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Abstract

We use a new dataset of *de jure* measures of trade, capital account, product markets, and domestic financial regulation covering 91 countries from 1973 to 2005 to examine the links between openness and domestic financial liberalization. We find strong evidence that trade liberalization is a leading indicator of domestic financial liberalization. This result holds with different data frequencies (from annual to 5-year intervals), estimation methods (OLS and 2SLS), trade liberalization measures (tariff and non-tariff), and after controlling for domestic product market liberalization, whose agriculture component is a robust leading indicator of domestic financial liberalization in low- and middle-income countries. The primacy of trade liberalization is consistent with Rajan and Zingales's (2003) positive interest-group theory of financial development and McKinnon's (1991) normative "order of economic liberalization." The data do not confirm, instead, either of the contrasting implications of these two theories for the sequencing of capital account and domestic financial liberalization.

JEL Classification Numbers: F1, G1.

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I. INTRODUCTION

A burgeoning literature has put forward and tested various theories to explain the variation in financial development between countries and across time. Some of the main—not necessarily mutually exclusive—strands of this literature have focused on legal institutions (e.g., La Porta and others, 1997; Claessens and Laeven, 2003), endowments (e.g., Beck and others, 2003; Acemoglu and others, 2001), economic institutions (e.g., Acemoglu and others, 2004), culture (Stulz and Williamson, 2003), social capital (Guiso and others, 2004), and inflation (Boyd and others, 2001).

The additional role of economic openness in financial development has received particular attention since the seminal contribution of Rajan and Zingales (2003). Their "interest group theory" stresses the role of trade liberalization and capital account openness in reducing the influence of interest groups that oppose financial development. In a closed economy, incumbents benefit from low financial development because it denies potential new competitors the financial resources to enter the market. Liberalizing trade and opening the capital account disturbs this *status quo* by exposing incumbents to external competition and by allowing domestic entrants to tap international capital markets. As a consequence, incumbents oppose changes in the *de jure* regulations that keep the domestic financial sector underdeveloped as well as in the *de jure* regulations that keep the current and capital account closed.[1] That incumbents stand to lose from financial development is the first pillar of Rajan and Zingales' theory.

[1] Krueger (1974) provides a classic early discussion of issues pertaining to rent seeking and trade restrictions.

The second pillar is that increased openness in both trade and the capital account is needed to alter the political economy balance preserving incumbents' rents and impeding financial development. Foreign entry in the domestic goods markets reduces rents and creates more investment needs for incumbents to counter competition and take advantage of new opportunities. However, trade openness alone might not be enough to tilt the balance in favor of financial development because incumbents could try to satisfy their greater financing need through even more financial repression. Capital account openness alone is also unlikely to be enough because, in the absence of goods market competition, domestic incumbents would not need increased financing, and small domestic firms would be unlikely to be able to tap international financing. However, if trade and capital flows are opened up concurrently, increased competition in both goods and financial markets will change the interests of the incumbents in favor of financial development, as they cannot satisfy their increased investment need through more financial repression that becomes increasingly impossible to implement in the presence of an opening capital account (Rajan and Zingales, 2003, pp. 7–8).

The reform sequencing implication of Rajan and Zingales's hypothesis is that both trade and capital account openness should precede domestic financial liberalization, and that one reform without the other should not be enough to trigger domestic financial reform. This timing of reforms is in line with the traditional normative literature on the sequencing of economic reform, encapsulated in McKinnon's (1991) "order of economic liberalization,"

only insofar as trade needs to be liberalized at an early stage.[2] Instead, Rajan and Zingales's suggestion that capital account liberalization is a necessary condition for domestic financial liberalization stands in an interesting tension with McKinnon's recommendation that the domestic financial sector should be liberalized before the capital account (pp. 7–8).

McKinnon's argument for liberalizing the domestic financial sector before the capital account hinges on the undesirable consequences of an opposite sequencing for the domestic economy. As long as the domestic financial system is distorted by interest rate regulations and directed credit, it is pointless—indeed destructive—to allow capital mobility, because it would lead to capital flight that erodes the domestic deposit base or overborrowing in foreign currency that is risky and would only be misallocated through a dysfunctional domestic financial sector. Moreover, capital mobility can exacerbate moral hazard if the domestic financial sector is not sufficiently well supervised (McKinnon and Pill, 1996). Only when domestic restrictions on interest rates and credit allocation are removed, and the domestic financial sector is well-supervised, capital mobility should be allowed. This view is supported by recent evidence that capital account liberalization in the absence of a sufficiently reformed domestic financial sector increases volatility and crisis risk (Bekaert and others, 2006; Martin and Rey, 2006).

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[2] According to McKinnon, liberalizing capital *inflows* before trade could lead to a surge in net capital inflows, an appreciation of the real exchange rate, and a less competitive tradable sector. As a consequence, trade liberalization could be delayed (Edwards, 1984) or an unsustainable current account deficit could emerge when trade liberalization finally takes place (McKinnon, 1973). Moreover, liberalizing capital inflows before trade could amplify the allocative distortions caused by tariffs and further reduce the competitiveness of domestic firms (Edwards and van Winbergen, 1986). Liberalizing capital *outflows* before trade could lead to higher real interest rates that would hurt the domestic economy as domestic capital—in the presence of trade restrictions that misallocate resources and depress domestic returns—leaves the country (Antràs and Caballero, 2007; Rodrik, 1987).

In this paper, we present evidence on the sequencing of liberalization that prevails in practice by showing which reforms are leading indicators of others. If the sequencing of liberalization is purely random, past levels of liberalization in a sector should contain no information about future liberalization in other sectors. In contrast, trade and capital account liberalization should be leading indicators of domestic financial liberalization, if the former are needed for the latter. as Rajan and Zingales have argued. And, trade and domestic financial liberalization should be leading indicators of capital account liberalization if countries follow McKinnon's sequencing prescriptions.

The lack of data on *de jure* regulation has so far prevented direct tests of the sequencing of liberalization policies. Rajan and Zingales measured both openness (trade and capital flows) and financial development in *de facto* terms. Subsequent research has estimated the effects of *de jure* openness, specifically trade and capital account liberalization, on *de facto* financial development (Baltagi and others, 2007; Braun and Raddatz, 2008; Chinn and Ito, 2006). The literature on financial liberalization has also established that *de facto* trade openness is an important determinant of overall financial liberalization (i.e., without distinguishing between domestic and capital account liberalization, see Abiad and Mody, 2005) and equity market liberalization (Kim and Kenny, 2007). In a limited sample of transition countries over a ten-year period, Barlow and Radulescu (2005) have shown that *de jure* trade liberalization is related to *de jure* domestic financial liberalization. However, we are the first to study the links between multiple *de jure* liberalization measures in a large sample of countries and over a 30-year period.

We examine whether trade and capital account openness precede domestic financial liberalization using *de jure* measures of trade, capital account, and domestic financial regulation from a new dataset on structural reforms, which includes yearly observations for 91 countries during 1973–2005. While this dataset obviously builds on existing indices and methodology, most of the data is entirely new, and, to the best of our knowledge, is the largest existing dataset on structural reforms across the world, covering high-, middle-, and low-income countries.

To test whether the timing of liberalization matches the predictions of the interest group theory or the prescriptions of the sequencing literature, *de jure* measures of liberalization—albeit with their own limitations[3]—are better than *de facto* measures of openness and financial development. First, *de facto* openness may rise without any trade liberalization or reduction in rents. For example, higher commodity prices would increase *de facto* openness with no change in trade policies and, possibly, even with an *increase* of rents in commodity exporting countries (just see Russia in the mid-2000s). Similarly, higher *de facto* financial depth indicators may not be an indication of domestic financial reform or of a smaller role of incumbents in domestic credit markets. For example, China's high deposit-to-GDP ratio co-exists with—or may even be partly explained by—financial repression and lack of domestic

[3]*De jure* measures do not capture the degree of enforcement of capital controls, which can change over time even if the legal restrictions themselves remain unchanged, and they do not always reflect the actual degree of integration of an economy into international capital markets. For example, China, despite extensive capital controls, has not been able to stop inflows of speculative capital in recent years (Kose and others, 2006).

financial reform. Finally, *de facto* financial development measures are likely to rise when capital inflows are buoyant making the coefficient of *de jure* openness on *de facto* financial development endogenous if politicians prefer to liberalize in good times (Henry, 2007).

Our new dataset on structural reforms includes also *de jure* indicators of product market liberalization (in the agriculture, energy, and telecommunication sectors), which most other studies neglect. Controlling for product market reform is important when we test the timing implications of Rajan-Zingales hypothesis because product market reform can trigger domestic financial sector reform for the same reasons trade liberalization can. If trade liberalization follows, or is part of, a broader process of product market liberalization and we do not control for the latter, we risk attributing to openness an effect on domestic financial reforms that should be attributed to domestic product market policies.

This discussion highlights the need to proceed with caution in drawing causal inferences from evidence on the timing of *de jure* liberalization. Indeed, even if we control for product market liberalization, there may be many other drivers of liberalization that we neglect. To limit the potential omitted variable bias, we allow for country and year fixed effects—which capture unobserved time-invariant determinants of reforms at the country level and global reform-specific trends—as well as other control variables varying across countries and years. Moreover, we present results at both annual and 5-year frequencies to rule out omitted cyclical factors and to check how lasting the predictive power of each reform is. Finally, we instrument each liberalization index with the average level of liberalization in the same sector

across all other countries in the sample, weighting each observation inversely to distance and using three alternative measures of distance (miles, military alliances, and trading partners).

This identification strategy relies on cross-border imitation as an exogenous source of variation, the assumption that the rest of the world will not introduce reforms in response to those of any individual country, and the exclusion restriction that imitation effects have an impact only through same-sector reforms after controlling for a global reform-specific trend. Under the additional assumption that 5-year-earlier liberalization levels are predetermined (i.e., they are uncorrelated with contemporaneous omitted variables), we use overidentifying restriction tests to verify the validity of the instruments. This identification strategy goes beyond that used in most other papers in the literature on openness and financial development, which tend to rely mostly on lagged liberalization indices for identification.

Our results support both McKinnon's and Rajan and Zingales's primacy of trade but are inconclusive about their contrasting views on the sequencing of capital account and domestic financial liberalization. Trade liberalization helps to predict both capital account and domestic financial liberalization at horizons as long as five years. There is little evidence, instead, that capital account liberalization helps to predict domestic financial liberalization beyond a 1-year horizon, and even this effect is limited to its securities market component. Domestic financial liberalization predicts capital account liberalization with longer lags but this effect loses statistical significance when we allow for all controls. Taken as a whole, this evidence suggests that trade liberalization is the key leading indicator, and possibly the

trigger, of future liberalization of both the domestic financial sector and the capital account, with either sequencing of the latter two reforms being possible.

Indeed, countries have chosen quite different paths in the sequencing of domestic and external financial liberalization.[4] Figure 1 shows the experiences of three emerging market countries (higher values imply greater liberalization). Korea kept its capital account fairly closed until 1990 while continuously liberalizing the domestic financial sector during that period. In contrast, Thailand implemented substantial domestic financial liberalization only after a rapid liberalization of the capital account during the second half of the 1980s. At the risk of oversimplification, Korea could be a McKinnon's and Thailand a Rajan and Zingales's poster child. The third case, Poland, is an intermediate one: it started with liberalizing the domestic financial sector, but then opened up the capital account extremely rapidly with the domestic financial sector catching up only gradually after 1995.

Our results are robust to controlling for product market liberalization, which significantly contributes to predict domestic financial liberalization at long horizons. This result is in line with Rajan and Zingales's view that product market reforms (namely, trade liberalization and greater competition in domestic product markets) are key to weakening incumbents' opposition to domestic financial liberalization.

[4] We will discuss these indices in detail in the next section. Note that the domestic index moves more gradually because it is the average of a greater number of components than the capital account index.

In the rest of the paper, Section II presents our novel dataset; Section III discusses the estimation strategy; Section IV comments the results; and Section V concludes.

II. DATA

To implement our empirical strategy, we use a new dataset of indices of liberalization in trade, capital account, the domestic financial sector, and product markets, namely electricity, telecom, and agriculture. We can here only briefly describe the dataset; see xxx (2008) for more detail. The dataset covers yearly observations from 1973 to 2005 for 91 countries of all income levels, selected on the basis of data availability.

Trade openness is measured by average tariff rates. They are collected from various sources, including IMF, World Bank, WTO, UN, and the academic literature (particularly Clemens and Willamson, 2004). The index uses average tariff rates when they are available and implicit weighted tariff rates to extrapolate the missing values. The index is normalized to be between zero and one: zero means the tariff rates are 60 percent or higher, while one means the tariff rates are zero. The trade data is unique in that: (i) it covers a large sample of countries on annual basis for more than three decades; (ii) the index is constructed to be comparable over time and across countries; and (iii) it offers a continuous measure for trade reforms rather than a discreet measure for trade liberalization. The index offers also an alternative to the most widely used existing index by Sachs and Warner (1995) which has been criticized (Rodríguez and Rodrik, 2001) as dominated by information that is not necessarily capturing trade restrictions, namely the black market premium and the existence

of an export marketing board. In our dataset, the presence of the latter is more appropriately considered as part of the agriculture index (see below).

Financial openness is measured by qualitative indicators of restrictions on financial credits and personal capital transactions of residents and financial credits to nonresidents, as well as the use of multiple exchange rates. Domestic financial liberalization is measured by the simple average of six sub indices: (i) credit controls, such as directed credit; (ii) interest rate controls, such as floors or ceilings; (iii) entry barriers in the banking sector, such as licensing requirements or limits on the participation of foreign banks; (iv) competition restrictions, such as limits on branches; (v) the degree of state ownership; and (vi) aggregate credit ceilings. This data comes from the database by Abiad and others (2008) which follows the methodology in Abiad and Mody (2005) but provides for a tripling of the information through greater coverage and one additional index (aggregate credit ceilings). As in Abiad and Mody (2005), the subindices are aggregated with equal weights. The original sources of the coded information are mostly various IMF reports and working papers, but also central bank websites, etc. Each sub index is coded from zero (fully repressed) to three (fully liberalized).

Product market liberalization is measured by two separate indices for the network industries and agriculture. The networks index is the simple average of the electricity and telecom markets sub indices, which are constructed, in turn, from scores along three dimensions. For electricity, they capture (i) the degree of unbundling of generation, transmission, and distribution; (ii) whether a regulator other than government has been established; and (iii)

whether the wholesale market has been liberalized. For telecom, they capture (i) the degree of competition in local services; (ii) whether a regulator other than government has been established; and (iii) the degree of liberalization of interconnection changes. All this data, which was coded based on legislation, is entirely new and improves on existing dataset not only in coverage, but also by including information on local services and interconnection charges, and by considering also the effective powers of regulators, not only their mere establishment. The indices are coded with values ranging from zero (not liberalized) to two (completely liberalized).

Given that developing countries constitute most of our sample, the degree of regulation in agriculture, which continues to account for a large part of many of these economies, is an essential aspect of product market competition. Our entirely new index aims to capture intervention in the market for the main agricultural export commodity in each country. As data limitations preclude coding separate dimensions of intervention, the index provides a summary measure of intervention, based on legislation and other official documents. Each country-year is assigned one of four degrees of intervention: (i) maximum (public monopoly or monopsony in production, transportation, or marketing);[5] (ii) high (administered prices); (iii) moderate (public ownership in relevant producers, concession requirements); and (iv) no intervention.

[5] Given that our trade index differs from the widely used Sachs and Warner (1995) also in that it does not include marketing boards, including this information in the agriculture index serves as a useful check.

In all cases, higher values represent greater liberalization. Each index is standardized between zero and unity. Sub indices have been first standardized and then averaged to be aggregated. Note that we are not truncating but only rescaling the data. A small number of outliers that seemed to stem from data errors were removed.

All indices trend upwards over time towards a high degree of liberalization suggesting that we need to allow for sector specific time trends in the empirical analysis of next section (**Figure 2)**. The liberalization process has been fairly gradual and steady in trade, capital account, and the financial sector, while in the product markets most liberalization occurred since about 1990. It is also notable that there have been no global setbacks in the average degree of liberalization. Note though that the level of liberalization cannot be compared between the sectors, given that the indices build on different methodologies and are scaled differently. Thus, one cannot conclude that, for example, trade is on average more liberalized than the financial sector.

All indices also tend to converge within each sector across income levels suggesting that we need to control for "catching-up" in the empirical analysis of next section (**Figure 3**).

Among the controls, GDP per capita is from the Penn World Tables (PWT6.1, series rgdpch). The commodities terms of trade are calculated for 32 commodities according to the formula

$$TOT_{j,t} = \prod_i (P_{i,t} / MUV_t)^{X_{i,j}} / \prod_i (P_{i,t} / MUV_t)^{M_{i,j}} \qquad (1)$$

where P_i is the price of commodity i from the IMF's Commodity Price System, MUV is the manufacturing unit value index from the IMF's World Economic Outlook database, $X_{i,j}$ is the

share of exports of commodity *i* in country *j*'s total trade averaged over 1980–2001, and $M_{i,j}$ is the share of imports of commodity *i* in country *j*'s total trade averaged over 1980–2001. Export and import figures come from the World Integrated Trade Solution (WITS) database, which is also the source of our first between-country distance measure. The other two measures, military alliances and distance in miles, come from Johnson and others (2007) and *http://www.cepii.fr/anglaisgraph/bdd/distances.htm*, respectively.

III. ESTIMATION STRATEGY

We estimate the following dynamic system of five equations:

$$\begin{aligned} \Delta y^{s}_{i,t} \quad = \quad & \beta_{s,s} \cdot y^{s}_{i,t-1} + \sum_{k \neq s} \beta_{k,s} \cdot y^{k}_{i,t-1} + \sum_{l} \gamma_{l,s} \cdot x^{l}_{i,t-1} + \sum_{m} \delta_{m,s} \cdot z^{m}_{s,i,t-1} \\ & + \quad \xi_{s,t} + \eta_{s,i} + \sum_{j=1}^{2} \phi_{j,s} \cdot \Delta y^{s}_{i,t-j} \quad + \quad v_{s,i,t} \end{aligned} \qquad (2)$$

where

s , k = *DF* (domestic financial), *TR* (trade), *CA* (capital account), *AG* (agriculture), and *PR* (telecommunications and energy).

$y^{s}_{i,t}$, $y^{k}_{i,t}$ = liberalization index of sector *s* or *k* in country *i* in year *t*;

$\xi_{s,t}$ = sector-specific time effects;

$\eta_{s,i}$ = sector-specific country effects;

$x^{l}_{i,t}$ = other determinants of reforms varying across countries and years;

$z^{m}_{s,i,t}$ = other determinants of reforms varying across sectors, countries, and years;

$v_{s,i,t}$ = serially uncorrelated errors.

Our focus is on the parameters $\beta_{s,s}$ and $\beta_{k,s}$. These parameters measure the state dependence of the liberalization within and across sectors. The own-reform parameter $\beta_{s,s}$ controls for the own-tendency of liberalization levels to converge across countries within sector *s* (**Figure 3**). The more negative is $\beta_{s,s}$, the larger will be the gap between the pace of liberalization of a country at a low level of liberalization and that of a country at a high level of liberalization, with the former being greater than the latter.

If past own levels of liberalization were the only determinant of the reform process, all countries in the world would tend to converge over time to a single level of liberalization in each sector with the parameter $\beta_{s,s}$, linking the speed of convergence to the initial level of liberalization. In this case, no other parameter in equation (2) would be statistically significant and the lagged level of liberalization in other sectors would have no impact on each sector's liberalization speed (i.e., all $\beta_{k,s}$, $k \neq s$, would be statistically insignificant). If there are, instead, cross-sectoral effects linking initial levels of liberalization in one sector to the liberalization speed in another, some coefficients $\beta_{k,s}$, $k \neq s$, will be statistically significant.

This paper aims to assess the significance of cross-sectoral effects between trade liberalization, capital account liberalization, and domestic financial liberalization, after controlling for:

(i) the tendency of liberalization levels to converge within each sector, captured by the lagged own reform $y^{s}_{i,t-1}$;

(ii) the degree of product market liberalization in agriculture and in the telecommunication and energy sectors;

(iii) sector-specific time effects, $\xi_{s,t}$;

(iv) sector-specific country effects $\eta_{s,i}$;

(v) other lagged determinants of reforms $x^{l}_{i,t-1}$ and $z^{m}_{s,i,t-1}$;

(vi) short-term reform dynamics $\sum_{j=1}^{2} \phi_{j,s} \cdot \Delta y^{s}_{i,t-j}$ that ensures serially uncorrelated $v_{s,i,t}$.

Given the dynamic and feedback effects that characterize model (2), we cannot consider the regressors $y^{s}_{i,t-1}$ strictly exogenous. However, in the absence of omitted variable bias (as well as other possible sources of endogeneity bias such as measurement error) and with serially uncorrelated errors thanks to $\sum_{j=1}^{2} \phi_{j,s} \cdot \Delta y^{s}_{i,t-j}$, the $y^{s}_{i,t-1}$ are *predetermined*. Under these assumptions, OLS estimates of the parameters in model (2) are consistent because the sequential moment restrictions hold and *T* is large (see Arellano, 2003, pp. 149–150).

Of course, the assumption of no omitted variable bias is crucial: if there were omitted variables correlated with the regressors, the $y^{s}_{i,t-1}$ would not be predetermined but *endogenous*, and OLS would not yield consistent estimates. To reduce the possible sources of omitted variable bias, we control for country and year fixed effects. However, we also present results without them because the interpretation of our parameters of interest

$\beta_{k,s}$, $k \neq s$ varies with $\xi_{s,t}$ and $\eta_{s,i}$. For example, controlling for year fixed effects implies that the effect of a given liberalization level $y^{s}_{i,t-1}$ declines as time passes because all reforms trend upwards (**Figure 2**) and, as a result, the difference of a given liberalization level from the yearly mean diminishes as time goes by. But it is not obvious that the effects of liberalization should be assessed only in relative terms. Similarly, allowing for country dummies implies that we rely only on the within variation in the data to investigate whether one reform is conducive to another. While country dummies are important to control for unobservable invariant country specific effects correlated with the liberalization indicators, they preclude us from using *between* country variation in the data for inference and, therefore, assessing whether countries with higher levels of liberalization in one sector are more likely to reform another.

To further reduce potential omitted variable bias, we control for other lagged determinants of reforms varying across countries and years, $x^{l}_{i,t-1}$, such as output per capita and commodities terms of trade, and other determinants of reforms varying across sectors, countries, and years, $z^{m}_{s,i,t}$, such as the liberalization levels in the same sector of all other countries in the sample averaged using weights based on three alternative measures of distance (in miles, participation in the same military alliance, and trade linkages).

We cannot control, however, for other potentially important sources of omitted variable bias related to *domestic* omitted factors varying across countries and years that influence the timing of the reform process. A reform-minded policymaker may implement reforms according to a sequence dictated not by the desire to weaken some specific interest groups—

in which case, we would still be able to test whether some reforms are more effective than others in this respect—but because of constraints in the "reform technology." For example, some forms of capital account liberalization may be adopted earlier than trade liberalization because they only require a change in regulation that the central bank or the government can introduce without going through Parliament, while tariff reductions need to be approved by Parliament and may require an international agreement. In this case, although the political consensus to reform both the capital account and trade is possibly reached at the same time and there is no relevant information in the observed sequencing, we risk concluding that capital account liberalization causes trade liberalization. Similar spurious sequencing may emerge for any other factor leading to reform one sector before another in the presence of unchanged social and political support and no causal effect from one reform to the other.

To address this residual possible source of omitted variable bias, we adopt a two-pronged strategy to be able to make causal inferences. First, we run estimates on 5-year intervals under the assumption that 5-year lags of liberalization indices are uncorrelated with current omitted time-varying liberalization drivers at the country level. In fact, these long lags should take care of non-lasting omitted causes of spurious sequencing like those discussed in the previous paragraph.

Second, we use our weighted average levels of liberalization in all other countries in the sample, $z^{m}_{s,i,t}$, as instrumental variables. This identification strategy hinges on cross-border imitation of policies—which is well-established in the literature (Benmelech and Moskowitz, 2007; Simmons and Elkins, 2004)— as an exogenous source of variation. The identifying

assumptions are that: (i) the rest of the world will not introduce reforms in response to those of any individual country; and (ii) imitation effects work only through same-sector reforms (i.e., we impose the exclusion restriction that a capital account reform among neighbors makes the country more willing to liberalize the capital account but not other sectors). In other words, we achieve identification by excluding from each reform equation in (2) the $z^{m}_{s,i,t}$ associated with the other reforms. Under the additional assumption—which is consistent with that underlying our regressions on 5-year intervals—that 5-year-earlier liberalization levels are predetermined (i.e., they are uncorrelated with contemporaneous omitted variables), we use the overidentifying restriction test to verify the validity of the instruments. To check that the instruments are not weak, we inspect the first stage regressions and report Anderson's likelihood ratio statistic.

IV. RESULTS

In this section, we present evidence supporting four main results: (i) *trade liberalization* is a robust leading indicator of domestic financial liberalization at horizons as long as five years; (ii) *capital account liberalization* contains some limited information on future domestic financial liberalization but only at a 1-year horizon and mostly on securities markets reform; (iii) *domestic financial liberalization* (especially a reduction of interest rate controls) is a weakly significant leading indicator of future capital account liberalization; and (iv) *product market liberalization* is a robust leading indicator of domestic financial liberalization at short and long horizons (agriculture liberalization leads domestic financial liberalization in low- and middle-income countries and liberalization of the energy and telecommunications sectors has a positive significant effect at low levels of domestic financial liberalization).

A. Main Findings

Several preliminary observations can be made on the regressions in Tables 1–6. The regressions on annual data (Tables 1, 3, 4, and 6) are based on about 1,500–1,700 observations, while the regressions with five-year intervals (Tables 2 and 5) are based on about 250–350 observations. All the regressions expose very strong convergence, with the coefficient on the lagged level of liberalization in the same sector (own lagged level) negative and highly significant. In the annual regressions, the two lagged changes of the dependent variables are highly significant and successfully remove the serial correlation, as far as tests that include the lagged residual in the specification suggest.

In the 2SLS regressions (Tables 3 and 6), the overidentifying restriction tests (see Hansen J-statistic at the bottom of the tables) are always passed as long as we include year dummies. This means that, for example, in the specification of Table 3, both the neighbors' level of domestic financial liberalization and the year dummies have a *direct* effect on domestic financial liberalization, while the neighbors' levels of liberalization in other sectors have only an indirect effect through the other sectoral liberalization indices. This is important because it means that, while our instruments based on neighbors' policies are correlated with the corresponding global reform-specific time trends – and cannot then be excluded from the second stage when we do not include reform-specific year dummies – they become valid instruments when the year dummies are included. In this case, the year dummies capture the global trend of each reform while the instruments – which differ from the global trend only for the distance-based weighting scheme used to combine other countries' indices into a

country-specific index of neighbors' reforms—capture additional country-specific imitation effects. The J-statistic confirms that the latter have a direct impact only on the corresponding sectoral reform but not on other sectors' reforms.

Note also that, for each reform, we chose the instrument with the distance weighting scheme that yielded the highest correlation with the corresponding sectoral liberalization index, because the three distance-weighting schemes yield measures that are too correlated to be all included in the regression at the same time. Specifically, we used the weighting scheme based on miles for the trade and capital account indices, military alliances for the domestic financial and agriculture indices, and trading partners for networks.. The Anderson likelihood ratio statistic and other standard tests on first-stage results, such as the Hausman and others (2005) tests, confirm that the instruments are not weak.

Trade liberalization is a robust leading indicator of domestic financial liberalization

The top lines in the first three tables document our first key result: trade liberalization helps to predict domestic financial liberalization. This effect is statistically significant across 24 regressions, whether we look at OLS regressions where the dependent variable is the one-year change (Table 1) or the 5-year change (Table 2), or 2SLS regressions (Table 3). It holds irrespectively of whether we allow for a constant, year dummies, country dummies, or country and year dummies, and whether we do or do not include lagged GDP per capita and commodities terms of trade as additional controls.

The size of the effects is substantial, considering that we control for year and country fixed effects, as well as several other factors: a one-standard-deviation increase in the trade liberalization index increases the domestic financial development index by 0.10–0.15 standard deviations in the long run. In a real-world example, according to these estimates, Korea's trade liberalization during the 1980s and 1990s would account for roughly 0.1 of the 0.5 points increase of the domestic financial liberalization index during that period.

The statistical significance of trade liberalization in both Tables 1 and 2 is an indication that the effects of trade liberalization are long-lasting and not due to spurious cyclical fluctuations. Even several years after its occurrence, a step towards trade liberalization is followed by more domestic financial reform than there would be without trade opening. Note that the larger coefficients in the annual than in the five-year regressions are entirely due to the dynamic estimation and the different frequency. The long-run multipliers of the coefficients from each regression—obtained by dividing each coefficient by the coefficient on the own lagged level—are actually very similar. Also the larger explanatory power of the regressions on 5-year intervals (where the adjusted R-squared reaches up to 0.44 against 0.14 in the 1-year regressions) is due only in part to the fact that it might be easier to predict reforms over a 5-year horizon than in any specific year. Most of the difference in the R-squared is, in fact, due to the greater explanatory power of time dummies in the five-year regressions (compare the R-squared in columns 1-2 and in columns 3-4 of Table 2).[6]

[6] To the extent that domestic financial liberaliation is associated with financial development and the latter with higher growth, these findings are consistent with Quinn and Toyoda (2008), who have shown that current account liberalization has a greater effect on growth than capital account liberalization.

Capital account liberalization is only a short-term leading indicator of domestic financial liberalization

The second line in Tables 1–3 shows the effect of capital account liberalization on domestic financial reform. In the OLS regressions, the coefficient is significant only in the annual estimates under the largest set of dummies and controls (column 8 of Table 1). At best, this would suggest a short-lived positive effect of capital account liberalization on domestic financial reform. In the 2SLS regressions, capital account liberalization enters with a consistently highly significant negative coefficient. In principle, this would suggest that capital account liberalization even constitutes an obstacle to domestic financial reform.

These findings are also interesting to view against the background of increasing evidence that rapid financial liberalization, particularly in the capital account, is often followed by boom-bust cycles (Kaminsky and Reinhart, 1999; Glick and Hutchinson, 2001), where the ensuing financial crises might then lead to a reversal of at least part of the earlier financial liberalization. Rousseau and Wachtel (2008) found that this effect reduces the benefits of financial development for growth. In the next subsection, we explore further the dynamic links between capital account and domestic financial liberalization by considering non-linear effects and separating their respective components to show that any positive effect of the former on the latter is short-lived and limited to securities markets reform.

Domestic financial liberalization is a weakly significant leading indicator of capital account liberalization

There is more—but not strong—evidence of an effect in the other direction, from domestic financial liberalization to capital account reform, as Tables 4–6 show. The coefficient is significantly positive in most OLS regressions, both at 1-year and 5-year intervals. However, it becomes weaker—with significance in the 10–15 percent range—when we use the full set of controls and breaks down completely in the 2SLS regressions with the same set of controls. A separate analysis of the components of the domestic financial liberalization index reveals that it is the reduction in interest rate controls that has information about future capital account liberalization, with no significant effect of other forms of domestic financial liberalization (available on request). We also find some evidence of substitutability between trade and domestic financial liberalization in predicting capital account liberalization with a negative interaction term suggesting a stronger positive effect of domestic financial liberalization at low levels of trade liberalization (available on request).

Product market liberalization is a leading indicator of domestic financial liberalization

Let us turn to our results on product market liberalization. Most importantly, the effect of trade openness is robust to controlling for product market liberalization, and thus has an autonomous effect on domestic financial reform. We also find conclusive evidence of a positive effect of agriculture liberalization on domestic financial reform. Agriculture liberalization has a highly significant positive coefficient no matter what dummies we include and what estimation method we apply (OLS regressions with 1-year and 5-year intervals or 2SLS regressions). When we estimate separate agriculture coefficients by income group, we find that the coefficient for low- and middle-income countries is bigger and more

significant than that for high-income countries, as it could be expected in light of the larger role of the agriculture sector in the former group of countries (available on request).

For the networks industries (energy and telecommunications), there is *prima facie* no consistent evidence of an effect on domestic financial reform. In the next subsection, we show, however, that this effect is positive and significant when domestic financial liberalization is in its initial stages. We also find that the network industries coefficient becomes positive and significant when we allow for the significantly negative interaction between trade and networks liberalization (available on request). In other words, trade and product market liberalization are substitutes in determining domestic financial liberalization. That is, when there is not much trade liberalization, product market liberalization has a positive effect on domestic financial reform. Given that both reforms would likely lead to greater product market competition, which is the channel through which the interest group theory foresees the shift in domestic political economy equilibrium occurring, their substitutability is consistent with Rajan and Zingales's hypothesis.

Other control variables

Among the control variables, the commodities terms of trade are borderline significant only in the domestic financial regressions of Tables 1–3 with a negative sign that can possibly be related to the crisis hypothesis of reform. The negative and significant coefficient on GDP per capita in column 10 of Tables 1 and 2 has probably a similar interpretation: when GDP per capita falls below the country specific average and net of a common time trend, the pace of liberalization in the domestic financial sector accelerates. By contrast, the coefficient of

GDP per capita is significantly positive in column 4 of Tables 1 and 2 where there are no country dummies because it proxies for the link between the level of development of each country and domestic financial reform. Given the finding in Giavazzi and Tabellini (2005) that political reforms lead to economic reforms, we also experimented with including a democracy indicator in the regression, but it was never significant.

B. Extensions and Robustness

In this sub section, we present additional evidence on the links between trade, capital account, and domestic financial liberalization that supports and qualifies the results presented in the previous sub section.

Robust effect of trade liberalization

To verify the robustness of the effect of trade liberalization on domestic financial liberalization, we have added to our specification non-tariff measures of trade liberalization from Quinn's (1997) database (extended to 2005) which are available for about 60 countries. Quinn's data include a measure of financial restrictions on current account transactions based on four types of financial restrictions (goods exports, services exports, goods imports, and services imports). **Table 7** shows that a reduction of these non-tariff trade barriers is significantly associated with future domestic financial sector liberalization with the same sign of our tariff-based measure. As the latter retains its significance, we conclude that the effect of reducing financial restrictions on current account transactions is additional to reducing tariffs. When we consider separately the four components of Quinn's index (columns 2 and 4 in Table 7), we find that the strongest effects come from liberalizing

financial restrictions on goods exports and imports while liberalizing financial restrictions on services exports and imports has no statistically significant effect.

Our dataset allows us also to study the impact of trade liberalization on the components of the domestic financial liberalization index, distinguishing first between its banking and securities markets components and, then, considering separately the five banking sub indices. **Tables 8–9** (columns 2 and 3) show that trade liberalization is a significant leading indicator of future liberalization in both banking and securities markets no matter whether we use annual or 5-year frequencies. The piecemeal variation of each banking sector sub index (columns 4-8 of Tables 8-9) makes it more difficult to detect statistically significant effects of trade liberalization, especially at a 5-year horizon, but it is interesting that the positive effect of trade on domestic financial liberalization is stronger on the directed credit and the interest rate control components (columns 4 and 5), and to a smaller degree on the entry barriers component (column 6). This differentiated effect is in line with the interest group hypothesis because the restrictions on which trade liberalization seems to have an effect are those that most strongly favor domestic incumbents who benefit from below-market interest rates and the associated rationing of credit supply through directed credit.

Nonlinear effect of networks liberalization

Liberalizing other sectors may have a bigger impact on domestic financial liberalization when the latter is in its initial stages than when it is well advanced. If so, the parameters $\beta_{k,DF}$, $k \neq DF$, in equation (2)—which measure the state dependence of domestic liberalization across sectors—should be a declining function of domestic financial

liberalization. Evidence of such nonlinear effect would be a negative coefficient on the interaction between each sector's liberalization index and the domestic financial liberalization index and a positive direct effect of each sectoral index.[7]

A nonlinear specification may unveil the effect of reforms that tend to take place later in the sample and, therefore, at relatively high levels of domestic financial liberalization. For these reforms, in a simple linear specification like that of Tables 1-6, the preponderance of observations where there is no scope for further domestic financial liberalization may obscure a potential positive role in the early stages of domestic financial liberalization. Reforms of networks are a case in point (Figure 3). It is also conceivable that, if most countries strictly applied McKinnon's sequencing prescriptions, capital account liberalization would be implemented mostly after domestic financial liberalization, thus reducing the chances of estimating a significant positive effect of liberalizing the capital account.

Table 10 shows that, as expected, the estimated interaction term is negative for all types of reforms and at all frequencies. However, it is only in the case of networks liberalization that the nonlinear specification uncovers an entirely new result. While networks liberalization had no significant positive effect in Tables 1-6, it now has a positive and highly significant direct coefficient with a highly negative and significant interaction term in both the annual and 5-year interval regressions, suggesting strong effects of networks liberalization at low levels of

[7] A negative interaction term could also be considered a sign that reforms in other sectors could accelerate the speed of convergence to the steady state level of domestic financial sector liberalization. According to this alternative interpretation, $\beta_{DF,DF}$ (the convergence term) would be a negative function of reforms in other sectors—i.e., these reforms would make domestic financial liberalization converge faster.

domestic financial liberalization (columns 7 and 8 in Table 10). Capital account liberalization has also a significant negative interaction term and a positive direct effect in the annual regressions (column 3) but the direct effect is not significant in the 5-year interval estimates (column 4), confirming the short-lived impact of capital account liberalization on domestic financial reform, which we are about to document further.

Short-lived effect of capital account liberalization

The significance of the effect of capital account liberalization on domestic financial liberalization disappears when we move from annual to 5-year interval regressions, suggesting a short-lived effect of capital account liberalization. To confirm this interpretation, we estimate a richer dynamic specification on annual data than that in Table 1 by allowing for more lagged liberalization effects across sectors (**Table 11**). In practice, we modify equation (2) by adding progressively more annual lags of all liberalization indices, $y^s_{i,t-1}$, $y^s_{i,t-2}$, … , $y^s_{i,t-5}$, starting with a model with two lags and up to a model with five lags. To disentangle temporary from permanent effects of each index on domestic financial liberalization, we estimate the equivalent specification with lagged changes of each index—to capture short-term temporary effects—and one (progressively longer) lagged level of each index to capture permanent effects. For example, the specification in column 1 of Table 11 includes $\Delta y^s_{i,t-1} = y^s_{i,t-1} - y^s_{i,t-2}$ as well as $y^s_{i,t-2}$. The specification in column 2 includes $\Delta y^s_{i,t-1}$, $\Delta y^s_{i,t-2}$ and $y^s_{i,t-3}$, and so on until column 4 with $\Delta y^s_{i,t-1}$, $\Delta y^s_{i,t-2}$, $\Delta y^s_{i,t-3}$, , $\Delta y^s_{i,t-4}$ and $y^s_{i,t-5}$. The richer dynamics of these models shows clearly that any effect of capital account liberalization is temporary with only the first lagged change statistically significant but no lagged level ever significant. This means that lagged capital account liberalization does not

have any permanent effect on domestic financial liberalization although it may help predict it at a one-year horizon.

The same picture emerges from an analysis of the disaggregated effects of capital account liberalization on the components of domestic financial liberalization. Column 3 in Table 8 shows that the predictive power of capital account liberalization at a one-year horizon is mostly related to its association with securities markets liberalization, whereas it does not seem to have any significant effect on banking sector liberalization (column 2 in Table 8). There is also no detectable effect on the sub components of the banking index except for a weak association at the annual level of capital account liberalization with the removal of entry barriers (column 6 in Table 8), possibly related to the abolition of restrictions on foreign bank operations measured by this sub component of the banking index.[8] Table 9 confirms that even the effect on securities markets is temporary and disappears at a 5-year horizon.

Finally, we replaced in the regressions of Tables 1–3 the capital account liberalization index we used so far (the capital account sub component of Abiad and others's (2008) index) with Quinn's (1997) index of capital account liberalization, which is available for about 60 countries in the sample, to verify whether our weak results about the effects of capital account liberalization might depend on the index we use. Quinn's overall index is not significant in all our regressions, failing to confirm even the short-term leading indicator

[8] On removing restrictions on foreign bank entry, see, for example, Claessens and others (2001), Claessens and Laeven (2003), and Detragiache and others (2008).

effect we had detected with our index. Quinn's index allows us also to distinguish between capital account restrictions on residents and nonresidents. This distinction reveals a positive association between liberalization of residents' capital account transactions and securities markets liberalization, suggesting that it is the access to foreign securities markets by residents that may trigger a reform of domestic securities markets. This effect remains, however, limited at the annual frequency also with Quinn's data. Liberalization of both residents and nonresidents capital account transactions is weakly associated with the removal of entry barriers in the banking sector in line with what we find using the baseline index. Quinn's data also reveal a positive association between the liberalization of nonresidents' capital account transactions and banking supervision reforms.

Other extensions

We also explored the potential effect of the interaction between trade and capital account liberalization on domestic financial reform. In a strict interpretation of Rajan and Zingales's interest group theory, a combination of trade and capital account liberalization should have a greater impact than each of them separately, as discussed in the Introduction. However, the estimated interaction term is not statistically significant (available on request).

When we estimate the specification on five-year intervals with system GMM to correct the possible bias due to the short T dimension resulting from the lower frequency of the data, we find again that trade has a highly significantly positive effect on domestic financial and capital account liberalization, while there is no significant relationship between capital account and domestic financial liberalization in either direction. System GMM estimates

confirm, instead, the strongly significant leading indicator effect of agriculture liberalization on domestic financial liberalization.

V. CONCLUSIONS

We have provided evidence on the sequencing of trade, capital account, and domestic financial liberalization from the angle of regulations and with a much larger sample than a previous study that only focused on transition economies.[9] Our findings support the primacy of trade implied by Rajan and Zingales's (2003) positive interest group theory and McKinnon's (1991) normative prescriptions: trade liberalization is a significant leading indicator of both domestic financial liberalization and capital account liberalization. Our results on the sequencing between these two last reforms—for which the theories of Rajan and Zingales and McKinnon have contrasting implications—are, instead, inconclusive, with weak evidence of an effect in either direction. This negative finding should most likely be interpreted as an indication that opposite sequencing of domestic financial liberalization and capital account liberalization are equally frequent in our dataset. Our additional result that product market liberalization is a leading indicator of domestic financial reform is consistent with Rajan and Zingales's view that the opposition of interest groups to domestic financial liberalization weakens as product markets become more competitive.

Others have found that *de facto* trade openness matters more for financial development and reform than capital account openness (e.g., Abiad and Mody (2005) and Baltagi and others

[9] Barlow and Radulescu (2005).

(2007)) but we are the first to show that *de jure* trade liberalization (both in the form of lower tariffs and non-tariff financial restrictions on current account transactions) precedes *de jure* domestic financial liberalization (as well as *de jure*. capital account liberalization). Other new results of this paper are that: (i) trade liberalization remains a significant leading indicator of domestic financial liberalization after controlling for product market liberalization; (ii) agriculture reform is an additional leading indicator of domestic financial liberalization in low- and middle-income countries; and (iii) networks liberalization is a leading indicator of domestic financial liberalization when the latter is in its initial stages.

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Figure 1. Three Cases of Domestic and External Financial Liberalization

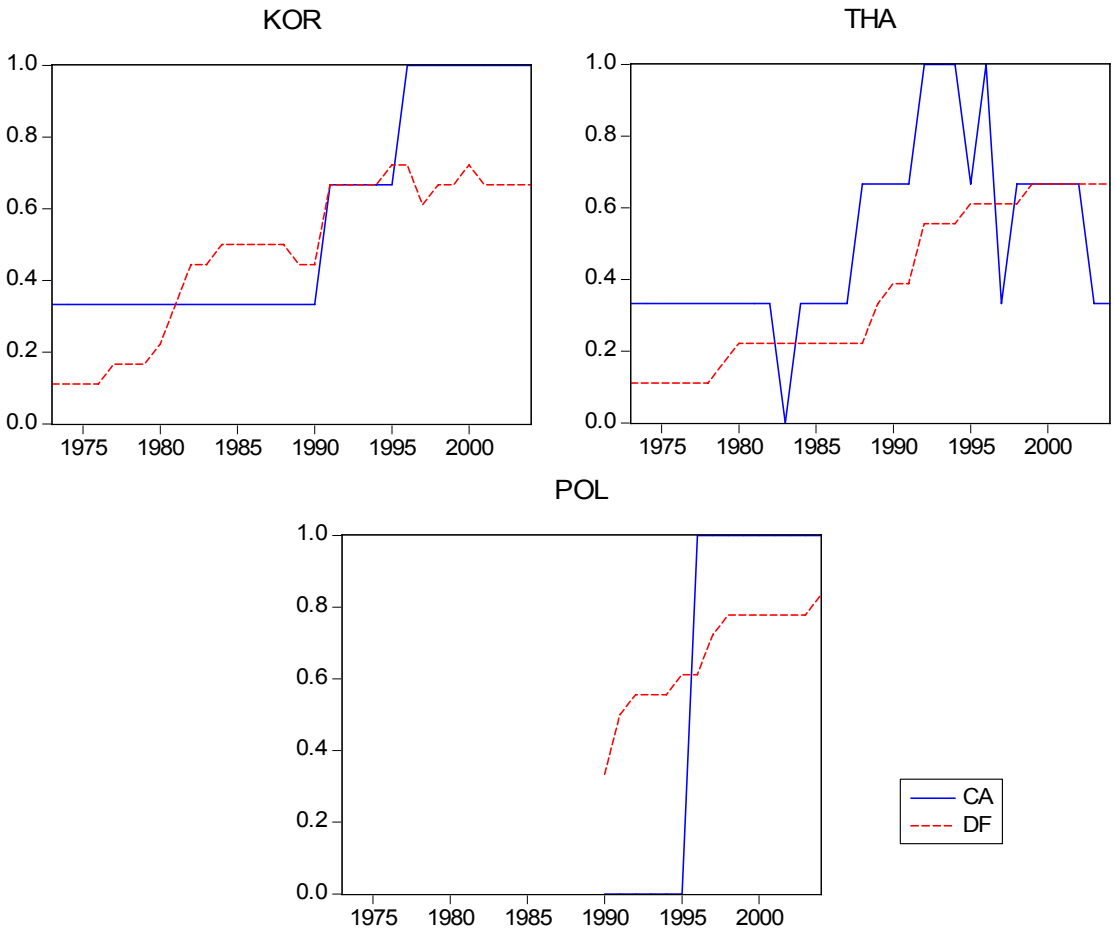


Figure 2. Liberalization in Five Sectors, 1973–2003

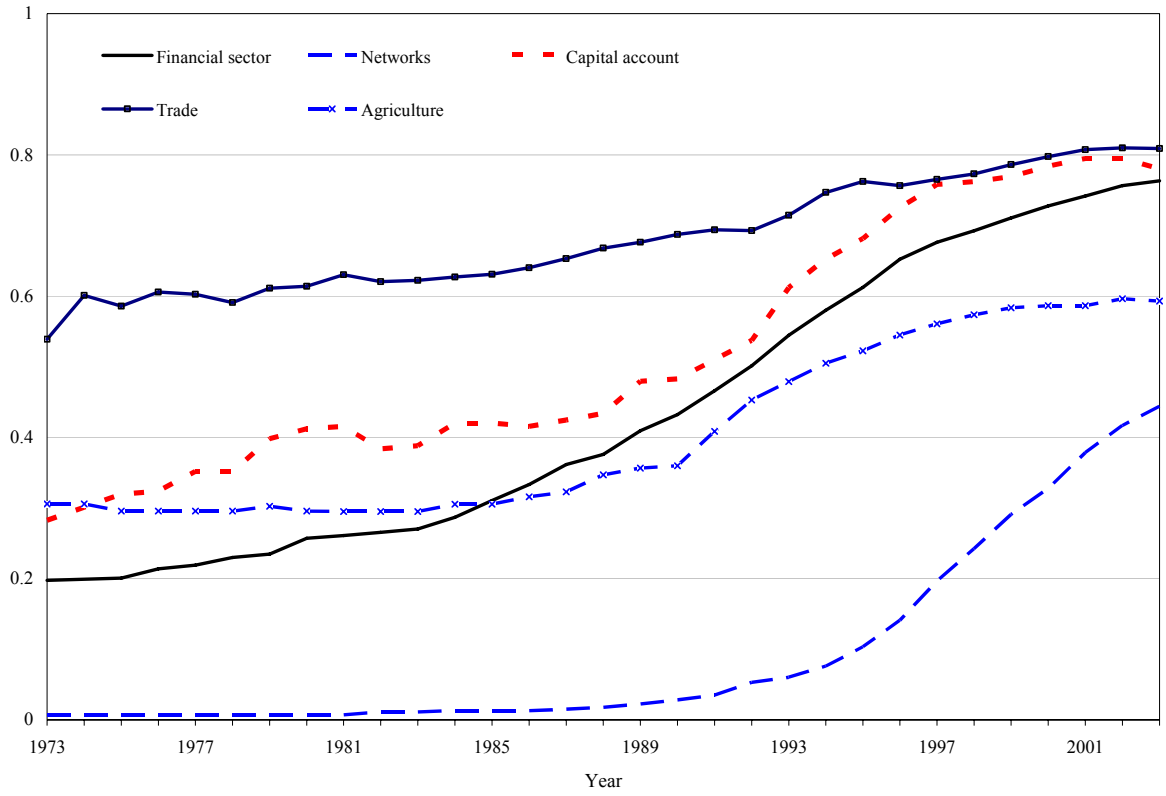


Figure 3. Liberalization by Sector and Income Group

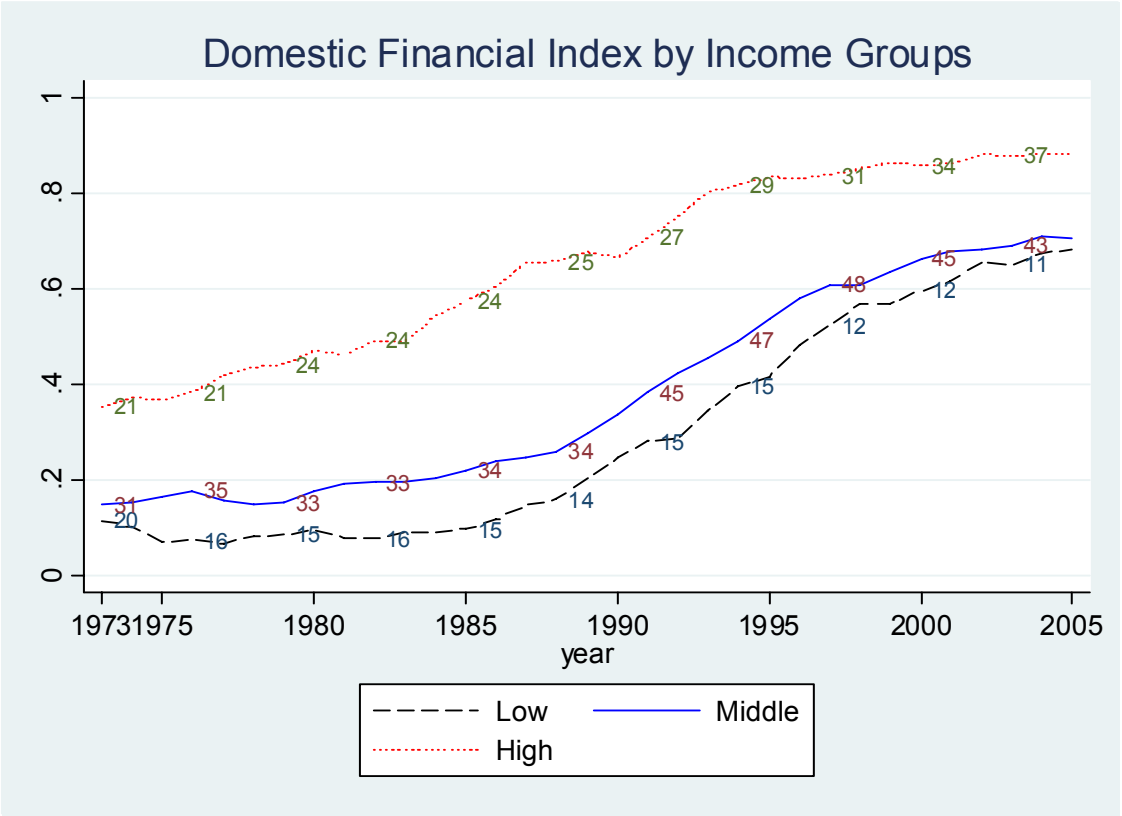
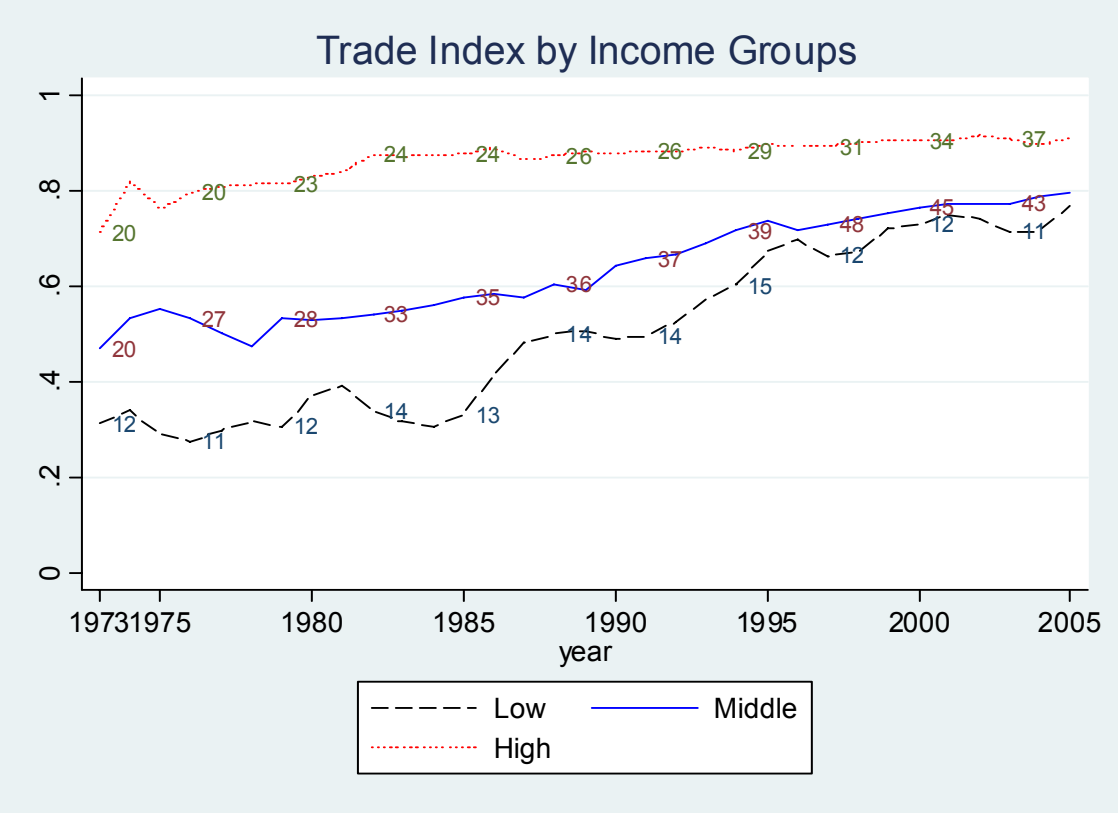
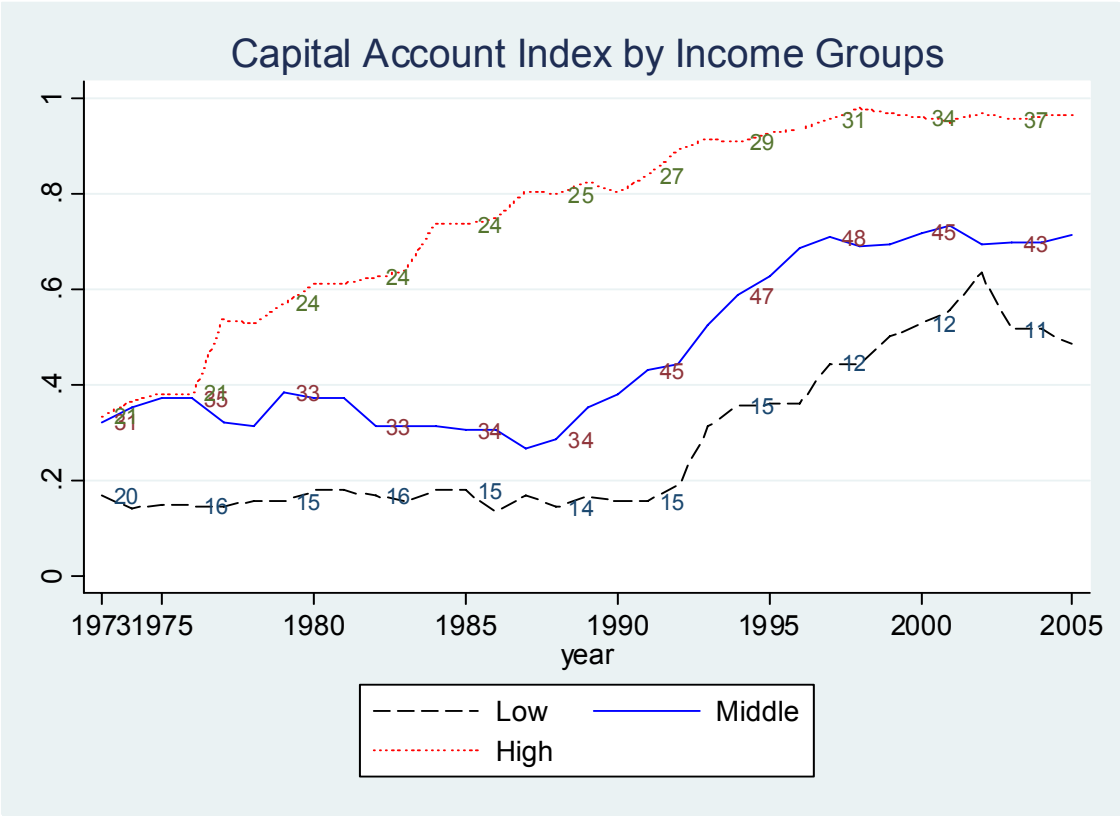


Figure 3. (Continued)



The number of available countries is marked next to each data point.

Figure 3. (Continued)



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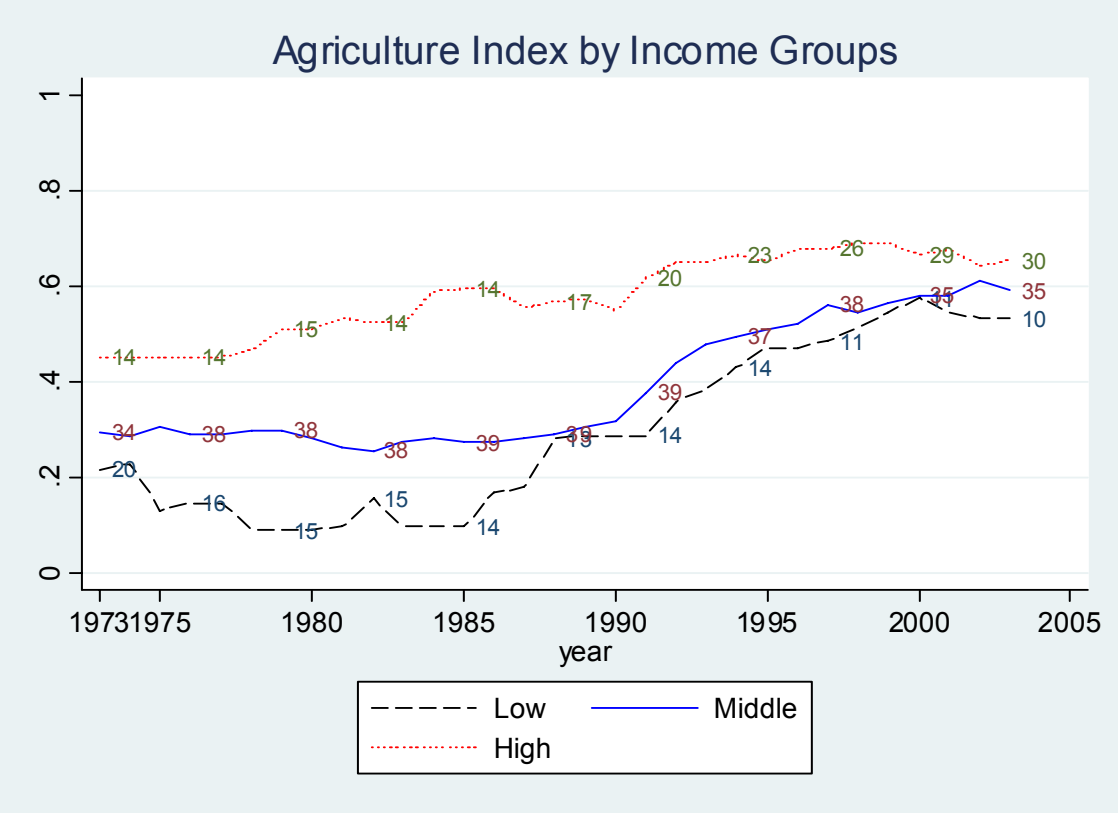
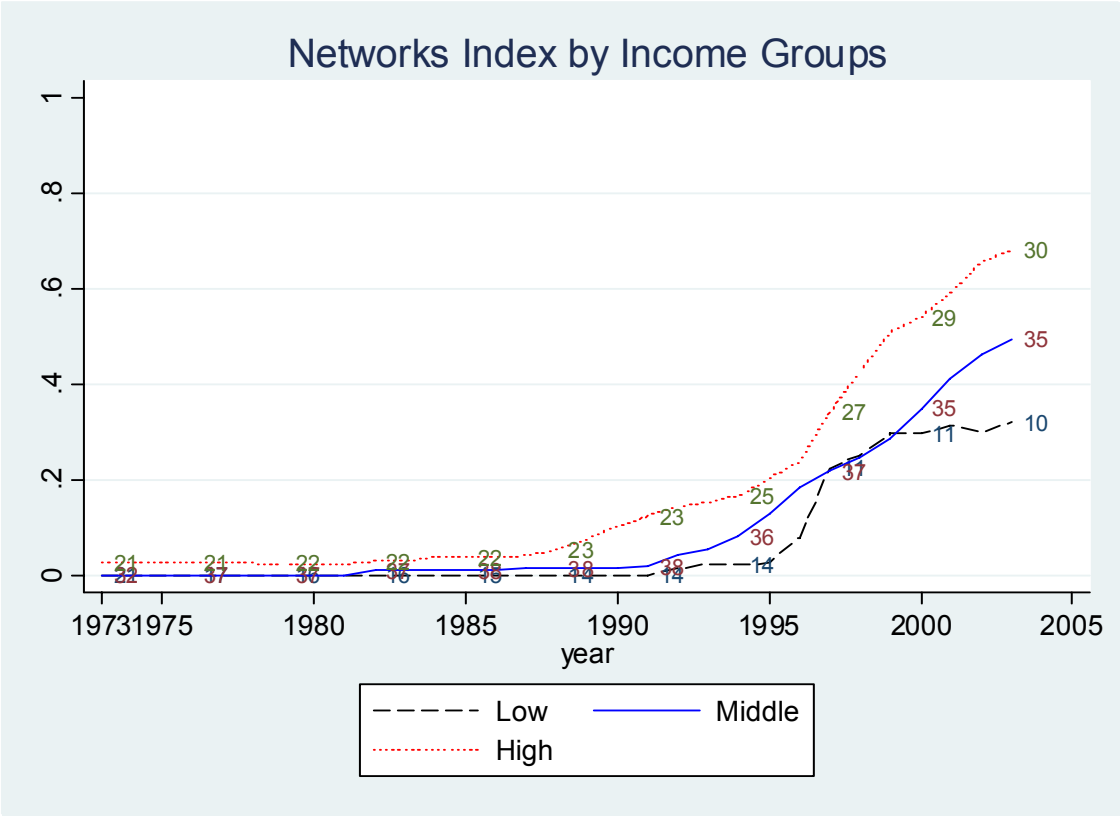


The number of available countries is marked next to each data point.

Figure 3. (Continued)



The number of available countries is marked next to each data point.

Table 1. Dependent Variable: DF Change (Annual data; OLS estimates)*

Variable	Constant		Year Dummies		Country Dummies		Country, Year Dummies	
	Basic	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*
Trade liberalization (-1)	0.0321	0.0318	0.0310	0.0272	0.0579	0.0543	0.0316	0.0315
	4.40	4.26	4.45	3.83	5.15	4.79	2.95	2.93
	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003
Capital account liberalization (-1)	0.0038	0.0047	0.0077	0.0054	0.0103	0.0107	0.0097	0.0133
	0.69	0.83	1.47	0.98	1.45	1.48	1.44	1.97
	0.491	0.410	0.143	0.327	0.147	0.139	0.151	0.049
Agriculture liberalization (-1)	0.0050	0.0051	0.0064	0.0066	0.0256	0.0241	0.0266	0.0210
	1.40	1.43	1.80	1.88	3.03	2.83	3.29	2.56
	0.163	0.153	0.072	0.061	0.003	0.005	0.001	0.011
Networks liberalization (-1)	-0.0023	-0.0027	-0.0017	-0.0027	0.0016	0.0006	-0.0004	-0.0063
	-0.51	-0.60	-0.34	-0.54	0.24	0.09	-0.05	-0.89
	0.608	0.548	0.732	0.591	0.807	0.926	0.958	0.376
Neighbor DF (Alliance weights) (-1)	0.0120	0.0117	0.0101	0.0077	0.0234	0.0224	0.0276	0.0251
	3.26	3.19	2.21	1.70	4.86	4.69	3.91	3.60
	0.001	0.002	0.027	0.089	0.000	0.000	0.000	0.000
GDP per capita (-1)		-0.0004		0.0036		0.0079		-0.0244
		-0.24		2.07		1.09		-3.08
		0.810		0.039		0.275		0.002
Commodities terms of trade (-1)		-0.0088		-0.0088		-0.0252		-0.0168
		-1.54		-1.53		-2.21		-1.55
		0.124		0.127		0.027		0.121
Own lagged level (-1)	-0.0455	-0.0450	-0.0665	-0.0731	-0.0800	-0.0827	-0.1716	-0.1717
	-6.36	-6.03	-8.66	-8.49	-7.13	-7.15	-10.90	-10.87
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent variable (-1)	0.1192	0.1166	0.0905	0.0942	0.1106	0.1105	0.1175	0.1112
	4.34	4.19	3.32	3.41	3.99	3.99	4.34	4.14
	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000
Dependent variable (-2)	0.0813	0.0826	0.0588	0.0665	0.0711	0.0754	0.0857	0.0825
	2.76	2.76	2.03	2.26	2.31	2.43	2.88	2.78
	0.006	0.006	0.043	0.024	0.021	0.015	0.004	0.006
r2	0.061	0.062	0.123	0.125	0.098	0.100	0.192	0.196
r2 adjusted	0.057	0.056	0.105	0.105	0.053	0.054	0.137	0.141
N	1737	1727	1737	1727	1737	1727	1737	1727

* Below each estimated coefficient, we report robust t-statistics and p-values.

Table 2. Dependent Variable: DF Change (5-year intervals; OLS estimates)*

Variable	Constant		Year Dummies		Country Dummies		Country, Year Dummies	
	Basic	***Controls***	***Basic***	***Controls***	***Basic***	***Controls***	***Basic***	***Controls***
Trade liberalization (-1)	0.1498	0.1374	0.1429	0.1189	0.2117	0.2062	0.1074	0.1013
	4.37	3.57	4.93	3.76	4.34	3.47	2.74	2.03
	0.000	0.000	0.000	0.000	0.000	0.001	0.007	0.044
Capital account liberalization (-1)	-0.0318	-0.0416	-0.0099	-0.0266	-0.0424	-0.0421	-0.0313	-0.0222
	-1.03	-1.16	-0.36	-0.83	-1.10	-0.91	-1.01	-0.56
	0.304	0.246	0.718	0.410	0.274	0.365	0.314	0.574
Agriculture liberalization (-1)	0.0196	0.0147	0.0284	0.0249	0.0979	0.1188	0.1153	0.0942
	1.09	0.68	1.76	1.28	2.37	2.03	3.39	2.11
	0.278	0.499	0.079	0.202	0.019	0.044	0.001	0.037
Networks liberalization (-1)	-0.0474	-0.0028	-0.0034	0.0030	-0.0688	-0.0786	-0.0043	-0.0202
	-2.30	-0.07	-0.15	0.07	-2.29	-1.13	-0.13	-0.32
	0.022	0.944	0.885	0.944	0.023	0.258	0.894	0.750
Neighbor DF (Alliance weights) (-1)	0.0543	0.0860	0.0336	0.0316	0.1778	0.2461	0.1016	0.1085
	2.88	3.17	1.86	1.19	4.31	3.75	2.98	1.97
	0.004	0.002	0.063	0.234	0.000	0.000	0.003	0.050
GDP per capita (-1)		0.0009		0.0073		0.0258		-0.0219
		0.37		2.78		1.66		-1.69
		0.710		0.006		0.098		0.093
Commodities terms of trade (-1)		-0.0114		-0.0146		-0.0343		-0.0108
		-1.04		-1.43		-1.69		-0.60
		0.299		0.155		0.093		0.546
Own lagged level (-1)	-0.1789	-0.1687	-0.2704	-0.3423	-0.3327	-0.3701	-0.6936	-0.7695
	-4.73	-3.50	-7.06	-6.40	-5.65	-3.99	-9.52	-8.30
	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
r2	0.155	0.119	0.350	0.341	0.300	0.309	0.575	0.585
r2 adjusted	0.140	0.093	0.329	0.311	0.094	0.038	0.439	0.410
N	353	278	353	278	353	278	353	278

* Below each estimated coefficient, we report robust t-statistics and p-values.

Table 3. Dependent Variable: DF Change (Annual data; 2SLS estimates)*

Variable	Constant		Year Dummies		Country Dummies		Country, Year Dummies	
	Basic	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*
Trade liberalization (-1)	0.0378	0.0354	0.0365	0.0309	0.0801	0.0686	0.0361	0.0367
	4.25	3.83	4.26	3.47	4.96	4.22	2.27	2.32
	0.000	0.000	0.000	0.001	0.000	0.000	0.023	0.020
Capital account liberalization (-1)	-0.0198	-0.0247	-0.0115	-0.0235	-0.0341	-0.0422	-0.0354	-0.0329
	-2.31	-2.61	-1.38	-2.58	-2.29	-2.78	-2.50	-2.26
	0.021	0.009	0.168	0.010	0.022	0.006	0.012	0.024
Agriculture liberalization (-1)	0.0010	-0.0008	0.0024	0.0016	0.0200	0.0331	0.0241	0.0212
	0.26	-0.18	0.61	0.39	1.74	2.71	2.19	1.74
	0.797	0.855	0.544	0.696	0.082	0.007	0.029	0.082
Networks liberalization (-1)	0.0015	0.0034	0.0010	-0.0027	0.0132	0.0166	0.0004	0.0006
	0.20	0.45	0.11	-0.28	1.08	1.34	0.03	0.04
	0.845	0.652	0.914	0.779	0.280	0.181	0.979	0.968
Neighbor DF (Alliance weights) (-1)	0.0134	0.0137	0.0111	0.0091	0.0252	0.0287	0.0289	0.0282
	3.27	3.22	2.38	1.87	4.08	4.49	3.65	3.37
	0.001	0.001	0.017	0.061	0.000	0.000	0.000	0.001
GDP per capita (-1)		0.0036		0.0082		0.0371		0.0021
		2.00		4.03		4.29		0.22
		0.045		0.000		0.000		0.829
Commodities terms of trade (-1)		-0.0107		-0.0112		-0.0173		-0.0171
		-1.33		-1.44		-1.42		-1.46
		0.185		0.150		0.155		0.144
Own lagged level (-1)	-0.0286	-0.0312	-0.0491	-0.0600	-0.0607	-0.0765	-0.1505	-0.1496
	-3.04	-3.30	-5.04	-5.94	-3.61	-4.40	-8.13	-8.15
	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Dependent variable (-1)	0.1204	0.1270	0.0934	0.1040	0.1165	0.1249	0.1228	0.1226
	4.90	5.06	3.87	4.22	4.54	4.80	4.96	4.90
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent variable (-2)	0.0832	0.0858	0.0579	0.0649	0.0811	0.0858	0.0941	0.0883
	3.43	3.43	2.43	2.65	3.20	3.29	3.83	3.52
	0.001	0.001	0.015	0.008	0.001	0.001	0.000	0.000
r2	0.054	0.054	0.119	0.123	0.078	0.084	0.179	0.183
r2 adjusted	0.049	0.048	0.100	0.101	0.028	0.033	0.119	0.121
N	1599	1540	1599	1540	1599	1540	1599	1540
Hansen J statistic (p-value)	0.012	0.001	0.563	0.732	0.000	0.000	0.738	0.754
Anderson LR statistic (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* Below each estimated coefficient, we report robust t-statistics and p-values.

Table 4. Dependent Variable: CA Change (Annual data; OLS estimates)*

Variable	Constant		Year Dummies		Country Dummies		Country, Year Dummies	
	Basic	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*
Trade liberalization (-1)	0.0723	0.0502	0.0692	0.0501	0.0652	0.0662	0.0574	0.0588
	3.69	2.64	3.59	2.69	2.20	2.21	1.95	1.99
	0.000	0.008	0.000	0.007	0.028	0.027	0.051	0.047
Domestic financial liberalization (-1)	0.0988	0.0646	0.0868	0.0456	0.0913	0.0899	0.0564	0.0551
	4.36	2.87	3.70	1.89	2.90	2.83	1.67	1.62
	0.000	0.004	0.000	0.059	0.004	0.005	0.095	0.106
Agriculture liberalization (-1)	0.0033	0.0030	0.0022	0.0034	-0.0170	-0.0162	-0.0175	-0.0169
	0.35	0.31	0.23	0.36	-0.84	-0.81	-0.87	-0.85
	0.727	0.753	0.822	0.717	0.398	0.418	0.384	0.398
Networks liberalization (-1)	-0.0348	-0.0370	-0.0106	-0.0191	-0.0537	-0.0534	-0.0317	-0.0301
	-2.90	-3.06	-0.82	-1.44	-3.26	-3.25	-1.58	-1.47
	0.004	0.002	0.412	0.150	0.001	0.001	0.114	0.141
Neighbor CA (Trading partners weight) (-1)	0.0192	0.0634	0.0457	0.0183	0.1634	0.1619	0.1031	0.1049
	0.75	2.39	1.03	0.41	4.45	4.23	1.50	1.51
	0.454	0.017	0.302	0.683	0.000	0.000	0.134	0.131
GDP per capita (-1)		0.0204		0.0221		0.0034		0.0008
		4.69		4.53		0.17		0.03
		0.000		0.000		0.869		0.973
Commodities terms of trade (-1)		-0.0276		-0.0303		0.0008		0.0006
		-1.26		-1.39		0.02		0.02
		0.207		0.163		0.982		0.987
Own lagged level (-1)	-0.1603	-0.1792	-0.1554	-0.1744	-0.2708	-0.2712	-0.2631	-0.2630
	-8.15	-8.32	-8.01	-8.19	-8.78	-8.68	-8.80	-8.69
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent variable (-1)	0.0199	0.0263	0.0060	0.0129	0.0626	0.0630	0.0500	0.0499
	0.75	0.99	0.23	0.48	2.29	2.29	1.84	1.82
	0.451	0.324	0.819	0.629	0.022	0.022	0.067	0.069
Dependent variable (-2)	0.0153	0.0225	0.0087	0.0162	0.0518	0.0523	0.0472	0.0471
	0.52	0.78	0.29	0.54	1.92	1.93	1.72	1.70
	0.601	0.437	0.773	0.588	0.054	0.053	0.086	0.089
r2	0.082	0.095	0.108	0.122	0.148	0.148	0.172	0.172
r2 adjusted	0.077	0.090	0.089	0.102	0.106	0.105	0.115	0.115
N	1737	1727	1737	1727	1737	1727	1737	1727

* Below each estimated coefficient, we report robust t-statistics and p-values.

Table 5. Dependent Variable: CA Change (5-year intervals; OLS estimates)*

Variable	Constant		Year Dummies		Country Dummies		Country, Year Dummies	
	Basic	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*
Trade liberalization (-1)	0.2729	0.1836	0.2586	0.1751	0.3018	0.3278	0.2346	0.2462
	3.95	2.71	3.93	2.88	3.05	2.78	2.44	2.19
	0.000	0.007	0.000	0.004	0.003	0.006	0.015	0.030
Domestic financial liberalization (-1)	0.4044	0.3481	0.3499	0.2413	0.3876	0.5636	0.1888	0.2598
	4.63	3.67	4.19	2.48	3.18	3.80	1.41	1.53
	0.000	0.000	0.000	0.014	0.002	0.000	0.158	0.127
Agriculture liberalization (-1)	-0.0009	0.0035	0.0003	0.0134	-0.0775	-0.0005	-0.0604	-0.0085
	-0.02	0.09	0.01	0.34	-1.11	-0.01	-0.85	-0.09
	0.981	0.929	0.994	0.731	0.268	0.996	0.398	0.928
Networks liberalization (-1)	-0.1370	-0.1739	-0.0635	-0.1822	-0.2147	-0.3569	-0.1148	-0.3211
	-2.99	-2.54	-1.21	-2.65	-3.55	-2.66	-1.57	-2.42
	0.003	0.012	0.225	0.009	0.001	0.008	0.118	0.016
Neighbor CA (Trading partners weight) (-1)	-0.0625	0.1640	-0.0093	-0.1556	0.2720	0.2806	-0.0197	-0.2801
	-0.67	1.61	-0.06	-0.95	2.00	1.63	-0.08	-1.11
	0.503	0.109	0.955	0.344	0.046	0.104	0.935	0.269
GDP per capita (-1)		0.0162		0.0200		0.0032		-0.0200
		3.77		4.26		0.12		-0.78
		0.000		0.000		0.904		0.438
Commodities terms of trade (-1)		-0.0116		-0.0153		0.0169		0.0382
		-0.50		-0.71		0.45		0.96
		0.619		0.478		0.652		0.340
Own lagged level (-1)	-0.5951	-0.6923	-0.5704	-0.6621	-0.8733	-0.9979	-0.8387	-0.9373
	-8.95	-9.87	-8.87	-9.68	-11.03	-10.25	-11.02	-10.10
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
r2	0.328	0.405	0.370	0.451	0.525	0.569	0.564	0.609
r2 adjusted	0.316	0.387	0.349	0.426	0.385	0.401	0.426	0.444
N	353	278	353	278	353	278	353	278

* Below each estimated coefficient, we report robust t-statistics and p-values.

Table 6. Dependent Variable: CA Change (Annual data; 2SLS estimates)*

Variable	Constant		Year Dummies		Country Dummies		Country, Year Dummies	
	Basic	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*	*Basic*	*Controls*
Trade liberalization (-1)	0.1029	0.0748	0.1003	0.0758	0.1673	0.1682	0.1458	0.1457
	4.34	3.00	4.22	3.08	3.85	3.85	3.38	3.38
	0.000	0.003	0.000	0.002	0.000	0.000	0.001	0.001
Domestic financial liberalization (-1)	0.0883	0.0437	0.0720	0.0207	0.0647	0.0650	-0.0214	-0.0284
	3.17	1.47	2.57	0.68	1.22	1.20	-0.35	-0.46
	0.002	0.142	0.010	0.494	0.223	0.229	0.730	0.645
Agriculture liberalization (-1)	0.0024	0.0034	0.0022	0.0057	-0.0111	-0.0115	0.0008	0.0039
	0.21	0.30	0.20	0.52	-0.36	-0.34	0.03	0.11
	0.831	0.762	0.843	0.606	0.719	0.731	0.979	0.909
Networks liberalization (-1)	-0.0320	-0.0335	0.0078	0.0060	-0.0662	-0.0708	-0.0059	0.0040
	-1.49	-1.53	0.31	0.22	-2.22	-2.30	-0.14	0.09
	0.137	0.125	0.760	0.822	0.027	0.022	0.892	0.930
Neighbor CA (Trading partners weight) (-1)	0.0064	0.0646	0.0207	0.0020	0.1558	0.1618	0.0615	0.0480
\	0.21	1.83	0.40	0.04	2.93	2.94	0.87	0.67
	0.831	0.068	0.687	0.970	0.003	0.003	0.382	0.502
GDP per capita (-1)		0.0236		0.0248		-0.0115		-0.0099
		4.61		4.58		-0.48		-0.36
		0.000		0.000		0.631		0.719
Commodities terms of trade (-1)		-0.0357		-0.0408		0.0110		0.0143
		-1.64		-1.89		0.35		0.45
		0.101		0.059		0.729		0.653
Own lagged level (-1)	-0.1632	-0.1848	-0.1600	-0.1813	-0.2866	-0.2810	-0.2784	-0.2719
	-8.74	-9.31	-8.63	-9.22	-10.48	-10.04	-10.22	-9.67
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent variable (-1)	0.0252	0.0301	0.0136	0.0176	0.0734	0.0692	0.0642	0.0598
	0.98	1.14	0.53	0.67	2.69	2.44	2.35	2.10
	0.326	0.252	0.596	0.502	0.007	0.015	0.019	0.036
Dependent variable (-2)	0.0213	0.0251	0.0169	0.0192	0.0648	0.0548	0.0660	0.0555
	0.84	0.97	0.67	0.75	2.45	2.00	2.50	2.03
	0.398	0.330	0.501	0.454	0.014	0.045	0.013	0.042
r2	0.084	0.101	0.111	0.130	0.146	0.142	0.171	0.170
r2 adjusted	0.079	0.095	0.091	0.109	0.100	0.095	0.111	0.107
N	1599	1540	1599	1540	1599	1540	1599	1540
Hansen J statistic (p-value)	0.035	0.167	0.129	0.487	0.310	0.290	0.389	0.387
Anderson LR statistic (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* Below each estimated coefficient, we report robust t-statistics and p-values.

Table 7. Dependent Variable: DF Change (OLS estimates)*

Variable	*1 - Year*		*5 - Year*	
Trade liberalization (-1)	0.03473	0.03717	0.10216	0.12139
	2.58	2.75	2.36	2.68
	0.010	0.006	0.019	0.008
Liberalization of fin. restr. on current account (-1)	0.02822		0.24936	
	2.10		5.00	
	0.036		0.000	
Liberalization of fin. restr. on goods imports (-1)		0.02704		0.10824
		1.88		1.85
		0.061		0.066
Liberalization of fin. restr. on services imports (-1)		-0.01322		0.03609
		-0.86		0.63
		0.388		0.531
Liberalization of fin. restr. on goods exports (-1)		0.03053		0.15645
		2.49		3.34
		0.013		0.001
Liberalization of fin. restr. on services exports (-1)		-0.01109		-0.03424
		-1.05		-0.75
		0.296		0.454
Capital account liberalization (-1)	0.00101	0.00399	-0.06905	-0.06510
	0.12	0.49	-2.14	-2.04
	0.902	0.621	0.034	0.042
Agriculture liberalization (-1)	0.01793	0.01651	0.08586	0.08594
	1.88	1.72	2.62	2.64
	0.061	0.085	0.009	0.009
Networks liberalization (-1)	0.00549	0.00470	0.01884	0.01460
	0.69	0.59	0.57	0.44
	0.492	0.556	0.570	0.657
Neighbor DF (Alliance weights) (-1)	0.02863	0.02706	0.08667	0.08352
	3.36	3.14	2.46	2.33
	0.001	0.002	0.015	0.021
Own lagged level (-1)	-0.18846	-0.19425	-0.72284	-0.73706
	-10.07	-10.12	-9.25	-9.54
	0.000	0.000	0.000	0.000
Dependent variable (-1)	0.12747	0.12618		
	4.26	4.24		
	0.000	0.000		
Dependent variable (-2)	0.10191	0.09826		
	2.99	2.90		
	0.003	0.004		
r2	0.199	0.205	0.633	0.647
r2 adjusted	0.142	0.147	0.522	0.532
N	1344	1344	275	275

* Below each estimated coefficient, we report robust t-statistics and p-values.

Table 8. (Annual data; OLS estimates)*

Variable	Dependent Variable							
	DF[1]	BK[2]	SM[3]	DCRQ[4]	INTC[5]	EBCM[6]	BKSP[7]	PRIV[8]
Trade liberalization (-1)	0.03161	0.03334	0.03041	0.06687	0.06759	0.02885	0.00467	0.01866
	2.95	2.75	2.16	2.42	1.94	1.45	0.33	1.05
	0.003	0.006	0.031	0.016	0.052	0.148	0.740	0.293
Capital account liberalization (-1)	0.00967	0.00754	0.03260	0.01890	0.01338	0.02310	0.01667	0.00427
	1.44	0.98	3.28	1.16	0.65	1.77	1.38	0.30
	0.151	0.328	0.001	0.248	0.515	0.077	0.168	0.767
Agriculture liberalization (-1)	0.02660	0.03080	0.01355	0.02737	0.00700	0.06305	0.04309	0.04143
	3.29	3.35	1.15	1.47	0.28	3.30	3.42	2.40
	0.001	0.001	0.252	0.142	0.776	0.001	0.001	0.016
Networks liberalization (-1)	-0.00038	0.00142	-0.01371	-0.00260	-0.02205	-0.00370	-0.00585	0.02844
	-0.05	0.18	-1.08	-0.16	-1.21	-0.24	-0.33	1.44
	0.958	0.860	0.281	0.872	0.228	0.808	0.739	0.151
Neighbor DF (Alliance weights) (-1)	0.02756	0.03140	0.01293	0.06342	0.04898	0.01563	0.03669	0.02764
	3.91	3.87	1.23	4.10	2.29	1.06	2.25	1.37
	0.000	0.000	0.219	0.000	0.022	0.288	0.025	0.171
Own lagged level (-1)	-0.17155	-0.17509	-0.20336	-0.19492	-0.25776	-0.18367	-0.20417	-0.17735
	-10.90	-10.57	-8.43	-8.96	-8.84	-8.30	-8.44	-6.37
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent variable (-1)	0.11747	0.09928	0.02344	0.02519	0.08242	0.05752	-0.03721	0.03237
	4.34	3.92	1.50	1.05	3.52	2.31	-1.83	1.27
	0.000	0.000	0.133	0.296	0.000	0.021	0.068	0.203
Dependent variable (-2)	0.08570	0.07812	0.03177	0.04404	0.04315	0.05065	-0.01962	0.04892
	2.88	2.59	1.55	1.81	1.39	1.97	-0.89	1.59
	0.004	0.010	0.122	0.070	0.166	0.049	0.376	0.113
r2	0.192	0.184	0.157	0.141	0.172	0.160	0.171	0.133
r2 adjusted	0.137	0.129	0.100	0.083	0.117	0.103	0.115	0.074
N	1737	1737	1737	1737	1737	1737	1737	1737

* Below each estimated coefficient, we report robust t-statistics and p-values.

1 Change in DF: Domestic financial liberalization.

2 Change in BK: Banking liberalization.

3 Change in SM: Securities markets liberalization.

4 Change in DCRQ: Liberalization of banking directed credit/reserve requirements.

5 Change in INTC: Liberalization of banking interest rate controls.

6 Change in EBCM: Liberalization of banking entry barriers and pro-competition measures.

7 Change in BKSP: Banking supervision.

8 Change in PRIV: Banking privatization.

Table 9. (5-year intervals; OLS estimates)*

Variable	Dependent Variable							
	DF[1]	BK[2]	SM[3]	DCRQ[4]	INTC[5]	EBCM[6]	BKSP[7]	PRIV[8]
Trade liberalization (-1)	0.10737	0.09989	0.14648	0.15742	0.15416	0.15529	0.03350	0.03524
	2.74	2.29	2.37	1.60	1.25	1.67	0.63	0.49
	0.007	0.023	0.019	0.111	0.211	0.096	0.527	0.624
Capital account liberalization (-1)	-0.03130	-0.03550	-0.00404	-0.07732	-0.09015	-0.02816	0.05713	0.00881
	-1.01	-1.05	-0.09	-1.26	-1.21	-0.56	1.37	0.14
	0.314	0.294	0.925	0.211	0.227	0.577	0.173	0.885
Agriculture liberalization (-1)	0.11526	0.12393	0.07709	0.05975	0.01438	0.15981	0.15968	0.24657
	3.39	3.17	1.93	0.78	0.19	1.96	3.42	3.48
	0.001	0.002	0.055	0.433	0.848	0.052	0.001	0.001
Networks liberalization (-1)	-0.00431	0.00832	-0.06413	-0.01811	-0.18677	0.05658	0.06288	0.08965
	-0.13	0.24	-1.31	-0.25	-2.28	0.84	0.98	1.16
	0.894	0.810	0.192	0.803	0.023	0.404	0.328	0.248
Neighbor DF (Alliance weights) (-1)	0.10161	0.10535	0.08544	0.24142	0.14884	0.08293	0.05422	0.04315
	2.98	2.89	1.83	3.20	1.90	1.30	0.83	0.57
	0.003	0.004	0.069	0.002	0.058	0.194	0.409	0.572
Own lagged level (-1)	-0.69365	-0.69907	-0.71208	-0.73881	-0.86295	-0.70394	-0.67344	-0.63214
	-9.52	-9.77	-11.14	-9.20	-11.40	-9.13	-9.63	-7.50
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
r2	0.575	0.567	0.547	0.460	0.558	0.512	0.559	0.450
r2 adjusted	0.439	0.429	0.403	0.288	0.417	0.357	0.419	0.275
N	353	353	353	353	353	353	353	353

* Below each estimated coefficient, we report robust t-statistics and p-values.

1 Change in DF: Domestic financial liberalization.

2 Change in BK: Banking liberalization.

3 Change in SM: Securities markets liberalization.

4 Change in DCRQ: Liberalization of banking directed credit/reserve requirements.

5 Change in INTC: Liberalization of banking interest rate controls.

6 Change in EBCM: Liberalization of banking entry barriers and pro-competition measures.

7 Change in BKSP: Banking supervision.

8 Change in PRIV: Banking privatization.

Table 10. Dependent Variable: DF Change (Non-Linear Effects; OLS Estimates)*

Variable	*1 - Year*	*5 - Year*	*1 - Year*	*5 - Year*	*1 - Year*	*5 - Year*	*1 - Year*	*5 - Year*
Trade liberalization (-1)	0.0375	0.1498	0.0249	0.0847	0.0301	0.0978	0.0238	0.0810
	3.51	3.60	2.08	1.86	2.73	2.38	2.08	1.97
	0.001	0.000	0.037	0.064	0.006	0.018	0.038	0.050
TR_{t-1} * DF_{t-1}	-0.0388	-0.3013						
	-1.45	-2.56						
	0.148	0.011						
Capital account liberalization (-1)	0.0086	-0.0373	0.0266	0.0303	0.0086	-0.0409	0.0080	-0.0411
	1.27	-1.19	2.44	0.57	1.28	-1.34	1.18	-1.33
	0.204	0.236	0.015	0.569	0.202	0.182	0.237	0.184
CA_{t-1} * DF_{t-1}			-0.0374	-0.1415				
			-2.20	-1.84				
			0.028	0.066				
Agriculture liberalization (-1)	0.0257	0.1077	0.0245	0.1076	0.0335	0.1650	0.0248	0.1081
	3.14	3.18	2.99	3.10	3.12	3.56	3.06	3.18
	0.002	0.002	0.003	0.002	0.002	0.000	0.002	0.002
AG_{t-1} * DF_{t-1}					-0.0175	-0.1306		
					-1.08	-1.67		
					0.279	0.096		
Networks liberalization (-1)	0.0012	0.0131	0.0026	0.0130	0.0014	0.0114	0.0725	0.2849
	0.17	0.41	0.36	0.40	0.19	0.35	3.06	3.21
	0.868	0.681	0.716	0.686	0.846	0.724	0.002	0.002
PR_{t-1} * DF_{t-1}							-0.0938	-0.3730
							-3.41	-3.59
							0.001	0.000
Neighbor DF (Alliance weights) (-1)	0.0264	0.0910	0.0266	0.1028	0.0277	0.1030	0.0256	0.1010
	3.75	2.72	3.80	3.13	3.94	3.14	3.65	3.10
	0.000	0.007	0.000	0.002	0.000	0.002	0.000	0.002
Own lagged level (-1)	-0.1426	-0.4769	-0.1516	-0.6276	-0.1616	-0.6216	-0.1684	-0.6843
	-5.64	-4.23	-8.39	-7.46	-9.13	-6.94	-10.74	-9.45
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent variable (-1)	0.1138		0.1126		0.1159		0.1166	
	4.18		4.12		4.27		4.29	
	0.000		0.000		0.000		0.000	
Dependent variable (-2)	0.0818		0.0809		0.0842		0.0827	
	2.72		2.70		2.83		2.78	
	0.007		0.007		0.005		0.005	
r2	0.193	0.584	0.195	0.581	0.193	0.580	0.197	0.586
r2 adjusted	0.138	0.450	0.140	0.446	0.137	0.444	0.142	0.452
N	1737	353	1737	353	1737	353	1737	353

* Below each estimated coefficient, we report robust t-statistics and p-values.

Table 11. Dependent Variable: DF Change (OLS estimates)*

Variable	1 - Year			
Trade liberalization change (-1)	0.03951	0.04215	0.03921	0.04308
	2.32	2.43	2.3	2.41
	0.0206	0.0153	0.0215	0.016
Trade liberalization change (-2)		0.05882	0.06210	0.05191
		2.56	2.67	2.29
		0.0104	0.0078	0.0221
Trade liberalization change (-3)			0.03556	0.02734
			1.73	1.33
			0.0834	0.1854
Trade liberalization change (-4)				0.04711
				2.58
				0.01
Trade liberalization (-2)	0.03154			
	2.8			
	0.0052			
Trade liberalization (-3)		0.02826		
		2.56		
		0.0106		
Trade liberalization (-4)			0.02893	
			2.66	
			0.0079	
Trade liberalization (-5)				0.02416
				2.13
				0.0337
Capital account liberalization change (-1)	0.03827	0.03881	0.03875	0.03839
	3.72	3.65	3.57	3.49
	0.0002	0.0003	0.0004	0.0005
Capital account liberalization change (-2)		0.00335	0.00593	0.00551
		0.3	0.51	0.46
		0.7648	0.613	0.648
Capital account liberalization change (-3)			0.00980	0.01275
			0.83	1.03
			0.4061	0.3024
Capital account liberalization change (-4)				-0.00432
				-0.42
				0.677
Capital account liberalization (-2)	0.00101			
	0.14			
	0.8887			
Capital account liberalization (-3)		-0.00012		
		-0.02		
		0.9879		
Capital account liberalization (-4)			-0.00402	
			-0.49	
			0.6227	
Capital account liberalization (-5)				-0.00412
				-0.45
				0.6497

Table 11. (Continued)

Variable	1 - Year			
Agriculture liberalization change (-1)	0.02354	0.02717	0.02203	0.02942
	1.47	1.72	1.3	1.68
	0.141	0.0859	0.195	0.0928
Agriculture liberalization change (-2)		0.03808	0.04158	0.04940
		2.39	2.59	2.89
		0.0171	0.0096	0.0039
Agriculture liberalization change (-3)			0.02280	0.02913
			1.16	1.5
			0.2452	0.1339
Agriculture liberalization change (-4)				0.02436
				1.98
				0.0479
Agriculture liberalization (-2)	0.02879			
	3.57			
	0.0004			
Agriculture liberalization (-3)		0.02891		
		3.31		
		0.001		
Agriculture liberalization (-4)			0.02938	
			3.21	
			0.0013	
Agriculture liberalization (-5)				0.03625
				3.96
				0.0001
Networks liberalization change (-1)	0.00016	-0.00003	0.00193	0.00162
	0.01	0	0.15	0.13
	0.9891	0.9979	0.8769	0.898
Networks liberalization change (-2)		-0.00578	-0.00636	-0.00733
		-0.53	-0.55	-0.61
		0.596	0.5837	0.5391
Networks liberalization change (-3)			0.01966	0.01601
			1.21	0.98
			0.2274	0.3278
Networks liberalization change (-4)				0.02881
				1.79
				0.0734
Networks liberalization (-2)	0.00339			
	0.46			
	0.6483			
Networks liberalization (-3)		0.00656		
		0.76		
		0.4477		
Networks liberalization (-4)			0.00417	
			0.45	
			0.6501	
Networks liberalization (-5)				-0.00112
				-0.11
				0.9135

Table 11. (Continued)

Variable	1 - Year			
Neighbor DF (Alliance weights) (-1)	0.02820	0.03060	0.02947	0.02714
	3.98	4.21	4.05	3.63
	0.0001	0	0.0001	0.0003
Dependent variable (-1)	-0.05000	-0.07458	-0.07640	-0.07735
	-1.83	-2.62	-2.62	-2.5
	0.0679	0.0088	0.0089	0.0124
Dependent variable (-2)		-0.08282	-0.09061	-0.09889
		-2.49	-2.64	-2.78
		0.0129	0.0085	0.0056
Dependent variable (-3)			-0.17667	-0.17795
			-6.27	-6.12
			0	0
Dependent variable (-4)				-0.17333
				-6.44
				0
Own lagged level (-2)	-0.15770			
	-10.22			
	0			
Own lagged level (-3)		-0.16953		
		-10.53		
		0		
Own lagged level (-4)			-0.16928	
			-10.13	
			0	
Own lagged level (-5)				-0.17713
				-9.63
				0
r2	0.201364	0.209686	0.219197	0.225867
r2 adjusted	0.145543	0.149598	0.154528	0.155895
N	1746	1671	1596	1521

* Below each estimated coefficient, we report robust t-statistics and p-values.