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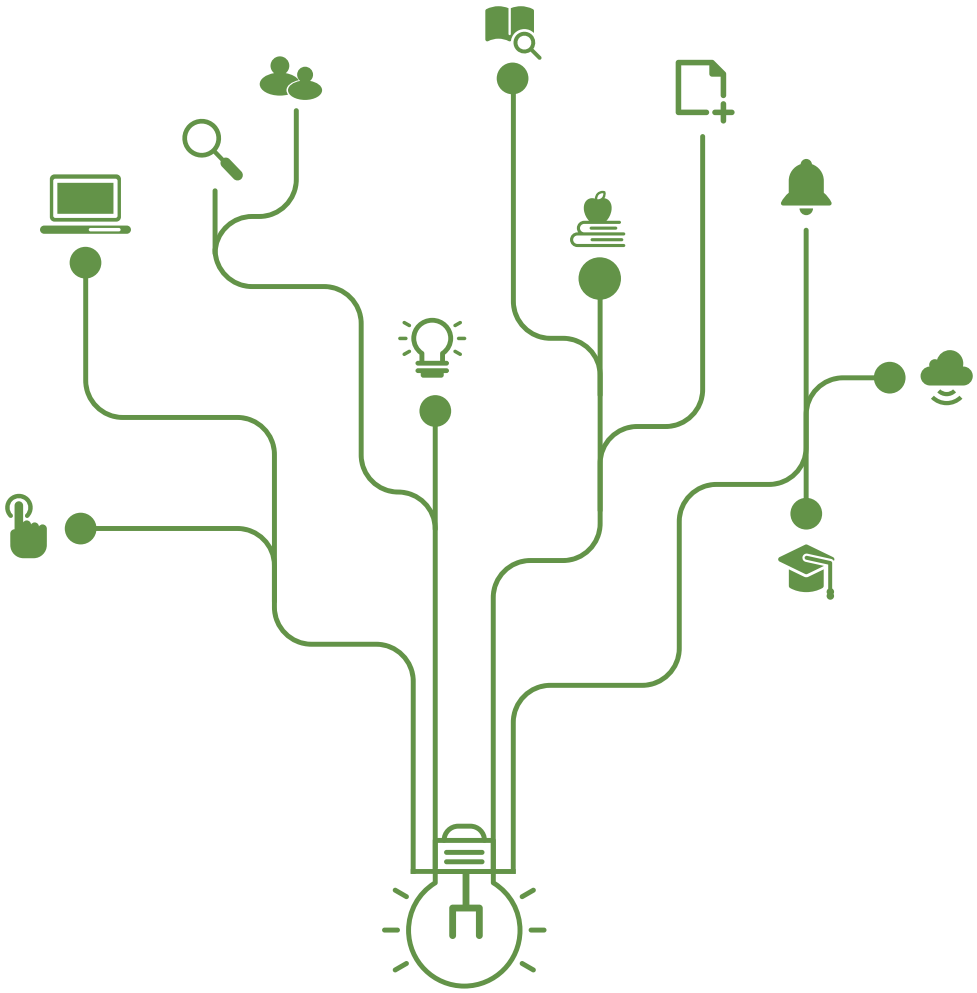
Cahyani Widi Larasakti (Centre for Capacity Development and Networking)
Zakka Farisy Basuki (Korea University)



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Trade and Capital Liberalisation: An Empirical Inquiry to the Effect of Capital Control Policy and Free Trade Agreement on Countries' Welfare

Cahyani Widi Larasakti* | Zakka Farisy Basuki**

* Centre for Capacity Development and Networking, Faculty of Social and Political Science, Universitas Gadjah Mada, Indonesia

** Department of Economics, Korea University, Republic of Korea

Abstract

This study aims to identify the need for ambiguity as a result of mixed and contradictory suggestions of the trade agreement and capital liberalisation on a country's welfare. Using more comprehensive datasets on inflow and outflow capital control, we find significant and mixed capital control effects on countries' welfare. The model also signifies consistent negative effects of the trade agreement on welfare coupled with proof of capital control's reduction effect on the trade agreement's effects. Further analysis also reveals the varying home and host countries' capital policy effects on welfare.

Introduction

Trade liberalisation has received great institutional support. As Ingram and Silverman (1999) proposed, institutions directly determine the expected outcome of trade activities. Indeed, regional institutional incentives stimulate firms' exports to the regional market (Zhang et al., 2018). Hence, studies on trading institutions have gained substantial attention, with a large body of literature focusing on the relationship between free trade agreements and various economic key indicators (Ajija et al., 2021; Harada & Nishitateno, 2021; Jagdambe & Kannan, 2020; Malcolm, 2017). The agreement was taught to be the panacea for eliminating trade barriers (Baier et al., 2014; Harada & Nishitateno, 2021; Jean et al., 2014). Accordingly, regional trade agreements present significant progress as their number of agreements in force dramatically surges from 82 to 354 in just two decades (WTO, 2022). This demonstrates that regional trade agreements have pronounced expansions when compared to other types of trade

liberalisation policies (Yang & Martinez-Zarzoso, 2014). Significantly, more than 55 percent of regional trade agreements are institutionalised through free trade agreements (WTO, 2022). Despite the promising ability of free trade agreements to banish trade barriers, their empirical attempts illustrate mixed evidence (Tang, 2000). What's more, while there is a little agreement on the extant discussion of whether trade agreements affect trade flows, there is a more general consensus on the presence of heterogeneity across countries and sectors (Anderson & Yotov, 2016). With this in mind, there is also less agreement on the factors that determine the effectiveness of trade agreements (Ghosh & Yamarik, 2004). In this light, the genuine support for free trade agreements' effects on trade flows - and further countries' welfare - further investigation.

A myriad of literature has been debating trade agreements' leverage on countries' welfare. A substantial body of literature has confirmed agreements' positive effects on trade flows, particularly trade creation (Baier & Bergstrand, 2007; Carrère, 2006), while its counterpart empirically proved agreements' pointless and negative effects on trade performance and a country's welfare (Armstrong, 2015; Islam et al., 2014; Khurana & Nauriyal, 2017; Udbye, 2017). Importantly, trade agreements' effects on economic growth are the subject to literature disputes. One symposium came to the conclusion that trade agreements do promote economic growth (R. Chang et al., 2009; Giraldo, 2019; Kumar, 2020; Sohn & Lee, 2006). Instead, substantial contradictory empirical exercises have confirmed trade agreements' trivial effect on economic growth (Hur & Park, 2012). In the midst of global economic interdependence, this captivating debate on trade and welfare is worthy of further investigation.

In addition to trade agreements, capital control and liberalisation have also been considered pivotal foreign policy measures to improve the country's welfare. In a similar vein as trade agreements, the capital control symposium has also been divided. Capital liberalisation gained its proponents' support for its credibility in generating productivity and faster economic growth (Desai et al., 2006). Conversely, capital control is empirically argued to bring welfare improvements (C. Chang et al., 2015; Devereux & Yu, 2019; Klein, 2012; Schmitt-Grohé & Uribe, 2016). This captivating literature's ambiguity on trade agreements, capital control, and countries' welfare demands further investigation. For that reason, this study will answer the question of whether trade liberalisation improves countries' welfare amidst a typical country's macroprudential policy.

Accordingly, this study will empirically assess the impact trade agreements and capital control leverage on a country's welfare. We proxy welfare improvement using the wage variable, which is measured by the percentage of salaried workers in total employment. The findings of

this study empirically contribute to the investigation of the causal explanation of trade agreements in defining welfare by taking into account a country's specific macroprudential policy. Importantly, the findings will theoretically contribute to the understanding of potential channels to improve a country's welfare. The study employs a set of data which cover 100 countries within the 1997-2019 period.

The remainder of this paper is organised as follows. The next section presents the related literature on free trade agreements, capital control, and welfare measurement. Then, the subsequent section will demonstrate the data and empirical specification. This is followed by the findings and discussion part, which will present and discuss the empirical results of the model specification. Finally, we highlight some important lessons and implications of the findings in the conclusion section.

Empirical Findings of Trade Agreements

Trade agreements have been associated with countries' liberalisation towards multinational trading activities. This is followed by a remarkable surge in the number of regional trade agreements. Currently, all members of the World Trading Organization (WTO) maintain a regional trade agreement (Khurana & Nauriyal, 2017). Despite its echoing impacts on trade liberalisation, trade agreements have been doubted to bring positive outcomes. Indeed, the empirical effect of free trade agreements has varied across members, regions, and commodities (Baier et al., 2019; Hur & Park, 2012). A large body of literature has shown that trade agreements have convincing effects on trade creation within member states. Assessment of a large number of samples during ex-post trade agreements, significantly raised trade flows between countries members (Carrère, 2006). More importantly, a panel assessment of free trade agreements using the gravity model signified quintuple effects on members' trade flows (Baier & Bergstrand, 2007). Equally important, the Association of South east Asian Nations (ASEAN)-India Free Trade Agreement has significantly brought trade creation (Jagdambe & Kannan, 2020).

On the other hand, a gravity model empirical study on the ASEAN-India Free Trade Agreement sought to affirm export flow reductions within ASEAN-India country members subsequent to the implementation of agreements (Khurana & Nauriyal, 2017). Moving to its neighbour, the South Asian Free Trade Agreement also empirically failed to signify substantial trade creation among member states (Islam et al., 2014). Identically, the Australia-US Free Trade Agreement was associated with the fall in the two countries' trade flows (Armstrong, 2015). Equally, an

impact evaluation of the US free trade agreements with 20 trading partners and an 80 countries control group reported mixed findings, leading to a low impact on overall exports (Udbye, 2017).

More intriguingly, conflicting empirical findings have been found in the same trade agreements. A large sample ex-post evaluation provides empirical evidence for heterogeneous agreement effects for members, with agreement effects estimated to be weaker for more distant pairing countries (Baier et al., 2019). In the same manner, studies on the EU-South Korea free trade agreement provided contradictory results. Lakatos and Nilsson (2017) uphold that the EU-South Korea Free Trade Agreements brought positive effects for both members, while more specific studies of the EU-South Korea Free Trade Agreement on the automotive sectors revealed asymmetric effects in which South Korea suffers from substantial gains (Juust et al., 2021).

Regardless of the mixed findings on the impact of trade agreements on trade flows, trade liberalisation has proven to be beneficial to economic growth Indeed, a study on three free trade agreements has empirically proven to promote members' income convergence, which represents poor countries' faster growth (Sohn & Lee, 2006). Likewise, positive and significant impacts of international trade on countries' welfare (i.e. economic growth) have been widely accredited by a large number of scholars despite substantial accounts for mediating variables such as knowledge spillovers and structural reform (R. Chang et al., 2009). In fact, trade agreements between India and South Asian countries generate economic growth in Bangladesh, Sri Lanka, Nepal and Bhutan both in the short and long run (Kumar, 2020)

On the other hand, a non-parametric matching approach affirmed no significant trade agreements effect on member states' economic growth that have mutual trade openness under free trade agreements (Hur & Park, 2012). Accordingly, trade liberalisation and agreements' impact on economic welfare are still unclear.

Capital Control Effects on Welfare

In the midst of international trade and global economic chains, capital movement across nations became a literature focal point among policymakers. Eventually, capital liberalisation among countries since the 1970s was motivated by the widespread influence of liberal countries (Goodman & Pauly, 1993). Indeed, capital liberalisation gained substantial support from a number of scholars, policymakers and international agencies. A substantial part of the literature promotes capital liberalisation for its aptitude to enhance growth. In this case, capital

liberalisation is empirically associated with faster multinational's property, plant and equipment growth (Desai et al., 2006). Conversely, capital control arguably concealed the country's welfare as foreign investors were discouraged from bringing their plantations and creating domestic jobs. Similarly, capital controls have been argued to exacerbate currency crises by imposing high-interest rates on the government (Kitano, 2011).

However, capital liberalisation has been accused of causing an economic crisis since it creates multinational capital interdependence. Following the financial crisis, capital control policies gained wide endorsement since their general idea is based on the logic of intervention to prevent market failures. Subsequently, capital control versus liberalisation effects on aggregate macroeconomics became controversial debates among prominent scholars (Eichengreen, 2001; Rodrik, 1998). Notably, empirical research on capital control has focused on its causal effect on financial vulnerabilities, gross domestic product (GDP) growth and exchange rate (Klein, 2012). Evidently, an empirical attempt has been made to support the claim that capital liberalisation is not always optimal to enhance economic growth (Kitano, 2011). Importantly, countries with persistent inflows of capital control have higher GDP growth.

Furthermore, a substantial body of literature affirms capital control's essential role in preventing economic crises. According to C. Chang et al. (2015), China's capital controls mitigated external capital flow shocks and prevented financial crises. Another key point is that many scholars refer to capital controls' aptitude to restrain the so-called 'sudden-stop' in capital flows (Devereux & Yu, 2019). In fact, the limitation of capital interdependence has been argued to save Malaysia from the Asian financial crisis (Kaplan & Rodrik, 2002; Edwards & Frankel, 2002). Particularly, capital control is also important in the sense of mitigating unemployment risks due to capital inflows, since nominal wage rigidity may not equilibrate the labour market (Schmitt-Grohé & Uribe, 2016). In this sense, as the government controls capital flows, it can help the domestic economy avoid the effects caused by global economic shocks. As a result, a country and an economy can reduce welfare loss.

Despite the debates, capital control has been adopted by large numbers of countries. In fact, capital controls have also been associated with preferred trade performance (Fu & Cao, 2020). Indeed, capital controls affect welfare in several ways as they regulate how assets are moved and operated. Importantly, capital controls deter domestic capital from moving outward to promote domestic production while they delay inward capital control to mitigate financial risks driven by capital liberalisation. In this case, outward capital controls have been argued to improve export performance (Fu & Cao, 2020). In addition, controlling capital movement may

increase the source of capital in the domestic market to generate exports and promote welfare gains through trade transactions.

Measuring a country's welfare

There has been a large amount of research on trade policy and countries' welfare. In the literature, large symposiums on trade define a country's welfare in terms of gains from trade. Conceptually, welfare gains from trade vary across the theories. In particular, the Ricardian model suggests that welfare improvement can be defined as income improvement due to a country's comparative advantage. Meanwhile, the Heckscher-Ohlin model suggests that welfare improvement should be referred to as income distribution between two production factors as a consequence of relative price changes that affect labour and capital earnings in the long run. In addition, capital control is conceptually believed to improve household utility.

Putting it into measurement, welfare improvement from trade has been measured through three different channels, which are expenditure, investment and factor price (Carroll & Hur, 2020). Importantly, gains from trade are also measured by the fall in the import price index due to the increase in differentiated varieties of goods (Broda & Weinstein, 2006). In a similar vein, the welfare effect of international trade has also been measured by the aggregate price of imported input goods and its leverage on boosting firms' productivity (Goldberg et al., 2009). More importantly, welfare gains from trade have also been measured in terms of changes in consumption levels and their real aggregate value (Alessandria et al., 2021).

As a matter of fact, welfare improvement is associated with capital control policy. In particular, capital control in the form of foreign-currency-gap policy signifies welfare improvement, which is measured by a weighted consumption by a discount factor (Garcia-Barragan & Liu, 2022). Importantly, welfare gains from capital control have also been studied based on the volatility of private consumption and employment (Agénor & Jia, 2020). Accordingly, welfare gains from capital control are generally studied at the micro-level analysis.

Another key point is that a country's welfare can also be defined as a multiplier of real wages (Nguyen & Timoshenko, 2020). Furthermore, the friction between wage and price in a typical firm's productivity has also become a proxy to measure a country's welfare (Melitz & Redding, 2015). Hence, measuring a country's welfare using its wage allows for a straightforward yet meaningful representation of that country's welfare. Equally important, wage-setting improvement indicates the quality of a country's labour management policy in the context of welfare improvement.

Data and Model Specification

This paper uses a multiple source dataset in which capital controls are obtained from Fernández et al. (2016) that cover 100 countries from 1995 - 2019. The capital control dataset is basically an aggregation index taken from The Annual Report on Exchange Arrangements and Exchange Restrictions by the International Monetary Fund (IMF-AREAER). It covers a comprehensive explanation of capital flow restriction which consists of inflow capital restrictions and outflow capital restrictions derived from 10 different asset categories ranging from money market instruments, bonds, equity, commercial credit, etc.

As it presents details of a typical capital control policy, this index may be a more comprehensive index for capturing a country's capital restriction regime than the other index (Chin-Ito, 2008). The dataset also includes a composite index that is calculated by adding the total index of inflow and outflow capital restrictions; this index is known as the overall capital control index. It also captured the general country's characteristics of its capital policy regime which can be divided into three main groups: open regime policy (no restriction), wall regime policy (high restriction) and gate regime policy (moderate restriction). The categorization has been constructed based on criteria developed by Klein (2012).

The 'open', 'wall' and 'gate' countries are referred to as:

Open: Less than 10 percent of the overall index value over the period and no sample's index of more than 20 percent for each time-series

Wall: More than 70 percent of the overall index value over the period and no sample's index of less than 60 percent for each time-series

Gate: The weighted index neither fall in the 'open' nor in the 'wall' category

We also use several control variables which are obtained from several sources, as detailed below:

Table 1. Variable Names, Definitions and Sources

Variable Name	Definition	Source
Wages	Percentage of total salaried workers per total employment	World Bank

Variable Name	Definition	Source
Capital Control	Composite index of capital control policy in a country (composite index for inward and outward capital control)	Latest data of Fernandez et al. (2016)
GDP per capita	GDP per capita, measured by the current thousand US$	World Bank (includes in CEPII Database)
Population	Total population measured in thousand	World Bank (includes in CEPII Database)
Foreign Direct Investment (FDI)	FDI inflow of origin countries, measured by Balance of Payment (BoP) current US$	World Bank
Trade Agreements	Dummy regional free trade agreements. 1 = there are trade agreements, 0 = otherwise	World Trade Organisation (WTO)
Bilateral Trade	Total bilateral export for pair country measured by the current US$	International Monetary Fund (IMF) Dataset

This study employs panel data analysis with a fixed effect model and uses a bilateral trade value rather than aggregate trade value. By taking the natural log equation, our empirical model specification is as follows:

$$ln(SAL)_{it} = \beta_0 + \beta' Z_{ijt} + \gamma_1 CCI_{it} + \gamma_2 CCO_{it} + \gamma_3 CCI_{jt} + \gamma_3 CCO_{jt} + \lambda EXP_{ijt} + \delta FTA_{ijt} + \theta_i + \theta_t$$

The dependent variable is the natural log of salaried workers in country i at time t $ln(SAL)_{it}$. Then, β_0 is a constant term, and Vector Z_{ijt} is a vector of control variables in countries i and j. Moreover, our variables of interest are capital control, which is further subdivided into inward

and outward capital control, denoted by CCI and CCO respectively. The $(CCI)_{it}, (CCO)_{it}, (CCI)_{jt}$ and $(CCO)_{jt}$ represent the capital control index in country i and j at time t. A value that is closer to 1 (one) indicates a higher or tighter capital restriction. The next variable of interest is EXP_{ijt}, which represents total bilateral exports for each country measured in current US$. Finally, our last variable of interest is FTA_{ijt}, which represents a dummy regional trade agreement.

This study attempts to hypothesise several conditions as, follows:

H1a. $(CCI)_{it}$ **expected to have a negative effect on welfare**

H1b. $(CCO)_{it}$ **expected to have a positive effect on welfare**

H1c. $(CCI)_{jt}$ **&** $(CCO)_{jt}$ **expected to have a significant effect on welfare**

Accepting H1a and H1b indicates that the home country's capital control policy affects its percentage of salaried workers. Meanwhile, significant values for H1c indicate that capital control in the host (destination) country has an importing effect (multiplier effect) on the home (origin) country's welfare.

H2. $(EXP)_{ijt}$ **expected to have a positive effect on welfare**

$(EXP)_{ijt}$ is the natural log export in country *i* at time *t.* The $(EXP)_{ijt}$ is expected to have a positive effect on defining exports. Greater exports indicate a larger national output, which leads to higher job creation for the labour force and an increase in the number of salaried workers.

H3. $(FTA)_{ijt}$ **expected to have a positive effect on welfare**

$(FTA)_{ijt}$ is a dummy free trade agreement, and it is expected to have a positive effect on defining exports.

Findings and Discussion

Table 2 presents the comparison of estimation results using ordinary least squares (OLS) and fixed effect (FE) models. Column (1) presents the OLS model, while column (2) presents the FE model without country-fixed effects and column (3) presents the FE model using time and country-fixed effects. Our dataset has been tested on the Hausman test, and it accepts the null hypothesis. Therefore, the fixed-effect model is more reliable for our estimations than the random-effect model. Thus, the rest of the analysis will be based on the FE estimation result.

For writing reasons, we only present the result of our main determinants (variables of interest), while the detailed result will be elaborated in the appendix.

Table 2. General results (*appendix Table 2*)

Our findings indicate that inflow and outflow capital control in the home country accept the 1a and 1b hypotheses. Higher inflow capital restrictions in the home countries lowers welfare. Conversely, higher outflow capital restrictions in the home countries increase welfare. These findings support the rationale of outflow capital restrictions, particularly to channel domestic savings into domestic investment (Eichengreen, 2001). Although inflow capital control in the host country is not significant, outflow capital control in the host country significantly affects the home country's welfare, indicating the importing effect of the country's specific policy feature on its bilateral partner.

Importantly, the estimation also confirms the positive and significant effect of exports on countries' welfare, which has been widely supported by empirical findings. However, free trade agreements negatively affect countries' welfare. Furthermore, the free trade agreement's interaction effect with capital controls generates a reduction effect. In other words, we find that capital control hinders free trade agreements' effects - a piece of evidence that highlights another channel of potential trade barriers.

We also conduct a robustness test to check the strength of our model by reducing our sample based on regions, as follows (Fu & Cao, 2020). The result remains consistent as we drop some samples based on regions, indicating that our model is strongly valid across countries.

Table 3. Sensitivity Check based on regions (*appendix Table 3*)

Overall, we prove the consistency of our model by illustrating the consistent significance and direction of our variables of interest, as indicated by the general results. Further analysis was also constructed by grouping our samples based on capital control categories or regimes of the home countries.

Table 4. Further Analysis based on Capital Control Categories (*appendix Table 4*)

Column (1) depicts groups of *'open'* countries and how their capital inflow and outflow policies generate positive and significant effects on countries' welfare. Interestingly, inflow

capital control policy imposed by '*wall'* countries - depicted in column (3) - also generate welfare improvements. As previously suggested by C. Chang et al. (2015) and Devereux and Yu (2019), capital control in these typical countries may be used to prevent international market or financial risk, potentially improving the welfare of these countries. However, outflow capital policy in *'wall'* countries deteriorates welfare. It might indicate capital restrictions, which accumulate capital in the 'wall' home countries, may not optimally create welfare. These findings support earlier studies on the possibility of the distortion effect of 'too strict' capital restrictions on countries' welfare (Kitano, 2011). Therefore, this comparison illustrates that capital liberalisation generates a higher possibility of welfare improvement compared to a restricted one.

More importantly, our further analysis of *'gate'* countries as depicted in column (2) - which also dominates the samples - draws a meaningful suggestion as it presents the same direction of inflow and outflow policy as in the general results. Thus, it implies that in order to improve welfare, a country should have higher outflow capital control restrictions but lower inward capital control restrictions at the same time. Then, a further analysis is also conducted based on countries' level of development. The classification is based on the IMF classification of advanced economy, emerging market, and low economies countries. The G20 classification also been added to test the estimation in a smaller sample with a mixed characteristic of countries' economy.

Table 5. Further Analysis based on Countries' level of Development (*appendix Table 5*)

Based on the above table, we present that advanced economies' inward and outward capital control effects are different from the general results. Inward capital restriction in advanced economies positively affect welfare while outward capital restriction deteriorate welfare. Therefore, in order to increase welfare, advanced economies need to loosen their capital flows to emerging economies. As the consequences, inward capital restriction in emerging countries and low economies - as indicates in column 2 - should be liberalized in order to increase welfare. More importantly, we classify our sample into G20 countries to see if our general results are consistent with smaller number of samples. Column 3 depicts the similar significance and direction of our variables of interest as indicated in general results. However, we cannot find importing effect of capital control in G20 countries.

Conclusions

Overall, the estimations signify the positive effect of exports on countries' welfare. Meanwhile, the model maintains the negative effect of trade agreements and the mixed effect of capital control policies on a country's welfare. More importantly, inflow capital restriction deteriorates welfare while outflow capital restriction generates the opposite effect. Additionally, we present that a more liberalised capital policy generates a higher possibility of welfare improvement compared to a more restricted capital policy. Meanwhile, it is only outflow capital control which generates significant importing effects on the home country's welfare. Another key point is that we prove the consistent and significant negative effect of trade agreements on countries' welfare. Further, the interaction between trade agreements and capital control generate a reduction effect, indicating that capital control mitigates trade agreement effects.

Admitting an overall consistent sensitivity test and further regression, we prove that our model is not sensitive to specific samples. Importantly, our findings contribute theoretically and empirically to earlier studies, particularly extending Feldmann (2013), by presenting inflow and outflow capital control effects rather than the aggregate effect on countries' welfare. This study also contributes to Forbes et al. (2016) concerns about having a more detailed measurement of capital control policy in order to have a more conclusive explanation. Equally important, the findings suggest several meaningful practical implications of a capital control policy. First, policymakers should consider the policy interaction between capital account liberalisation and free trade agreements. Second, policymakers should consider capital control policy choices in order to mitigate the potential risk of welfare reduction. Third, policymakers should also pay attention to the host countries' capital control policy in order to secure domestic welfare.

References

Agénor, P. R., & Jia, P. (2020). Capital controls and welfare with cross-border bank capital flows. *Journal of Macroeconomics*, *65*(May), 103220. https://doi.org/10.1016/j.jmacro.2020.103220

Ajija, S. R., Zakia, A. F., & Purwono, R. (2021). The impact of opening the export promotion agencies on Indonesia's non-oil and gas exports. *Heliyon*, *7*(8), e07756. https://doi.org/10.1016/j.heliyon.2021.e07756

Alessandria, G., Horag, C., & Kim J. R. (2021). Trade adjustment dynamics and the welfare gains from trade. *Journal of International Economics*, *131*, 103458.

Anderson, J. E., & Yotov, Y. V. (2016). Terms of trade and global efficiency effects of free trade agreements, 1990-2002. *Journal of International Economics*, *99*, 279–298. https://doi.org/10.1016/j.jinteco.2015.10.006

Armstrong, S. (2015). The economic impact of the Australia–US free trade agreement. *Australian Journal of International Affairs*, *69*(5), 513–537. https://doi.org/10.1080/10357718.2015.1048777

Baier, S. L., & Bergstrand, J. H. (2007). Do free trade agreements actually increase members' international trade? *Journal of International Economics*, *71*(1), 72–95. https://doi.org/10.1016/j.jinteco.2006.02.005

Baier, S. L., Bergstrand, J. H., & Feng, M. (2014). Economic integration agreements and the margins of international trade. *Journal of International Economics*, *93*(2), 339–350. https://doi.org/10.1016/j.jinteco.2014.03.005

Baier, S. L., Yotov, Y. V., & Zylkin, T. (2019). On the widely differing effects of free trade agreements: Lessons from twenty years of trade integration. *Journal of International Economics*, *116*, 206–226. https://doi.org/10.1016/j.jinteco.2018.11.002

Broda, C., & Weinstein, D. E. (2006). Globalization and the gains from variety. *Quarterly Journal of Economics*, *121*(2), 541–585. https://doi.org/10.1162/qjec.2006.121.2.541

Carrère, C. (2006). Revisiting the effects of regional trade agreements on trade flows with proper specification of the gravity model. *European Economic Review*, *50*(2), 223–247. https://doi.org/10.1016/j.euroecorev.2004.06.001

Carroll, Daniel R., & Sewon Hur. (2020). On the heterogeneous welfare gains and losses from

trade. *Journal of Monetary Economics*, *109*, 1–16.

Chang, C., Liu, Z., & Spiegel, M. M. (2015). Capital controls and optimal Chinese monetary policy. *Journal of Monetary Economics*, *74*, 1–15. https://doi.org/10.1016/j.jmoneco.2015.04.003

Chang, R., Kaltani, L., & Loayza, N. V. (2009). Openness can be good for growth: The role of policy complementarities. *Journal of Development Economics*, *90*(1), 33–49. https://doi.org/10.1016/j.jdeveco.2008.06.011

Desai, M. A., Foley, C. F., & Hines, J. R. (2006). Capital controls, liberalizations, and foreign direct investment. *Review of Financial Studies*, *19*(4), 1433–1464. https://doi.org/10.1093/rfs/hhj041

Devereux, M. B., & Yu, C. (2019). Evaluating the role of capital controls and monetary policy in emerging market crises. *Journal of International Money and Finance*, *95*, 189–211. https://doi.org/10.1016/j.jimonfin.2018.06.009

Eichengreen, B. (2001). *Capital Account Liberalization : What Do Cross-Country Studies Tell Us ? The World Bank Economic Review, Vol . 15 , No . 3 (2001), pp . 341-365*

Edwards, S., & Frankel, J.A. (2002). Preventing Currency Crises in Emerging Markets. Chicago: University of Chicago Press ISBN 0-226-18494-3

Feldmann, H. (2013). Capital account liberalization and unemployment in industrial countries. *Applied Economics Letters*, *20*(6), 566–571. https://doi.org/10.1080/13504851.2012.718058

Fernández, A., Klein, M. W., Rebucci, A., Schindler, M., & Uribe, M. (2016). Capital control measures: A new dataset. *IMF Economic Review*, *64*(3), 548–574. https://doi.org/10.1057/imfer.2016.11

Forbes, K., Fratzscher, M., Kostka, T., & Straub, R. (2016). Bubble thy neighbour: Portfolio effects and externalities from capital controls. *Journal of International Economics*, *99*, 85–104. https://doi.org/10.1016/j.jinteco.2015.12.010

Fu, D., & Cao, L. (2020). How do capital controls affect international trade? *Economics Letters*, *186*, 108761. https://doi.org/10.1016/j.econlet.2019.108761

Ghosh, S., & Yamarik, S. (2004). Does trade creation measure up? A reexamination of the effects of regional trading arrangements. *Economics Letters*, *82*(2), 213–219.

https://doi.org/10.1016/j.econlet.2003.06.001

Giraldo, I. (2019). The Home Market Effect, Economic Growth, and the Dynamic Trade Patterns. *International Trade Journal*, *33*(6), 555–580. https://doi.org/10.1080/08853908.2019.1635055

Goldberg, P., Khandelwal, A., Pavcnik, N., & Topalova, P. (2009). Trade liberalization and new imported inputs. *American Economic Review*, *99*(2), 494–500. https://doi.org/10.1257/aer.99.2.494

Goodman, J. B., & Pauly, L. W. (1993). The Obsolescence of Capital Controls?: Economic Management in an Age of Global Markets. *World Politics*, *46*(1), 50–82. https://doi.org/10.2307/2950666

Harada, K., & Nishitateno, S. (2021). Measuring trade creation effects of free trade agreements: Evidence from wine trade in East Asia. *Journal of Asian Economics*, *74*, 101308. https://doi.org/10.1016/j.asieco.2021.101308

Hur, J., & Park, C. (2012). Do Free Trade Agreements Increase Economic Growth of the Member Countries? *World Development*, *40*(7), 1283–1294. https://doi.org/10.1016/j.worlddev.2011.12.006

Islam, A., Bloch, H., & Salim, R. (2014). How effective is the Free Trade Agreement in South Asia? An empirical investigation. *International Review of Applied Economics*, *28*(5), 611–627. https://doi.org/10.1080/02692171.2014.918940

Jagdambe, S., & Kannan, E. (2020). Effects of ASEAN-India Free Trade Agreement on agricultural trade: The gravity model approach. *World Development Perspectives*, *19* (December 2018), 100212. https://doi.org/10.1016/j.wdp.2020.100212

Jean, S., Mulder, N., & Priscila, M. (2014). A general equilibrium, ex-post evaluation of the EU – Chile Free Trade Agreement. *Economic Modelling*, *41*(March 2005), 33–45. https://doi.org/10.1016/j.econmod.2014.04.025

Juust, M., Vahter, P., & Varblane, U. (2021). Trade Effects of the EU–South Korea Free Trade Agreement in the Automotive Industry. *Journal of East-West Business*, *27*(1), 1–29. https://doi.org/10.1080/10669868.2020.1732511

Khurana, R., & Nauriyal, D. K. (2017). ASEAN-India Free Trade Agreement: Evaluating Trade Creation and Trade Diversion Effects. *Journal of East-West Business*, *23*(3), 283–307. https://doi.org/10.1080/10669868.2017.1322548

Kitano, S. (2011). Capital controls and welfare. *Journal of Macroeconomics*, *33*(4), 700–710. https://doi.org/10.1016/j.jmacro.2011.07.004

Klein, M. W. (2012). Capital controls: Gates versus walls. *Brookings Papers on Economic Activity*, *FALL*, 317–367. https://doi.org/10.1353/eca.2012.0015

Kumar, R. (2020). India & South Asia: Geopolitics, regional trade and economic growth spillovers. *Journal of International Trade and Economic Development*, *29*(1), 69–88. https://doi.org/10.1080/09638199.2019.1636121

Lakatos, C., & Nilsson, L. (2017). The EU-Korea FTA: anticipation, trade policy uncertainty and impact. *Review of World Economics*, *153*(1), 179–198. https://doi.org/10.1007/s10290-016-0261-1

Malcolm, M. (2017). Do local exports impact congressional voting on free trade agreements? *Economics Letters*, *154*, 31–34. https://doi.org/10.1016/j.econlet.2017.02.018

Rodrik, D. (1998). Who Needs Capital-Account Convertibility? *Should the IMF Pursue Capital Account Convertibility*, *February*, 55–65.

Schmitt-Grohé, S., & Uribe, M. (2016). Downward nominal wage rigidity, currency pegs, and involuntary unemployment. *Journal of Political Economy*, *124*(5), 1466–1514. https://doi.org/10.1086/688175

Sohn, C. H., & Lee, H. (2006). How FTAs affect income levels of member countries. *World Economy*, *29*(12), 1737–1757. https://doi.org/10.1111/j.1467-9701.2006.00866.x

Tang, D. (2000). An International and Comparative Review Effects of the Regional Trading Arrangements on Trade: Evidence from the NAFTA. *The Journal of International Trade & Economic Development, ANZCER and ASEAN Countries, 1989 – 2000*. *October 2014*, 37–41. https://doi.org/10.1080/09638190500093562

Udbye, A. (2017). The United States Free Trade Agreements: How Successful Have They Been? *International Trade Journal*, *31*(5), 457–478. https://doi.org/10.1080/08853908.2017.1362365

Yang, S., & Martinez-Zarzoso, I. (2014). China Economic Review A panel data analysis of trade creation and trade diversion effects : The case of ASEAN – China Free Trade Area. *China Economic Review*, *29*, 138–151. https://doi.org/10.1016/j.chieco.2014.04.002

Zhang, L., Cui, L., Li, S., & Lu, J. (2018). Who rides the tide of regionalization: Examining the effect of the China-ASEAN Free Trade Area on the exports of Chinese firms. *International Business Review*, *27*(3), 501–513. https://doi.org/10.1016/j.ibusrev.2017.10.002

Appendix

Table 2.

VARIABLES	(1) OLS	(2) Fixed Effects	(3) Fixed Effects
$\mathbf{LN(POP)_{it}}$	-0.0476***	0.137***	0.134***
	(0.000774)	(0.00163)	(0.00172)
$\mathbf{LN(POP)_{jt}}$	-0.0116***	0.00487***	0.000881
	(0.000748)	(0.00163)	(0.00172)
$\mathbf{LN(GDPCAP)_{it}}$	0.282***	0.103***	0.118***
	(0.000938)	(0.000667)	(0.000811)
$\mathbf{LN(GDPCAP)_{jt}}$	-0.0206***	-0.0205***	-0.00576***
	(0.000884)	(0.000666)	(0.000806)
$\mathbf{LN(FDI\text{-}IN)_{it}}$	-0.0143***	0.00319***	0.00586***
	(0.000611)	(0.000201)	(0.000205)
$\mathbf{LN(FDI\text{-}IN)_{jt}}$	-0.00635***	-0.00278***	-0.000207
	(0.000607)	(0.000199)	(0.000203)
$\mathbf{CCI_{it}}$	0.147***	-0.00141	-0.00972***
	(0.00488)	(0.00190)	(0.00187)
$\mathbf{CCO_{it}}$	-0.0163***	0.00249	0.00904***
	(0.00406)	(0.00159)	(0.00157)
$\mathbf{CCI_{jt}}$	0.0121**	0.00651***	-0.000761
	(0.00482)	(0.00191)	(0.00189)
$\mathbf{CCO_{jt}}$	-0.0359***	-0.00914***	-0.00318**
	(0.00401)	(0.00162)	(0.00160)
LN(EXP)	0.0130***	0.000873***	0.000944***
	(0.000318)	(0.000152)	(0.000150)
FTA	-0.0238***	-0.0320***	-0.0341***
	(0.00321)	(0.00136)	(0.00136)
$\mathbf{FTAXCCI_{it}}$	-0.000216	0.0685***	0.0650***
	(0.0110)	(0.00367)	(0.00360)
$\mathbf{FTAXCCO_{it}}$	0.0923***	-0.00856***	-0.00737***
	(0.00894)	(0.00289)	(0.00284)
$\mathbf{FTAXCCI_{jt}}$	-0.00164	0.00816**	0.00398
	(0.0109)	(0.00367)	(0.00360)
$\mathbf{FTAXCCO_{jt}}$	-0.0344***	-0.00863***	-0.00616**
	(0.00893)	(0.00288)	(0.00283)
Constant	4.456***	2.535***	2.467***
	(0.0135)	(0.0198)	(0.0238)
Observations	182,401	182,401	182,401
R-squared	0.648	0.354	0.379
Number of Panel ID		9,524	9,524
Country FE		YES	YES
TIME FE			YES

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3.

VARIABLES	(1) Drop Asia	(2) Drop Latin America & Caribbean	(3) Drop Middle East & North Africa	(4) Drop North America	(5) Drop South Asia	(6) Drop Sub-Saharan Africa	(7) Drop Europe
$LN(POP)_{it}$	0.129***	0.140***	0.134***	0.132***	0.133***	0.131***	0.132***
	(0.00206)	(0.00214)	(0.00209)	(0.00191)	(0.00195)	(0.00205)	(0.00188)
$LN(POP)_{jt}$	-0.00166	-0.00285	0.00880**	-2.04e-05	-0.00119	-0.00379*	0.00372**
	(0.00198)	(0.00205)	(0.00385)	(0.00193)	(0.00195)	(0.00205)	(0.00178)
$LN(GDPCAP)_{it}$	0.116***	0.119***	0.115***	0.117***	0.116***	0.115***	0.118***
	(0.000971)	(0.00103)	(0.000991)	(0.000907)	(0.000922)	(0.000969)	(0.000884)
$LN(GDPCAP)_{jt}$	-0.00557***	-0.00417***	-0.00589***	-0.00440***	-0.00454***	-0.00722***	-0.00468***
	(0.00108)	(0.00105)	(0.00108)	(0.000931)	(0.000950)	(0.00106)	(0.000857)
$LN(FDI\text{-}IN)_{it}$	0.00587***	0.00630***	0.00608***	0.00592***	0.00601***	0.00580***	0.00576***
	(0.000244)	(0.000260)	(0.000251)	(0.000228)	(0.000232)	(0.000245)	(0.000224)
$LN(FDI\text{-}IN)_{jt}$	-0.000267	-0.000326	-0.000225	-0.000268	-0.000246	-0.000157	-0.000206
	(0.000238)	(0.000247)	(0.000277)	(0.000226)	(0.000229)	(0.000242)	(0.000228)
CCI_{it}	-0.00693***	-0.00708***	-0.0116***	-0.00838***	-0.00794***	-0.0107***	-0.00544***
	(0.00226)	(0.00236)	(0.00229)	(0.00209)	(0.00212)	(0.00225)	(0.00203)
CCO_{it}	0.00953***	0.00490**	0.00679***	0.00709***	0.00639***	0.00786***	0.00713***
	(0.00190)	(0.00200)	(0.00191)	(0.00176)	(0.00179)	(0.00189)	(0.00168)
CCI_{jt}	0.00313	0.00186	-0.00296	0.000834	0.00212	-0.00106	0.00188
	(0.00224)	(0.00292)	(0.00236)	(0.00210)	(0.00212)	(0.00224)	(0.00193)
CCO_{jt}	-0.00532***	-0.00449*	-0.00586***	-0.00583***	-0.00645***	-0.00493**	-0.00598***
	(0.00202)	(0.00235)	(0.00203)	(0.00183)	(0.00184)	(0.00194)	(0.00171)
LN(EXP)	0.00164***	0.000876***	0.00111***	0.00112***	0.00125***	0.00138***	0.00141***
	(0.000179)	(0.000195)	(0.000182)	(0.000166)	(0.000170)	(0.000184)	(0.000159)
FTA	-0.0297***	-0.0356***	-0.0378***	-0.0331***	-0.0338***	-0.0380***	-0.0322***
	(0.00161)	(0.00190)	(0.00162)	(0.00155)	(0.00154)	(0.00157)	(0.00158)

VARIABLES	(1) Drop Asia	(2) Drop Latin America & Caribbean	(3) Drop Middle East & North Africa	(4) Drop North America	(5) Drop South Asia	(6) Drop Sub-Saharan Africa	(7) Drop Europe
$FTAXCCI_{it}$	0.0484***	0.0601***	0.0693***	0.0617***	0.0589***	0.0677***	0.0579***
	(0.00431)	(0.00494)	(0.00437)	(0.00405)	(0.00412)	(0.00416)	(0.00407)
$FTAXCCO_{it}$	-0.0140***	-0.00548	-0.00230	-0.00449	-0.00349	-0.00231	0.00637*
	(0.00338)	(0.00386)	(0.00349)	(0.00324)	(0.00326)	(0.00333)	(0.00334)
$FTAXCCI_{jt}$	-0.0112***	0.00569	0.00932**	0.00108	-0.00264	0.0104**	-0.00481
	(0.00423)	(0.00521)	(0.00441)	(0.00395)	(0.00401)	(0.00410)	(0.00391)
$FTAXCCO_{jt}$	-0.00546	-0.00917**	-0.00273	-0.00561*	-0.00519	-0.00665*	0.000202
	(0.00335)	(0.00407)	(0.00360)	(0.00323)	(0.00323)	(0.00343)	(0.00312)
Observations	127,590	121,611	127,874	148,960	145,305	129,754	148,887
R-squared	0.378	0.378	0.373	0.377	0.377	0.376	0.384
Number of Panel ID	6,729	6,271	6,569	7,801	7,609	6,668	7,862
Country FE	YES	YES	YES	YES	YES	YES	YES
TIME FE	YES	YES	YES	YES	YES	YES	YES

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.

VARIABLES	(1) Open CC Regime	(2) Gate CC Regime	(3) Wall CC Regime
$\mathbf{LN(POP)_{it}}$	-0.00541***	0.194***	0.545***
	(0.00139)	(0.00266)	(0.00850)
$\mathbf{LN(POP)_{jt}}$	-0.00172	-0.00130	0.0119**
	(0.00150)	(0.00263)	(0.00520)
$\mathbf{LN(GDPCAP)_{it}}$	0.0518***	0.157***	0.0666***
	(0.000819)	(0.00123)	(0.00261)
$\mathbf{LN(GDPCAP)_{jt}}$	-0.00402***	-0.00922***	0.000729
	(0.000695)	(0.00123)	(0.00249)
$\mathbf{LN(FDI\text{-}IN)_{it}}$	0.00188***	0.00784***	0.00345***
	(0.000173)	(0.000320)	(0.000708)
$\mathbf{LN(FDI\text{-}IN)_{jt}}$	-0.000133	-0.000488	0.000202
	(0.000175)	(0.000309)	(0.000626)
$\mathbf{CCI_{it}}$	0.0613***	-0.00642***	0.0283***
	(0.00427)	(0.00227)	(0.00716)
$\mathbf{CCO_{it}}$	0.0438***	0.0200***	-0.219***
	(0.00235)	(0.00193)	(0.0118)
$\mathbf{CCI_{jt}}$	0.00172	-0.00509*	0.0101*
	(0.00161)	(0.00291)	(0.00567)
$\mathbf{CCO_{jt}}$	-0.000557	-0.00109	-0.00675
	(0.00138)	(0.00245)	(0.00480)
LN(EXP)	0.00195***	0.00104***	0.00318***
	(0.000143)	(0.000217)	(0.000455)
FTA	0.000425	-0.0303***	-0.190***
	(0.00106)	(0.00226)	(0.0258)
$\mathbf{FTAXCCI_{it}}$	-0.0502***	0.0803***	0.0370**
	(0.00635)	(0.00462)	(0.0147)
$\mathbf{FTAXCCO_{it}}$	0.0118***	-0.0351***	0.182***
	(0.00349)	(0.00376)	(0.0281)
$\mathbf{FTAXCCI_{jt}}$	-0.00530*	0.0113**	-0.00399
	(0.00296)	(0.00552)	(0.0128)
$\mathbf{FTAXCCO_{jt}}$	-0.000505	-0.0169***	0.0101
	(0.00224)	(0.00440)	(0.0109)
Constant	4.171***	1.789***	-2.316***
	(0.0195)	(0.0364)	(0.107)
Observations	61,948	94,860	25,593
R-squared	0.297	0.431	0.518
Number of Panel ID	3,183	5,017	1,324
Country FE	YES	YES	YES
TIME FE	YES	YES	YES

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.

VARIABLES	(1) AE	(2) EMLE	(3) G20
$\mathbf{LN(POP)_{it}}$	-0.0414***	0.114***	0.220***
	(0.00236)	(0.00229)	(0.00306)
$\mathbf{LN(POP)_{jt}}$	0.000579	0.00257	-0.00326**
	(0.000944)	(0.00254)	(0.00137)
$\mathbf{LN(GDPCAP)_{it}}$	-0.00206***	0.118***	0.0935***
	(0.000728)	(0.00116)	(0.000721)
$\mathbf{LN(GDPCAP)_{jt}}$	0.000324	-0.00784***	-0.00380***
	(0.000456)	(0.00118)	(0.000655)
$\mathbf{LN(FDI\text{-}IN)_{it}}$	0.00296***	0.00740***	0.00312***
	(0.000109)	(0.000315)	(0.000167)
$\mathbf{LN(FDI\text{-}IN)_{jt}}$	1.15e-06	-0.000314	-0.000240
	(0.000114)	(0.000296)	(0.000164)
$\mathbf{CCI_{it}}$	0.0101***	-0.00770***	-0.0336***
	(0.00142)	(0.00247)	(0.00165)
$\mathbf{CCO_{it}}$	-0.0178***	0.00137	0.0533***
	(0.00101)	(0.00227)	(0.00134)
$\mathbf{CCI_{jt}}$	0.000137	-0.00240	-0.00123
	(0.00104)	(0.00277)	(0.00153)
$\mathbf{CCO_{jt}}$	-6.13e-05	-0.00351	0.00165
	(0.000912)	(0.00231)	(0.00132)
LN(EXP)	-0.000138	0.000934***	0.00517***
	(0.000143)	(0.000188)	(0.000201)
FTA	-0.00149**	-0.0548***	-0.00977***
	(0.000660)	(0.00227)	(0.00101)
$\mathbf{FTAXCCI_{it}}$	0.0384***	0.0680***	0.0877***
	(0.00234)	(0.00508)	(0.00289)
$\mathbf{FTAXCCO_{it}}$	-0.00321**	0.00352	-0.0259***
	(0.00161)	(0.00423)	(0.00227)
$\mathbf{FTAXCCI_{jt}}$	-0.000415	0.0140**	0.00435
	(0.00188)	(0.00549)	(0.00270)
$\mathbf{FTAXCCO_{jt}}$	0.000152	-0.0144***	-0.00289
	(0.00140)	(0.00457)	(0.00203)
Constant	4.718***	2.506***	1.742***
	(0.0238)	(0.0337)	(0.0337)
Observations	60,762	121,639	70,039
R-squared	0.285	0.408	0.512
Number of Panel ID	2,842	6,682	3,232
Country FE	YES	YES	YES
TIME FE	YES	YES	YES

AE: Advanced Economy; EMLE: Emerging Market and Low Income Economy
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1