

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

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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 looks at how a country's trade openness affects its domestic banks' lobby for financial market liberalization. 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 does not depend on government subsidies will develop larger, deeper and more globalized financial markets. This study 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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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 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 global trade at similar levels and Uganda the least.² By the mid-2000s, the financial markets of South Africa and Ghana remained closed while Kenya and Uganda completely liberalized their capital accounts.

This phenomena is puzzling given the conventional wisdom that finance follows trade. Following the Hecksher-Ohlin model in treating trade movements and capital

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 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. 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, Keshk, and Pollins 2009).

movements as substitutes, this set of literature suggests that global financial flows should follow the classic gravity model of trade in which bigger, richer and geographically closer countries enjoy greater flows of finance and the highest level of financial liberalization. Or the political economy variation of this literature is that countries with strong trading sectors are more likely to have open capital markets and financial market policies that facilitate trade (Frieden 1991; Oatley 1999; Baccini and Urpelainen 2014; Rodrik 2018; Eichengreen and Mody 2000; Hanson and Sigman 2019; Haber and Menaldo 2011).

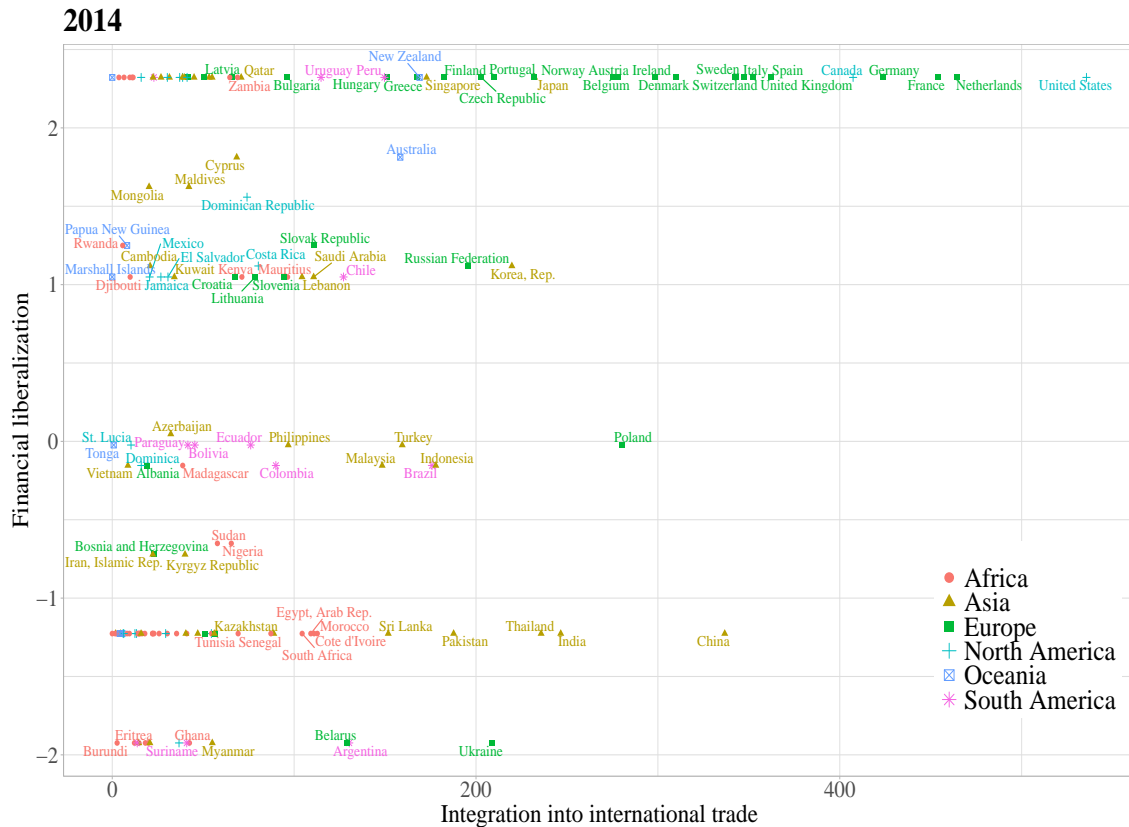
There are substantial variations, however, among countries that are similarly integrated into the global economy that have chosen different levels of financial liberalization. Kenya and Ghana, for example, have varying levels of financial market openness despite sharing similar levels of integration into international trade.³ Similarly, despite being the most integrated country into international trade, South Africa has one of the lowest levels of financial liberalization among the four countries, whereas Uganda, the country with the least integration into international trade, has the highest level of financial liberalization among them.⁴ This is not just a unique phenomenon of Sub-Saharan Africa. 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. Figure 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

3. Financial liberalization of Ghana and Kenya are -1.23 and 1.05 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. Financial liberalization of South Africa and Uganda are -1.23 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).

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 Myanmar in Southeast Asia and many more. This pattern is consistent when plotting financial liberalization against various trade measures such as trade-to-GDP ratio, trade volumes, de jure trade openness, gravity index (see Figures A.1, A.2 and A.3 in Appendix), and in spite of the global economic system’s evolution over time (Appendix A.4 and A.5).

Figure 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.

I argue that the missing piece to the puzzle is the story of the domestic banking interests, and more specifically how their preferences and lobbying determine the level of financial market openness. 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 shaped by 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 the private benefits of international capital inflows outweighed the benefits of private rents provided domestically.

In this paper, I show that governments are more likely to face pressures from domestic banks on financial market policies when the country is heavily integrated into international trade, but the direction of bank lobbying for financial liberalization depends on the degree of rents banks currently receive from the government, usually in the form of government subsidies. This is because a country's integration into international trade partially removes capital controls which gives domestic banks the political leverage as the gate-keeping interest to remove the remaining controls on non-trade related capital flows. Domestic banks face a high-stakes trade-off: they can lobby for complete removal of capital controls to benefit from global capital inflows or retain capital controls to preserve their role as exclusive lender of foreign funds domestically. If the private benefits of international capital inflows outweigh the subsidies currently provided by the government to sustain their exclusive lender role domestically, banks will push for financial liberalization. Using my own dataset on global trade networks and government subsidies to the financial sector in 181 countries from 1980 to 2018, I find robust results for the argument that countries that are integrated into international trade with a domestic banking industry that depends on foreign credit will develop larger, deeper and more globalized financial markets.

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 as well as shifting preferences of domestic interest groups. 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. Furthermore, this framework 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 unpacking the “varieties” of globalization 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. With globalization, domestic markets have become evermore inter-connected, but as the puzzle of the paper suggests, this may only be true for domestic markets for trade but *not* domestic markets for finance.⁵ My paper suggests that the effect of trade openness on financial liberalization is mediated by domestic factors. By showing how and when trade liberalization may or may not affect the dynamics of financial liberalization, this paper 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

5. While countries like the US and Singapore that open to both trade and finance, there are countries like China and India that are highly open in terms of trade but their domestic financial markets remain inaccessible (Figure A.1 Appendix).

power have either focused on a specific type of wealth or 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.

2 Financial Market Development in Political Science

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 an international level as a global financial hub. Accordingly, size, depth and global openness are core dimensions that determine a country's financial market development. Thus, the 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. Financial market size reflects its functional capacity, depth measures the level of activity taking place within it, 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. Figure C.10 in the Appendix show multiple country cases that have big and deep financial markets but fail to become global financial market due to limited capital account liberalization efforts.

In explaining for the variations in financial market development, deviations from the underlying economic model that finance follows trade 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. The IMF literature, in a similar vein, show how developing countries that join the IMF program undergo extensive financial liberalization. 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.⁶ Furthermore, this approach does not explain why governments that joined the IMF program had not decided to financially liberalize prior to the crisis.

Other approaches have focused on the role of domestic politics to explain governments' implementation of specific financial policies. 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

6. Some examples of countries whose financial liberalization was not prompted by a crisis are Singapore, Kenya, Luxembourg, Qatar, Canada, Malaysia, Peru to name a few. There are at least 53 other country cases as such, according to the author's own analysis using the Chinn-Ito financial openness index and Haggard-Maxfield financial crisis index: Chinn and Ito 2008a; Haggard and Maxfield 1996.

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.⁷

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 exporting credit or internationalizing the dollar in the US case. What's missing is a theory that connects these two class of cases to understand when and why domestic banks' financial incentives change, especially when not all domestic banks in credit-poor countries push for protection and domestic

7. 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.

banks in credit-rich countries push for liberalizations; 1980s Singapore and 1990s Kenya are examples of the former while 1970s France and late 1980s Japan are examples of the latter.

In essence, there are two problems with the existing approaches that focus on domestic politics. 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 of 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 also cartelize against financial liberalization or why domestic banks in developing economies push for financial liberalization policies even without the experience of a crisis.

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.

3 Theory: The Politics of Financial Market Development

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 gate-keeping 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 section, 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. 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 then walk through a series of testable implications of the model. If each of the hypotheses holds 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.

3.1 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.⁸ Given that a global financial market is a venue for global suppliers and borrowers of capital, banks are extremely relevant in financial markets. 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 do-

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

mestic 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.

3.2 Integration into International Trade (IIT) as a political lever for domestic banks

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.

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 (Appendix Figure B.6) 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 to find cheap access to foreign credit

Second, a country's increased IIT also attracts foreign bank competition (Appendix

Figure B.7) and threatens domestic banks' role as intermediaries of foreign credit. When a country 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).

Third, a country's increased IIT liberalizes capital accounts to facilitate trade-related capital flow, but not necessarily for non-trade-related capital flow (Appendix Figure B.8). 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. Countries with high levels of IIT, thus have partially liberalized its capital accounts to at least trade-related capital, if not fully to include non-trade-related capital.

The three changes discussed above provide the bases for why increased IIT becomes a political lever for domestic banks. 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. 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.

Furthermore, 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 (Appendix Figure B.9). 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.

3.3 Financial Incentives and the Direction of Bank Lobbying

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. If domestic banks find that their private rents from foreign credit outweigh the private rents provided by the government domestically, domestic banks will push for financial liberalization. In this section, I begin by explaining the forms and goals of government subsidy, and how it translates to domestic banks' private rents provided by

the government domestically. I then build on what has already been discussed about domestic banks' private rents from foreign credit to show how domestic banks decide the direction of lobby.

Government subsidy has been one of the oldest source of financial incentive for domestic banks and have taken many adaptations over time, becoming one of the most important source of private rents for domestic banks.⁹ 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.

For many emerging economies, forms of government subsidy tend to be more direct. Many domestic banks in 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.¹⁰ 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 (Cameron 1953; W. Diamond 1957; Yasuda 1993; Gerschenkron 1962).

For credit-rich countries that have a private banking industry with the capacity to channel long-term credit, governments have less incentive to intervene in capital markets

9. 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. 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.

10. 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)

directly due to its costly nature (Borisova et al. 2015), and instead prefer to provide implicit guarantees for banks' debts (Andersen and Jensen 2022; Hagendorff, Keasey, and Vallascas 2018; Toader 2015; Schich and Lindh 2012) or significant benefits such as insurance for domestic private liabilities, higher valuations (Brewer and Jagtiani 2013) and lower risk premiums (Völz and Wedow 2009) to a select number of private financial institutions that have become heavily responsible for providing long-term credit. 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). 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.

Essentially, governments provide subsidies to domestic banks in *both* developed and

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, 1999b).

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.

I argue that 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. 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, [n.d.](#)).

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.

3.4 Combining IIT and domestic banks’ financial incentives

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.

The two components of my theory create four typologies of financial market development as shown in Table 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 1: Financial Market Typology

		Integration into international trade	
		Low	High
Government subsidy high		<p>Closed financial market</p> <p>Limited size, depth and openness</p> <ul style="list-style-type: none"> • Limited trade liberalization • No financial liberalization 	<p>Emerging financial market</p> <p>Broad but limited depth and openness</p> <ul style="list-style-type: none"> • High trade liberalization • Limited financial liberalization
	Government subsidy low	<p>Specialized financial market or international tax havens</p> <p>Deep and open but not broad</p> <ul style="list-style-type: none"> • High financial liberalization • without a traditional economy 	<p>Global financial market</p> <p>Broad, deep and open financial market</p> <ul style="list-style-type: none"> • 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 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. On the theoretical level, higher levels of IIT should lead to bigger financial markets as it attracts global capital (appendix Figure B.6), 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, 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 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.

4 Data and Research Design

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, as it helps control for country-specific conditions that may affect financial market development. 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. Descriptive statistics for all main variables can be found in [Appendix C](#).

4.1 The Dependent Variable: Size, Depth and Openness

To operationalize financial market development I employ three measures: size, depth, and openness.¹² Size is measured in terms of the sum of stocks and flows of foreign direct investment (FDI), portfolio investment, international debt, international reserves

12. Check [Appendix C](#) for descriptive statistics of the three dimensions and their relations.

and international income payments in percentage of GDP.¹³ 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.

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.

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

13. 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) 2022

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.

4.2 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. 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. Traditional measures of trade such as a country's trade volume and trade dependence can bias the integration measure. 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.

4.3 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. 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.

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 appendix).

4.4 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 ??, ?? and ?. For details on all variables and sources see Table ?? in the appendix. Descriptive plots for the control variables are also included in the appendix.

4.5 Results

Results in Table 2 and 3 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.

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 2 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.

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). 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.

Table 2: 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*** (0.002)	0.004 (0.003)	0.063*** (0.019)	0.128*** (0.025)	0.002*** (0.0003)	0.002*** (0.0004)
Financial repression	-2.456*** (0.820)	-3.432** (1.465)	14.861** (7.364)	55.513*** (12.255)	0.452*** (0.133)	0.842*** (0.237)
Foreign banks	0.014 (0.026)	0.018 (0.027)	-0.470** (0.208)	-0.294 (0.208)	-0.008* (0.004)	-0.009** (0.004)
GDP growth	-0.059 (0.114)	-0.045 (0.115)	0.416 (0.883)	-0.034 (0.872)	-0.088*** (0.018)	-0.094*** (0.018)
Rule of law	2.273 (1.401)	2.553* (1.444)	26.129*** (9.979)	23.123** (9.798)	1.745*** (0.220)	1.614*** (0.229)
Conflict	0.005 (0.656)	-0.011 (0.657)	29.786*** (5.188)	35.482*** (5.266)	-0.099 (0.105)	-0.099 (0.105)
Financial crisis	1.785* (0.919)	1.782* (0.919)	24.564*** (8.969)	24.585*** (8.782)	-0.225 (0.151)	-0.227 (0.151)
IIT X Subsidy		0.004 (0.005)		-0.288*** (0.070)		-0.002** (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*** (df = 7; 508)	4.514*** (df = 8; 507)	14.019*** (df = 7; 368)	14.898*** (df = 8; 367)	44.438*** (df = 7; 552)	39.585*** (df = 8; 551)

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

Figure 2: Marginal Effect of IIT on Financial Market Depth and Openness

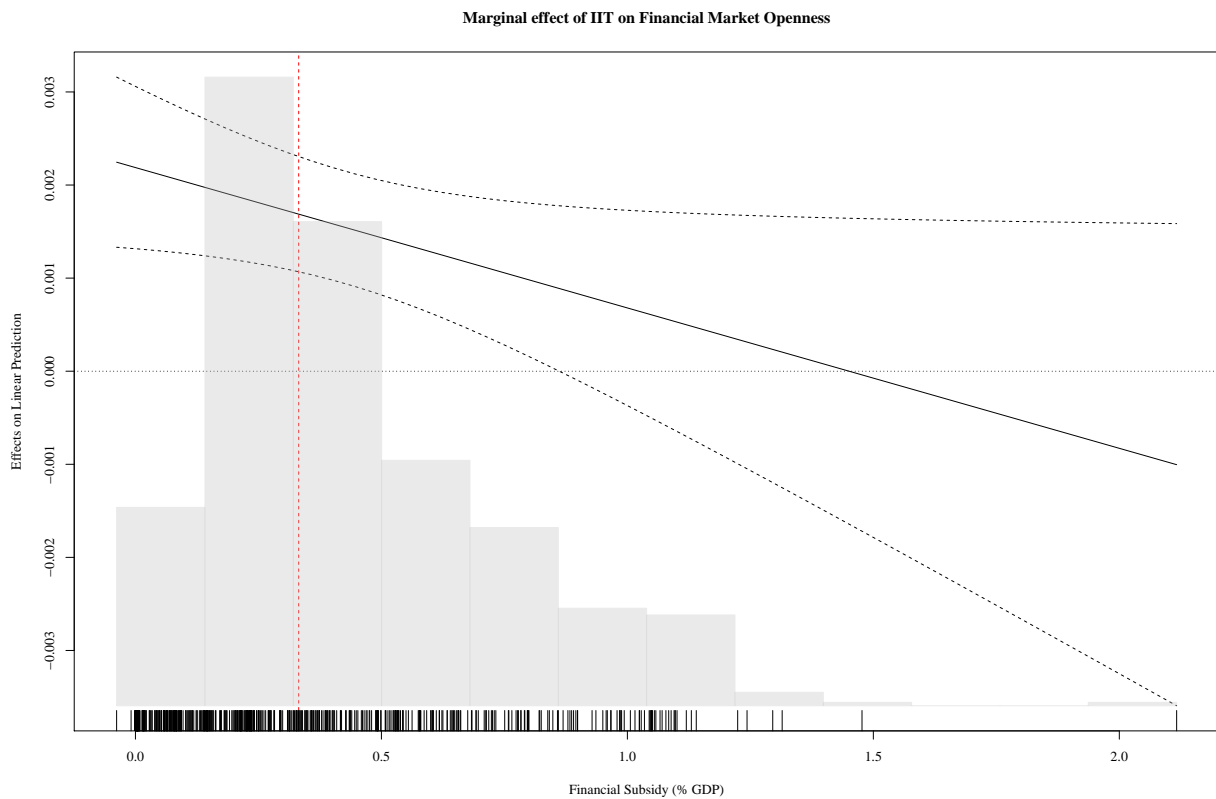
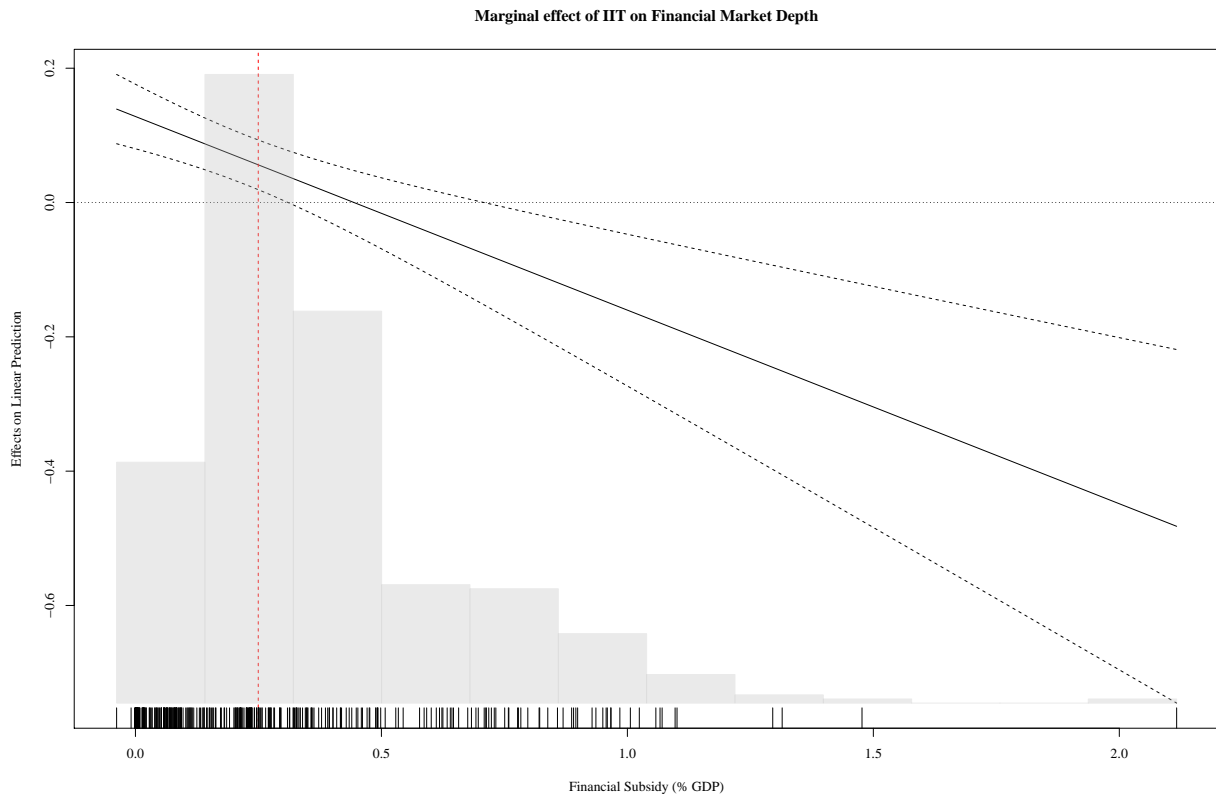
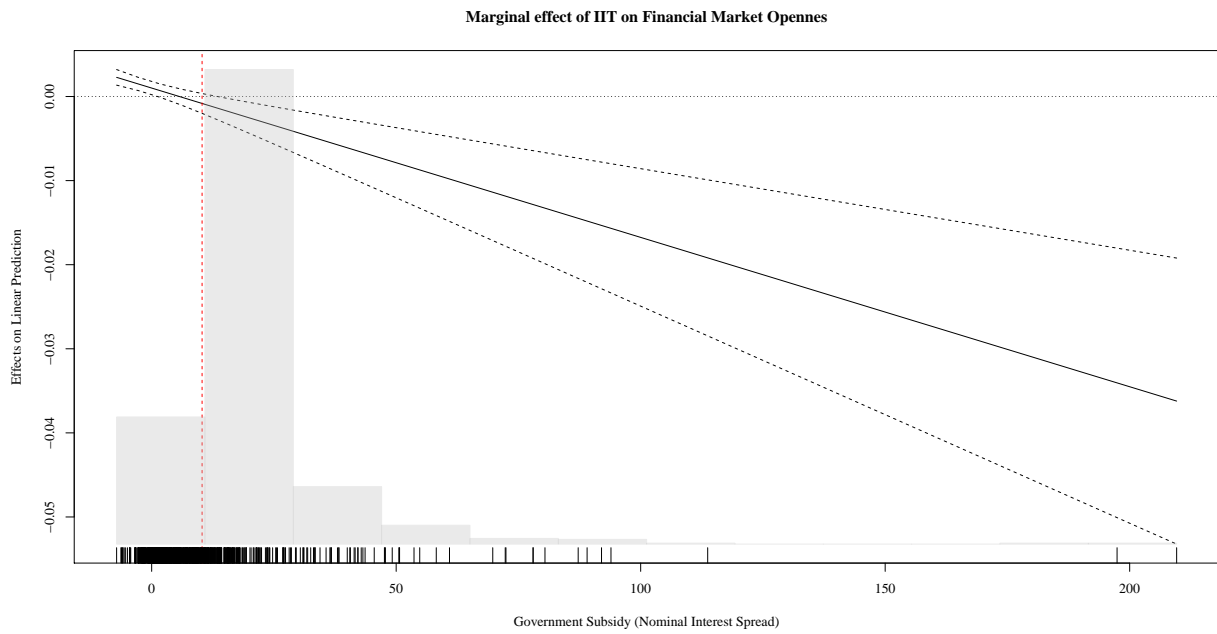
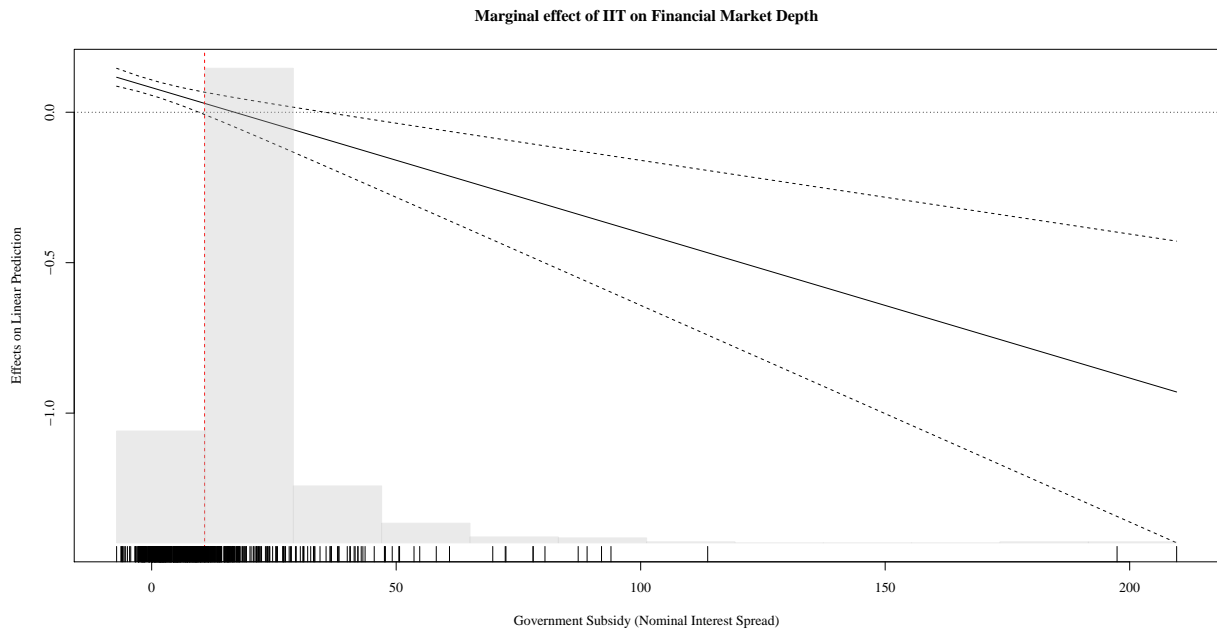


Table 3: Effects of Government Subsidy and Integration into International Trade on Financial Market Development

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

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

Figure 3: Marginal Effect of IIT on Financial Market Depth and Openness



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 three serious threats to the findings of my theory: simultaneous bias, potential omitted variable bias and measurement error.

First, to address the simultaneous bias, I relax the assumption that trade liberalization precedes financial liberalization, and analyze a simultaneous equations model (SEM). This helps address two problems of endogeneity. The first concern is 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. SEM allows trade liberalization and financial liberalization to be simultaneously determine and I find that my theoretical expectations consistently hold in SEM models, if not more strongly (see Appendix [D.1](#) for results and details).

Second, 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 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 multicollinearity 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 to ascribe the effect of my main variables on financial market development, I should minimize room for multicollinearity. 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.

Lastly, 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. I find consistent results for most alternative measures. A full discussion on varying results for alternative measures is included in the appendix.

6 Capsule case studies: Singapore and Japan

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.¹⁴ 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 1963-89.¹⁵ Today, Singapore ranks as the fifth largest financial market in the world (Global Financial Center Index, 2021).

The "big four" banks in Singapore (OUB, OCBC, DBS and UOB) played key roles in supporting the reforms. 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.¹⁶ 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

14. 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.](#)).

15. 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.

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

Singaporean government on the other hand, pressured by domestic banks, decides to host the ADM.

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.¹⁷ These financial incentives from foreign credit were especially welcomed by the “big four” who had much to gain and little to lose, 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.

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

17. 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.

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.¹⁸ 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.

7 Conclusion

In this paper, 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, the implication of this paper was 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.

To empirically test for the correlation found in my descriptive analyses, I 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

18. 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.

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.

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.

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).¹⁹ While

19. 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 Nuhui and Hoti 2011; Osinubi and Amaghionyeodiwe 2003.

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.

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Appendix

A Explaining the puzzle: finance does not follow trade

Countries that are open to trade are not always open to finance. Figures [A.1](#), [A.2](#) and [A.3](#) plots financial openness (Chinn and Ito [2008a](#)) against de jure trade openness (Gygli et al. [2018](#)), trade dependence measured in trade-to-GDP ratio (World Development Indicators [2022](#)) and trade volumes (World Development Indicators [2022](#)) in the year 2018. The paper's puzzle suggests, there is not strong positive correlation between financial market openness and various measures of trade. The inconsistencies of trade and finance are consistent for earlier years. Figures [A.4](#) and [A.5](#) show that while countries have become more open to trade over time, that has not necessarily been the case for finance.

Figure A.1: Integration into the Global Economy and Financial Liberalization

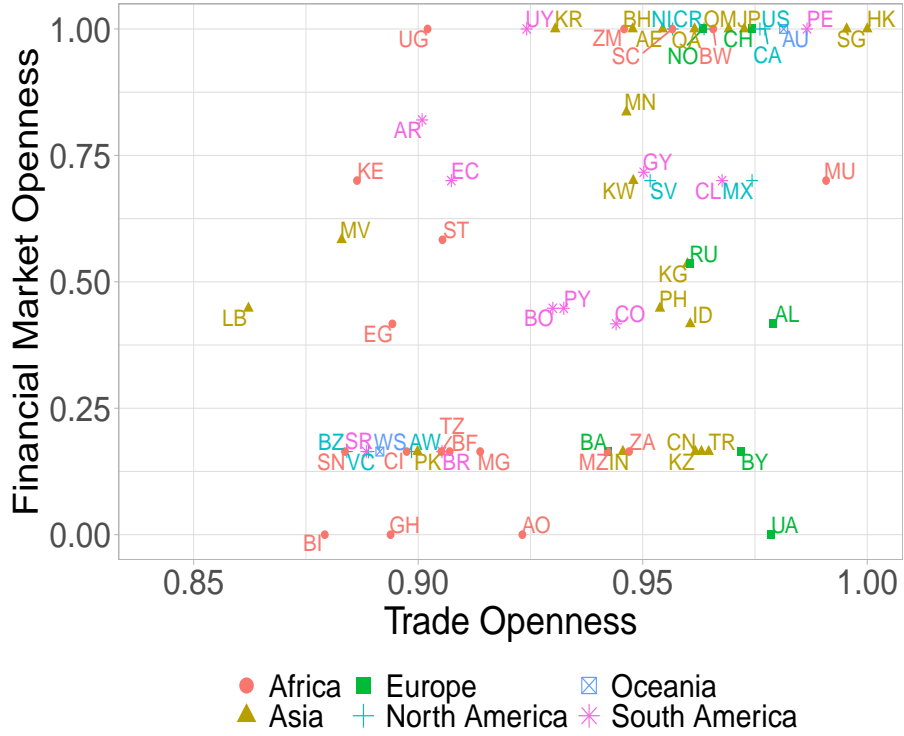


Figure A.2: Integration into the Global Economy and Financial Liberalization

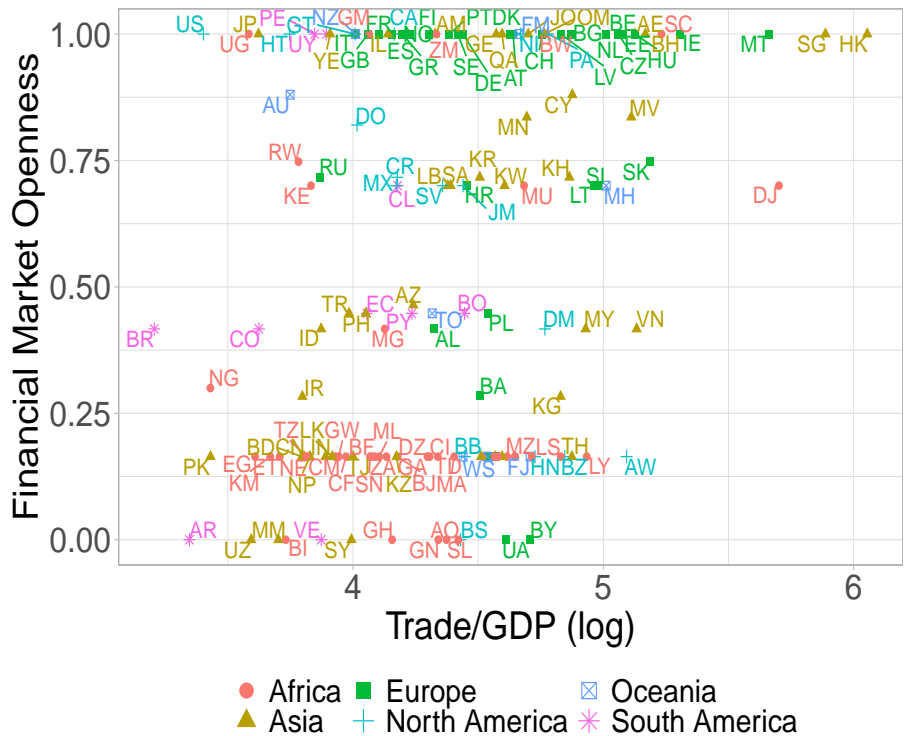


Figure A.3: Integration into the Global Economy and Financial Liberalization

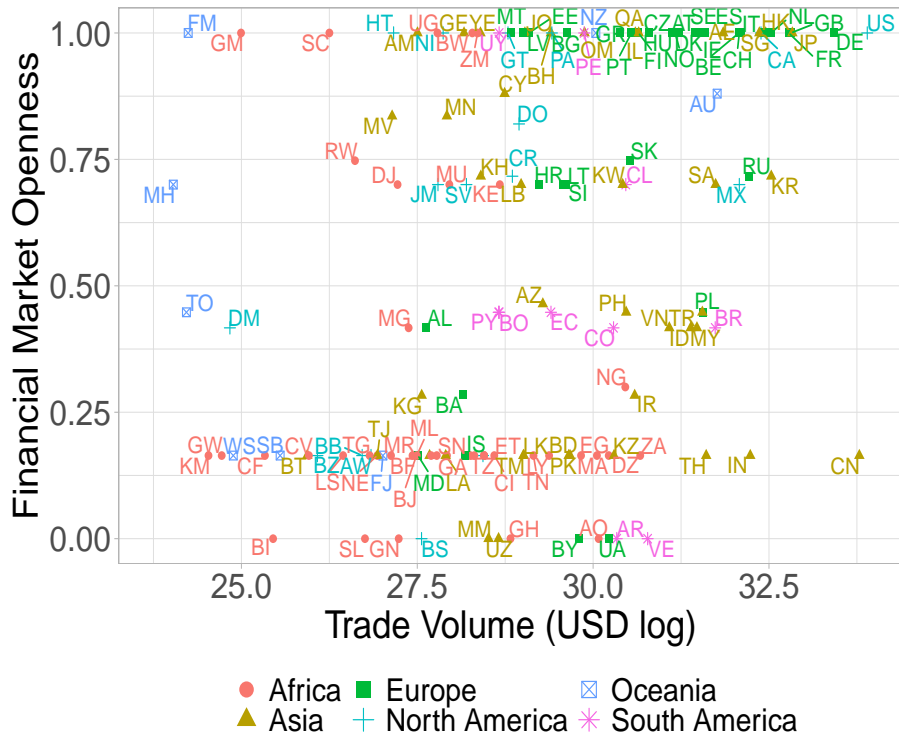


Figure A.4: Trade openness over time

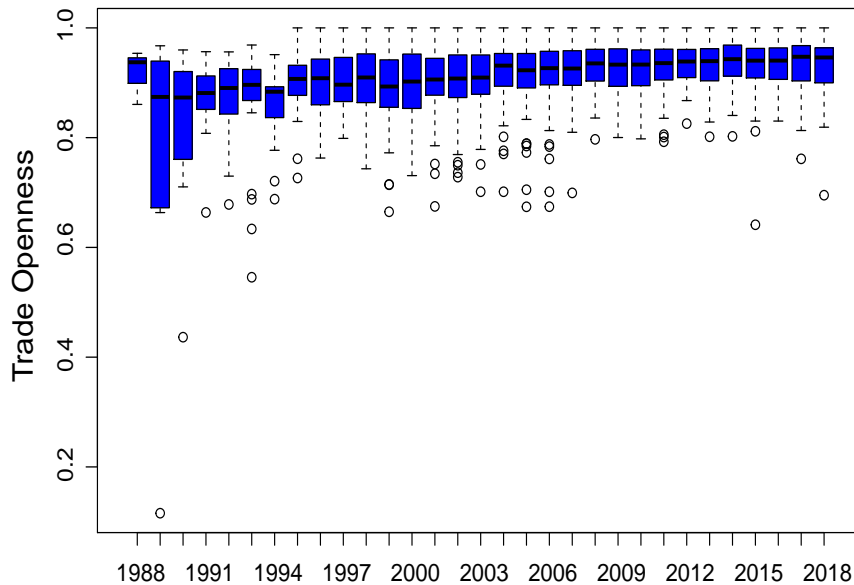
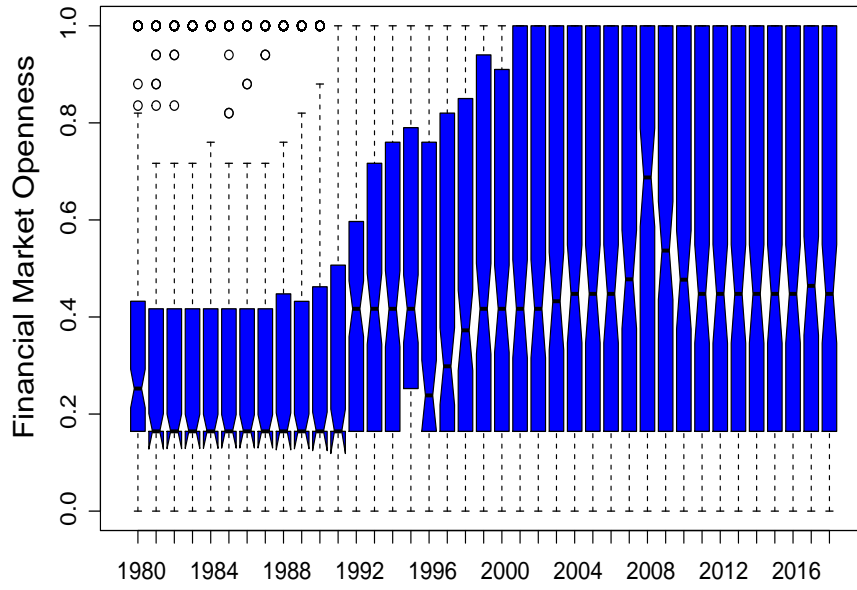


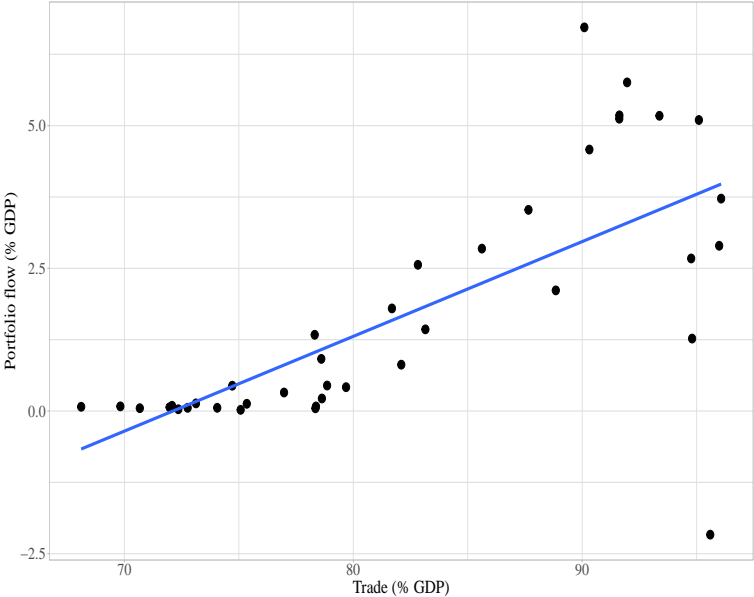
Figure A.5: Financial openness over time



B Capital flow, subsidies and domestic banking interest

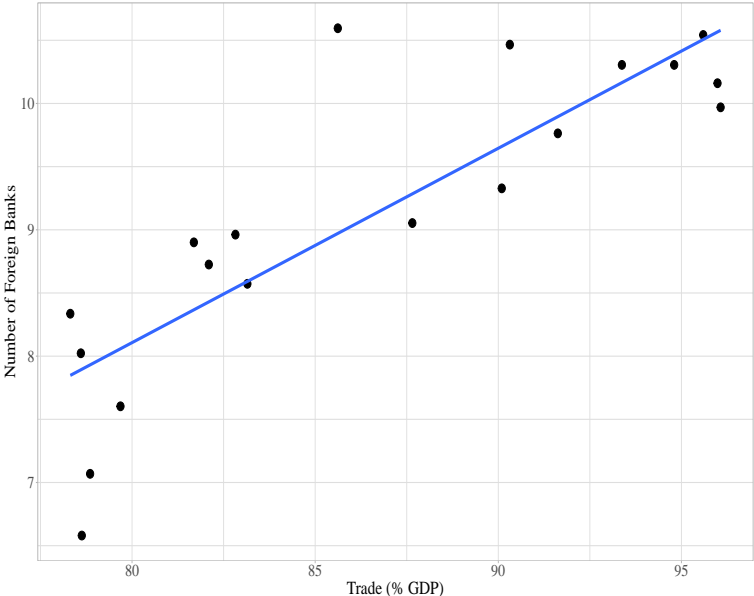
B.1 Effect of Trade on Global Capital Inflow

Figure B.6: International trade and global capital inflow



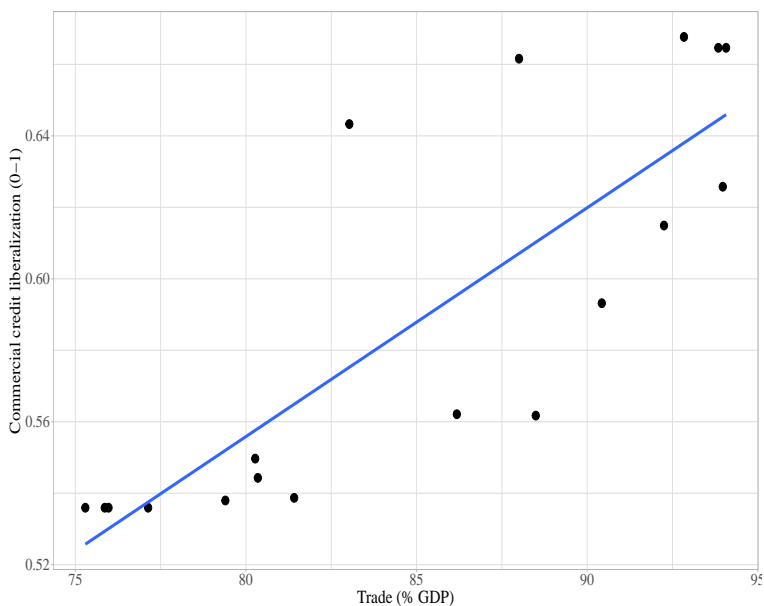
B.2 Effect of Trade on Foreign Bank Competition

Figure B.7: International trade and foreign bank competition



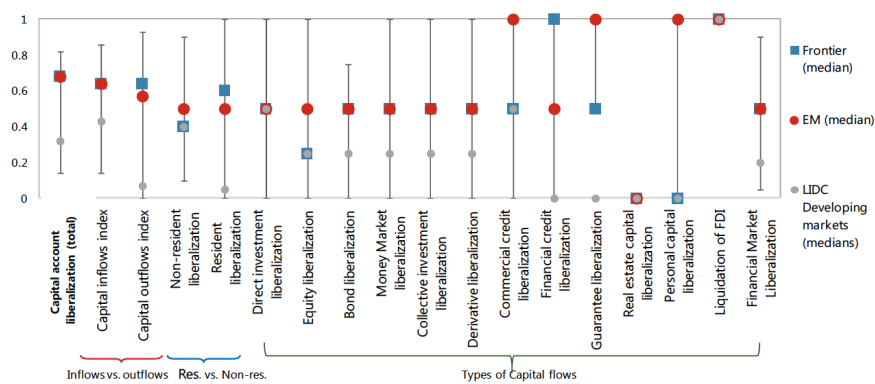
B.3 Effect of Trade on Commercial credit

Figure B.8: Effect of trade on commercial credit



B.4 Different Types of Capital Flow

Figure B.9: 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.

C Descriptive statistics of main variables

In terms of my data composition, middle income countries take up more than half of my sample as shown in Table 4.²⁰ 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 4: 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%

Figure C.10 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. 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.

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

Figure C.10: Three dimensions trend

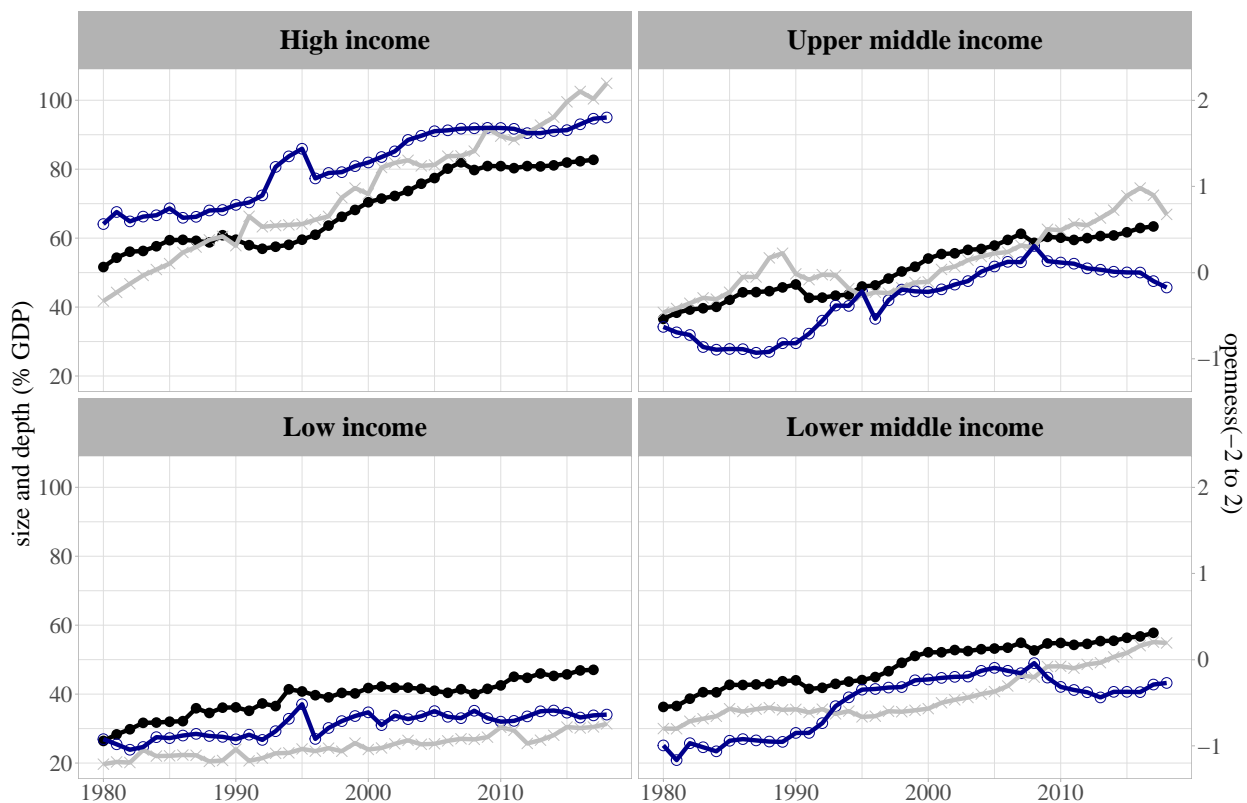
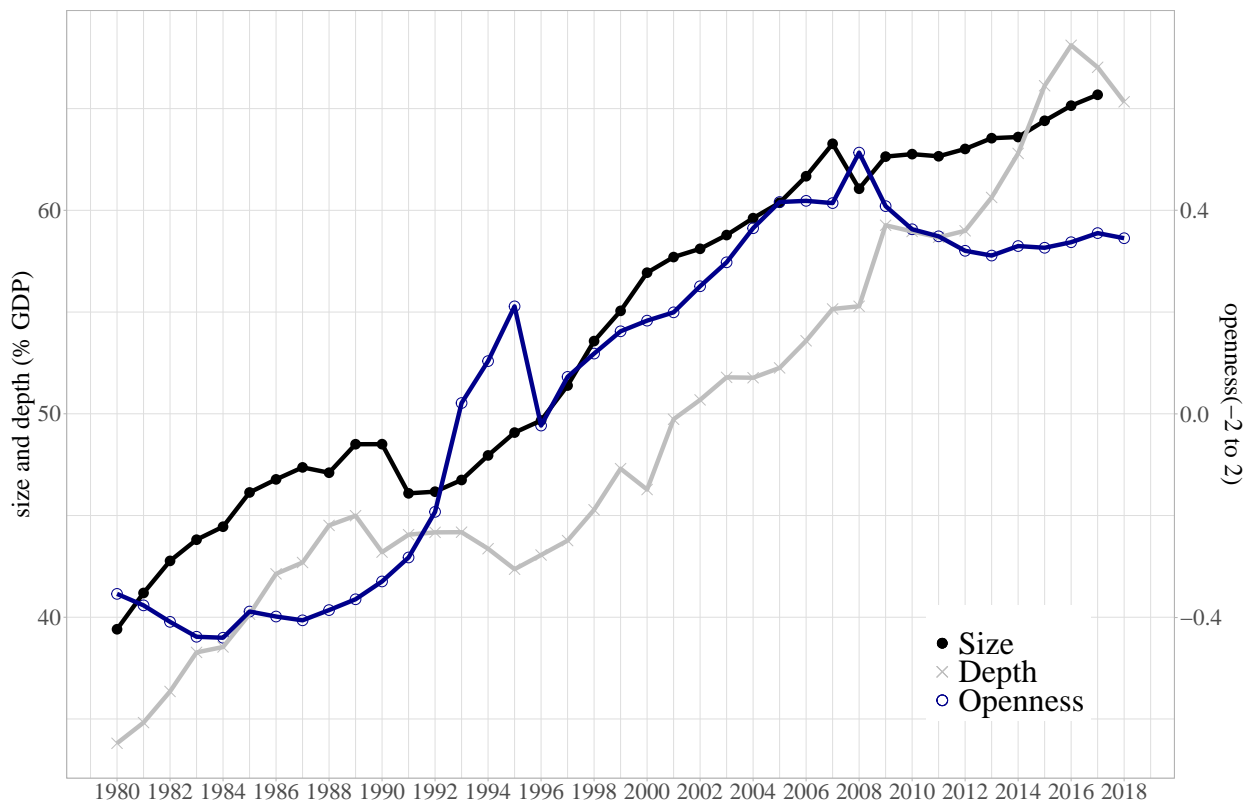


Figure C.10 shows that on average, high income countries globalize their financial markets as their financial markets get broader but that is not necessarily the case for non-high-income countries. On the other hand, the relationship between openness and depth is unique for middle income countries. When 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 C.11 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 C.11. 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.

Figure C.11: Integration into global trade by continent and income group

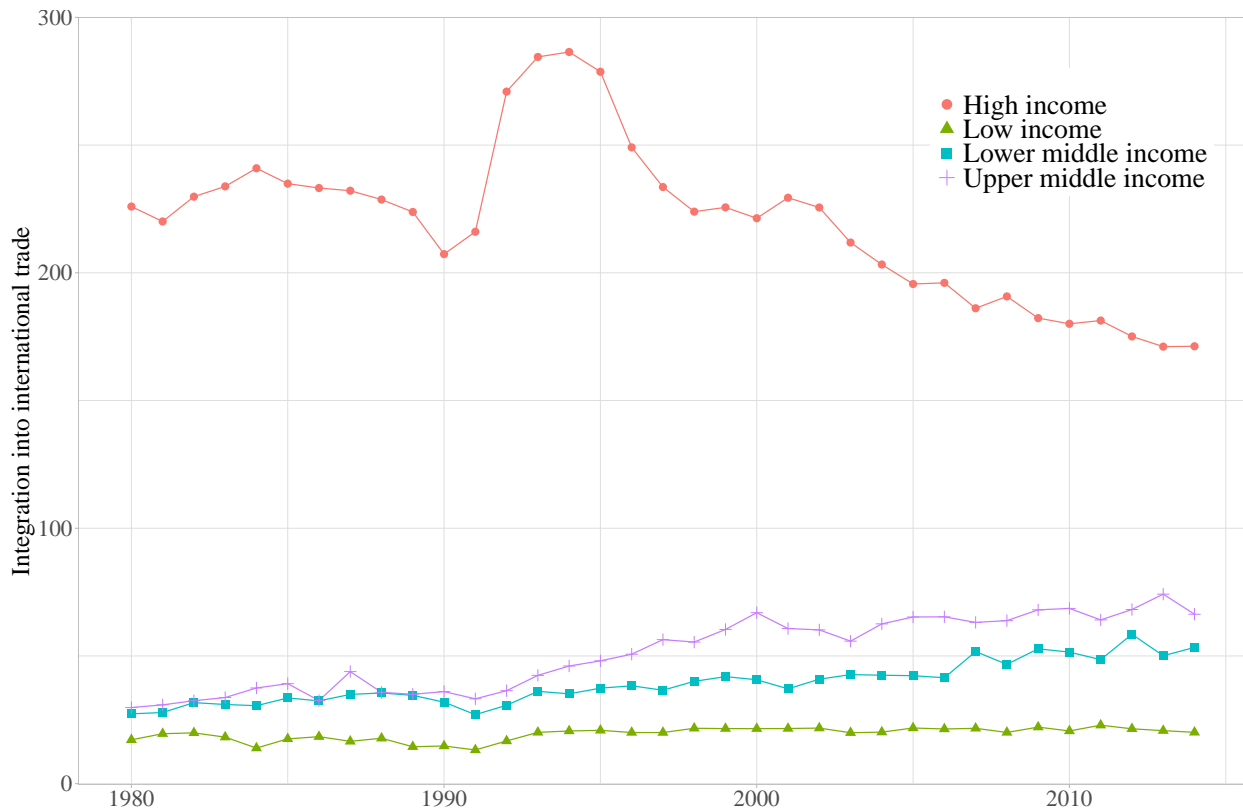
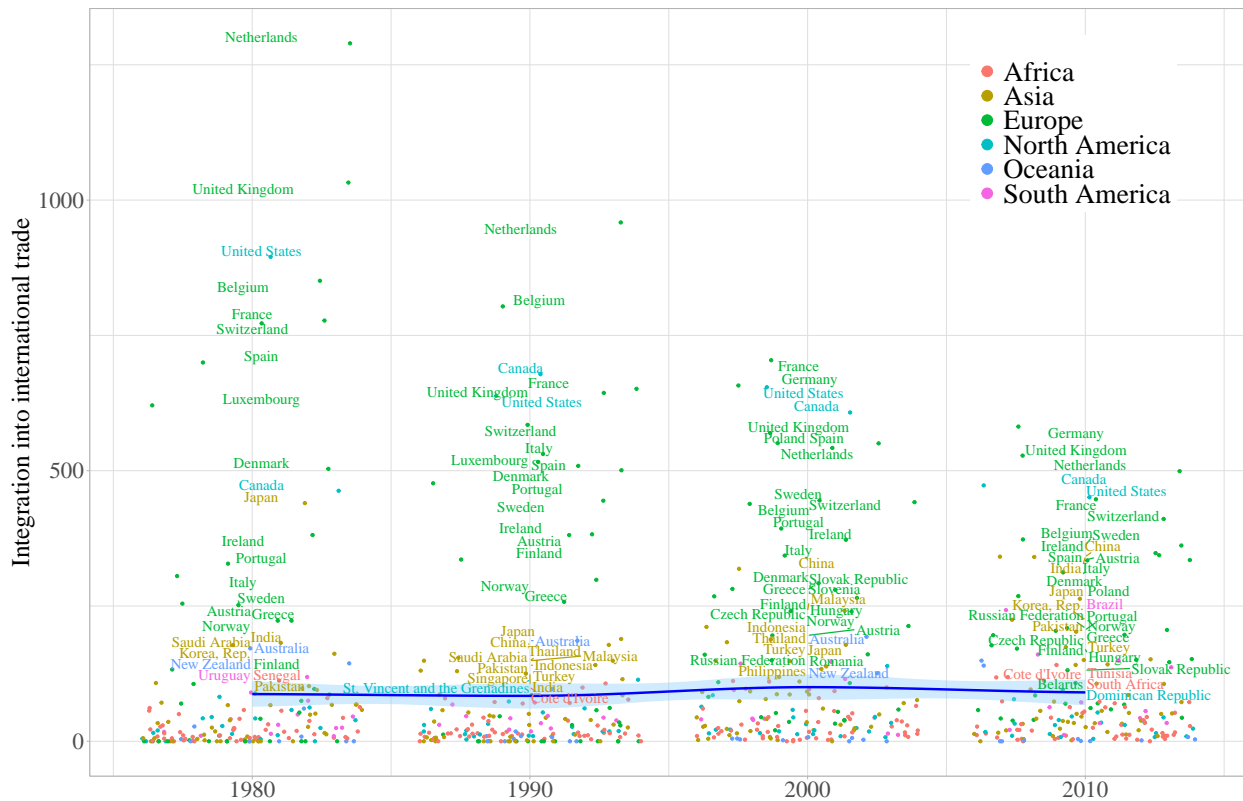


Figure C.12: Lending interest rate spread by continent and income group

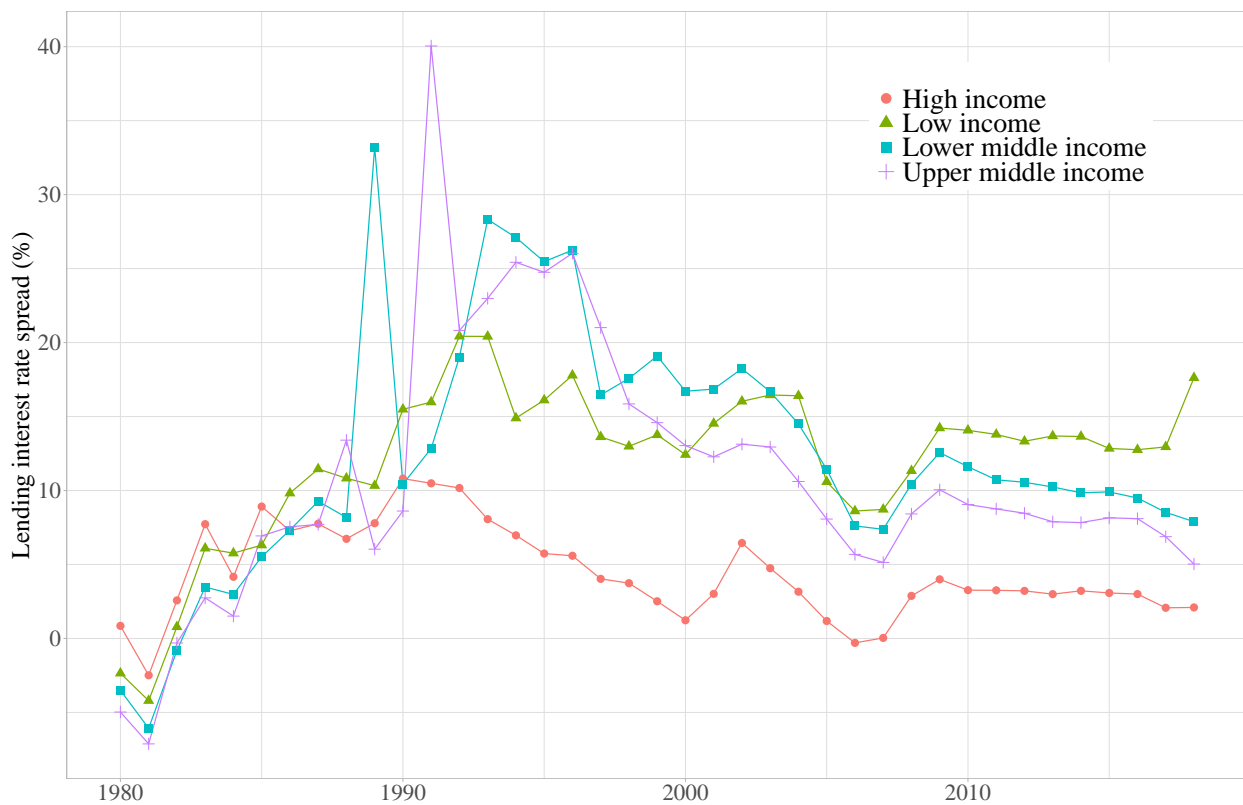
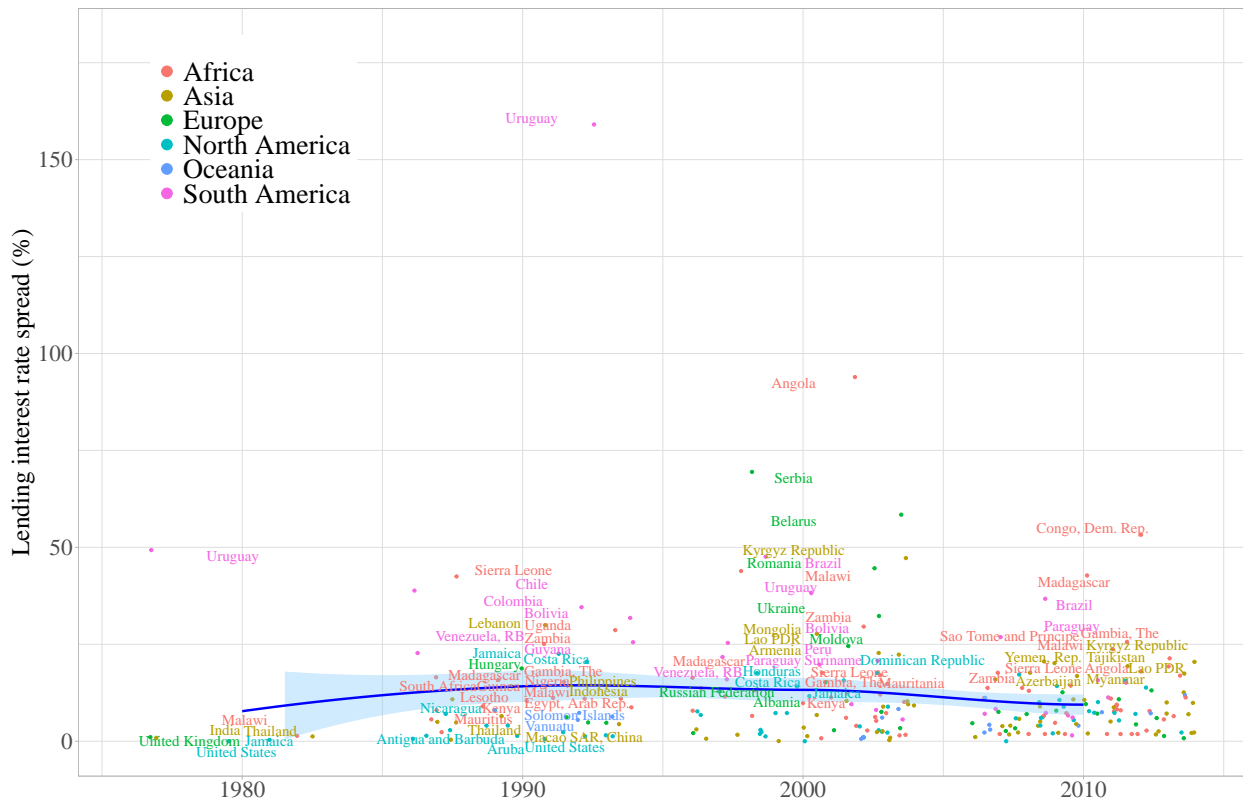
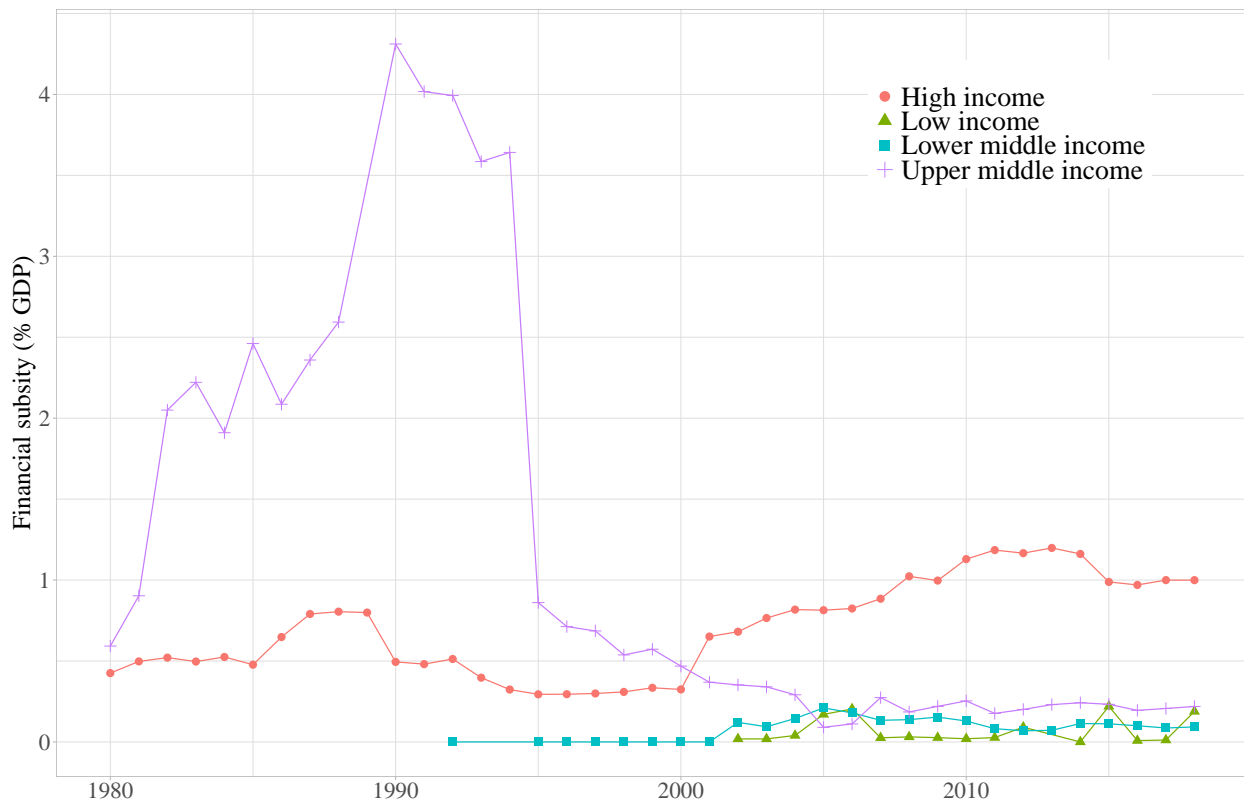
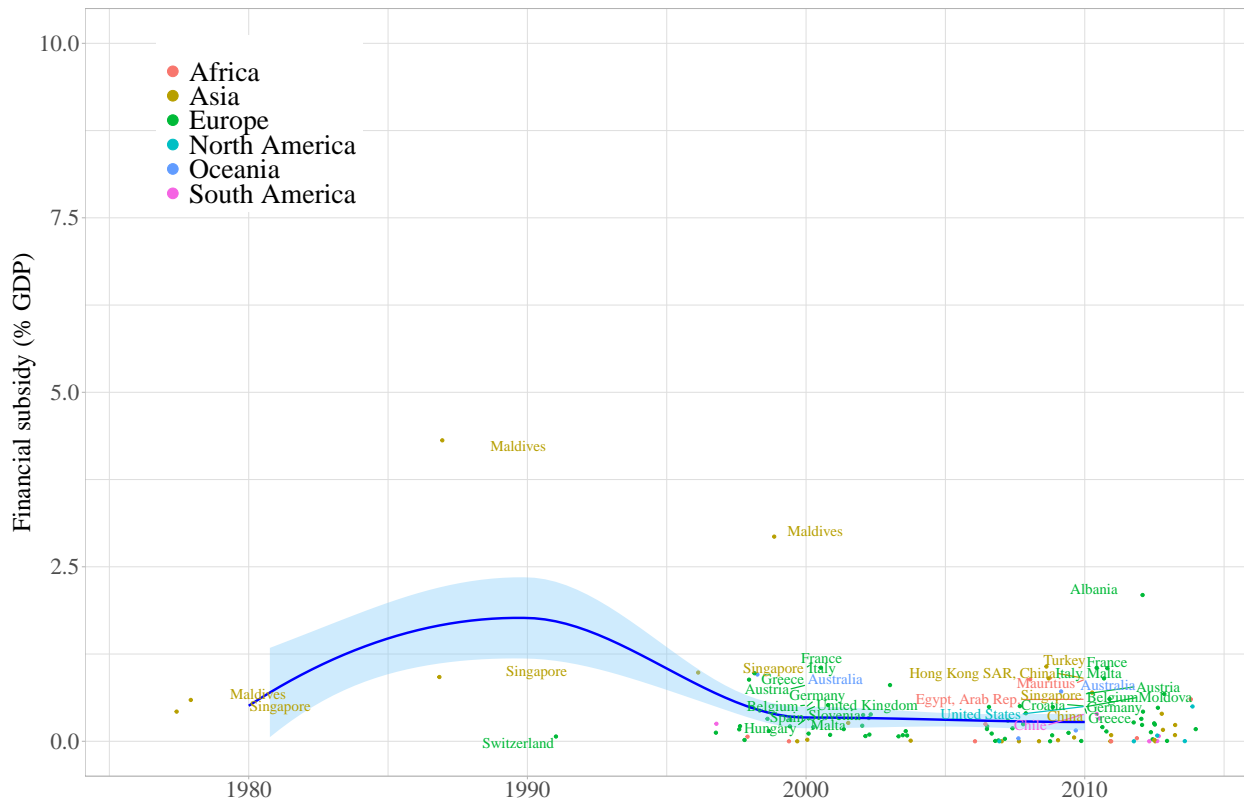


Figure C.13: Financial repression (% GDP) by continent and income group



D Robustness checks

D.1 Simultaneous Equations Model, 1980-2018

I adopt the simultaneous equations model (SEM) and allow trade liberalization and financial liberalization to be simultaneously determined. I also use an instrument variable in my SEM to address potential confounders. I model the structural equations of my SEM as shown below:

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

$$FinancialLiberalization_{i,t} = \lambda_0 + \lambda_1 IIT_{i,t} * Subsidy_{i,t} + \lambda_2 \log GDP_{i,t} + \lambda_3 PTA_{i,t} + \lambda_4 Regime_{i,t} + \lambda_5 XRstability_{i,t} + \lambda_6 RoL_{i,t} + \lambda_7 ForeignBanks_{i,t} + \lambda_8 MID_{i,t} + \lambda_9 Crises_{i,t} + \epsilon_2 \quad \dots \quad (2)$$

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 country'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 5, the findings from earlier panel regressions also hold for my SEM results. 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 D.15 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 appendix. My results consistently hold even when using an alternative instrument.

Figure D.15: Marginal Effect of $I\hat{T}$ in SEM

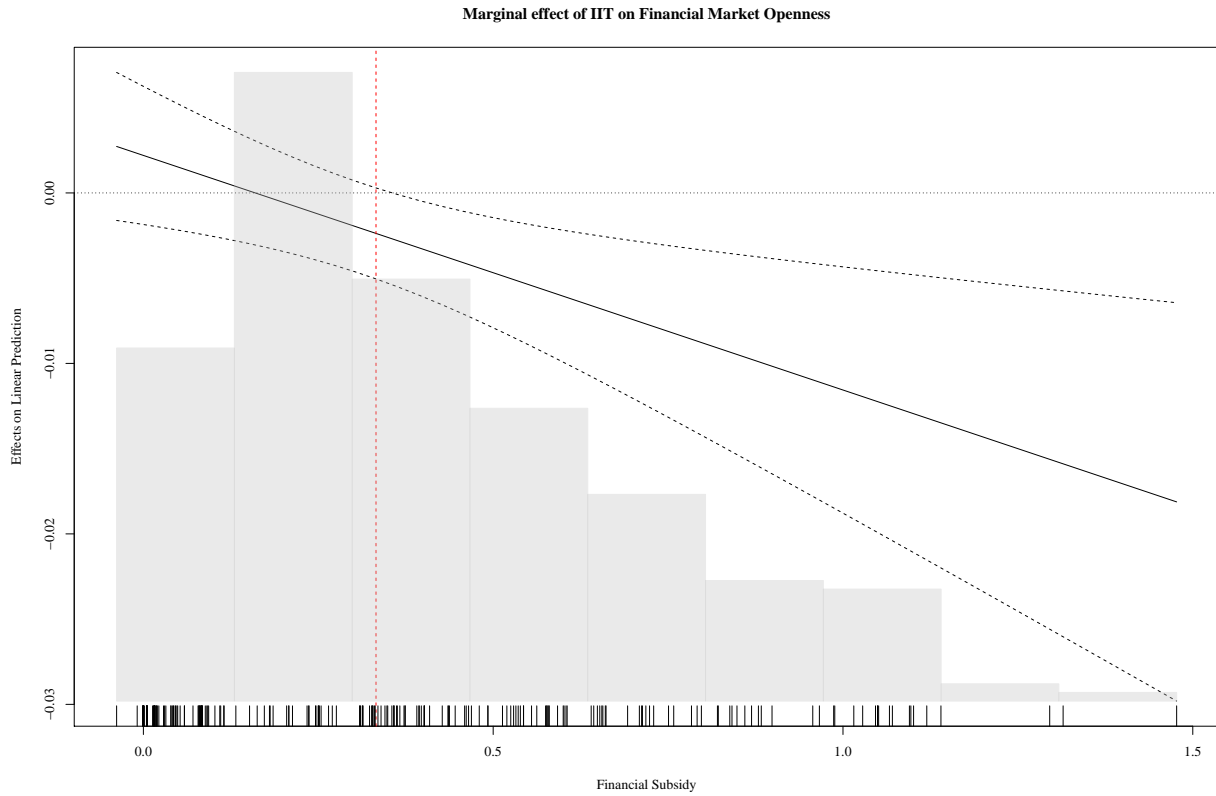


Table 5: The Effect of $I\hat{I}T$ and Government subsidy on Financial Liberalization

	Financial Market Openness	
	(13)	(14)
$I\hat{I}T$	-0.002 (0.001)	0.002 (0.002)
Government subsidy	0.864*** (0.258)	1.084*** (0.266)
Foreign banks	-0.026** (0.012)	-0.034*** (0.013)
logGDP	0.806*** (0.194)	0.957*** (0.199)
Rule of Law	-2.220*** (0.814)	-2.215*** (0.801)
Conflict	-0.061 (0.107)	-0.052 (0.106)
Financial crises	0.012 (0.142)	-0.038 (0.140)
Exchange Rate Stability	-0.461* (0.267)	-0.525** (0.264)
PTA	0.003** (0.001)	0.002* (0.001)
Regime	0.091** (0.046)	0.114** (0.046)
$I\hat{I}T$ X Subsidy		-0.014*** (0.005)
Country fixed-effects?	Yes	Yes
Time fixed-effects?	Yes	Yes
Observations	64 251	251
R ²	0.208	0.237