign bank entry but state laws, such as in New York and California, require that foreign markets open up to their state banks to be entered into those states and their markets (Halperin 1975). This reciprocity criteria is not unique to the U.S. but is commonly found in many other countries.[3] Banks as a profit-seeking interest group will find the need to organize and pressure the government with increased IIT. The higher the stakes, the higher the levels of lobby.

On the other hand, with more IIT, domestic banks increasingly become the gate-keeping interest to determine whether or not the government will extend financial liberalization to non-trade-related capital flows. Liberalization of non-trade-related capital flow is often the biggest road block to complete capital account liberalization for many emerging economies. As Jahan and Wang (2016) illustrate by comparing emerging countries to developed countries between 1996-2013, emerging countries are as open, if not more, to most types of capital inflow such as FDI, bond, derivatives and more, but the the only type of capital inflow in which the emerging economies significantly lagged behind frontier economies is the liberalization of financial credits (chapter appendix Figure B.4). Financial credit, in particular, refers to direct lending from foreign banks and financial institutions. Without IIT, there are many interest groups competing and lobbying for capital account policies. With more IIT, however, capital liberalization is institutionalized half-way, where trade-related capital flows are liberalized. The remaining half depends on banks, and their lobby to liberalize the non-trade-related capital flow, more specifically the liberalization of financial credits. With fewer competing interests, domestic banks are more likely to influence the policy selection for complete financial liberalization.

2.2.3 Why *integration* into international trade?

An important note to make is that a country's IIT discussed here is conceptually different from the country's dependence to trade or its size of the trading sector. IIT looks at how central, or how important an economy is in the passing of global trade flows, and this is conceptually more informative in capturing how much pressure the government will be facing from domestic banks for financial liberalization.

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[3] For example, Norway denied Swedish banks', i.e. Wermlandsbanken, Uplandsbanken and Skanska Banken, application to open a subsidiary in Norway in 1985 on the grounds of reciprocity. The Ministry of Finance in Norway had "invoked reciprocity and told them to wait until Sweden had opened to Norwegian banks." (Tschoegl 2002, p.144).

First, a country with high levels of IIT goes beyond being a regional trading economy. Capital account liberalization becomes a high-stakes policy for domestic banks when the foreign credit at question involves dollars or global reserve currencies. The more it concerns those types of capital, the higher the investment opportunities for banks from capital account liberalization and the higher the threat from capital account liberalization that allows entry of foreign banks that carry these reserves. The traditional approaches to measuring a country's level of trade such as trade dependency or size of the trading sector can mistake a regional trading economy to a global trade entrepôt. For example, a country may have high volumes of trade from trading with a big neighboring economy or a select number of countries in the region as is the case for post-communist countries' trade with Russia. Even when two countries have the same trading sector size, the government with a regional trading economy is less likely to receive pressure from domestic banks regarding financial liberalization policies for reasons discussed above.

Second, a country with high levels of IIT are strong on both inflows and outflows of trade. Countries that are strong on both inflows and outflows of trade are countries with global supply chains that have very strong trading sectors. Governments of these countries are more likely to have completely liberalized capital accounts to trade-related capital flows, making domestic banks the true gate-keeping interest to complete capital account liberalization. Traditional approaches such as trade volumes do not capture a country's strength on both types of flows. Instead in those traditional measures, trade sector size can be disproportionately driven by either exports or imports.

Third, IIT helps overcome the size biases in aggregate trade volumes or trade dependency measures. On the one hand, aggregate measures of trade may over-predict the effect of trade in big economies and under-predict the effect of trade in smaller economies. Looking at a country's IIT picks up on the effect of trade in smaller economies like Luxembourg or Singapore. On the other hand, trade-to-GDP ratio measure has the reverse problem, as frequently discussed in the gravity model estimation literature (Feenstra 2015) that this trade dependency ratio makes small economies appear to have higher trade volumes relative to GDP while underplaying trade volumes in major domestic economies like the U.S., Japan, Germany and China, despite the fact that they are globally trading economies. In this case, the effect of trade is over-predicted in smaller economies and under-predicted in big economies. IIT overcomes these size biases by assessing the effect of trade based on the structural and strategic position a country holds in the global trade network.

2.2.4 Conclusion

In sum, a country's integration into international trade explains how likely the government will face pressures from domestic banks for financial liberalization. IIT attracts more global capital, increases foreign bank competition and liberalizes trade-related capital flows. This effect of IIT raises the stakes of financial liberalization for domestic banks and makes domestic banks the gate-keeping interest for complete capital account liberalization.

2.3 Financial Incentives of the Banking Sector

With more IIT, governments are more likely to face pressures from domestic banks, but what determines the *direction* of this lobby, is domestic banks' cost and benefit analysis of private rents. Domestic banks have two main financial incentives: foreign credit and government subsidy. IIT strengthens the financial incentives from foreign credit while the financial incentive that offsets the benefits from foreign credit is government subsidy to the banking sector. In this section, I begin by explaining the forms and goals of government subsidy and how it translates to domestic banks' private rents. I then build on what has already been discussed about domestic banks' private rents from foreign credit to finally show how domestic banks decide the direction of lobby based on the cost and benefit calculations of the two financial incentives.

2.3.1 Government subsidy to the financial sector

Government subsidy has been one of the oldest source of financial incentive for domestic banks. The oldest formal government sponsored bank dates back to 1822 in Netherlands, the Société Général pour Favoriser l'Industrie National, which became a model of state-sponsored long-term finance that later got perfected by France during the French industrialization.[4] This model was then exported to other regions such as Japan in 1900 with the establishment of the Industrial Bank of Japan (Yasuda 1993), Mexico in 1934 with the creation of the Nacional Financiera (Ramirez 1984), the Industrial Finance Corporation of India in 1948, the Industrial Development Bank of Turkey in Turkey (William Diamond 1957), and to many other countries there after.[5] Government subsidies to the finance sector have taken many adaptations over time, becoming one of the most important source of private rents for domestic banks. State-owned banks still have continued importance in developing countries (Clarke, Cull, and Shirley 2005) but guarantees have increasingly become implicit, especially in developed economies.

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[4] Some of the main state-sponsored banking in France during 1848-1852 include the Crédit Foncier, the Comptoir d'Escompte and the Crédit Mobilier. See De Aghion 1999; Cameron 1953.

[5] For a brief history on government sponsored financial institutions, see De Aghion 1999; William Diamond 1957.

2.3.1.1 Goals and types of guarantees

Government subsidy to the banking sector serves various goals of development. More specifically, government subsidy to the banking sector helps mobilize long-term credit in credit-poor countries, promotes private-sector financing in credit-rich countries and protects domestic banks from foreign competition in the era of globalization.

Government subsidy to the banking sector mobilizes long-term finances in credit-poor countries.[6] For many emerging economies, the dearth of long-term financing is severe as markets expand, businesses grow and the demands for long-term credit exceed the supply.[7] Many domestic banks in those developing economies are inadequate to mobilize savings or capital to match the supply. In many other cases macroeconomic conditions such as high inflation (Brock 1995) or the lack of institutions and rule of law make domestic banks hesitate engaging in long-term credit (D. W. Diamond 1991, 1993; North and Weingast 1989; Hart and Moore 1994; Bolton, Scharfstein, et al. 1993). Given these circumstances, governments often intervene in capital markets to provide long-term credits to facilitate domestic financing of investments This is often facilitated via nationalizing major commercial banks, creating specialized banks or development banks which are partly or wholly owned by the government to allocate funds to strategic industries. As shown earlier, these institutions are one of the oldest forms of a government's explicit guarantee to the banking industry and are known to have played a crucial role in the rapid industrialization process of Continental Europe and Japan (Cameron 1953; Diamond 1957; Yasuda 1993; Gerschenkron 1962). Many studies have shown that state banks control up to 30-35 percent share of banking assets in countries with less developed financial sectors, compared to 2-5 percent share in countries with more developed financial sectors(Clarke et al. 2003).[8] With globalization and trade, many governments adopted these sponsored financial institutions to facilitate government-led development strategies, also known as the import substitution industrialization (ISI) or export-oriented industrialization (EOI). In ISI, finances are channeled to targeted indigenous industries via specialized banks or development banks. In EOI, government intervention in the capital market can be less explicit. Governments form a corporate finance structure to allocate funds to strategic exporting industries by giving domestic banks protection and political benefits, discussed in detail below.[9]

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[6] Long-term finances are finances that typically have a maturity year for 10-20 years in credit-poor countries. Long term finances are needed for infrastructure and costly investments such as shipbuilding and more.

[7] This is also the reason why a significant part of the lending by the World Bank and other multilateral development banks is aimed at correcting for this dearth of long-term credit through the creation of development finance institutions (DFIs) that could lend funds through loans from financial intermediaries and commercial banks, and recently through guarantees that lengthen the maturity of loan.

[8] Clarke et al. 2003 calculates state bank control for 2001 using data from World Development Indicators 2022; Political Risk Services 2001; Barth, Caprio, and Levine 2001.

Government subsidy to the banking sector promotes private sector's long-term financing in credit-rich countries. For countries that have a private banking industry with the capacity to channel long-term credit, governments have less incentive to intervene in capital markets directly due to its costly nature (Borisova et al. 2015).[10] Often, a select number of private financial institutions become heavily responsible for providing long-term credit in domestic markets due to economies of scale. Private banks that perform this task become "too big to fail" and the government in the interest to promote and facilitate long-term credit through private banks, provides these domestic banks significant benefits such as insurance for domestic private liabilities, higher valuations (Brewer and Jagtiani 2013) and lower risk premiums (Völz and Wedow 2009). A common example is the provision of implicit guarantees for banks' debts (Andersen and Jensen 2022; Hagendorff, Keasey, and Vallascas 2018; Toader 2015; Schich and Lindh 2012). This implicit guarantee represents the expectation that the government will provide a bailout in cases of financial distress and prevent major banks from bankruptcies.[11] One of the likely effects of implicit guarantees in the financial sector is cheaper and broader bank lending (Denk, Schich, and Cournède 2015). For example, in many of the East Asian countries, the domestic banking sector, the real-estate market and the government form a corporate finance structure that enables long-term financing for real-estate investments in levels not possible if it were not for the implicit guarantee of governments. While implicit guarantees are the most well known among the indirect forms of government guarantees for the financial sector, government subsidy can come in many other forms such as concentration of resources, government favoritism, tax cuts, and regulations that limit competition in the market.

With globalization, government subsidy is also increasingly used to protect domestic banks from foreign bank competition both in emerging and developed markets. As illustrated in earlier sections, IIT attracts MNCs and foreign banks that seek to follow their customers abroad and pursue local market opportunities (Clarke et al. 2003). Foreign bank entry exerts competitive pressure on domestic banks, forcing them to become more efficient by lowering their costs and driving down the cost of lending. When the domestic banking system is weak, opening to competition from foreign banks, either through acquisition of domestic banks or opening subsidiary branches, is a delicate matter. Thus, governments sometimes provide subsidies to subsidize the cost of foreign credit and impose entry restrictions in order to protect domestic banks from foreign competition.

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[9] Government intervention happens in a more coercive form in ISI compared to that of EOI. This is because ISI strategies limit inward foreign capital and given the limited sources of finance mostly generated from government spending or the domestic economy, the government needs tighter control to prevent coordination failure.

[10] Borisova et al. 2015 find that government ownership is generally associated with a higher cost of debt in 43 countries over 1991–2010.

[11] Implicit guarantees have gained spotlight in the crisis literature as one of the factors leading to the 1997 Asian financial crisis, 2008 global financial crisis and the Eurozone crisis (Chang 1999; Corsetti, Pesenti, and Roubini 1999a, 1999c).

Essentially, this section shows that governments provide subsidies to domestic banks in *both* developed and developing countries for various development goals. Subsidies happen in myriad of forms, explicit or implicit, that ranges from concentration of resources, government favoritism, tax cuts, regulation that limit competition in the market, to bailouts. Explicit and implicit guarantees are similar in that the effect of government guarantees for banks is to transfer costs and risks from domestic banks to the government. While government subsidy to the banking sector have existed for a very long time, the extent of subsidies have varied over time and across countries. In the next section, I show how the level of government subsidy affects domestic banks' lobby for financial market liberalization.

2.3.1.2 The effect of government subsidy on domestic banks' lobby

As shown in the previous section, government subsidy is one of the oldest source of financial incentive for domestic banks. If banks have high reliance on government subsidy to generate private rents, domestic banks are less likely to lobby for complete financial liberalization. This is because domestic banks' private rents from government subsidy is maximized when financial liberalization is limited. Complete liberalization threatens domestic banks' monopoly as providers of domestic credit and intermediaries of foreign credit.

Domestic banks' monopoly as suppliers of credit is best sustained with limited financial liberalization. In credit-poor countries, government's explicit guarantee through shared ownership of domestic banks enables non-competent domestic banks to capitalize on government credibility for long-term lending. Domestic banks can maximize private rents when the market is not completely liberalized because banks with explicit guarantees are the only ones capable of mobilizing long term finance domestically. Complete liberalization invites cheaper foreign sources of long-term financing and breaks the monopoly of domestic banks as providers of credit in the domestic market. Foreign banks entry, in particular, facilitated via complete liberalization reduces profitability and margins for domestic banks (Claessens, Demirgüç-Kunt, and Huizinga 2001), more so in credit-poor countries (Lensink and Hermes 2004). Similarly in credit-rich countries, government's implicit guarantees enable banks that are "too big to fail" to profit from making more risky real capital investments with low risk premiums (Marques, Correa, and Sapriza 2013; Gropp, Gruendl, and Guettler 2014). Essentially governments are co-opted to absorb the cost of risk while the banks can promote their private rents through expansion of lending. Such private rents from implicit guarantees are maximized only when there is limited competition in the market, including foreign bank competition. This is because with less competition, domestic banks can aggrandize their market share in the domestic market so as to make them "too big to fail" and subject to further implicit guarantees. Hence, high levels of government subsidy decreases domestic banks' lobby for complete liberalization in both credit-rich and credit-poor countries.

Domestic banks' monopoly as intermediaries of foreign credit is also best sustained with limited financial liberalization. In general, domestic banks make profit from mobilizing money cheaply and lending at higher rates. With high levels of government subsidy and limited financial liberalization, domestic banks can borrow from foreign markets cheaply with subsidized cost from the government and lend it at higher rates to the domestic financial markets to make profit. The less competition domestic banks have in assuming the role as intermediaries of foreign credit, the bigger their margin of profit. Thus, when banks receive high levels of government subsidy, they have less incentive to lobby for complete financial liberalization that threaten domestic banks' monopoly over the role as intermediaries of credit.

In sum, government subsidies to the financial sector generates revenue for domestic banks that can best be maximized with limited financial liberalization. Therefore, the higher the level of government subsidy to the banking sector, the less likely the domestic banks will lobby for complete financial market liberalization.

2.3.2 Foreign credit

When government subsidy is not the main source of private rents for domestic banks - for various reasons such as state capacity, hostile relations between the banking sector and the government, government preference for deregulation or international pressure for liberalization- banks seek other sources to suffice their private rents. Alternatively, domestic banks seek to maximize private rents using their ties to foreign capital markets. Domestic banks' private rents from foreign credit is not new. However, the extent of domestic banks' reliance on foreign credit to generate private rents has increased with globalization and the expansion of global trade. This section first seeks to show how private rent generation from foreign credit may vary in credit-rich countries and credit-poor countries. I then show how domestic banks' financial incentives from foreign credit affect domestic banks' direction of lobby.

2.3.2.1 Foreign credit in credit-poor and credit-rich economies

Domestic banks' dependence on foreign credit can happen in two ways. First, domestic banks' main source of rent can be tapping into the foreign credit markets to borrow cheaply and invest in its domestic markets at a higher interest rate, making profit from the interest margins and commission fees. Foreign credit becomes cheaper when the country attracts global capital as opposed to domestic banks having to borrow from international markets at a higher rate. As discussed earlier, more IIT attracts global capital to the country (chapter appendix Figure B.1) making foreign capital cheap. As global capital accumulates, domestic banks may even have the opportunity to create a regional bond market that maximizes this lending business using cheap access to foreign credit. This is particularly beneficial for domestic banks in credit-poor countries, who have high demands for long-term financing.

Second, domestic banks, by promoting foreign bank entry in their domestic market can gain opportunity to penetrate foreign capital markets based on the reciprocity norm in the banking industry. Reciprocity norm in banking industries posit that the government of country A opens its market to the national banks of country B, if country A's banks wish to expand their branches to country B. Domestic banks as financial service providers find that they can effectively expand their business in foreign markets by following abroad their globally competitive national firms and provide financial services targeting those firms. This is particularly beneficial for domestic banks in credit-rich countries, whose marginal utility of finding cheap credit is lower but find that their private rents can be maximized via expanding their business in foreign markets. Banks in credit-rich countries have comparative advantage over banking services, prior knowledge of their national firms, and often carry global reserve currencies.

2.3.2.2 The effect of foreign credit on domestic banks' lobby

When domestic banks have high reliance on foreign credit to generate private rents, domestic banks are more likely to lobby for complete financial liberalization policies. This is because their private rents from foreign credit is maximized with complete financial liberalization. For banks in credit-poor countries whose major source of private rents is borrowing foreign credit cheaply and re-investing in domestic markets, complete liberalization drives down the cost of foreign capital. It drives down the cost of foreign capital because complete liberalization allows foreign bank entry and multiple suppliers of foreign credit drives down the cost of foreign credit. Limited financial liberalization makes access to foreign credit expensive and would often require government subsidy to subsidize the cost of the borrowing to maintain low interest for the foreign credit lending domestically. Thus, domestic banks in credit-poor countries are willing to forgo their monopoly as providers of foreign credit, if the government does not adequately subsidize the cost of foreign credit borrowing. In this case, domestic banks' private rents are better off by having direct access to cheap credit and create investment opportunities for themselves by supporting complete liberalization.

For banks in credit-rich countries whose major source of private rents is expanding into foreign markets as suppliers of credit, complete financial liberalization of their own markets gives them the right to enter foreign markets based on the reciprocity norm of banking. Domestic banks in credit-rich countries are thus willing to forgo benefits from limited liberalization if government protection in the domestic market is weak and they would rather find means to aggrandize their bank size by expanding their business to foreign markets. Thus when domestic banks have higher reliance on foreign credit as opposed to higher reliance on government subsidy, they are more likely to lobby for complete financial liberalization.

2.3.3 Conclusion

In sum, domestic banks organize based on their cost and benefit calculations of private rents. Domestic banks are more likely to pressure the government for financial liberalization when the private benefits from free flow of foreign credit outweigh the benefits of private rents provided by the government domestically.

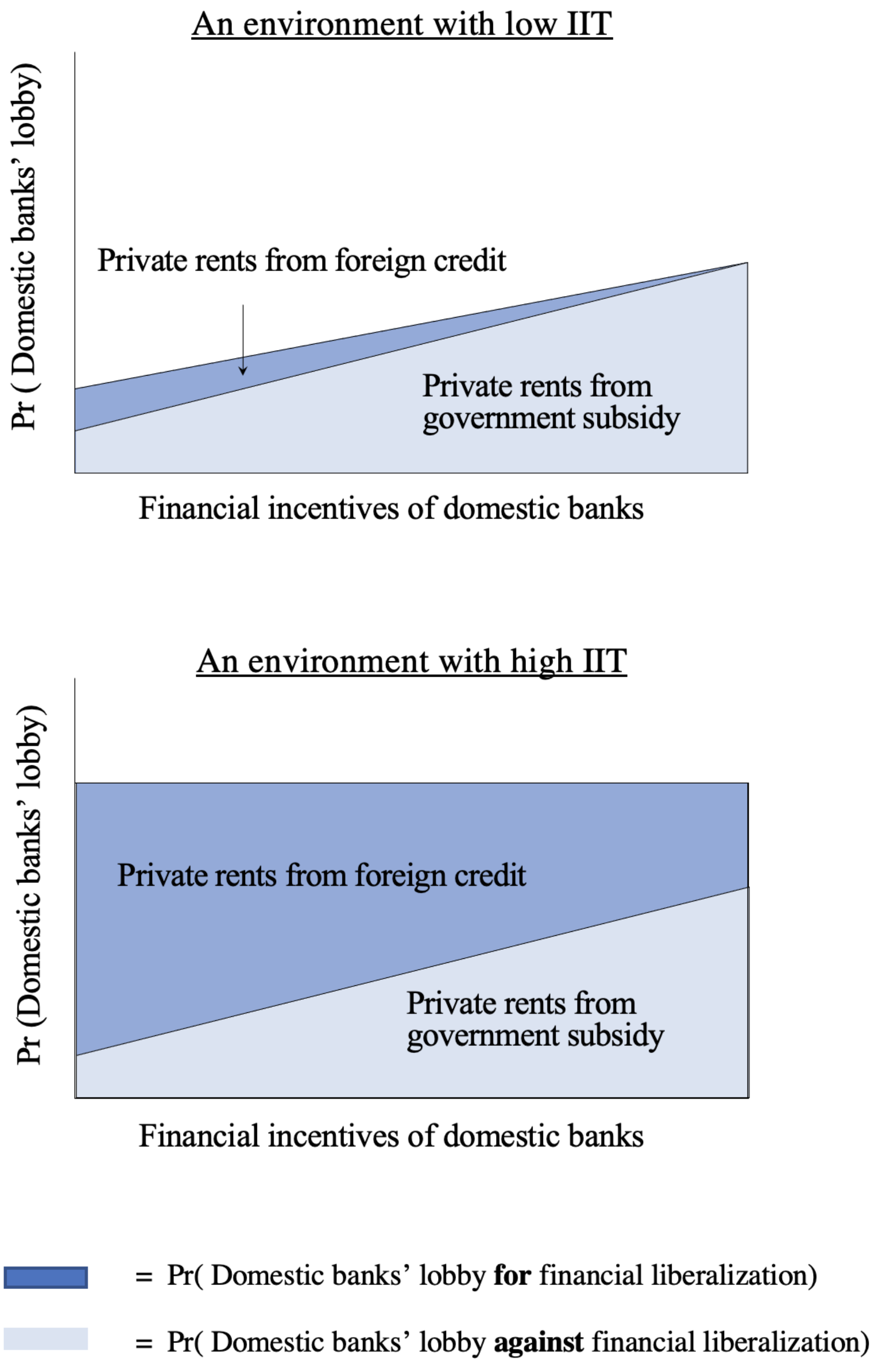
2.4 The Politics of Financial Market Development

A country's IIT, by in itself cannot be the determinant. Nor do financial incentives of the domestic banking industry alone explain how and why their preferences are adopted in government policies in the aggregate level. Only when structural changes in the global economic system and domestic lobbying are taken together, are we able to understand the timing and degree of a country's financial liberalization. A country's IIT determines when governments face pressures from domestic banks for financial market policies, and domestic banks' source of credit determines the direction of this lobby.

2.4.1 Combining IIT and domestic banks' financial incentives

By combining the two broad components that lead to financial market development, I produce a coherent set of expectations about domestic banks' level of pressure to the government and their direction of lobby. Figure 2.2 presents two stylized models that illustrate how the level of IIT and financial incentives of domestic banks affect the extent and direction of domestic banks' lobby. The top diagram of Figure 2.2 depicts an environment for countries with low IIT. In this environment, governments are less likely to receive pressure from domestic banks for financial liberalization policies. This is reflected by the y-axis of the figure. Also, in the case of any lobby, domestic banks are more likely to lobby against financial liberalization given that their private rents from foreign credit is not substantial. This is reflected by the proportion of private rents from two different types of financial incentives.

Figure 2.2: Model for the politics of financial market development


An environment with low IIT
Pr (Domestic banks' lobby)
Private rents from foreign credit
Private rents from government subsidy
Financial incentives of domestic banks
An environment with high IIT
Pr (Domestic banks' lobby)
Private rents from foreign credit
Private rents from government subsidy
Financial incentives of domestic banks
= Pr(Domestic banks' lobby **for** financial liberalization)
= Pr(Domestic banks' lobby **against** financial liberalization)

The bottom diagram of Figure B.1 shows an environment for countries with high IIT. In this environment, governments are more likely to receive pressure from domestic banks on financial market policies as shown by the y-axis of the figure. With more IIT, the financial liberalization becomes a high-stakes issue and domestic banks are the gate-keeping interest for complete financial liberalization. Notice that in this environment, the direction of lobby depends on the proportion of domestic banks' private rents from foreign credit and government subsidy. If domestic banks' private rents from government subsidy is substantial, domestic banks will lobby against complete financial liberalization. On the other hand, if domestic banks' private rents from government subsidy is small and private rents from foreign credit outweigh the benefits of private rents provided by the government domestically, domestic banks will lobby for complete financial liberalization.

2.4.2 Financial market typology, scope conditions and implications

The two components of my theory create four typologies of financial market development as shown in Table 2.1. The main interest of this paper is providing a theory for country cases that move or do not move from the first quadrant (emerging financial market) to the fourth quadrant (global financial market), and in the process provide implications for cases in the second (closed financial market) and third quadrants (specialized financial markets).

Table 2.1: Financial Market Typology

		Integration into international trade	
		Low	High
Financial incentives of domestic banks	Government subsidy high	**Closed financial market** Limited size, depth and openness • Limited trade liberalization • No financial liberalization	**Emerging financial market** Broad but limited depth and openness • High trade liberalization • Limited financial liberalization
	Government subsidy low	**Specialized financial market or international tax havens** Deep and open but not broad • High financial liberalization • without a traditional economy	**Global financial market** Broad, deep and open financial market • High trade liberalization • High financial liberalization

Emerging financial market: A government with high IIT and a domestic banking industry that relies on government subsidy will implement limited financial liberalization policies. This emerging financial market liberalizes capital flow related to trade but limits capital flow not related to trade. As a result, we observe a financial market that is broad due to trade-related capital flows but not deep due to financial sector's high reliance on government subsidy and not global due to continued controls on non-trade-related capital flows. As a result, the economy has high levels of trade liberalization but limited financial liberalization

Global financial market: A government with high IIT and a domestic banking industry that relies on foreign credit will implement complete financial liberalization policies. This global financial market is broad and deep due to capital flows associated with high levels of IIT but also global because barriers are lifted for both trade-related and non-trade-related capital flows. Essentially, the economy has high levels of trade liberalization and financial liberalization.

Closed financial market: A government with low IIT and a domestic banking industry that relies on government subsidy for private rents will not implement financial liberalization policies. This closed financial market does not have broad, deep or global financial markets due to regulated low levels of capital flow floating in and out of the country. As a result, this economy has low levels of trade liberalization and financial liberalization.

Specialized financial market: A government with low IIT and a domestic banking industry that relies on foreign credit to generate private rents will implement policies that deepen and globalize the financial market but have a financial market with limited size. This specialized financial markets are likely to be international tax havens that have high levels of financial liberalization without a traditional economy. Essentially, this economy has financial liberalization without a traditional economy.

As mentioned earlier, the theory has the highest explanatory power for cases that move or do not move from the first quadrant (emerging financial market) to the fourth quadrant (global financial market). Based on this theoretical focus, my discussion produces three testable implications that correspond to the three dimensions of financial market development: size, depth and openness.

H1: When the country is heavily integrated into international trade, governments are more likely to develop bigger financial markets.

H2: When the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, governments are more likely to develop deeper financial markets.

H3: When the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, governments are more likely to implement policies for capital account openness.

For Hypothesis 1, I expect a country's IIT to predominantly drive the size of its financial market. This is consistent with the observation made in Figure 1.3 in the introduction chapter, that 'finance follows trade' is trend found in de facto flows of trade and finance. On the theoretical level, higher levels of IIT should lead to bigger financial markets as it attracts global capital (chapter appendix Figure B.1), and especially trade-related capital. Thus, when the country is heavily integrated into international trade, governments are more likely to develop bigger financial markets.

For Hypothesis 2, I expect financial market depth to be jointly determined by the country's level of IIT and domestic banks' financial incentives. As discussed in the introduction chapter, financial market depth represents the stage of development of financial markets. A financial market starts out as a government bond market, evolves into a private bond market and then to a foreign bond market that eventually matures into a stock market. In other words, financial market depth represents how much of the financial market is privatized, efficient and global. Financial markets become more efficient and privatized the less it relies on government subsidy and financial markets attract global capital the higher the level of IIT of the country. Thus, when the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, governments are more likely to develop deeper financial markets.

For Hypothesis 3, I expect financial market openness to be jointly determined by the country's level of IIT and domestic banks' financial incentives. As extensively discussed in the theory, a country's IIT becomes a political lever for domestic banks to influence capital account liberalization policies, and domestic banks' will lobby the government for complete financial liberalization if their private rents from capital inflows outweigh the benefits of private rents provided by the government domestically. Thus, when the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, governments are more likely to implement policies for capital account openness.

H4: When the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, the country is more likely to be highly integrated into the global financial system.

Finally, in addition to the three hypotheses, I examine one more hypothesis that tests my theory against a comprehensive measure of financial market development: a country's integration into the global financial system. A country's integration into the global financial system serves as an indicator of growth in all three dimensions—size, depth, and openness. A financial market that achieves a high level of integration into the global financial system is characterized by the unimpeded flow of capital across borders (openness), substantial levels of market activity and increased privatization (depth), as well as a market size that can compete effectively on a global scale. Thus, when the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, governments are more likely to be highly connected to the global financial system because high levels of IIT drives size, domestic banks' reliance on foreign credit promotes privatization of financial markets and high IIT with reliance on foreign credit provides incentives to domestic banks to lobby for financial openness policies.

2.5 Alternative explanations

In this section I consider several alternative explanations for why countries develop larger, deeper and more globalized financial markets than others. I begin by evaluating alternative explanations that hold the assumptions of my theory and satisfy my scope conditions. Towards the end I include alternative explanations that relax some of the assumptions of my theory.

First, it's possible that regardless of domestic banks' lobby, a government unilaterally decides to implement financial liberalization policies as was the case of Uganda in the 1970s and Japan in the 1980s. For example, Museveni's government of Uganda unilaterally decided to liberalize its financial markets in 1997 as an attempt to attract foreign capital after the long civil war that ended in 1994. In this case, liberalization was not induced by a financial crisis nor was the liberalization an outcome of domestic banks' lobby of the government. Rather, it was a decision led by the leader of a country. Cases as such provide counter-evidence to my argument. While I treat them as special cases of financial liberalization that cannot be directly explained with my proposed explanation of banks' lobby, the fact that the country *remained* financially liberalized even after the unilateral liberalization can be partially addressed with my proposed theory. A leader's decision to liberalize the country's financial market entails lowering the levels of government subsidy to the banking sector, which then shifts domestic banks' preference from lobbying against to supporting financial liberalization. More importantly, however, my approach still has advantage over the leader-led explanations in understanding a country's financial market development more holistically. While my framework cannot explain how those financial markets attain their openness, it helps explain why these financial markets that were unilaterally liberalized by the government are not successful in bringing about a bigger and deeper financial market.

Second, alliances may be driving the development of financial markets in a country. Alliances can drive higher levels of capital flow, contributing to the size of the financial market. This approach, however, lacks explanation as to how alliance affects the openness and depth of the financial market. As illustrated in Figure 1.2 and 1.3 in the introduction chapter, increase in the flow of capital does not necessarily translate to more capital account liberalization. As shown in my motivating cases in the introduction chapter, Singapore and Korea were both allies of the U.S. that shared similar levels of trade liberalization in the 1980s. Yet we find that Singapore was able to financially liberalize its market while South Korea remained relatively closed. This approach also cannot explain how financial markets get more privatized, i.e. low levels of government subsidy to the banking sector, to achieve financial market depth. My theory helps to explain why we observe substantial variations in financial market depth and openness among countries who are major allies of the U.S. or other credit-rich countries.

Third, perhaps it's the level of economic development driving the results. Descriptive figures such as Figure 1.2 and 1.3 in the introduction chapter have suggested that financial market openness is predominantly higher for high income countries. This approach, however, misses an important point that there is huge variation in financial market openness among countries with low economic development. For example, this approach cannot explain why developing countries with banks that do not depend on government subsidy, like Kenya, extensively lobby for financial market openness. There is also huge variation among developed countries in their levels of financial market openness. For example, this approach cannot explain why domestic banks in 1970s France, who were heavily dependent on government subsidy, lobbied against financial liberalization. Essentially, this approach falls back to the trap of existing studies in assuming static preferences of domestic banks. That is, banks in developing countries always lobby against financial liberalization while banks in developed countries always lobby for financial liberalization. My approach shows that domestic banks' preference for financial liberalization continuously change based on their financial incentive structure and not based on their country's level of development.

Lastly, when I relax one of my assumption of the theory that trade liberalization happens before financial liberalization, we essentially start dealing with countries in Quadrant III (specialized financial markets) in Table 2.1. Specialized financial markets are financial markets that have low levels of government subsidy and low levels of IIT. While my theory cannot directly explain what led to the openness of those financial markets, it helps explain why the financial market size of those cases may be limited. For example, my first hypothesis argues that IIT drives the size of a financial market.

2.6 Chapter conclusion

In this chapter, I have demonstrated a plausible theory for when and why countries develop bigger, deeper and more globalized financial markets. I have argued that two key factors determine the degree and level of financial market development in a country: how integrated a country is into international trade (IIT) and the financial incentives of domestic banks. The former factor determines when governments receive high pressure from domestic banks regarding financial market policies and the latter condition determines the direction of domestic banks' lobby.

The higher the IIT of a country, the more likely its government will receive pressure from domestic banks for financial market policies. IIT draws global capital but also attracts foreign bank competition making financial liberalization a high-stakes issue for domestic banks. IIT also institutionalizes capital account liberalization half-way by liberalizing trade-related capital flow which makes domestic banks the gate-keeping interest to full capital account liberalization.

The higher the domestic banks' dependence on government subsidy, the more likely that these domestic banks will lobby the government against financial liberalization. Government subsidy enables domestic banks to maximize private rents by monopolizing the role of suppliers of domestic credit and intermediaries of foreign credit. Domestic banks lobby against financial liberalization when they are heavily dependent on government subsidy because complete capital account liberalization threatens the said monopoly position attained through government subsidy.

In sum, countries that develop bigger, deeper and more globalized financial markets have have high levels of IIT and have a domestic banking sector that is not dependent on government subsidy. There are high levels of variation in financial market size, depth and openness among countries that are similarly integrated into international trade because the effects of trade are mediated by domestic banks lobby.

Chapter 3

Bigger, deeper and more globalized financial markets: Cross-national evidence

3.1 Introduction

In previous chapters I have shown that governments are more likely to face pressures for financial liberalization from domestic banks when the country is heavily integrated into international trade but has not yet removed capital controls. I have also shown that domestic banks are more likely to pressure the government for financial liberalization when the private benefits of international capital inflows outweigh the benefits of private rents provided by the government domestically. Taken together, I argue that countries that are integrated into international trade with a banking sector that relies on foreign credit are more likely to develop bigger, deeper and more globalized financial markets. In this chapter, I present a cross-national quantitative analysis using time-series cross-sectional data for 181 countries from 1980 to 2018. I test the effect of a country's integration into international trade and domestic banks' financial incentives on financial market development.

I show this in four steps. First, I explore the operationalization and descriptive statistics of my variables. My dependent variables are country-year financial market size, depth and openness, the three dimensions that construct a country's financial market development. While the variations for each dimension have already been introduced in the introduction chapter, I take this space to further explain why I choose particular measures among other alternatives, and more importantly visualize the three dimensions in relation to one another. I have two main explanatory variables: integration into international trade (IIT) and government subsidy. With each variable, I first explain how the variables are operationalized, I then visually inspect the variation and trend of each variable, and finally discuss the pros and cons of using the select measures over alternative measures. While I do this for my control variables as well, only the summary version is included in the main text and I leave the detailed descriptive plots in the chapter appendix.

Second, I then conduct a series of panel regression analyses to test the interaction effect of a country's integration into international trade and government subsidy to the banking sector on financial market development. I statistically test my theory that countries are more likely to develop bigger, deeper and more open financial markets when they are integrated into international trade with low government subsidy to the banking sector. I test for three hypotheses:

H1: When the country is heavily integrated into international trade, governments are more likely to develop bigger financial markets.

H2: When the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, governments are more likely develop deeper financial markets.

H3: When the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, governments are more likely to implement policies for capital account openness.

I find that the three hypotheses hold for all models with country-fixed, time-fixed effects and lagged variables.

Third, I inspect my results against a series of robustness checks that tackle suspicions over problems of endogeneity and measurement error. To test against endogeneity or omitted variable bias, I include additional set of controls that may confound the relationship of interest such as regional controls, PTAs and financial agreements, and regime types. I also run separate tests for each income group to address the potential problem with systematically missing data in low income countries. I also test against various alternative measures of my dependent variables as well as my two independent variables to show that my results are robust against various measures of the theory. I only include the summary of my robustness checks in my main text while detailed results are included in the chapter appendix.

Finally, I conduct an empirical extension by re-running my analysis employing an instrumental variable. This approach allows me to tackle any confounders that may be driving both financial liberalization and trade liberalization. In doing so, I address the potential concerns for simultaneous bias that financial liberalization and trade liberalization are inter-related. I show that my findings are robust even after controlling for the biases.

3.2 Descriptive data

3.2.1 Sample countries

In general, my sample countries include all countries with a functional government that has the capacity to implement financial market policies. As long as countries do not rely on barter trade but use fiat money for market transactions, capital market's existence is inevitable, albeit rudimentary. Capital market by definition is a venue for suppliers and and borrowers of capital; it is where individuals and firms borrow funds. My theory assumes that with globalization, all governments to a degree, face the decision to develop and further open their financial markets to international investors and borrowers. Therefore, I do not limit my sample to a subset of countries but include all countries with available data within the temporal scope of 1980 to 2018. The temporal focus from 1980 to 2018 is mainly empirical rather than theoretical. Many of my variables have systematically missing data for emerging economies before 1980. Panel data for my sample countries, thus, is unbalanced with more missing values in lower middle income and low income countries in earlier time periods. I later show that even after addressing this concern in my robustness checks, predictions of my theory still hold.

Given this temporal coverage, my data is more likely to entail a wider range of variation for emerging economies than developed economies. This is because many of the developed economies, especially the Western economies, have established some degree of financial market development by the 1980s. For example high income countries like the United States has an openness of 2.32 which is the highest possible number of the Chinn-Ito index by 1980, the first year of my study. Similarly, United Kingdom that starts out with 1.56 in 1980, reaches 2.32 by 1983, three years later (Chinn and Ito 2008a, 2008b). This is different from many of the emerging economies, where the period between 1980-2018 is the time when much of their economic and financial markets transform. It is more likely that governments of these emerging economies whose markets are not fully financially liberalized are the ones facing questions of financial liberalization. For example, countries like Kenya have experienced changes in financial market openness at a wider range going from a Chinn-Ito index of -1.23 in 1980 to 1.05 in 2018 or South Korea, who went from -1.23 in 1983 to 2.32 in 2018. In my empirical extension I show that my theoretical results hold even when I subset for groups with high financial openness before 1980 and groups without high financial openness before 1980. This is not a concern when testing my theory for financial market size and depth because size and depth have no upper-bound limit and they can always become broader and deeper even for countries who already had broad and deep financial markets by 1980.

In terms of my data composition, middle income countries take up more than half of my sample as shown in Table 3.1.[1] Roughly a quarter to a third of my sample countries consist of high income countries while less than a fifth of my sample consists of low income countries. Given this data structure where most of my sample countries consists of middle income countries, my main results are to a degree driven by middle income countries. As robustness checks, however, I also test my theory for each income group and find consistent results across all income groups.

Table 3.1: Financial market data income group composition

	Financial Market Development					
	Size		Depth		Openness	
High Income	56	32.0%	38	24.1%	54	31.4%
Upper middle income	48	27.4%	47	29.7%	47	27.3%
Lower middle income	43	24.6%	43	27.2%	43	25.0%
Low income	28	16.0%	30	19.0%	28	16.3%
Total	175	100%	158	100%	172	100%

Lastly, using different measurements entail different time coverage of the study. For my main results, my finding covers the time scope of 1980-2014 given that IIT data is only available up until 2014 (Barbieri, O. M. Keshk, and B. M. Pollins 2009; Barbieri, O. Keshk, and B. Pollins 2016). For more details on the time coverage of measurements, see Table 3.2 and the alternative measures table in the chapter appendix.

3.2.2 The Dependent Variable: Size, Depth and Openness

3.2.2.1 Operationalization and alternative measures

To operationalize financial market development I employ three measures: size, depth, and openness. In the introduction chapter, I have shown how each measure corresponds to a financial market's functional capacity, stage of development and openness to global capital markets. Here, I first briefly recap what was already discussed in the introduction chapter: how size, depth and openness are measured and a summary of their trends and variations. I also discuss alternative measures for each dimension, which will later be used in this chapter as robustness checks. I then demonstrate how each variable is in relation to each other, conceptually but also empirically. Descriptive statistics and plots for all alternative measures are included in the chapter appendix.

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[1] For the full list of countries according to the World Bank's classification of income groups, see Chapter 1 appendix.

As discussed in my introduction chapter, size is measured in terms of the sum of stocks and flows of foreign direct investment (FDI), portfolio investment, international debt, international reserves and international income payments in percentage of GDP.[2] In my main analysis, I use a simplified measure that looks at the two biggest and representative flows of capital, i.e. FDI and portfolio investment, and use the complete measure as robustness checks. I do this for a technical reason that the complete measure which includes all types of capital flow invites room for missing variables especially for low income economies. In my robustness check, I re-run all the regressions using the complete measure of size that includes all types of capital flow and find consistent results. Alternatively, I also subset my analysis to different types of capital flow to see if a particular type of flow is driving the results of the main analyses. Figure C.2 in the chapter appendix shows that the leading countries for all types of capital flow remain relatively unchanged, but the subsequently leading countries vary for different types of capital flows. For example, while the US, UK and Luxembourg are leading countries for portfolio and FDI market size, the subsequent leading countries are Japan and Ireland for portfolio investments while China and Netherlands are the subsequent leading countries for FDI.

The depth of a financial market is measured by the ratio of broad money to a country's GDP, also known as M3/GDP. Broad money is one way to measure the amount of money circulating in an economy and it is the most inclusive way to measure money supply. It is a broad measure because it not only includes liquid money but also other assets that can easily be converted into cash. By measuring M3/GDP, we are able to understand how much of the capital in a capital market is liquid as a percentage to GDP. This measure help us operationalize the stage of development of a financial market because it measures the changes in the size of the financial market relative to the size of the economy. I use this measure with a broad definition because it has a broader coverage over countries with fewer missing values. Additionally, the broad definition helps us overcome the technical difficulty that different countries tend to calculate their narrower measure of money supply differently. As an alternative measure, I also use the financial depth measure often used in the economic literature, i.e. the ratio of private credit, as robustness checks (Rajan and Zingales 1998; Arcand, Berkes, and Panizza 2015; Dabla-Norris and Srivisal 2013).[3] Figure C.5 in the chapter appendix shows that broad money/GDP and private credit/GDP measures have a Pearson correlation coefficient of 0.76. Consistent with the latter being a narrower definition, Figure C.4 in the chapter appendix shows that the range for the y-axis is narrower, and this alternative measure for financial market depth shows a narrower gap between leading countries.

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[2] International reserves include foreign exchange (excluding gold), SDR holdings and reserve position in the IMF (% of GDP); International income payments is the sum of capital and labour income to foreign nationals and from abroad (% of GDP); International debt is the sum of inward and outward stocks of international portfolio debt securities and international bank loans and deposits (% of GDP); for more details see Gygli et al. 2018; Dreher 2006; (IMF) 2022b

Lastly, a financial market's global openness is measured by the most commonly used index for capital account openness, the Chinn-Ito index (Chinn and Ito 2008a, 2008b). As with most measures for capital account openness, the Chinn-Ito index is codified based on IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). The Chinn-Ito index focuses on four categories of restrictions on cross-border financial transaction: i) restrictions on capital account transactions, ii) multiple exchange rates, iii) restrictions on current account transaction and iv) the requirement of surrender of export proceeds. I use the Chinn-Ito index because it has the widest temporal coverage and it is the most commonly used measure in the literature. There are a total of nine other capital market openness measures – some AREAER-based measure with different coding methods and other a non-AREAER-based measure – all of which I summarize in Table 3.2 and discuss in detail in the chapter appendix. Many of the alternative measures have pointed out that the Chinn-Ito index is focused on measuring extensity rather than the intensity of capital barriers. To complement this gap, I use three alternative indexes for robustness checks: AREAER-based openness measure that focuses on intensity of capital barriers (Quinn and Toyoda 2008), AREAER-based openness measure that is best adapted to lower income countries (Jahan and Wang 2016) and a non-AREAER-baseed openness measure (Gygli et al. 2018; Dreher 2006). However, as shown in Figure C.1 in the chapter appendix, many of these alternative measures have high Pearson correlation coefficients, suggesting that they are quite similar to one another. The trade-off in using alternative measures is that they have a shorter time coverage as shown in Table 3.2 in the chapter appendix. Descriptive plots for these alternative measures are included in the chapter appendix.

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[3] Stock market capitalization is also another measure for financial market depth, but used in a lesser extent.

TABLE 3.3: De jure Financial Market Openness Measures

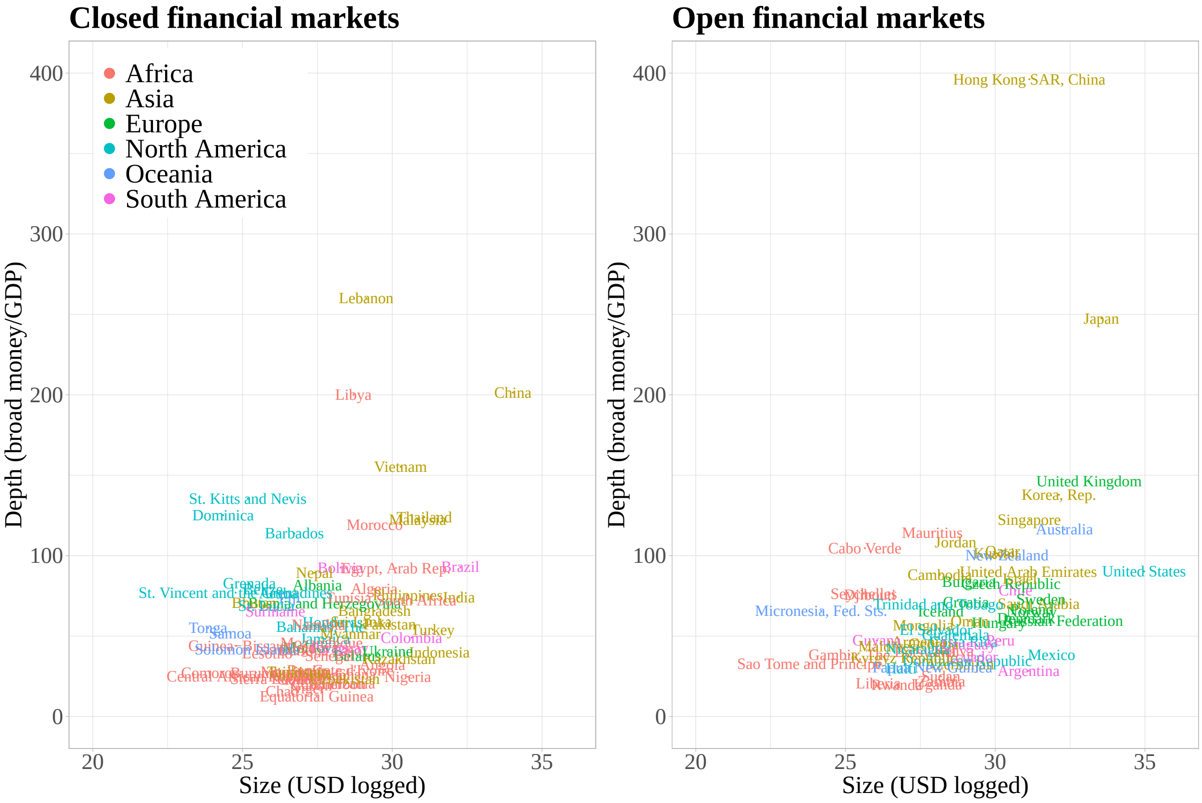
Name	Components		Scale	Type	Time	Countries	Source	Availability
Chinn-Ito Index	AREAER measure	Table-based measure: - presence of multiple exchange rates - restrictions on current account transactions - restrictions on capital account transactions - the requirement of the surrender of export proceeds	-1.90-2.37	Continuous; Interval	1970-2019	182	Chinn and Ito 2008a update in 2021	Public
Financial Current Account		Text-based measure: Based on how compliant a government is with its obligations under the IMF's Article VIII to free from government restriction the proceeds from international trade of goods and services	0-100	Discrete; Ratio	1950-2004	94	Quinn & Toyoda (2008)	Public
Capital Account Liberalization		Text-based measure: Based on restrictions on capital outflows and inflows, with a distinction between residents and non- residents	0-100	Discrete; Ratio	1950-2004	94		
Capital Account Restrictions		Text-based measure: Similar to Quinn & Toyoda (2008) but includes finer-grained sub-categories and informationabout different types of restrictions, assetcategories, direction of flows and residency of agents.	0-1	Discrete; Ratio	1995-2005	91	Schindler 2009	Public
Capital Account Restrictions2		Updates Schindler (2009) with four additional asset categories, extend countries and years	0-1	Discrete; Ratio	1995-2013	100	Fernández et al. 2016	Public
Financial Current and Capital Account		Table and text-based measure: -The most comprehensive AREAER measure -The FOI includes information on twelve categories of current and capital account transactions	0-12	Discrete; Ratio	1965-2004	187	Brune 2006	Not available
KOF finance de jure	Non-AREAER measure	International agreements (21.7%) Capital account openness (78.3%)	0-100	Continuous; interaval	1970-2015	221	Gygli et al. 2018	Public
Investment Freedom		-Index starts from 100 and then points are deducted due to a penalty catalogue. -Information based on official country publications, the Economist and US government agencies, but exact coding/methodology remains unclear	0-100	Discrete; Ratio	1995-2017	186	Miller et al (2018)	Public
Equity market liberalization		This binary liberalization index corresponds to a date of formal regulatory change after which foreign investors officially have the opportunity to invest in domestic equity securities.	0-1	Discrete; Binary	1980-2006	96	Bekaert et al (2013)	Not available
FDI regulatory restrictiveness		Based on four types of restrictions on FDI: - Foreign equity limitations - Discriminatory screening mechanisms - Restrictions on the employment of foreigners - Other operational restrictions	0-1	Continuous	1997, 2003, 2006, 2010-2016	62	Kalinova et al (2010) update in 2018	Public

Note: I have updated, edited and added new data sources expanding on the original table from Gräbner et al. 2018

3.2.2.2 Relations among size, depth and openness

The trends and variations of each dimension shown in Figures 1.5, 1.6 and 1.7 of the introduction chapter have illustrated three points. To recap, Western economies are leading in financial market size, but we find many more non-Western countries leading financial market depth and openness. Second, the gap between income groups is the highest for financial market size, then financial market depth and the least for financial market openness. Third, the temporal trend for each dimension have shown that financial market size is more vulnerable to temporal events such as financial crises compared to financial market depth and openness. In the next two figures, I plot the variation of all three dimensions in relation to one another.

FIGURE 3.1: Three dimensions of financial market development



Closed financial markets

Open financial markets

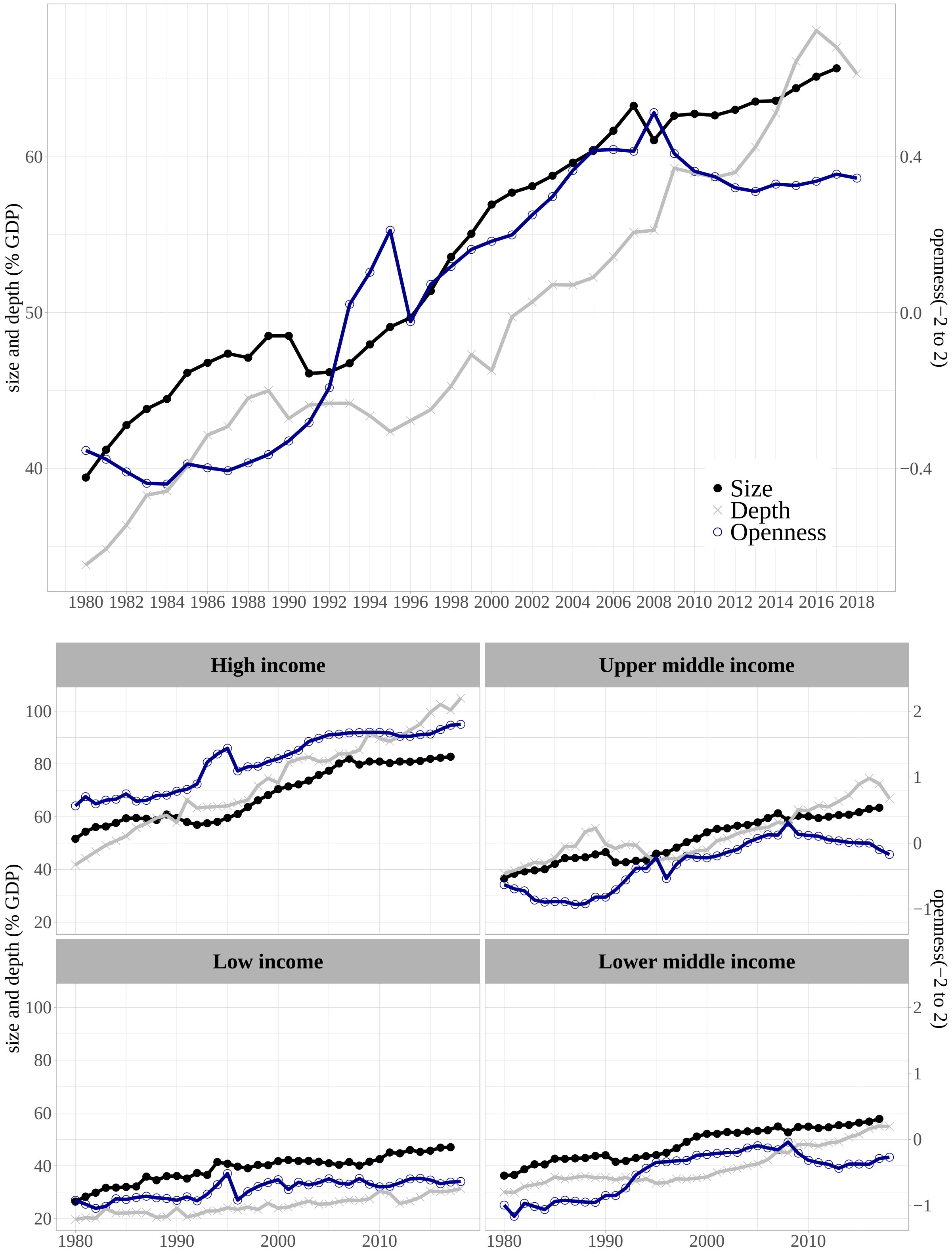
Figure 3.1 shows the cross-country variations in 2018. The left figure plots the size and depth for countries with closed financial markets (Chinn-Ito index lower than 0). The right figure plots the size and depth for countries with open financial markets (Chinn-Ito index greater than 0). One important observation is that there are many countries with similar levels of financial market size and depth that have made different decisions over their financial market openness. Additionally, the positive linear correlation between size an depth is stronger in countries with open financial markets suggesting that for those countries, their financial markets deepens as much as it broadens. In comparison, countries with closed financial markets, have deeper markets compared to its financial market size. It is possible that that countries with closed financial markets need to deepen its financial markets in levels that out-proportion their size, to make credit supply in the market more efficient given that there is limited global capital flow.

Figure 3.2 looks at the time trend of the three dimensions in relation to one another. Size and depth are comparable as they are plotted as percentage of GDP. I convert the openness measure that ranges between -2 to 2 into a percentage scale to make it visually comparable with size and depth. In the chapter appendix, I use alternative openness measures suggested in Table 3.2 that includes more comparable measures and find similar observations (chapter appendix Figure C.6). Here, I use the Chinn-Ito index for comparison because it is my main variable for openness and also because it has the most temporal coverage.

I first look at the relationship between size and depth. One outstanding observation in Figure 3.2 is that high income countries have financial markets with depths at higher levels than its size. For upper-middle income countries the size and depth are at similar levels, and increasingly so for the lower-middle income countries. For low income countries the size of the market is at higher levels than the depth of the market. This leads to the unsurprising conclusion that financial markets of high income countries are more developed and efficient. The financial markets of high income countries can liquidate money more than what is stocked and flowing into the country.

It is harder to directly compare openness with size and depth due to different measuring scales. However, when we focus on how the direction of the two trends relate, Figure 3.2 shows that on average, high income countries globalize their financial markets as their financial markets get broader but that is not necessarily the case for non-high-income countries. On the other hand, the relationship between openness and depth is unique for middle income countries. When financial markets deepen, they tend to be less globalized and vice versa. This trend however, is not found in high income countries or low income countries but only middle income countries. This may suggest that for middle income countries, when financial markets are less liberalized they compensate with a deeper market to make the limited money supply more efficient.

FIGURE 3.2: Three dimensions trend



3.2.3 Independent variable I: Integration into international trade

An empirical contribution of this study is operationalizing a country's integration into international trade (IIT) as a network centrality measure. This section describes the definition, the type of centrality measure I use and the procedure used to convert the dyadic trade data into a network centrality measure. I demonstrate the utility and plausibility of the network centrality measure against traditional measures of trade.

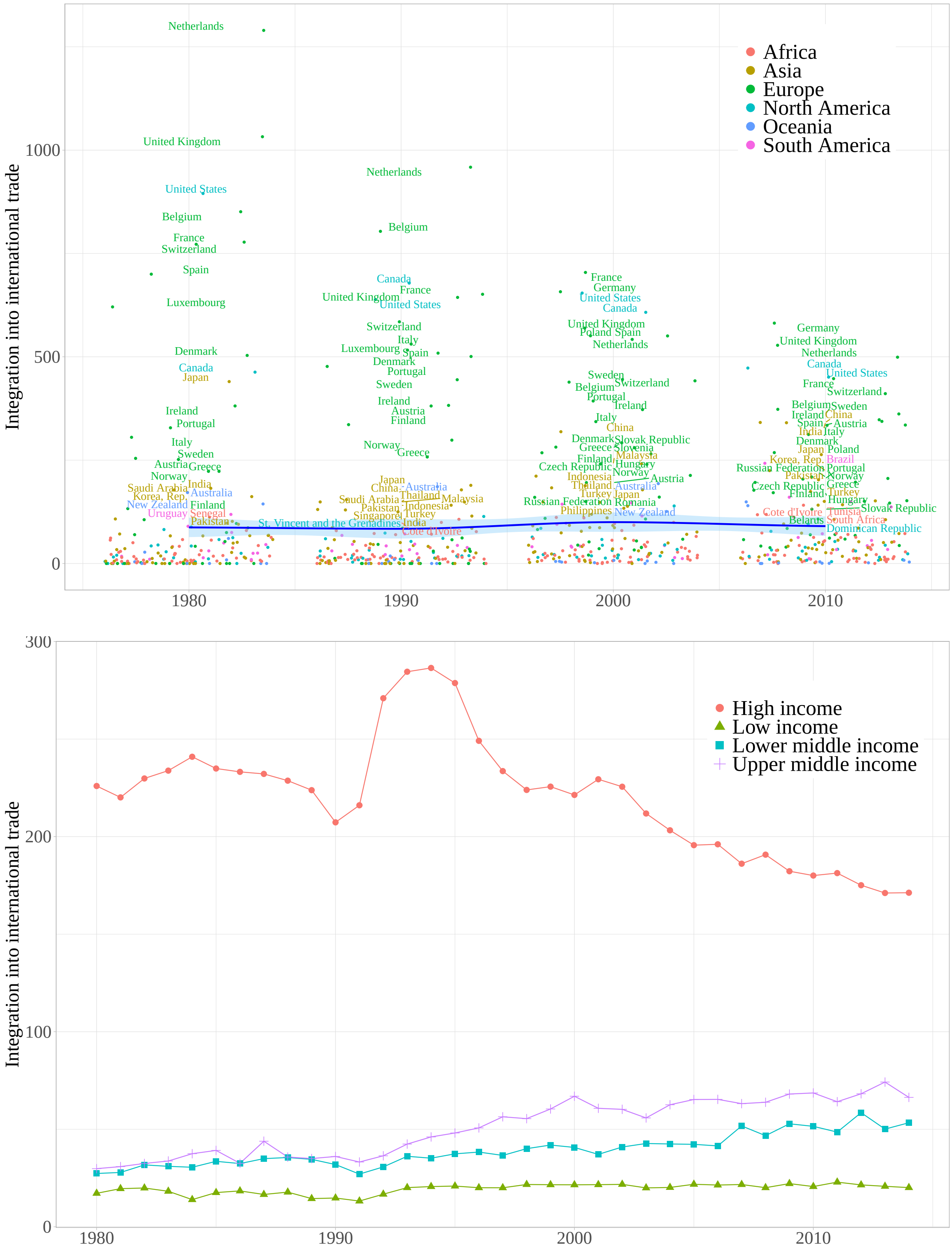
I measure a country's IIT in terms of the country's position in global trade networks. My theoretical expectation is that governments are more likely to face pressures for financial liberalization from domestic banks when the country is heavily integrated into international trade. This is because a country with high IIT attracts global capital as well as foreign banks that follow their national firms, and has liberalized trade-related capital flow. The three market changes discussed act as a political lever for domestic banks to exert pressure on financial market policies. The underlying assumption here is that a country with high IIT must be a *globally* trading economy to bring about the said changes in financial markets. For reasons discussed in the theory chapter, traditional measures of trade such as a country's trade volume and trade dependence can bias the integration measure. To recap the discussion, the network measure distinguishes between a regional trading economy and a global trading economy, helps overcome the size biases of over-predicting the importance of trade in big economies and under-predicting in small economies when using volumes of trade, and the reverse problem when measuring trade in terms of percentage GDP.

Among the many types of centrality measures, I use the betweenness centrality measure. Betweenness centrality detects how much a given node (economy) is in-between (in-passing) other nodes in global trade networks. Mathematically, this metric calculates the number of shortest paths, between any couples of nodes in the network, that passes through the target node. This score is moderated by the total number of shortest paths existing between any couples of nodes of the network. The target node would have a high betweenness centrality if it appears in many shortest paths or transactions that connect one market to another. Thus, higher numbers indicate that an economy is highly connected to the global trade network while lower numbers indicate that the economy is disconnected from the global trade network in a given year. Substantively, a country with high betweenness centrality is likely to be an economy actively engaged in the global supply chain. As a global supply chain, the economy attracts global capital flows as well as foreign banks that follow MNCs or foreign firms that locate to this economy. This economy also has high levels of capital account liberalization for trade-related capital flows. I use the dyadic trade flow data from COW to create NxN matrices for every year from 1983 to 2018 and calculate the betweenness centrality for each country-year, as a way of detecting the amount of influence a country has over the flow of trade in the global trading network.

Figure 3.3 maps countries' IIT measured in terms of betweenness centrality. The relative importance of a country in the global trade network is re-proportioned as more countries integrate into the global economy over time. For example, in 1980, Netherlands enjoyed a maximum centrality that went well beyond 1500. By 1990, Netherlands, while still leading in centrality, has a measure lower than 1000. Two additional observations can be made from Figure 3.3. First, Western countries predominantly lead as important trade nodes but more countries from Asia and Africa have become important. We also find that Japan's leading in Asia during the 1980s and 1990s is replaced by China in 2000s and 2010s. Second, the time trend also reflects the gap between high income countries and middle to low income countries. High income countries, on average, have a distinguishing high level of IIT compared to other income groups. On average, a country's IIT corresponds to the country's income group.

While network centrality measures help us understand a country's position of trade in the system level, there are also different ways in which we can operationalize this concept.For my robustness checks, I test for two alternative centrality measures that are commonly used in the network literature: degree centrality and eigenvector centrality. Unlike betweenness centrality, degree centrality measures the diversity in trading partners while eigenvector centrality measures how many of your trading partners are important nodes in the global trade network. Full discussion on the two alternative centrality measures and robustness results are included in the chapter appendix.

Figure 3.3: Integration into international trade by continent and income group



3.2.4 Independent variable II: Banking sector subsidy

Data for direct financial subsidy is hard to find but I use multiple proxies to get at the level of government subsidy in the banking sector: financial repression and interest rate spread. The income group composition of the two variables are shown in Table 3.4 below.

TABLE 3.4: Government subsidy by income group composition

	Government Subsidy			
	Financial repression (% GDP)		Lending interest rate spread	
High Income	44	44.9%	37	26.8%
Upper middle income	28	28.6%	42	30.4%
Lower middle income	21	21.4%	34	24.6%
Low income	5	5.1%	25	18.1%
Total	98	100%	138	100%

Financial repression is a more accurate proxy for government subsidy to the banking sector, but I employ interest rate spread as an additional proxy for two reasons. First, interest rate spread has data availability for a wider range of countries. Second, interest rate spread data is more representative of middle income and low income countries compared to financial repression data which has the highest availability for high income countries as shown in Table 3.4. Given that my sample predominantly consists of middle income countries (Table 3.1), interest rate spread data covers more of my sample countries. In sum, financial repression data is a more accurate measure of government subsidy to the banking sector that has smaller sample coverage. Interest rate data, on the other hand, is a more obtuse measure for government subsidy to the banking sector but has broader sample coverage.

3.2.4.1 Financial repression

My first proxy is the financial repression data (IMF 2022). Financial repression is broadly defined as the presence of direct lending from domestic banks to the government, caps on interest rates, regulation of capital movement between countries, reserve requirements, and a tighter association between government and banks. Financial repression essentially allows banks to provide cheap loans to companies and governments, reducing the burden of repayments. I use IMF's Government Finance Statistics (GFS) data, which measures subsidies (% of GDP) associated with financial repression. I assume that if financial repression is high, government subsidy to the banking sector is high.

Figure 3.4: Financial respression (% GDP) by continent and income group

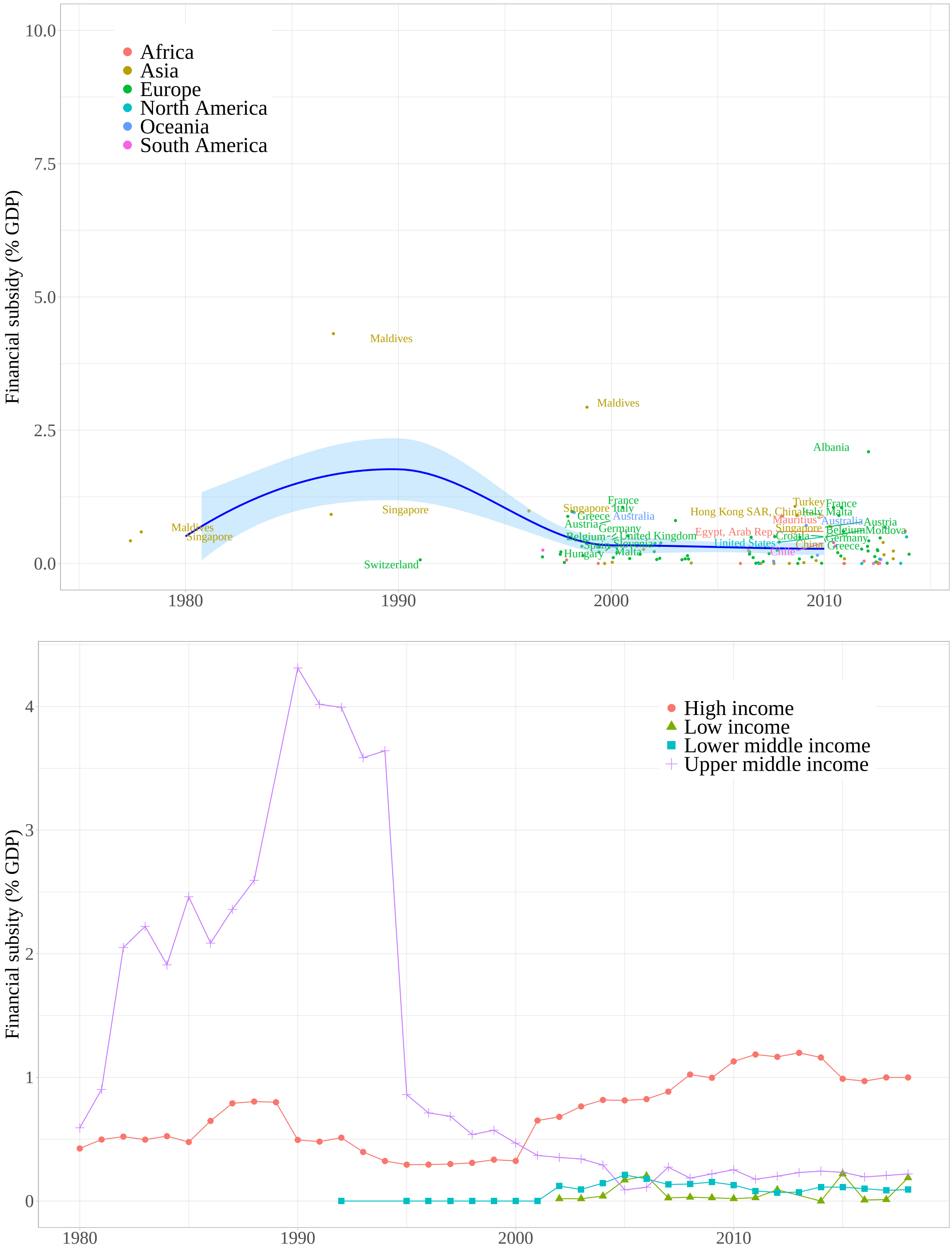


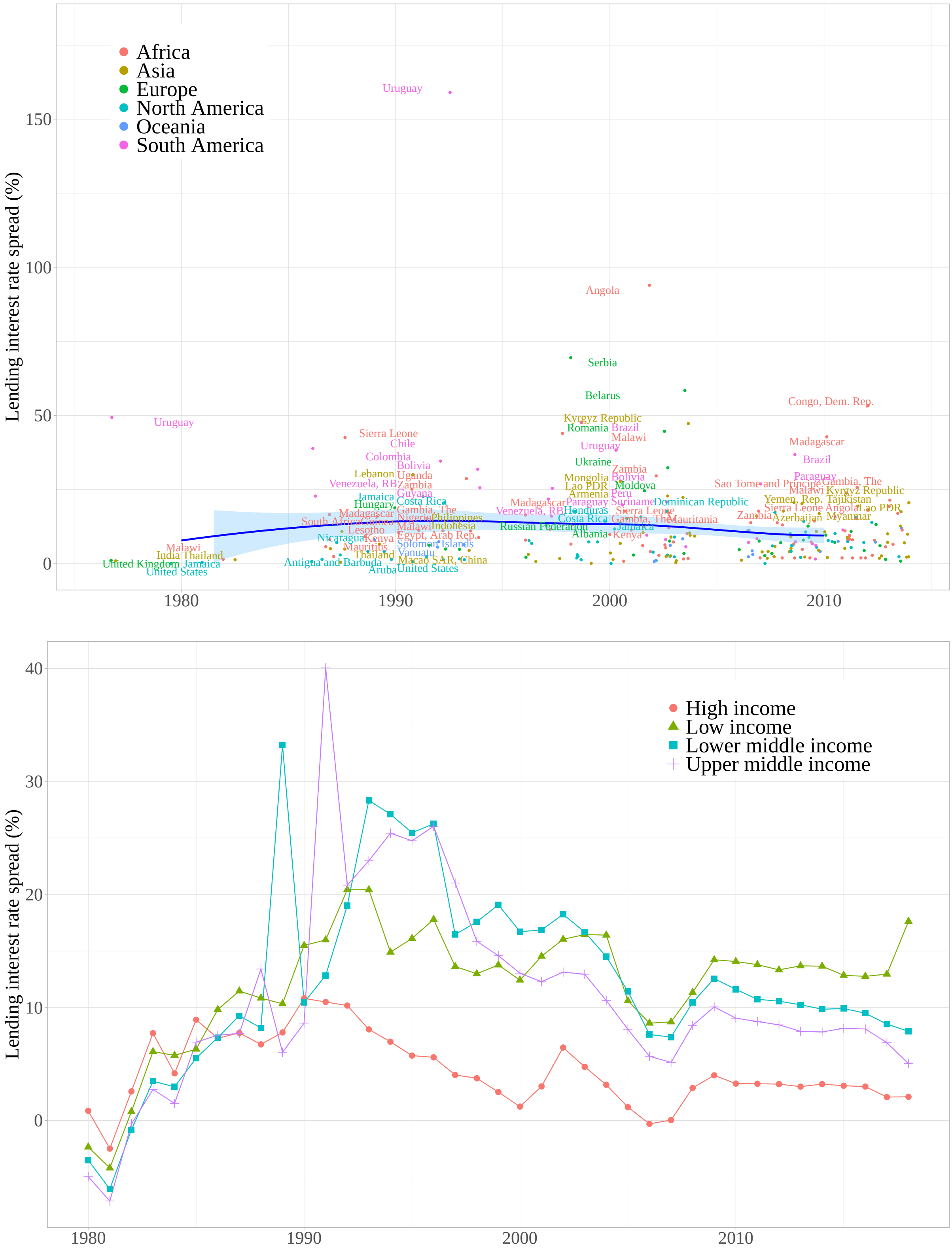
Figure 3.4 shows that financial repression have been most popular among upper middle income countries in 1980 and 1990 while it has been more widely adopted by high income countries in 2000 and 2010. This is not surprising considering that financial repression reflects the corporate finance structure that many developing countries have adopted as development strategies during the 1980s and 1990s. What's surprising is that we find more of the high income countries increasingly tightening the association between banks and the government post-2000. This may also be a reflection of the government's various implicit guarantees in high-income countries that led to the build up of the 2008 global financial crisis and the 2010 Eurozone crisis.

3.2.4.2 Interest rate spread

The second proxy I use for government subsidy to the banking sector is the difference in global and local lending interest rates. Lending rate is the bank rate for the private sector. This interest rate spread captures the extent of subsidized cost of lending domestically. I assume that there are high levels of government subsidy to the banking sector when the spread is high, or put differently when there is a large difference in the local interest rate and global interest rate. For the main analysis, I use nominal interest rate spreads from the World Bank development statistics, but real interest rate spreads are also included as robustness checks (see chapter appendix).

Figure 3.5 shows that countries in South America, Africa and Eastern Europe have high levels of government subsidy to banks' lending domestically. For example, in 1980 and 1990, many Latin American countries including Uruguay, Chile, Colombia, Bolivia and Venezuela have the highest levels of government subsidy to the banking sector. In 2000 and 2010, we find more countries from Africa and Eastern Europe such as Angola, Congo, Madagascar, Serbia, Belarus and Romania leading high levels of government subsidy to the banking sector. When examining the time trend for different income groups, there is no significant difference in the level of government subsidy among middle to low income countries pre-1990. Post-1990, financial subsidy increasingly corresponds to our expectation for different income groups that high income countries have the lowest level of subsidy while low income countries have the highest level of government subsidy. Government subsidy to the banking sector is distinctively lower for high income countries post-1990 but this may be attributed to the fact that interest rate spread does not capture implicit guarantees that are more common forms of government subsidy in those high income countries.

FIGURE 3.5: Lending interest rate spread by continent and income group



3.2.5 Control variables

My models include a set of controls that may confound the relationship of interest. First, I control for the presence of foreign banks in a country because the presence of foreign banks affect the local interest rate. Foreign banks offer more competitive interest rates and this may confound with my measure of subsidy operationalized as interest rate spread. Existing studies have also shown that the presence of foreign banks positively affects financial market development (Claessens and Horen 2015). Second, I control for economic and political crises. The event of financial crises is controlled to account for the crisis-induced cases of financial liberalization (Haggard and Maxfield 1996). I control for conflict because international trade activities and government subsidy to the banking sector are impacted in times of conflict. The presence of conflict may also cause investors to pull out from financial markets due to political uncertainty. Third, I control for the country's rule of law to account for robust findings in the existing literature that strong institutions and rule of law lead to financial development (North and Weingast 1989). Lastly, I control for the country's GDP growth rate because it confounds with IIT, i.e. GDP growth leads to more IIT. A country's economic growth also affects financial market development as observed in Figures 1.5, 1.6 and 1.7. For details on all variables and sources see Table C.3 in the chapter appendix. Descriptive plots for the control variables are also included in the chapter appendix.

3.3 Argument in descriptive evidence

Before testing my argument with statistical models, I visually inspect and probe the plausibility of my argument that governments with high IIT and low financial subsidy are more likely to liberalize their financial markets. I attempt to identify country cases that best fit my theory and cases that least fit my theory. Additionally, I investigate how the motivating cases discussed in the introduction chapter map on to Quadrant I (emerging financial markets) and Quadrant IV (global financial markets), but also Quadrants II (closed financial market) and III (specialized financial market) in Table 2.1. If my theoretical argument is true, I expect to find the broadest, deepest and the most globalized financial markets in Quadrant IV. Accordingly, I expect to find the least developed financial markets in Quadrant II and compensated markets with trade-offs in size, depth and openness in Quadrants I and III.

FIGURE 3.6: IIT, Government subsidy and Financial Liberalization

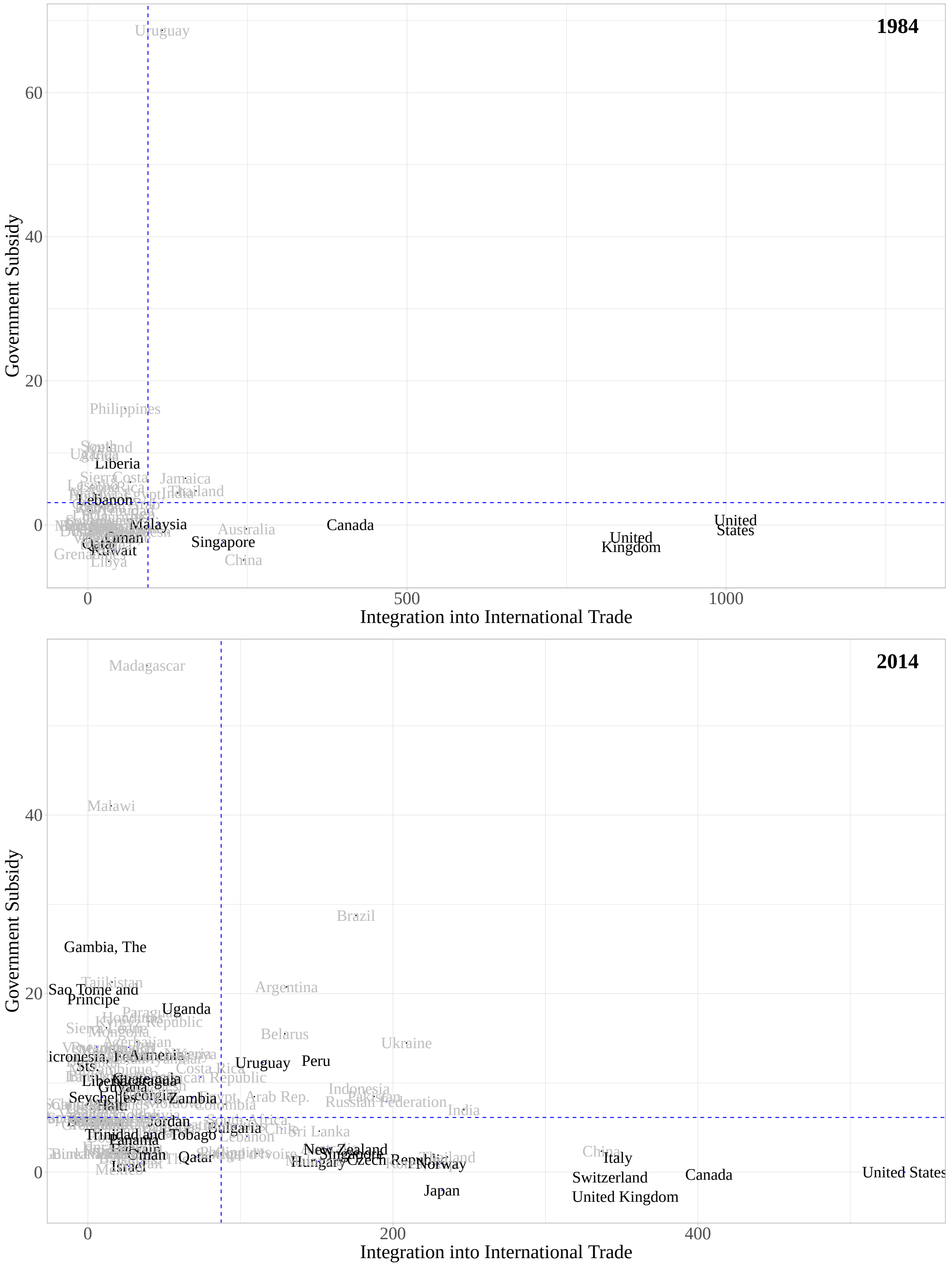


Figure 3.6 plots IIT on the x-axis and financial subsidy measured in interest rate spreads on the y-axis. Countries in black font are governments that have completely liberalized their financial markets (Chinn-Ito index greater than or equal to 2), while countries in grey font are governments with limited financial market openness (Chinn-Ito index smaller than 2). The blue dotted lines are arbitrary cut-offs based on the mean values of IIT and government subsidy. While the arbitrary cut-offs are not substantively precise, it helps us hypothetically visualize Table 2.1.[4] Based on the blue dotted lines, upper-right box refers to country cases for Quadrant I, upper-left for Quadrant II, lower-left for Quadrant III and lower-right for Quadrant IV. Figure 3.6 maps years 1984 and 2014 to trace changes over the interval of thirty years.

The first general observation is that there are fewer country cases in Quadrant I (emerging financial markets) in 1984, than in 2014. This is consistent with my discussion in the introduction chapter that as more countries become integrated into international trade over time, many more governments are faced with the question of financial market liberalization. If the expectations of my theory are true, country cases in Quadrant IV in 1984 are most likely cases that were in Quadrant I in earlier decades.

The second general observation is that Quadrant I has a higher proportion of non-globalized financial market cases compared to Quadrant IV (global financial markets) which has a higher proportion of country cases with high levels of financial market liberalization. This is consistent with the expectations of my theory that domestic banks in countries with high IIT and high financial incentives from the government will lobby for limited financial market liberalization (Quadrant I). On the other hand, domestic banks in countries with high IIT and low financial incentives from the government will lobby the government for complete financial liberalization (Quadrant IV). I find that many of the cases discussed in the introduction chapter map on to Figure 3.6 as expected. I find Singapore and Switzerland in Quadrant IV and South Africa in the border line of Quadrant I and IV.

Country cases in the existing literature also map on to Figure 3.6 as expected. Pepinsky (2013), in his case studies of Indonesia and Mexico argued that banks in developing economies form strong banking cartels that limit complete financial liberalization. I find Indonesia in Quadrant I and Mexico in Quadrant III, both of which are not financially liberalized. Indonesia and Mexico are emerging economies with a strong banking cartels as Pepinsky points out, but the reasons behind limited financial market liberalization in the two cases are different according to my theory. Domestic banks in Indonesia lobby for limited financial liberalization because they profit from high levels of government subsidy, while domestic banks in Mexico have limited political leverage over financial liberalization policies due to low levels of IIT. Broz (1997), on the other hand, have argued that domestic banks of the U.S. lobbied for the internationalization of the dollar because their private rents attached to foreign credit outweighed their private rents at home. This is consistent with the fact that the US is located in Quadrant IV with high IIT and low levels of government subsidy.

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[4] The precise cut-off for government subsidy is later identified via my panel interaction model.

The third general observation is that there is a higher proportion of countries that are not financially liberalized in Quadrants II and III. This aligns with my theoretical expectation that Quadrant II entails cases with closed financial markets and Quadrant III entails cases with specialized financial markets. The unique cases in Quadrant II that have open financial markets are exceptions in which the government unilaterally implements financial market liberalization in spite of domestic banks' preference for liberalization. For example, Uganda is found in Quadrant II, in which I have discussed earlier that the Museveni's government unilaterally decided to liberalize its financial markets in 1997 as an attempt to attract foreign capital after the long civil war that ended in 1994. Countries like Liberia, Gambia and Zambia are similar cases to that of Uganda. Some of the unlikely cases that I find in Quadrant II are tax-haven financial markets such as Sao Tome and Principe that I would have expected to find in Quadrant III. I also find tax-havens like Micronesia and Seychelles closer to the dashed line, but they are less concerning given the arbitrary nature of the dashed line. Country cases that have open financial markets in Quadrant III are consistent with my theoretical expectation that these cases are most likely to be tax-havens and specialized financial markets. Some examples are Trinidad and Tobago, Panama, and Bahrain which are well-known tax-haven islands. I also find oil economies like Qatar and Oman that consist specialized financial markets.

In sum, I find that descriptively, many cases discussed earlier align with the theoretical expectations of the argument. In the next section, I rigorously test for my argument using cross-sectional times series analyses.

3.4 Cross-Sectional Time Series, 1980-2018

3.4.1 Model specification

I conduct a series of cross-sectional time series analysis for 181 countries from 1980 to 2018. The unit of analysis is country-year and all models include country-fixed-effects to explain within country variations and time-fixed effects, creating conservative results. Although the conservative estimation strategy carries the risk of prematurely abandoning true hypotheses, it increases my confidence in the coefficients that are statistically significant. The use of fixed effects is particularly important given the heterogeneity across countries (Figure A.3 in chapter 1 appendix), as it helps control for country-specific conditions that may affect financial market development.[5] I also lag all variables to empirically address concerns for reverse causality that financial liberalization affects levels of IIT. I later address this concern in my empirical extension by allowing financial liberalization and IIT to be simultaneously determined.

In my panel analyses, I test for three hypotheses:

H1: When the country is heavily integrated into international trade, governments are more likely to develop bigger financial markets.

H2: When the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, governments are more likely develop deeper financial markets.

H3: When the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, governments are more likely to implement policies for capital account openness.

IIT determines when domestic banks gain political leverage to influence financial market policies but the direction of their lobby is determined by domestic banks' financial incentives. If domestic banks' private rents from foreign credit is bigger than their private rents from government subsidy, domestic banks will lobby for complete financial liberalization. If domestic banks' private rents from foreign credit is smaller than their private rents from government subsidy, domestic banks will lobby against complete financial liberalization. Given that rents from foreign credit are hard to measure, I cannot directly test for domestic banks' private rents from foreign credit. Instead, I assume that if government subsidy to the banking sector is low, domestic banks' private rents from government subsidy will be small. If government subsidy to the banking sector is high, domestic banks' private rents from government subsidy will be large.

3.4.2 Results

Results in Table 3.5 and 3.6 show support for all hypotheses and alternative measures for government subsidy. Models 1-6 test the interaction effect of IIT and government subsidy measured as financial repression (% GDP). Models 7-12 test the interaction effect of IIT and government subsidy measured as nominal interest rate spreads. Results hold even when we test for government subsidy measured in real interest rate spreads (see Table C.4 in the chapter appendix).

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[5] Empirically, the Hausman test also concludes that my model is better explained by fixed effects.

The results can be summarized as follows. Models 1-2 and 7-8 uphold Hypothesis 1 that a country's IIT positively affects the size of its financial market. With one unit increase in IIT, the country is likely to have a 0.006 (% GDP) broader financial market. In these models, government subsidy has no significant impact on market size. This supports the mechanism behind Hypothesis 1 that the gravity model of trade explains the flow of global capital in a country.

Models 3-6 and 9-12, however, show that gravity model alone cannot explain when governments develop *deeper* and *more globalized* financial markets. The interaction effect of IIT and government subsidy have negative coefficients, i.e. -0.288 for depth and -0.002 for openness. Interpreting the coefficients of interaction effects require more caution as it represent the average impact of the two interacted variables. I examine the marginal effect plots for this purpose. Figure 3.7 shows the marginal effect of IIT along the levels of government subsidy (% GDP).

The top figure illustrates the marginal effect of IIT on financial market depth (Hypothesis 2). When government subsidy to the banking sector is below 0.5% of GDP, the marginal effect of a country's IIT positively affects financial market depth. When financial subsidy is above 0.5% of GDP, the marginal effect of a country's IIT negatively affects financial market depth. This supports the underlying logic for Hypothesis 2 that with higher levels of government subsidy, financial markets are less likely to be efficient and privatized, yielding lower levels of depth. Thus when the subsidy levels are high, IIT negatively affects financial market depth. When the subsidy levels are low, IIT positively affects financial market depth.

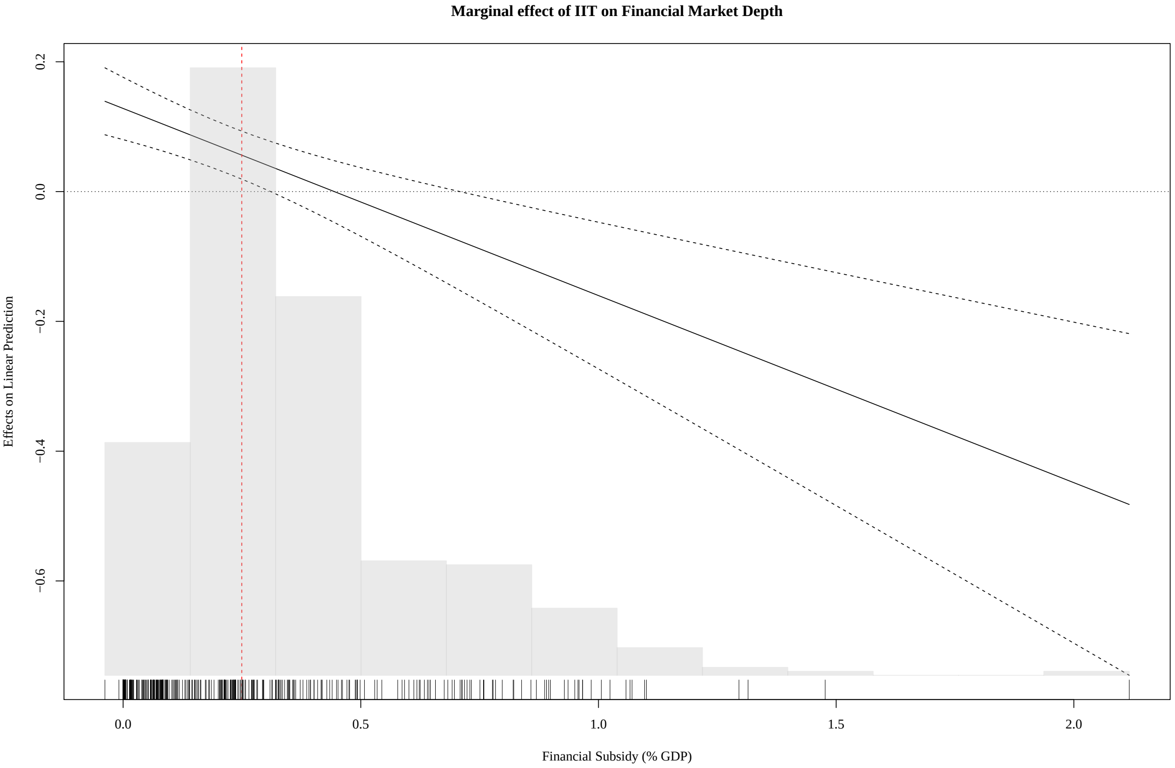
The bottom figure illustrates the marginal effect of IIT on financial market openness (Hypothesis 3). When financial subsidy is below 1.7%, the marginal effect of a country's IIT positively affects financial market openness. When financial subsidy is above 1.7%, the marginal effect of a country's IIT negatively affects financial market openness. These results also support Hypothesis 3 that domestic banks lobby the government for complete financial liberalization when their private rents from government subsidy are low. With more IIT, domestic banks gain political leverage to pressure the government on financial market policies. However, if their private rents from government subsidy is high, they use their political leverage to limit financial market openness (negative coefficient for the marginal effect of IIT above 1.7% of government subsidy). If their private rents from government subsidy is low, they use this political leverage from IIT to completely liberalize financial markets (positive coefficient for the marginal effect of IIT below 1.7% of government subsidy) to seek private rents from foreign credit.

Table 3.5: Effects of Integration into International Trade and Government Subsidy on Financial Market Development

	Panel Analysis					
	Size		Depth		Global Openness	
	(1)	(2)	(3)	(4)	(5)	(6)
IIT	0.006***	0.004	0.063***	0.128***	0.002***	0.002***
	(0.002)	(0.003)	(0.019)	(0.025)	(0.0003)	(0.0004)
Financial repression	−2.456***	−3.432**	14.861**	55.513***	0.452***	0.842***
	(0.820)	(1.465)	(7.364)	(12.255)	(0.133)	(0.237)
Foreign banks	0.014	0.018	−0.470**	−0.294	−0.008*	−0.009**
	(0.026)	(0.027)	(0.208)	(0.208)	(0.004)	(0.004)
GDP growth	−0.059	−0.045	0.416	−0.034	−0.088***	−0.094***
	(0.114)	(0.115)	(0.883)	(0.872)	(0.018)	(0.018)
Rule of law	2.273	2.553*	26.129***	23.123**	1.745***	1.614***
	(1.401)	(1.444)	(9.979)	(9.798)	(0.220)	(0.229)
Conflict	0.005	−0.011	29.786***	35.482***	−0.099	−0.099
	(0.656)	(0.657)	(5.188)	(5.266)	(0.105)	(0.105)
Financial crisis	1.785*	1.782*	24.564***	24.585***	−0.225	−0.227
	(0.919)	(0.919)	(8.969)	(8.782)	(0.151)	(0.151)
IIT X Subsidy		0.004		−0.288***		−0.002**
		(0.005)		(0.070)		(0.001)
Country fixed-effects?	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed-effects?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	534	534	394	394	578	578
R^2	0.065	0.066	0.211	0.245	0.360	0.365
Adjusted R^2	0.019	0.019	0.157	0.192	0.331	0.335
F Statistic	5.070***	4.514***	14.019***	14.898***	44.438***	39.585***
	(df = 7; 508)	(df = 8; 507)	(df = 7; 368)	(df = 8; 367)	(df = 7; 552)	(df = 8; 551)

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Figure 3.7: Marginal Effect of IIT on Financial Market Depth and Openness



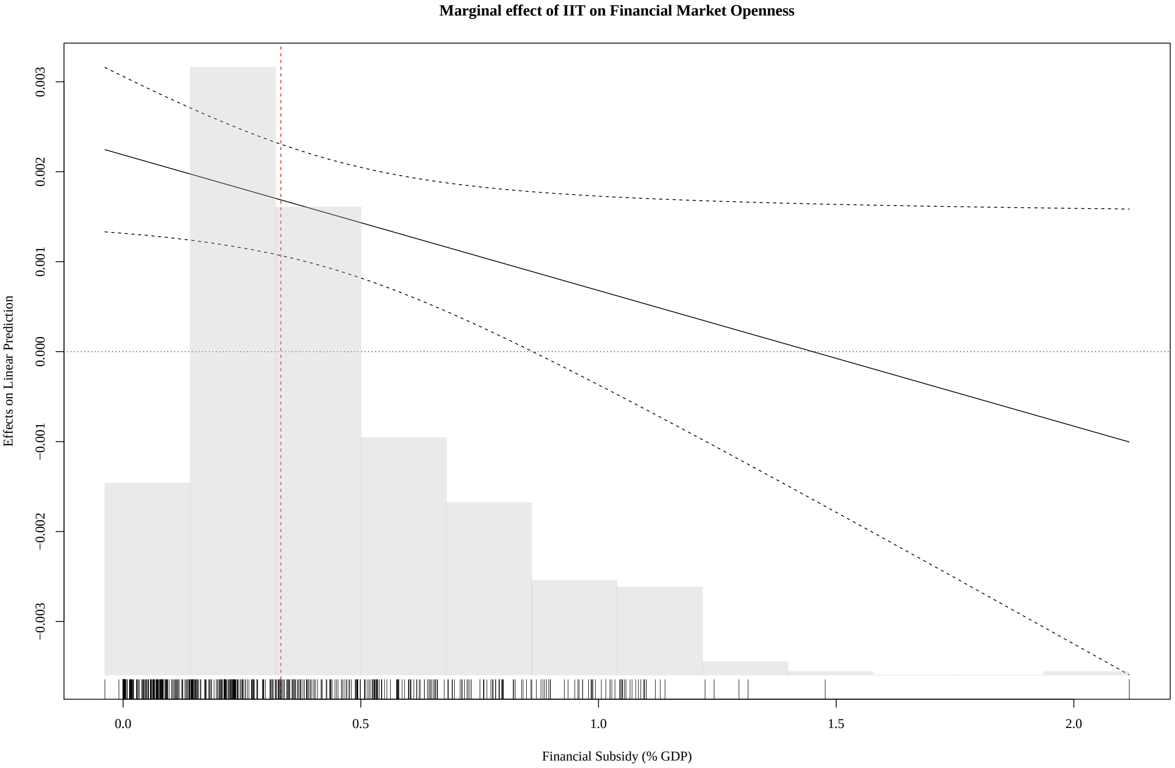
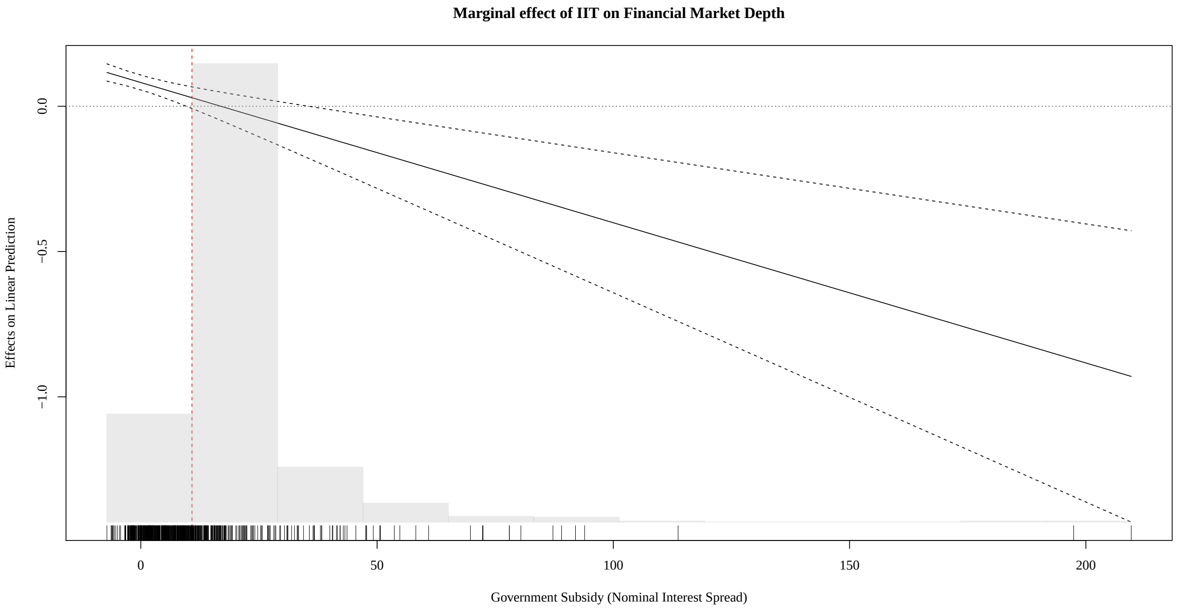


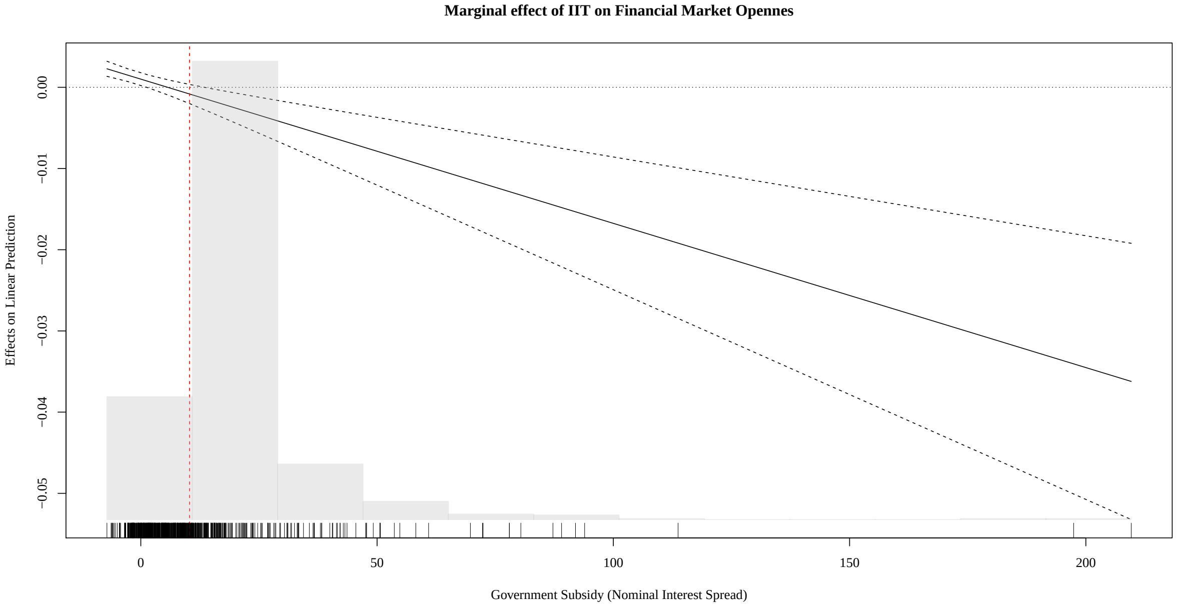
Table 3.6: Effects of Government Subsidy and Integration into International Trade on Financial Market Development

	Panel Analysis					
	Size		Depth		Global Openness	
	(7)	(8)	(9)	(10)	(11)	(12)
IIT	0.005***	0.005***	0.084***	0.082***	0.001***	0.001**
	(0.001)	(0.001)	(0.013)	(0.013)	(0.0004)	(0.0004)
Nominal interest spread	−0.008	−0.005	−0.508***	−0.289***	−0.006**	0.002
	(0.014)	(0.020)	(0.086)	(0.102)	(0.003)	(0.004)
Foreign banks	−0.015	−0.014	−0.056	0.105	0.011***	0.017***
	(0.015)	(0.015)	(0.125)	(0.130)	(0.004)	(0.004)
GDP Growth	−0.084	−0.084	0.163	0.049	−0.062***	−0.067***
	(0.060)	(0.060)	(0.466)	(0.462)	(0.016)	(0.016)
Rule of law	−0.389	−0.383	30.997***	31.787***	1.654***	1.675***
	(0.673)	(0.674)	(5.247)	(5.194)	(0.183)	(0.180)
Conflict	0.233	0.229	17.097***	16.034***	−0.453***	−0.485***
	(0.423)	(0.424)	(3.526)	(3.498)	(0.117)	(0.116)
Financial crisis	0.012	0.005	12.832***	12.647***	−0.271*	−0.282*
	(0.541)	(0.542)	(4.565)	(4.516)	(0.149)	(0.147)
IIT X Subsidy		−0.00004		−0.005***		−0.0002***
		(0.0002)		(0.001)		(0.00004)
Country fixed-effects?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	674	674	690	690	734	734
R^2	0.044	0.044	0.341	0.356	0.270	0.289
Adjusted R^2	0.007	0.006	0.316	0.331	0.244	0.263
F Statistic	4.269***	3.737***	49.099***	45.886***	37.446***	35.900***
	(df = 7; 648)	(df = 8; 647)	(df = 7; 664)	(df = 8; 663)	(df = 7; 708)	(df = 8; 707)

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Figure 3.8: Marginal Effect of IIT on Financial Market Depth and Openness





In sum, models 3-6 and 9-12 uphold Hypothesis 2 and 3 that the effect of a country's IIT is mediated by the domestic banks' financial incentive structure. Findings are consistent with government subsidy measured in terms of nominal interest spread (see Figure 3.8). When using the marginal interest rate spread to measure levels of government subsidy to the banking sector, the threshold for the transition from positive to negative marginal effect is 10.8 for depth and 10.3 for financial market openness.

3.5 Robustness checks

Given that my results are robust to country fixed-effects and time fixed-effects, it resolves the potential concerns for cross-sectional dependence or contemporaneous correlation across space. It also resolves for serial correlation across time. Additionally, my model includes lagged variables that address potential problems of reverse causality. Thus, for my robustness checks, I mainly focus on two serious threats to the findings of my theory: potential omitted variable bias and measurement error.

First, omitted variable bias comes from two sources: confounders and missing data. To control for confounders, I re-run my analyses including additional controls that may impact both IIT and financial market development such as the number of PTAs of a country, exchange rate stability and regime type. All results hold even after controlling for additional confounders and they are presented in the chapter appendix.I had not added these variables in my main model they are likely redundant variables with IIT. A country with high IIT is most likely to have high exchange rate stability, high numbers of PTA signed and more likely to be a democracy as we know that democracies tend to trade more with each other. Including redundant variables over-specify by the model and lead to problems such as inflated standard errors for the regression coefficients.While multicolinearity associated with this problem may not be problematic if my goal was to predict financial market development. However, because the focus of my model is the ascribe the effect of my main variables on financial market development, I should minimize room for multicolinearity. I address the problem of confounders more rigorously in my empirical extension in the next section.

To address problems for missing data, I re-run my models using alternative measures with the trade-off of making predictions for a narrower time coverage. Unlike financial market size and depth, measures for financial market openness have systematically missing data for low and lower-middle income countries especially for earlier time periods. I use the measure from Jahan and Wang (2016) which is an AREAER-based openness measure that is best adapted to lower income countries, and find consistent results. This measure, however, has a shorter time coverage of 1997-2013. Government subsidy data was one of the other main variables that has systematically missing data for low income countries. I have addressed potential biases from missing data by adopting an alternative subsidy measure, i.e. interest rate spread, which has minimal missing data with the trade-off being a less accurate measure for government subsidy to the banking sector.

Second, problems of measurement is addressed by re-running my models using alternative measures available for financial market size, depth and openness as discussed in earlier sections and in Table 3.2. I find consistent results for most alternative measures. A full discussion on varying results for alternative measures is included in the chapter appendix.

3.6 Empirical extension: Instrumental variable approach

For my empirical extension, I relax the assumption that trade liberalization precedes financial liberalization to address two potential problems of endogeneity. First, I tackle the concern that trade liberalization and financial liberalization are inter-related. In other words, IIT affects financial market openness but financial market openness also simultaneously affects the level of IIT. If financial liberalization is correlated with the error term for trade liberalization, the estimated coefficient of financial liberalization will be biased, known as the simultaneous bias. The second concern is the possibility of confounders that drive both financial liberalization and trade liberalization (IIT). If there are problems of endogeneity, it violates the Gauss Markov assumptions creating biased and inconsistent estimates for my panel regression analyses. To address the two concerns, I use an instrument variable to address potential confounders as shown below:

$$IIT_{i,t} = \beta_0 + \beta_1 FinancialLiberalization_{i,t} + \beta_2 logGDP_{i,t} + \beta_3 PTA_{i,t} + \beta_4 Regime_{i,t} + \beta_5 XRstability_{i,t} + \beta_6 RoL_{i,t} + \beta_7 ForeignBanks_{i,t} + \beta_8 MID_{i,t} + \beta_9 Crises_{i,t} + \beta_{10} DistanceEQ_{i,t} + \epsilon_1 \quad \text{...............} \quad (1)$$

$$FinancialLiberalization_{i,t} = \lambda_0 + \lambda_1 IIT_{i,t} * Subsidy_{i,t} + \lambda_2 logGDP_{i,t} + \lambda_3 PTA_{i,t} + \lambda_4 Regime_{i,t} + \lambda_5 XRstability_{i,t} + \lambda_6 RoL_{i,t} + \lambda_7 ForeignBanks_{i,t} + \lambda_8 MID_{i,t} + \beta_9 Crises_{i,t} + \epsilon_2 \quad \text{...............} \quad (2)$$

Equations (1) and (2) show that financial liberalization and trade liberalization are inter-related. That is, financial liberalization affects trade liberalization in (1) but trade liberalization also affects financial liberalization in (2). Equation (1) also includes an instrument variable, i.e. country i's distance from the equator (Mayer and Zignago 2011), that satisfies the three criteria of a valid instrumental variable: relevance, exogeneity and exclusion.

A country's distance from the equator satisfies the relevance criterion given that distance is correlated with IIT. According to the gravity model of trade, countries that are closer to each other tend to trade more. I assume that a country that is closer to the equator is more likely to trade due to reduced transportation cost of trade. This distance measure is different to the dyadic distance conventionally used in the gravity model. I use the distance from the equator and not dyadic distance to satisfy the second criterion of exogeneity. The criterion of exogeneity requires that the instrument does not correlate with any other variables in the model. Two countries' distance are likely to affect other variables in my equation such as country i's number of PTAs and MID. A country's distance from the equator, on the other hand, is less likely to affect these variables. Lastly, a county's distance from the equator satisfies the exclusion criterion that this instrument has an affect on IIT but *not* on financial liberalization, i.e. $DistanceEQ_{i,t}$ does not correlate with ϵ_2. I assume that a country's distance from the equator does not explain a country's financial liberalization. Thus I argue that a country's distance from the equator is a reasonable instrument variable given that this variables correlates with the country's financial liberalization only through the country's IIT. Additionally, having one instrument variable satisfies the order condition which states that I should have the same number of exogenous variable for the number of endogenous variable I have in my main model. I have one endogenous variable, i.e. IIT, and hence using one instrument variable avoids problems of under-specification or over-specification.

Essentially, I use the instrument variable to estimate IIT in equation (1) and use the predicted values from equation (1) to analyze equation (2). As shown in Table 3.7, the findings from earlier panel regressions also hold for model results using an instrument variable. Model 14 shows that the interaction effect of $I\hat{I}T$ and government subsidy measured as financial repression is negatively significant. I plot the marginal effect of $I\hat{I}T$ in Figure 3.9 to asses this interaction effect. Similar to our observations in the panel regression analyses, I find that when government subsidy to the banking sector is above 0.33 (% GDP), the marginal effect of a country's $I\hat{I}T$ negatively affects financial market openness. When government subsidy to the banking sector is below 0.33 (% GDP), the marginal effect of a country's $I\hat{I}T$ positively affects financial market openness. The threshold is lower than the threshold that was identified in the panel regression analyses.

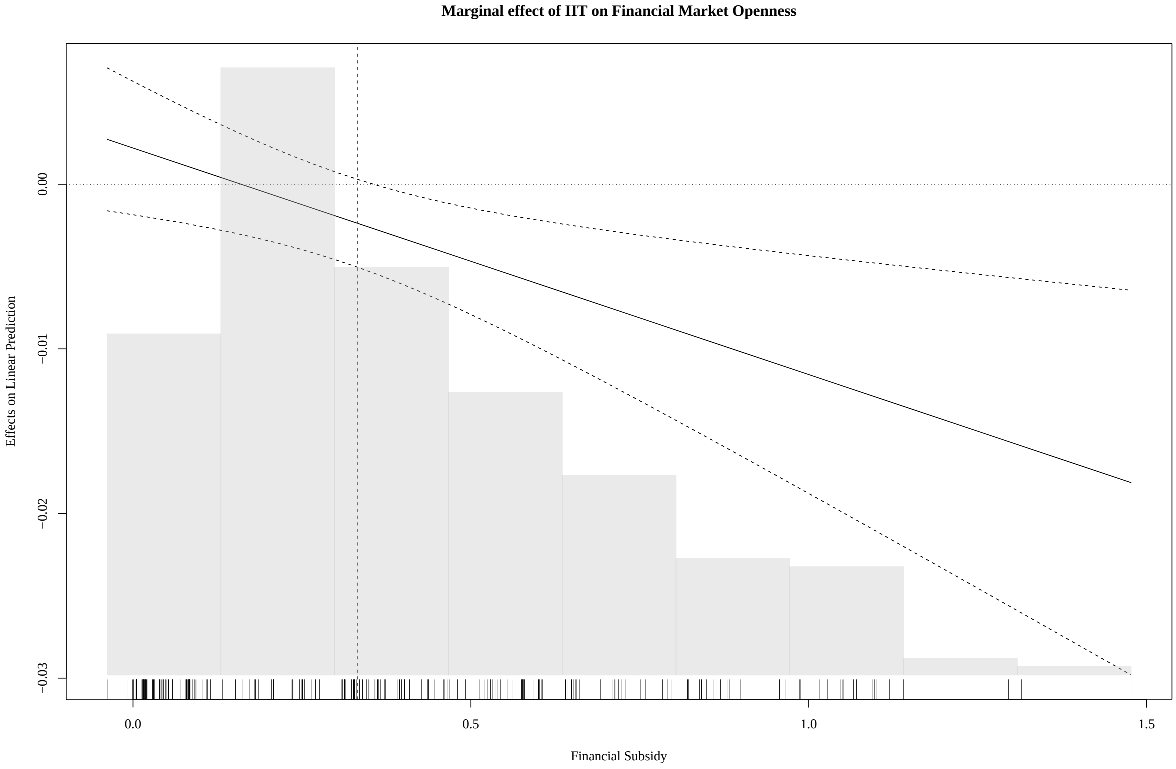
Finally, I acknowledge that by design, my predicted measure of $I\hat{I}T$ incorporates uncertainty, accompanying large standard errors. IV estimates are also innately biased and their finite-sample properties are often problematic. While there is no panacea for such innate problems of using an instrument variable, as an additional robustness check, I test for an alternative instrument variable in the chapter appendix. My results consistently hold even when using an alternative instrument.

Table 3.7: The Effect of $I\hat{I}T$ and Government subsidy on Financial Liberalization

	Model extension with IV	
	Financial Market Openness	
	(13)	(14)
$I\hat{I}T$	−0.002	0.002
	(0.001)	(0.002)
Government subsidy	0.864***	1.084***
	(0.258)	(0.266)
Foreign banks	−0.026**	−0.034***
	(0.012)	(0.013)
logGDP	0.806***	0.957***
	(0.194)	(0.199)
Rule of Law	−2.220***	−2.215***
	(0.814)	(0.801)
Conflict	−0.061	−0.052
	(0.107)	(0.106)
Financial crises	0.012	−0.038
	(0.142)	(0.140)
Exchange Rate Stability	−0.461*	−0.525**
	(0.267)	(0.264)
PTA	0.003**	0.002*
	(0.001)	(0.001)
Regime	0.091**	0.114**
	(0.046)	(0.046)
$I\hat{I}T$ X Subsidy		−0.014***
		(0.005)
Country fixed-effects?	Yes	Yes
Time fixed-effects?	Yes	Yes
Observations	251	251
R^2	0.208	0.237
Adjusted R^2	0.015	0.046
F Statistic	5.270*** (df = 10; 201)	5.641*** (df = 11; 200)

Note: *p<0.1; **p<0.05; ***p<0.01

Figure 3.9: Marginal effect of $I\hat{I}T$ using an instrument variable



3.7 Chapter conclusion

In this chapter, I have discussed and explored the operationalization and descriptive statistics of my variables. Relations among size, depth and openness revealed that high and higher middle income countries have similar levels of size and depth while low and lower middle income countries have financial market size that out proportions its depth. Open financial markets usually have proportional size and depth while closed financial markets have size and depth that are not proportional to one another. These observations provided preliminary evidence for my theoretical expectations in Table 2.1 that global financial markets are the only markets that achieve development in all three dimensions of size, depth and openness. For emerging financial markets or specialized markets, size and depth were not proportional to one another. Additionally, I have shown that many of the motivating cases and cases from the existing literature match the financial market typologies from Table 2.1. By plotting my sample cases against IIT and government subsidy (Figure 3.6), many of the country-cases with open financial markets matched the theoretical expectation that these cases were countries with high IIT and low levels of government subsidy.

To empirically test for the correlation found in my descriptive analyses, I then ran a series of panel regressions that tested the interaction effect of IIT and government subsidy on financial market size, depth and openness. Consistent with my theoretical expectations, a unit increase in IIT broadened the financial market by 0.006 % of GDP. The interaction effect of IIT and financial subsidy did not have a significant impact on financial market size. For financial market depth and openness, the interaction effect was significant, suggesting that the effect of IIT is mediated by government subsidy levels to the banking sector. I found that for countries with financial subsidies higher than 0.5%, the marginal effect of IIT negatively affect the depth of financial markets. For countries with financial subsidies lower than 0.5%, the marginal effect of IIT positively affect financial market depth.

Similarly, I found that for countries with financial subsidies higher than 0.5%, the marginal effect of IIT negatively affect the openness of financial markets. For countries with financial subsidies lower than 0.5%, the marginal effect of IIT positively affected the openness of financial markets. This suggests that with IIT, domestic banks gain political leverage to lobby the government on financial market policies. But if domestic banks' private rents from government subsidy outweigh their private rents from foreign credit, they will lobby for limited financial markets. The finding were consistent for two alternative measures of government subsidy, i.e. financial repression and nominal interest rate spreads, and various robustness checks.

Finally, I employed an instrument variable as an empirical extension to relax one of my theoretical assumption that trade liberalization precedes financial liberalization. Using countries' distance from the equator as an instrument variable to estimate predicted values for IIT, I controlled for simultaneous bias and potential confounders. The results consistently supported the claims of my argument.

In probing and rigorously testing for the plausibility of my argument, I have found that trade alone or domestic banks' preference alone fall short in explaining a country's financial market development holistically. While trade helps explain the size of financial markets, a country's position in international trade needs to be jointly examined with the domestic politics of the banking interest, to understand financial market depth and openness.

Chapter 4

Bigger, deeper and more globalized financial markets: Networks evidence

This chapter adopts a network-based approach to understand the development of global financial markets. It does so by analyzing the positions of countries as nodes within the international financial system. The primary focus shifts from individual country-specific experiences to the broader changes occurring within the global financial landscape over time. The utilization of network analysis offers dual benefits in understanding the theoretical puzzle of when and why certain countries develop bigger, deeper and more globalized financial markets than others. Firstly, it effectively captures the essence of my theory, which underscores the intricate interplay between international systems and domestic politics. By aligning with contemporary discussions in international relations that emphasize the interdependence among states and the intricate interplay between systemic and domestic factors (Chaudoin, Milner, and Pang 2015), this approach enables the integration of these intricate interactions into empirical modeling. Secondly, viewing a country's financial market development through the lens of its position within the global financial network provides a convenient means to simultaneously comprehend the three critical dimensions of size, depth, and openness. This is due to the fact that a financially integrated market on the global stage exhibits characteristics such as unhindered capital flow across borders (openness), notable levels of market activity and heightened privatization (depth), along with a market size that can effectively compete on an international scale. Consequently, within this chapter, I delve into my fourth hypothesis, which scrutinizes my theory against a comprehensive measure of financial market development: a country's integration into the global financial system.

H4: When the country is heavily integrated into international trade and domestic banks rely on foreign credit to generate private rents, the country is more likely to be highly integrated into the global financial system.

This chapter is structured as follows. First, I reframe the puzzle by emphasizing that global financial networks don't necessarily mirror the structure of the global trade network. In other words, countries that exhibit high integration within global trade networks don't always demonstrate equivalent integration within the global financial networks. Second, I provide a descriptive portrayal of the financial system's evolution by charting networks of global capital flows across 10-year intervals from 1983 to 2020. This descriptive analysis offers a visual insight into how the global financial system's configuration has transformed over time. However, it also highlights the considerable variations that have marked financial networks over different time spans. Lastly, I proceed with the testing of Hypothesis 4. I utilize the network measure as a proxy to represent a country's financial market development, and the results consistently provide substantial support for my theory.

4.1 Why networks? Global financial markets and networks

In the introductory chapter, I described the puzzling inconsistency that countries which are plugged into international trade are not plugged into international finance. In Figures 4.1 and 4.2, I find consistent patterns that the global trading system looks very different to that of the global financial system. In the global trading system in 2014 (Figure 4.1)[1], the US and China are the core nodes that sustain the global trading system. Relatedly, the figure shows that the US allies such as Germany, Great Britain, France and Japan are more strongly connected with the US in terms of trade while countries like Thailand, Vietnam, Malaysia and Australia have closer trading relations with China. There are countries like Singapore that bridges trade activities of the US trading community and China's trading community. There is, however, a notably contrasting appearance of the global financial system within the same year (see Figure 4.2). China and the US no longer exclusively occupy the central positions in the global financial system. Instead, it is observed that Germany, Great Britain, Japan, and the US collectively shape the structure of global capital flow. Furthermore, the global financial system exhibits a decreased level of fragmentation into distinct communities.

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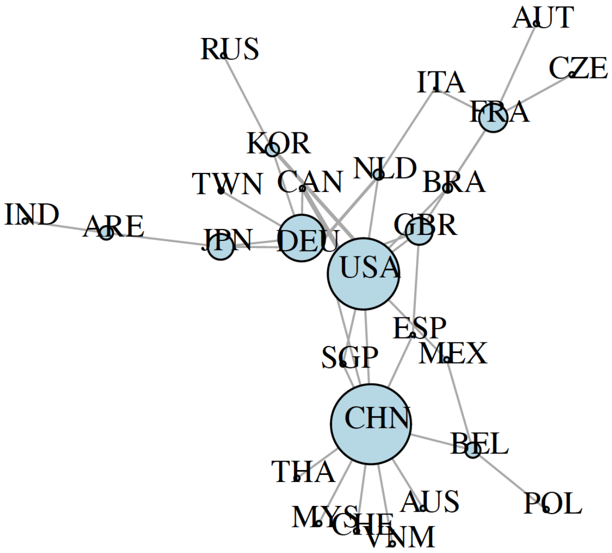
[1] Dyadic trade data is only available up until 2014 (Barbieri, O. M. Keshk, and B. M. Pollins 2009; Barbieri, O. Keshk, and B. Pollins 2016)

FIGURE 4.1: Global trading system in 2014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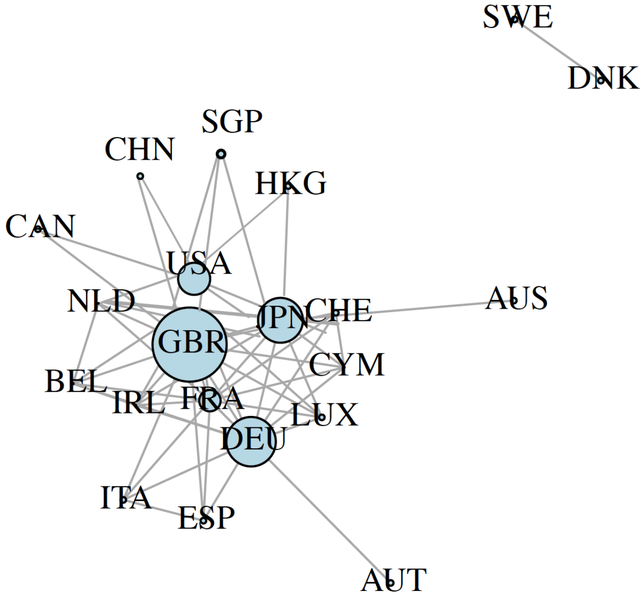
VNM

FIGURE 4.2: Global financial system in 2014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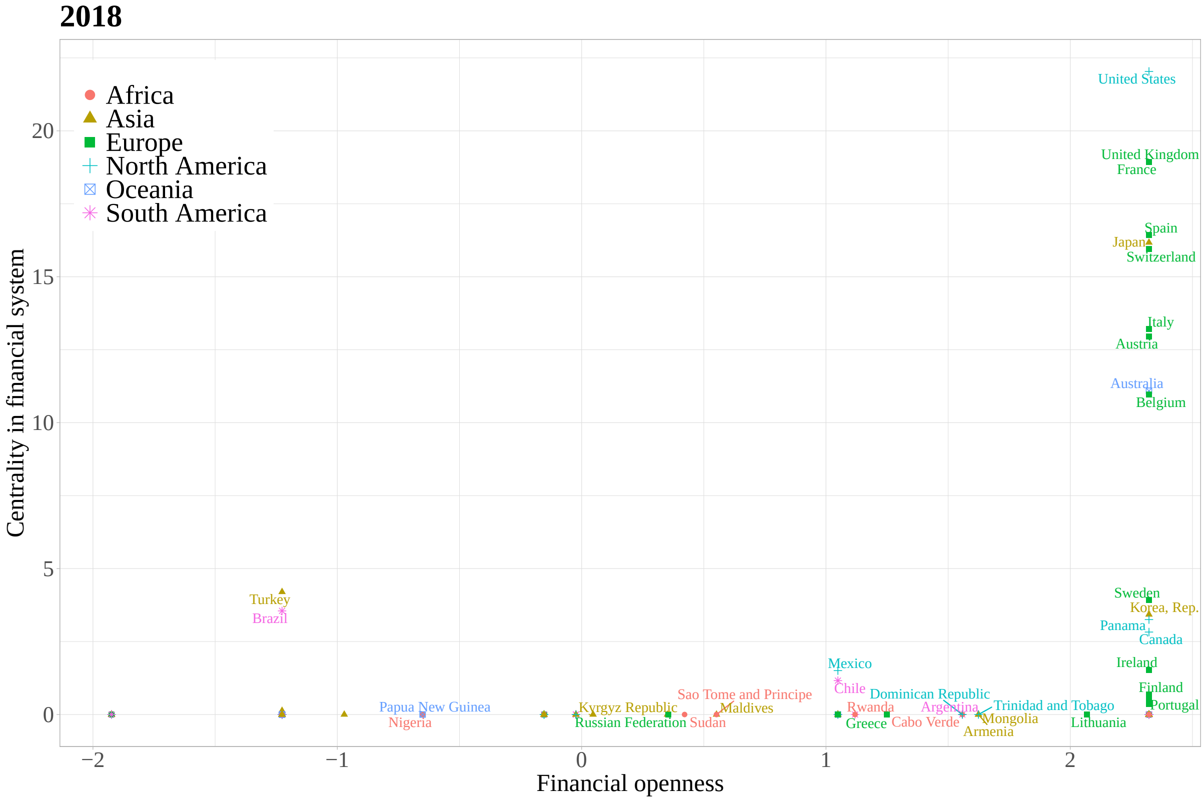
ESP
AUT

If the puzzling inconsistency between financial integration and trade integration is similarly observable both in the country-level and the systems-level, why does it matter that we look into the systems-level using a network analysis? For the country-level analysis financial market development was measured on three key dimensions – size, depth, and openness – separately. As discussed in earlier chapters, however, delving into these dimensions *collectively* offers an all-encompassing comprehension of financial market development. The utilization of a country's financial centrality measure within the global financial system, as employed in this chapter, effectively encapsulates growth in all three dimensions.

For example, Figure 4.3 provides a comparison between the Chinn-Ito financial openness index used in Chapter 3 and the financial network centrality measure. The Chinn-Ito index captures the level of de jure financial liberalization in different countries. However, it can be challenging to discern the relative importance of global financial markets among countries with similar scores in the index. In such cases, additional information on financial market size and depth is needed to gain insights. In contrast, Figure 4.3 demonstrates the added value of the financial centrality measure. While countries such as the US, UK, France, and Japan all attain the maximum scores in the Chinn-Ito financial openness index, the financial centrality measure introduces a nuanced perspective within this group. This measure reveals that while these countries indeed display high levels of de jure openness to global finance, it also sheds light on their varied significance and contributions as financial markets within the global financial system. For instance, in the year 2018, the US exhibits the highest centrality among the listed countries, highlighting its prominent position in the global financial system. On the other hand, Japan has the lowest centrality among these countries, indicating its relatively lower importance in the global financial system.

Among the many types of centrality measures, I use the betweenness centrality measure. Betweenness centrality detects how much a given node (economy) is in-between (in-passing) other nodes in global trade networks. Mathematically, this metric calculates the number of shortest paths, between any couples of nodes in the network, that passes through the target node. This score is moderated by the total number of shortest paths existing between any couples of nodes of the network. The target node would have a high betweenness centrality if it appears in many shortest paths or transactions that connect one market to another. Thus, higher numbers indicate that an economy is highly connected to the global financial network while lower numbers indicate that the economy is disconnected from the global financial network in a given year. Substantively, a country with high betweenness centrality is likely to be the financial source, mediator and destination for global capital flows.

Figure 4.3: Financial openness by financial centrality



Note: For the y-axis, I calculate this measure using the BIS bilateral network. The x-axis shows how integrated a country is in international trade in terms of their position in the global trading network (betweenness).

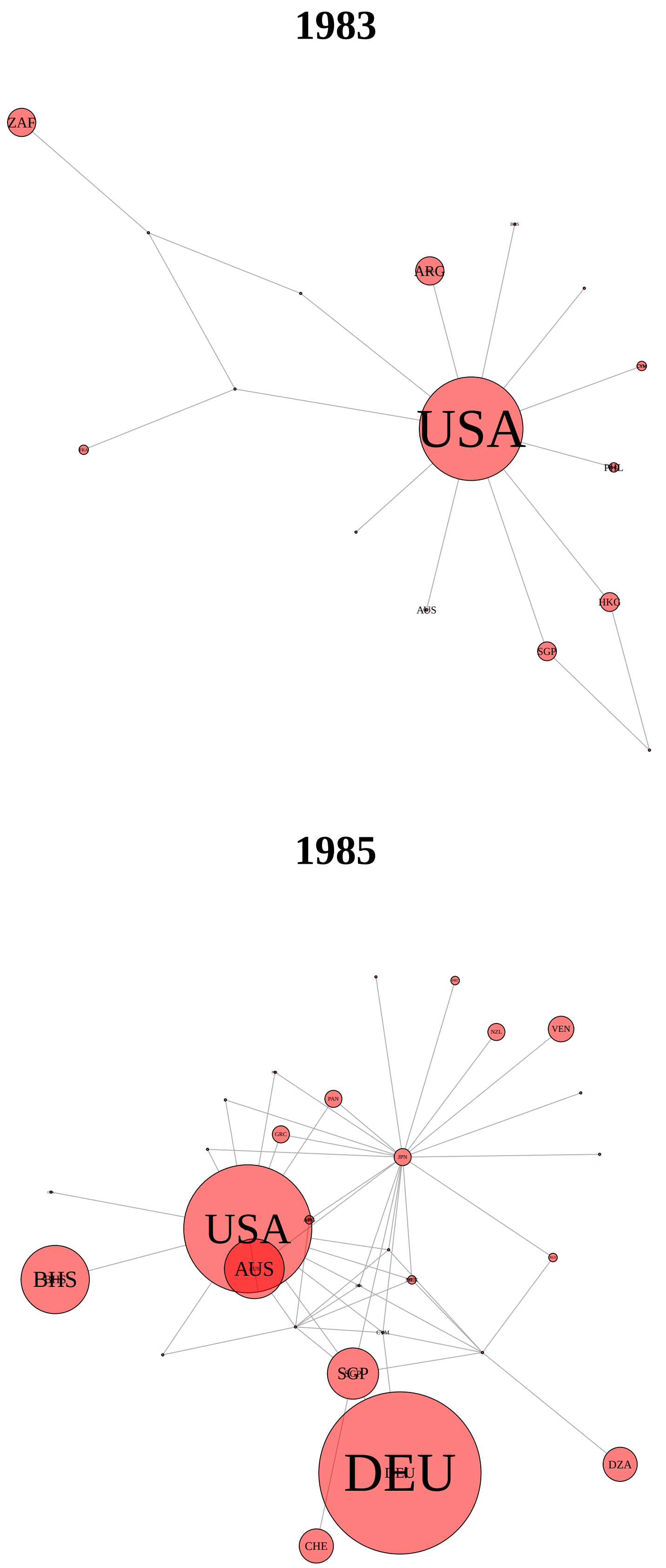
4.1.1 Evolution of financial market networks, 1850-2018

Drawing networks and calculating centrality measures require transforming existing data into matrix data. In this chapter, the BIS (Bank for International Settlements) dyadic data on cross-border bank exchanges, including loans/deposits, debt securities, derivatives, and other financial instruments, is utilized to capture financial market openness conservatively (McGuire and Wooldridge 2005). My theory posits that domestic banks are inclined to promote financial market liberalization when they can access affordable foreign credit from international investors and banks. Consequently, the network examined in this study pertains to global capital networks between banks.

To construct the financial networks (dependent variable), NxN matrices are created for each year from 1983 to 2020, based on dyadic capital flow data. The matrices represent dyadic covariates, capturing the relationships between countries. In the following figures, graphical representations of the financial networks are presented. Although matrices were constructed for every year from 1980 to 2020, only seven of them are shown in the figure (refer to the Chapter Appendix for matrices of all years). To enhance visibility, only capital flow transactions (edges) exceeding 100 billion US dollars are included. Two structural features are notable when examining these networks: node size and the number of nodes. Node size indicates the magnitude of capital flowing in and out of a country, while node numbers reflect the presence of important players in the global financial system, with nodes appearing only when involved in transactions exceeding a minimum of 50 billion dollars.

In the 1980s, financial networks were relatively sparse. During this period, the US served as the primary supplier of capital, maintaining a hub-and-spokes structure within the global financial system. By 1985, Germany emerged as another significant financial market alongside the US. In the 1990s, there was a proliferation of important global financial markets, including Great Britain and Switzerland in Europe, as well as Singapore in Asia, in addition to the US. The proliferation of these key financial markets continued in the 2000s and 2010s, with the US and Great Britain consistently remaining the most important players. In 2020, important global financial markets connected different regions to the world, such as Japan in Asia, France and Great Britain in Europe, and the US in North America. Tax havens like the Bahamas also played significant roles in the global financial system.

Figure 4.4: Financial system in the 1980s


1983
ZAF
ARG
USA
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AUS
HKG
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1985
VEN
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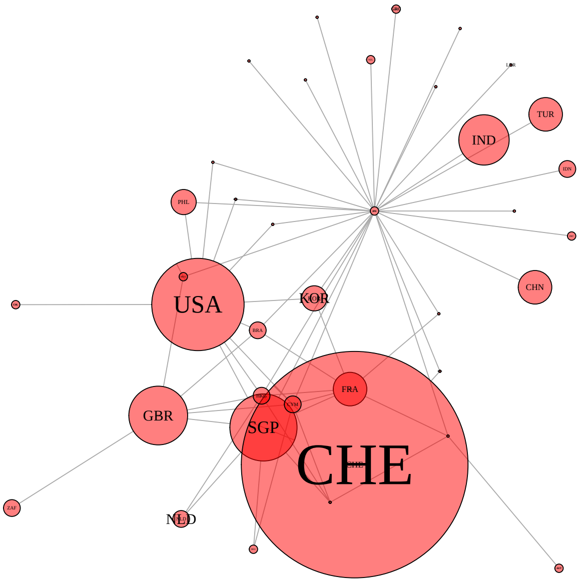
CHE

Figure 4.5: Financial system in 1990s

1990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1995

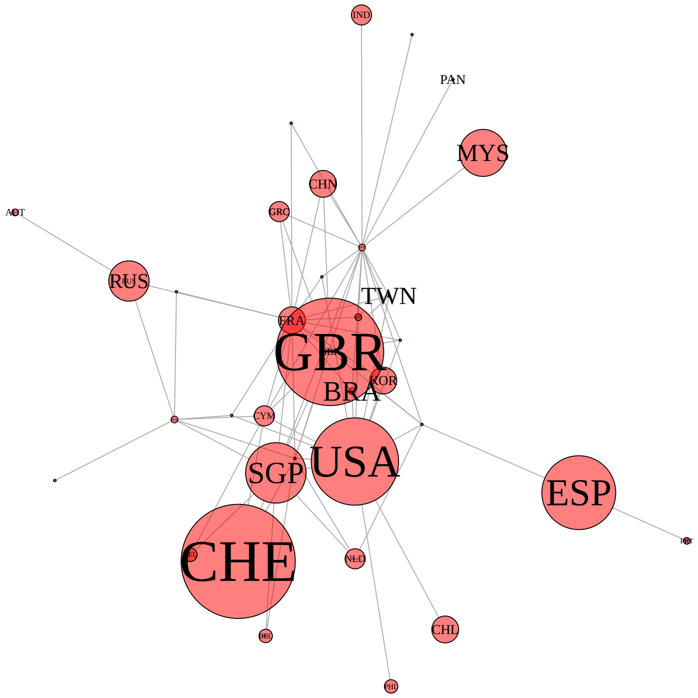
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Figure 4.6: Financial systems in 2000 and 2010

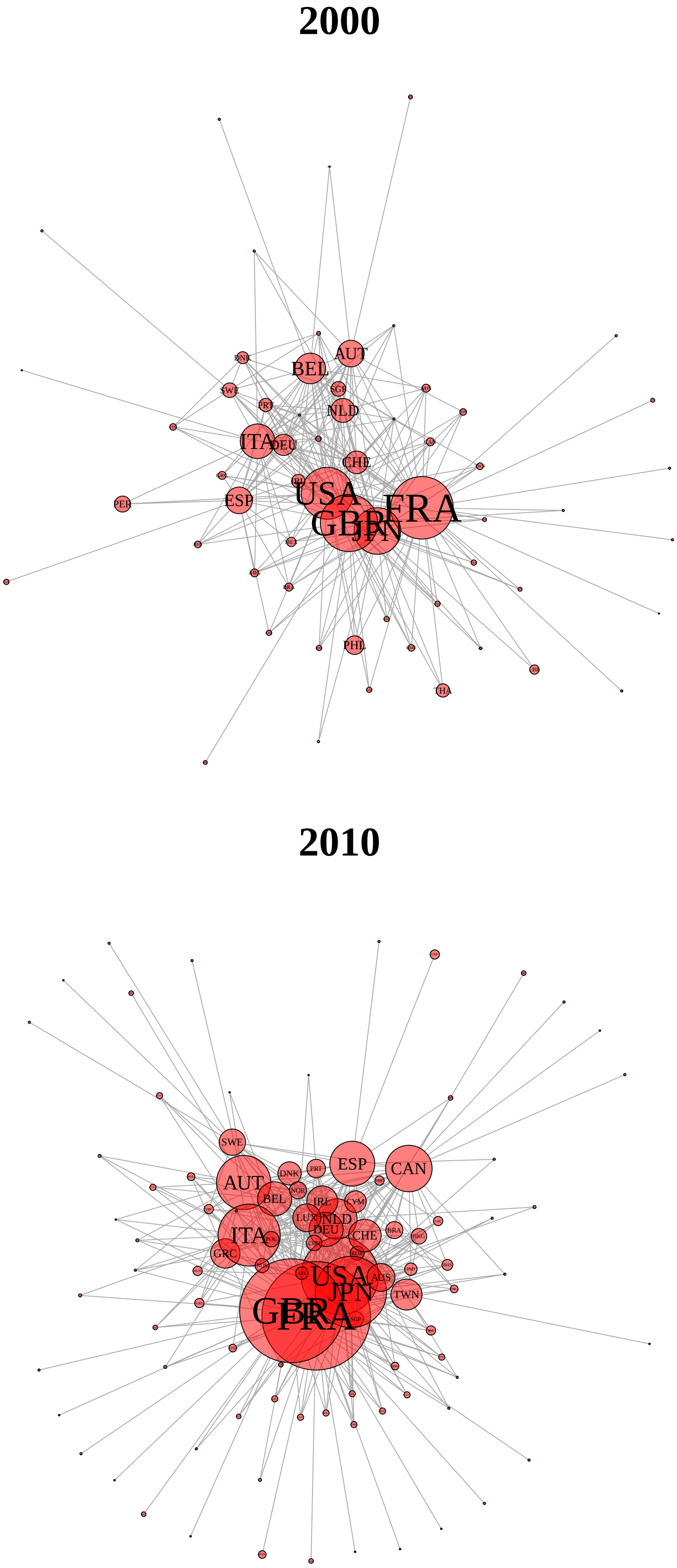
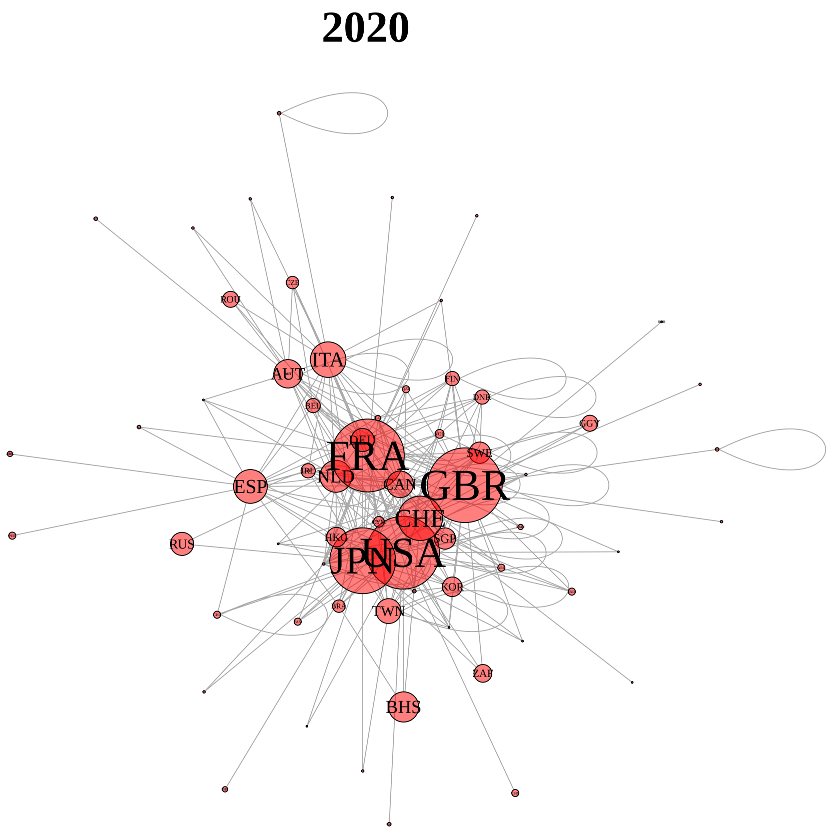


Figure 4.7: Financial systems in 2020

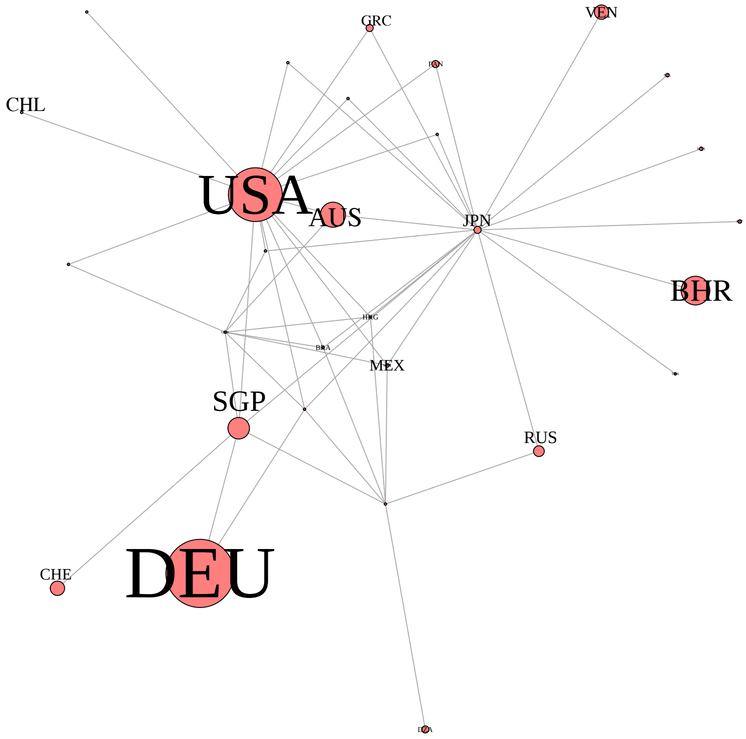


4.2 Capsule case studies of financial networks in Asia and Subsaharan Africa

In the introduction chapter, I have briefly mentioned pairs of case studies in Asia and Subsharan Africa, that highlight how countries with similar integration into international trade have chosen different levels of financial market development. Figure 4.8 show the financial network in Asia in 1985 and 2005. In 1985, we find that Singapore was the biggest financial market in Asia, actively trading finance with the US and Germany. On the other hand, Japan's financial flow activities were smaller despite it being connected to various actors in the global financial system. After Japan completely liberalized in capital accounts, it had a much significant role in the Asian financial network in 2005, being the most important financial market in Asia that connected various Western financial markets such as Great Britain, France, Australia and the US.

FIGURE 4.8: Asia's major financial hubs in 1980s and 2000s

1985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2005

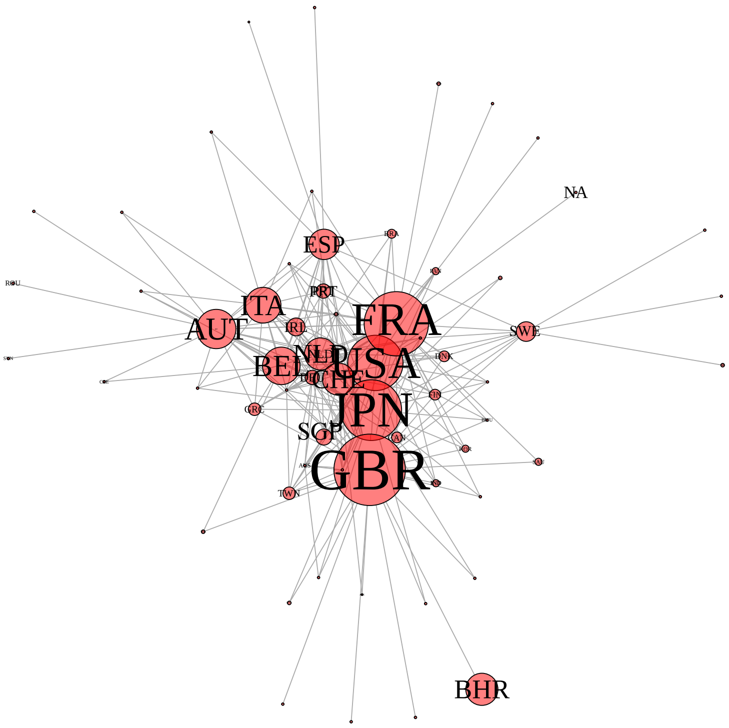
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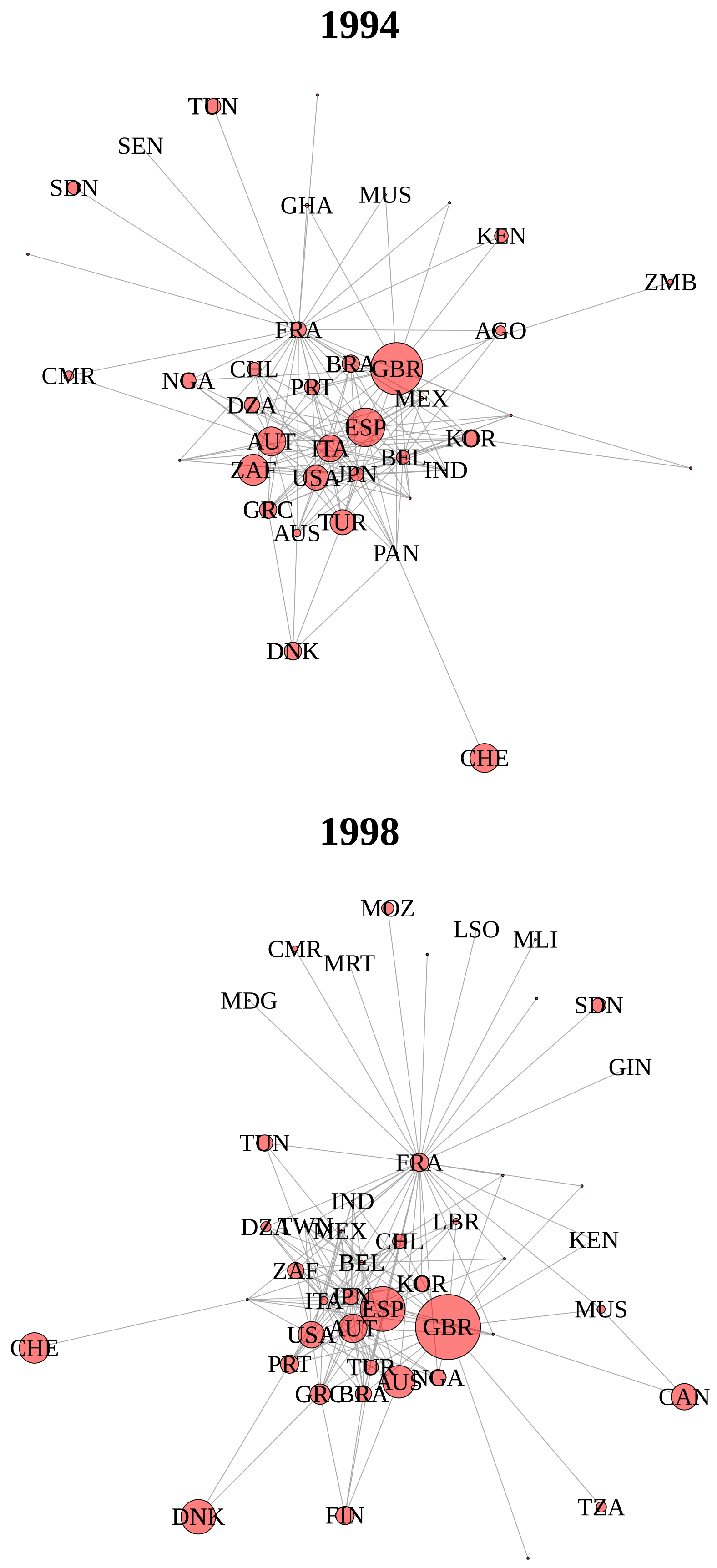
Figure 4.9: Africa's major financial hubs in 1990s


1994
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GHA
MUS
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ZMB
FRA
AGO
CMR
NGA
CHL
BRA
GBR
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DZA
MEX
ESP
AUT
ITA
KOR
BEL
ZAF
USA
JPN
IND
GRC
AUS
TUR
PAN
DNK
CHE
1998
MOZ
LSO
MLI
CMR
MRT
MDG
SDN
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TUN
FRA
IND
DZA
TWN
MEX
LBR
CHL
KEN
ZAF
BEL
KOR
ITA
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ESP
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BRA
CAN
DNK
FIN
TZA

Similarly, when examining the financial network in Sub-Saharan Africa during the 1990s, we observe that France and Great Britain have played significant roles as credit suppliers in the region. However, among the African countries themselves, Kenya emerges as one of the key financial markets in the region, surpassing Ghana and South Africa in terms of importance, despite their similar levels of trade connectivity. It is noteworthy, though, that Kenya's prominence as the regional financial market experiences a decline by 1998.

4.3 Re-running panel regression models with network centrality

I re-run the cross-sectional time series analysis in Chapter 3 for 181 countries from 1980-2018. This time the outcome variable is the country's centrality measure in the global financial system at time *t*. As discussed earlier, because a country's financial market development in terms of its position in the global financial network helps us comprehend the three dimensions of size, depth, and openness simultaneously, I should expect to find consistent support for my hypotheses. Table 4.1 presents the results of three panel analyses examining the effects of government subsidy and trade connectivity on financial connectivity, specifically centrality in the global financial system. The analysis includes various political and economic control variables that confound the relationship such as foreign banks, log GDP, GDP growth, rule of law, conflict, financial crisis, PTAs (preferential trade agreements), XR stability (exchange rate stability), and the interaction term IITXSubsidy.

I find that the results are broadly consistent with my earlier finding. First, trade centrality (IIT) has a statistically significant positive effect on centrality in the global financial system in all three models (Models 15 and 16). Government subsidy shows mixed results. It is not statistically significant in the Model 15, and marginally significant in Model 16. The interaction term IIT X Subsidy is statistically significant and negative, indicating that the combined effect of trade centrality and government subsidy has a negative relationship with centrality in the global financial system. More specifically, as shown in Figure 4.10, countries with high levels of government subsidy will have lower financial connectivity with a unit increase in trade connectivity. The F-statistics suggest that the overall models are statistically significant.

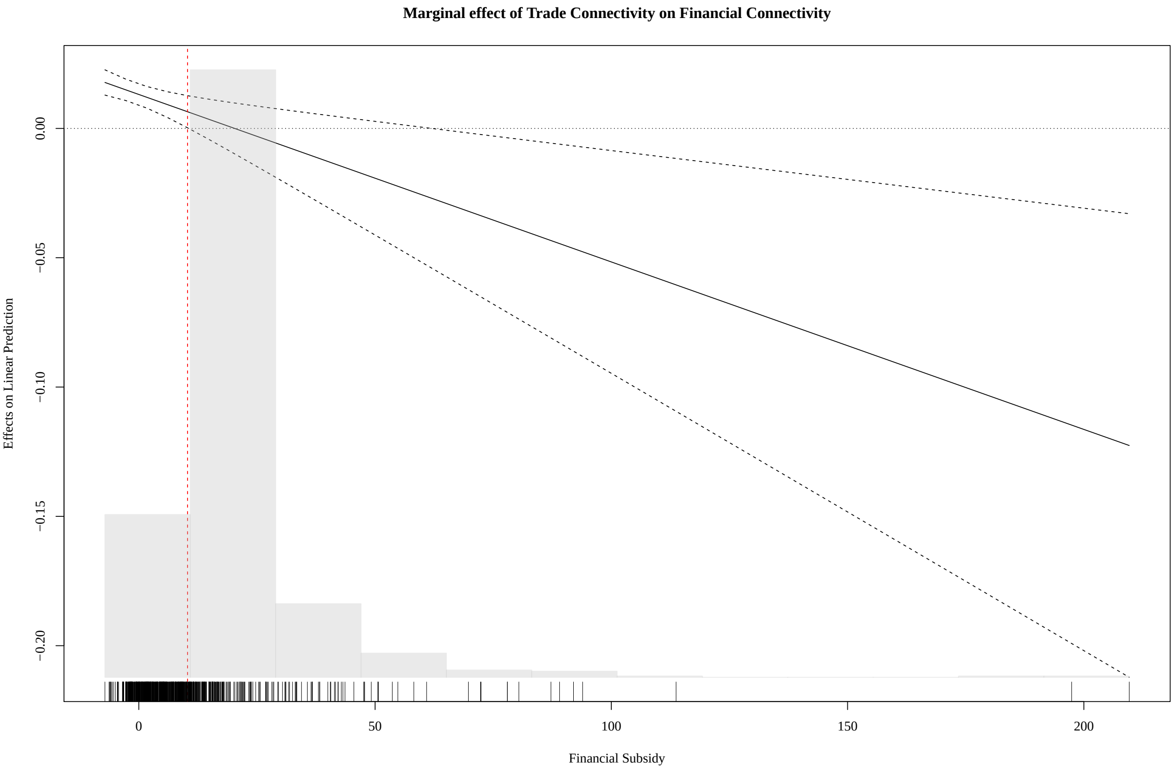
Table 4.1: Effects of Government Subsidy and Trade Connectivity on Financial Connectivity

	Panel Analysis	
	Centrality in the global financial system	
	(15)	(16)
IIT (trade centrality)	0.014^{***}	0.013^{***}
	(0.002)	(0.002)
Governemnt subsidy	0.017	0.046^{**}
	(0.016)	(0.019)
Foreign banks	0.043^{**}	0.063^{***}
	(0.022)	(0.023)
log GDP		
GDP growth	-0.325^{***}	-0.344^{***}
	(0.083)	(0.083)
Rule of law	2.601^{***}	2.676^{***}
	(0.955)	(0.950)
Conflict	3.352^{***}	3.233^{***}
	(0.614)	(0.611)
Financial crisis	−0.848	−0.890
	(0.781)	(0.776)
PTAs		
XR stability		
IITXSubsidy		-0.001^{***}
		(0.0002)
Country fixed-effects?	Yes	Yes
Observations	734	734
R^2	0.234	0.243
Adjusted R^2	0.207	0.216
F Statistic	30.873^{***} (df = 7; 708)	28.427^{***} (df = 8; 707)

Note:

$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Figure 4.10: Marginal Effect of IIT on Financial Connectivity



4.4 Chapter conclusion

In this chapter, I have discussed and explored my theory on the systems-level using network analysis. I have demonstrated that a country's centrality measure within the global financial system functions as a comprehensive proxy for measuring financial market development across all three dimensions: size, depth, and openness. Subsequently, I provided a descriptive account of the global financial system's evolution to reframe the puzzle that the global financial system has evolved very differently from the global trading system. Lastly, I conducted a re-evaluation of my previous models using the network centrality measure. The outcomes consistently reinforce the notion that when a country is deeply engaged in international trade and domestic banks rely on foreign credit for private revenues, the likelihood of that country being substantially integrated into the global financial system increases significantly.

Chapter 5

Bigger, deeper and more globalized financial markets: Evidence from key case studies

5.1 Introduction

In previous chapters, I have shown the empirical correlation that countries that are integrated into international trade with a banking sector that relies on foreign credit are more likely to develop bigger, deeper and more globalized financial markets than others. I have argued that the primary reason for this is that domestic banks are more likely to pressure their government when the country is heavily integrated into international trade but has not yet removed capital controls. I have also argued that domestic banks are more likely to pressure the government for financial liberalization when the private benefits of international capital inflows outweigh the benefits of private rents provided by the government domestically. In this chapter, I show evidence for each of the two mechanisms in selected successful and failed cases of financial market development from two key regions: 1990s Subsaharan Africa and 1980s East Asia. Specifically, I provide rich evidence on whether or not increased integration into international trade increases domestic banks' incentives to lobby on financial market policies, and whether banks' direction of lobby was affected by the cost and benefit analysis of private rents from government subsidy and foreign credit.

This chapter is divided in to four sections. The first section lays out different forms of bank lobbying that I look for as evidence in the case studies. While lobbying can be observed in many forms across different contexts, I mainly focus on whether or not domestic banks have access to political institutions that influence the policy-making of financial markets. The expectation is that as a country becomes more integrated into international trade, domestic banks will become more actively involved in political institutions. I also look for the disproportionate allocation of resources from the government to the top three or four domestic banks. If there are disproportionate benefits allocated to the big banks that have the capacity to lobby, I treat it as evidence of bank lobbying. In terms of the direction of lobbying, I look into meeting minutes and interviews, where possible, that help explain how domestic banks lobbied and determined the direction of lobby of those domestic banks. The expectation is that in countries with high levels of government subsidy in the banking sector, domestic banks are more likely emphasize the costs associated with liberalization and foreign bank competition while in countries with low level of government subsidy, domestic banks are more likely to emphasise the benefits of liberalization and access to cheap credit.

The second section explores the first set of successful and failed cases of financial market development: Kenya and Ghana. I focus on this pair for three reasons. First, Kenya and Ghana fit the most similar systems (MSS) design, where Kenya and Ghana shared many economic and political similarities in early 1990s before Kenya decided to lift capital controls in 1996 and Ghana decided to re-impose capital controls in 1996 after briefly liberalization in 1993-95. Second, choosing MSS design from the Subsaharan sample helps explore cases that move from closed to emerging financial markets. More specifically, the Kenya-Ghana pair helps me test how emerging economies given similar levels of integration into international trade, may choose different levels of financial liberalization. Third, this pair also provides a hard case to test given the compelling existing literature on crisis-induced explanations for financial liberalization. Kenya and Ghana have both been involved in the SAP program jointly conducted by the IMF and World bank twice in the late 1980s and early 1990s. Through the Kenya-Ghana pair, I show that despite similar financial reforms involved in these programs, the two countries have varying results due to different domestic bank preferences shaped by the level of private rents provided by the government.

The third section explores the second set of successful and failed cases of financial market development: Singapore and Japan. Again, there are three reasons in choosing this pair. First, Singapore and Japan are most different in terms of their political systems and economic size yet I find that with growing levels of integration into international trade they both faced more lobby from domestic banks on financial policies. Despite their political differences, I find that domestic banks' preference for liberalization are tied to how much private rents they receive from the government. Second, choosing the Singapore-Japan pair from the East Asian sample helps me test how countries move from having an emerging financial market to fostering global financial market. Third, this pair also helps us understand the cases in which the government does not adapt domestic banks' preference, as was the case in Japan. I find that financial liberalization implemented by the government despite domestic banks opposition does not achieve the intended result.

In the fourth section, I complement the case study by including three capsule case studies that allow me to explore different conditions in testing for my hypotheses.[1] I analyze the case of 1970s France to delve further into the role of the government in financial liberalization and the outcomes for financial market development when there is a divergence of interest between the state and domestic banks. Additionally, I explore the case of Switzerland to isolate the impact of foreign pressure. While my main cases (Singapore, Japan, Kenya, and Ghana) have all experienced some degree of foreign pressure, Switzerland faced significant external pressure against liberalization. However, due to domestic banks lobbying for liberalization, Switzerland ultimately implemented financial liberalization measures. Lastly, I examine the case of Monaco to investigate a scenario where domestic bank lobby is absent, despite satisfying all the conditions in my theory that predict the development of a global financial market. Monaco demonstrates high integration into international trade and low levels of government subsidy, yet lacks domestic bank lobby. By considering these capsule case studies, I aim to enhance the robustness of my analysis and provide a comprehensive understanding of the factors influencing financial market development in different contexts.

5.2 Evidence of Bank Lobbying

I assume bank lobbying when domestic banks influence the making or implementation of financial policies or when domestic banks have the ability to alter the regulations of financial markets. Existing literature have broadly focused on three types of evidence for lobbying activities: legislative capture, regulatory capture and access to political institutions. Depending on the availability of data, lobbying activities have been observed through legislative lobbying (Majone 1994) or in other contexts where evidence in more restricted, forms of access to various institutions or institutional meetings (Bouwen 2002) have been used to proxy for lobbying activities. To elaborate, the three types of lobby can be organized as follows:

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[1] From the 2x2 table of my theory, the in depth case studies in this chapter test the variations in levels of government subsidy levels. That is cases with (high integration into international trade) x (low government subsidy), which were Kenya and Singapore, and cases with (high integration into international trade) x (high government subsidy), which were Ghana and Japan. I do not study the cases that vary the levels of integration into international trade, given that my puzzle focuses on why countries that are similarly integrated into international trade choose varying levels of financial liberalization.

- **Legislative capture** refers specifically to the process by which interest groups influence the legislative process, such as through lobbying or campaign contributions. This can result in laws that favor the interests of those groups over the broader public interest (Kuran and Johnson 1997; Stratmann and Strait 2002; Skeel 2004; Mian and Sufi 2014). This type of evidence have been frequently employed in the American politics context with the availability of the US lobby data. Evidence is presented in terms of campaign contributions.

- **Regulatory capture** refers to the process by which interest groups influence the regulatory agencies that oversee them. This can result in regulatory decisions that favor the interests of those groups over the broader public interest. Regulatory capture can manifest in a variety of ways, such as through the revolving door between regulators and regulated industries, or through the excessive influence of industry experts on regulatory decision-making (Benston and Kaufman 1988; Claessens and Laeven 2020; Baghai, Servaes, and Zingales 2020). This type of evidence have been frequently used in the financial crises literature and the evidence have often been presented in terms of revolving-door and connections between the public and private sector.

- **Access** to political institutions. While access or association in the government-led institutions does not necessarily mean influence, access is a necessary condition to make influence in the legislative process. Thus access can be a good proxy of influence (Austen-Smith 1995; Coleman and Grant 1988; Hansen 1991). This type of evidence have been frequently used in the EU politics literature where the evidence have been presented in forms of an interest group's membership, presence and access.

Banks, just like any other interest groups, engage in all three activities above. The ideal lobbying evidence would be legislative capture with direct evidence that domestic banks have used their resources to influence or control the decision-making process of government agencies or officials on financial policies to their own interest. However, I mainly focus on political access and adopt a broader categorical evidence of 'capture' for two reasons.

First, bank lobbying, unlike firm lobbying, are more likely to take place in informal settings or through connections rather then forms of legislative capture due to its unique characteristic. Bank lobbying is different to that of firm lobbying in the sense that a) banks are organized while it faces a diffused unorganized opposition (e.g. the public) and b) once they have reached out to the legislator regarding the key informational, there is no value to the additional information brought by additional lobbying (Maxim 2014). This may be even more true for financial policies like lifting capital controls where public is less aware and legislators may have less stakes on the issue. Second, Evidence for bank lobbying is hard to find beyond the US context. Given that my study test for many countries outside the United States, there is limited availability in open data for lobbying or campaign contributions. Thus I look for a broader category of available evidence for ’capture’ such as government-bank relations (connections), bank concentration (lobbying power of banks), and disproportionate allocations of benefits.

For the two reasons elaborated above, I look for evidence on political access and circumstantial evidence of ’capture’ in general. For political access, I look at whether or not domestic banks were involved in political institutions that shape the degree and extent of financial liberalization. For evidence on capture, I look for a wider range of evidence such as personal connections between government officials and domestic banks, concentration of domestic banks (big banks have more resources to lobby), and whether or not there are disproportional benefits assigned to a few big banks that have the capacity to lobby.

5.3 Why liberalize? From closed to emerging financial markets

In this section, I focus on case studies that highlight the development of closed financial markets to emerging financial markets that typically struggle to mobilize long-term credit for economic growth and supporting industrial policies. One distinctive trait that characterizes the class of cases that move from having closed(or underdeveloped) financial markets to becoming emerging financial markets, is that government subsidies are likely to be in more direct forms. For example, government subsidy is observable through nationalized major commercial banks or creations of specialized banks or development banks that are wholly or partly owned by the government to allocate funds to strategic industries. In merging economies where long-term credit is scarce, these measures help to ensure that funding is directed towards priority areas, such as infrastructure development and key industries, in order to facilitate economic growth and industrialization.[2] Hence, the goal in this section is to analyze how the direction of domestic banks’ lobby change as government subsidy levels to the financial sector changes in countries with similar levels of integration into international trade. In particular, I will conduct an in-depth analysis of Kenya and Ghana, two countries that were integrated into international trade at similar levels but had different lobbying directions from their domestic banks: domestic banks in Kenya lobbied for liberalization, while those in Ghana lobbied for capital controls.

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[2] As discussed in earlier chapters, these institutions are among the oldest forms of explicit guarantees that governments provide to the banking industry, and they are known to have played a critical role in the rapid industrialization process of Continental Europe and Japan (Cameron 1953; Diamond 1957; Yasuda 1993; Gerschenkron 1962).

5.3.1 Sub-Saharan Africa: Kenya and Ghana

Despite similar levels of macroeconomic indicators, political systems, and experience of crisis-induced intervention by international financial institutions (IFIs), financial market development in Kenya and Ghana were in stark contrast by the mid-2000s where financial markets of Ghana remained closed while Kenya completely liberalized their capital accounts. Why did the two countries have varying levels of financial market openness?

By the late 1990s, Kenya and Ghana were two countries among the lower-middle-income countries in Sub-Saharan Africa that were quickly integrating into international trade.[3] Kenya and Ghana, however, experienced varying levels of financial market development in size and depth, but mostly in their level of financial market openness. As shown in Figure 5.1 and 5.2 Kenya's financial markets are smaller but deeper while Ghana's markets are bigger but not as deep. As discussed in the theory chapter, financial market size is mostly driven by the country's level of integration into international trade as countries that are important nodes in the world economy are likely to be the source, mediators and financial destination of global money. Given that market reflects the degree of privatization or non-government intervention in the financial market, Figure **??** and 5.2 shows that financial markets in Kenya are more privatized that that of the financial markets in Ghana. The most significant difference between Ghana and Kenya is their degree of financial market globalization. From 1994 to 1996, while both countries were becoming increasingly integrated into international trade, they made vastly different decisions regarding financial liberalization. Kenya chose to liberalize in 1996, while Ghana opted to keep their financial markets closed in 1996. Since its complete liberalization of its financial markets in 1996, Kenya has continued its effort to further develop its financial markets. Today, Nairobi ranks as one of the top financial centers in Africa (Global Financial Center Index, 2021). In this section, I explore how given similar levels of integration, the different levels of government subsidy in the two countries contributed to why domestic banks in these two countries lobbied in different directions.

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[3] World Bank's classification of income groups. See Chapter 1 appendix for full list of income group classifications according to the World Bank.

FIGURE 5.1: Kenya's financial market size, depth, and openness

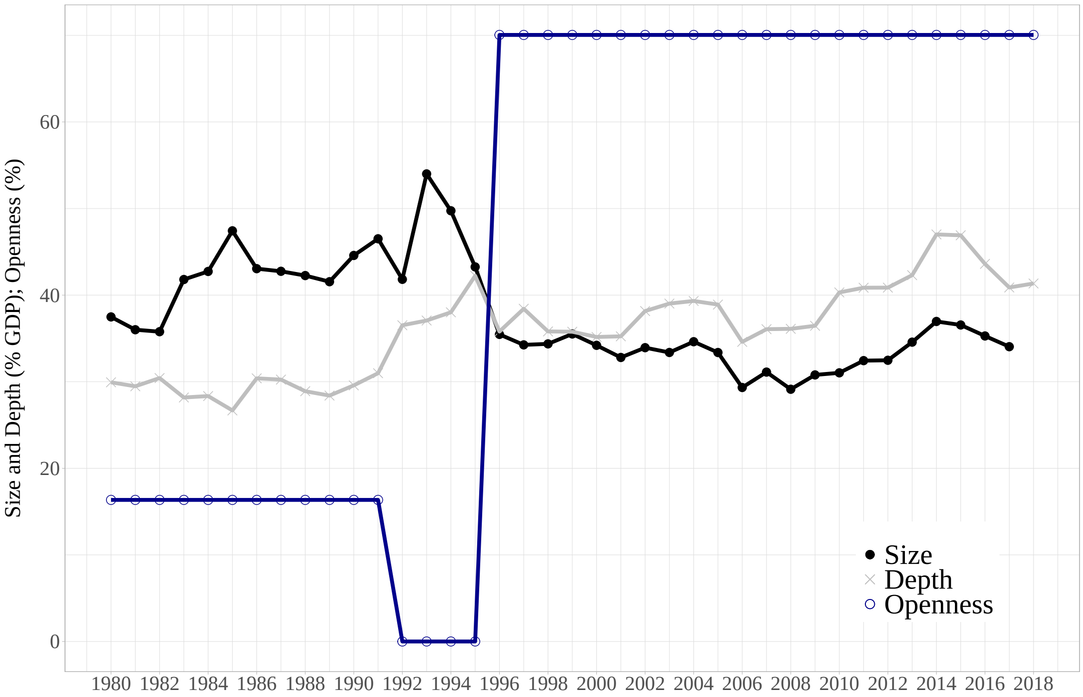
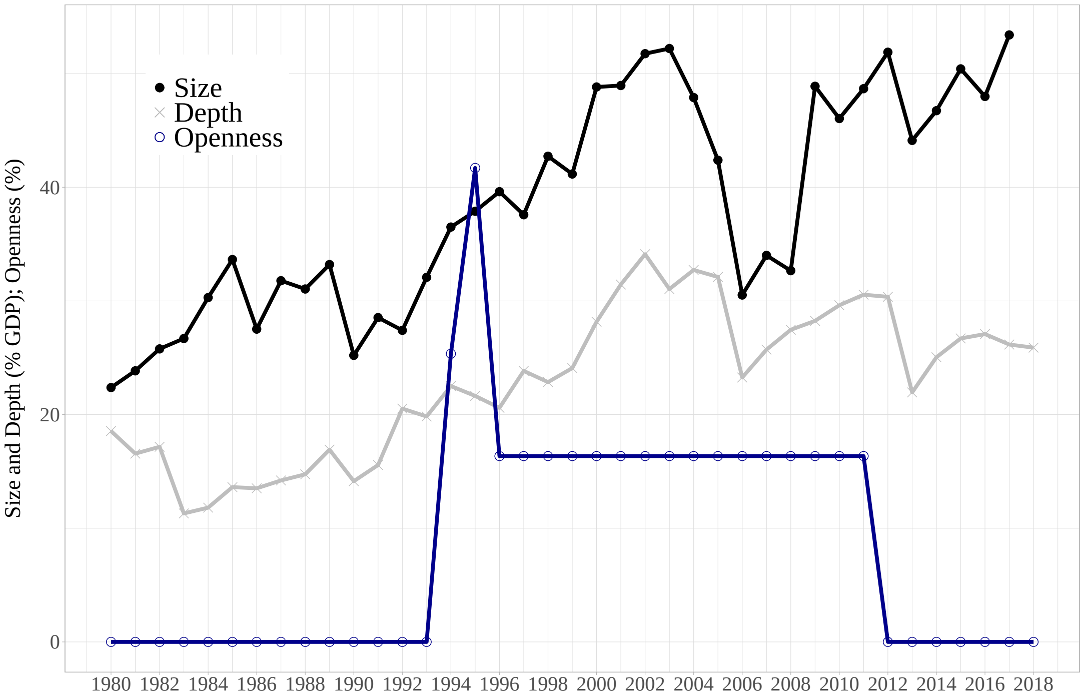


FIGURE 5.2: Ghana's financial market size, depth, and openness



Before providing evidence for domestic banks' lobby, I briefly examine why the comparison of Kenya and Ghana is meaningful. Kenya and Ghana fit the most similar systems (MSS) design. Table 5.1 compares ten years averages for macroeconomic indicators, political systems, explanatory variables and other important comparisons before Kenya and Ghana chose varying policies in 1996.

In terms of macroeconomic indicators, Kenya and Ghana resembled each other closely (Figure 5.3). The two countries had similar GDP per capita average with Kenya's average being 327.4 USD and Ghana's average 284.2 USD. Kenya's average economic growth 3.6% with trade activities worth 494.8 billion dollars (57.17 trade/GDP) while Ghana was achieving an average growth rate of 4.6% with 235.1 billion dollars worth of trade (44.0 trade/GDP). Their level of trade openness, measured in terms of the removal of tariffs on cross-border goods and services, were also at similar levels; Kenya was at 27.6 and Ghana at 28.8 where higher numbers indicate higher levels of trade liberalization. But most importantly, as shown in Figure 5.3, the two countries were integrated into the international trading system at similar rate and levels throughout the 1980s to 2000s. In the early 1990s, Kenya had an average centrality measure of 44.87 and Ghana at 44.48, where higher numbers indicate higher importance of an economy in the international trading system measured in terms of how often trade is in the passing of other economies.

Ghana and Kenya also shared many political similarities. They were both semi-democracies[4] and were past colonies of Great Britain.[5] With similar levels of corruption (0.89 in Kenya and 0.75 in Ghana) with weak monetary institutions and rule of law, Ghana and Kenya are not countries with comparative advantage in capital nor capital-exporting countries. Most importantly, Kenya and Ghana both experienced financial reforms, i.e. Structural Adjustment Program (SAP), which was jointly led by the World Bank and the International Monetary Fund (IMF) in the late 1980s and early 1990s. Emphasis in these programs was placed on the need to privatize the financial markets and enhance regulatory and supervisory functions to ensure prudence of financial institutions.[6] While reforms led by IFIs initiated financial liberalization, it does not explain for why Kenya pursued full liberalization domestically after the SAP while Ghana did not.

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[4] In terms of the Polity5 measure for political systems, Kenya scored -6.2 and Ghana -4.9. According to Polity5 data project, there are three part categorization of political systems of "autocracies" (-10 to -6), "semi-democracies" (-5 to +5), and "democracies" (+6 to +10).

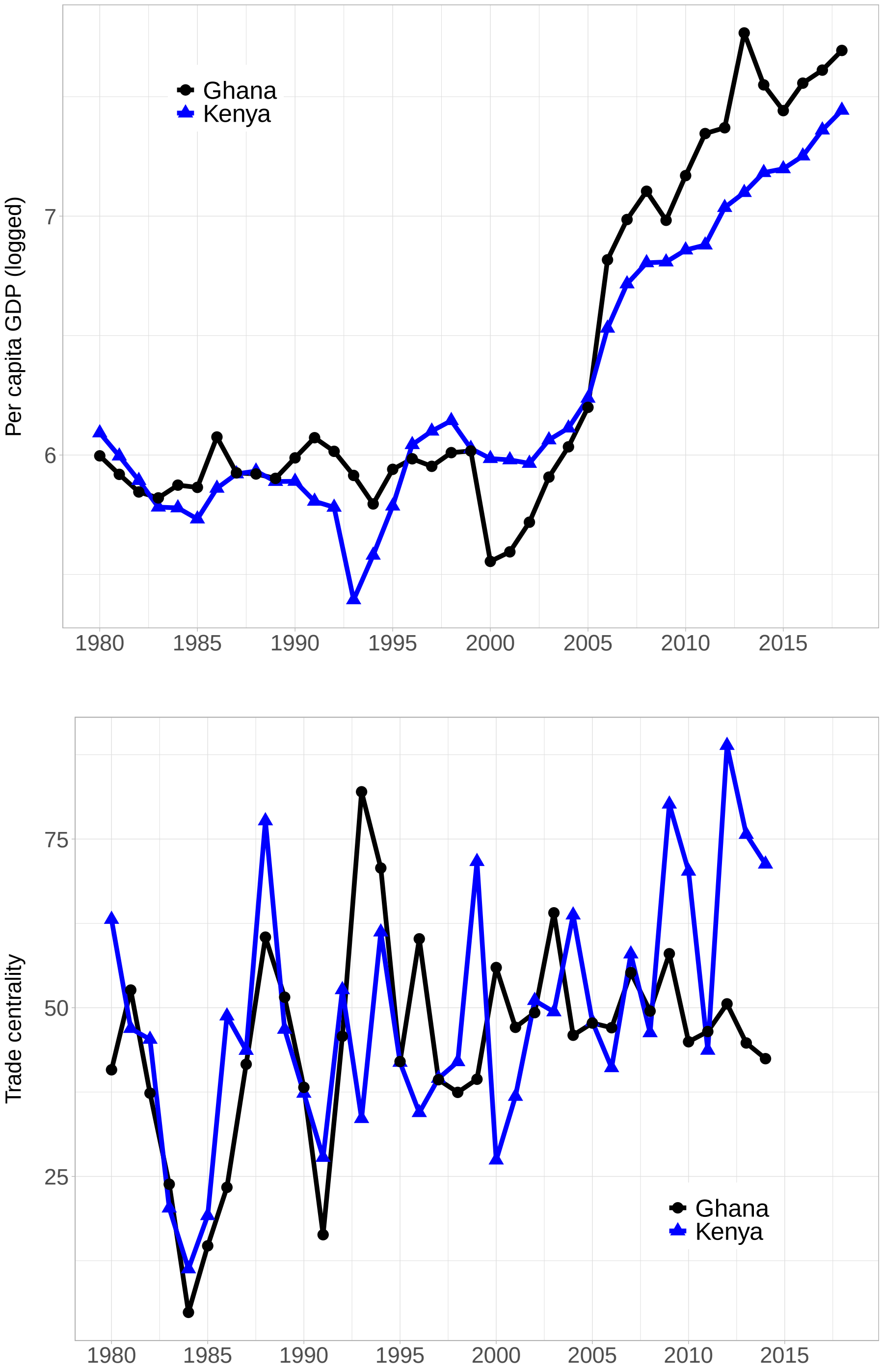
[5] Kenya was colonized by Great Britain during 1895-1963 and Ghana was colonized during 1867-1957.

[6] As part of Structural Adjustment Programs, many governments in Sub-Saharan Africa initiated a large scale restructuring of the financial system in the 1980s.

TABLE 5.1

10 year average pre-1995			**Kenya**	**Ghana**	**Subsaharan average**
Most Similar Difference Design	Macroeconomic Indicators	GDP per capita (current USD)	327.3955	384.1786	882.3
		Economic growth rate (annual % of GDP)	3.612564	4.643978	2.67806
		Inflation (annual %)	15.786	24.92	136.600
		Trade/GDP (%)	57.1695	44.00354	56.141
		Trade liberalization (0-100; 100 indicates maximal de jure liberalization)	27.57959	28.81267	25.988
		PTAs	9.50	12.3	7.64
	Political Systems	Democracy (-10 to 10; 10 is closer to democracy)	-6.2	-4.9	-3.433
		Monetary institutions	0.1790	0.1740	0.1764
		Rule of law	0.1573	0.3211	0.399
		Colonial history	British Empire Colonization (1895-1963)	British Empire Colonization (1867-1957)	
		Corruption (0 to 1; 1 is maximal corruption)	0.8881	0.7518	0.6019
		Political risk (0 to 1; 1 indicates higher risk)	0.75	0.75	
	Exogenous shock	Financial crisis & IFI involvement	Structural Adjustment Program (SAP), a joint IMF-World Bank program First structural adjustment: 1983-1985 Second structural adjustment: 1989-1991	Structural Adjustment Program (SAP), a joint IMF-World Bank program First structural adjustment: 1986-1988 Second structural adjustment: 1989-1990	
Components of the Theory	Theoretical assumptions	Government capacity (0 to 1; 1 indicates government effectiveness	0.38	0.25	
		Bank concentration (Lerner index; 0 to 1; 1 indicates monopoly)	0.18	0.24	0.2827
		Number of foreign banks with shares >50% in 1995	0	0	0.5
	Explanatory variables	Government subsidy (Government-owned banks)	Low	High	
		Integration into international trade (betweenness centrality)	44.86976	44.47683	20.208
	Outcome event	Capital controls (year)	Capital controls lifted in 1996	Capital controls (re-)imposed in 1996 :Ghana had briefly lifted capital controls between 1993-95 due to pressure from the World Bank, only to re-impose capital controls in 1996	

Figure 5.3: Economic development and trade in Kenya and Ghana



Given the economic and political similarities of Kenya and Ghana prior to 1996, and most importantly their similar levels of integration into international trade, I am able to examine how varying levels of government subsidy affect the direction of domestic banks' lobby, using the MSS design. My theory tests for the interaction effect of the level of integration into international trade and levels of government subsidy and the case comparisons of Kenya and Ghana allow for the level of integration into international trade to be held constant.

5.3.2 Kenyan Banks' Lobby for Liberalization

The expectation of my theory is that given similar levels of integration into international trade, the level of government subsidy determines the direction of domestic banks' lobby for financial liberalization. In this section, I first show that before Kenya's lifting of capital controls in 1996, there was gradual decreasing levels of government subsidy starting from the 1980s. I then analyze various evidence on domestic banks' lobby for liberalization in Kenya, given decreasing domestic private rents due to reduced government subsidy and increasing private rents attached to foreign credit given the increasing trade activities in Kenya.

Prior to the 1950s, only British banks – Barclays Banks, Standard Bank, National and Grindlays Banks(NGBs)– operated in Kenya. Following the country's independence in 1963, the Kenyan government acquired 60 percent of shareholdings in the previously-British owned NGBs, eventually acquiring 100 percent of the shareholding (CBK 2023) by 1970 and renaming the bank as the Kenyan Commercial Bank (KCB).[7] While the banking sector was largely owned by the government, there was also a growing number of private banks that started to operate (Ngugi 2001). Two domestically-owned banks that emerged in 1968: the National Bank of Kenya and the Co-operative Bank of Kenya. The former was the first fully government-owned commercial bank (Economic Survey) and the latter aimed at funding cooperatives and serving the needs of growing farming communities. Most of the credit circulated during this time were provided by government-owned banks such as the KCB and the National Bank of Kenya (Economic Survey 1998). As a classic case of an emerging country that lacks long-term credit, the government heavily subsidized for the cost of credit for the domestic banks.

Along with government-ownership of major banks in Kenya, another common form of financial repression was interest rate ceilings which prevents competition of the private sector and encourage investments at low costs (Johansson 2012). Interest rate ceiling that enables low cost investment is commonly adopted in emerging economies to fund for long-term projects and often subsidized by the government. Similar to the effect of government-owned and controlled banks, interest ceiling often create an noncompetitive environment and disincentives banks to compete for public deposits. While such artificial ceilings and rates for interest rates were in practice, there were frequent regulatory capture by banks where interest rates were reviewed several times during the 1980s in an effort to allow commercial banks more room for flexibility to meet the needs of credit demands. The reviews also aimed to make interest rates responsive to changes in the international markets so as to provide protection against adverse movements of funds internationally. At this time, a few banks continued to dominate the banking sector; four major commercial banks shared over 60% of the total credit (Ngugi 2001; p.11). By the end of 1970s, the banking sector was essentially dominated by seven commercial banks, namely Equity Bank, Kenya Commercial Bank, Barclays Bank of Kenya, Diamond Trust Bank, Cooperative Bank, Central Bank of Africa and Standard Chartered.[8] Government-banking sector relations were close with frequent instances of revolving-doors. For example, the former Ministry of finance, John Michuki, got appointed as the chairman of the KCB board in 1971, one of the biggest commercial bank in Kenya (KCB official website).

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[7] KCB continues to remain the largest commercial bank in Kenya.

The domestic banking industry began to change with the structural adjustment programs jointly led by the IMF and the World Bank in 1983-85 and 1989-91. This was characterized by the promotion of a competitive environment with reduced government control and ownership throughout the 1980s. It became distinctively observant that such fiscal reforms reduced levels of government shares in bank ownership. In 1988, Kenyan Commercial Bank (KCB) sold the first 20 percent of the government's shares (out of 100 percent share) through an Initial public offering on the Nairobi Securities exchange. The government has over the years reduced its shareholding to 23.6 percent. By 2010, the government further reduced its shareholding to 17.31 percent. Reduction of government ownership is the typical course of decline in government subsidy in emerging economies. [9] Similarly, in 1987, the National Bank among other government owned banks were ordered to sell their 32 percent shares (out of 100 percent) to the Kenyan public in November 1994,[10]. Along with the government's withdrawal from the banking sector, government had started implementing the Banking Act (1989) to reduce its role from directly engaging in banking to a regulatory role.

This generated two changes in the structure of domestic banks' private rents. With government's withdrawal in the banking sector to a regulatory role, there was more competition among banks but competition between commercial banks and the non-banks financial institutions(NBFIs) increase as government allowed their entry into the banking industry and NBFIs were not subject to regulations (NBFIs were allowed more competitive interest rates) giving domestic commercial banks a disadvantage. This meant two things for domestic banks: more competition in domestic banks and lower government subsidy by the government to subsidize for the cost of credit sourced domestically. The average liquidity ratio of commercial banks decreased from 53 per cent in 1994 to 41 per cent in 1995 or 16 percentage points above the 25 per cent minimum requirement (Economic Survey, 1996).Given such changes starting with the 1989-91 reform, domestic banks started seeking for alternative sources of private rents. Given Kenya's integration into international trade,

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[8] https://www.privacyshield.gov/article?id=Kenya-banking-systems

[9] Government efforts to further the privatization process of banks continues. In 2019 it merged the National bank which is fully owned by the government to the KCB – in which the government owned less that 17% at that time (National bank website https://www.nationalbank.co.ke/history)

[10] The total shares applied for were 120 million, three times the number that the Bank had offered (https://www.nationalbank.co.ke/history)

Such changes paved way for domestic banks' lobby on two policies. First, liberalizing interest rates or abolising interest rate and credit ceiling in July 1991 is well known-to have been an effort of commercial banks' lobby to equal grounds for competing with NBFIs (Johansson 2012). During 1980-90, interest rates were reviewed several times in Kenya, narrowing the difference in interest rates between NBFIs and commercial banks (Economic survey 1984, 1986, 1988, 1991). This enabled domestic banks in Kenya to offer competitive interest rates on lending as offered by NBFIs. Second, and more importantly, domestic banks in Kenya started to lobby for lifting of capital controls in 1996. With decreased levels of government subsidy (lower shares of government ownership), domestic banks in Kenya began to see their potential private rent generation by tapping into cheap foreign reserves that were made available with increasing trade activities of Kenya in early 1990s.

For Kenya, increasing regional trade activities generated new sources of private rents for the four major banks of Kenya – Kenyan Commercial Bank (KCB), Equity Bank, Fina Bank and Commercial Bank of Africa – and when the private rents associated with cross-border capital flow became substantial, the four banks actively lobbied the government for financial liberalization policies in 1996. The East African Community (EAC), a customs union trade bloc between Kenya, Tanzania, and Uganda that revived in 1993, yielded an 159.3% increase in intra-regional trade between 1993-1995 compared to its preceding three years.[11] Out of the 1.28 billion US dollars worth of trade among members of the EAC during 1993-1995, Kenya's trade was 1.26 billion dollars, taking up 97.85% of the trade flow among member countries.[12] Given this context, Kenyan banks had two specific interests to lobby its government to remove capital controls. First, financially liberalizing their markets meant that Kenyan banks can borrow cheaply from the international credit market to fund investments in the growing domestic economy. Second, financial liberalization meant that Kenyan banks can follow their national firms across borders and expand their lending business in foreign markets. Given that many of the Kenyan manufacturing firms were expanding in the EAC member countries, penetrating members' financial markets would give Kenyan banks the opportunity to provide financial services to their national firms with efficiency and lowered cost. Thus, against the backdrop of increasing regional trade, Kenyan banks found more private rents attached to liberalization than that of imposing capital controls.

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[11] Intra-regional trade of EAC between 1993-1995 was worth 1.28 billion US dollars, while between 1990-1993 it was only 495 million US dollars. I calculate the intra-regional trade volume among EAC members using COW's dyadic trade data; Barbieri, O. M. Keshk, and B. M. Pollins 2009; Barbieri, O. Keshk, and B. Pollins 2016.

[12] I calculate Kenya's trade volume with EAC members using COW's dyadic trade data; Barbieri, O. M. Keshk, and B. M. Pollins 2009; Barbieri, O. Keshk, and B. Pollins 2016.

As shown in Table 5.2, Kenyan banks' gains were apparent after lifting of capital controls in 1996. The expansion in Money Supply (M3) was supported by increases in both net foreign assets and domestic credit. Net foreign assets increased 414% in 1996 compared to 1995. Total domestic credit increased by 15.8 % in 1997 compared to 20.5 % and 10.8% in 1995 and 1996 respectively. Similarly, private sector borrowing, which accounted for 73.5 % of the total domestic credit, increased by 17.2 per cent in 1997 compared with 15.6 per cent recorded in 1996 (Economic survey 1998).

Table 5.2: Domestic credit in Kenya

Year	Net foreign assets (K£m)	Domestic credit (K£m)		
		Private	Government	Total
1993	975.20	5,170.54	2,444.35	7,614.89
1994	664.55	6,403.51	3,782.10	10,185.61
1995	345.65	8,551.31	3,726.26	12,277.57
1996	1,432.25	9,886.35	3,719.53	13,605.88
1997	2003.48	10,573.59	3,670.11	14,243.70
Source: Central Bank of Kenya, Economic Survey (1998)				

Kenyan banks' lobby for financial liberalization now goes beyond lobbying their government. Kenyan banks have been repeatedly reported in World Bank reports to be actively leading the monetary union in EAC, while much of the financial agreements in EAC are stalled due to resistance from the banking sectors of the other EAC members (Brenton and Isik 2012). KCB aggresively extended its operations to neighboring markets after the lifting of controls in 1996.

Today, KCB, the biggest bank in Kenya[13] has a total 52 branches in EAC member countries.[14] This is not just the KCB but ,ore than 10 Kenyan banks—including Commercial Bank of Africa, Equity Bank and Bank of Africa—have subsidiaries operating in the East Africa Community and South Sudan.

5.3.3 Ghanaian Banks' Lobby for Protection

Similarly for the case of Ghana, despite similar experiences of fiscal reforms as part of the Structural Adjustment Program (SAP), government subsidy levels in Ghana remained high even after reforms, shaping incentives of domestic banks to lobby for protection as they saw more private rents attached to domestic subsidy than foreign credit.

Prior to the introduction of financial sector reforms in 1987, the formal financial system of the Ghanaian economy was dominated by state-owned banks which enjoyed monopoly over the entire banking sector in terms of their spread and operations (Table 5.3). The only two foreign banks that existed at the time were Barclays Bank and Standard Chartered Bank (World Bank, 1995), which were remnants of Britain's colonial period (1867-1957). The government-owned Ghana Commercial Bank, the Social Security Banks and two foreign-owned banks namely Barclays Bank and Standard Chartered Bank, held about 67% of the assets of the banking sector in 1998. Prior to 1987, there were several financial service sector restrictions that served to undermine private sector confidence in the Ghanaian banking system as a whole. As shown in Table 5.3, out of all twelve Ghanaian banks that were operating in Ghana before 1996, ten or 83.33% were fully or partially owned by the government.

Consequently the early 1980s Ghana provided a classic case of financial repression. By 1982, long-term lending was severely constrained due to high inflation. Inflation had eroded the capital base of most banks and demand deposits accounted for more than 76% of total private sector deposits, constraining long-term lending. Ghana began to experience some financial disintermediation as domestic money supply (M2/GDP) declined from about 19% in 1970 to reach about 13% in 1983. The history of the development of the financial sector during the early years of independence was closely linked to extensive government intervention. In an attempt at rapid industrialization, the government intervened in every sphere of the economy. Financial policies were set within an overall import-substitution industrialization strategy. By the 1970s, interest rate controls and credit ceilings ensured that cheap credit was available to government-imposed priority sectors such as manufacturing. No doubtedly, government and banking relations, especially with the GCB were close. In the late 1970s and early 1980s, there was a significant growth in informal financial arrangements which became a significant feature of the Ghanaian financial system (Aryeetey and Gockel 1991).

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[13] With $6.28 billionn in assets and operating subsidiaries across seven East African countries, KCB is one of Africa's largest and most profitable commercial banks, with a market cap of $1.45 bn and international ownership of 29 percent. Euromoney ranked KCB the top bank in Africa in 2015, based on return on assets. https://www.irmagazine.com/shareholder-targeting-id/how-kenya-commercial-bank-exploded-its-international-ownership

[14] Members of the EAC has expanded to Burundi, South Sudan. As of 2022, KCB has branches in Tanzania (17), Uganda (15), Rwanda (17), and Burundi (3). This excludes the approximately 20 branches KCB used to have in South Sudan before the civil war in South Sudan (2013-2020); see Kenyan Commercial Bank Group's official website: https://www.kcbgroup.com/

Table 5.3: Initial shareholders of all banks operating in Ghana from since 1957(independence)

	Bank	**Established**	**Initial shareholders**
Partially or fully owned by the Ghanaian government	Ghana Commercial Bank	1957	Government & private investors
	National Investment Bank	1963	Government, State Insurance Co., Bank of Ghana, private investors
	Bank for Housing and Construction	1973	Government, Bank of Ghana
	National Savings and Credit Banka	1975	Government
	Social Security Bank	1977	Government agency –SSNIT (Social Security and National Insurance Trust)
	Agricultural Development Bank	1965	Government, Bank of Ghana
	Merchant Bank Ghana	1972	Government, National Investment Bank, State Insurance Co., National Grindlays Bank (UK)
	Ghana Co-operative Bank	1948	Government, Cocoa co-operative societies
	Trust Bank	1994	Government agency (SSNIT), Ghana Reinsurance Organization, private investors, Meridian BIAO Holdings AG. transfered
	Metropolitan and Allied Bank	1995	Government agency (SSNIT), Business Focus Group-Malaysia & Ghanaian private investors, Private investors
Private (Ghanian investors' involvement)	Bank of Credit and Commerce	1978	Ghanian private investors, Bank of Credit and Commerce International Luxembourg
	International Commercial Bank	1996	Ghanaian & Malaysian investors
Private (mostly foreign)	Standard Chartered Bank	1896	UK parent bank
	Barclays Bank of Ghana	1917	Barclays Bank UK
	CAL-Merchant Bank	1990	International Finance Co, Vanguard Assurance Co. Ltd., Private investors
	Ecobank Ghana	1990	ECOWAS Fund, Private investors
	First Atlantic Bank	1995	Private investors

Source: Bank of Ghana, Adjetey (1978) andAddison and Antwi-Asare 2003

Following a severe balance of payments crisis in the early 1980s, the Ghanaian government collaborated with the World Bank to implement financial sector reforms through a program called the Financial Sector Adjustment Program (SAP) in 1987.[15] The broad-based SAP was introduced by the Ghana government in 1986 to restore fiscal and monetary discipline and realign prices by removing all interest rate controls. During that time, most banks in Ghana had become technically insolvent due to years of mismanagement and government interference in the administration of credit. The financial sector reforms, similar to Kenya were aimed at three targets. First deregulation of interest rates (1987) that encouraged bank competition, second, removal of all direct state controls and third strengthening regulations.[16]

The deregulation of interest rates was, in part, meant to encourage competition among the banks so that interest rates will be determined by market forces. he process of interest rate liberalization was gradual, starting with the abolishing of the maximum and minimum deposits in September 1987. In February 1988, the minimum lending rates for commercial banks were also abolished, followed by the granting of operational rights to commercial banks to determine their own rates by March 1989. Consequently, the year 1990 started with a near complete removal of government control over the interest rates system in Ghana. The government also actively initiated withdrawal from the financial market. In March 1995, there were restructuring and merger of the Social Security Bank and the National Savings and Credit Bank with 21 per cent of shares divested through public offer and 40 per cent of shares sold to a strategic investor. The Ghana Commercial Bank, the largest bank was also targeted for divestiture with an initial 30 per cent of shares floated but later increased 42 per cent due to oversubscription of the initial offer. With more privatization of the financial market, the government also implemented to strengthen oversight and regulations. The banking law in 1989 of bank reforms laid out major restructuring.[17]

The reform however, while effective in initiating privatization of financial markets, had mixed results. First, the reforms were taken at a level that retained high levels of government intervention and subsidy levels to the banking sector. Table 5.4 compares the ownership structure of banks in Ghana for before the reform (1989) and after (1997). I find that there are reduced levels of government or public ownership of banks with an average public ownership of 53.24% post the reforms. While it's lower than the pre-reform periods, it is still significantly higher than its comparable country, e.g. Kenya with similar economic integration, whose average government ownership was on average 18%. This implies that domestic banks in Ghana were much more dependent on government subsidies compared to Kenya. Similarly, the general decline in government-owned shares in domestic banks a reflection of the increased competition from the other banks and the new entrants since 1990. Nevertheless, the Big Four banks still dominate the banking sector and by holding in 1996, over 65% of banking sector assets, 71% of the deposit base and 53% of loans and overdrafts, they still exercise a powerful influence over pricing decisions in the sector.

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[15] Between 1976 and 1983, the economy of Ghana suffered from substantial inflation, as well as underwhelming economic expansion and significant balance of payments challenges.

[16] In more detail, scholars have grouped the financial sector reforms program into three stages: the first phase of reform was from 1987 to 1991, the second from 1992 to 1995. and the third phase of reforms has been from 1995 to 2000.

[17] Some of the existing literature refer this as financial liberalization, but liberalization here means removal of interest rate ceilings and not lifting of capital controls. Financial liberalization in this dissertation refers to lifting of capital controls.

Second, and relatedly, financial repression continued where government highly regulated financial markets in favor of the major big banks in Kenya. To note, domestic financial market competition between commenrcial banks and NBFIs were heavily controlled. The NBFIs are supervised by a special unit within the Bank of Ghana. As a result, domestic banks did not perform better in terms of efficiency after the reform.[18] Efficiency of the reform can be gauged by the credit to private sector (as a percentage of GDP). Credit to private sector/GDP ratio gives an indication of how a financial reform is progressing as it measures the ability of the financial sector to increase lending. In years before the reform (1988-91) it was 4.08%, and after the refrom it was 5.44% (1992-6). Again this is much lower than the comparable Subsaharan countries such as Malawi in 1987 that went through similar reforms as Ghana and had a CPS/GDP ratio of 10.2% and Kenya at ratios on 16.6% in 1990 and 27.6% by 1996. The Big Four banks (GCB, SCB, SSB, BBG) – check how much government subsidy is involved in each bank Ghana Commercial Bank (100 to 59.1), Standard Chartered Bank (27.5 to 1.5), Social Security Bank (100 to none), Barclays Bank of Ghana (40 to none)– check for political connections in the board of governors. Also show that these banks were not interested in expanding their markets abroad - in relation to the trading activities because private rents domestically was higher than tapping into the foreign credit.

Such mixed results of reforms reveals two things about the government-bank relations in Ghana: the Ghanaian government heavily subsidize domestic banks in Ghana and regulates NBFIs so that financial market entry among domestic financial actors are skewed favorable to domestic banks in Ghana. While there is limited evidence on what Ghanaian lobby looked like, such favorable policy outcomes that systematically favors domestic banks' wealth creation provides circumstantial evidence of capture. Given this dependence on government subsidies to finance the cost of credit, domestic banks' would not have found the need to open their finacial market to foreign bank competition and gain access to cheap credit. In fact, in 1996, Ghana's closing of its financial markets involved re-imposing regulatory barriers for foreign bank entry. For example, while the reforms involved lowering the minimum capital requirements. But the requirements were 2.5 times higher for foreign owned banks (¢500 million or $1,851,850) than Ghanaian government owned banks (¢200 million or $740,700) (Addison and Antwi-Asare 2003).

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[18] As the reforms progress, ideally banks become more efficient, and it is expected that there will be better management of bank assets.

Table 5.4: Bank Ownership before Fiscal Reforms (1989) and after (1997)

Bank	**Year**	**Government or public institutions**	**Private domestic**	**Private foreign**
Standard Chartered Bank	1989	27.5%	12.5%	60%
	1997	1.5%	38.5%	60%
Barclays Bank of Ghana	1989	40%		60%
	1997		40%	60%
Ghana Commercial Bank	1989	100%		
	1997	59.1%	40.9%	
National Investment Bank	1989	82.9%	14%	3.1%
	1997	86.4%	13.6%	
Bank for Housing and Construction	1989	80%	20%	
	1997	50%	50%	
Social Security Bank	1989	100%		
	1997		48%	52%
Agricultural Development Bank	1989	100%		
	1997	64.7%	35.3%	
Merchant Bank Ghana	1989	55%	15%	30%
	1997	30%	40%	30%
Ghana Co-operative Bank	1989	26.3%	73.7%	
	1997	81%	19%	

Source: Bank of Ghana, Addison and Antwi-Asare 2003

5.4 Why globalize? From emerging to global financial markets

In this section, I focus on case studies that highlight a country's development from an emerging financial market to a global financial market. These cases involve economies that have broad financial market size due to economic development and trade as well as high levels of financial market depth due to privatization of markets/ In such cases, government subsidizes the the banking sector not because there is a dearth in long-term credit financing but more so to promote and delegate private sector financing, as government intervention in capital markets is costly in nature (Borisova et al. 2015).[19] Consequently, with government subsidies in forms that are not direct control of banks, domestic banks tend to have more agency in which their interests may not always align with that of the government. In other words, domestic banks' lobby on certain financial policies may have less overlap with the government to provide a public good, e.g. long-term financing, but have more to do with increasing the size of their private rents. Additionally, cases in this group often face more domestic competition between commercial banks and NBFIs leading banks to pursue alternative means for private rents, such access to foreign credits, even if that means adding more competition do the domestic market such as foreign banks.

The goal in this section is two-fold. first, I show how financial market development unfolds when I relax the assumption that government policies reflect domestic banks' lobby and second, I show that even in countries that have very different political and economic systems, what drives the direction of domestic banks' lobby depends on domestic banks' relative gains from government subsidies compared to that of from access to foreign credit. In particular, I will conduct an in-depth analysis of Japan and Singapore that were established international trade hubs in East Asia during the 1980s that experienced varying results on financial market development.

5.4.1 East Asia: Singapore and Japan

Despite Japan's favorable conditions for financial market development, including political systems and level of integration into global trade, why did Singapore globalize its financial markets earlier than Japan? Figure 5.4 and 5.5 demonstrate that Singapore and Japan began opening their financial markets in 1982 and 1983 respectively. Although Japan initiated the process as early as 1972, it took ten years of gradual opening until it fully lifted capital controls in 1983. In contrast, Singapore started opening its financial market in 1978 and achieved full liberalization within three years by 1982. In this section I show that while Singapore and Japan both liberalized its financial markets, it took Japan longer to fully liberalize due to domestic banks opposition against the Japanese government's unilateral decision to open its financial market. In Singapore, the liberalization process happened faster because government policies to liberalize were a reflection of domestic banks' preference.

In terms of market depth, Japan had developed deeper financial markets given the early privatization of Japanese banks and the big size of its domestic economy. The growth in the size of Japanese financial market however, remained stagnant with minimal growth (less than 5% of

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[19] While economies that move from closed to open financial markets struggle with financial market size, depth and openness simultaneously, this set of cases often delay the decision on financial openness while achieving financial market size and depth through trade and fiscal reforms.

GDP) before the mid-2000s. This is surprising given its increasing trading activities during this time and the potential to draw international capital into their economy and a global trading node. In Singapore, financial market depth increased rapidly as well as financial market size, increasing the size of its financial market (% of GDP) by 20% by 2005 compared to its size in 1980. Essentially Japan has a financial market that is globalized and active that has not reached the fullest potential of its market size while Singapore have competitive growth in all dimensions of size, depth and openness.

As shown in Table 5.5 and Figure 5.6, the two countries shared many similarities in that there were low levels of corruption, both had good establishment of rule of law before lifting capital controls and financial liberalization was not crisis-induced. However, there were also many economic and political differences. Japan is a democracy and has stronger political ties with the creditor countries in the West while Singapore is an autocracy. Economically, Japan was more developed than Singapore with higher levels of GDP per capita and importance in global trade throughout most times in history (Figure 5.6). In particular, Japan's importance in the global trading system was 322 (betweenness centrality) while Singapore was only 99. Contrary to existing explanations on finance follows trade, Japan was not the first to open its financial markets in East Asia despite having the highest important in global trade in East Asia, nor did it develop the broadest and deepest financial markets.

FIGURE 5.4: Singapore's financial market size, depth, and openness

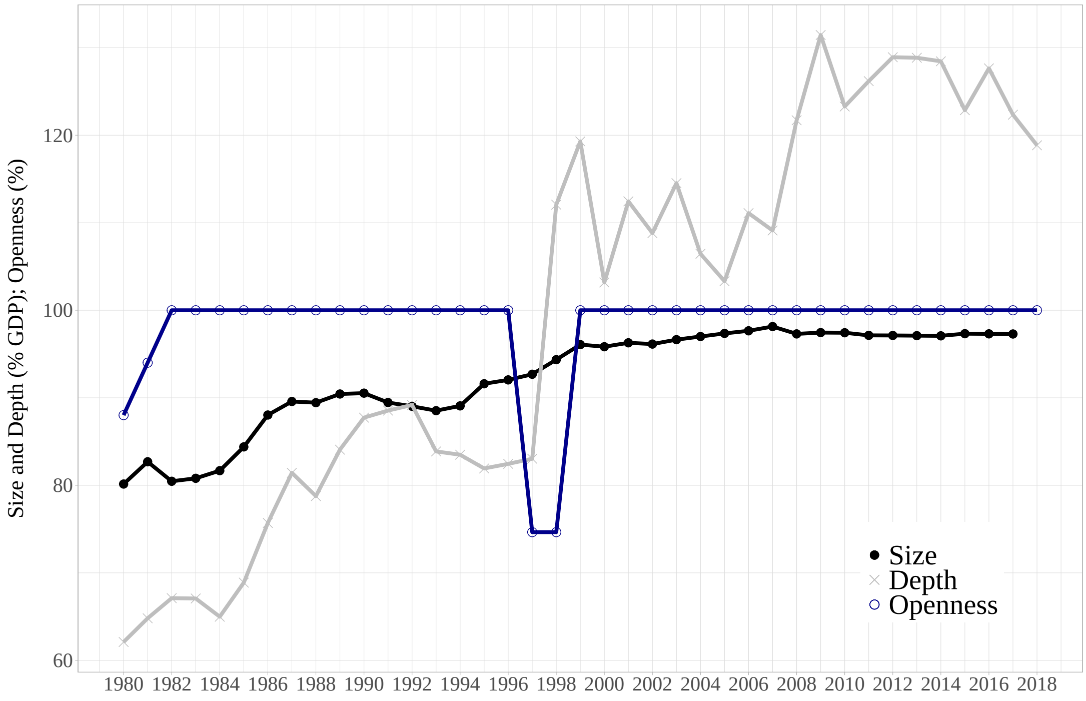


Figure 5.5: Japan's financial market size, depth, and openness

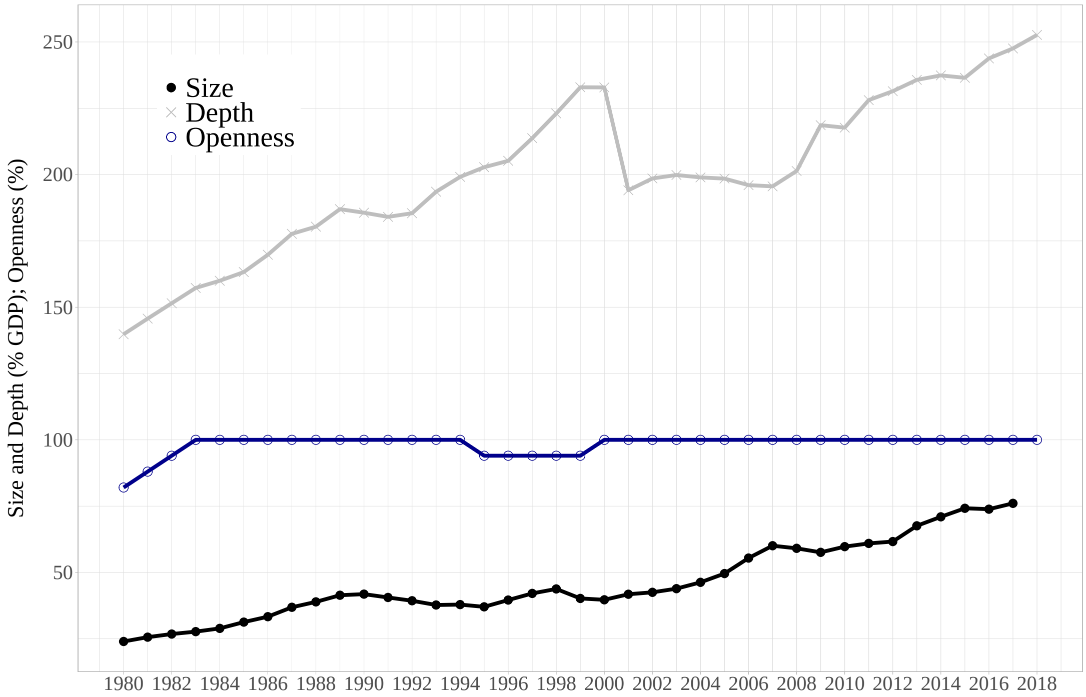
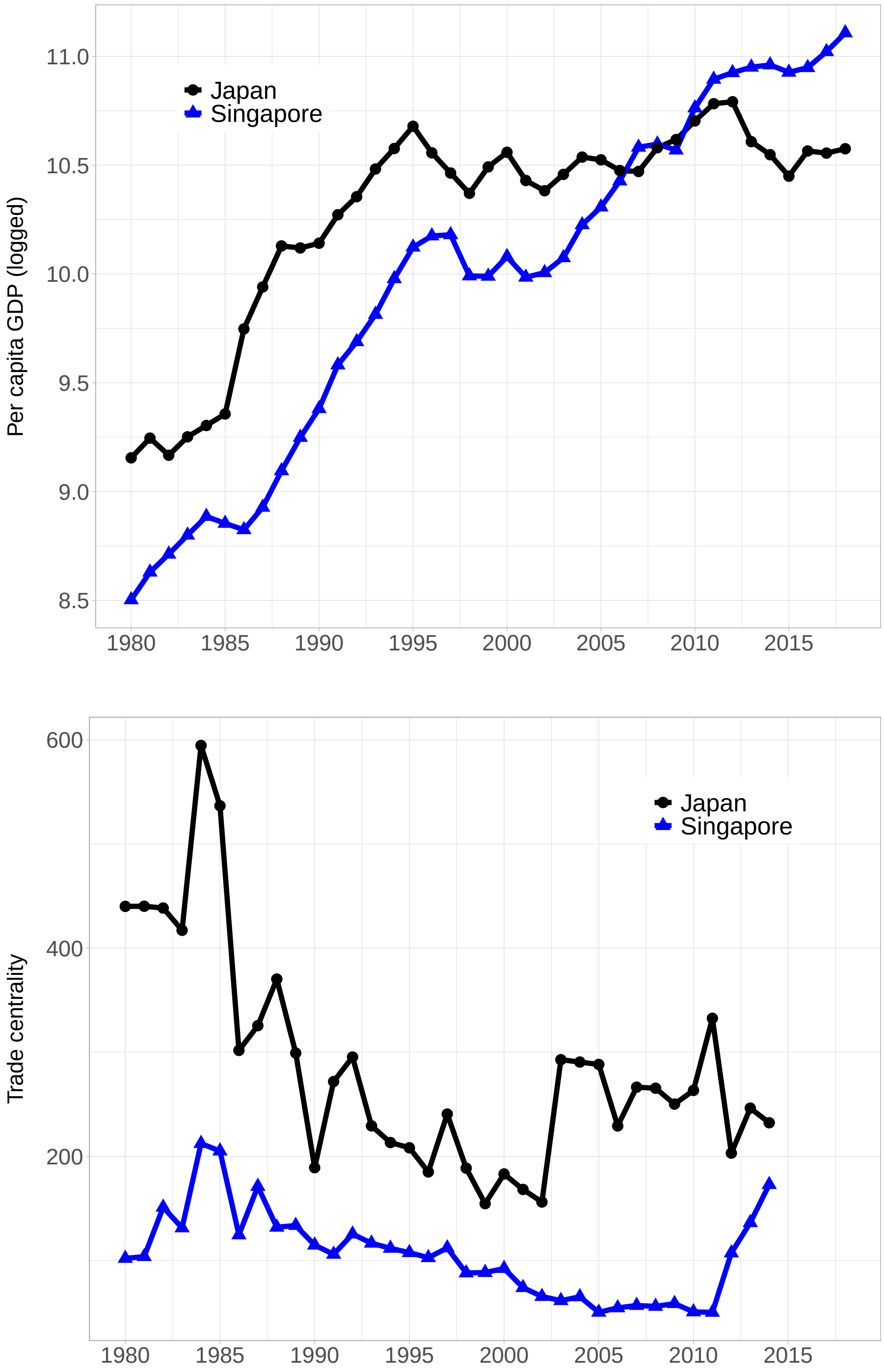


Table 5.5

			Singapore	**Japan**	**Asia/ Pacific average**
			10 yr average before 1978	10yr average before 1972	10yr average before 1972
Most Similar Difference Design	Macroeconomic Indicators	GDP per capita (current USD)	1690.5	1290.9	494.52
		Economic growth rate (annual % of GDP)	10.203	8.911	5.893
		Inflation (annual %)	5.0551	5.694	19.395
		Trade/GDP (%)	276.6	19.74	50.261
		Trade liberalization (0-100; 100 indicates maximal de jure liberalization)	63.33	35.5	33.48
		PTAs	0.4	0	0.1133
	Political Systems	Democracy	Non-democracy	democracy	
		Monetary institutions	N/A	N/A	N/A
		Rule of law	0.9574	.9526	0.5568
		Colonial history	None	None	
		Corruption (0 to 1; 1 is maximal corruption)	0.01990	0.1323	0.3867
		Political risk (0 to 1; 1 indicates higher risk)	N/A	N/A	N/A
	Exogenous shock	Financial crisis & IFI involvement	None	None	
Components of the Theory	Theoretical assumptions	Government capacity (0 to 1; 1 indicates government effectiveness	N/A	N/A	N/A
		Bank concentration	N/A	N/A	N/A
		Number of foreign banks with shares >50% in 1995	N/A	N/A	N/A
	Explanatory variables	Government subsidy (Government-owned banks)			
		Integration into international trade (betweenness centrality)	99.22	322.0	29.1172
	Outcome event	Capital controls (year)	Capital controls lifted in 1978 with domestic bank support	Capital controls lifted in 1972 with domestic bank opposition	

FIGURE 5.6: Economic development and trade in Singapore and Japan



5.4.2 Singaporean Banks' Lobby for Liberalization

Singapore has been the most dramatic case where a periphery market in the early 1960s developed into a major financial market by the 1980s. Between 1963 and 1989 the flow of money into Singapore increased by thirty-five fold, a staggering rate of growth achieved in less than three decades considering that the growth of capital flow from 1990 to 2020 was only thirteen-fold in comparison.[20] In like manner, market capitalization, an indicator for financial market depth increased by 60 percent, and Singapore's financial market reached the highest level of global integration over the period of 1963-89.[21] Today, Singapore ranks as the fifth largest financial market in the world (Global Financial Center Index, 2021).

What's puzzling about the Singaporean case is that Singapore was one of the first to become a financial hub among the Four Tigers in Asia that were equally important trade nodes in the global economic system, if not more. For example, South Korea and Taiwan in the 1980s were focal points in world trade but did not evolve into major global financial centers, while Hong Kong became a financial hub but did this almost a decade later than Singapore. Singapore's transition to a world's financial center was an outcome of a series of financial liberalization policies implemented by the Singaporean government in the 1970s: most notably, the establishment of a central bank in 1971, lifting capital controls in 1978 and adopting fixed currency in 1981.

Since its independence in 1965, there has been close partnership between government and finance industry in Singapore (Tan 2005). The Monetary Authority of Singapore (MAS), Singapore's central bank, has cooperated closely with financial institutions to seek their input on adjusting its policies to reflect market realities. MAS has established several private sector committees to examine finance issues and disseminates policy thinking through consultation papers made available to institutions and the public. To ensure transparency and accountability, external and internal auditors regularly attend MAS meetings, providing access to financial actors, including domestic banks. Auditors are required to submit reports to MAS on the institution's internal control and compliance with standards.

The "big four" banks in Singapore (OUB, OCBC, DBS and UOB) played key roles in supporting important reforms in the financial sector. The initiation came with the Bank of America's (BoA) lobby to the Singaporean government to establish a dollar market in Asia. BoA at the time saw opportunities for an Asian bond market from the surplus of dollars accumulating in the region as more countries in Asia became integrated into international trade. A dollar market meant that loans or bank deposits denominated in U.S. dollars could be made free of American regulation, and this would eventually facilitate the creation of an Asian bond market by mobilizing the surplus of dollars to meet local demands for long-term bonds. To BoA, Singapore was not the first likely venue for the Asian Dollar Market (ADM), as they preferred Hong Kong over Singapore due to Hong Kong's higher reputation as the global trade entrepot between the east and the west.[22] Most authorities in the region that were lobbied, including that of Hong Kong, discounted BoA's proposal because hosting the ADM required complete liberalization of its financial markets. The Singaporean government on the other hand, pressured by domestic banks, decides to host the ADM.

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[20] Broad money in Singapore increased from 1.48 billion in 1963 to 51.55 billion in 1989, and 715.98 billion Singapore dollars by 2020 (World Development Indicators, WDI, n.d.).

[21] Financial market depth, or broad money (% of GDP), increased from 52.83 in 1963 to 84.07 in 1989 (World Development Indicators, WDI, n.d.). Capital market openness measured by the Chinn-Ito index increased from -0.15 in 1963 to 2.32 in 1989.

The "big four" had three specific interests to lobby the government for the establishment of the ADM in Singapore : i) the creation of the ADM meant that Singaporean banks can tap into the Eurodollars in the market with lower interest rates, ii) Singaporean banks would be given the right to issue or float the Asian Currency Unit bond (eventually authorized to the Development Bank of Singapore (DBS) in 1971) and iii) opening the Singaporean financial market to foreign banks meant that Singaporean banks could also gain access to foreign markets under the reciprocity norm in banking industries.[23] These financial incentives from foreign credit were especially welcomed by the “big four” who had much to gain and little to loose, given that there were limited private rents generated from the domestic market and the government. Consequently, Singapore completed its series of liberalizing reforms by the early 1980s without much resistance from the banking industry, which is not usually the case in countries where government subsidy and protection are major financial incentives for the banking industry.

While evidence on Singaporean bank lobbying is limited, there are circumstantial evidence to show that the government systematically allocated private goods for Singaporean domestic banks when designing for financial market policies. Before financial libearlization in the onset of 1970, there was only one type of commercial bank in Singapore. All banks could carry out the whole range of banking services, regardless of their country of incorporation. As a strategy to attract international banks to set up offices in Singapore and to avoid unnecessary competition in domestic banking, MAS began to issue other types of licences for specialized banking activities. Restricted licences were issued in 1971 and offshore licences were issued in 1973. In 2001, restricted banks were renamed wholesale banks (Tan 2005)

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[22] Bank of America at the time had been lobbying authorities in other regions including that of Hong Kong (Schenk 2021).

[23] Reciprocity norm in banking industries posit that the government of country A opens its market to the national banks of country B, if country A's banks wish to expand their branches to country B.

5.4.3 Japanese Banks' Lobby for Protection

In contrast, Japan's experience in the 1980s shows less of a success story. Japan, despite the slowdown in economic growth, was still an important player in international trade. However, the highly cartelized banks in Japan, centered around Mitsubishi Tokyo and Sumitomo Misubishi Financial group, preferred limited financial liberalization as they were heavily reliant on government protection and subsidies. Japanese banks' dependence on the government for private rents was a legacy of Japan's financial system before the 1980s which intentionally favored domestic banks such that banking and securities firms were strictly separated, interest rates were controlled by the government and foreign exchange was tightly controlled. Disregarding the financial incentive structure of the Japanese banks, the Hashimoto government unilaterally enforced deregulation in the 1998 ('Big Bang' reforms), putting many Japanese banks at risk. Hashimoto's ambitious financial reforms ended with a rather mixed result where Japanese banks that were forced to compete with foreign banks, turned their investments to domestic projects that were less riskier and smaller in scale.[24] As a result, Japan achieved limited financial market development in the sense that it remained a domestic market despite its potential for a global financial market.

High reliance on government subsidy and a preference for protection over liberalization have characterized Japanese banks since the end of World War II. Japan initiated lifting capital controls after joining the OECD in 1964, but remained relatively closed throughout the 1970s[25] for a few reasons. Firstly, trade was the driving force of growth in Japan during the 1970s and financial policies were geared towards facilitating trade and benefiting exporters. Throughout the decade, Japanese authorities often changed their regulatory stance towards capital controls depending on the pressure on the exchange rate (Komiya and Suda, 1991; Takagi, 1991). Secondly, the failure to break up the bank-firm ties in the zaibatsu, which later regrouped as keiretsu or corporate groups, created politically strong banking interests that contributed to the development of the main banking system in Japan.

There were several instances that demonstrated domestic banks' preference against liberalization, including their opposition to the internationalization of the yen throughout the 1970s and 80s. While the government policy was at best neutral toward it, Japanese firms feared that increased demand for their money would hurt export competitiveness, and Japanese banks were also against it since their interests were closely tied to these firms under Japan's system of the

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[24] The Basel Accord standards implemented by the 'Big Bang' reforms required Japanese banks to acquire a very high standard of minimum capital adequacy ratio, a standard that many foreign banks in Tokyo fulfilled at the time but domestic Japanese banks could not.

[25] (Chinn and Ito 2008a)

"main bank." A firm's main bank was usually its largest lender and one of its largest shareholders. The close relationship between the main bank and the client firm was often cemented by long-standing and historical affiliations, and it was not uncommon for (retired) executives from the main bank to assume a position on the firm's board of directors Hoshia, Koibuchi, and Schaedec 2013. In 1979-80, the government began allowing foreign residents to hold a fuller range of domestic assets, but domestic banks formed coalitions with firms to oppose internationalization. As a result, the Foreign Exchange Law of 1980 still allowed "minimum necessary controls" on capital flows to manage the exchange rate or balance of payments. When the Hashimoto government unilaterally pursued the Yen/Dollar Agreement in 1985, domestic banks resisted, but their demands were incorporated into the agreement's content, so Japan was not required to immediately and completely deregulate its domestic financial market Aoki and Patrick 1995.

5.5 Capsule case studies of France, Switzerland and Monaco

5.5.1 1970s France: the case of diverging interests

France, much like Japan, provides another example of conflicting interests between the state and domestic banks, as well as within the domestic financial sector. France's centralized approach to governance has exerted significant control over the entire financial system since World War II. Banks have operated under the government's priorities and targets, serving as instruments of state economic policy. Their primary role has been to finance large enterprises, which are subject to considerable state influence, regardless of their ownership structures. The capital market, although insignificant in terms of its role, has mainly served as a means to finance the state budget and large state-owned enterprises. The close relationship between the Ministry of Finance and major banks, established even before the war, continued to persist twenty years after WWII. The Banque de Paris et des Pays-Bas's records reveal that the large deposit banks continued to dominate the management of issues, with Crédit Lyonnais, Société Générale, the BNCI, and the CNEP emerging as the four main banks. In the placement of Treasury Bonds in 1934, for instance, these four banks secured 83

While domestic banks in France favored capital controls, the government began to develop a strong preference for financial liberalization by the 1980s. The French financial system relied heavily on bank financing, which was accompanied by extensive government subsidies to reduce the cost of bank financing Schmidt, Hacketal, and Tyrell 2001. However, as financial markets were unable to meet the growing borrowing needs of the central government and corporations, new types of securities needed to be introduced. Nonbank financial intermediaries (NBFIs) were intentionally or unintentionally left out of the stringent regulatory regime to foster competition within the financial sector Aglietta and Breton 1992. This led to a divergence of preferences, with NBFIs pursuing liberalization while domestic banks in France preferred protectionism, mirroring the situation in Japan. Although the French government attempted to liberalize capital accounts as early as the 1980s, it faced opposition from domestic banks which delayed the process of liberalization. It was not until 1993 that France fully lifted its capital controls.

5.5.2 1950s Switzerland: foreign bank pressure against liberalization

While many of the cases discussed in this chapter looked at cases where there were some degree of foreign pressure for liberalization, the case of Switzerland, helps isolate the effect of foreign pressure. Switzerland, liberalized its capital accounts post-WWII despite foreign pressure against it. Switzerland was able to become a major financial hub post-World War II, despite capital controls being the global norm because i) Switzerland was increasingly becoming a major bond market in the European economy, and ii) the Swiss Bankers' Association led by the "Big Two" (UBS and Credit Suisse) pressured the government to continue implementing the Bank Secrecy Act, a liberalizing policy that facilitates free capital flow across borders. The Swiss Bankers' Association lobbied the government for such financial liberalization policy so that Swiss banks could continue serving the the French and the British banks who were heavily invested in the Swiss bond market to access its cheap loans.

5.5.3 Monaco: the case of no bank lobby

Monaco is an independent sovereign state located in Europe and is often used as a global financial market and tax haven. The country's financial marketplace dates back to the end of the nineteenth century when the first deposit banks opened in the Principality. Due to Monaco's small population and limited natural resources, the country has long relied on imports and tourism, as well as hosting various foreign financial actors, instead of developing its own financial institutions. Most of these banks were French, and any other banks that were established were co-owned by foreign investors. Consequently, there were no active domestic banks or domestic bank lobby in Monaco. As discussed in the theory chapter, countries with low or no bank lobby and low government subsidy are most likely to be tax havens.

5.6 Chapter conclusion

In analyzing the case studies to assess the presence of domestic bank lobby, I have identified multiple instances of circumstantial evidence through access to political institutions, revolving doors, and the systematic allocation of resources to the banking sector. The level of subsidy received by domestic banks from the government has been identified as a key factor in determining their lobbying behavior for financial liberalization, particularly when comparing countries with similar levels of integration into international trade.

Based on my case studies, three main findings support the theory. Firstly, the theory holds true across different regions and countries at various stages of development. The Kenya-Ghana pair illustrates that countries transitioning from closed to emerging financial markets are particularly sensitive to government subsidy levels, which influence domestic banks' lobbying direction, despite having similar levels of trade integration. On the other hand, the Singapore-Japan pair demonstrates that countries transitioning from emerging to global financial markets grant more agency to domestic banks, but these banks face more complex considerations in assessing the benefits of private rents from the government versus those from accessing foreign credit through capital account liberalization.

Secondly, my case studies reveal variations in financial market development among countries that have experienced crises (such as the Kenya-Ghana pair) or faced foreign pressure (such as the Singapore-Japan pair). Despite both Kenya and Ghana undergoing structural adjustment programs led by the IMF and World Bank, they adopted different levels of financial market openness based on their domestic banks' preferences. Similarly, Japan and Singapore, both subject to strong US pressure, implemented market liberalization measures but achieved different outcomes in terms of financial market size, highlighting the role of domestic banks' preferences. Singapore, where domestic banks favored liberalization, experienced growth in all dimensions of financial market size, depth, and openness, whereas Japan, where domestic banks were against liberalization, did not see comparable growth in market size. This demonstrates that while government preference and foreign pressure are influential, alignment with domestic banks' preferences is crucial to achieve comprehensive financial market development.

Lastly, the case study of Japan and the additional capsule case studies underscore the significance of the theoretical assumption that policies reflect the intensity of domestic interest groups. As exemplified by Japan in the 1980s and France in the 1970s, when the government's utility curve diverges from that of domestic banks, financial markets become globalized. However, this globalization may come at the expense of limited development in other dimensions, such as market size and depth.

Chapter 6

Conclusion

This dissertation started out with the big puzzle on why some countries that are open to trade are not open to finance. The introduction chapter illustrated that with globalization, domestic markets have become evermore interconnected but the caveat is that this may only be true for domestic markets for trade and not domestic markets for finance; countries open to trade are not always open finance. For example, countries like the United States, Singapore, Canada and Australia are integrated into international trade and have financial markets that are also globally connected. On the other hand, there are countries like China and India that are highly plugged into the global trading system yet their domestic financial markets remain relatively inaccessible. Hence the dissertation aimed at asking the big question: *why do certain countries develop larger, deeper and more globalized markets than others?*

My answer to this question was that domestic banks' preferences and lobbying determine the direction and level of financial market openness. Trade creates huge opportunities as well as risks for banks that shape domestic banks' incentive to lobby. I also find that given similar levels of trade, the direction of domestic banks lobby is determined by how much private rents domestic banks currently receive from the government. If the private rents from foreign credit outweigh private rents domestic banks currently receive from the government, that is when they will push for liberalization. In Chapter 2, I discussed the observable implications of this theory on each dimension of financial market development- size, depth and openness. The higher the integration into international trade, the bigger the financial market size, the lower the levels of government subsidy, the higher the depth of the market and the interaction of IIT and government subsidy explains for the level of financial market openness. In chapters 3 and 4, I tested the observable implications of the theory on various unit of analysis. Chapter 3 looked at cross-country variations from 1980-2018. Consistent with my theoretical expectations, a unit increase in integration into international trade broadened the financial market by 0.006% of GDP and increased market depth by 14.861% of GDP. For countries with financial subsidiaries higher than 0.5%, the marginal effect of more integrating into international trade negatively affect the openness of trade. I found consistent results in Chapter 4, when testing the theory against a country's position in the global financial network.

Financial market development was evaluated under three dimensions of size, depth and openness because as various case studies in Chapter 5 have shown, focusing on one dimension leads us to misleading conclusions on a country's financial market developing. Focusing solely on financial market size or depth, leads us to mistakenly believe that the South African financial market in the 1990s and the Japanese financial market in the 1980s were highly developed, when in fact, the two countries heavily regulated capital flows and were primarily focused on domestic financial activities. Focusing solely on openness, leads us to mistaken Ghana or Uganda as global financial markets in which there is de jure openness but no de facto financial activity on a global scale. A global financial market, or an international financial center, is a status that can be achieved only when the country achieves growth in all three dimensions that leads to broader, deeper and more open financial markets. Substantively, this variation captures whether or not governments have implemented necessary policies such as privatization and lifting of capital controls that explain changes in each dimension.

The theoretical contribution of my theory is in modeling the complex interaction between systemic and domestic factors to explain patterns and evolution of global financial markets. My theory bridged the classic economic explanations that 'finance follow trade' do domestic politics literature that focus on domestic banks lobby. The 'finance follows trade' alone cannot explain financial development, as discussed in the puzzle, there are many variations in countries that are similarly plugged into the international trade choosing varying levels on financial market development. Domestic politics alone, which emphasized domestic banks' preference for liberalization in capital exporting countries and preference for protection in capital importing countries, also cannot fully explain for financial market development. Many of my case examples have shown that emerging economies like Kenya pushed for liberalization while advanced economies like Japan and France had domestic banks that preferred protection. Moreover, my theory helps explain cases of financial liberalization that were not crisis-induced but helps capture the variations in financial market development among countries that share similar political systems, rule of law and alliance structures.

But more broadly, my findings help speak to various important topics in IR such as how do interest groups influence government's choice of policy? How do politics in one issue area spill-over to a different issue area? And how does globalization shape domestic politics and vice versa?

My dissertation has shown that domestic banks', just like any other firms and interest groups, lobby for financial policies that maximize their private rents. I found that domestic banks in particular gain most political leverage when a country is highly integrated into international trade and have not yet lifted capital controls. Relatedly, my theory has also shown that politics of trade spills over to politics of finance. Trade openness shapes domestic banks' incentive to lobby for financial openness. My theory shows that more trade integration of an economy produces big opportunities and risks for banks that makes domestic banks to lobby more and favorably towards liberalization if the opportunities brought by trade are bigger than that of the private rents given by the government domestically. Finally, my theory has shown the interplay of globalization shaping domestic politics and vice versa. A country's integration into global trade shapes domestic banks' incentive to lobby but domestic banks' preference also shape globalization of financial markets. As the title of this dissertation suggests, there are variations of globalization where countries that are integrated into trade are not necessary integrated into finance.

Appendix A

Chapter 1 Appendix

A.1 Bivariate Analysis and Data Source

FIGURE A.1: Bivariate analysis of trade liberalization

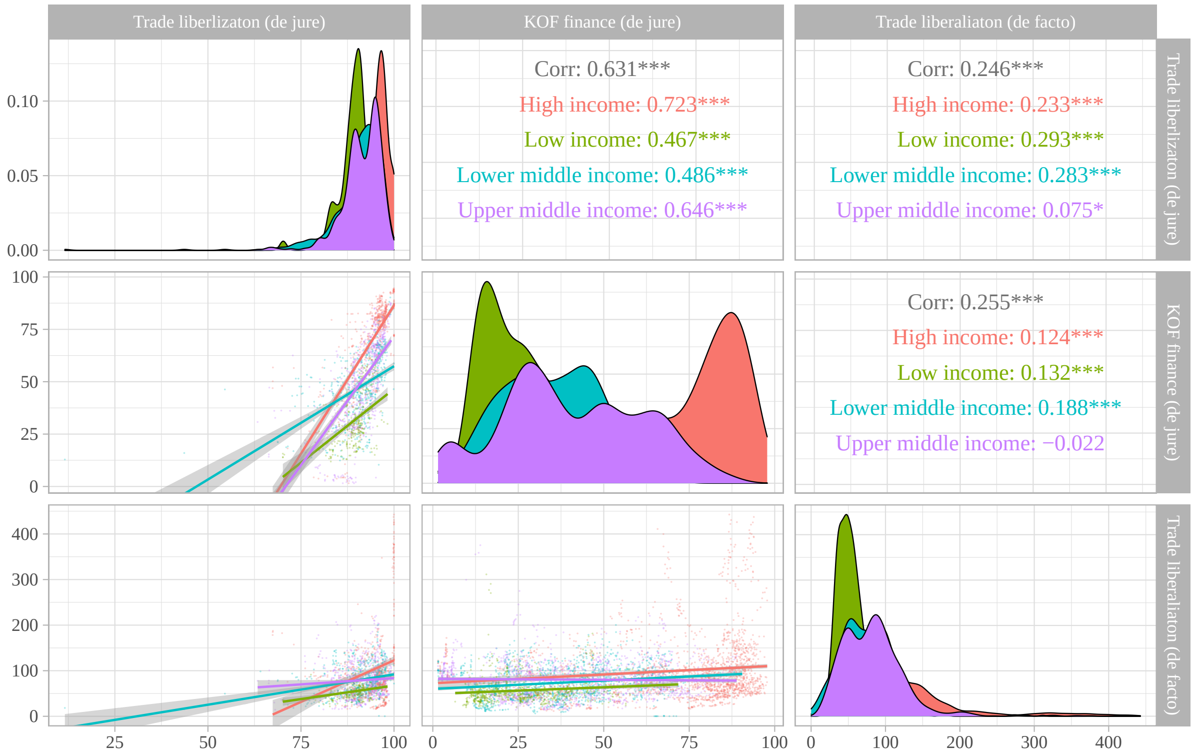


FIGURE A.2: Bivariate analysis of financial liberalization

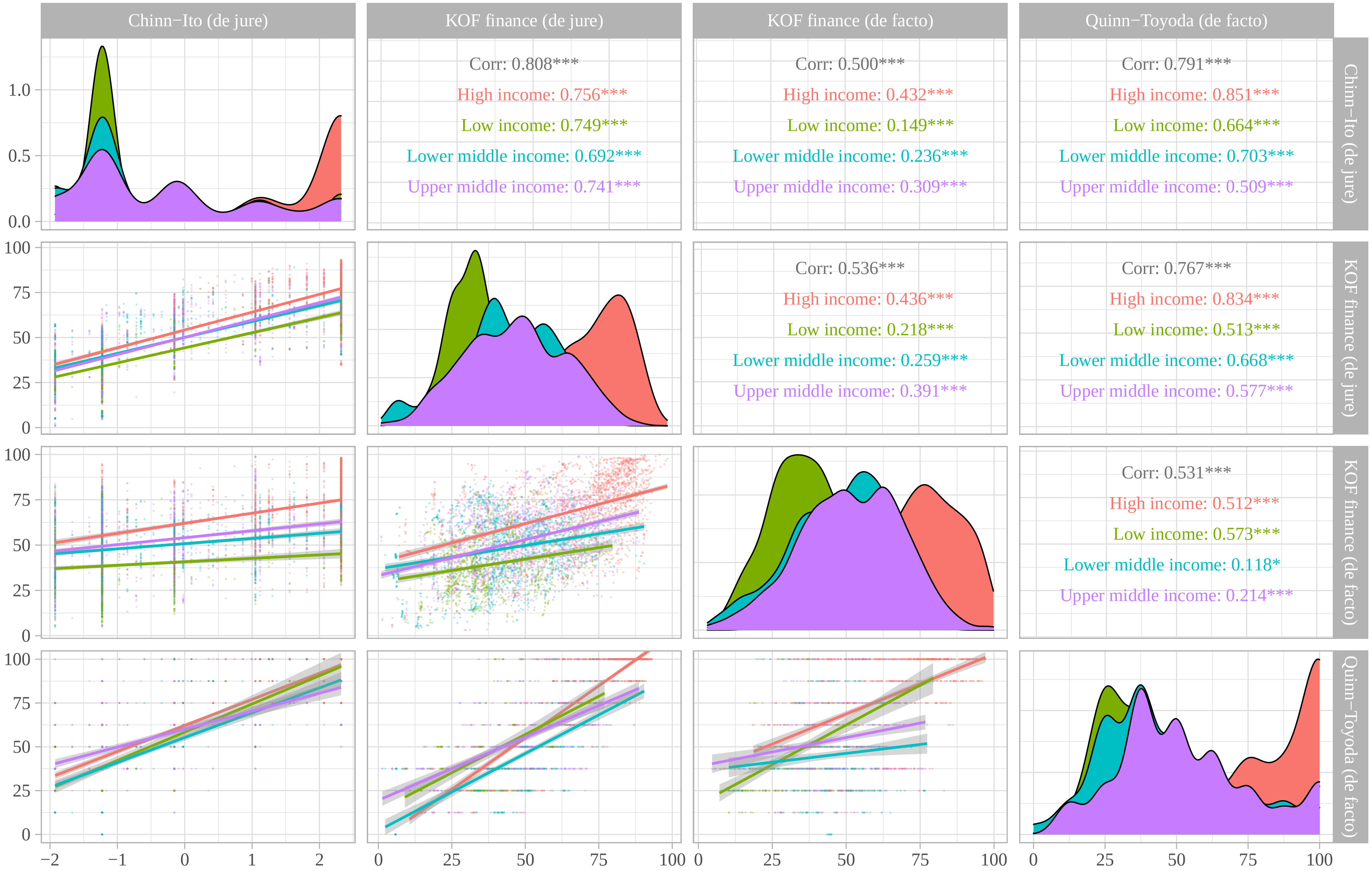


Table A.1: Data Source for Measures of Liberalization

Variable	Scale	Composition	Definition	Composition source	Variable source	Figure reference
Financial liberalization	-1.90-2.37	restrictions on capital account transactions	Binary dummy variables that codify the tabulation of restrictions on cross-border financial transactions reported in the IMF's AREAER	IMF AREAER (2022a)	Chinn and Ito (2008b, 2008a)	Figure 1.1
		presence of multiple exchange rates				
		restrictions on current account transactions				
		the requirement of the surrender of export proceeds				
Integration into international trade	0	Betweenness centrality	Importance of an economy in global trade networks (own calculations). Betweenness centrality calculates how much a given node (economy) is in-between (in-passing) other nodes when it comes to capital flow	COW v 4.0 (2016)	own calculations	Figure 1.1
Financial liberalization (de jure)	0-100	Capital flow restriction	Restrictions on capital outflows and inflows, with a distinction between resident and non-residents	IMF AREAER (2022a)	Quinn and Toyoda (2008)	Figure 1.2
Trade liberalization (de jure)	0-100	Tariff rates	100-Mean of EffectivelyApplied (AHS) and Most Favored Nation (MFN) weighted average tariff rate	World Integrated Trade Solutions (WITS, 2022)		Figure 1.2
Capital flow (de facto)	% of GDP	Foreign direct investment	Sum of stocks of assets and liabilities of foreign direct investments (% of GDP)	Lane and Milesi-Ferretti (2018) and IMF IIP (2022b)	KOF Swiss Economic Institute (2018; 2006)	Figure 1.3
		Portfolio investment	Sum of stocks of assets and liabilities of international equity portfolio investments (% of GDP)			
		International debt	Sum of inward and outward stocks of international portfolio debt securities and international bank loans and deposits (% of GDP)			
		International reserves	Includes foreign exchange (excluding gold), SDR holdings and reserve position in the IMF (% of GDP)			
		International income payments	Sum of capital and labour income to foreign nationals and from abroad (% of GDP)	World Bank WDI (2022)		
Trade flow (de facto)	% of GDP	Trade volume	Exports (X) and Imports (M) as % of GDP	World Bank WDI (2022)		Figure 1.3
de jure Financial liberalization (including agreements)	0-100	Investment restrictions	Prevalence of foreign ownership and regulations to international capital flows	Gwartney et al (2021)	KOF Swiss Economic Institute (2018, 2018)	Figure 1.4
		Capital account openness	Chinn-Ito index of capital account openness	Chinn and Ito (2008b, 2008a)		
		international investment agreements	Number of Bilateral Investment Agreements (BITs) and Treaties with Investment Provisions (TIPs)	UNCTAD (2022)		
de jure Trade liberalization (including agreements)	0-100	Trade regulations	Average of two subcomponents: prevalence of non-tariff trade barriers and compliance costs of importing and exporting	Gwartney et al (2021)	KOF Swiss Economic Institute (2018; 2006)	Figure 1.4
		Trade taxes	Income from taxes on international trade as percentage of revenue (inverted)	World Bank WDI (2022)		
		Tariffs	Unweighted mean of tariff rates	Gwartney et al (2021)		
		Trade agreeements	Number of bilateral and multilateral free trade agreements	Egger and Larch (2008)		

A.2 Country list by income group

Income group categorization used in this dissertation project follows World Bank's classification of four income groups – high, upper-middle, lower middle, and low. World Bank uses thresholds of GNI per capita in current US dollars to assign countries into income group. Classification scheme is as follows:

Table A.4: Income group threshold by the World Bank

	GNI p.c. in current USD
High income	$>$ 12,695
Upper middle income	4,096 – 12,695
Lower middle income	1,046 – 4,095
Low income	$<$ 1,046

The full list of countries by each income group is as follows:

Table A.6: Country list by income group

Low-income economies ($1,045 or less)	Burkina Faso	Burundi	Central African Republic	Chad	Congo, Dem. Rep.	Eritrea
	Ethiopia	Gambia, The	Guinea	Guinea-Bissau	Liberia	Madagascar
	Malawi	Mali	Mozambique	Niger	Rwanda	Sierra Leone
	South Sudan	Sudan	Syrian Arab Republic	Togo	Uganda	Yemen, Rep.
Lower-middle income economies ($1,046 – $4,095)	Angola	Algeria	Bangladesh	Belize	Benin	Bhutan
	Bolivia	Cabo Verde	Cambodia	Cameroon	Comoros	Congo, Rep.
	Cote d'Ivoire	Djibuti	Egypt, Arab Rep.	El Salvador	Ghana	Haiti
	Honduras	India	Indonesia	Iran	Kenya	Kiribati
	Kyrgyz Republic	Lao PDR	Lesotho	Mauritania	Micronesia, Fed. Sts.	Mongolia
	Morocco	Myanmar	Nepal	Nicaragua	Nigeria	Pakistan
	Papua New Guinea	Philippines	Samoa	Sao Tome and Principe	Senegal	Solomon Islands
	Sri Lanka	Tanzania	Tajikistan	Timor-Leste	Tunisia	Ukraine
	Uzbekistan	Vanuatu	Vietnam	Zambia	Zimbabwe	
Upper-middle income economies ($4,096 to $12,695)	Albania	Argentina	Armenia	Azerbaijan	Belarus	Bosnia and Herzegovnia
	Botswana	Brazil	Bulgaria	China	Colombia	Costa Rica
	Cuba	Dominica	Dominican Republic	Equatorial Guinea	Ecuador	Fiji
	Gabon	Georgia	Grenada	Guatemala	Guyana	Iraq
	Jamaica	Jordan	Kazakhstan	Lebanon	Libya	Malaysia
	Maldives	Marshall Islands	Mauritius	Mexico	Moldova	Montenegro
	Namibia	Panama	Paraguay	Peru	Romania	Russia
	Serbia	South Africa	St. Lucia	St. Vincent and the Grenadines	Suriname	Thailand
	Tonga	Turkey	Turkmenistan	Tuvalu		
High income economies ($12,696 or more)	Antigua and Barbuda	Aruba	Australia	Austria	Bahamas, The	Bahrain
	Barbados	Belgium	Brunei Darussalam	Canada	Chile	Croatia
	Cyprus	Czech Republic	Denmark	Estonia	Finland	France
	French Polynesia	Germany	Greece	Hong Kong SAR, China	Hungary	Iceland
	Ireland	Israel	Italy	Luxembourg	Macao SAR, China	Malta
	Netherlands	New Zealand	Norway	Oman	Poland	Portugal
	Qatar	Saudi Arabia	Seychelles	Singapore	Slovak Republic	Slovenia
	Spain	St. Kitts and Nevis	Sweden	Switzerland	Trinidad and Tobago	United Arab Emirates
	United Kingdom	United States	Uruguay			

A.3 Capital Account Liberalization by individual countries with different measures

Figure A.3: Capital Account Liberalization (Chinn-Ito)

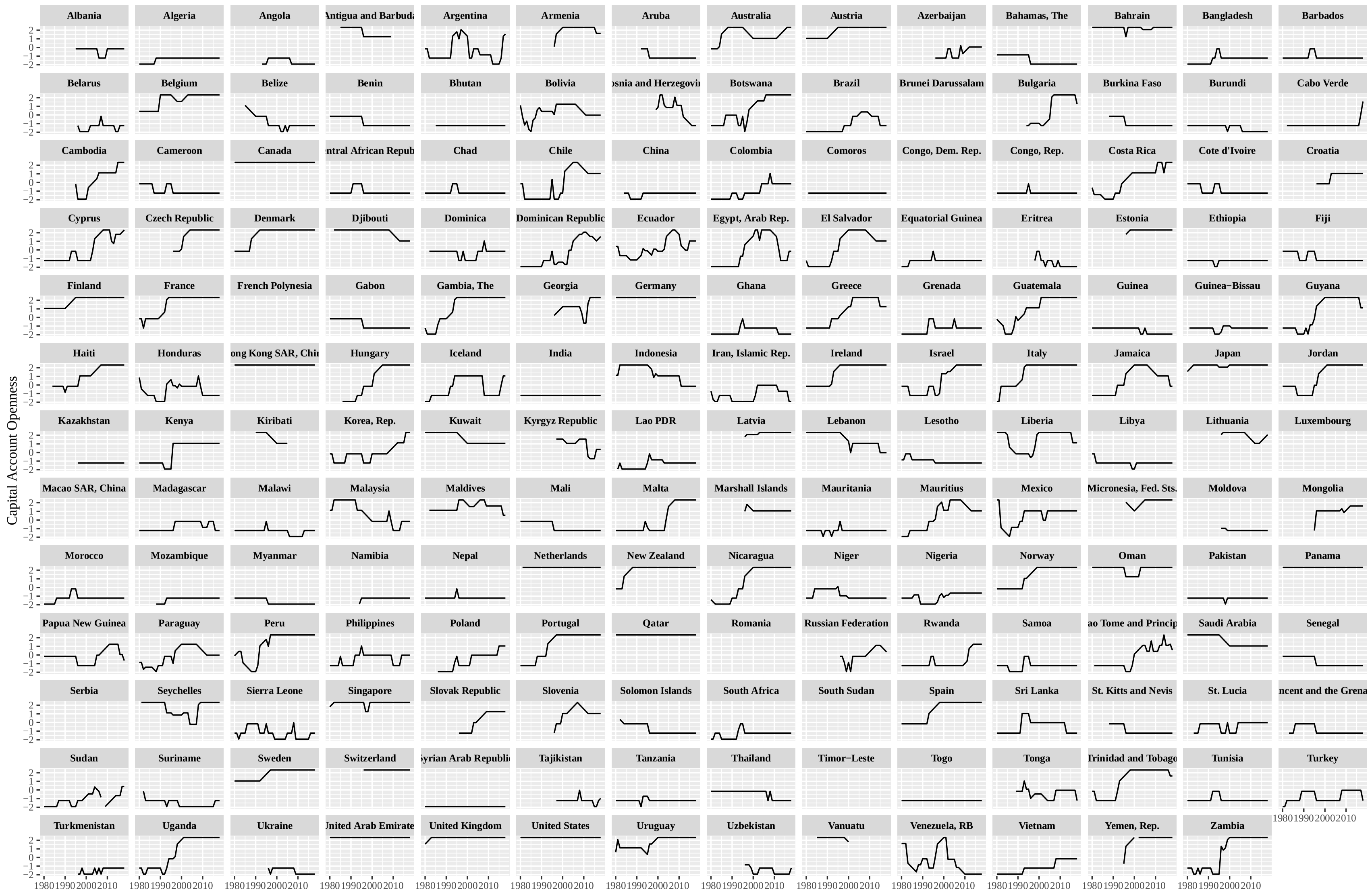


Figure A.4: Capital Account Liberalization (CAPITAL)

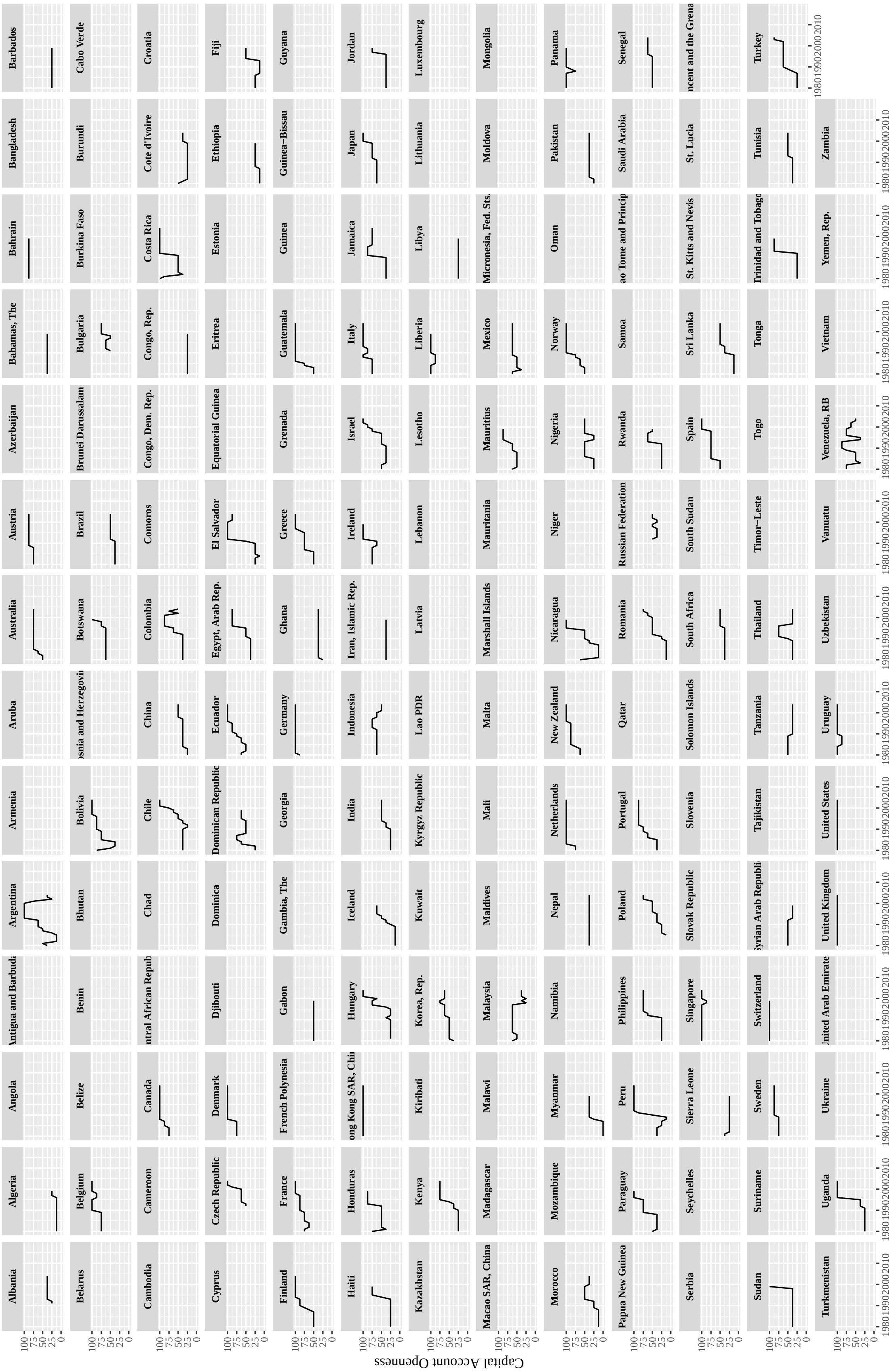


Figure A.5: Capital Account Liberalization (KOF)

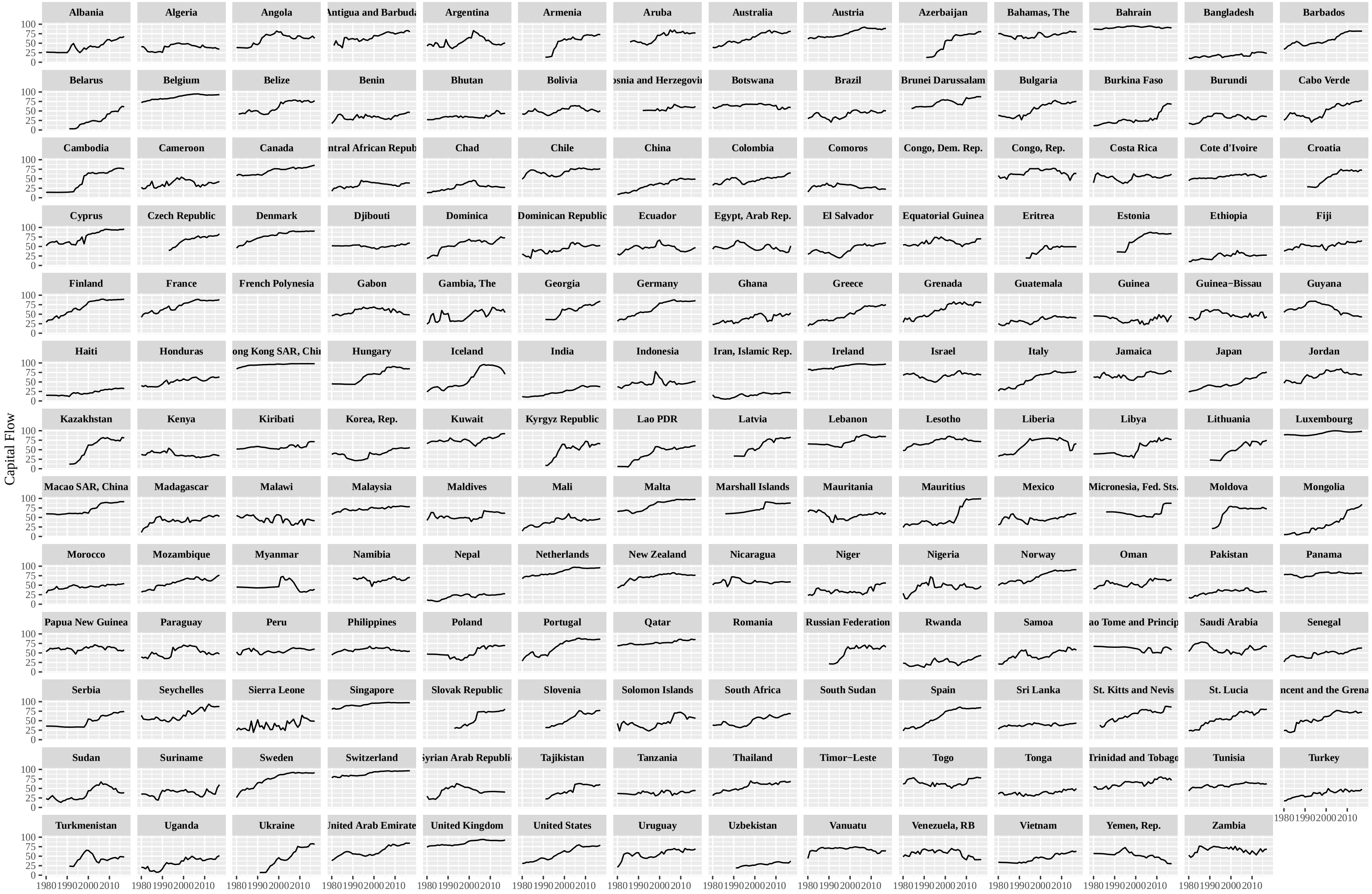


FIGURE A.6: High income countries - Capital account openness

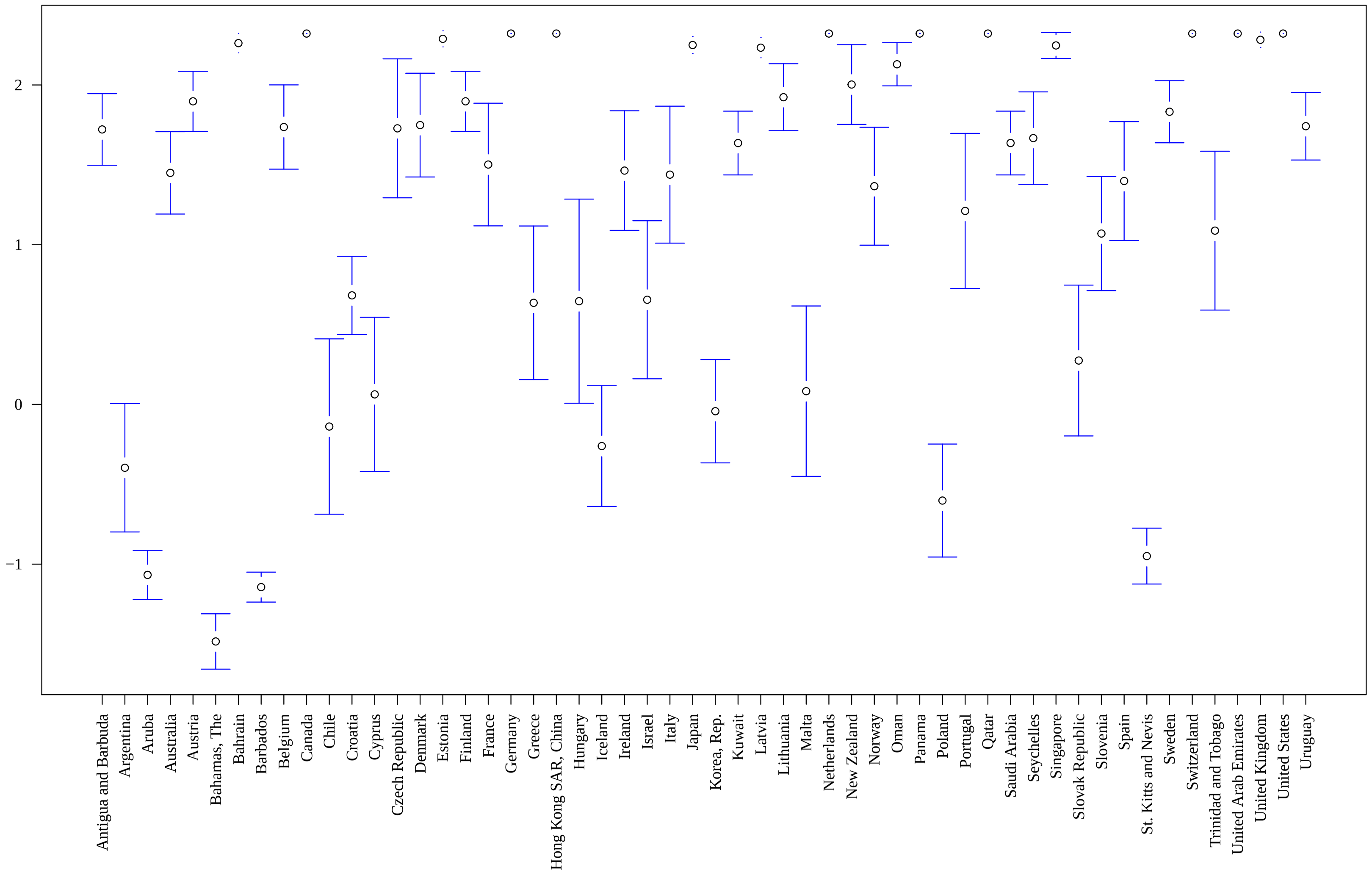


Figure A.7: Upper middle income countries - Capital account openness

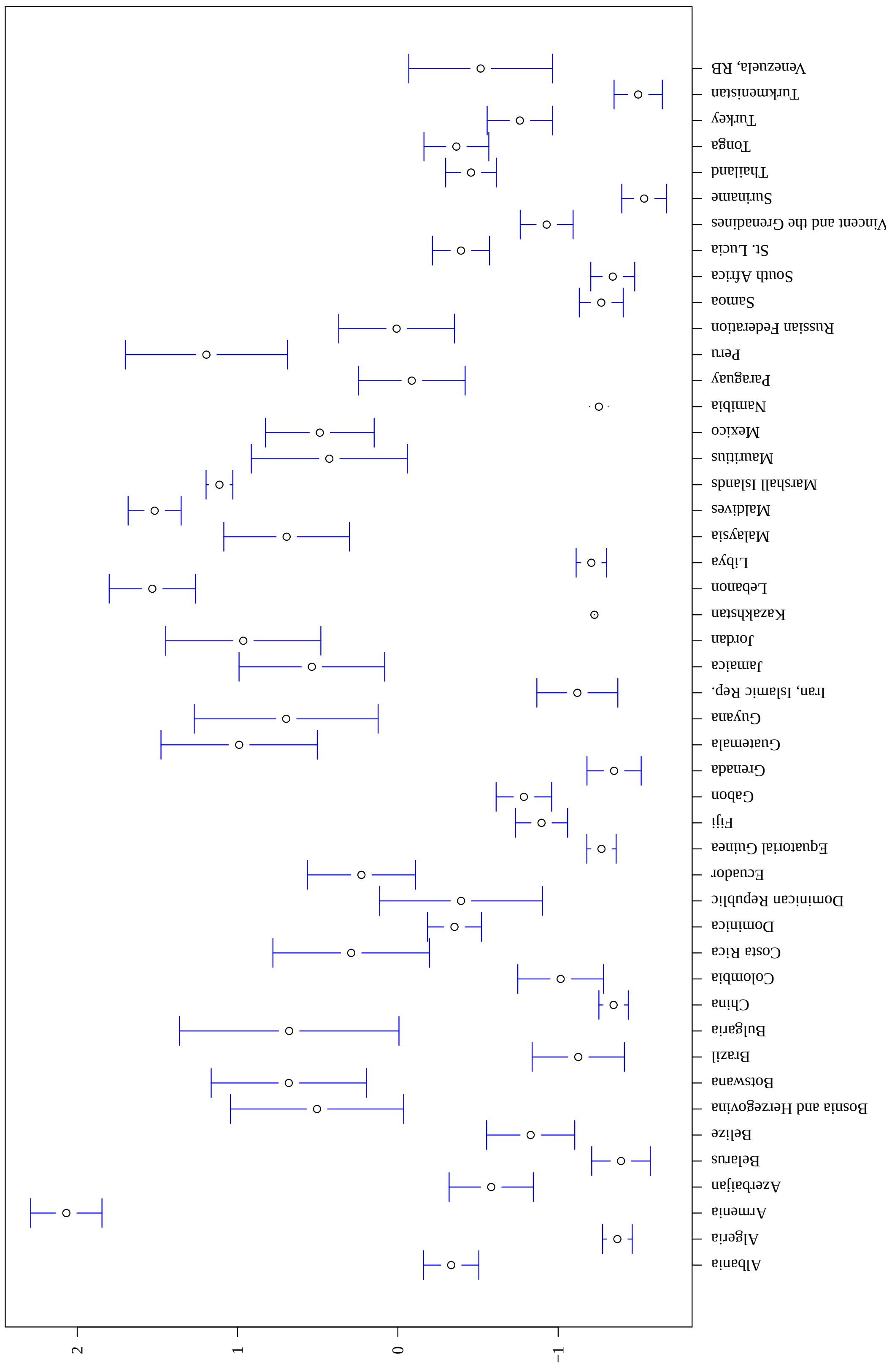
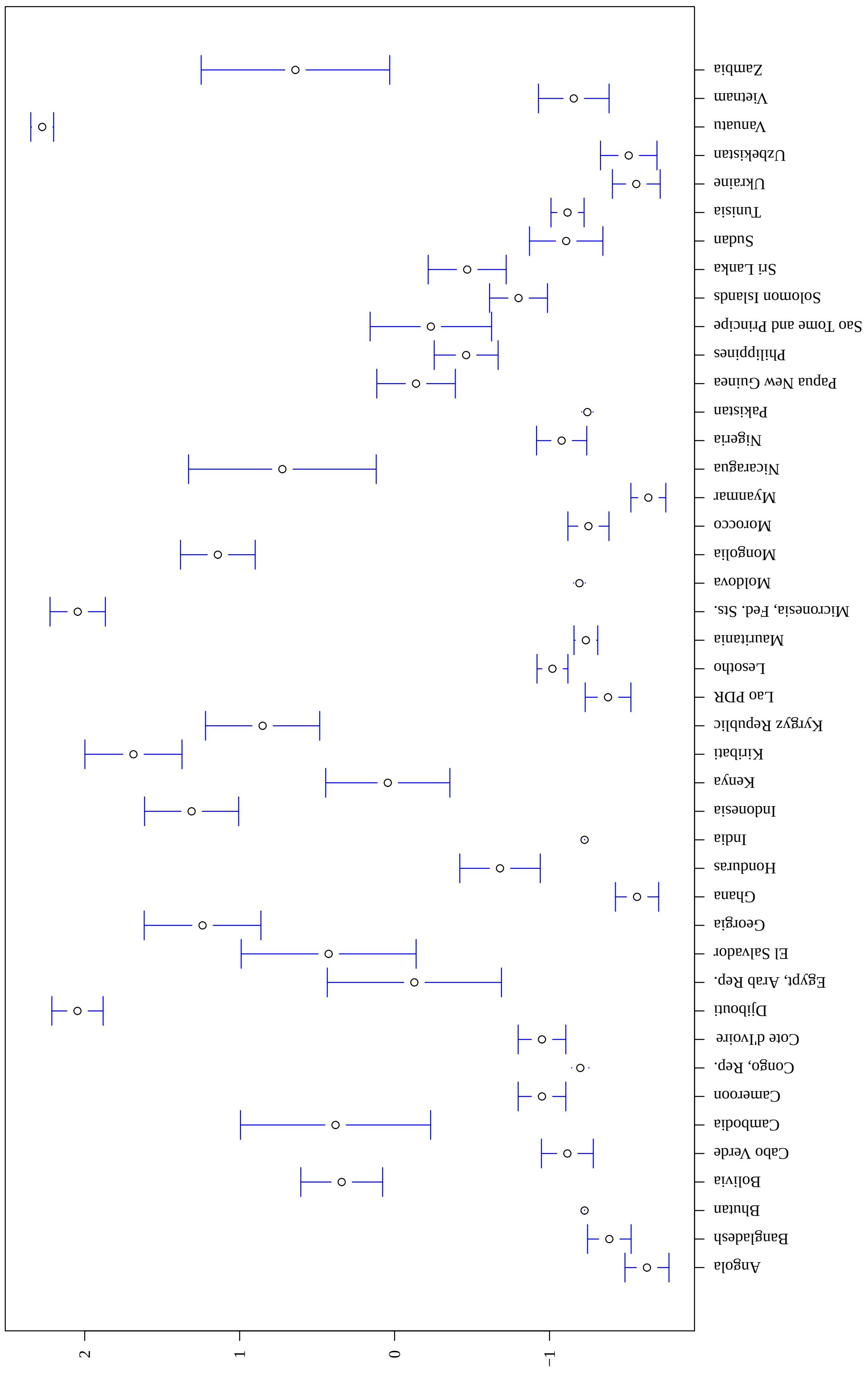


FIGURE A.8: Lower middle income countries - Capital account openness



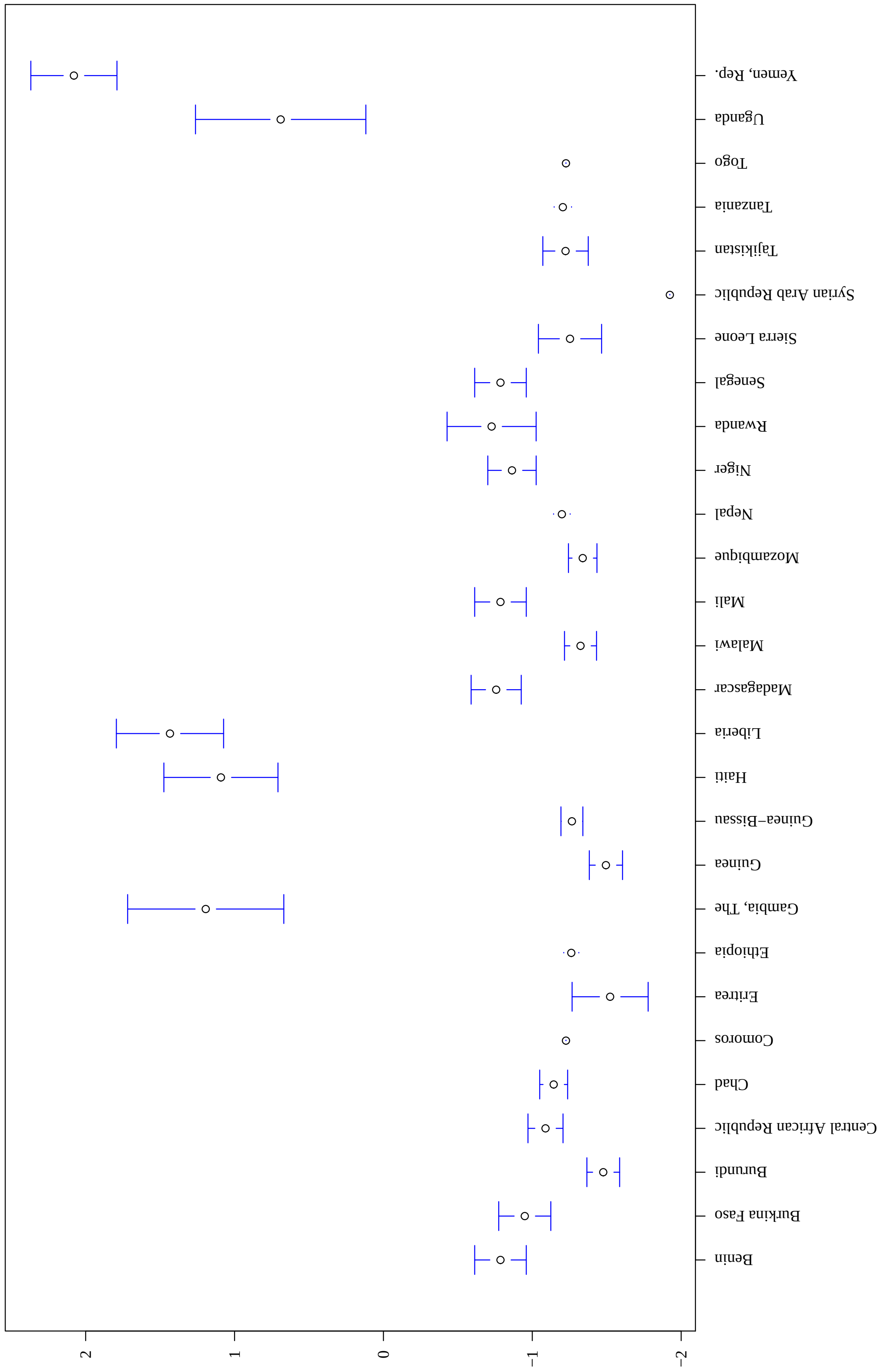
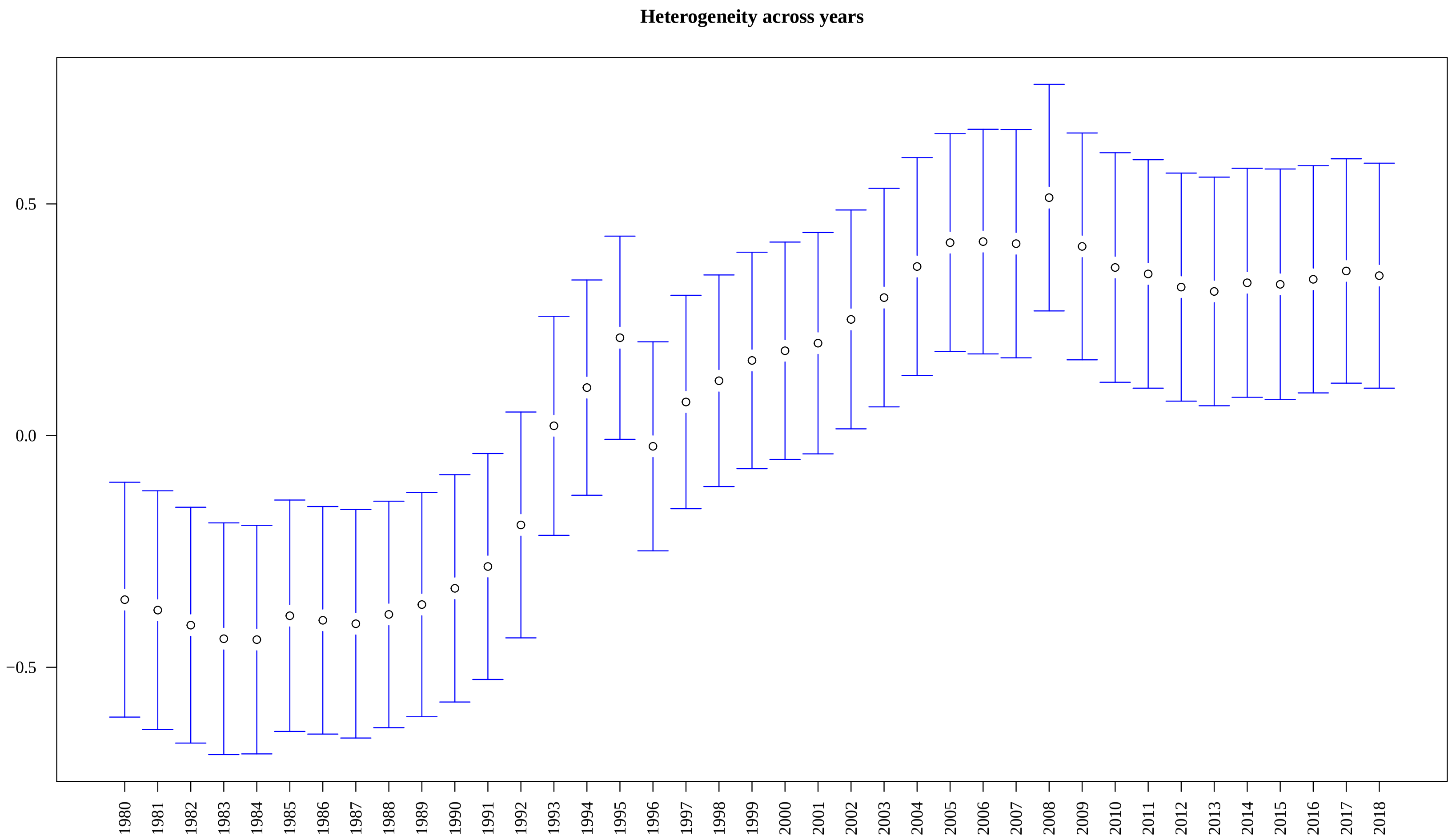


Figure A.9: Low income countries - Capital account openness

FIGURE A.10: Heterogeneity across years



A.4 Financial liberalization of motivating cases

Figure A.11: Capital Account Liberalization in SSA

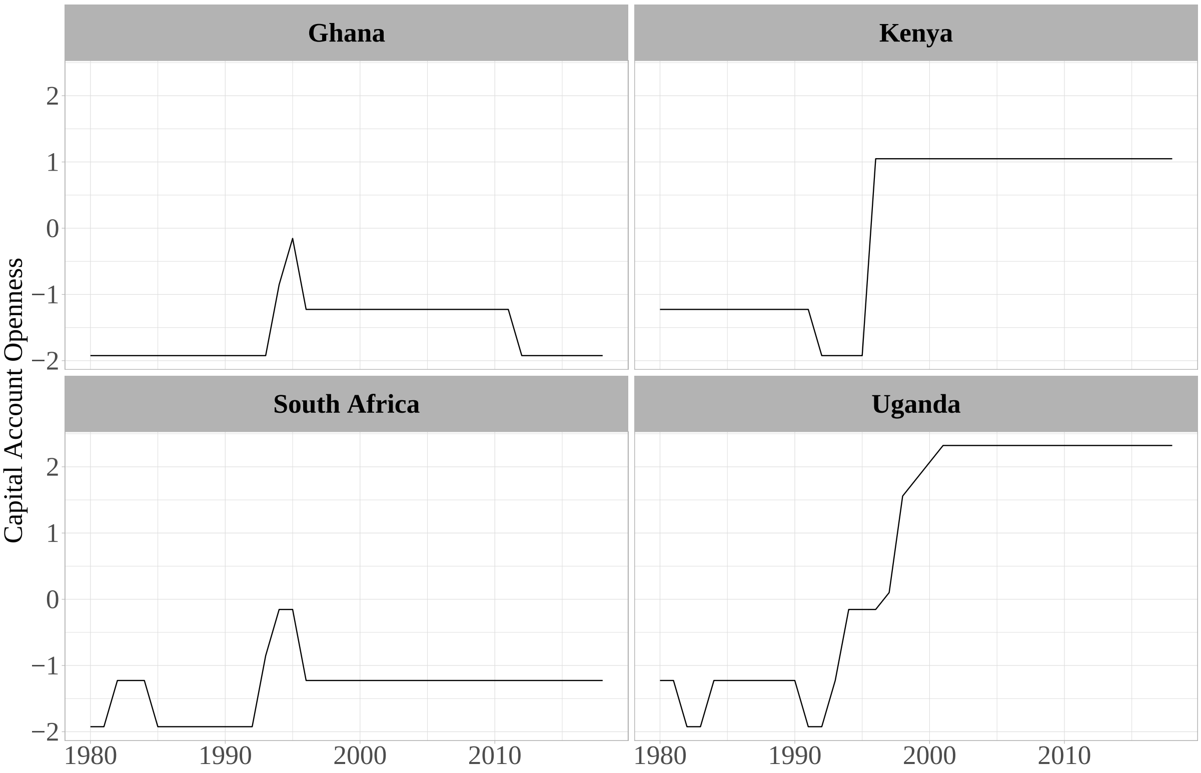
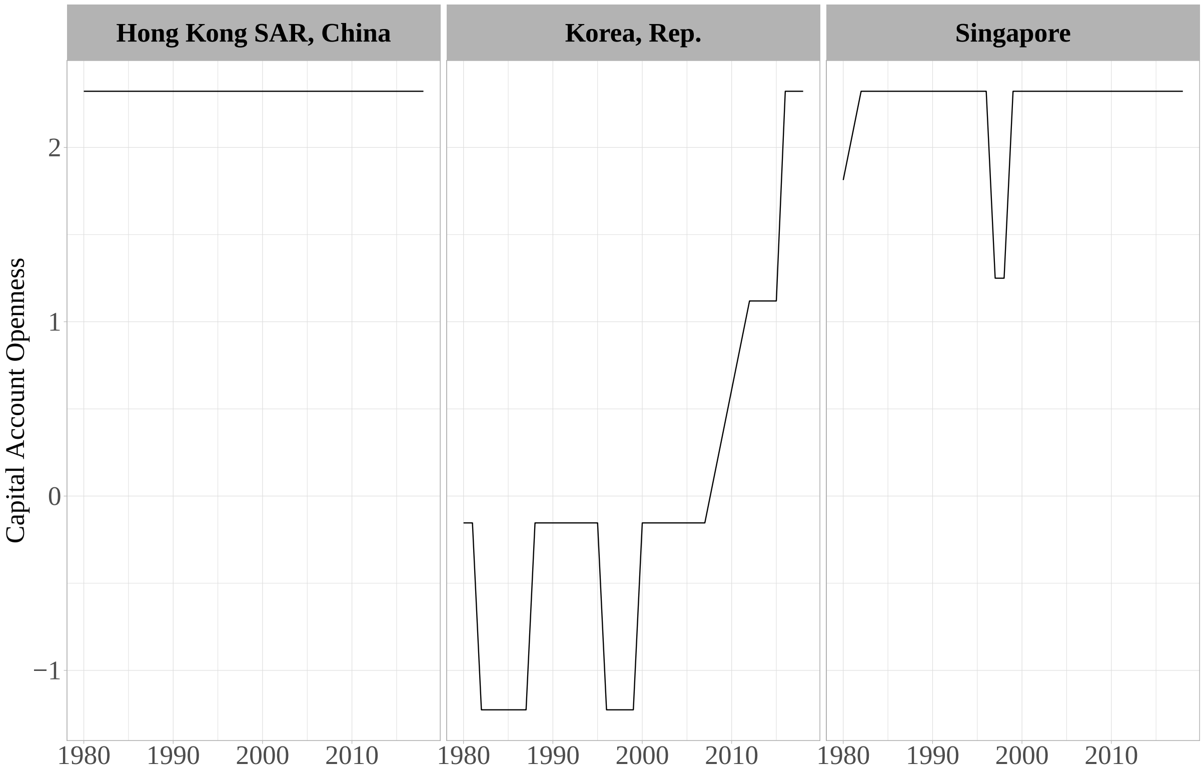


Figure A.12: Capital Account Liberalization in East Asia



A.5 Size, depth and openness

Figure A.13: Financial market size

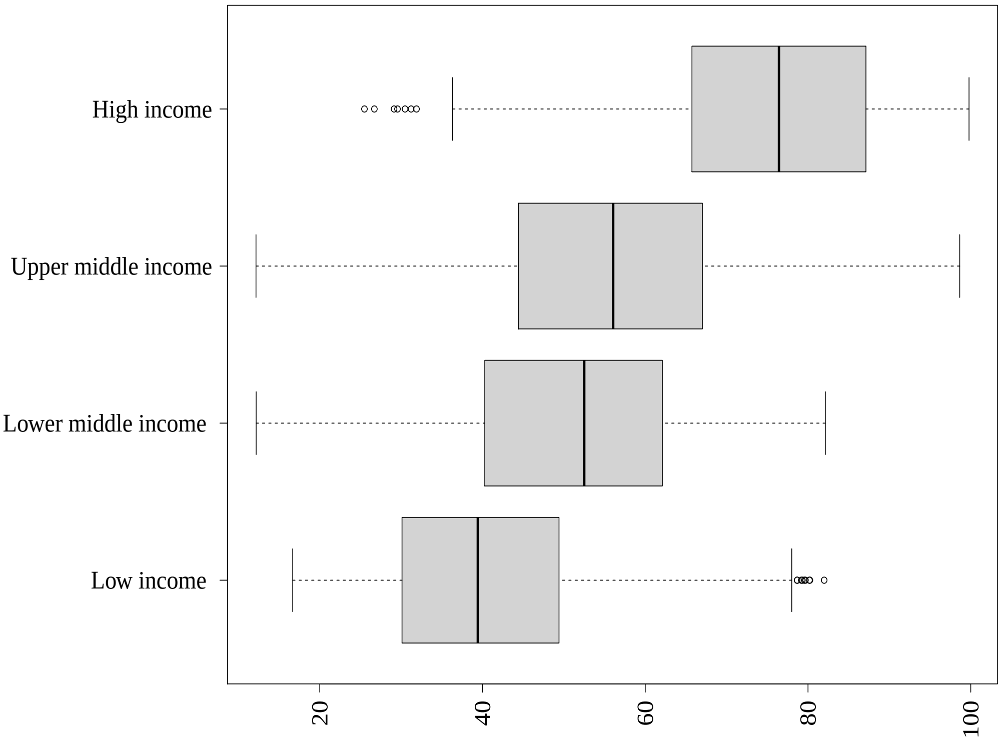


Figure A.14: Financial market depth

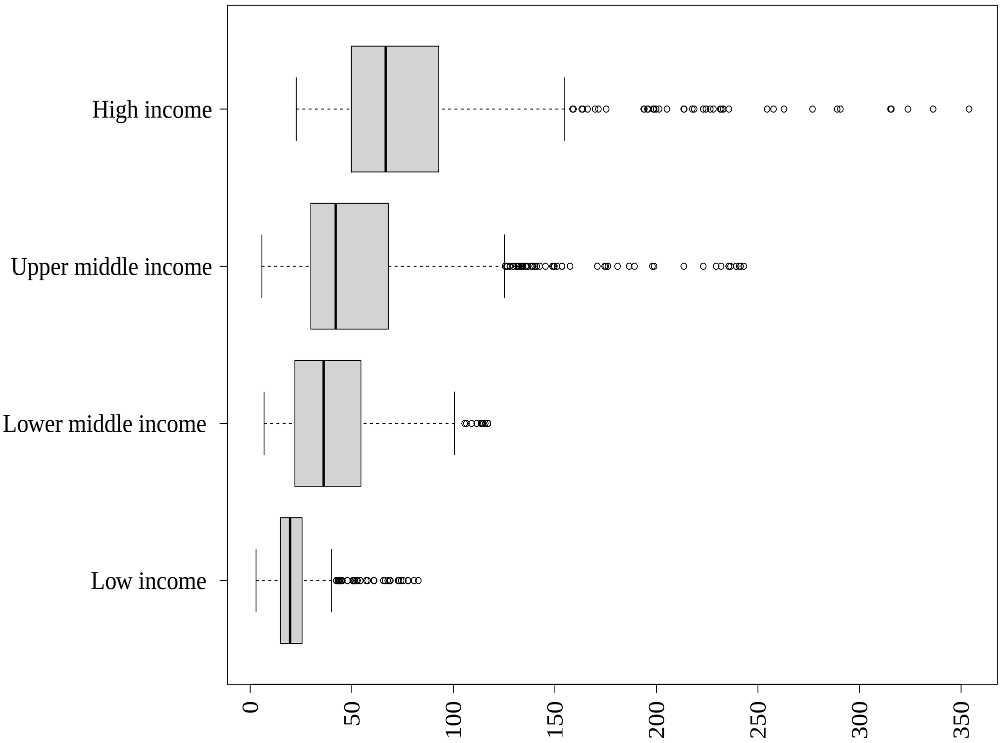
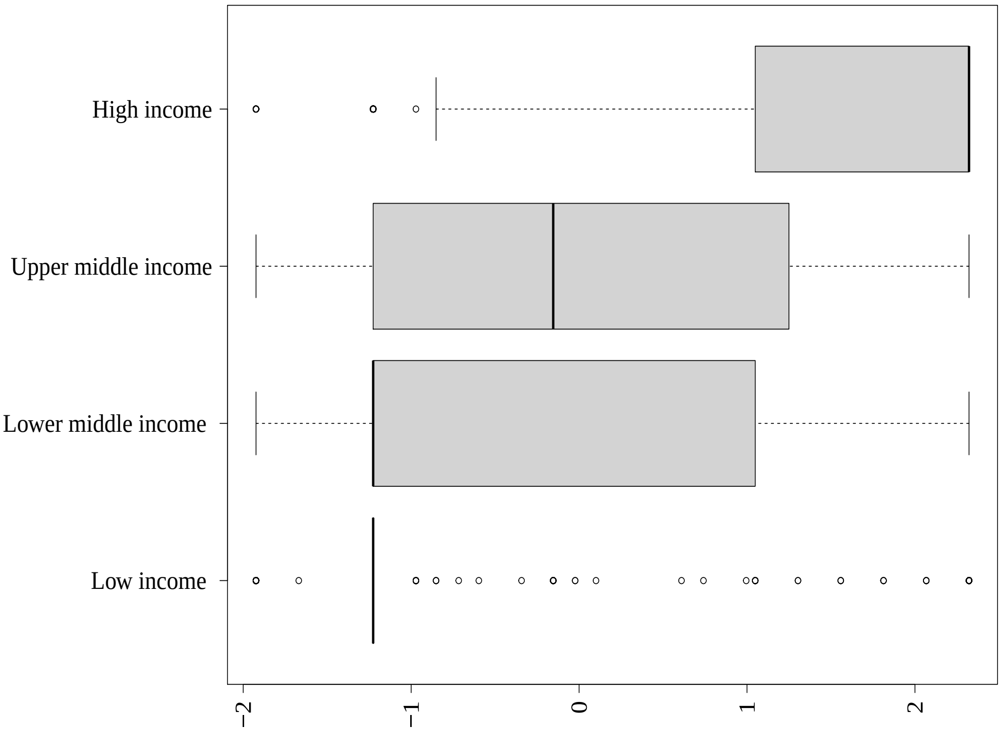


Figure A.15: Financial market openness

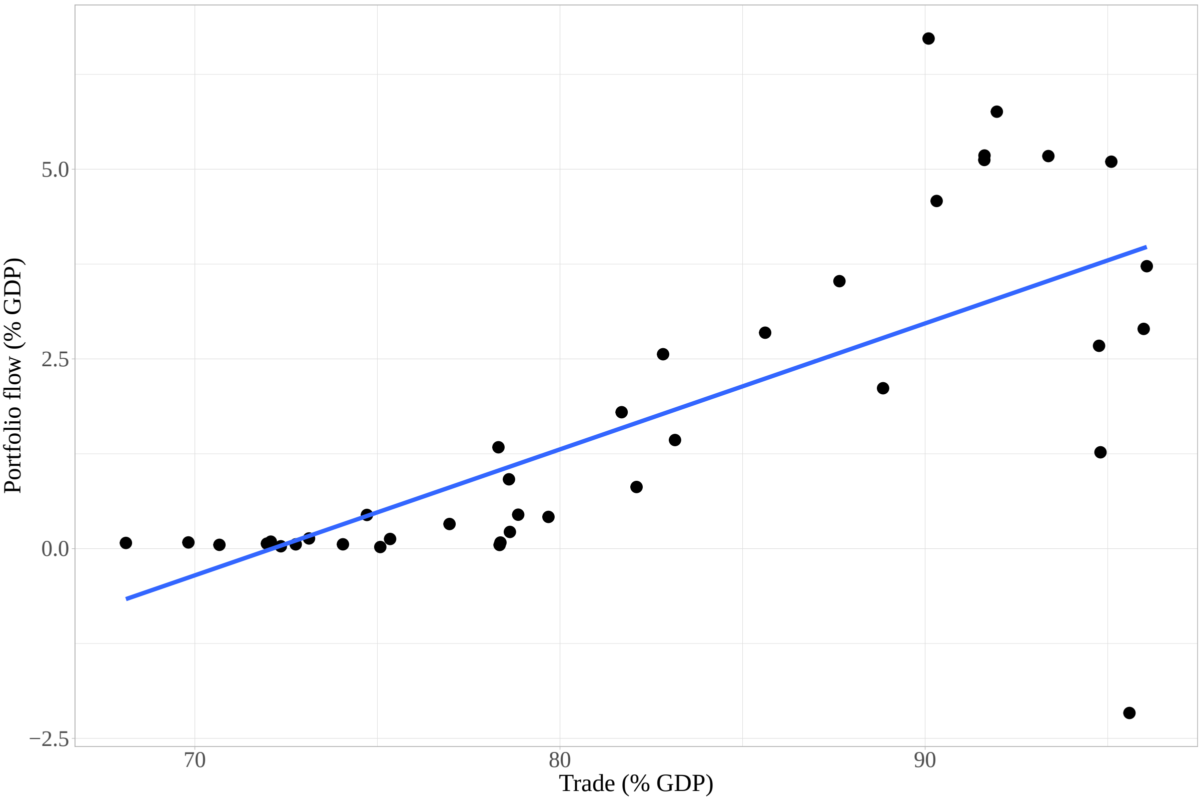


Appendix B

Chapter 2 Appendix

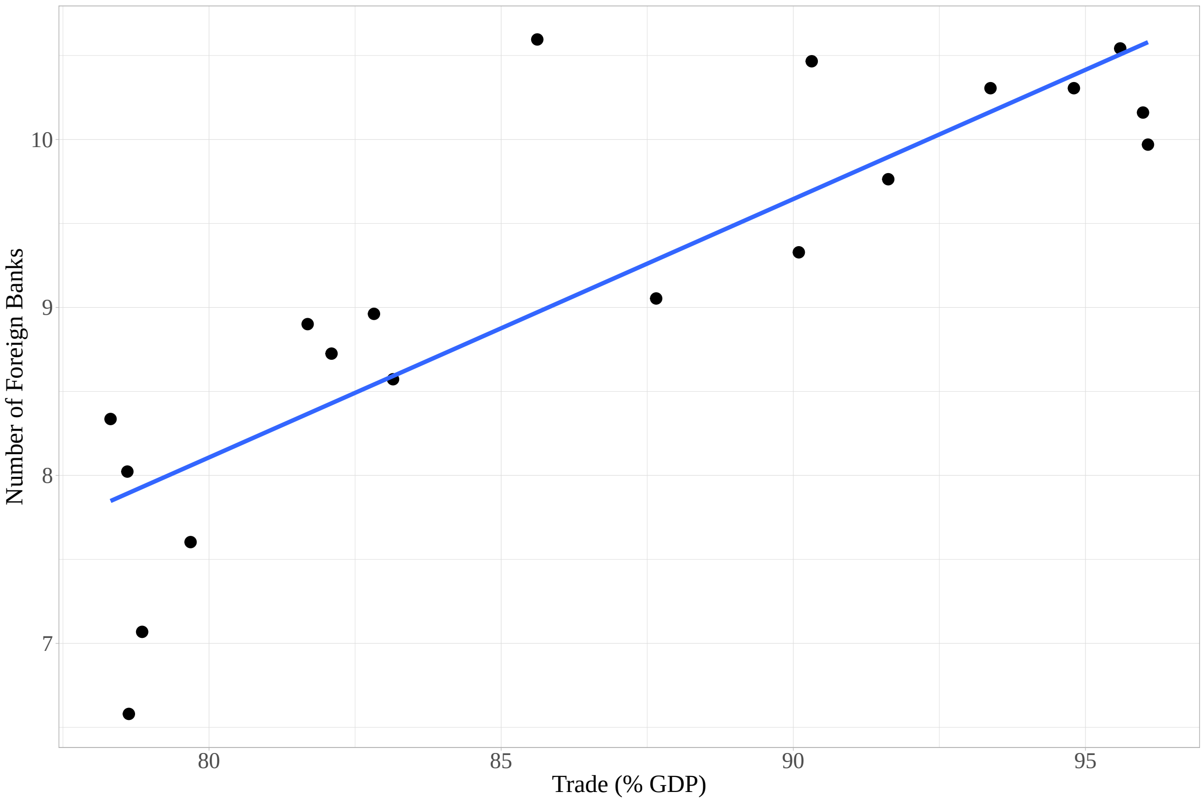
B.1 Effect of Trade on Global Capital Inflow

FIGURE B.1: International trade and global capital inflow



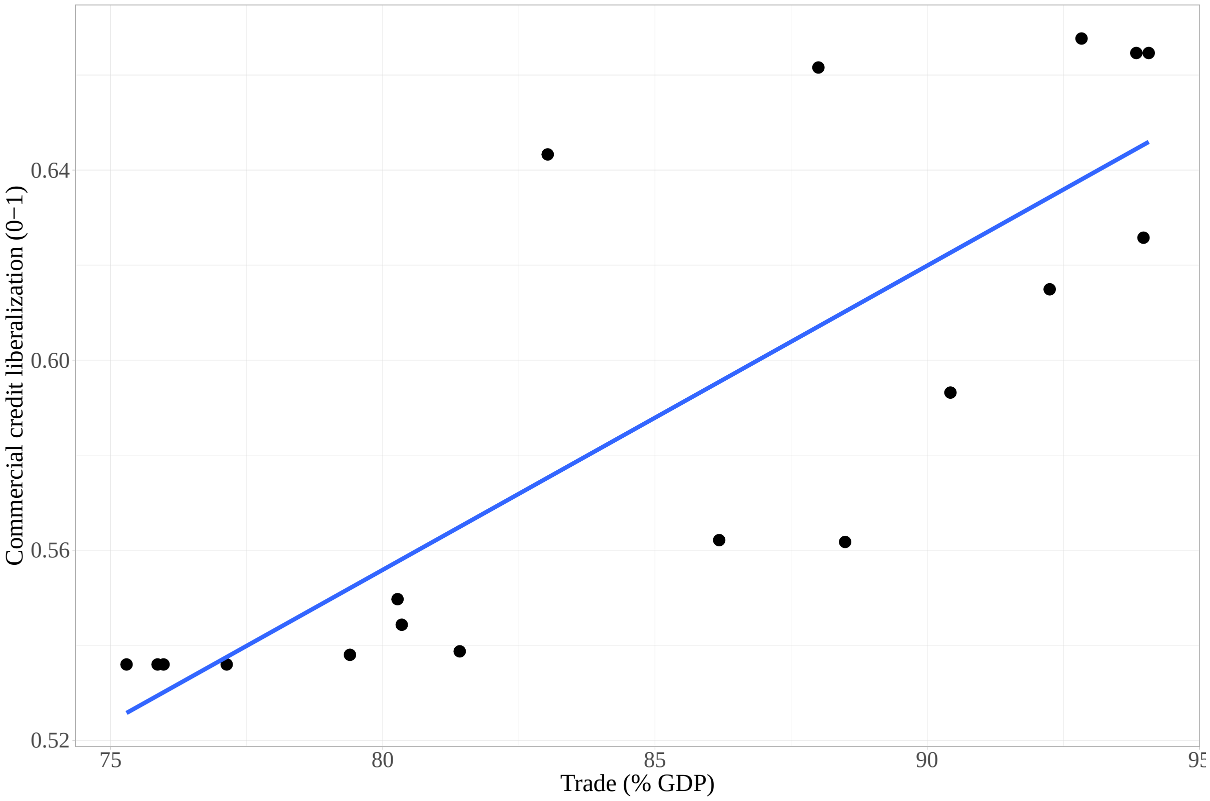
B.2 Effect of Trade on Foreign Bank Competition

Figure B.2: International trade and foreign bank competition



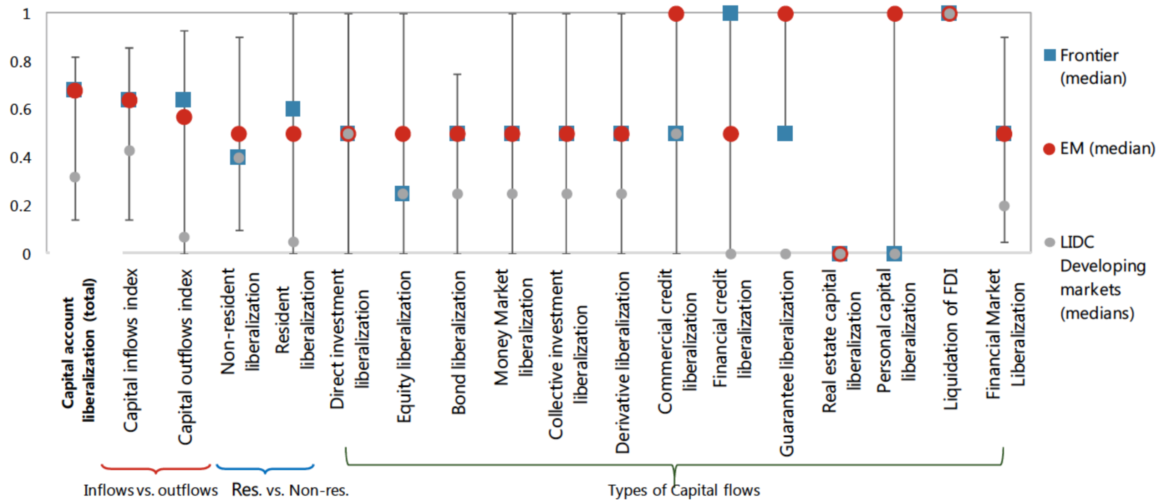
B.3 Effect of Trade on Commercial credit

Figure B.3: Effect of trade on commercial credit



B.4 Different Types of Capital Flow

Figure B.4: Liberalization by capital type



Note: The range shows the top and bottom quartile for frontier economies. Financial market liberalization indicates the average liberalization of equity, bonds, money market, collective investment, and derivatives.

Source: Jahan and Wang 2016, p.13.

Appendix C

Chapter 3 Appendix

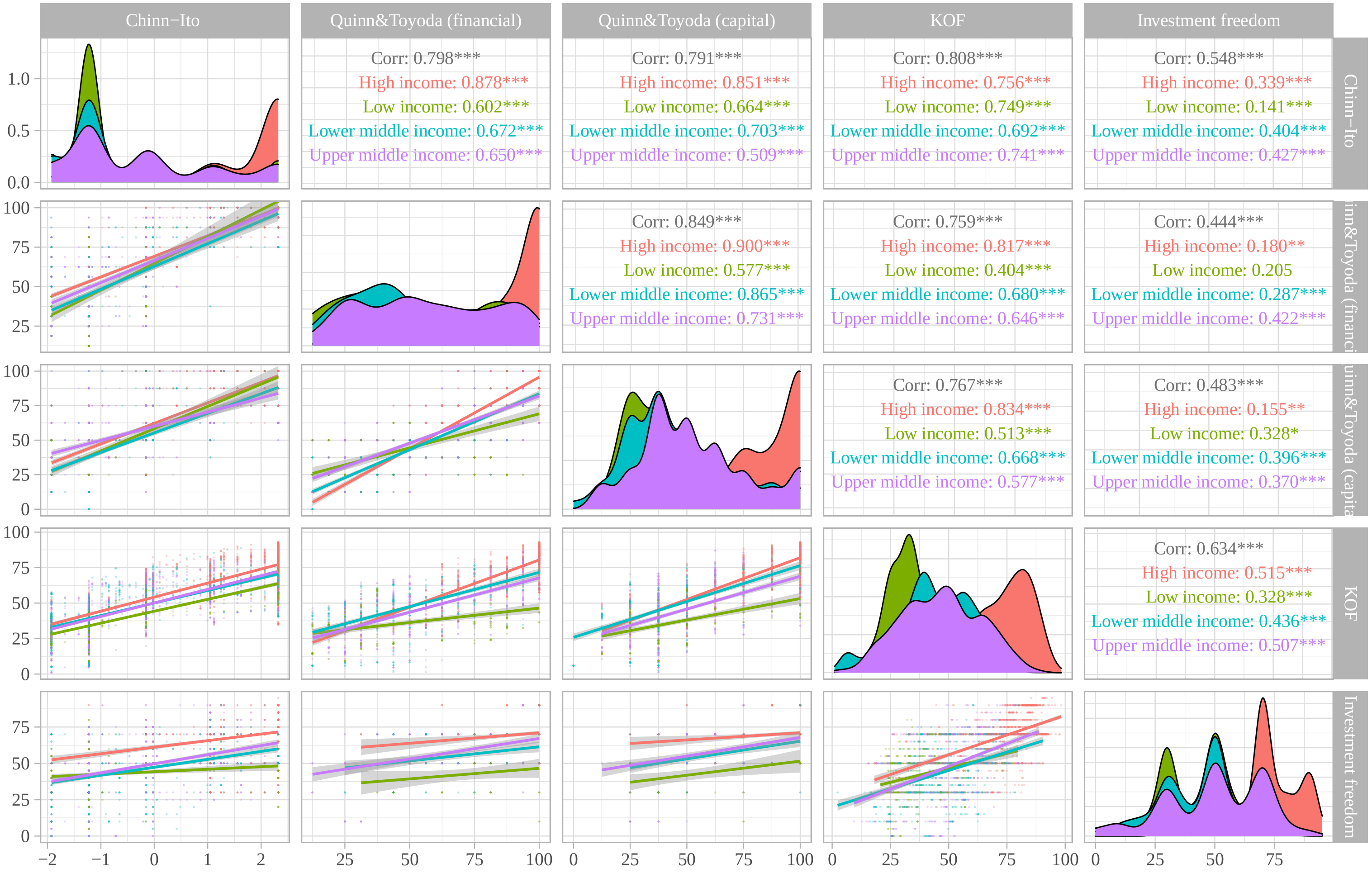
C.1 Alternative measures for Openness

TABLE C.2: Measures for financial market openness

Name	Components		Scale	Type	Time	Countries	Source	Availability
Chinn-Ito Index	AREAER measure	Table-based measure: - presence of multiple exchange rates - restrictions on current account transactions - restrictions on capital account transactions - the requirement of the surrender of export proceeds	-1.90-2.37	Continuous; Interval	1970-2019	182	Chinn and Ito 2008a update in 2021	Public
Financial Current Account		Text-based measure: Based on how compliant a government is with its obligations under the IMF's Article VIII to free from government restriction the proceeds from international trade of goods and services	0-100	Discrete; Ratio	1950-2004	94	Quinn & Toyoda (2008)	Public
Capital Account Liberalization		Text-based measure: Based on restrictions on capital outflows and inflows, with a distinction between residents and non- residents	0-100	Discrete; Ratio	1950-2004	94		
Capital Account Restrictions		Text-based measure: Similar to Quinn & Toyoda (2008) but includes finer-grained sub-categories and informationabout different types of restrictions, assetcategories, direction of flows and residency of agents.	0-1	Discrete; Ratio	1995-2005	91	Schindler 2009	Public
Capital Account Restrictions2		Updates Schindler (2009) with four additional asset categories, extend countries and years	0-1	Discrete; Ratio	1995-2013	100	Fernández et al. 2016	Public
Financial Current and Capital Account		Table and text-based measure: -The most comprehensive AREAER measure -The FOI includes information on twelve categories of current and capital account transactions	0-12	Discrete; Ratio	1965-2004	187	Brune 2006	Not available
KOF finance de jure	Non-AREAER measure	Investment restrictions (21.7%) Capital account openness (78.3%)	0-100	Continuous; interaval	1970-2015	221	Gygli et al. 2018	Public
Investment Freedom		-Index starts from 100 and then points are deducted due to a penalty catalogue. -Information based on official country publications, the Economist and US government agencies, but exact coding/methodology remains unclear	0-100	Discrete; Ratio	1995-2017	186	Miller et al (2018)	Public
Equity market liberalization		This binary liberalization index corresponds to a date of formal regulatory change after which foreign investors officially have the opportunity to invest in domestic equity securities.	0-1	Discrete; Binary	1980-2006	96	Bekaert et al (2013)	Not available
FDI regulatory restrictiveness		Based on four types of restrictions on FDI: - Foreign equity limitations - Discriminatory screening mechanisms - Restrictions on the employment of foreigners - Other operational restrictions	0-1	Continuous	1997, 2003, 2006, 2010-2016	62	Kalinova et al (2010) update in 2018	Public

Note: I have updated, edited and added new data sources expanding on the original table from Gräbner et al. 2018

Figure C.1: Bivariate analysis of financial market Openness



C.2 Descriptive plots for alternative measures of size

FIGURE C.2: Portfolio and FDI size by continent over time

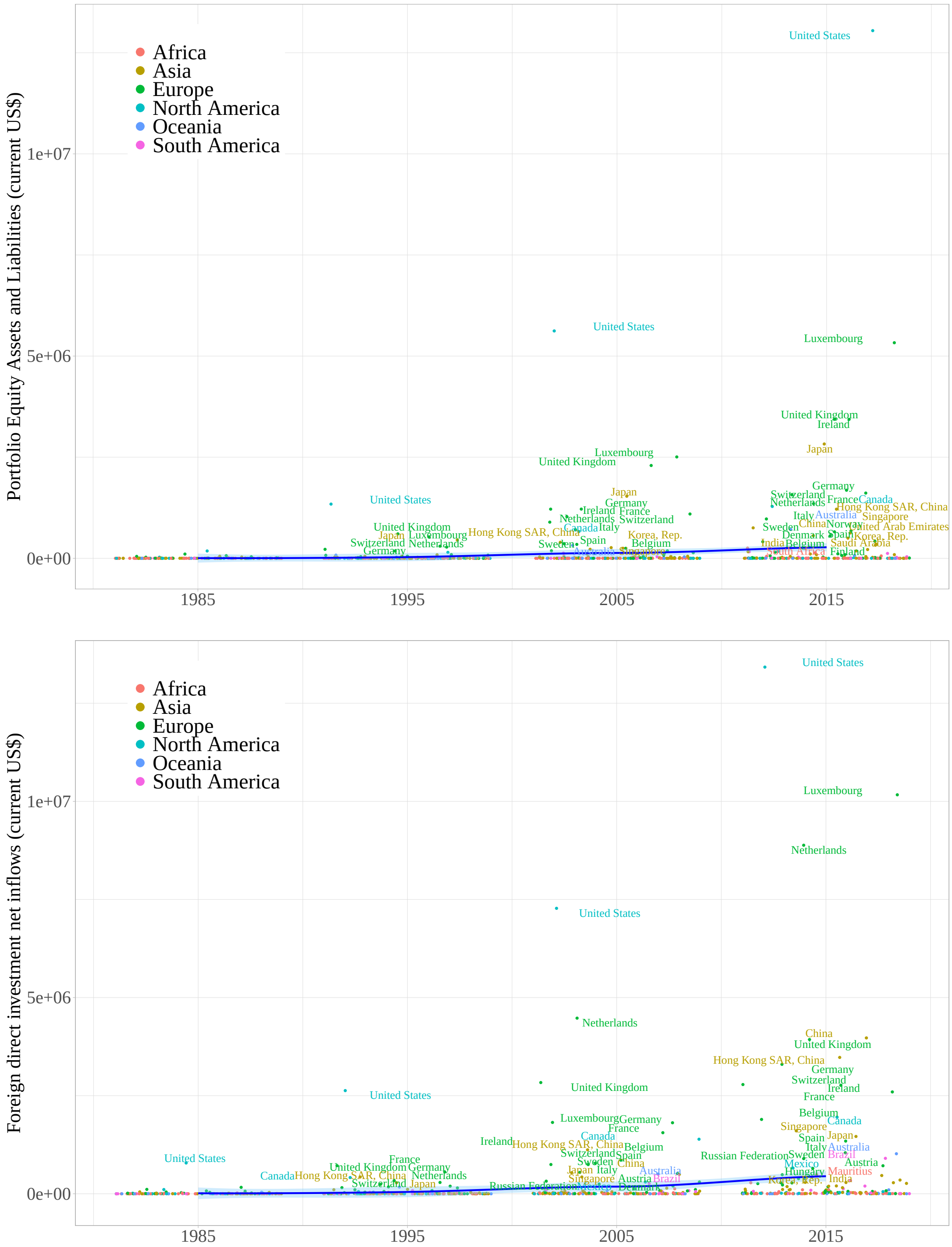
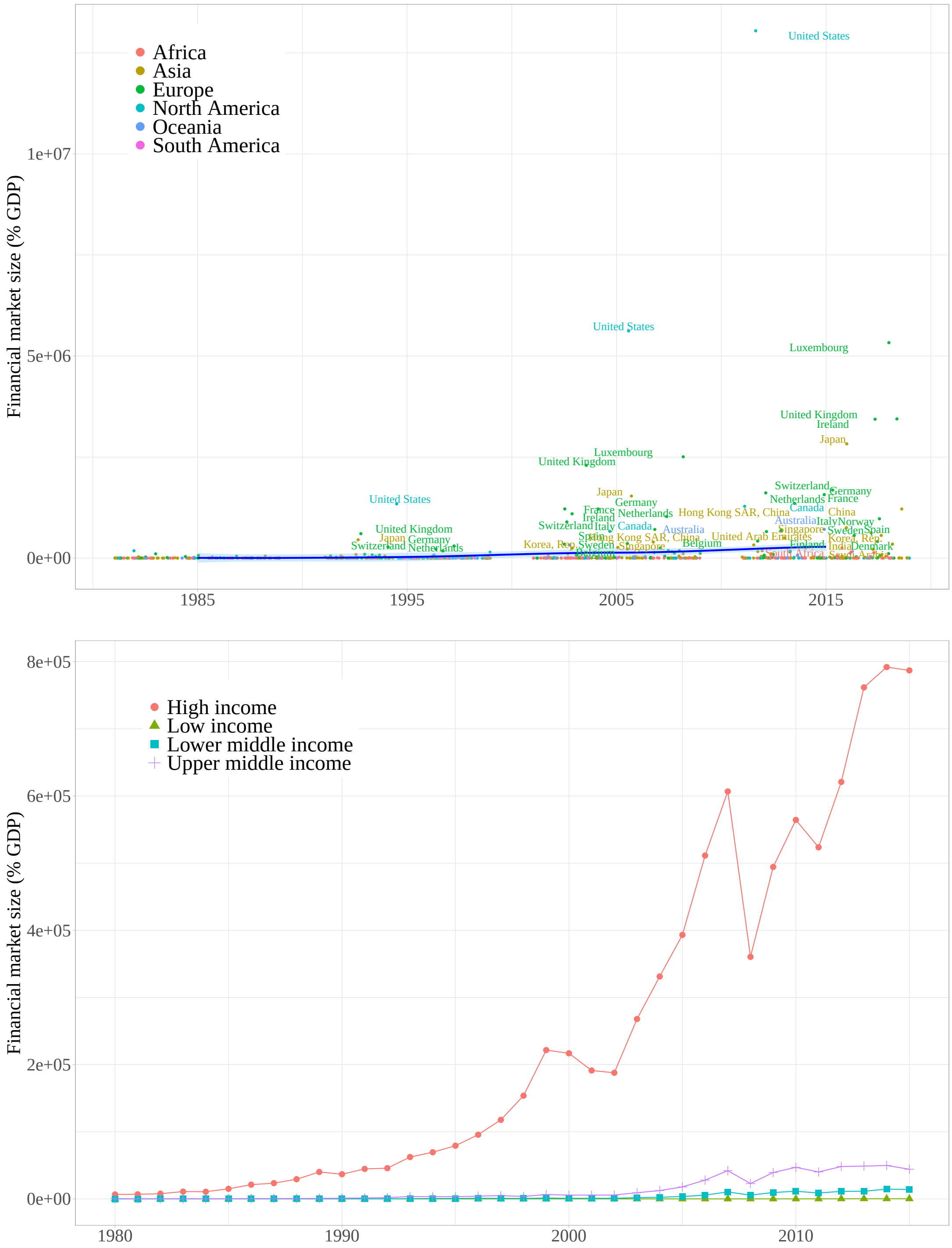


FIGURE C.3: Financial Market Size in Portfolio Investment and FDI



C.3 Descriptive plots for alternative measures of Depth

Figure C.4: Financial Market Depth

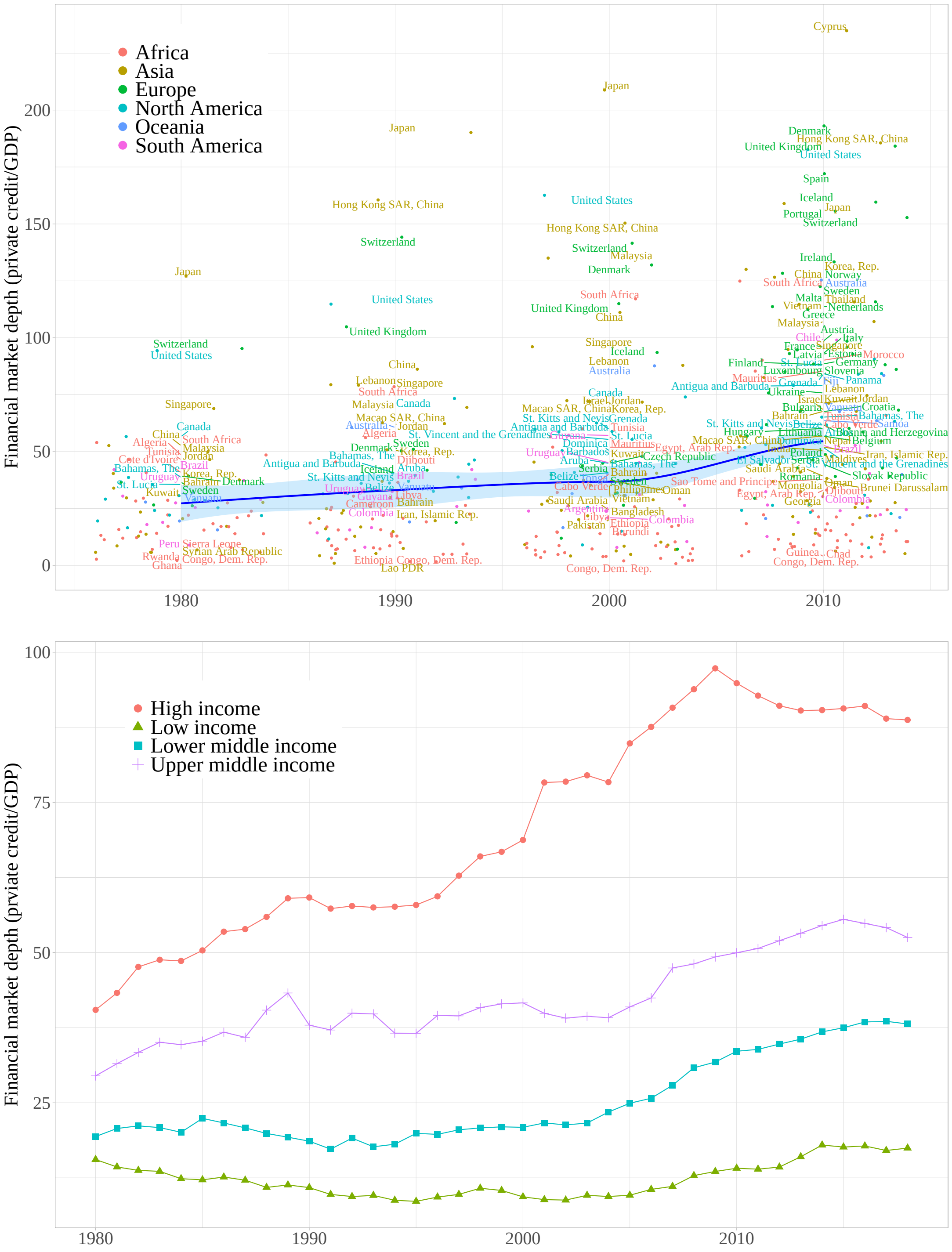


Figure C.5: Pearson correlation between financial market depth measures

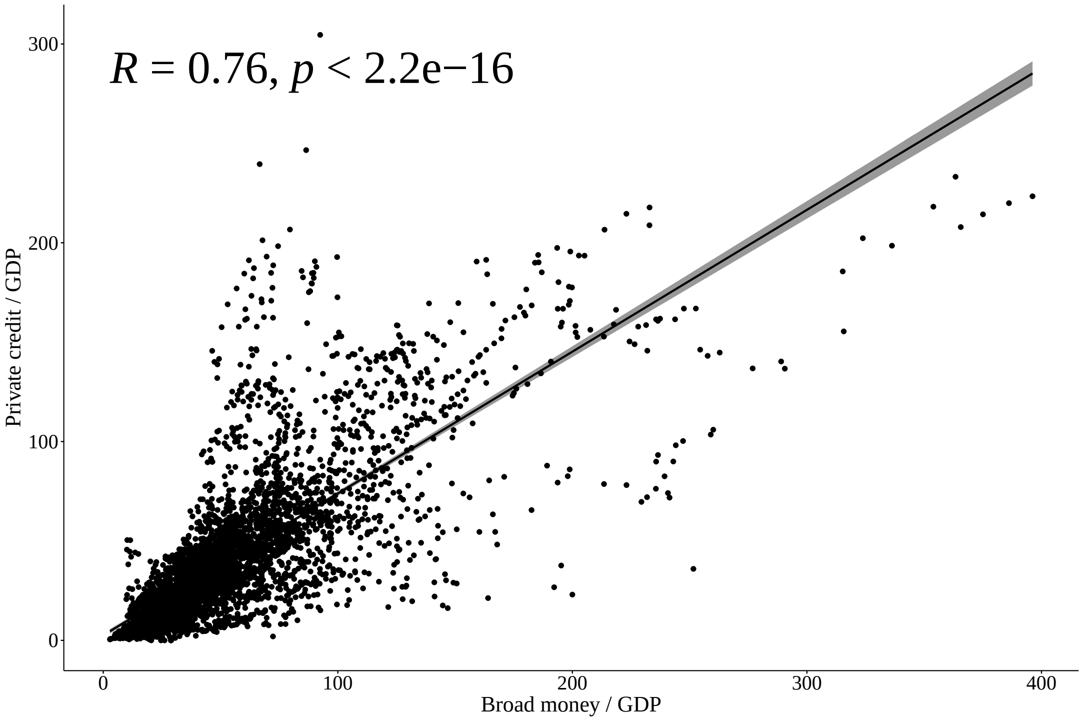
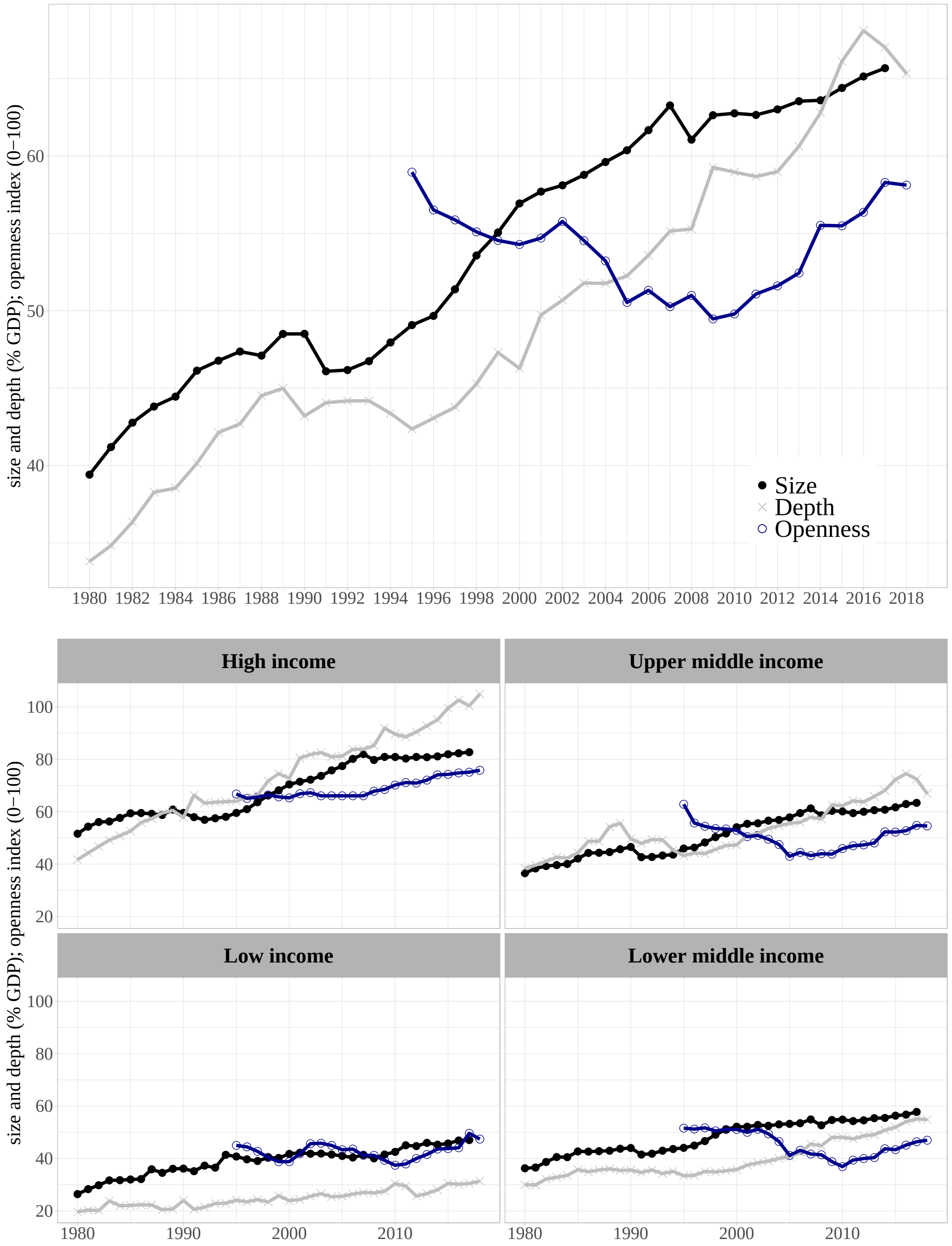


Figure C.6: Three dimensions trend



C.4 Data source summary

Table C.3: Variables and Sources

Variable	Definition	Source
Dependent Variable:		
Financial development has three dimensions (size, depth and global openness)		
Dimension 1: Size	Gross portfolio capital stock and flows in million U.S. dollars (% GDP)	World Bank
Dimension 2: Depth	Ratio of broad money to GDP (M2/ GDP), log terms	World Bank
Dimension 3: Global openness	Capital account openness(-2 to 2; continuous)	Chinn and Ito 2008a
Independent Variable		
Government subsidy 1	Financial repression (private lending rate-government lending rate)	IMF
Government subsidy 2	Nominal interest rate spread (local-global interest rate)	World Bank
Government subsidy 3	Real interest rate spread (local-global interest rate)	World Bank
Integration into international trade	Betweenness centrality calculated from NxN trade network matrices for 1980-2014	COW
Integration into international finance	Betweenness centrality calculated from NxN bank network matrices for 1980-2018	BIS statistics
Controls:		
GDP growth	Yearly growth in GDP	World Bank
Rule of law	Continuous 0 to 1; 1 if strong rule of law	V-Dem
Foreign bank	1 if present; 0 if none	Claessens and Horen 2015
Financial crisis	1 if systemic crisis; 0 if none	Reinhart and Rogoff 2009
Conflict	1 if conflict; 0 if none	MID

C.5 Descriptive statistics extension

C.5.1 Size

Figure C.7 shows capital stock volume (stock) in year 2018 from the OECD data. In Figure C.7, Luxembourg and Belgium have leading stocks of inward foreign direct investment while Japan has relatively lower capital stock.

Figure C.7: Inward Foreign Direct Investment Stocks in Million US dollars (% GDP), 2018

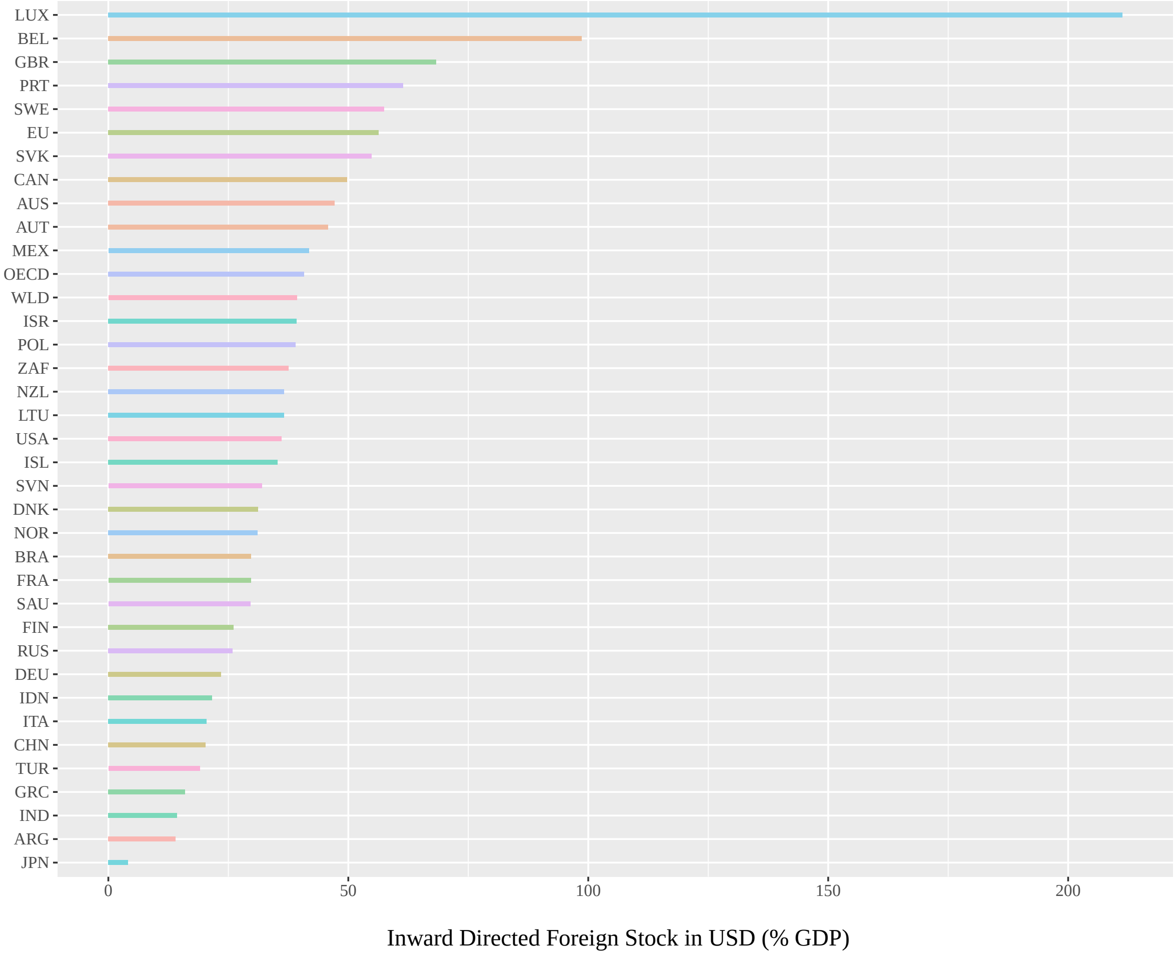
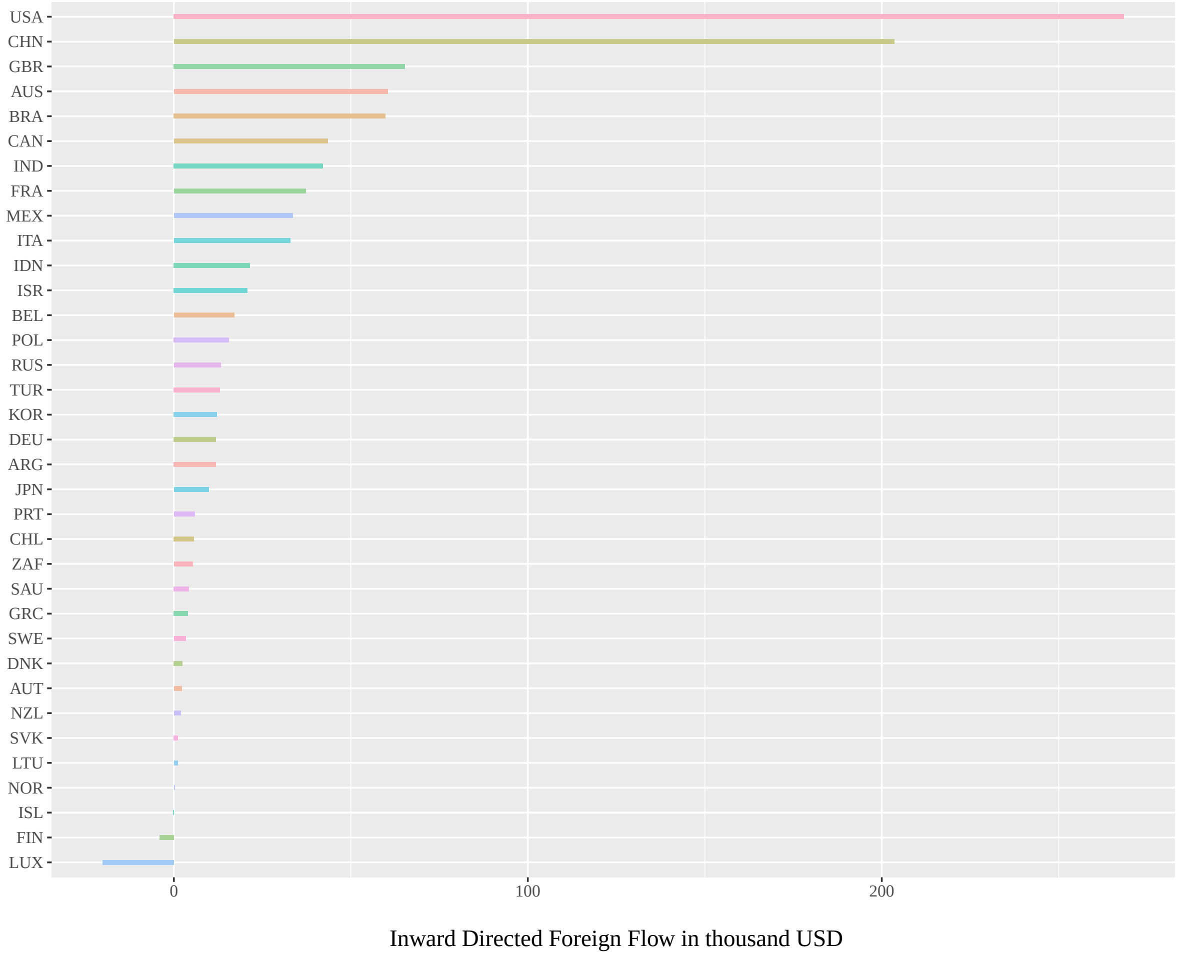


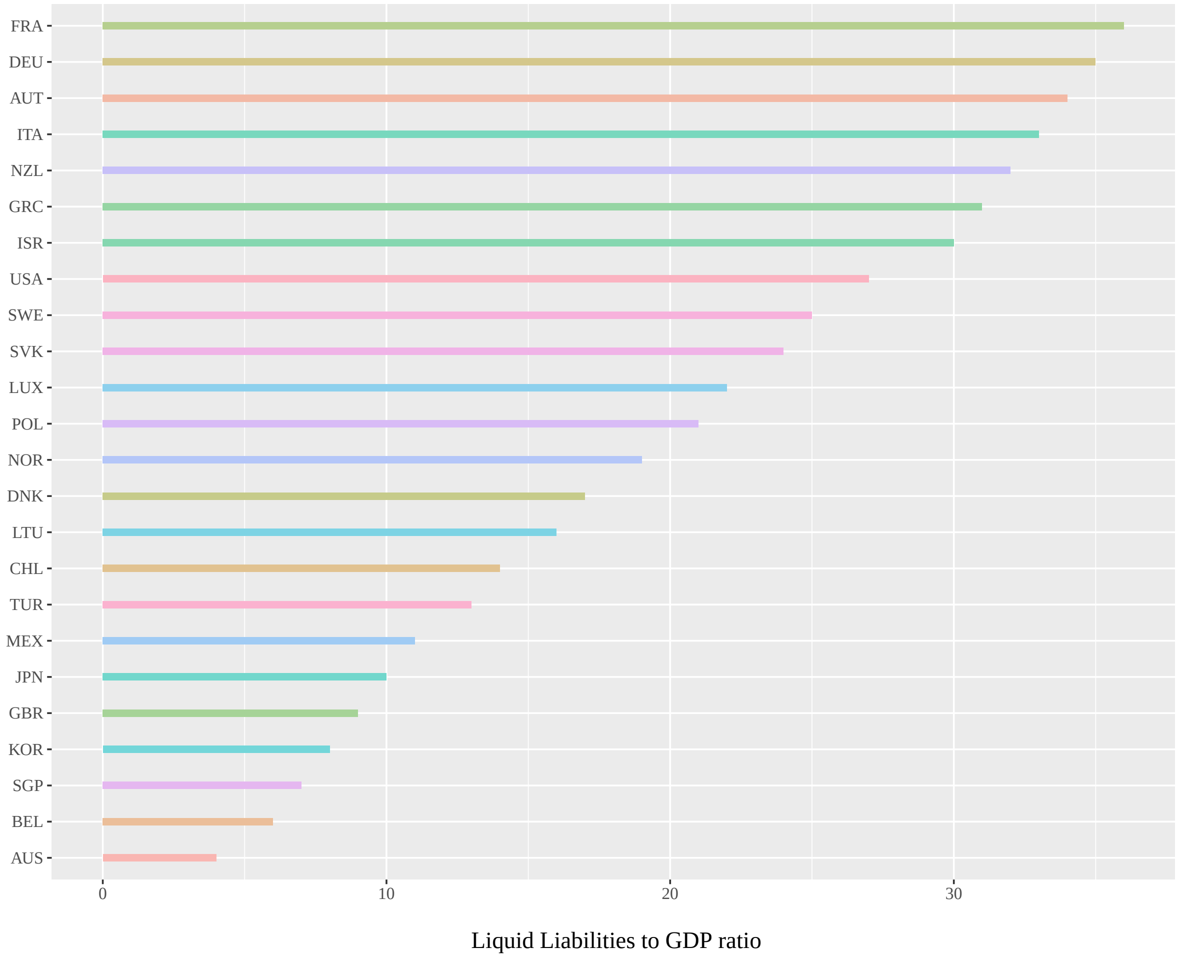
Figure C.8 shows the amount of new foreign capital entering the financial center (flow) in the same year (2018) from the OECD data. Notice that Luxembourg is now no longer the leading country and now has negative values. Japan, on the other hand, had the lowest levels of capital stock but fairs better in capital flow in comparison to Luxembourg. Great Britain ranks high for both stocks and flows.

Figure C.8: Inward Foreign Direct Investment Flow in thousand US dollars (% GDP), 2018



C.5.2 Depth

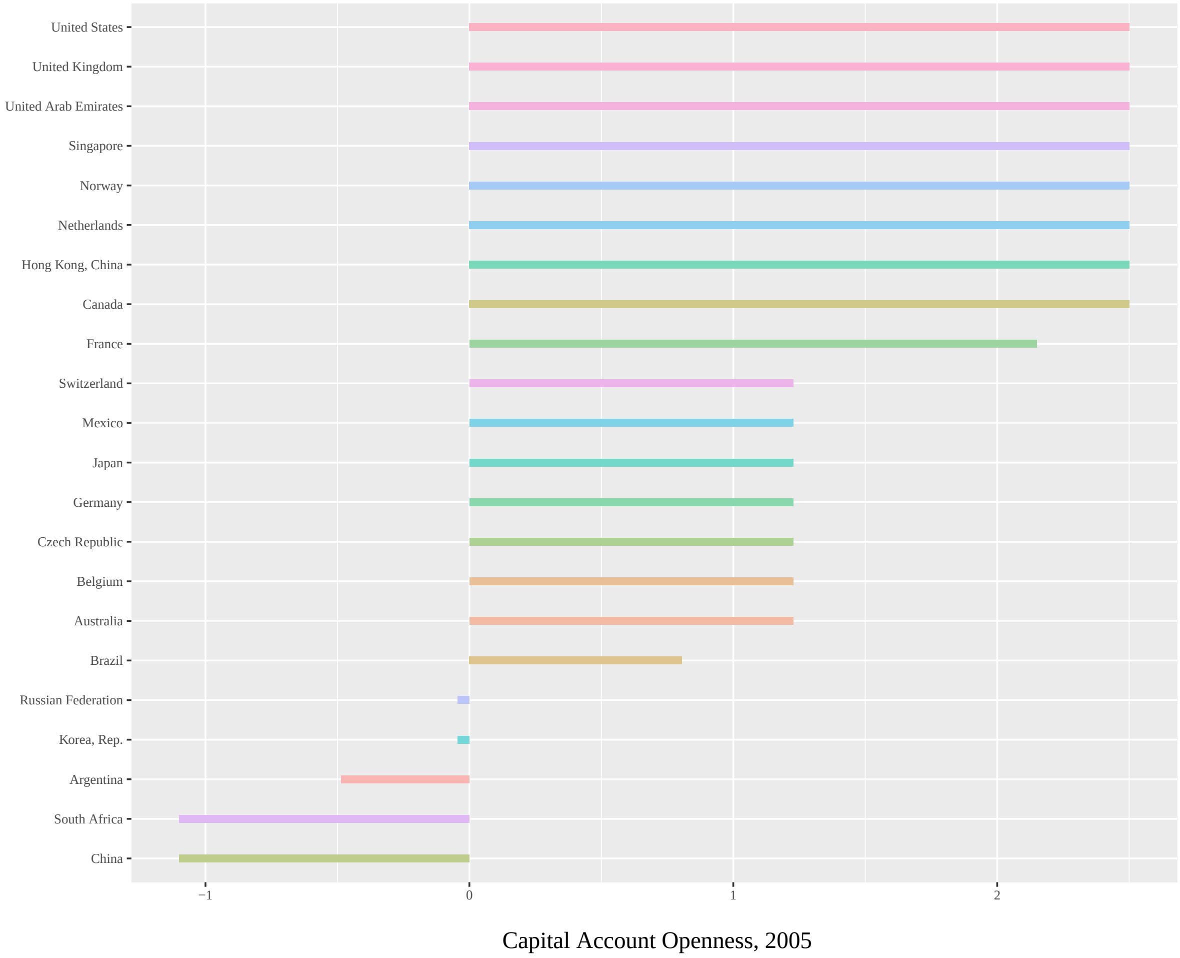
Figure C.9: Liquid Liabilities to GDP Ratio, 2017



C.5.3 Capital account openness

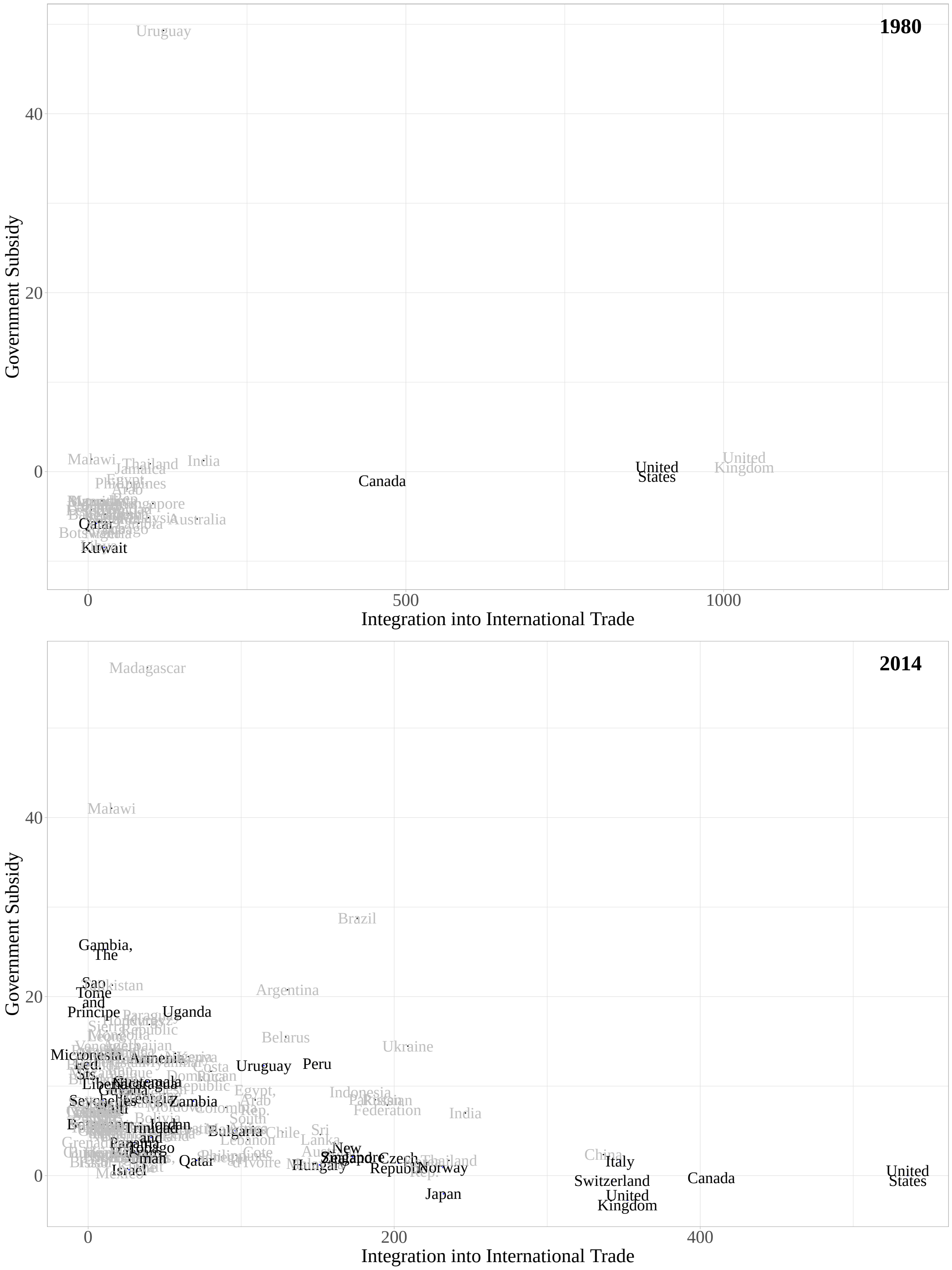
Existing literature have adopted many measures to gauge openness to the global economy, such as currency trades (Forex FX transactions), capital account openness (liberalization), level of foreign bank entry or share of international transactions. Here, as a proxy, I take the most commonly used measure for openness to global economy: capital account openness. Table C.10 shows capital account openness score for year 2005 from Chinn and Ito 2008a. Higher numbers show greater openness. In Table C.10, U.S., U.K. and Singapore are countries with the highest capital account openness.

FIGURE C.10: Table 4: Capital Account Openness, 2005



C.6 Argument in descriptive statistics alternatives

Figure C.11: IIT, Government subsidy and Financial Liberlization



C.7 Robustness checks

Table C.4: Effects of Government Subsidy and Integration into the Global Economy on Financial Market Development

	Panel Analysis					
	Size		Depth		Global Openness	
	(1)	(2)	(3)	(4)	(5)	(6)
Integration into international trade	0.005***	0.005***	0.103***	0.100***	0.001***	0.001***
	(0.001)	(0.001)	(0.013)	(0.013)	(0.0004)	(0.0004)
Government subsidy (real interest spread)	−0.009	−0.004	−0.141	0.039	0.002	0.010*
	(0.018)	(0.028)	(0.121)	(0.159)	(0.004)	(0.005)
Foreign banks	−0.016	−0.016	−0.204	−0.185	0.009**	0.009**
	(0.015)	(0.015)	(0.129)	(0.129)	(0.004)	(0.004)
GDP growth	−0.081	−0.081	0.131	0.165	−0.060***	−0.059***
	(0.059)	(0.059)	(0.479)	(0.479)	(0.016)	(0.016)
Rule of law	−0.315	−0.305	35.095***	35.809***	1.687***	1.713***
	(0.670)	(0.673)	(5.387)	(5.395)	(0.183)	(0.183)
Conflict	0.223	0.225	17.751***	17.612***	−0.426***	−0.433***
	(0.426)	(0.427)	(3.636)	(3.632)	(0.118)	(0.118)
Financial crises	−0.004	−0.009	12.474***	12.061**	−0.280*	−0.293**
	(0.540)	(0.541)	(4.678)	(4.677)	(0.150)	(0.149)
Integration X Subsidy		−0.00004		−0.003*		−0.0001**
		(0.0002)		(0.002)		(0.0001)
Country fixed-effects?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	674	674	690	690	734	734
R^2	0.044	0.044	0.308	0.311	0.266	0.270
Adjusted R^2	0.007	0.006	0.282	0.284	0.240	0.243
F Statistic	4.261*** (df = 7; 648)	3.728*** (df = 8; 647)	42.235*** (df = 7; 664)	37.435*** (df = 8; 663)	36.622*** (df = 7; 708)	32.690*** (df = 8; 707)

Note: *p<0.1; **p<0.05; ***p<0.01

- When the government's financial subsidy to the banking sector is low (low real interest rate spread), domestic banks are more likely to pressure the government for financial liberalization with deeper integration into international trade (positive coefficient).

- When the government's financial subsidy to the banking sector is high (high real interest rate spread), domestic banks are less likely to pressure the government for financial liberalization with deeper integration into international trade (negative coefficient).

TABLE C.5: Effects of Government Subsidy and Integration into International Finance on Financial Market Development

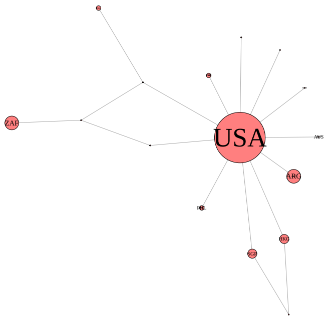
	Panel Analysis					
	Global Openness					
	(1)	(2)	(3)	(4)	(5)	(6)
Integration into international finance	0.022***	0.021***	0.023***	0.022***	0.012**	0.038**
	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.015)
Government subsidy (nominal interest spread)	−0.009***	−0.007**				
	(0.003)	(0.003)				
Government subsidy (real interest spread)			0.0001	0.003		
			(0.004)	(0.004)		
Government subsidy (financial repression)					0.493***	0.620***
					(0.139)	(0.156)
Foreign banks	0.013***	0.016***	0.011***	0.013***	−0.0003	−0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
GDP growth	−0.058***	−0.056***	−0.058***	−0.057***	−0.097***	−0.097***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.019)	(0.018)
Rule of law	1.758***	1.772***	1.885***	1.875***	2.083***	2.029***
	(0.170)	(0.169)	(0.166)	(0.165)	(0.212)	(0.214)
Conflict	−0.442***	−0.467***	−0.383***	−0.386***	−0.075	−0.114
	(0.115)	(0.114)	(0.116)	(0.115)	(0.114)	(0.116)
Financial crises	−0.263*	−0.258*	−0.281*	−0.273*	−0.222	−0.202
	(0.149)	(0.148)	(0.150)	(0.149)	(0.159)	(0.159)
Integration X Subsidy (nominal)		−0.007***				
		(0.002)				
Integration X Subsidy (real)				−0.008***		
				(0.003)		
Integration X Subsidy (repression)						−0.048*
						(0.027)
Country fixed-effects?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	734	734	734	734	562	562
R^2	0.272	0.282	0.263	0.273	0.331	0.335
Adjusted R^2	0.246	0.256	0.237	0.246	0.300	0.303
F Statistic	37.785*** (df = 7; 708)	34.704*** (df = 8; 707)	36.046*** (df = 7; 708)	33.157*** (df = 8; 707)	37.913*** (df = 7; 536)	33.702*** (df = 8; 535)

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Appendix D

Chapter 4 Appendix

D.1 Evolution of financial market networks, 1850-2018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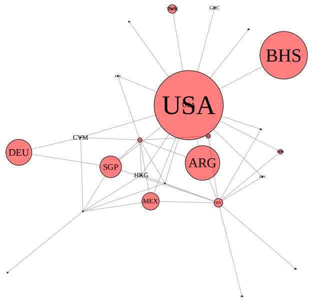
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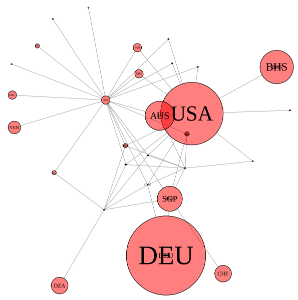
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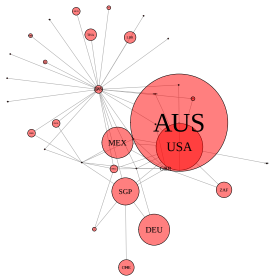
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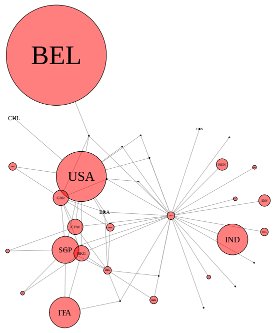
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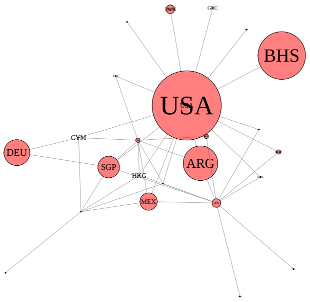
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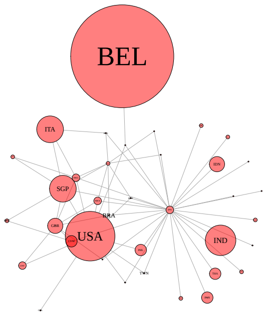
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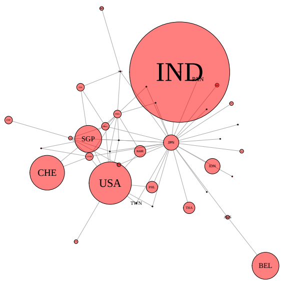
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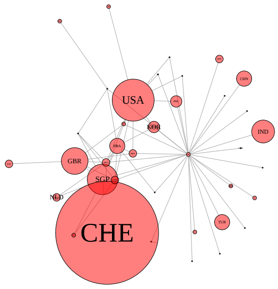
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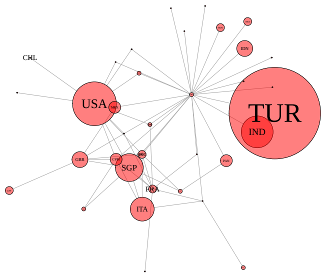
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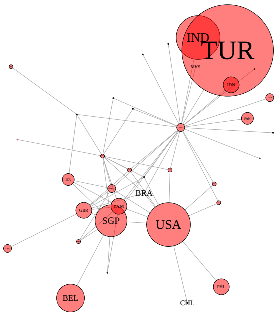
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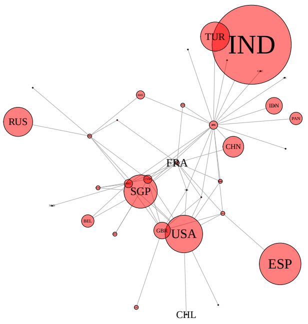
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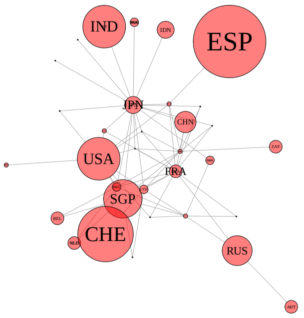
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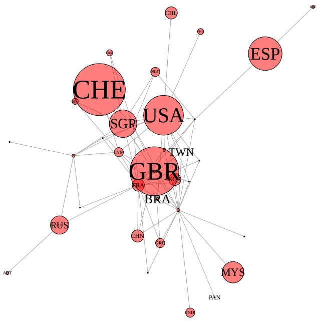
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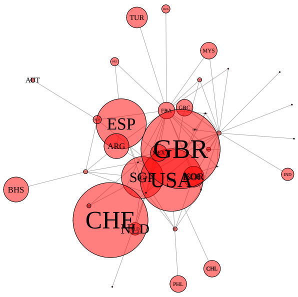
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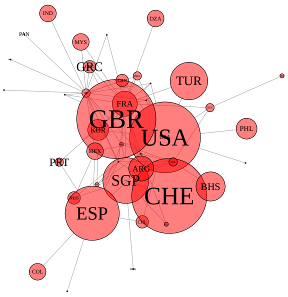
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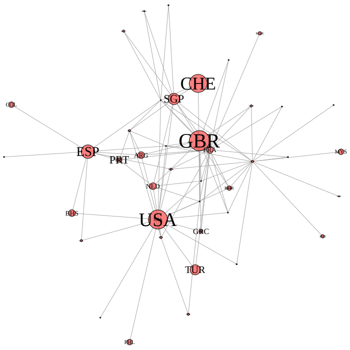
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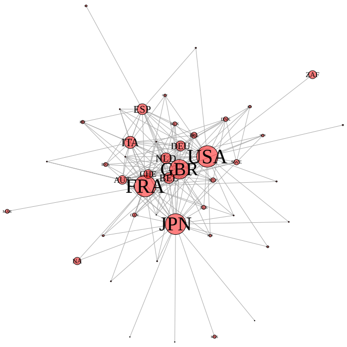
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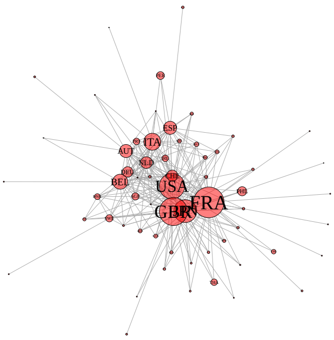
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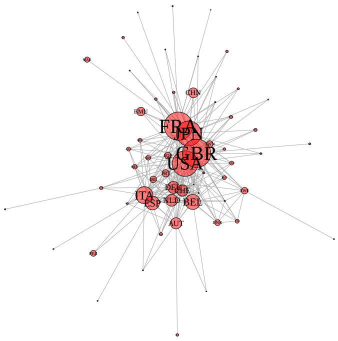
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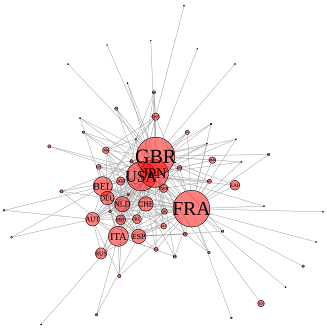
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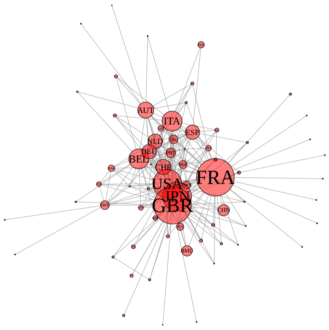
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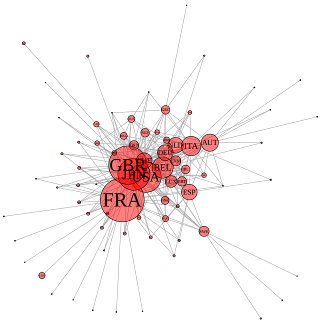
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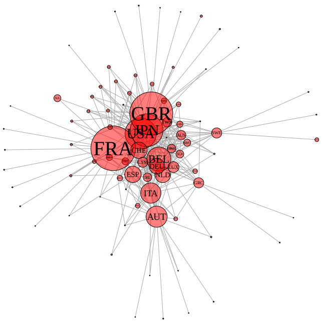
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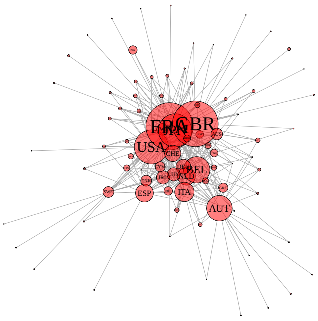
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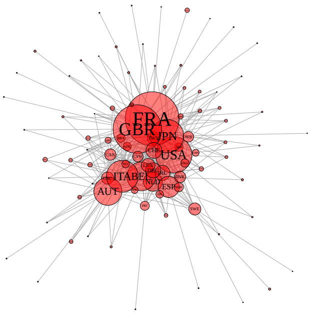
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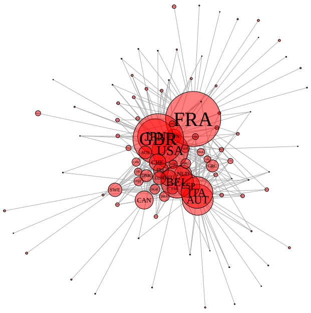
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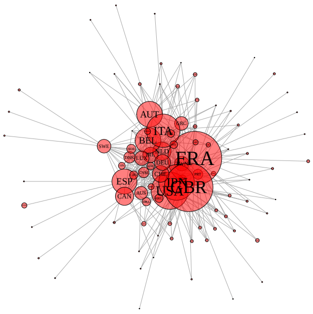
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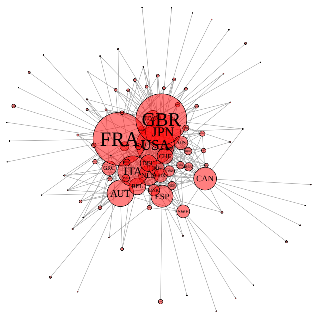

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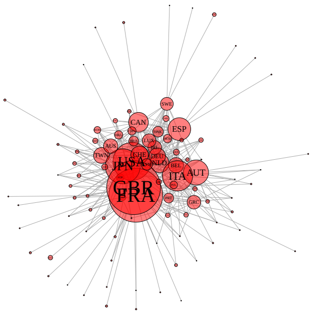

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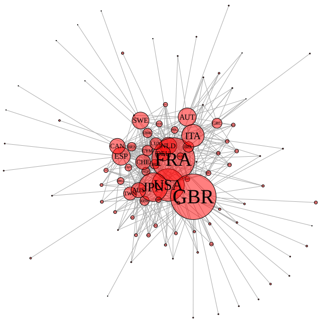

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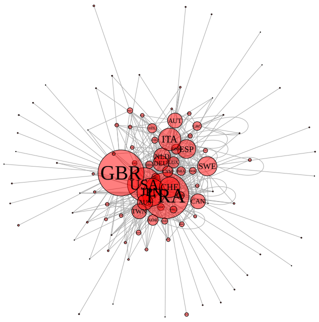

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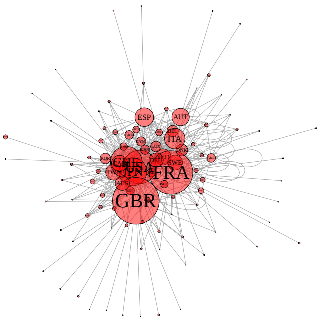

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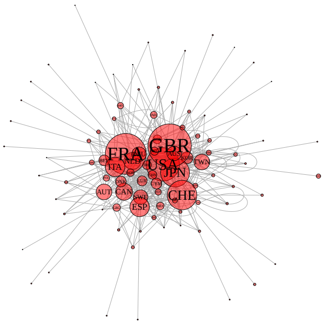

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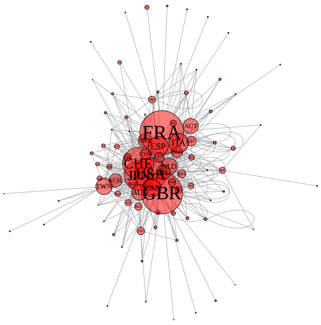

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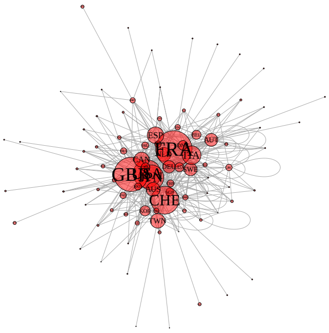

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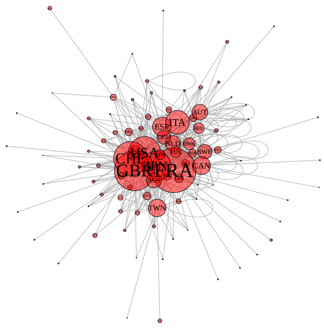
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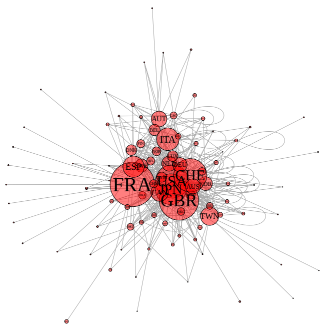
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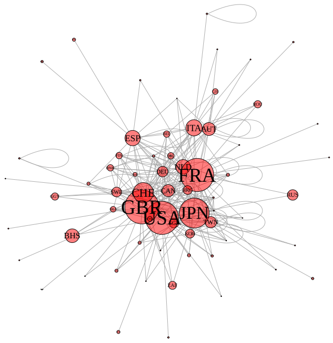
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