Within Gain, Structural Pain: Capital Account Liberalization and Economic Growth*

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Abstract

This paper is the first to study the effects of capital account liberalization on structural transformation and compare the contribution of within term and structural term to economic growth. We use a 10-sector-level productivity dataset to decomposes the effects of opening capital account on within-sector productivity growth and cross-sector structural transformation. We find that opening capital account is associated with labor productivity and employment share increment in sectors with higher human capital intensity and external financial dependence, as well as non-tradable sectors. But it results in a growth-reducing structural transformation by directing labor into sectors with lower productivity. Moreover, in the ten years after capital account liberalization, the contribution share of structural transformation decreases while that of within productivity growth increases. We conclude that the relationship between capital account liberalization and economic growth is within gain and structural pain.

Keywords: Capital Account Liberalization; Economic Growth; Productivity; Structural Transformation; New Structural Economics

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1 Introduction

The timing is perfect to revisit the role of capital account liberalization in economic growth. In its heyday, neoclassical economics and the international organizations standing behind it, International Monetary Fund(IMF) for instance, strongly promoted opening capital account as a means to introduce capital, investment and economic growth. As a result, there was a global wave of capital account liberalization in the 1970s-1980s. But two things triggered the shift in thinking of complete free cross-border capital flows. One is the observation that the economic performance of the countries liberalized capital account was not as good as expected, Kose et al. (2009) summarized the growth after financial liberalization and found that the improvement was slight. The other is the fact that cross-border financial transactions and interconnectedness exaggerated the regional financial turbulences and expand them to global financial crisis. Many countries rebuilt the wall to fend against international capital in the post-crisis period, which was also included in the new tool box of IMF. Ten years later, the world is still recovering from the global financial crisis. It is the time to gather the experience and lessons from the crisis, especially to reinvestigate the effects of cross-border capital flows to help the governments retake stance in this critical turning point.

The relationship between capital account liberalization and economic growth is well studied but inconclusive. This is related to the complexity of capital account liberalization. Various measurements, regarding either the distinguish between *de jure* or *de facto*liberalization or different categories of capital flow, capture different perspectives of capital account liberalization, thus can result in different findings. Moreover, the heterogeneities in countries' economic fundamentals and institutional quality affect the impact of opening capital account. Liberalized international financial market can have positive effects only when the countries have met certain criteria (Cornelius and Kogut (2003); Bekaert et al. (2005)). These factors account for the inconclusive findings from the side of capital account liberalization, which is complicated and interacts with domestic elements. In comparison, the complexity from the side of economic growth is less emphasized. Although there are studies investigating the effects of capital account liberalization on different factors of economic growth, such as investment, labor, and total factor productivity, one important perspective of economic growth is missing in the discussion: the cross-sector structural transformation. This paper tackles the effects of capital account liberalization through this innovative perspective, by answering the questions how does opening capital account affect the within sector productivity growth and the cross-sector structural transformation, is the impact on structural transformation growth-reducing or growth-enhancing, and how is that compared to the within effect.

Economic growth can be achieved through two forces. Within-sector productivity growth and structural transformation. Much attention has been paid to the overall growth or its within force, with good reasons. Studies have shown that within-sector productivity growth accounts for most part of economic growth, and total factor productivity is substantial for long-term economic growth. Moreover, the recent global phenomena of low productivity worried the policymakers about the persistence of stable economic growth, which has directed a lot of endeavors into the study of productivity. Several papers investigate the effects of financial openness and productivity growth (Bonfiglioli (2008); Kose et al. (2009); Bekaert et al. (2011); Gehringer (2013)) .

In comparison, the investigation on structural transformation as the other key force of economic growth is rather limited. Structural transformation is defined as the reallocation of economic activity across the broad sectors agriculture, manufacturing, and services (Herrendorf et al. (2014)). It is very important in economic growth. Theoretically, Kongsamut et al. (2001); Ngai and Pissarides (2007), Buera et al. (2012) and Ju et al. (2015) have modeled the role of structural change in economic growth, through the perspectives of endowment, scale technology or preference. Empirically, McMillan and Harttgen (2014); McMillan et al. (2014), Rodrik (2014) and Rodrik (2016) use sectoral evidence to test the role of international trade in structural change and the importance of growth-enhancing structural change. In recent years, represented by the new structural economics thoughts promoted by Justin Yifu Lin(Lin (2011)) and the research on sectoral imbalanced growth in the both developed and developing countries (Autor and Dorn (2013); McMillan et al. (2014); Rodrik (2016)), structural transformation is regaining public attention. Among the increasing studies, sectoral characteristics are emphasized in structural transformation. In particular, sectoral heterogeneity in terms of skill-intensity (Buera et al. (2015)), non-tradability or the special characters of service sector (Buera and Kaboski (2012)) and external financing needs (Buera et al. (2011)) are echoed in this paper.

This paper is the first to provide systemic empirical evidence of the impacts of capital account liberalization on structural transformation, which is a missing link in the literature, and compare it with the impact on within productivity growth. Among the empirical structural transformation literature, unlike the studies using the subsample of regional countries, such as McMillan and Harttgen (2014), and the studies focusing on trade liberalization, such as McMillan et al. (2014), this paper provides cross-country evidence and focusing on the role of financial liberalization, aiming to bridge finance and structural transformation. First, we collect sector-level productivity and employment datasets, and identify the direct effects of capital account liberalization on within-sector productivity, taking into account the sectoral characteristics in human capital intensity,

external financial dependence and tradability. Next, we investigate the impact on the relative importance of each sectors represented by their employment share in the total economy, and study the structural transformational consequence through investigating whether capital account liberalization is associated with larger increase in employment share in sectors of larger labor productivity increase. Lastly, we directly decompose the overall productivity growth into a within term and a structural term, and then test how opening capital account can affect the absolute and relative contribution to economic growth of these two terms, through a difference-in-difference analysis of the countries in ten years before and after liberalization.

The main findings in this paper are three-folds. First, capital account liberalization is associated with heterogenous effects on within-sector productivity. It benefits the labor productivity growth in sectors with higher human capital intensity and external financial dependence, as well as non-tradable sectors. This finding implies that opening capital account may promote economic growth through promoting human capital accumulation, technological diffusion and easing financial constraint. Second, capital account liberalization also directs employment to move to the sectors with the above characteristics, as the employment share in these sectors also increase. But this does not necessarily mean that international capital can guide the resources into sectors with larger productivity increment, as the results show that it is associated with a decrease in employment share in sectors of larger productivity increment. Third, by directly comparing the effects on within term and structural term, capital account liberalization is associated with within gain, but structural pain. After ten years of capital account liberalization, the overall economic growth rate becomes higher, but mostly driven by within-sector productivity growth, and the contribution from structural transformation becomes smaller than countries that do not liberalize capital account and than the years before opening capital account.

This paper is structured as the following. Section 2 describes the data and key variables used in this paper. Section 3 present the empirical evidence from fixed effect panel model and difference-in-difference model. Section 4 concludes.

2 Data and Variable

2.1 Sector-level Data

We base our analysis on a 10-sector productivity dataset from Groningen Growth and Development Centre (GGDC) extended using other data sources by Su and Yao (2016). The original GGDC dataset collects the sector-level value added, employment and la-

bor productivity for the following ten sectors(ISIC Rev. 3.1 industry codes): Agriculture(AtB), Mining(C), Manufacturing(D), Utilities(E), Construction(F), Trade Service(GtH), Transport Service(I), Business Service(JtK), Government Service(LtN), and Personal Service(OtP), covering 43 countries from 1950 to 2010. Su and Yao(2016) extended the coverage to 65 countries by hand-collecting the data from national statistics offices.

We reclassify the ten sectors into three broad categories: agriculture, industry and service. The newly defined industry sector include mining, manufacturing and utility sectors, and the newly defined service sectors include trade services, transport service, business service, government service and personal service, among which the first two sectors (trade service and transport service) are classified as market service sector and the the latter three (business, government and personal services) are classified as non-market service sector. Table 1 shows the average labor productivity of each sectors by countries.

Next, we capture the sectoral characteristics to utilize the sector-level productivity data, and investigate the possible transmission mechanism between capital account liberalization and economic growth by studying which sectors benefit the most from liberalization. Specifically, we study the role of human capital intensity, external financial dependence and tradability.

Although it is difficult to capture in practice, Ciccone and Papaioannou (2009) proposes an implementable approach by using differences in human capital intensities to reflect the technological characteristics of different industries, which is consistent with a large body of growth literature that highlights the important role of human capital in technological growth. However, as pointed out in their original paper, the most problematic question remains the use of data that covers only the US large firms. For many branches of the services sectors in the developing countries, this index may not be an appropriate proxy. To use their main idea but also to alleviate such concerns, we collect employment data classified by the level of skill from World Input-Output Database(WIOD). For each sector in a particular country, this dataset has information on the hours worked by high-skill, medium-skill, and low-skill persons engaged. We calculate the human capital intensity of each industry in each country as the share of hours worked by high-skill persons in total hours. In addition, we construct a second measurement that calculates the share of hours worked by high-skill and medium-skill persons in total hours.

Second, we follow the approach in the seminal paper of Rajan and Zingales (1998) to construct the external financial dependence for each sector[1]. It is defined as the

[1]The concept and measurement of sectoral external financial dependence are used in the influential paper of Rajan and Zingales (1998) to study the interaction with financial development and investigate the financing channel that links financial development and economic growth. Their approach is widely

proportion of investments not financed through internal cash flows in total capital expenditure. Specifically, it is calculated as the $\frac{(CapitalExpenses-CashFlowfromOperations)}{CapitalExpenditures}$, where $CashFlowfromOperations$ is defined as the sum of cash flow from operations plus decreases in inventories, decreases in receivables and increases in payables. These ratios are aggregated over time and firms to be comparable across countries. In line with Rajan and Zingales (1998), we base the calculation on data of U.S. firms over the 1980s from Compustat, as the U.S. capital market is the most developed and listed large firms typically face the least financing frictions. We first obtain the firm-year-level values for numerators and denominators. Then we sum each of them over the years to get firm-level cross-sectional values. Last, we use the sector median to summarize ratios across firms. By doing this, the fluctuation over time is smoothed and the outlier problem due to size difference across firms is relieved.

In practice, it is difficult to provide a precise method to classify a sector as tradable or non-tradable, as few goods can be viewed as absolutely non-tradable. To prove that our major conclusion is not driven by the choice of classification methods, three classification approaches are applied in this paper. The first method, also the one used in the benchmark regression, follows the work of De Gregorio et al. (1994). A sector is defined as tradable only if its average export-to-output ratio is higher than 10%. Specifically, we first collect the export and output data at the sector level from WIOD, which covers 40 countries from 1995 to 2011. Then we calculate the average export to output ratio for each industry across all countries at year t, which is shown as $EOratio_{i,t} = \frac{\sum_c EX_{i,c,t}}{\sum_c Output_{i,c,t}}$. Last, we calculate the average export to output ratio across all years in the sample, which is $EOratio_i = \frac{\sum_t EOratio_{i,t}}{T}$. Then we define a sector tradable only if its export to output ratio is higher than 10%, i.e. $EOratio_i > 10\%$. The second and third methods follow the work of Mano and Castillo (2015). One is to view all goods-producing industries as tradable sectors, therefore only three sectors are tradable, which are Agriculture, Hunting, Forestry and Fishing (AtB), Mining and Quarrying (C), and Manufacturing (D). The other one excludes the agriculture and mining sectors and treat only the manufacturing(D) as the tradable sector.

Table 3 reports the classification results of the ten sectors for the three characteristics. In terms of technological character, government service bears the highest human capital intensity. It naturally comes from the fact that universities and education are crowded with highly-educated labor. The next human capital intensified sector is the business service, which include the financial intermediation, renting and business activities, followed by utilities and personal service sector. In terms of external financial dependence, service sectors are generally more dependent on external financing than industries and agricul-

used in later studies, for instance, Kroszner et al. (2007) and Moshirian et al. (2015).

ture, but construction sector also presents a very high external financial dependence. In terms of tradability, the first classification approach based on actual market data has a broader coverage of tradable sectors than the second and third approach, in addition to agriculture, mining and manufacturing, some branches of the services sectors(transport service) are also viewed as tradable, which is in line with several recent new findings in the development economics literature such as Dasgupta and Singh (2005).

2.2 Capital Account Liberalization Index

Capital account liberalization is the key explanatory variable in this paper. As summarized in Kose et al. (2009), many studies have pointed out that different measurements of capital account liberalization may result in different findings. Thus it is necessary to be clear which aspects of capital account are captured in the indicators.

In the existing literature, there are two types of indicators to measure capital account liberalization. The first is the *de jure* indicator, which measures the regulatory restrictions imposed by countries on cross-border capital flows, that is, the government and policy makers' policy stance on opening capital account. The second is the *de facto* indicator, which measures the actual scale of cross-border capital flows. The degree of capital account liberalization reflected by these two types of indicators may vary, due to the imperfect enforcement and effectiveness of capital controls. In this paper, we use both indicators and find in some cases the results using the two indicators do differ from each other. When the results are similar, we mainly present the results using *de jure* index, as we are more interested in the effects of policy stance instead of actual capital flows[2], but the results using *de facto* indicator as the ratio of total external assets and liabilities to GDP from Lane and Milesi-Ferretti (2007)(thereafter LMF) are also available.

Most *de jure* indicators are based on the *Annual Report on Exchange Arrangements and Exchange Restrictions*(AREAER) published annually by the International Monetary Fund (IMF), but specific coding methods are slightly different from each other [3]. The *de jure* indicators used in this paper include the widely-cited Chinn-Ito indicator (Chinn and Ito (2006)) and the more recent FKRSU indicator (Fernández et al. (2016))[4].

Chinn and Ito (2006) conduct a principal component analysis of the four dummy variables in the AREAER and use the first principal component as a measure of capital

[2]Kose et al. (2009) finds that *de facto* liberalization tends to show no effect on productivity growth while *de jure* liberalization does.

[3]The current AREAER contains information on more than 60 types of capital controls in various countries, but the earlier classification standards are more rough.

[4]These indicators are all accessed from the author's personal website. We obtain Chinn-Ito index from `http://web.pdx.edu/~ito/Chinn-Ito_website.htm` and FKRSU index from `http://www.columbia.edu/~mu2166/fkrsu/`

account liberalization, named KAOPEN. The four dummy variables indicate the existence of multiple exchange rates, restrictions on current account, restrictions on capital account transactions, and the requirement of the surrender of export proceeds. They standardized the original KAOPEN variable to have a mean of zero and also normalizes KAOPEN to [0,1] to get the KA_OPEN variable. Each year, the authors update the indicator based on the newly released AREAER. The data used in this paper covers 182 countries from 1970 to 2015.

Fernández et al. (2016) revised and extended to construct a set of more detailed indicators of capital controls. The FKRSU indicator can distinguish ten types of international capital transactions: (1)money market instruments, (2)bonds, (3)equities, (4)collective investment securities, (5)financial credits, (6)derivatives, (7)commercial credits, (8)guarantees, sureties and financial back-up facilities, (9)real estate, and (10) direct investments. This indicator can also distinguish between inflow capital controls, namely restricting non-resident to purchase domestic assets or residents to sell overseas assets, and outflow capital controls, namely restricting non-residents to sell domestic assets or residents to purchase foreign assets. By reading the detailed description in the AREAER, the authors code the existence or non-existence of capital control in each type of transactions, and then calculate the average values of inflow and outflow controls of each type and overall restrictions. The original FKRSU indicator measures the level of capital controls. To facilitate the interpretation of the subsequent results in this paper, we subtract the original FKRSU index by 1, so that a higher value indicates more liberalized capital account. The most recent update of this indicator was in 2017, with data covering 102 countries from 1995 to 2015.

To make the FKRSU index to cover 1970-2015, we follow the approach of Bekaert et al. (2016). Specifically, we first estimate the following equation: $FKRSU_{j,i,t} = \alpha_{i,t} + \beta_1 KA\_OPEN_{it} + \beta_2 CAP100_{i,t} + \beta_3 CUR100_{i,t} + \epsilon_{i,t}$ Where j represents one of the ten types of capital transactions, i denotes country and t denotes year. KA_OPEN is the Chinn-Ito indicator normalized to $[0, 1]$. CAP100 and CUR100 come from the Quinn-Toyoda Quinn and Toyoda (2008) indicator. Then we use the FKRSU index fitted values from 1970 to 1994 together with the FKRSU original indicator from 1995 to 2015.

In the baseline regression, we use the FKRSU index because it can not only reflect the degree of overall capital account openness but also provide rich information on the openness of inflow and outflow transactions of ten categories of markets. Several papers have found that the direction of financial liberalization matters (Huang et al. (2014),Schindler (2009)), and our paper supports their claims. The LMF *de facto* indicators can also distinguish three categories of capital transactions as in the BOP: equity flows, debt flows and FDI flows, as well as their directions. The basic principles are to measure the ratio

of total external assets and liabilities of each categories or the overall capital flows to the country's GDP. They are used in the robustness check.

Figure 1 displays the *de jure* and *de facto* capital account openness trend and pattern of the countries in our sample. Three observations can be drawn from these figures. First, there is a wave of capital account liberalization during mid 1980s to mid 1990s, and capital controls are strengthened during the financial crisis period of end of 1990s and 2007-2009. Second, *de facto* trend is not completely consistent with the *de jure* trend. In the post global financial crisis period, *de jure* indicators show a tendency towards more capital control meanwhile the actual cross-border capital flows kept climbing. Third, there exist heterogeneities among different categories of cross-border capital transactions. Broadly speaking, FDI are more liberalized than equity and bond market in terms of government policy stance, but the scale of debt flows are the largest in the real international capital market, followed by equity and FDI.

Based on the indicators obtained from the literature, this paper identifies the exact year in which the treated countries started to liberalize their capital accounts and use it to estimate the difference-in-difference specification. To this end, we mainly follow Braun and Raddatz (2007), but add some supplements and revisions, which has been applied in Li and Su (2017).

Specifically, centering on each year, we regress Chinn and Ito (2008)'s original KAOPEN index[5] on a dummy with 1 indicating each of the following ten years and 0 the previous ten years. Thus we get the coefficients and t-statistics of the dummy variable. We interpret a t-statistic higher than 1.96 to mean the capital account is statistically more liberalized in the following ten years than the previous ten years. Moreover, we calculate the simple average value of the KAOPEN in the following and previous ten years.Next, we generate a $FLAG$ variable, marking the year as 1 if the average KAOPEN in the following ten years are positive and the average KAOPEN in the previous ten years are negative and the dummy coefficient is significantly positive, and similarly as -1 if the average KAOPEN in the following ten years are negative and the average KAOPEN in the previous ten years are positive and the dummy coefficient is significantly negative; the rest are marked as 0. The basic idea is to estimate the start year of financial liberalization as the first year when there was a significant break in the KAOPEN index that shifted the long-term average from below to above zero, i.e. when $FLAG$ was shifted to 1 from -1 or 0. In the same vein, we determine the end year of financial liberalization as the first year that $FLAG$ shifted to -1 from 1 or 0. We call the first and last two years in the sample 'edge years' and carefully determine their $FLAG$ values according to the relationship of their

[5]Note that here we use the original KAOPEN index lying in the range of [-4,4] instead of the one standardized to [0,1] used in the following panel fixed effect specification.

KAOPEN values and the values in the closest non-edge years. We identify the country as always open if the KAOPEN index is always positive, or the $FLAG$ of each year is always zero and the average KAOPEN index is above zero. Similarly, we identify the country as always closed if the KAOPEN index is always below zero, the $FLAG$ of each year is always zero and the average KAOPEN index is below zero, or the $FLAG$ of each year is always -1. Thus, we have the opening year and opening periods of the countries which have liberalized capital account in the sample; in some cases there were reversals so there are two opening periods and two opening years. If the two liberalization periods have a gap larger than ten years, we see the two episodes for the same country as two independent observations. Specific descriptions of the estimation procedure can also be found in the appendix in Braun and Raddatz (2007). The liberalization date results are shown in Table 4.

The second step to conduct difference-in-difference analysis is to find the control groups for each treated episode after we limit the valid liberalization episodes to those lasted for more than ten years and whose liberalizing dates do not lie in the first two edge years. We pursue two approaches as in Levchenko et al. (2009). The first approach is to use all the other countries that did not liberalize around the same twenty years, centering on the liberalizing year as each treated episode, as the control group. However, we only use OECD countries as available controls for OECD liberalizers and non-OECD countries for the non-OECD liberalizers. The advantage of this approach is that there are many controls for each treated country, and the disadvantage is that the control group can have very different characteristics from the treated ones, which leads to potential selection concerns.

To overcome the large heterogeneity between the treated and control groups, we employ the second approach to find a suitable control group from propensity score matching (PSM). The basic idea of PSM is to simulate a randomized experiment by pairing treated and control countries with similar characteristics except whether they have been treated, i.e. liberalized capital account in this paper, thus the difference between the treated and control countries is an appropriate estimate of the treatment effect. The first step would be to estimate the propensity score, defined as the conditional probability of receiving the liberalization treatment for each country i in year t given the characteristics Y from a logit model.

$$pscore_{i,t} = Pr(z_{i,t} = 1|Y) \tag{1}$$

$z_{i,t}$ equals 1 if country i is liberalized in year t. For the control characteristics Y used to match the countries, we follow Levchenko et al. (2009) by using the logarithm of GDP per capita ($LGDPPER$), the standard deviation of GDP per capita growth in the past five years($VOLATILITY$), trade openness ($TRADE$) and chief executive years in the office

($YRSOFFC$).[6] These variables are significant determinants of financial liberalization from the literature. We favor this parsimonious specification because the purpose of this step is not to predict liberalization as exactly as possible but to obtain a distribution of propensity scores that allow us to match treated and potential control countries. Again, we estimate separately for OECD countries and non-OECD countries. To confirm the balancing hypothesis, we conduct a statistical test and graphical comparison. We can see from Figure 2 that all covariates are insignificantly different between matched treated and control countries, and the standardized percentage bias across the four covariates is around zero for matched countries and much larger for unmatched ones.

The next step is to construct the control group for each treated country using a proximity measurement based on the propensity score. Specifically, we compute the proximity between liberalized country i and another potential control country j as the average of the square of the difference between $pscore_{i,t}$ and $pscore_{j,t}$ for the five-year period before the capital account liberalization.

$$proximity_{i,j} = \frac{1}{5}\Sigma_{t=t_i-4}^{t_i}(pscore_{j,t} - pscore_{i,t})^2 \tag{2}$$

where t_i is the liberalization year of treated country i. Then we order the countries j according to their proximity to country i. We use the first five countries with the smallest proximity as the control countries for each treated country.

Table 5 presents the exact capital account liberalization years for each country through identifying the structural change in the Chinn-Ito KAOPEN index, as well as their matched control countries based on propensity score matching. We identified 22 countries experiencing valid capital account liberalization in our sample. We can see that most identified results are consistent with the historical fact when those countries liberalized their international financial markets. We show the closest five control countries that bear similar characteristics with the treated countries.

2.3 Control Variables

We choose the conventional variables used in economic growth literature, including GDP per capita, inflation, trade openness, urbanization, education, political environment, undervaluation, raw material export and total reserves. GDP per capita in constant 2005 USD, inflation based on consumer price index, trade openness defined as the ratio of total export and import divided by GDP, urbanization defined as the ratio of urban population in total population, and education defined as the share of employment with higher than

[6]The first three variables are from WDI retrieved in July 2017 and $YRSOFFC$ comes from the World Bank's Databases of Political Institutions 2015 Version.

primary school education are obtained directly from World Development Indicator(WDI). Polity score measures the political freedom and institutional quality, is obtained from the POLITY IV Project, with higher score indicating higher institutional quality. Undervaluation is calculated following Rodrik(2008), $lnUNDERVAL_{it} = lnRER_{it} - lnR\hat{E}R_{it}$, where $lnRER_{it} = ln(\frac{XRAT_{it}}{PPP_{it}})$ and $lnRER_{it} = \alpha + \beta lnRGDPCH_{it} + u_t + v_i t$, $XRAT_{it}$ is the exchange rate and $RGDPCH_{it}$ is GDP per capita. Raw material export is added to control the comparative advantage of the country, a larger share of raw material export is interpreted as smaller comparative advantage. Total reserves defined as the ratio of total reserves in GDP is used to control the countries' possession of international reserves which may affect currency depreciation after capital account liberalization.

Table 6 summarizes the descriptive statistics for the main variables used in this paper. The final dataset has 17,805 observations, covering 10 sectors in 53 countries, from 1970 to 2011.

3 Empirical Results

3.1 Revisit the Relationship Between Capital Account Liberalization and Productivity

We first investigate the effects of capital account liberalization on productivity by esimatating the following specification:

$$PROD_{i,j,t} = \alpha + \beta_1 KA_{j,t} + \beta_2 KA_{j,t} \times SecCHAR_i + \beta_3 SecCHAR_i + \gamma \Gamma_{j,t} + v_j + u_t + \epsilon_{i,j,t} \quad (3)$$

where i is the sector, j is the country and t is the year. $PROD_{i,j,t}$ represents labor productivity calculated as value added divided by employment. Unless otherwise specified, $PROD_{i,j,t}$ is at sector level. $KA_{j,t}$ is the capital account liberalization indicators. As explained in Section2, we use both *de jure* and *de facto* indices as well as their subcategories to consider the possible different effects from *de jure* and *de facto* capital account liberalization measurements, and to show that our results are not driven by the choice of indicators. $KA_{j,t} \times SecCHAR_i$ is the interaction term between capital account liberalization and sectoral characteristics. We study the role of three sectoral characteristics: human capital intensity, external financial dependence and tradability. $\Gamma_{j,t}$ is a set of conventional control variables used in economic growth analysis, including GDP per capita, inflation, trade openness, urbanization, education, institutional quality, undervaluation, comparative advantage, and total reserves. v_j and u_t are country and year fixed effects. $\epsilon_{i,j,t}$ is the stochastic error term. We estimate this specification using fixed effect model

and calculate the robust standard deviation for each estimated coefficients.

Table 7 and 8 report the estimation results using overall *de jure* and *de facto* index. First of all, we revisit the relationship between capital account liberalization and overall productivity. In column (1), the dependent variable is the labor productivity of the whole economy, calculated as the total value added divided by total employment, and we only use country-level variables in this specification. It shows that both overall *de jure* and *de facto* capital account liberalization are associated with a decrease in labor productivity. Next, column (2) report the estimated effects on sectoral productivity without interacting capital account liberalization with sectoral characteristics, and column (3) to (5) take into account the heterogenous effects between sectors by adding the interaction terms. Results in column (2) again show that capital account liberalization tends to negatively affect labor productivity. But the coefficients of the interaction terms are all positive and significant, showing that capital account liberalization boost labor productivity in human capital intensified, external financial dependent and nontradable sectors. Specifically, using the coefficients in Table 7 as an example, when the human capital intensity is above 0.21 or external financial dependence is above 0.14, capital account liberalization can benefit sectoral productivity. In sectors with average human capital intensity(0.19) and external financial dependence(-0.04), a 0.1 increase in financial openness will decrease the labor productivity by $2,900(in 2005 terms) and $3450 (in 2005 terms) separtely; meanwhile, in sectors with human capital intensity and external financial dependence at their 75th quantile, the same increase in financial openness can increase the labor productivity by around $710 and $2112. In nontradable sectors, capital account liberalization is associated with increase in productivity, but in tradable sectors the effect is negative.

These results are consistent with the inconclusive literature on the relationship between financial globalization and productivity.We show that the effects of capital account liberalization vary across sectors. From the perspectives of transmission mechanism, the results show that opening capital account may benefit the productivity growth through human capital accumulation or technological upgrading as the human capital intensity is a proxy for technological intensity, as well as providing external capital to erase the financial constraint. Besides, the result that financial globalization benefits the nontradable sectors more is in line with Prasad et al. (2007), which argues that opening capital account may discourage tradable sectors by bringing a currency appreciation pressure. When we investigate the effects on ten sector separately, results in Table 11 show that opening capital account would reduce labor productivity in most sectors, i.e. manufacture, utilities, construction, transport services, business services and personal services, and increase labor productivity in one sector: trade service, which refers to wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods,

hotels and restaurants.

In addition, we explore the effects of different categories of capital transactions by replacing the $KA_{j,t}$ variable with its subcategories. Thanks to the fine grid of FKRSU and LMF index, we can decompose the effects of capital account liberalization into three main categories as in the BOP statistics: equity market, bond or debt market, and FDI. Table 9 and 10 show the results using subcategorical capital account liberalization indices. Two observations stand out from these two tables. First, the productivity-enhancing effects of cross-border direct investment transactions in sectors with higher human capital intensity, external financial dependence and notradable sectors are stronger than than of equity or debt transactions. This is in line with enormous studies showing that FDI has positive effects on productivity and economic growth.

Second, the results in Table 10 show that the effects of actual international equity flows are opposite of that of actual debt and FDI flows. In the more human capital intensified, more external financial dependent and less tradable sectors, more cross-border equity transactions are associated with lower productivities. However, the *de jure* liberalization on equity transactions still benefit the productivity in those sectors, as shown in Table 9. Our results here reconcile the contradictory findings in the literature. Many studies(such as Henry (2000), Bekaert et al. (2001), Bekaert et al. (2005), Gupta and Yuan (2009), Mitton (2006) and Hammel (2006)), demonstrate that stock market liberalization is associated with higher economic growth. But others(Demirgüç-Kunt and Detragiache (1998); Glick et al. (2006); Ghosh et al. (2016)) argue that equity capital flows are more short-term and volatile than debt and FDI flows, and are associated with larger volatility, financial instability or financial crisis. According to our results, the former findings relate to the fact that opening stock market shows a policy stance to welcome capital injections and is a proxy for more investment opportunities and usually is accompanied by institutional reforms(Henry (2007)). In the same vein with our *de jure* analysis, these literature makes use of the specific stock market liberalization years indicated by the official documents, both represent a government stance. But the characteristics associated with actual equity transactions, such as shorter maturity, higher volatility and few injection in the real economy, result in a growth-reducing effect as shown in our *de facto* analysis. These results support the argument that welcomes the opening of FDI but not that of equity and debt market such as Lin (2015).

To sum up, these results show that the effects of capital account liberalization depend on sectoral characteristics and categories of financial opening. Our sector-level and subcategorical evidence reconcile the inconclusive findings in the literature and the debate of equity market liberalization. Specifically, the liberalization of debt or FDI cross-border flows and the *de jure* liberalization of equity market benefit the labor productivity in

sectors with higher human capital intensity, more external financial dependence and nontradable sectors; while the actual equity flows may reduce the sectoral productivity.

3.2 Capital Account Liberalization and Sectoral Employment Share

Next we analyze the cross-sector effects of capital account liberalization. To this end, we apply the following two specifications:

$$EmpShare_{i,j,t} = \alpha + \beta_1 KA_{j,t} + \beta_2 KA_{j,t} \times SecCHAR_i + \beta_3 SecCHAR_i + \gamma \Gamma_{j,t} + v_j + r_t + \epsilon_{i,j,t} \quad (4)$$

$$EMPShare_{i,j,t} = \alpha + + \beta KA_{j,t} \times \Delta PROD_{i,j,t} + \theta SecCHAR_i + \gamma \Gamma_{j,t} + v_j + r_t + \epsilon_{i,j,t} \quad (5)$$

where $EmpShare_{i,j,t}$ is the employment share of sector i in country j and year t. Employment share represent the relative importance of each sector in the whole economy[7]. $\Delta PROD_{i,j,t}$ is the change of labor productivity of sector i in country j and year t, calculated as $PROD_{i,j,t} - PROD_{i,j,t-1}$. The other variable definitions are the same as before.

We investigate whether capital account liberalization will increase the relative importance of sectors with those growth-enhancing characteristics in the whole economy through equation 4. The results shown in Table 12 and 13 demonstrate that opening capital account could not only benefit the within sector productivity growth, but also increase the economic weight of sectors with higher human capital intensity, external financial dependence and nontradable sectors. Specifically, using the estimates in Table 12 as examples, overall capital account liberalization can only increase the weight of sectors with human capital intensity higher than 0.19, external financial dependence higher than -0.05, and nontradable sectors, and reduce the weight of sectors with the opposite characteristics. But the effects are very small. In sectors with average human capital intensity, one standard deviation increase of capital account openness will increase its employment share by 0.07 percentage points, while it will decrease the employment share of sectors with average external financial dependence by 0.01 percentage points. Concerning the mean of employment is 10.27%, this effect is economically insignificant. Again, Table 13 verifies that the effects of FDI liberalization are the largest, followed by bond market

[7]The results using value added share as dependent variable are similar to that using employment share, though smaller. There are studies investigating whether should use employment share or value added share to represent the relative importance of each sector. This is not the focus of this paper, thus we present the results using employment share only, but that using value added share are also available upon request

liberalization and then equity market liberalization. [8]

The effect on the employment shares in each of the ten sectors is shown in Table 14. We can see that *de jure* financial opening tends to reduce the employment share of agriculture, mining, manufacturing and transport service sectors, but increase that of trade service, business service and government service sectors. In other words, opening capital account will increase the relative importance of service sectors in the whole economy, at the cost of the other two sectors, agriculture in particular. However, as it shows in Table 3, trade service and government services are among the relative low labor productivities sectors. Are the employment increase to these sectors growth-enhancing? We first investigate whether the structural transformation is growth-enhancing or growth-reducing with specification (5).

In equation 5, our interested coefficient is β_2. A positive β shows that capital account liberalization can increase the employment share of sectors with more productivity increment, indicating more employment flows to sectors with higher productivity growth, thus a growth-enhancing structural transformation. In contrast, a negative β_2 shows that capital account liberalization is associated with growth-reducing structural transformation. Table 15 report the results from estimating equation 5, in which the estimated β is shown in the first row.They are all significantly negative across all capital account liberalization indicators except the one using *de facto* equity market liberalization, indicating that opening capital account is associated with a growth-reducing structural transformation. In sectors with more productivity growth, their employment share is lower after capital account liberalization. For sector of which productivity increases one standard deviation($1237.78), an one standard deviation increase of capital account openness would decrease its employment share by 4.09 percentage points, indicating a large growth-reducing structural impact.

The above analysis demonstrate that capital account liberalization is associated with productivity growth for sectors with specific sectoral characteristics, but growth-reducing structural transformation. In another words, the benefits of capital account liberalization on economic growth mainly comes from within sector productivity growth, especially those with higher human capital intensity, higher external financial dependence and nontradable sectors. Its benefit on economic growth does not come from structural transformation, as it directs more employment to flow into sectors with less productivity growth.

[8]The results using over all *de facto* indicator and its components of equity, debt and FDI are similar to that using *de jure* indicators, and we leave them to the appendix.

3.3 Decompose the Growth Effect of Capital Account Liberalization

We decompose the contribution of long-term productivity growth into within component and structural component following McMillan and Rodrik (2011).

$$\Delta Y_t = \Sigma_{i=n}\theta_{i,t-k}\Delta y_{i,t} + \Sigma_{i=n} y_{i,t}\Delta\theta_{i,t} \tag{6}$$

In equation 6, ΔY_t is the overall productivity change between year $t-k$ and t, $y_{i,t}$ is the productivity of sector i in year t, and $\Delta y_{i,t}$ is the productivity change of sector i between year $t-k$ and t. $\theta_{i,t-k}$ is the employment share of sector i in year $t-k$, and $\Delta\theta_{i,t}$ is the employment share change of sector i between year $t-k$ and t. Overall labor productivity increase comes from two sources, one is the labor productivity increase within the sector, the other is the labor moving to sectors with higher labor productivity. In this way, it can be decomposed into within term $\Sigma_{i=n}\theta_{i,t-k}\Delta y_{i,t}$ and structural term $\Sigma_{i=n} y_{i,t}\Delta\theta_{i,t}$. When the labor increase is larger in sectors with high productivity, the structural term $\Sigma_{i=n} y_{i,t}\Delta\theta_{i,t}$ is positive, indicating a growth-enhancing structural transformation, otherwise the structural transformation is growth-reducing.

This is a useful decomposition which extracts the contribution of structural transformation in the overall economic growth. From the above analysis, we have established that capital account liberalization is beneficial to the productivity growth in sectors with particular characteristics, and it does not promote employment share increase in sectors with higher productivity. As a next step, we are interested in further quantifying the relative influence on within term and structural term. In particular, we want to answer the following question: is the structural transformational consequence of capital account liberalization growth-enhancing or growth-reducing?

By identifying the specific capital account liberalization year and matching the treated countries with control countries as described in Section 2, we are able to conduct a difference-in-difference analysis to investigate the change of structural term's contribution to overall productivity growth before and after capital account liberalization. To this end, we estimate the following specification.

$$DEP_{i,t} = \alpha TREATED_i + \beta POST_t + \gamma TREATED_i \times POST_t + \Theta\Gamma + \epsilon_{i,t} \tag{7}$$

Specifically, we select a 20-year window centering around the capital account liberalization year of each treated countries and their matched control groups. We first calculate the structural term and within term in the ten years before and after capital account liberalization for each country separately. We let $k = 10$ and $t =$ the year opening the capital

account or t = the tenth year after opening the capital account in equation 6. Then for each treated country and each of its matched control groups, we have the overall productivity change, $ProdChange_{i,t} = \Delta Y_{i,t}$, its within term $WithinChange_{i,t} = \Sigma_{i=n}\theta_{i,t-k}\Delta y_{i,t}$ and structural term $StructuralChange_{i,t} = \Sigma_{i=n} y_{i,t}\Delta\theta_{i,t}$ both before and after the treated year. Based on this, we can also calculate the $WithinShare_{i,t}$ as $\frac{\Sigma_{i=n}\theta_{i,t-k}\Delta y_{i,t}}{\Delta Y_t}$ and $StructuralShare_{i,t}$ as $\frac{\Sigma_{i=n} y_{i,t}\Delta\theta_{i,t}}{\Delta Y_t}$. $WithinShare_{i,t}$ and $StructuralShare_{i,t}$ sum as one. Besides, we calculate the annual growth rate $GrowthRate_{i,t}$ of overall productivity during the ten years before and after treated year, then the $WithinGrowthRate_{i,t}$ as $WithinShare_{i,t} \times GrowthRate_{i,t}$ and the $StructuralGrowthRate_{i,t}$ as $StructuralShare_{i,t} \times GrowthRate_{i,t}$.

For $DEP_{i,t}$, we use $ProdChange_{i,t}$, $WithinChange_{i,t}$, $StructuralChange_{i,t}$, $GrowthRate_{i,t}$, $WithinGrowthRate_{i,t}$, $StructuralShare_{i,t}$, $StructuralShare_{i,t}$. For $TREATED_i$, we let countries which have experienced capital account liberalization to be 1 and the matched control groups to be 0. For $POST_t$, we let the episode after capital account liberalization to be 1 and the episode before that to be 0. We are interested in the coefficient γ. A significant and positive γ shows that countries experienced capital account liberalization have a large increase on the dependent variable after the treatment.

We have two methods to match the control group, thus resulting in two samples. As explained in Section 2, one is the basic pool matching, the other is the propensity score matching(PSM). The DID results using these two samples are shown in Table 16 and 17. From column (5) and (6) in Table 16, we can see that the impact on within productivity change is significantly positive while that on structural productivity change is significantly negative. In ten years after capital account liberalization, the structural part of productivity change is 3.64 (in thousand 2005 USD) lower, in contrast, the within part of productivity change is 14.02 (in thousand 2005 USD) higher than ten years before opening the capital account. Considering the standard deviation of structural productivity change and within productivity change in ten years are 9.65 and 17.81 respectively , the impact of capital account liberalization carries much economic significance. Moreover, the results in column (7) demonstrate that the deterioration impact on structural term is not only in absolute productivities, but also in the relative share compared to within term. The contribution share of structural term tends to be 37 percentage points lower in ten years after capital account liberalization. The mean and standard deviation of structural share in the pooled sample are 42.44% and 0.80, indicating that opening capital account is associated with a decrease of 0.46 standard deviation in structural share. Changing the sample to the one based on propensity score matching makes most coefficients insignificant except the one for within growth rate as shown in Table 17. Column (2) indicates that the annualized growth rate from within term is 0.81 percentage points higher, while the impact on structural growth rate is insignificant. The average growth

rate is 0.65% in PSM sample, with standard deviation of 1.13, which indicates a large economically significant effect. This again confirms that the effects of capital account liberalization are within gain and structural pain.

Table 18 summarizes the detailed liberalized year, annual productivity growth rate and its composition of within and structural growth rate. Figure 4 and 5 visualize the comparison between control and treated groups before and after capital account liberalization. Figure 4 shows that the annualized growth rate of control countries before the liberalization are around 0.73%, of which 0.46% is from within term and 0.33% is from structural term. For treated countries, the average growth rate before liberalization is 0.86%, of which 0.53% is from within term and 0.32% is from structural term. Two effects stand out after capital account liberalization. First, the increase in overall growth rate is much higher in treated countries , where the annual growth rate in the ten years after liberalization increase to 1.49% while the that in the control countries only increase slightly to 0.89% after liberalization, still below 1%. Second, a large proportion of the growth rate increment comes from within term, and the relative importance of structural term decreased after capital account liberalization. In the 1.49% growth rate, the structural term generates an annual growth rate of 1.38%. For treated countries, the contribution share of structural term decrease to 14.5% after ten years of capital account liberalization from the 19.6% before that, while the structural contribution share increased slightly to 14.51% from 10.41% for controlled countries. The analysis in this section demonstrates that opening capital account is associated with structural term decrease and within term increase in the long-term.

4 Conclusion

For the first time, this paper decomposes the effects of capital account liberalization on within-sector productivity growth and cross-sector structural transformation. Using a 10-sector productivity database, we first revisit the effects of capital account liberalization on labor productivity, then explore the change of relative importance of each sector, and lastly decompose and compare the within term and structural term of productivity growth in the long-run. We find that opening capital account is associated with labor productivity and employment share increment in sectors with higher human capital intensity, external financial dependence and non-tradable sectors. However, financial opening does not direct labor to flow into sectors with more productivity growth, and is associated with growth-reducing structural transformation. Moreover, in the ten years after capital account liberalization, the contribution share of structural transformation decreases while that of within productivity growth increases. The interpretation is that the cheaper capital

creates incentives for firms to replace labor with capital, especially in the sectors with higher productivity, usually industry sectors. As a result, labor shifts into the sectors with relatively low productivity level but larger productivity increment, usually service sectors. But if the financial liberalization continues, the labor will keep moving to sectors with lower productivity, resulting in larger structural loss. Thus, we conclude that capital account liberalization is associated with within gain and structural pain.

The policy implications from our findings are that opened capital account could be used to promote productivity growth through accumulating human capital and easing financial constraint, but at the same time the government should be cautious about the growth-reducing structural transformational consequence, and carefully strike a balance between sectoral productivity increase and structural transformation. Policies to maintain the employment in high productivity sectors can be considered to prevent immature shifts to less-productive service sectors. In another perspective, the labor shift may also result larger income inequality, as the labor moving to less productive sectors would be less paid while the labor staying in more productive sectors would enjoy higher wages. A proper labor market regulation and social safety net are the pre-conditions for a country to benefit economic growth from capital account liberalization.

In the same time, we acknowledge one caveat in this paper is that the mechanism from capital account liberalization and structural transformation is less studied. We hypothesize the role of cheaper capital replacing labor, but the no empirical evidence on this specific channel is provided in this paper. To this purpose, we need sector-level capital input data, and sector classifications in a finer grid. This paper draws the attention to the structural transformational consequence of capital account liberalization by providing empirical evidence on this relationship for the first time in the literature, and we leave the important topic of transmission mechanism to further study.

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FIGURES AND TABLES

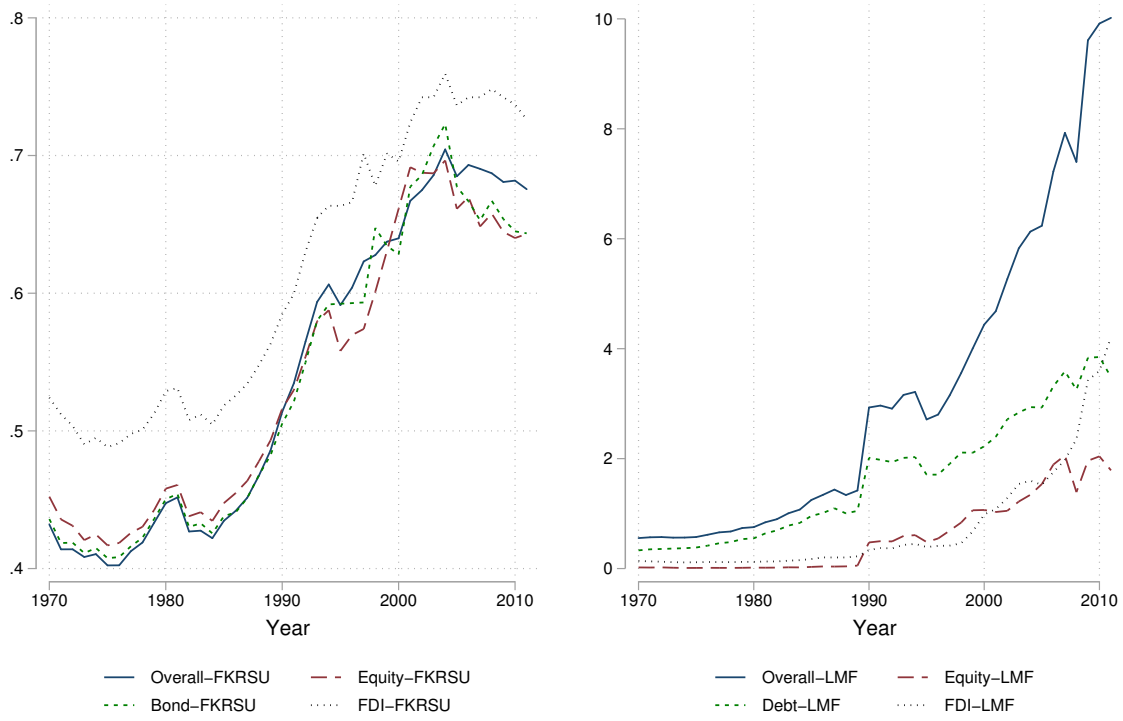

Figure 1: Capital Account Liberalization Pattern

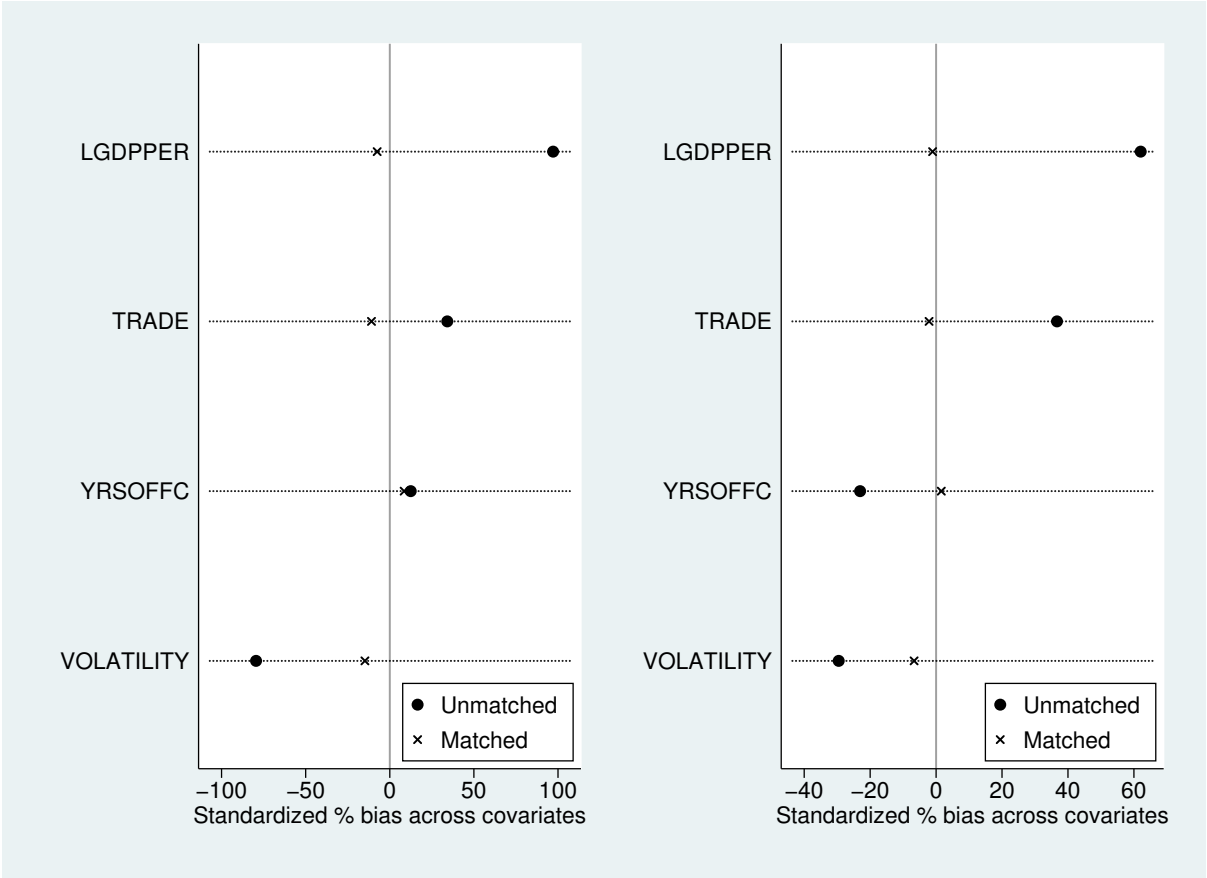

Figure 2: Balance Score in PSM Match

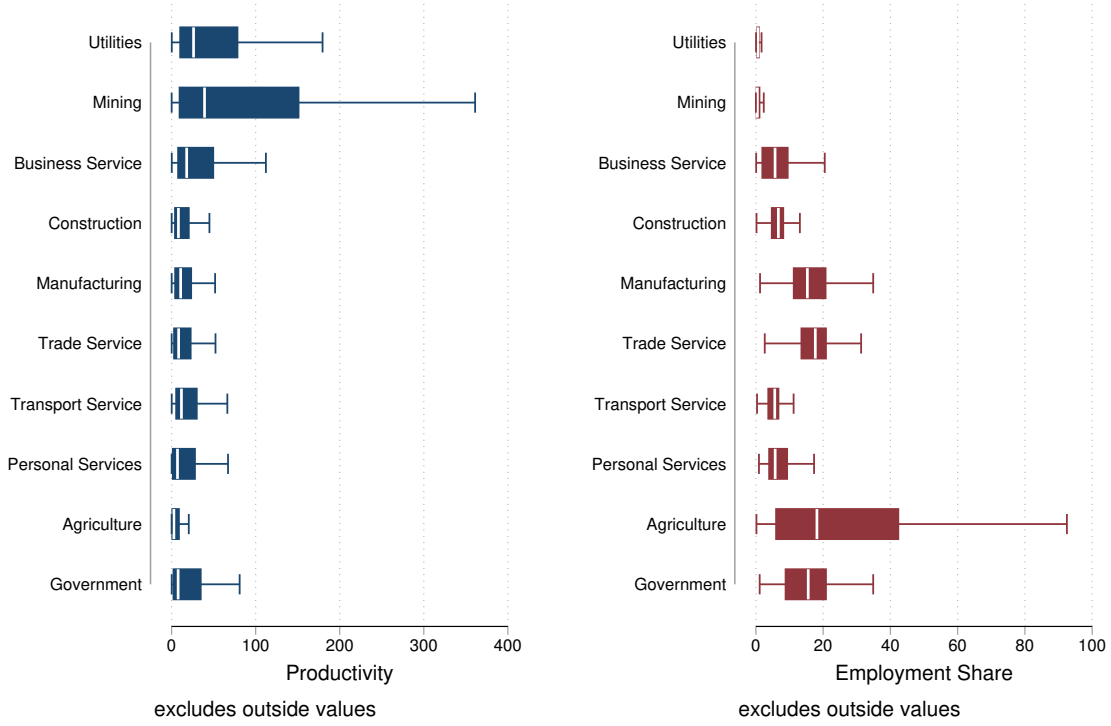

Figure 3: Productivity Change Share Decomposition: PSM

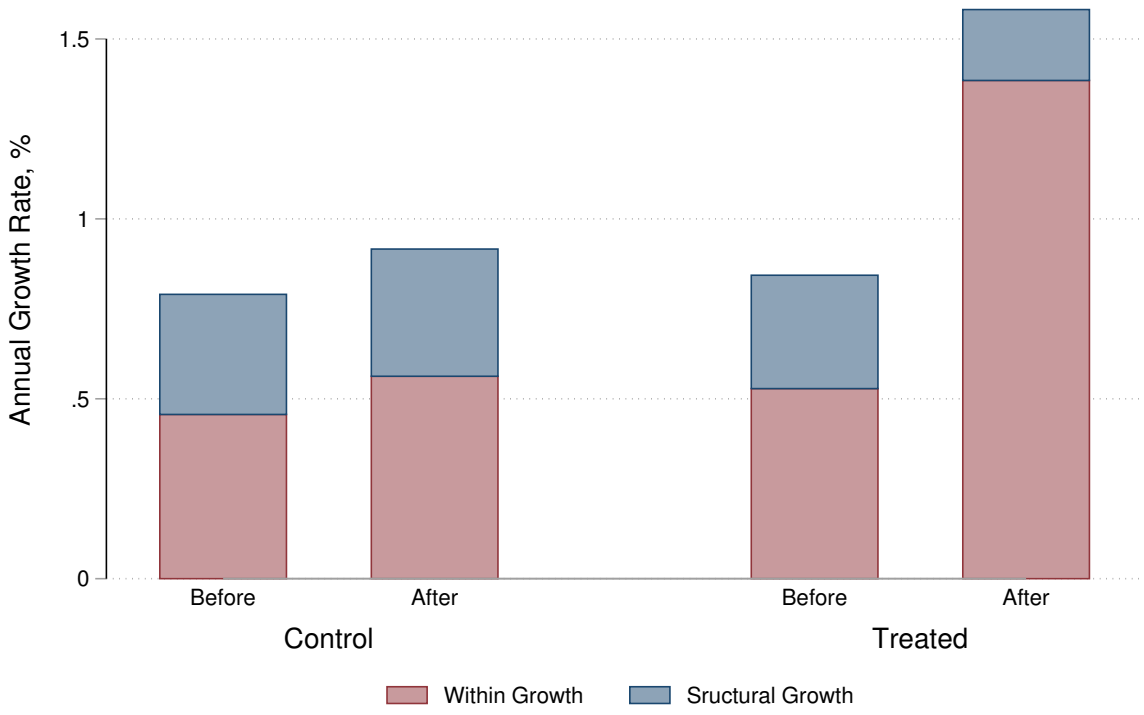

Figure 4: Productivity Growth Decomposition: PSM

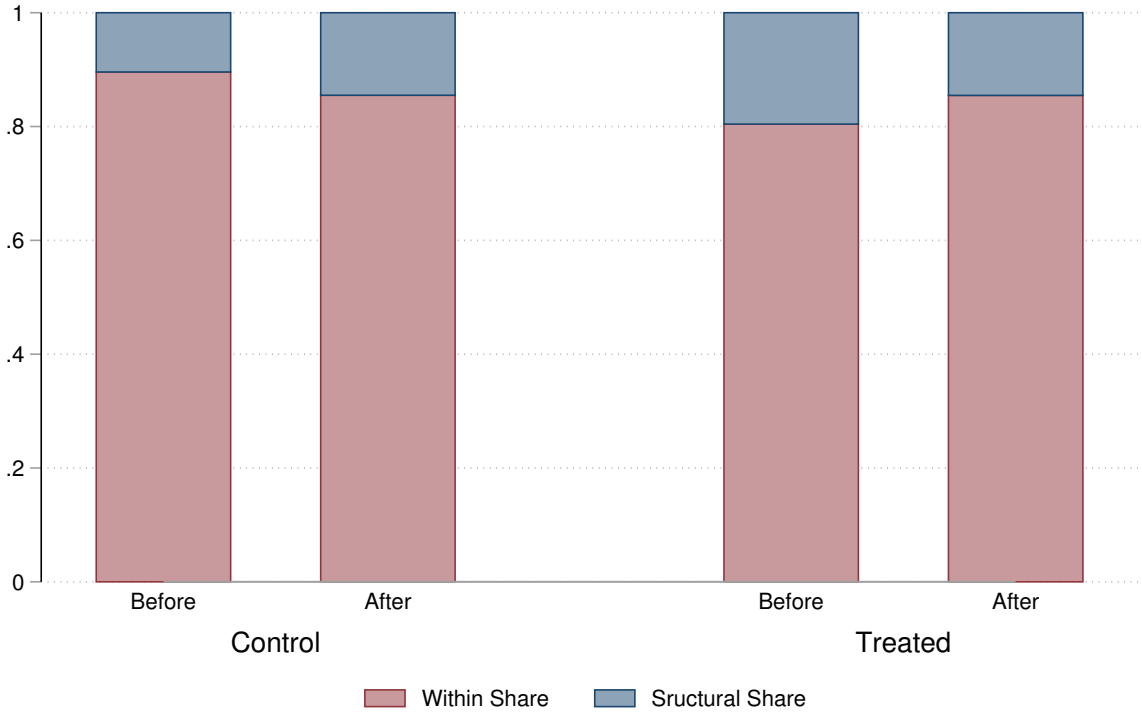

Figure 5: Productivity Change Share Decomposition: PSM

Table 1: Sector-level Labor Productivity By Country

	(1) Agriculture	(2) Industry	(3) Service	(4) Market Service	(5) Non-market Service
Argentina	9.59	42.18	8.48	10.29	5.75
	(3.173)	(53.50)	(3.714)	(3.588)	(1.682)
Australia	35.40	142.78	55.80	66.41	39.89
	(12.11)	(142.0)	(34.05)	(40.39)	(5.974)
Bolivia	0.80	9.38	5.18	6.04	2.60
	(0.253)	(9.256)	(5.686)	(6.329)	(0.724)
Botswana	0.89	43.17	13.25	16.75	8.00
	(0.161)	(56.71)	(8.750)	(8.504)	(6.114)
Brazil	1.62	27.19	10.99	12.83	8.23
	(0.700)	(24.14)	(5.637)	(4.864)	(5.617)
Bulgaria	2.86	9.19	9.60	13.40	3.92
	(0.332)	(4.694)	(8.638)	(9.381)	(1.030)
Canada	29.05	197.02	53.88	63.53	39.41
	(9.217)	(169.6)	(31.00)	(35.91)	(11.20)
Chile	4.23	41.37	17.51	19.86	10.46
	(2.812)	(42.70)	(13.89)	(15.33)	(1.234)
China	0.51	4.66	3.38	4.72	1.37
	(0.254)	(5.502)	(4.708)	(5.534)	(1.702)
Colombia	2.29	34.31	7.85	8.39	6.23
	(0.426)	(34.44)	(2.605)	(2.765)	(0.865)
Costa Rica	4.33	11.19	13.58	15.08	11.33
	(1.534)	(3.666)	(4.963)	(5.707)	(2.110)
Cyprus	38.77	133.43	80.56	96.83	56.16
	(3.032)	(97.46)	(46.33)	(51.90)	(19.05)
Czech Republic	12.08	32.76	23.35	26.35	18.85
	(2.984)	(21.76)	(7.085)	(7.786)	(1.096)
Denmark	20.81	363.64	50.10	40.99	63.77
	(12.92)	(670.1)	(24.42)	(27.30)	(8.030)
Egypt	1.76	62.04	5.15	6.45	1.23
	(0.657)	(118.6)	(3.284)	(2.730)	(0.506)
Estonia	0.71	1.21	1.34	1.73	0.75
	(0.252)	(0.650)	(0.877)	(0.946)	(0.0989)
Ethiopia	0.22	3.41	2.51	3.78	0.61
	(0.0459)	(2.978)	(2.705)	(2.836)	(0.451)
Ghana	0.99	4.54	3.69	4.97	1.78
	(0.249)	(2.498)	(2.909)	(3.105)	(0.754)
Hong Kong	17.61	61.42	51.62	46.68	66.44
	(5.052)	(91.86)	(21.72)	(20.12)	(19.69)
Hungary	7.53	21.78	27.28	31.58	20.84
	(3.331)	(12.13)	(17.13)	(20.92)	(3.559)
India	0.46	4.76	3.10	4.12	1.58
	(0.0973)	(3.608)	(2.825)	(3.104)	(1.302)
Indonesia	0.73	17.68	4.02	5.20	2.25
	(0.168)	(26.02)	(4.042)	(4.789)	(1.157)
Japan	13.00	96.99	50.47	47.73	54.58
	(4.760)	(58.87)	(14.29)	(16.93)	(7.343)
Kenya	0.60	6.92	4.20	5.08	2.87
	(0.0373)	(5.399)	(2.536)	(2.601)	(1.744)
Latvia	3.95	12.75	15.83	20.13	9.40
	(1.660)	(6.691)	(8.294)	(8.166)	(1.701)
Lithuania	5.05	20.70	18.97	25.40	9.33
	(1.854)	(9.534)	(11.45)	(10.65)	(1.356)

Table 2: Sector-level Labor Productivity By Country

	(1) Agriculture	(2) Industry	(3) Service	(4) Market Service	(5) Non-market Service
Malawi	0.19	2.99	3.44	4.38	2.03
	(0.0465)	(2.697)	(1.973)	(1.993)	(0.685)
Malaysia	6.11	92.72	8.65	10.63	5.67
	(2.013)	(162.0)	(5.166)	(5.682)	(1.913)
Malta	81.18	70.59	82.27	93.10	66.02
	(9.363)	(17.92)	(29.04)	(32.34)	(10.49)
Mauritius	5.03	30.65	9.95	12.53	6.09
	(2.053)	(54.09)	(5.401)	(4.707)	(3.858)
Mexico	3.33	73.49	30.72	43.01	12.28
	(0.538)	(87.98)	(29.53)	(32.20)	(7.834)
Morocco	2.59	14.05	21.07	27.12	2.91
	(0.615)	(11.60)	(27.23)	(29.03)	(0.445)
Nigeria	0.96	137.08	1.30	1.96	0.31
	(0.292)	(289.9)	(1.499)	(1.626)	(0.177)
Peru	1.39	24.36	10.87	12.02	7.43
	(0.308)	(16.80)	(5.978)	(6.402)	(2.108)
Philippines	0.98	10.72	3.83	5.06	1.98
	(0.124)	(8.209)	(3.151)	(3.469)	(1.066)
Poland	4.00	24.37	24.23	27.06	19.97
	(1.202)	(8.670)	(9.670)	(10.52)	(6.289)
Romania	2.51	11.32	15.80	20.11	9.33
	(0.542)	(3.137)	(9.715)	(10.49)	(1.343)
Russia	1.89	22.19	9.27	12.27	4.77
	(0.204)	(23.42)	(5.033)	(4.347)	(0.997)
Senegal	0.69	13.72	11.85	17.40	3.52
	(0.169)	(17.85)	(14.93)	(17.03)	(2.775)
Singapore	6.82	40.56	42.01	49.01	21.01
	(2.198)	(45.40)	(20.36)	(18.05)	(9.603)
Slovak Republic	0.50	1.04	0.76	0.95	0.48
	(0.252)	(0.784)	(0.388)	(0.390)	(0.117)
Slovenia	0.03	0.16	0.16	0.17	0.13
	(0.00430)	(0.0800)	(0.0485)	(0.0566)	(0.00792)
South Africa	2.01	23.65	17.61	19.12	15.34
	(0.526)	(14.35)	(8.299)	(7.264)	(9.234)
South Korea	8.05	54.97	29.00	22.12	39.57
	(4.600)	(63.10)	(15.16)	(14.38)	(9.014)
Sweden	23.85	114.52	40.07	37.25	44.29
	(10.96)	(86.89)	(18.89)	(23.80)	(3.949)
Taiwan	7.34	67.90	24.18	24.59	23.57
	(2.697)	(120.7)	(12.89)	(12.77)	(13.14)
Tanzania	0.27	5.94	4.52	6.59	1.41
	(0.0473)	(3.953)	(4.473)	(4.652)	(1.211)
Thailand	0.81	23.59	7.34	6.21	9.02
	(0.297)	(32.50)	(6.068)	(3.292)	(8.462)
Turkey	5.84	40.06	34.66	49.14	12.94
	(1.793)	(28.67)	(27.95)	(27.87)	(1.645)
United Kingdom	20.31	154.94	48.50	44.41	54.65
	(7.427)	(204.6)	(19.64)	(22.71)	(11.43)
United States	32.11	177.39	71.46	83.06	54.07
	(16.10)	(122.6)	(39.69)	(47.37)	(8.758)
Venezuela	5.39	117.26	7.46	11.41	7.64
	(0.765)	(198.4)	(3.825)	(3.981)	(0.639)
Zambia	489.67	10867.38	6478.40	8583.75	162.35
	(102.2)	(3894.0)	(6275.3)	(5893.6)	(96.57)

Table 3: Sectoral Characteristics

	(1) Productivity	(2) Employment Share	(3) Human Capital Intensity 1	(4) Human Capital Intensity 2	(5) External Financial Dependence	(6) Export-Output Ratio	(7) Tradability 1	(8) Tradability 2	(9) Tradability 3
Utilities	397.79	0.74	0.21	0.68	-0.09	0.04	0.00	0.00	0.00
	(2303.0)	(0.502)							
Mining	378.84	0.82	0.14	0.53	0.14	0.21	1.00	1.00	0.00
	(1708.7)	(1.123)							
Business Service	299.31	6.36	0.38	0.75	0.06	0.08	0.00	0.00	0.00
	(2128.9)	(5.077)							
Construction	241.54	6.31	0.10	0.51	0.49	0.02	0.00	0.00	0.00
	(1507.3)	(2.805)							
Manufacturing	184.03	15.75	0.13	0.55	-0.05	0.44	1.00	1.00	1.00
	(1097.5)	(7.310)							
Trade Service	182.23	16.71	0.12	0.58	0.25	0.08	0.00	0.00	0.00
	(1138.7)	(6.054)							
Transport Service	164.12	5.37	0.14	0.60	0.08	0.22	1.00	0.00	0.00
	(1152.7)	(2.486)							
Personal Services	19.44	7.72	0.20	0.53	0.18	0.03	0.00	0.00	0.00
	(33.51)	(5.962)							
Agriculture	18.48	27.05	0.07	0.41	-2.03	0.15	1.00	1.00	0.00
	(74.15)	(24.94)							
Government	18.12	15.36	0.42	0.74	0.66	0.01	0.00	0.00	0.00
	(21.12)	(7.788)							
Total	194.40	10.16	0.19	0.59	-0.04	0.13	0.40	0.30	0.10
	(1395.5)	(12.17)							
N	17805	23281	23744	23744	23744	23744	23744	23744	23744

mean coefficients; sd in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Capital Account Liberalization Year

Country	Liberalization Period	Sample Period
Argentina	1988-1999	1970-2015
Australia	1978-2013	1970-2015
Bolivia	1970-1975;1988-2015	1970-2015
Botswana	1994-2015	1972-2015
Brazil	2000-2011	1970-2015
Bulgaria	2000-2015	1994-2015
Chile	1995-2015	1970-2015
Costa Rica	1990-2013	1970-2015
Cyprus	1998-2013	1970-2015
Czech Republic	1996-2015	1996-2015
Denmark	1981-2015	1970-2015
Egypt	1991-2009	1970-2015
Finland	1971-2015	1970-2015
France	1983-2015	1970-2015
Greece	1990-2014	1970-2015
Hungary	1993-2015	1986-2015
Indonesia	1972-2009	1970-2015
Ireland	1983-2015	1970-2015
Italy	1982-2015	1970-2015
Japan	1972-2015	1970-2015
Kenya	1992-2015	1970-2015
Malaysia	1970-1996	1970-2015
Malta	1998-2015	1972-2015
Mauritius	1989-2015	1972-2015
Mexico	1970-1977;1990-2015	1970-2015
Peru	1989-2015	1970-2015
Philippines	1990-2001	1970-2015
Poland	2001-2014	1986-2015
Portugal	1985-2015	1970-2015
Romania	1997-2015	1976-2015
Russia	2002-2015	1996-2015
Singapore	1974-2015	1970-2015
Slovak Republic	2000-2015	1996-2015
Slovenia	1997-2015	1996-2015
South Korea	2000-2015	1970-2015
Spain	1984-2015	1970-2015
Turkey	2007-2015	1970-2015
United Kingdom	1974-2015	1970-2015
Venezuela	1971-1978;1992-2001	1970-2015
Zambia	1991-2015	1970-2015

Table 5: Matched Country Groups Based on PSM

Treated Country	Control Country 1	Control Country 2	Control Country 3	Control Country 4	Control Country 5	Liberalization Year
Argentina	Mauritania	Papua New Guinea	Brazil	Thailand	Algeria	1988
Australia	Israel	Mexico	Greece	Chile		1978
Bolivia	Comoros	Mauritania	Papua New Guinea	Brazil	Thailand	1988
Botswana	Solomon Islands	Samoa	Swaziland	Tunisia	Mauritania	1994
Brazil	South Africa	Fiji	Congo	Swaziland	Namibia	2000
Bulgaria	Suriname	Namibia	Congo	South Africa	Belize	2000
Costa Rica	Swaziland	South Africa	Thailand	Belize	Papua New Guinea	1990
Cyprus	Bahamas	Barbados	Thailand	Grenada	South Africa	1998
Denmark	Israel	Chile				1981
Egypt	Zimbabwe	Mauritania	Pakistan	Congo	Algeria	1991
France	Chile					1983
Ireland	Chile					1983
Italy	Chile					1982
Kenya	Vietnam	Senegal	Ghana	Comoros	Pakistan	1992
Malta	Bahamas	Barbados	Thailand	Grenada	South Africa	1998
Mauritius	South Korea	Swaziland	Belize	South Africa	Bahamas	1989
Peru	Guinea	Cape Verde	Comoros	Vietnam	Pakistan	1989
Philippines	Guinea	Vietnam	China	Senegal	Zimbabwe	1990
Romania	Samoa	Ukraine	Belarus	Vietnam	Solomon Islands	1997
Russia	Tunisia	Cape Verde	Vietnam	Thailand	Nigeria	2002
South Korea	Grenada	Swaziland	Fiji	South Africa	Barbados	2000
Spain	Chile					1984

Table 6: Summary Statistics

	mean	sd	min	max
Labor Productivity(thousand 2005 USD)	140.00	1237.78	0.032	2.5e+04
Economy Labor Productivity	42.80	238.57	0.109	3186.563
Value Added(billion 2005 USD)	64.67	248.06	0.001	4566.956
Employment(million)	4.19	20.16	0.000	390.980
Employment Share	10.27	11.49	0.023	85.300
Value Added Share	10.21	8.22	0.004	67.344
Overall-FKRSU	0.51	0.33	0.000	1.000
Equity-FKRSU	0.50	0.36	0.000	1.000
Bond-FKRSU	0.49	0.37	0.000	1.000
Direct Investmet-FKRSU	0.60	0.30	0.000	1.000
De Facto-LMF	1.63	4.30	0.068	78.648
Equity-LMF	0.20	1.10	0.000	18.258
Debt-LMF	0.86	1.47	0.050	19.750
FDI-LMF	0.43	2.28	0.005	52.340
Human Capital Intensity	0.19	0.11	0.071	0.416
External Financial Dependence	-0.05	0.70	-2.026	0.661
Nontradability	0.59	0.49	0.000	1.000
GDP per capita(thousand 2010 USD)	12.53	14.44	0.352	61.175
Inflation	0.49	4.27	-0.076	117.496
Trade Openness	65.39	58.60	6.320	441.604
Urbanization	60.88	21.98	13.503	100.000
Education	2.38	0.67	1.079	3.702
Polity Score	4.51	6.50	-9.000	10.000
Undervaluation	-0.10	0.52	-1.340	1.105
Raw Material Export	5.20	6.15	0.006	52.418
Total Reserves	12.16	14.22	0.181	99.002

Table 7: Capital Account Liberalization and Productivity: Overall *De Jure* Index

	(1)	(2)	(3)	(4)	(5)
	Economy Productivity	Sectoral Productivity	Sectoral Productivity	Sectoral Productivity	Sectoral Productivity
Overall-FKRSU	-11.69***	-37.23*	-324.84***	-26.76	-124.47***
	(0.002)	(0.061)	(0.000)	(0.183)	(0.003)
Overall-FKRSU × Human Capital Intensity			1556.86***		
			(0.000)		
Overall-FKRSU × External Financial Dependence				193.84***	
				(0.000)	
Overall-FKRSU × Nontradability					149.38***
					(0.008)
Human Capital Intensity		342.53***	-440.37***	347.68***	345.04***
		(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence		43.83***	44.09***	-55.16***	43.88***
		(0.001)	(0.000)	(0.000)	(0.000)
Nontradability		-45.43***	-46.08***	-45.78***	-122.06***
		(0.000)	(0.000)	(0.000)	(0.000)
Inflation	-0.12**	-0.47**	-0.53**	-0.49**	-0.48**
	(0.033)	(0.046)	(0.028)	(0.040)	(0.044)
Trade Openness	-0.07	-0.23	-0.22	-0.23	-0.24
	(0.248)	(0.387)	(0.410)	(0.389)	(0.379)
Urbanization	-0.71***	-2.17**	-2.15**	-2.17**	-2.19**
	(0.000)	(0.023)	(0.026)	(0.024)	(0.023)
Education	-38.43**	-180.22***	-179.25***	-179.59***	-179.63***
	(0.016)	(0.002)	(0.002)	(0.002)	(0.002)
Polity Score	0.71**	3.19**	3.27**	3.22**	3.20**
	(0.050)	(0.023)	(0.020)	(0.022)	(0.023)
Undervaluation	-12.01***	-33.74	-33.90	-33.59	-33.42
	(0.001)	(0.163)	(0.161)	(0.165)	(0.167)
Raw Material Export	-0.66**	-2.56	-2.57	-2.58	-2.59*
	(0.033)	(0.103)	(0.101)	(0.100)	(0.100)
Total Reserves	0.03	0.19	0.22	0.21	0.21
	(0.773)	(0.758)	(0.732)	(0.743)	(0.745)
GDP per capita(thousand 2010 USD)		0.45	0.44	0.43	0.43
		(0.727)	(0.735)	(0.735)	(0.737)
Constant	158.36***	578.13***	719.69***	571.04***	622.37***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	1356	13210	13210	13210	13210
Adjusted R^2	0.965	0.638	0.640	0.640	0.639
Country FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Capital Account Liberalization and Sectoral Productivity: Overall *De Facto* Index

	(1) Economy Productivity	(2) Sectoral Productivity	(3) Sectoral Productivity	(4) Sectoral Productivity	(5) Sectoral Productivity
De Facto-LMF	-578.38**	-2.66***	-5.22***	-2.62***	-3.71***
	(0.037)	(0.004)	(0.000)	(0.006)	(0.001)
De Facto-LMF × Human Capital Intensity			13.38***		
			(0.010)		
De Facto-LMF × External Financial Dependence				1.43	
				(0.193)	
De Facto-LMF × Nontradability					1.74*
					(0.053)
Human Capital Intensity		320.24***	299.80***	320.48***	320.42***
		(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence		41.59***	41.60***	39.32***	41.59***
		(0.000)	(0.000)	(0.001)	(0.000)
Nontradability		-43.38***	-43.42***	-43.40***	-46.15***
		(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita	668.36***	1.09	1.13	1.10	1.10
	(0.001)	(0.321)	(0.306)	(0.316)	(0.317)
Inflation	-80.72**	-0.30	-0.29	-0.30	-0.30
	(0.045)	(0.103)	(0.107)	(0.104)	(0.104)
Trade Openness	-77.29	-0.22	-0.22	-0.22	-0.22
	(0.115)	(0.376)	(0.383)	(0.378)	(0.377)
Urbanization	-426.95*	-2.04**	-2.05**	-2.04**	-2.04**
	(0.055)	(0.014)	(0.014)	(0.014)	(0.014)
Education	-37573.62***	-168.96***	-167.32***	-168.42***	-168.59***
	(0.009)	(0.002)	(0.002)	(0.002)	(0.002)
Polity Score	646.85**	2.62**	2.62**	2.62**	2.62**
	(0.035)	(0.036)	(0.036)	(0.036)	(0.036)
Undervaluation	-6155.04	-23.49	-23.25	-23.41	-23.43
	(0.103)	(0.275)	(0.281)	(0.277)	(0.277)
Raw Material Export	-645.93**	-2.52	-2.51	-2.52	-2.52
	(0.032)	(0.103)	(0.105)	(0.103)	(0.103)
Total Reserves	94.41	0.41	0.42	0.41	0.41
	(0.369)	(0.438)	(0.428)	(0.435)	(0.436)
Constant	133561.45***	531.85***	533.02***	530.83***	532.85***
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	1442	14068	14068	14068	14068
Adjusted R^2	0.965	0.639	0.639	0.639	0.639
Country FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Capital Account Liberalization and Productivity: By *De Jure* Category

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Equity	Equity	Equity	Bond	Bond	Bond	FDI	FDI	FDI
De Jure Index	-263.39***	-16.25	-99.27***	-261.08***	-8.69	-85.69**	-324.15***	-38.07*	-140.53***
	(0.000)	(0.306)	(0.004)	(0.000)	(0.550)	(0.013)	(0.000)	(0.063)	(0.000)
Interaction with Human Capital Intensity	1288.96***			1314.67***			1499.08***		
	(0.000)			(0.000)			(0.000)		
Interaction with External Financial Dependence		163.90***			162.61***			181.43***	
		(0.000)			(0.000)			(0.000)	
Interaction with Nontradability			127.09***			117.26**			158.35***
			(0.007)			(0.018)			(0.003)
Human Capital Intensity	-296.51***	347.50***	344.35***	-287.28***	354.32***	352.44***	-559.76***	344.65***	343.15***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence	44.11***	-39.10***	43.87***	43.64***	-36.49***	43.49***	43.95***	-66.24***	43.82***
	(0.000)	(0.001)	(0.000)	(0.001)	(0.002)	(0.001)	(0.000)	(0.000)	(0.000)
Nontradability	-46.21***	-45.83***	-110.09***	-49.08***	-48.91***	-106.57***	-45.87***	-45.65***	-141.68***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita	0.51	0.53	0.53	1.48	1.46	1.46	0.47	0.49	0.49
	(0.679)	(0.670)	(0.669)	(0.183)	(0.185)	(0.186)	(0.709)	(0.696)	(0.696)
Inflation	-0.46**	-0.43*	-0.42*	-0.50**	-0.46*	-0.45*	-0.53**	-0.49**	-0.48**
	(0.042)	(0.056)	(0.054)	(0.039)	(0.056)	(0.062)	(0.033)	(0.044)	(0.042)
Trade Openness	-0.23	-0.24	-0.24	-0.13	-0.14	-0.15	-0.23	-0.24	-0.25
	(0.400)	(0.381)	(0.372)	(0.626)	(0.589)	(0.574)	(0.384)	(0.364)	(0.355)
Urbanization	-1.98**	-1.98**	-1.98**	-1.43*	-1.43*	-1.44*	-2.11**	-2.12**	-2.12**
	(0.023)	(0.022)	(0.021)	(0.070)	(0.067)	(0.065)	(0.018)	(0.017)	(0.017)
Education	-176.75***	-177.75***	-178.06***	-142.67***	-143.82***	-144.20***	-180.30***	-180.42***	-180.33***
	(0.002)	(0.002)	(0.002)	(0.007)	(0.007)	(0.007)	(0.002)	(0.002)	(0.002)
Polity Score	3.13**	3.10**	3.09**	3.58**	3.53**	3.51**	3.29**	3.27**	3.26**
	(0.023)	(0.024)	(0.025)	(0.014)	(0.016)	(0.017)	(0.021)	(0.022)	(0.022)
Undervaluation	-31.96	-31.57	-31.39	-34.90	-34.89	-34.86	-33.17	-32.70	-32.48
	(0.174)	(0.179)	(0.181)	(0.175)	(0.175)	(0.176)	(0.164)	(0.169)	(0.172)
Raw Material Export	-2.69*	-2.70*	-2.71*	-3.36**	-3.37**	-3.38**	-2.66*	-2.66*	-2.67*
	(0.089)	(0.088)	(0.088)	(0.041)	(0.041)	(0.040)	(0.091)	(0.091)	(0.091)
Total Reserves	0.12	0.14	0.15	0.19	0.20	0.21	0.14	0.13	0.13
	(0.844)	(0.822)	(0.812)	(0.772)	(0.763)	(0.759)	(0.823)	(0.831)	(0.831)
Constant	677.37***	555.70***	599.10***	575.29***	455.42***	494.90***	752.15***	580.40***	643.22***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Observations	13239	13239	13239	12267	12267	12267	13248	13248	13248
Adjusted R^2	0.640	0.640	0.639	0.640	0.640	0.639	0.640	0.639	0.639
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 10: Capital Account Liberalization and Sectoral Productivity: By *De Facto* Category

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Equity	Equity	Equity	Debt	Debt	Debt	FDI	FDI	FDI
De Facto Index	4.68*	-6.20***	-1.00	-32.20***	-14.59***	-21.75***	-8.95***	-3.15**	-5.71***
	(0.086)	(0.003)	(0.678)	(0.000)	(0.003)	(0.000)	(0.000)	(0.021)	(0.002)
Interaction with Human Capital Intensity	-55.72***			93.44***			29.66***		
	(0.000)			(0.001)			(0.010)		
Interaction with External Financial Dependence		-6.00***			8.92*			3.23	
		(0.002)			(0.064)			(0.184)	
Interaction with Nontradability			-8.38***			11.38**			4.09**
			(0.000)			(0.015)			(0.015)
Human Capital Intensity	330.27***	320.25***	320.23***	245.62***	321.46***	321.17***	308.13***	320.29***	320.28***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence	41.59***	42.65***	41.59***	41.66***	34.10***	41.60***	41.59***	40.25***	41.59***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
Nontradability	-43.39***	-43.38***	-41.88***	-43.57***	-43.44***	-53.02***	-43.39***	-43.39***	-45.09***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita	0.76	0.77	0.77	2.39**	2.33**	2.32**	0.82	0.81	0.81
	(0.515)	(0.508)	(0.508)	(0.010)	(0.011)	(0.012)	(0.476)	(0.482)	(0.483)
Inflation	-0.32*	-0.32*	-0.32*	-0.18	-0.19	-0.19	-0.33*	-0.33*	-0.33*
	(0.087)	(0.088)	(0.087)	(0.286)	(0.258)	(0.253)	(0.079)	(0.079)	(0.080)
Trade Openness	-0.24	-0.24	-0.24	-0.15	-0.16	-0.16	-0.22	-0.22	-0.22
	(0.340)	(0.342)	(0.342)	(0.537)	(0.519)	(0.518)	(0.371)	(0.369)	(0.368)
Urbanization	-1.75**	-1.76**	-1.76**	-2.55***	-2.53***	-2.53***	-1.75**	-1.74**	-1.74**
	(0.023)	(0.023)	(0.023)	(0.007)	(0.008)	(0.008)	(0.022)	(0.022)	(0.022)
Education	-179.33***	-178.80***	-178.74***	-133.69***	-137.18***	-137.61***	-178.61***	-179.15***	-179.22***
	(0.002)	(0.002)	(0.002)	(0.005)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)
Polity Score	2.63**	2.63**	2.63**	2.60**	2.60**	2.60**	2.65**	2.65**	2.65**
	(0.036)	(0.036)	(0.036)	(0.037)	(0.037)	(0.037)	(0.035)	(0.035)	(0.035)
Undervaluation	-24.71	-24.65	-24.65	-14.94	-15.39	-15.43	-24.46	-24.53	-24.53
	(0.256)	(0.257)	(0.257)	(0.467)	(0.452)	(0.451)	(0.261)	(0.259)	(0.259)
Raw Material Export	-2.61*	-2.60*	-2.60*	-2.28	-2.30	-2.30	-2.61*	-2.61*	-2.61*
	(0.096)	(0.096)	(0.096)	(0.133)	(0.129)	(0.128)	(0.096)	(0.095)	(0.095)
Total Reserves	0.38	0.38	0.38	0.55	0.52	0.52	0.37	0.37	0.37
	(0.473)	(0.469)	(0.469)	(0.308)	(0.330)	(0.332)	(0.480)	(0.482)	(0.483)
Constant	537.54***	538.66***	537.66***	494.97***	486.94***	493.74***	539.37***	537.86***	539.05***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	14068	14068	14068	14068	14068	14068	14068	14068	14068
Adjusted R^2	0.639	0.639	0.639	0.639	0.639	0.639	0.639	0.639	0.639
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 11: Capital Account Liberalization and Labor Productivity: 10 Sectors

	(1) Agriculture	(2) Mining	(3) Manufacturing	(4) Utilities	(5) Construction	(6) Trade Service	(7) Transport Service	(8) Business Service	(9) Government	(10) Personal Services
Overall-FKRSU	0.45	26.80	-13.25***	-68.17***	-62.97**	19.72**	-130.32***	-134.35***	0.58	-4.37***
	(0.650)	(0.463)	(0.002)	(0.004)	(0.012)	(0.033)	(0.006)	(0.006)	(0.239)	(0.002)
GDP per capita	1.04***	13.03***	1.67***	2.65*	-3.70**	2.26***	-6.23**	-6.26**	0.22***	0.09
	(0.000)	(0.000)	(0.000)	(0.054)	(0.012)	(0.000)	(0.026)	(0.023)	(0.000)	(0.371)
Inflation	0.02	-0.56	-0.06	-0.63**	-0.86**	0.11	-1.55**	-0.93**	0.03*	-0.05***
	(0.127)	(0.262)	(0.114)	(0.031)	(0.020)	(0.151)	(0.024)	(0.046)	(0.058)	(0.007)
Trade Openness	-0.01	0.14	-0.09**	-0.51*	-0.43	0.08	-0.79	-0.77	0.02***	0.00
	(0.642)	(0.778)	(0.039)	(0.075)	(0.209)	(0.387)	(0.221)	(0.125)	(0.000)	(0.864)
Urbanization	0.22***	-3.27	-0.34	-2.28*	-3.19**	1.20**	-6.41**	-6.96**	-0.12***	-0.26***
	(0.000)	(0.105)	(0.168)	(0.089)	(0.023)	(0.029)	(0.020)	(0.012)	(0.000)	(0.003)
Education	-8.68**	-588.44***	-34.21***	-171.76**	-214.68**	47.02**	-432.14**	-333.87***	-1.50	-4.53
	(0.011)	(0.000)	(0.002)	(0.026)	(0.024)	(0.042)	(0.020)	(0.007)	(0.240)	(0.380)
Polity Score	-0.17**	7.84***	0.39	3.95**	5.17**	-0.61	9.27**	4.73	-0.13***	0.21*
	(0.015)	(0.008)	(0.122)	(0.026)	(0.018)	(0.251)	(0.024)	(0.105)	(0.000)	(0.052)
Undervaluation	3.63***	-76.86*	1.05	-39.95*	-62.42**	2.64	-107.91**	-43.52	0.60	-2.67**
	(0.000)	(0.057)	(0.725)	(0.068)	(0.020)	(0.664)	(0.029)	(0.248)	(0.105)	(0.049)
Raw Material Export	0.01	-9.25***	-0.07	-2.02	-4.14**	-0.39	-7.20*	-1.57	-0.06***	-0.26*
	(0.831)	(0.001)	(0.748)	(0.202)	(0.036)	(0.389)	(0.051)	(0.551)	(0.001)	(0.059)
Total Reserves	-0.11***	1.32	-0.02	-0.05	0.01	0.03	-0.01	0.12	0.05***	0.01
	(0.000)	(0.270)	(0.776)	(0.927)	(0.993)	(0.820)	(0.997)	(0.881)	(0.001)	(0.853)
Observations	1360	1360	1360	1360	1360	1360	1360	1360	1094	1274
Adjusted R^2	0.974	0.880	0.998	0.984	0.934	0.989	0.794	0.964	0.988	0.797
CountryFE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
YearFE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 12: Capital Account Liberalization and Sectoral Share: Overall *De Jure* Index

	(1)	(2)	(3)	(4)
	Employment Share	Employment Share	Employment Share	Employment Share
Overall-FKRSU	-0.00	-12.82***	0.84	-7.58***
	(1.000)	(0.000)	(0.104)	(0.000)
Overall-FKRSU × Human Capital Intensity		68.74***		
		(0.000)		
Overall-FKRSU × External Financial Dependence			17.36***	
			(0.000)	
Overall-FKRSU × Nontradability				12.90***
				(0.000)
Human Capital Intensity	3.53***	-35.74***	3.61***	3.58***
	(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence	-5.78***	-5.78***	-15.72***	-5.78***
	(0.000)	(0.000)	(0.000)	(0.000)
Nontradability	1.58***	1.58***	1.57***	-5.82***
	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita	-0.00	-0.00	-0.00	-0.00
	(1.000)	(0.920)	(0.919)	(0.954)
Inflation	-0.00	-0.00	-0.00	-0.00
	(1.000)	(0.889)	(0.920)	(0.971)
Trade Openness	-0.00	0.00	-0.00	-0.00
	(1.000)	(0.967)	(0.994)	(0.961)
Urbanization	0.00	0.00	-0.00	-0.00
	(1.000)	(0.981)	(0.993)	(0.972)
Education	-0.00	0.01	0.03	0.03
	(1.000)	(0.992)	(0.980)	(0.978)
Polity Score	0.00	0.00	0.00	0.00
	(1.000)	(0.921)	(0.950)	(0.992)
Undervaluation	0.00	0.02	0.04	0.04
	(1.000)	(0.963)	(0.934)	(0.934)
Raw Material Export	-0.00	-0.00	-0.00	-0.00
	(1.000)	(0.985)	(0.948)	(0.938)
Total Reserves	-0.00	0.00	0.00	0.00
	(1.000)	(0.912)	(0.915)	(0.950)
Constant	8.35***	15.65***	7.87***	12.73***
	(0.001)	(0.000)	(0.000)	(0.000)
Observations	17872	17872	17872	17872
Adjusted R^2	0.111	0.162	0.250	0.149
Country FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 13: Capital Account Liberalization and Employment Share: By *De Jure* Category

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Equity	Equity	Equity	Bond	Bond	Bond	FDI	FDI	FDI
De Jure Index	-10.94***	0.73	-6.47***	-11.19***	0.73	-6.65***	-12.04***	0.77	-6.61***
	(0.000)	(0.129)	(0.000)	(0.000)	(0.141)	(0.000)	(0.000)	(0.140)	(0.000)
Interaction with Human Capital Intensity	58.63***			59.84***			64.67***		
	(0.000)			(0.000)			(0.000)		
Interaction with External Financial Dependence		15.27***			15.54***			15.51***	
		(0.000)			(0.000)			(0.000)	
Interaction with Nontradability			11.01***			11.30***			11.26***
			(0.000)			(0.000)			(0.000)
Human Capital Intensity	-29.78***	3.68***	3.59***	-29.59***	3.46***	3.47***	-38.67***	3.54***	3.52***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence	-5.77***	-14.49***	-5.77***	-5.78***	-14.36***	-5.78***	-5.77***	-15.90***	-5.78***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Nontradability	1.59***	1.58***	-4.70***	1.61***	1.60***	-4.65***	1.59***	1.59***	-5.76***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.903)	(0.904)	(0.951)	(0.942)	(0.936)	(0.961)	(0.913)	(0.916)	(0.953)
Inflation	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.909)	(0.934)	(0.976)	(0.884)	(0.914)	(0.969)	(0.911)	(0.940)	(0.978)
Trade Openness	0.00	0.00	-0.00	0.00	0.00	-0.00	0.00	0.00	-0.00
	(0.964)	(0.995)	(0.974)	(0.938)	(0.976)	(0.979)	(0.943)	(0.976)	(0.988)
Urbanization	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.982)	(0.966)	(0.967)	(0.981)	(0.964)	(0.964)	(0.997)	(0.979)	(0.972)
Education	0.06	0.06	0.04	0.07	0.07	0.05	0.00	0.02	0.02
	(0.955)	(0.954)	(0.973)	(0.952)	(0.947)	(0.966)	(0.999)	(0.987)	(0.982)
Polity Score	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	-0.00
	(0.957)	(0.975)	(0.999)	(0.911)	(0.940)	(0.988)	(0.956)	(0.979)	(0.997)
Undervaluation	0.00	0.02	0.02	0.03	0.04	0.04	0.00	0.01	0.02
	(0.994)	(0.968)	(0.958)	(0.955)	(0.931)	(0.938)	(0.997)	(0.974)	(0.963)
Raw Material Export	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.998)	(0.969)	(0.957)	(0.995)	(0.962)	(0.951)	(0.986)	(0.966)	(0.962)
Total Reserves	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.984)	(1.000)	(0.987)	(0.960)	(0.956)	(0.970)	(0.951)	(0.956)	(0.976)
Constant	14.51***	7.89***	12.06***	14.44***	7.91***	12.04***	16.22***	7.88***	12.70***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
Observations	17930	17930	17930	16708	16708	16708	17939	17939	17939
Adjusted R^2	0.155	0.239	0.143	0.157	0.246	0.145	0.149	0.206	0.136
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 14: Capital Account Liberalization and Employment Share: 10 Sectors

	(1) Agriculture	(2) Mining	(3) Manufacturing	(4) Utilities	(5) Construction	(6) Trade Service	(7) Transport Service	(8) Business Service	(9) Government	(10) Personal Services
Overall-FKRSU	-2.65***	-0.24***	-0.59*	0.04	0.05	1.04***	-0.23*	0.64***	2.21***	0.08
	(0.000)	(0.002)	(0.056)	(0.179)	(0.789)	(0.001)	(0.073)	(0.001)	(0.000)	(0.751)
GDP per capita	0.25***	0.00	-0.25***	-0.01***	-0.02	-0.29***	-0.06***	0.22***	0.13***	0.04**
	(0.000)	(0.356)	(0.000)	(0.000)	(0.180)	(0.000)	(0.000)	(0.000)	(0.000)	(0.045)
Inflation	-0.02	0.01**	-0.01	0.00	-0.01**	-0.00	0.00	-0.00	-0.01	0.04***
	(0.348)	(0.048)	(0.563)	(0.397)	(0.017)	(0.934)	(0.545)	(0.201)	(0.611)	(0.001)
Trade Openness	-0.01*	-0.00	0.04***	-0.00***	0.01***	0.00	-0.01***	0.01***	-0.02***	-0.02***
	(0.086)	(0.511)	(0.000)	(0.000)	(0.001)	(0.240)	(0.000)	(0.002)	(0.000)	(0.000)
Urbanization	-0.26***	-0.01**	0.19***	0.01***	0.02*	0.03*	0.02***	-0.03***	-0.06***	0.07***
	(0.000)	(0.040)	(0.000)	(0.000)	(0.091)	(0.090)	(0.009)	(0.006)	(0.000)	(0.000)
Education	-10.18***	0.48**	3.62***	-0.03	2.60***	2.93***	2.09***	1.16***	-0.50	-0.41
	(0.000)	(0.013)	(0.000)	(0.642)	(0.000)	(0.000)	(0.000)	(0.003)	(0.428)	(0.694)
Polity Score	-0.14***	-0.01**	-0.00	-0.00	0.03***	0.05***	0.00	0.00	0.05***	0.03**
	(0.000)	(0.031)	(0.996)	(0.775)	(0.003)	(0.002)	(0.690)	(0.617)	(0.001)	(0.038)
Undervaluation	3.67***	0.10**	-0.25	0.06**	-0.17	-2.61***	0.04	-0.57***	0.42	-0.52**
	(0.000)	(0.048)	(0.378)	(0.012)	(0.283)	(0.000)	(0.684)	(0.000)	(0.121)	(0.050)
Raw Material Export	0.14***	-0.00	-0.09***	-0.00***	-0.09***	0.07***	-0.03***	0.02***	-0.00	0.00
	(0.000)	(0.636)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.002)	(0.845)	(0.871)
Total Reserves	-0.00	-0.01***	0.03***	0.00***	0.00	-0.01	0.00	-0.01**	0.02**	0.01
	(0.827)	(0.000)	(0.001)	(0.008)	(0.562)	(0.335)	(0.464)	(0.014)	(0.011)	(0.395)
Observations	1829	1829	1829	1829	1829	1829	1829	1829	1564	1743
Adjusted R^2	0.975	0.794	0.893	0.881	0.796	0.887	0.912	0.951	0.957	0.956
CountryFE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
YearFE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 15: Capital Account Liberalization and Employment Share: Interaction with Labor Productivity Change

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Overall-FKRSU	Equity-FKRSU	Bond-FKRSU	FDI-FKRSU	Overall-LMF	Equity-LMF	Debt-LMF	FDI-LMF
Interaction with Change in Productivity	-8982.24***	-8988.88***	-9615.24***	-9052.86***	-3546.26***	-4388.13	-5784.83***	-10111.92***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.638)	(0.000)	(0.000)
Human Capital Intensity	-0.96	-0.94	-1.00	-0.96	-0.29	-0.49	-0.28	-0.30
	(0.261)	(0.270)	(0.263)	(0.262)	(0.727)	(0.558)	(0.736)	(0.721)
External Financial Dependence	-7.66***	-7.66***	-7.65***	-7.66***	-7.95***	-7.96***	-7.96***	-7.95***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Nontradability	2.28***	2.28***	2.29***	2.28***	2.23***	2.26***	2.23***	2.23***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita(thousand 2010 USD)	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.886)	(0.887)	(0.910)	(0.886)	(0.942)	(0.967)	(0.952)	(0.935)
Inflation	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.983)	(0.984)	(0.981)	(0.983)	(0.996)	(0.998)	(0.999)	(0.994)
Trade Openness	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.964)	(0.963)	(0.970)	(0.963)	(0.990)	(0.984)	(0.997)	(0.991)
Urbanization	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.915)	(0.915)	(0.934)	(0.914)	(0.955)	(0.986)	(0.960)	(0.952)
Education	-0.16	-0.16	-0.13	-0.16	-0.07	-0.02	-0.04	-0.11
	(0.895)	(0.895)	(0.918)	(0.894)	(0.954)	(0.986)	(0.974)	(0.932)
Polity Score	0.00	0.00	0.00	0.00	0.00	-0.00	-0.00	0.00
	(0.940)	(0.939)	(0.923)	(0.938)	(0.990)	(0.990)	(0.996)	(0.974)
Undervaluation	-0.04	-0.04	-0.04	-0.04	-0.00	-0.00	0.00	-0.00
	(0.939)	(0.938)	(0.942)	(0.940)	(0.997)	(0.992)	(0.994)	(0.995)
Raw Material Export	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	0.00	-0.00
	(0.943)	(0.941)	(0.918)	(0.943)	(0.997)	(0.984)	(0.982)	(0.990)
Total Reserves	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.983)	(0.983)	(0.982)	(0.982)	(0.949)	(0.999)	(0.953)	(0.963)
Constant	9.32***	9.32***	9.23***	9.32***	8.89***	8.75***	8.81***	8.98***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
Observations	12888	12879	11977	12888	13688	13688	13688	13688
Adjusted R^2	0.187	0.187	0.186	0.187	0.191	0.189	0.191	0.191
Country FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 16: DID Analysis Based on Pool Matching

	(1) Overall Productivity Growth	(2) Within Growth	(3) Structural Growth	(4) Overall Productivity Change	(5) Structural Productivity Change	(6) Within Productivity Change	(7) Structural Term
Treated*Post	0.06	0.19	0.08	4.41	-3.64*	14.02	-0.37**
	(0.79)	(0.47)	(0.46)	(0.48)	(0.07)	(0.10)	(0.04)
Treated	0.67***	0.38	0.21**	-9.60	2.35	-3.66	0.07
	(0.00)	(0.12)	(0.01)	(0.16)	(0.21)	(0.35)	(0.63)
Post	-0.10*	-0.06	0.02	0.93	3.03**	-0.94	0.38***
	(0.06)	(0.26)	(0.45)	(0.76)	(0.01)	(0.53)	(0.00)
GDP per capita	0.00**	0.00***	-0.00	-0.00	-0.00	-0.00	-0.00**
	(0.04)	(0.01)	(0.23)	(0.23)	(0.16)	(0.23)	(0.03)
Trade Openness	-0.00	-0.00	0.00	-0.02	-0.01	-0.02	0.00
	(0.14)	(0.79)	(0.91)	(0.73)	(0.77)	(0.58)	(0.29)
Urbanization	-0.00*	-0.00*	-0.00	0.11	-0.04	0.01	-0.01**
	(0.09)	(0.07)	(0.34)	(0.50)	(0.47)	(0.94)	(0.01)
Education	0.26*	0.19	0.02	17.17	-0.10	4.57	-0.15
	(0.06)	(0.16)	(0.70)	(0.14)	(0.96)	(0.30)	(0.29)
Polity Score	-0.01*	-0.01***	-0.00	-0.56	-0.02	-0.04	0.00
	(0.06)	(0.01)	(0.70)	(0.15)	(0.77)	(0.82)	(0.70)
Undervaluation	-0.01	-0.03	-0.05	-9.99**	-4.29	-11.03***	-0.77***
	(0.94)	(0.83)	(0.34)	(0.05)	(0.14)	(0.00)	(0.00)
Raw Material Export	0.00	-0.00	-0.00	0.54	0.29*	0.06	-0.00
	(0.63)	(0.93)	(0.41)	(0.13)	(0.06)	(0.74)	(0.86)
Total Reserves	0.01***	0.00	0.00	0.02	0.02	0.09	-0.01**
	(0.00)	(0.50)	(0.67)	(0.94)	(0.78)	(0.48)	(0.05)
Observations	348	346	344	351	345	350	345
R^2	0.352	0.283	0.096	0.058	0.056	0.065	0.131

p-values in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 17: DID Analysis Based on Propensity Score Matching

	(1) Overall Productivity Growth	(2) Within Growth	(3) Structural Growth	(4) Overall Productivity Change	(5) Structural Productivity Change	(6) Within Productivity Change	(7) Structural Term
Treated*Post	0.24	0.81*	0.19	-37.52	-10.70	-46.65	-0.18
	(0.66)	(0.10)	(0.29)	(0.60)	(0.59)	(0.44)	(0.40)
Treated	0.25	-0.10	0.03	-87.73**	4.19	-64.16*	0.10
	(0.64)	(0.85)	(0.86)	(0.04)	(0.69)	(0.08)	(0.58)
Post	-0.08	-0.11	-0.08	55.88	22.76**	48.33	0.25
	(0.79)	(0.68)	(0.49)	(0.25)	(0.05)	(0.25)	(0.16)
GDP per capita	0.00	0.00	0.00	-0.01*	-0.00	-0.01	-0.00
	(0.41)	(0.15)	(0.37)	(0.08)	(0.28)	(0.12)	(0.54)
Trade Openness	-0.00	-0.01**	0.00	0.52	0.22	0.21	0.00
	(0.54)	(0.04)	(0.29)	(0.48)	(0.26)	(0.71)	(0.33)
Urbanization	-0.02**	-0.02	-0.01	0.58	0.39	0.09	-0.01**
	(0.05)	(0.11)	(0.18)	(0.78)	(0.41)	(0.96)	(0.03)
Education	0.55	0.59	0.02	213.52	2.62	171.85	0.14
	(0.26)	(0.17)	(0.89)	(0.14)	(0.87)	(0.21)	(0.46)
Polity Score	-0.02	-0.01	-0.01	-7.25**	-0.23	-5.33*	-0.01
	(0.55)	(0.59)	(0.22)	(0.04)	(0.76)	(0.08)	(0.65)
Undervaluation	-0.27	0.31	0.27	-164.26	-1.79	-158.64	-0.38
	(0.69)	(0.65)	(0.27)	(0.24)	(0.92)	(0.23)	(0.15)
Raw Material Export	-0.01	-0.01	-0.00	1.48	3.12*	-0.50	0.01
	(0.65)	(0.68)	(0.72)	(0.77)	(0.05)	(0.92)	(0.43)
Total Reserves	0.01	0.03***	-0.01	-1.99	-0.28	-1.14	-0.01
	(0.15)	(0.00)	(0.42)	(0.28)	(0.44)	(0.45)	(0.27)
Observations	108	108	107	108	107	108	107
R^2	0.140	0.253	0.177	0.264	0.129	0.229	0.129

p-values in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 18: Capital Account Liberalization Year and Productivity Growth Decomposition

Country	Liberalization Year	Post Liberalization	Annual Productivity Growth(%)	Within Productivity Growth(%)	Structural Productivity Growth(%)
Argentina	1988	0	-1.205	-0.815	-0.389
Australia	1978	0	1.470	1.275	0.195
Australia	1978	1	1.565	1.120	0.445
Bolivia	1988	1	0.728	0.039	0.689
Botswana	1994	0	3.700	2.266	1.435
Brazil	2000	0	0.478	0.725	-0.247
Brazil	2000	1	0.885	0.511	0.374
Bulgaria	2000	0	-0.322	-0.480	0.158
Bulgaria	2000	1	2.365	1.458	0.906
Costa Rica	1990	1	0.958	0.396	0.562
Cyprus	1998	0	0.638	0.472	0.166
Cyprus	1998	1	1.342	1.119	0.223
Denmark	1981	0	1.323	1.098	0.225
Denmark	1981	1	1.079	1.090	-0.012
Egypt	1991	0	3.441	3.528	-0.087
Egypt	1991	1	1.639	2.334	-0.694
France	1983	0	1.983	1.562	0.421
France	1983	1	2.066	2.093	-0.027
Ireland	1983	0	2.196	0.864	1.331
Ireland	1983	1	2.617	2.275	0.342
Italy	1982	0	2.548	2.003	0.544
Italy	1982	1	1.539	1.787	-0.248
Kenya	1992	0	0.198	-1.111	1.309
Malta	1998	0	1.057	1.057	0.000
Malta	1998	1	1.445	1.370	0.076
Mauritius	1989	0	0.894	0.063	0.831
Mauritius	1989	1	3.436	2.387	1.049
Philippines	1990	0	-1.381	-1.519	0.139
Philippines	1990	1	0.765	0.313	0.452
Romania	1997	0	0.250	0.216	0.035
Romania	1997	1	3.665	2.705	0.960
Russia	2002	0	1.059	0.882	0.178
Russia	2002	1	2.659	2.525	0.134
South Korea	2000	1	0.462	0.514	-0.053
Spain	1984	0	1.876	1.433	0.443
Spain	1984	1	1.619	1.577	0.042

Appendix

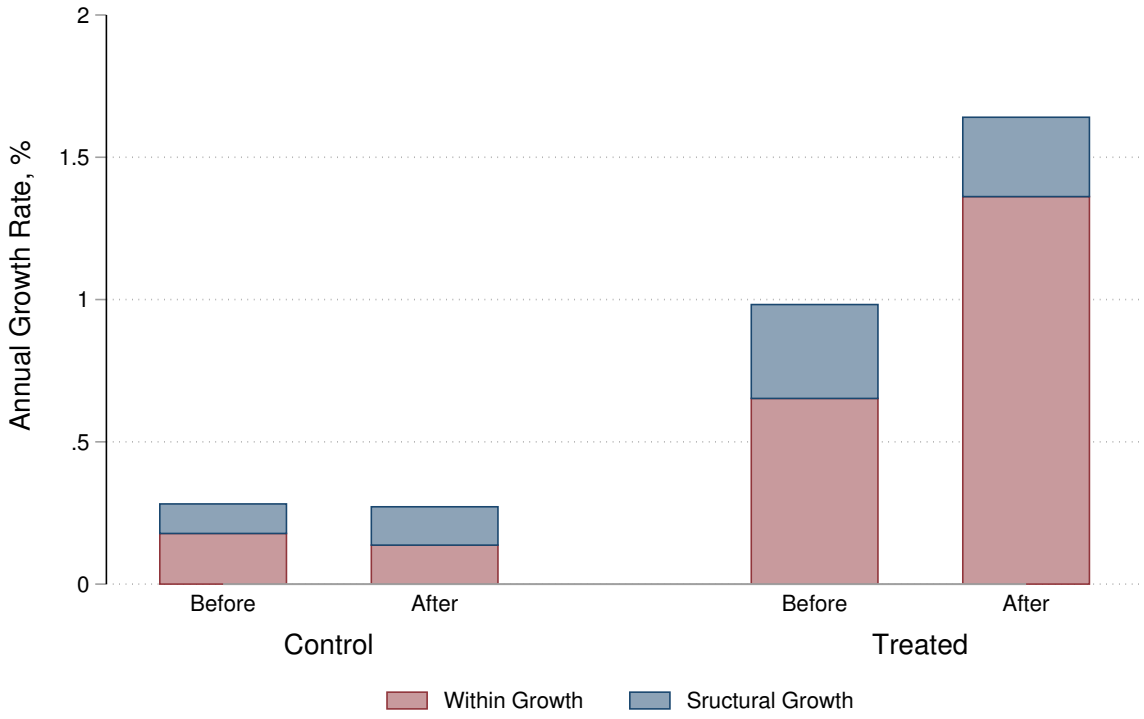

Figure A1: Productivity Growth Decomposition: Pool Matching

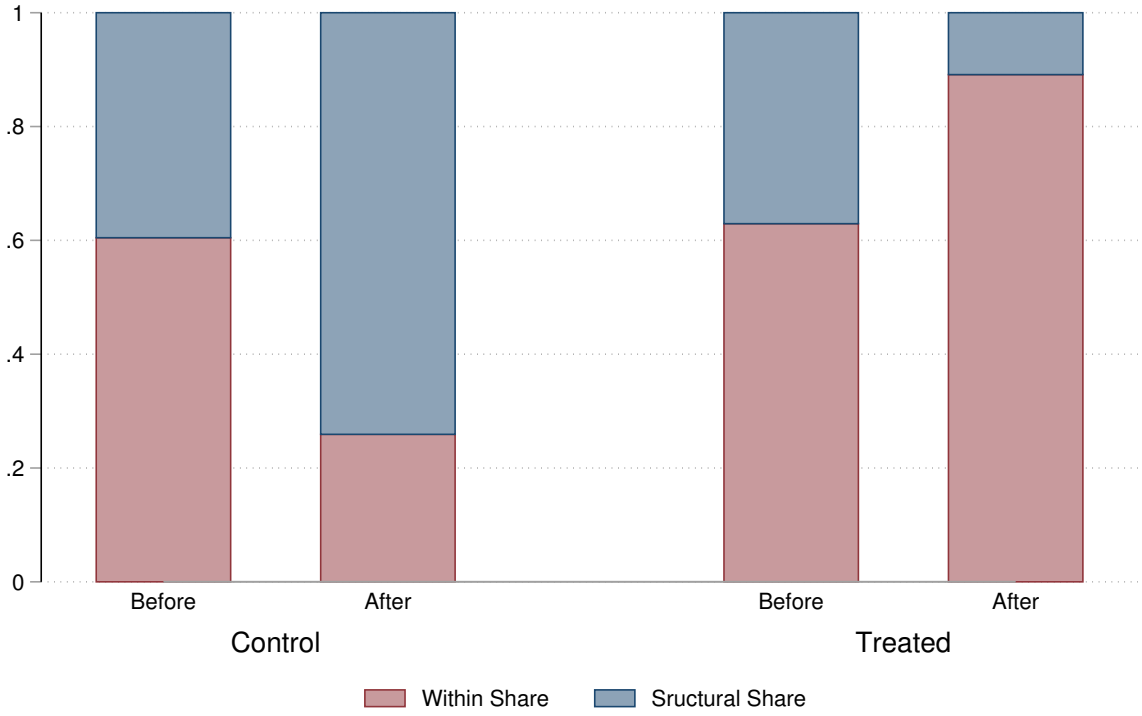

Figure A2: Productivity Change Share Decomposition: Pool Matching

Table A1: Capital Account Liberalization and Value Added Share: By *De Jure* Category

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Equity	Equity	Equity	Bond	Bond	Bond	FDI	FDI	FDI
De Jure Index	-6.88***	0.32	-3.49***	-7.69***	0.32	-3.80***	-7.95***	0.33	-3.95***
	(0.000)	(0.428)	(0.000)	(0.000)	(0.413)	(0.000)	(0.000)	(0.438)	(0.000)
Interaction with Human Capital Intensity	36.97***			41.23***			42.76***		
	(0.000)			(0.000)			(0.000)		
Interaction with External Financial Dependence		6.53***			6.68***			6.72***	
		(0.000)			(0.000)			(0.000)	
Interaction with Nontradability			5.94***			6.46***			6.71***
			(0.000)			(0.000)			(0.000)
Human Capital Intensity	-5.60***	15.19***	15.17***	-7.45***	14.96***	14.97***	-12.52***	15.13***	15.13***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence	0.98***	-2.70***	0.98***	0.98***	-2.64***	0.99***	0.98***	-3.37***	0.98***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Nontradability	-2.67***	-2.67***	-6.02***	-2.66***	-2.66***	-6.17***	-2.67***	-2.67***	-7.00***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00
	(0.999)	(0.975)	(0.961)	(0.963)	(0.953)	(0.950)	(0.997)	(0.973)	(0.962)
Inflation	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.929)	(0.964)	(0.983)	(0.902)	(0.954)	(0.977)	(0.924)	(0.966)	(0.982)
Trade Openness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.934)	(0.952)	(0.963)	(0.906)	(0.940)	(0.956)	(0.924)	(0.950)	(0.961)
Urbanization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.977)	(0.976)	(0.975)	(0.970)	(0.970)	(0.970)	(0.972)	(0.973)	(0.974)
Education	0.09	0.07	0.06	0.11	0.08	0.06	0.04	0.04	0.04
	(0.927)	(0.944)	(0.955)	(0.912)	(0.938)	(0.951)	(0.964)	(0.965)	(0.966)
Polity Score	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.944)	(0.961)	(0.970)	(0.903)	(0.942)	(0.959)	(0.944)	(0.963)	(0.971)
Undervaluation	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.00	0.00
	(0.990)	(0.990)	(0.990)	(0.952)	(0.970)	(0.978)	(0.994)	(0.992)	(0.992)
Raw Material Export	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.962)	(0.965)	(0.967)	(0.953)	(0.960)	(0.964)	(0.977)	(0.972)	(0.971)
Total Reserves	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.997)	(0.995)	(0.990)	(0.960)	(0.973)	(0.979)	(0.941)	(0.964)	(0.972)
Constant	12.54***	8.53***	10.70***	12.81***	8.53***	10.80***	13.90***	8.55***	11.31***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	17577	17577	17577	16349	16349	16349	17586	17586	17586
Adjusted R^2	0.065	0.075	0.052	0.072	0.076	0.054	0.064	0.066	0.050
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A2: Capital Account Liberalization and Sectoral Share: Overall *De Facto* Index

	(1) Employment Share	(2) Employment Share	(3) Employment Share	(4) Value Added Share	(5) Value Added Share	(6) Value Added Share
De Facto-LMF	-0.08***	0.00	-0.05***	-0.08***	0.00	-0.04**
	(0.000)	(0.851)	(0.003)	(0.000)	(0.979)	(0.023)
De Facto-LMF × Human Capital Intensity	0.39***			0.40***		
	(0.000)			(0.000)		
De Facto-LMF × External Financial Dependence		0.08***			0.03***	
		(0.000)			(0.000)	
De Facto-LMF × Nontradability			0.08***			0.06***
			(0.000)			(0.000)
Human Capital Intensity	2.84***	4.14***	4.15***	14.46***	15.66***	15.66***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence	-5.94***	-6.21***	-5.94***	0.87***	0.78***	0.87***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Nontradability	1.56***	1.56***	1.31***	-2.60***	-2.61***	-2.78***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita	0.00	0.00	0.00	0.00	0.00	0.00
	(0.974)	(0.983)	(0.991)	(0.911)	(0.936)	(0.935)
Inflation	0.00	0.00	0.00	0.00	0.00	0.00
	(0.997)	(0.998)	(0.999)	(0.990)	(0.994)	(0.994)
Trade Openness	0.00	0.00	0.00	0.00	0.00	0.00
	(0.995)	(0.997)	(0.998)	(0.970)	(0.975)	(0.975)
Urbanization	-0.00	-0.00	-0.00	-0.00	0.00	0.00
	(0.982)	(0.988)	(0.994)	(0.998)	(0.984)	(0.985)
Education	0.05	0.03	0.02	0.09	0.05	0.05
	(0.965)	(0.977)	(0.988)	(0.924)	(0.956)	(0.955)
Polity Score	0.00	0.00	0.00	0.00	0.00	0.00
	(0.999)	(1.000)	(1.000)	(0.977)	(0.978)	(0.978)
Undervaluation	0.01	0.00	0.00	0.01	0.01	0.01
	(0.988)	(0.992)	(0.995)	(0.975)	(0.987)	(0.986)
Raw Material Export	0.00	0.00	0.00	0.00	0.00	0.00
	(0.993)	(0.996)	(0.998)	(0.957)	(0.966)	(0.966)
Total Reserves	0.00	0.00	0.00	0.00	0.00	0.00
	(0.980)	(0.987)	(0.993)	(0.960)	(0.978)	(0.978)
Constant	8.40***	8.18***	8.36***	8.76***	8.60***	8.70***
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Observations	18989	18989	18989	18556	18556	18556
Adjusted R^2	0.117	0.121	0.116	0.043	0.038	0.039
Country FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Capital Account Liberalization and Employment Share: By *De Facto* Category

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Equity	Equity	Equity	Bond	Debt	Debt	Debt	FDI	FDI
De Facto Index	-0.20***	0.01	-0.12**	-0.20***	0.01	-0.12**	-0.24***	0.01	-0.15***
	(0.000)	(0.896)	(0.026)	(0.000)	(0.858)	(0.011)	(0.000)	(0.772)	(0.000)
Interaction with Human Capital Intensity	1.03***			1.06***			1.25***		
	(0.000)			(0.000)			(0.000)		
Interaction with External Financial Dependence		0.21***			0.23***			0.26***	
		(0.000)			(0.000)			(0.000)	
Interaction with Nontradability			0.20***			0.21***			0.25***
			(0.000)			(0.000)			(0.000)
Human Capital Intensity	3.44***	4.12***	4.14***	2.41***	4.14***	4.15***	3.05***	4.13***	4.14***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence	-5.94***	-6.08***	-5.94***	-5.94***	-6.31***	-5.94***	-5.94***	-6.17***	-5.94***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Nontradability	1.56***	1.56***	1.43***	1.56***	1.56***	1.22***	1.56***	1.56***	1.35***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.992)	(0.995)	(0.997)	(0.968)	(0.979)	(0.989)	(0.983)	(0.989)	(0.994)
Inflation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.999)	(1.000)	(1.000)	(0.992)	(0.995)	(0.997)	(0.999)	(1.000)	(1.000)
Trade Openness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.998)	(0.999)	(0.999)	(0.996)	(0.998)	(0.999)	(0.996)	(0.998)	(0.999)
Urbanization	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.994)	(0.996)	(0.998)	(0.971)	(0.981)	(0.990)	(0.987)	(0.992)	(0.995)
Education	0.01	0.01	0.00	0.08	0.05	0.03	0.03	0.02	0.01
	(0.990)	(0.993)	(0.996)	(0.945)	(0.964)	(0.982)	(0.976)	(0.984)	(0.992)
Polity Score	0.00	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00
	(0.999)	(0.999)	(1.000)	(0.999)	(0.999)	(0.999)	(0.999)	(0.999)	(1.000)
Undervaluation	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
	(0.997)	(0.998)	(0.999)	(0.982)	(0.988)	(0.993)	(0.992)	(0.995)	(0.997)
Raw Material Export	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.998)	(0.999)	(0.999)	(0.991)	(0.994)	(0.998)	(0.995)	(0.997)	(0.999)
Total Reserves	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.994)	(0.996)	(0.998)	(0.964)	(0.976)	(0.987)	(0.988)	(0.992)	(0.995)
Constant	8.35***	8.22***	8.31***	8.44***	8.14***	8.39***	8.39***	8.20***	8.35***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	18999	18999	18999	18989	18989	18989	18999	18999	18999
Adjusted R^2	0.116	0.118	0.115	0.118	0.123	0.117	0.117	0.120	0.116
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Capital Account Liberalization and Value Added Share: By *De Facto* Category

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Equity	Equity	Equity	Bond	Debt	Debt	Debt	FDI	FDI
De Facto Index	-0.21***	0.00	-0.10	-0.20***	0.00	-0.10*	-0.23***	0.00	-0.11***
	(0.001)	(0.985)	(0.114)	(0.000)	(0.988)	(0.063)	(0.000)	(0.939)	(0.001)
Interaction with Human Capital Intensity	1.11***			1.06***			1.21***		
	(0.000)			(0.000)			(0.000)		
Interaction with External Financial Dependence		0.07***			0.08***			0.09***	
		(0.000)			(0.000)			(0.000)	
Interaction with Nontradability			0.16***			0.16***			0.17***
			(0.000)			(0.000)			(0.000)
Human Capital Intensity	14.99***	15.65***	15.65***	14.06***	15.66***	15.66***	14.71***	15.65***	15.65***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
External Financial Dependence	0.87***	0.83***	0.87***	0.87***	0.75***	0.87***	0.87***	0.80***	0.87***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Nontradability	-2.60***	-2.60***	-2.69***	-2.60***	-2.61***	-2.84***	-2.60***	-2.60***	-2.73***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP per capita	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.935)	(0.944)	(0.943)	(0.901)	(0.930)	(0.929)	(0.924)	(0.941)	(0.940)
Inflation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.995)	(0.995)	(0.995)	(0.983)	(0.992)	(0.992)	(0.995)	(0.995)	(0.995)
Trade Openness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.976)	(0.978)	(0.977)	(0.968)	(0.972)	(0.972)	(0.973)	(0.977)	(0.977)
Urbanization	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00
	(0.986)	(0.979)	(0.980)	(0.985)	(0.987)	(0.988)	(0.994)	(0.982)	(0.982)
Education	0.06	0.04	0.04	0.12	0.06	0.06	0.07	0.05	0.05
	(0.954)	(0.964)	(0.964)	(0.901)	(0.949)	(0.947)	(0.939)	(0.960)	(0.960)
Polity Score	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.977)	(0.978)	(0.978)	(0.979)	(0.978)	(0.978)	(0.977)	(0.978)	(0.978)
Undervaluation	0.01	0.00	0.00	0.02	0.01	0.01	0.01	0.01	0.01
	(0.987)	(0.990)	(0.989)	(0.965)	(0.982)	(0.982)	(0.981)	(0.989)	(0.988)
Raw Material Export	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.966)	(0.969)	(0.969)	(0.952)	(0.964)	(0.963)	(0.961)	(0.967)	(0.967)
Total Reserves	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.975)	(0.981)	(0.981)	(0.945)	(0.976)	(0.975)	(0.969)	(0.980)	(0.979)
Constant	8.72***	8.61***	8.67***	8.79***	8.58***	8.72***	8.74***	8.60***	8.68***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	18566	18566	18566	18556	18556	18556	18566	18566	18566
Adjusted R^2	0.041	0.037	0.038	0.044	0.038	0.040	0.041	0.037	0.038
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$