



ISSN 1229-4640
eISSN 2671-5813

<https://doi.org/10.52595/jas.14.1.1>

Journal of APEC Studies

www.apecstudies.kr



No Great Convergence, but not Myth: Stabilization and Growth in East Asia, 1990-2018

Akira Kohsaka [†]

Professor Emeritus, Osaka School of International Public Policy, Osaka University, Japan

Received 14 April 2022 Revised 26 June 2022 Accepted 28 June 2022

ABSTRACT

Along with global economic integration through trade and financial flows, emerging market economies (EMEs) have become increasingly affected by global fluctuations and structural changes. Also, despite their apparent income convergence since the 2000s, their growth performances have become differentiated across regions. This paper overviews how EMEs in East Asia have coped with these circumstances since the 1990s, and assesses their economic performances from the aspects of both short-run macroeconomic stabilization and long-run economic growth in comparison with other regions. Scrutinizing monetary regime choices in the policy trilemma, dynamic patterns of total capital flows as well as by types of capital, saving-investment gaps and growth finance, and sources of economic growth, the exceptional income convergence of East Asian EMEs imply the following lessons, being apparently heterodox to conventional views: Given volatile global capital flows in the imperfect capital market, in small open economies such as EMEs, 1) for macroeconomic stabilization, exchange rate stability supported by managed float and capital controls is a more reasonable choice than the conventional mix of free float and open capital account, and 2) for economic growth, domestic savings are more reliable and important source of growth finance than foreign capital inflows. In fact, it turns out that 3) capital accumulation has been more important source of long-run economic growth than TFP growth throughout both advanced and emerging market economies. It should be noted, however, that 4) excessive capital accumulation could lead to relatively lower welfare levels than what income levels can attain.

Keywords: global economic integration, monetary policy regimes, macroeconomic stabilization, capital flows, capital accumulation, income convergence, East Asia, emerging market economies.

JEL classifications: F36, F41, F43, F62, O5, O11, O16, O47

I. Introduction: Great Convergence?

Two specters are haunting global economic integration — one invisible (COVID-19 virus) and the

other very visible (Russian army). Smart people might add Industry 4.0 to this list. Whatever added, the global integration through trade and capital flows has been a key driver for developing economies, particularly emerging

[†] Corresponding author: kohsaka@osipp.osaka-u.ac.jp

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market economies (EMEs)¹ to catch up with advanced economies.

EMEs have increased their presence in the global economy, particularly since the Global Financial Crisis (GFC) in 2008. Their larger contribution in global economic growth is part of the reason. Their swifter recovery from the Crisis also contributes. 70% of global GDP growth is supported by emerging market and other developing economies for the years of 2010-2016 (IMF (2017) Figure 2.1), while their contribution was less than 20% in the 1970s.

In fact, however, it is only in the 21st century, when developing economies as a group began to narrow the income gap from advanced economies (IMF (2017) Figure 2.4). Nevertheless, since the beginning of the 2000s, some optimistic view prevails that the income convergence of developing economies to advanced economies eventually started (Spence (2011)). Despite a huge income gap between the two groups, however, it is well known that the convergence is neither automatic, nor inevitable. As a matter of fact, we have observed alternating acceleration and deceleration of their economic growth.

This time is different, the optimistic view might say. Increasing trade integration based on the ICT revolution through Global Value Chains (GVC) would accelerate technology transfers to EMEs (Baldwin (2016)). Indeed, the recent replacement of output shares in manufacturing between advanced and emerging market economies has been astounding. Once, the Industrial Revolution reduced transportation costs sharply and then enabled present advanced

economies to dramatically enhance their productivities and income levels through export-led industrialization and to expand income differences from other economies (Great Divergence). This time, the ICT revolution would enable frontier technologies in advanced economies to be transferred to most emerging market economies more easily and quickly by GVCs and help these economies lift up their productivity growth, leading to Great Convergence (Baldwin (2016)) and dramatic replacement of global GDP shares between the two groups, they say.

Note, however, that the situation contrasting to the above had continued up to the 1990s. The median growth difference between developing economies and the United States had been either zero or minus until the 1990s (IMF (2017)), i.e. income gaps from US had widened in more than half of developing economies. After all, differences in income levels, not their growth rates, between the two groups have remained huge. In the period of 2010-2014, the relative income level is less than 10% of that of US in more than the third of developing economies and less than half in more than 90% of these economies (IMF (2017) Figure 2.2).

Along with global economic integration through trade and financial flows, EMEs tend to be more affected by their fluctuations and structural changes. Specifically, despite the seeming general trend of income convergence since the 2000s, growth performances have become more differentiated across EMEs in the post-GFC period. Compared to the pre-GFC (2003-2008) period, the drop in productivity growth was the largest in EMEs in Europe, followed by those in Latin America. Indeed, the global economic conditions including declines in potential growth of advanced economies, growth slowdown of China, and fluctuations of primary commodity prices are far from favorable to EMEs. How were these changing global conditions associated with these differentiating economic performances of EMEs?

Usual suspects include trade and financial channels. Actually, by the 2000s, financial assets have accumulated to more or less than 10 folds of GDP in size in advanced economies, so that financial cycles, or

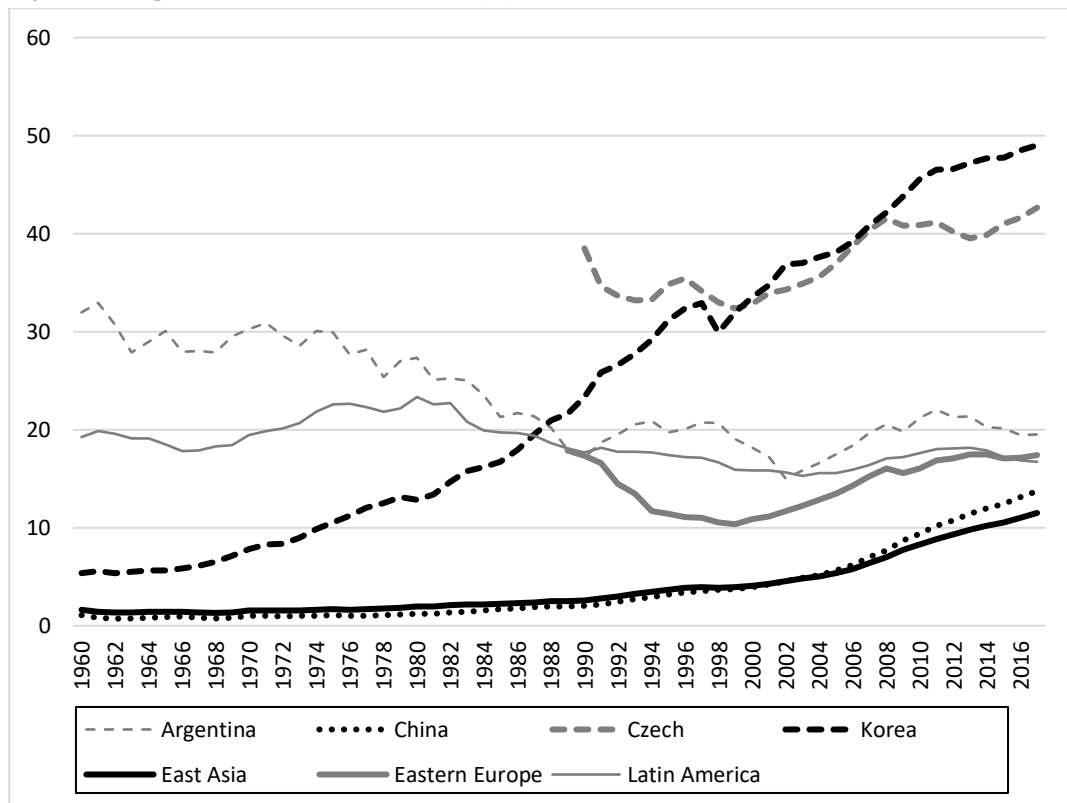
¹ Relatively industrialized medium-high income economies have been called as emerging market economies (EMEs) conventionally, but the definition of emerging market economies is fluid over time. For example, in Figures 1 and 2 which followed IMF's old classification before 1995, 125 economies were classified as emerging market and developing economies, out of which 13 economies were reclassified as advanced economies after 1996, including Czech, Hong Kong, Korea, Singapore and Taiwan. In this paper, we follow the old classification by including these five economies as EMEs. In 2019, 24 relatively industrialized medium-high income economies excluding oil producing economies in the Middle East were classified as EMEs by IMF.

business cycles driven by financial factors or through balance sheet effects, have played a major role in macroeconomic fluctuations. Financial globalization, or increasing external financial assets and liabilities, goes hand in hand with this, enhancing synchronization of business cycles among economies in the world. In the GFC, Great Retrenchment of capital flows (Milesi-Ferretti et al. (2011)) among AEs enforced serious real economic adjustments, leading to income losses as well as potential growth slowdowns, while EMEs witnessed rather quick recoveries in contrast with their nightmarish experiences in the 1980s and 1990s.

This paper overviews how EMEs in East Asia have coped with these changes in the global economy since the 1990s, compared to other EME regions, and assesses their economic performances from the aspects of both short-run economic fluctuations (as against

macroeconomic stability) and long-run growth (possibly leading to income convergence). Specifically, we compare among the three regional groups of EMEs, i.e. East Asia, Eastern Europe and Latin America. While these economies are often grouped as EMEs, even their income levels show very different dynamic patterns as in Figure 1, which illustrates the top (excluding small economies) and average income levels of each region relative to that of the US. In 2016, Korea (the top of East Asia) and Czech (of Eastern Europe) reached 50% and 40% of the US level respectively, but Argentina (of Latin America) remained at only 20% of the US level. And in the longer run during the period of 1960-2016, income convergence to US can be found only in East Asia, but income divergence in Latin America.

Figure 1. Per capita GDP relative to US, 1960-2016 (%)



Source: Adapted from World Bank(n.d.).

Moreover, these regional groups have formed economic agglomerations with a few advanced economies through both trade and investment flows and financial (capital) flows. In other words, EMEs are not homogeneous but heterogeneous, and agglomerate not globally, but regionally. This paper cares about the importance of these regional agglomerations to understand the differential dynamics of economic performances among these EMEs.

In the following, we trace a nexus from macroeconomic stability to economic growth through capital accumulation, and then to their welfare implication.

First, in Sections 1 and 2, we discuss macroeconomic stabilization in EMEs. In Section 1, examining monetary policy regimes in East Asia as opposed to the other regions, we find that the stability of US dollar exchange rates plays a key role in EMEs, because they are the intersection of both trade and financial integration. Global capital flows rather than trade flows tend to dominate the exchange rate determination, which is transmitted to domestic inflation and then to overall macroeconomic stability as well as external trade. In Section 2, starting from capital flow dynamics across EME regions, we review the management of external positions of assets and liabilities, which could make monetary regimes of small open economies vulnerable against the volatility of foreign capital flows. We find that deliberate policies in East Asia are successful in building resilient portfolio structures, being less dependent on debt liabilities, as against the other regions.

Short-run macroeconomic stability incentivizes domestic investment or capital accumulation, thereby constituting a prerequisite to long-run economic growth.

Next, in Sections 3 and 4, we discuss capital accumulation and productivity growth across EME regions. In Section 3, we discuss relative roles of domestic and foreign savings as well as those of internal and external finance for capital accumulation, i.e. growth finance. Ensuring higher investment rates in East Asia partly because of their relative macroeconomic stability, we find that high domestic saving supports high domestic investment in East Asia and vice versa

in the other EME regions and that the depth of external finance (financial deepening) would also support high investment in East Asia than elsewhere. In Section 4, based on revised estimates following SNA2008, we first ensure the relative importance of capital accumulation against TFP growth across economies. Then, reviewing the long-term performance of productivity growth across economies, we ensure that income convergence is not a rule, but an exception, being limited to mostly EMEs in East Asia.

Finally, in Section 5, we discuss the implication of this exceptional income convergence of East Asia for their welfare. While income growth concerns with only output flows, basic microeconomics tells us that welfare can be measured not by output, but by consumption and leisure attained by output (and wealth), implying a possible gap between income and welfare. Indeed we find the possible trade-off between them particularly in the case of East Asia, whose high income growth has been underpinned by active capital accumulation. Some general remarks conclude the paper.

II. Financial integration and macroeconomic stabilization

Most of business cycles since the 1980s have become based on financial factors in both AEs and EMEs. These *financial cycles* have been deeply involved with financial deepening (asset accumulation) and *financial globalization* (accumulation of external assets and liabilities).

Since the 1980s, financial liberalization and capital account liberalization have become a policy mantra, driving financial globalization and financial cycles in the world. This line of policy thoughts also leads to a combination of politically independent monetary policy authorities and their less discretionary policy operations such as inflation targeting (IT)²,

² Inflation targeting was first adopted by New Zealand in 1990, then followed by some advanced economies. Since the latter half of the 1990s, EMEs in Central Europe and Latin

pushing monetary policy on the central stage for macroeconomic stabilization.

The mantra plus IT could not avoid bubble bursts in asset markets, though. Since the Asian Financial Crisis (AFC) in 1997, emerging market economies in Asia gave up virtual US dollar pegs and accepted recommended policy packages including flexible exchange rates, financial and capital account liberalization. Nevertheless, volatile global capital flows have kept annoying their macroeconomic stabilization and eventually led to the GFC.

In the AFC, Asian EMEs experienced nightmarish real adjustments by a sudden stop and a reversal of global capital flows. By contrast, in the GFC, capital reversals were limited and real adjustments were short-lived, compared with advanced economies. Where does this difference come from? A lot of debates followed. Popular main stream view is that “their improved performance is explained by both good policies and a lower incidence of external and domestic shocks. (IMF (2012))” Here, good policies include inflation targeting and flexible exchange rates, but not financial openness nor compositions of capital inflows.

A naive view such that global financial integration is beneficial to economic growth and development in EMEs had prevailed even after AFC (as in Fischer (2003)). But, empirical studies so far have uncovered that we could not find robust results showing positive contributions of capital account liberalization to economic growth (e.g. Kose et al. (2006)) and that high-productivity growth economies tend not to rely on foreign capital, while it rather tends to flow into low productivity growth economies (e.g. Prasad et al. (2007), Gourinchas and Jeanne (2007))³.

America followed, and then in East Asia Thailand, Korea and Indonesia joined in the 2000s.

³ Furthermore, along with deepening financial integration, risk assets prices and flows have become covarying with such global factors as those in US financial markets. In other words, booms and busts in US affect business cycles in the rest of the world including EMEs significantly, so that, once investors getting bearish or risk-off in the US financial markets, there would be capital reversals (Rey (2018)).

1. Financial integration and monetary policy regimes

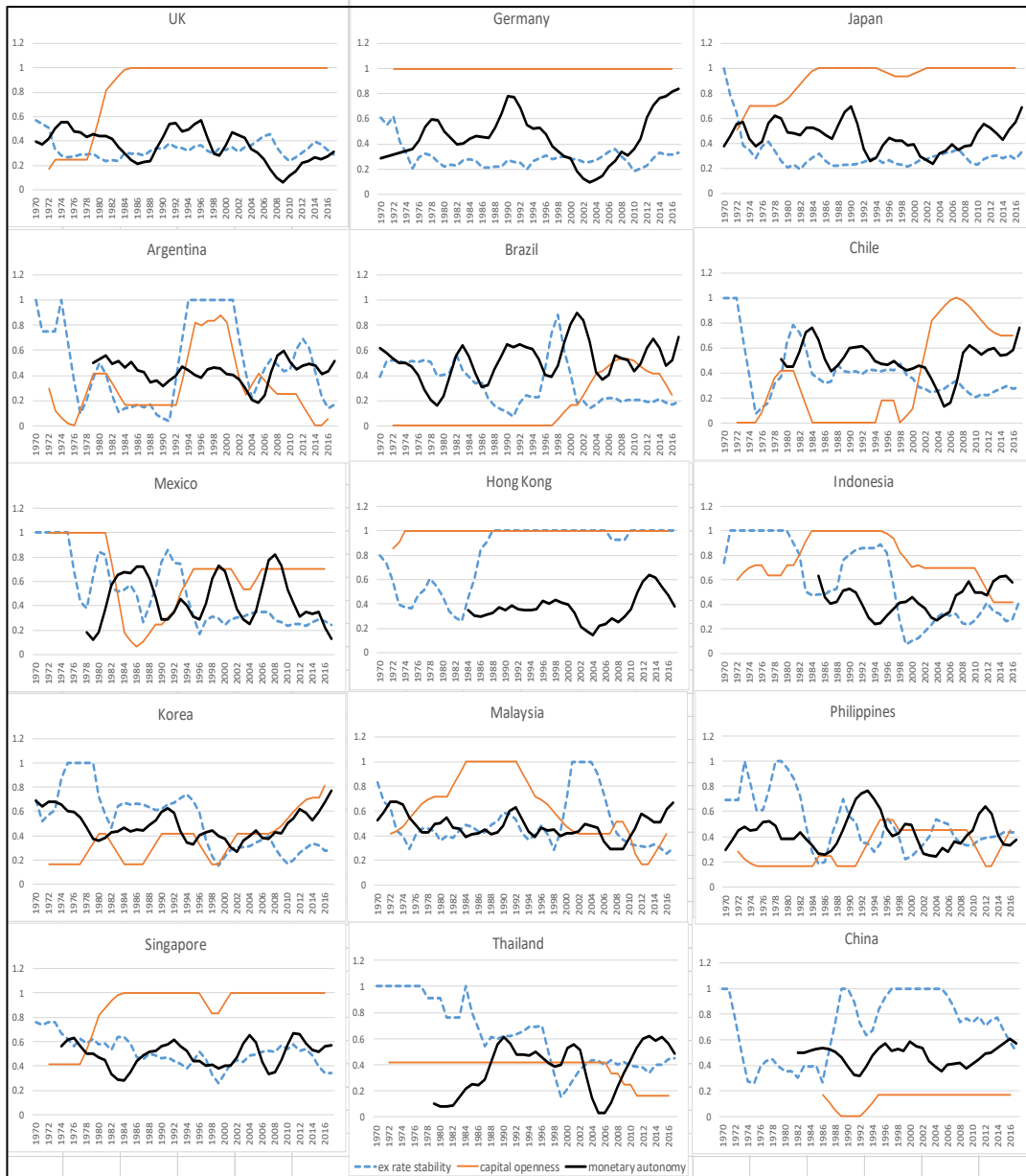
Economic activities often fluctuate in the short run and deviate from their long-run growth paths. Policy authorities try to minimize these business cycles using various macroeconomic stabilization policies. Monetary policy has become the most important tool. Open economies require smooth international transactions for goods and services as well as financial assets and liabilities, for which their higher mobility and stable exchange rates play central roles. Interest rates, being main instruments of monetary policy, are interdependent with capital mobility and exchange rates. Thus, their combination constitutes a *monetary policy regime* for macroeconomic stabilization in an open economy.

With domestic and foreign interest rates as R and R^* , respectively, and current and future expected exchange rates as E and E^* , respectively, expected returns on domestic and foreign assets should become equal through arbitrage if we assume that investors are risk neutral and capital movements are free, i.e.

$$1 + R = (E^*/E)(1 + R^*)$$

Under these conditions, fixed exchange rate regimes ($E = E^*$) enforce the domestic interest rate to be equal to the foreign interest rate, namely there would be no monetary autonomy in a small open economy. In other words, small economies must choose either flexible exchange rates under free capital mobility or fixed rates with capital controls. Furthermore, choosing monetary policy regimes, small open economies could attain only two targets among the three, i.e. a. monetary autonomy, b. free capital mobility (or capital openness) and c. exchange rate stability, which is called as *macroeconomic policy trilemma*.

In the transition from the Bretton Woods regime to the generalized float in the early 1970s, AEs shifted from the combination of (a + c) to (a + b). EMEs in East Asia, however, had virtually continued (a + c) until the AFC. Figure 2 shows time profiles of

Figure 2. Monetary policy regimes, 1970-2016 (3 trilemma measures, normalized as 0 to 1)

Note: Definitions of the three measures are given in the footnote 3, page 7.

Source: Chin and Ito (2008) (adapted from http://web.pdx.edu/~ito/trilemma_indexes.htm).

monetary policy regimes over the trilemma across selected economies for the period of 1970-2017 from the database provided by Chinn and Ito (2008), where the degree of attainment of each target is normalized as

between 0 and 1.⁴ Japan, for example, reduced exchange rate stability to 0.2-0.3 since the 1970s and

⁴ Monetary autonomy is measured as the reciprocal of the annual correlation between the monthly interest

increased capital openness up to 1 by the 1980s, while holding monetary autonomy at around 0.4, which is a typical pattern of advanced economies except those in the Euro zone (and the United States).

In East Asia, Hong Kong and Singapore liberalized capital accounts by the 1990s, while Hong Kong is unique in that it has held both a fixed exchange rate regime and monetary autonomy. Indonesia, Malaysia, Philippines and Thailand (ASEAN4) suffered from sharp exchange rate depreciation in the AFC and were compelled to abandon virtual fixed exchange rate regimes. But gradually since then they returned to managed float regimes with significant interventions in foreign exchange markets, strengthened capital controls and held monetary autonomy. Korea, experiencing similar exchange rate depreciation in the AFC, opened up capital accounts and held monetary autonomy with flexible exchange rates, apparently pursuing for a monetary regime of advanced economies' type. China shifted from fixed exchange rates to managed float with capital controls just like in ASEAN4.

EMEs in Latin America began opening up capital accounts in the 1990s, but they became cautious since the GFC, strengthening capital controls. With their historical records of macroeconomic instability, monetary regime choices constitute particularly difficult policy agenda there.

2. Exchange rate stability

Autonomous monetary policy plays a major role in macroeconomic stabilization. Particularly, the recent mainstream view on economic policy recommends a rule-based policy management such as inflation

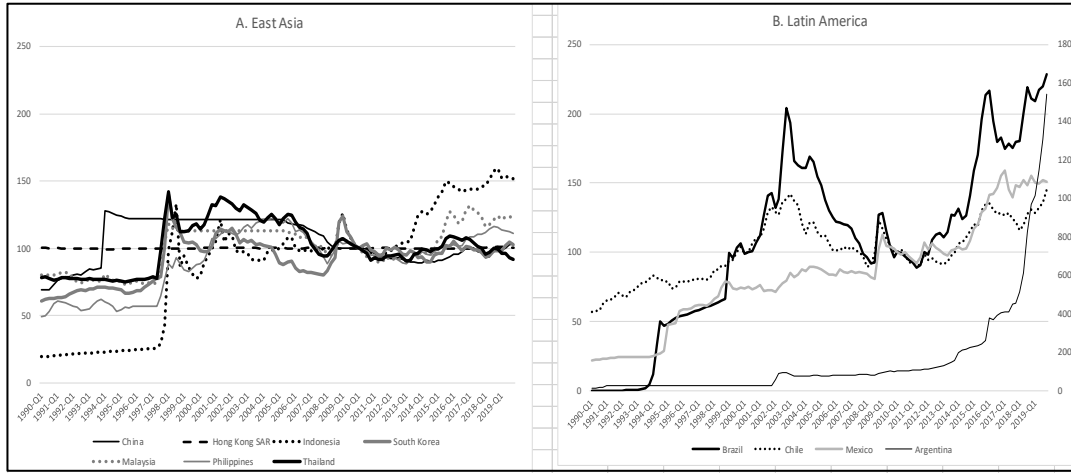
rates of the home country and the base country, capital openness as the first standardized principal component of the variables that indicate the presence of multiple exchange rates, restrictions on current account transactions, on capital account transactions, and the requirement of the surrender of export proceeds, based on the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) and exchange rate stability as annual standard deviations of the monthly exchange rate between the home country and the base country.

targeting (IT) by independent monetary authorities. Along with the shift to flexible exchange rates with open capital accounts, price stability supported by IT is expected to play an anchor role for stabilization.

Along with global economic integration, however, macroeconomic stabilization of small open economies cannot be sustained by focusing only domestic price stability. Particularly, exchange rates are determined by international capital flows, not by trade flows anymore, and their variabilities change relative prices of goods and services traded as well as of financial assets and liabilities traded, thereby significantly affecting macroeconomic stability. In this sense, exchange rate stability is as important as domestic price stability as a policy target and perhaps more important than open capital accounts. In fact, there seems to be some evidence that inflation targeting EMEs pursue not only for Taylor type rules, but for exchange rate stability (Ostry et al. (2012)). These policy authorities tried to maintain some desirable exchange rate levels and/or their bands, resulting in foreign exchange reserve accumulation⁵.

Figure 3 compares EMEs' exchange rates against the US dollar between East Asia and Latin America since the 1990s. In East Asia, while their virtually fixed exchange rates depreciated by more than 50% in the AFC (1997-1998), they remained relatively stable between 75% and 125% except for Indonesia since then. By contrast, in Latin America, with large scale depreciations being repeated in 1994, 2002, 2014 and 2017, there seems no symptom of exchange rate stability. It should be noted that large scale depreciation against the US dollar led to huge macroeconomic income loss to indebted EMEs in both regions, through servicing dollar-denominated external debt. The fact is that two thirds of international debt is US dollar denominated. This dominance of the US dollar as a vehicle currency is not only in financial markets, though.

⁵ Reserve accumulation in East Asia since the AFC was astounding as compared to the other EME regions. Two motives are often discussed, i.e. precautionary demand against potential currency crises (Jeanne (2007)), and mercantilism to avoid currency appreciation (Aizenman et al. (2011)).

Figure 3. Nominal exchange rates against the US dollar, 1990-2019 (2010Q1=100)

Source: Adapted from BIS(n.d.).

Proposing “dominant currency paradigm”, Gopinath et al. (2021) summarized factual observations as: 1) the vast majority of trade is invoiced in a small number of “dominant currencies,” particularly the US dollar and their prices are sticky or infrequently changed in these currencies, 2) exporters price in markets characterized by strategic complementarities in pricing, generating variations in desired markups, and, 3) most exporting firms employ imported inputs in production, reducing the value-added content of exports.

Based on these observations, using a newly constructed bilateral trade database among more than 50 pairs of economies, they showed empirically: first, for non-US countries, exchange rate pass-through into import prices (in home currency) is high and driven by the dollar exchange rate, not by the bilateral exchange rate, and second, import quantities are also affected by the dollar exchange rate, not by the bilateral exchange rate.

This dominance of the US dollar in trade invoicing suggests an asymmetrically strong impact of changes in US dollar exchange rates on domestic inflation of a small open economy through international trade. Despite this strong real impact of exchange rate changes, however, exchange rates are dominantly determined by asset trade, not by goods trade, simply

because the former overwhelms the latter in volume.

As is well known and well proved by the AFC or the GFC even in the recent past, asset trade occasionally suffers from fundamental volatility due to imperfect and/or asymmetric information problems intrinsic to capital markets. Even in advanced economies (AEs) with developed financial systems, new macro-prudential policies are pursued for better coordination with macroeconomic stability.

As we will discuss later, EMEs with relatively underdeveloped financial systems need to be more cautious than AEs against volatile international capital flows, because EMEs constitute marginal opportunities to international investors and more vulnerable to market volatilities as illustrated well by large and frequent exchange rate depreciations in the past few decades.

Through the experiences of a series of financial crises and capital reversals, most of EMEs in East Asia eventually chose to rely on heterodox policy tools such as managed float and capital controls (Forbes et al. (2015)). Against the conventional wisdom of corner solutions of the trilemma, i.e. flexible exchange rates and open capital account, they chose inner solutions (Obstfeld et al. (2015)). After all, capital openness is not a goal, but just a means to attain macroeconomic

stability in EMEs. Given the importance of dollar exchange rate stability for macroeconomic stabilization, East Asian EMEs appear to prioritize medium-run dollar exchange rate stability using both foreign exchange market intervention and capital controls, which seems more reasonable choice than the conventional wisdom of free float and open capital account.

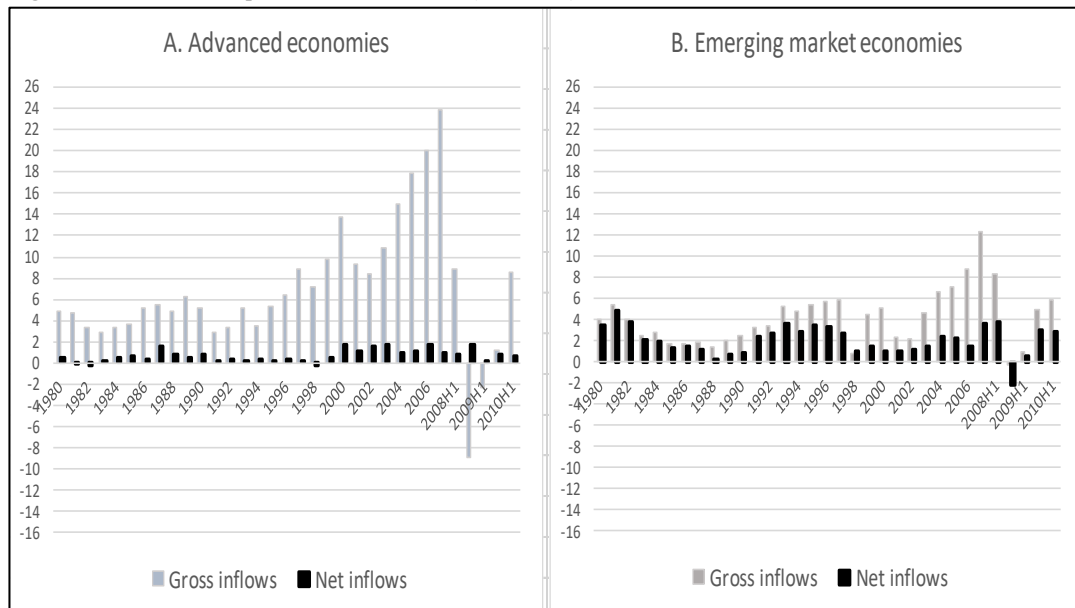
III. Capital flow dynamics and external positions

International capital flows to EMEs have been many policy authorities' concerns. The GFC in 2008 showed that sudden stops of capital flows are not trademarks of EMEs (Milesi-Ferretti and Tille (2010)).

Surges and reversals of capital flows occurred in AEs and spilled over to EMEs in the GFC, while aftershocks in EMEs were smaller and shorter than in AEs.

As put that “International capital flows have been on an unprecedented roller-coaster ride in recent years. (IMF (2011, p. 125)”, gross inflows increased from 10% of GDP (2002) to 25% (2007) and dropped to -10%, and recovered to 10% over a few years in AEs (Figure 4). They increased from 2.5 to 12.5%, dropped to 0% and recovered. In contrast to gross inflows, variabilities of net inflows (= gross inflows – gross outflows) were larger in EMEs than in AEs. This is because gross inflows are more offset by gross outflows in AEs than in EMEs, while the difference or comovements between the two has become smaller in the 2000s, though.

Figure 4. Gross and net capital inflows, 1980-2010 (% of GDP)



Source: IMF(2011).

This section reviews the dynamics of gross capital inflows in EMEs since the 1990s by region as well as by types of capital. Prior studies in this field tend to treat EMEs as a group and foreign capital flows as an

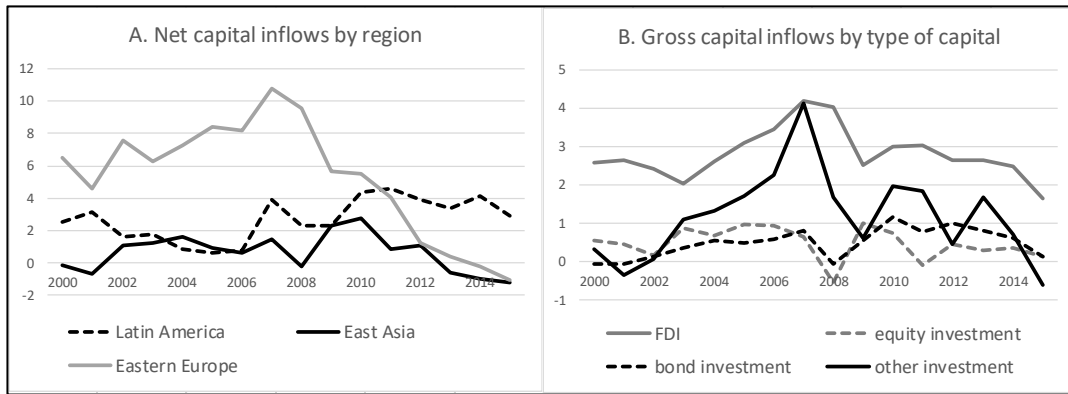
aggregate (Koepke (2015) and Davis and Wincoop (2017, 2019)), which often masks significant differences in their dynamics. We will discuss how these significant differences are associated with different

roles played by domestic and global policies and other factors.

We can glimpse at heterogeneous dynamics of capital flows by looking at Figure 5. While we see no trend in aggregate net capital inflows in EMEs (Figure 4), Panel A illustrates that regional trends canceled out each other between those in Europe and Latin America. Panel B also illustrates differential dynamics among disaggregated types of gross capital inflows, i.e. FDI,

bond and equity investments and other investments. To emphasize regional heterogeneities, in the following, we select relatively large EMEs representative to three regions, i.e. 7 EMEs from East Asia (China, India, Indonesia, Korea, Malaysia, Philippines, Thailand or EA7), 5 from Europe (Czech, Hungary, Poland, Slovakia, Turkey or EE5) and 5 from Latin America (Argentina, Brazil, Chile, Colombia, Mexico or LA5).

Figure 5. Gross and net capital inflows in emerging market economies by region and by type of capital, 2000-2015 (% of GDP)



Source: Adapted from IMF(2016).

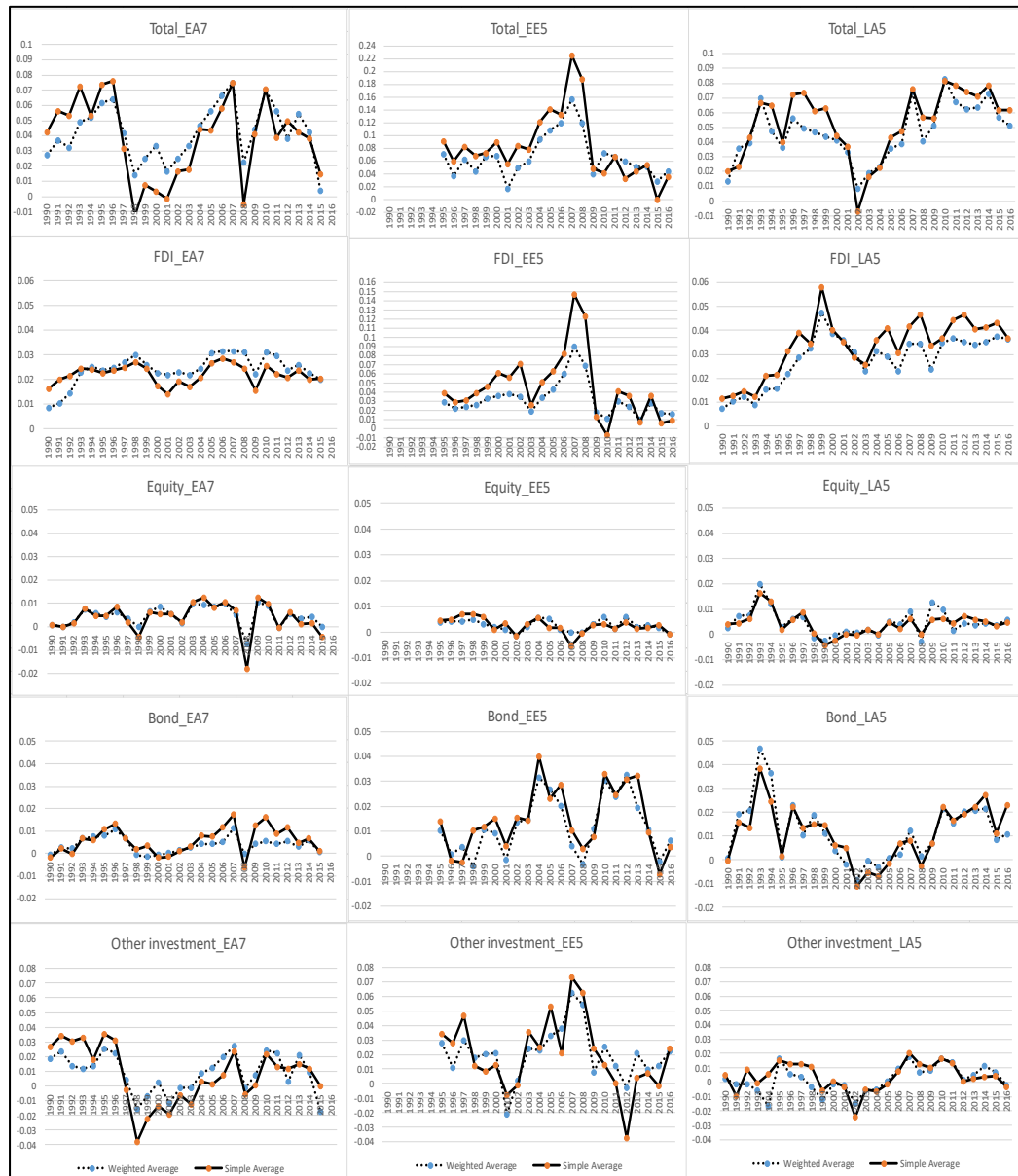
In Figure 6, total gross capital inflows to EMEs show large swings in the medium run at different timings across regions (the top row), where solid lines are for simple regional averages and dotted lines for GDP-weighted averages (similarly, hereafter, unless otherwise noted). Total gross capital inflows to EA7 sharply dropped in the AFC and the GFC, where slow post-AFC recovery and quick post-GFC recovery are contrasting. Those inflows to LA5 sharply dropped in the dot-com bubble in 2000-2001, but not so much in the GFC. Those to EE5 sharply rose and then sharply dropped, before and after the GFC, respectively, and remained low.

From the 2nd to the 5th rows of Figure 6 show dynamics of four types of gross capital inflows, i.e. FDI, equity investments, bond investments and other investments across regions. FDI is the largest among the 4 types across regions, but their dynamic patterns

are distinctly different, being rather stable at 2-3% of GDP since the 1990s in EA7, swinging hard in EE5 and being higher and stable at 3-4% of GDP since the 2000s in LA5. Medium-run swings are dominated by other investments in EA7, by FDI in EE5 and by bond investments in LA5. Equity investments are minor in size and play little role in swings across regions.

To summarize, sizes and dynamic patterns of gross capital inflows to EMEs are heterogeneous across regions. Moreover, sizes and dynamic patterns of their components or types of capital are also heterogeneous. We can also show similar heterogeneity in gross capital outflows from EMEs across regions and across capital types (Enya et al. (2019)). Therefore, to discuss causes and effects of capital flows in EMEs, it is neither appropriate nor realistic to assume EMEs as a set of homogeneous, typical emerging market economies.

Figure 6. Gross capital inflows to EMEs by region and type, 1990-2016 (% of GDP)



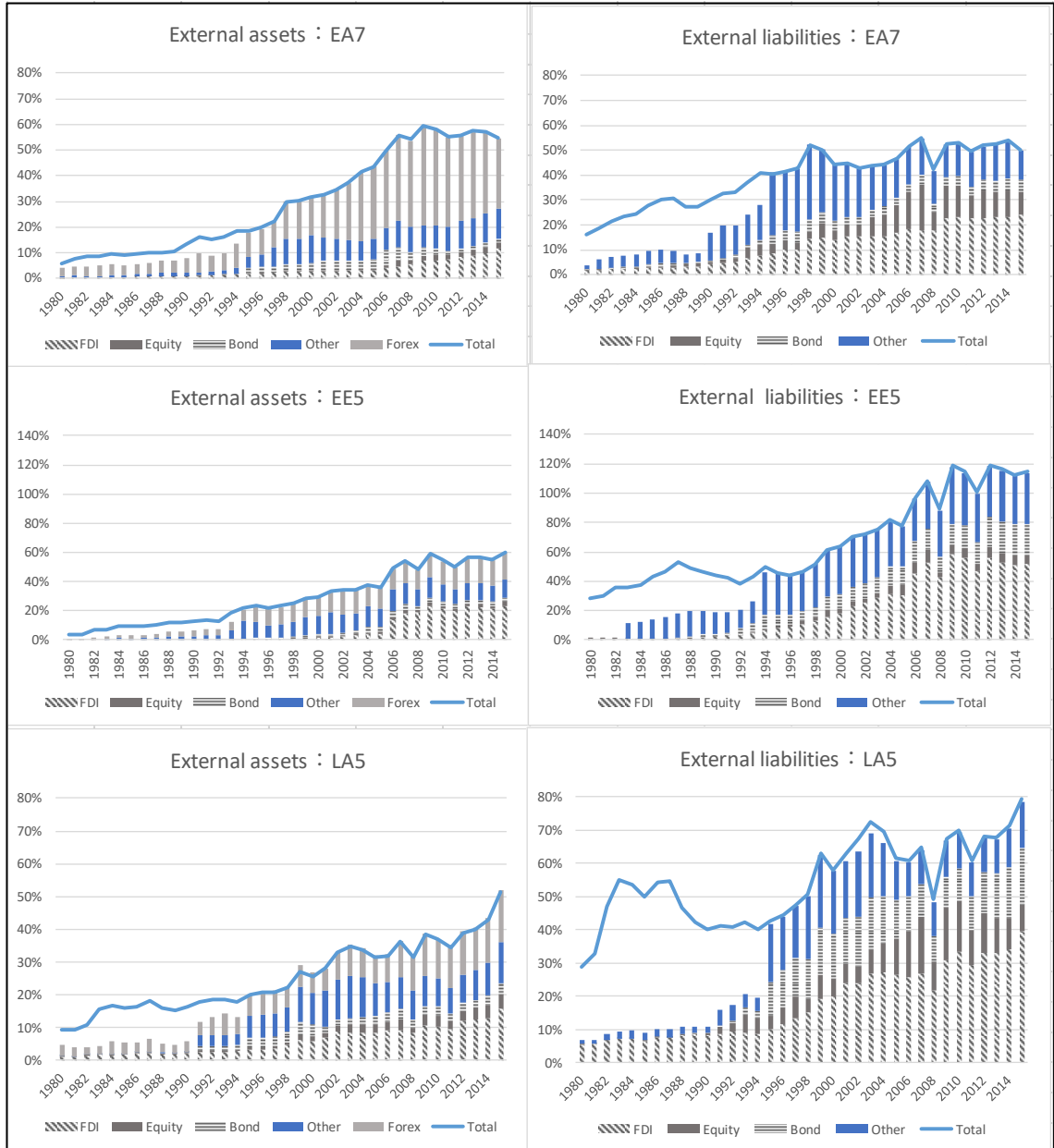
Source: Enya, Kohsaka and Sugimoto (2019) (adapted from IMF(n.d.)).

1. External assets and liabilities

Capital flows change outstanding amounts of external assets and liabilities and their components, which affects capital flows, too. As such, EMEs have become increasingly involved with global asset trade and integrated to the international financial market. In

this section, based on the database by Lane and Milesi-Ferretti (2007), sizes and compositions of external assets and liabilities of EMEs across regions are examined for the period of 1980-2015. As the results of heterogeneous capital flows, the sizes and compositions of external assets and liabilities show contrasting differences across regions (Figure 7).

Figure 7. External assets and liabilities of EMEs by region and type, 1980-2015 (% of GDP)



Source: Enya, Kohsaka and Sugimoto (2019) (adapted from External Wealth of Nations database by Lane and Milesi-Ferretti (2007)).

External liabilities of EA7 steadily increased in the 1990s, but remain mostly stable at about 50% of GDP since the 2000s. By contrast, those of EE5 showed a strong upward trend since the mid-1990s, starting from 50% of GDP, exceeded 100% before the GFC and maintain 120% by 2015, which is more than two times

as large as those of EA7. Those of LA5 kept its upward trend up to the early 2000s, but remain at about 70% of GDP since then.

The apparent stability of external liabilities of EA7 is associated with significant changes in their compositions. FDI increased steadily from 10% of

GDP to more than 25%, equity investment increased from 5% and remained at 10%. Decreased was other investments, from larger than 30% before AFC to 10% before the GFC, remaining there since then. To summarize, in EA7, the composition of external liabilities clearly shifted after the AFC from debt liabilities (bond/ other investments) to non-debt liabilities (FDI and equity investment).

External assets (including official foreign exchange reserves) of EA7 steadily increased from 10% of GDP in the early 1990s to higher than 50% at the GFC and remain stable since then. Foreign reserves cumulated up to more than 30% of GDP, resulting from foreign exchange market interventions to stabilize exchange rates or to fend off appreciation. Consequently, EA7 has become net creditor economies, where external assets exceed external liabilities. The largest component of external assets excluding foreign reserves is FDI, which cumulated monotonically from 3% of GDP to 10%.

External liabilities of EE5 had a strong upward trend until GFC, mainly due to an explosive increase in FDI from 30% of GDP to more than 50% in the 2000s. The second contributor is other investments at 30% of GDP, while equity investments contributed to a limited extent. The accumulation of external assets in EE5 is slower than in EA7, mostly through FDI. Consequently, their net external liabilities expanded from 30% of GDP (2001) to 50% (2015).

The accumulation of external liabilities in LA5 is a pure mix of all four types of capital. FDI mostly contributed to its long-term trend, while equity investments increased up to GFC, dropped and then are recovering slowly. The upward trend of external assets in LA5 is weaker than in the other regions, with slow accumulation of all the types of capital. Consequently, their net external liabilities position remains unvaried.

Table 1 summarizes external assets and liabilities positions of the three EME regions after the GFC. EA7 is distinct from the other regions in terms of the size of the total external liabilities, the share of non-debt liabilities within the total, and the size and sign of the net external liabilities. Their total external liabilities remain at 50% of GDP (as opposed to 114% in EE5), their share of non-debt liabilities in the total at 34% (58% in EE5), and their net liabilities at - 4% (55% in EE5). In other words, the Table highlights the fact that EA7 successfully construct a resilient portfolio of external assets and liabilities to cope with global financial volatility as compared to the other two regions. It should be noted that this is nothing but the outcome of deliberate policy choices including capital controls and other macro-prudential measures outside the supervision of international advisors. To repeat, these policy choices are meant to minimize the cost of macroeconomic instability due to volatile capital flows.

Table 1. Composition of external assets and liabilities by region and group (% of GDP)

region/ group end of year	EA7		EE5		LA5		G7	
	2007	2015	2007	2015	2007	2015	2007	2015
Total liabilities	55	50	108	114	64	79	175	183
Debt liabilities	19	16	46	56	20	31	116	112
Non-Debt liabilities	36	34	61	58	44	47	59	70
Total assets	56	54	54	59	36	52	175	171
Debt assets	15	13	18	15	13	16	96	82
Non-Debt assets	7	14	21	26	13	20	75	84
Foreign exchange reserves	33	27	14	18	11	16	4	5
Net external liabilities	-1	-4	54	55	28	27	0	12
Sum of external assets and liabilities	110	104	161	173	100	131	350	353

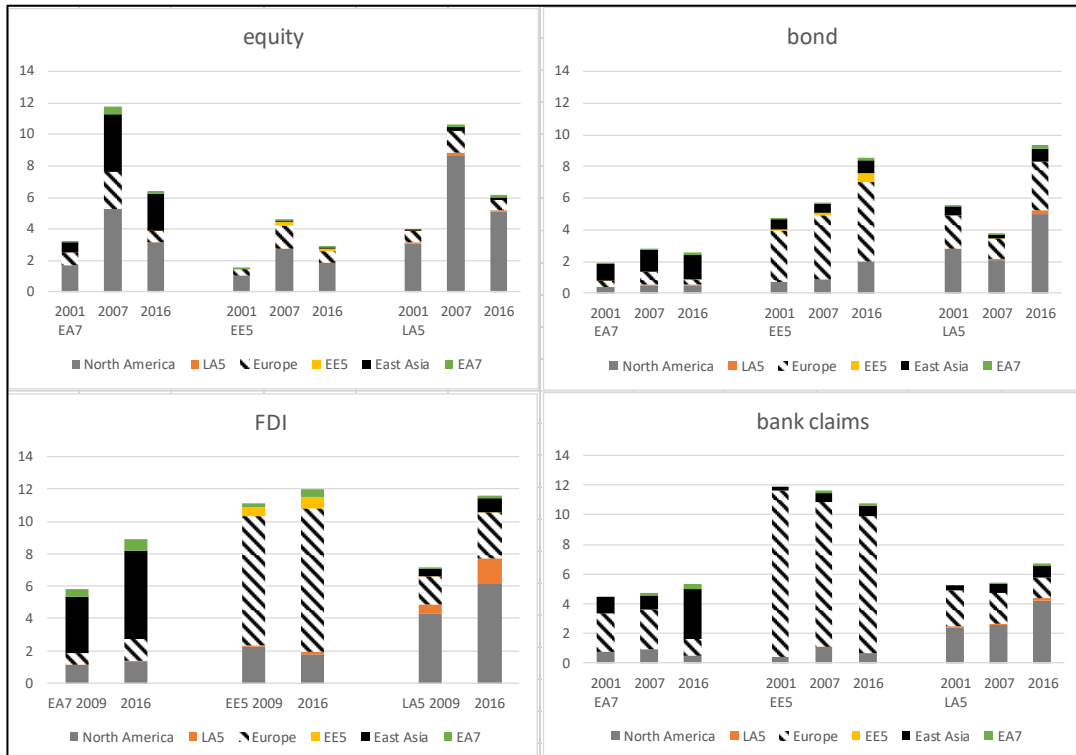
Source: Enya, Kohsaka and Sugimoto (2019) (adapted from Lane and Milesi-Ferretti (2017)).

So far, we focused on the heterogeneities of EMEs, particularly how they were integrated to the international financial market, how they formed macroeconomic policy regimes and how their domestic financial systems developed. We must also point out the fact that international investors are also far from homogeneous. As a matter of fact, we can see strong regional biases in international investments into EMEs. In other words, EMEs are integrated to the international financial market not at all uniformly, but with strong regional biases.

Figure 8 shows the size and composition of financial integration of EMEs to the international financial market by host and investor regions. For equity investment, North America (Canada and US) is

a major investor across the three EME regions, while East Asia (ANIEs and Japan) and Europe (European AEs) are second major investors in EA7 and EE5, respectively. For bond investment, regional biases are clear, e. g. East Asia investors to EA7, Europe to EE5 and North America and Europe to LA5. For bank claims, Europe used to be a major player even in EA7 until the GFC, but not any longer, while it remains a dominant player to EE5. Finally, for FDI, we see strong regional biases similar to the case of bond investment. To sum, investors in East Asia, Europe and North America show strong preferences toward their proximate EME regions except for US equity investors.

Figure 8. External liabilities of EMEs by region, type and investor, 2001, 2007,2016 (% of regional GDP)



Source: Enya, Kohsaka and Sugimoto (2019) (adapted from External Wealth of Nations database by Lane and Milesi-Ferretti (2007)).

IV. Financial integration and growth finance

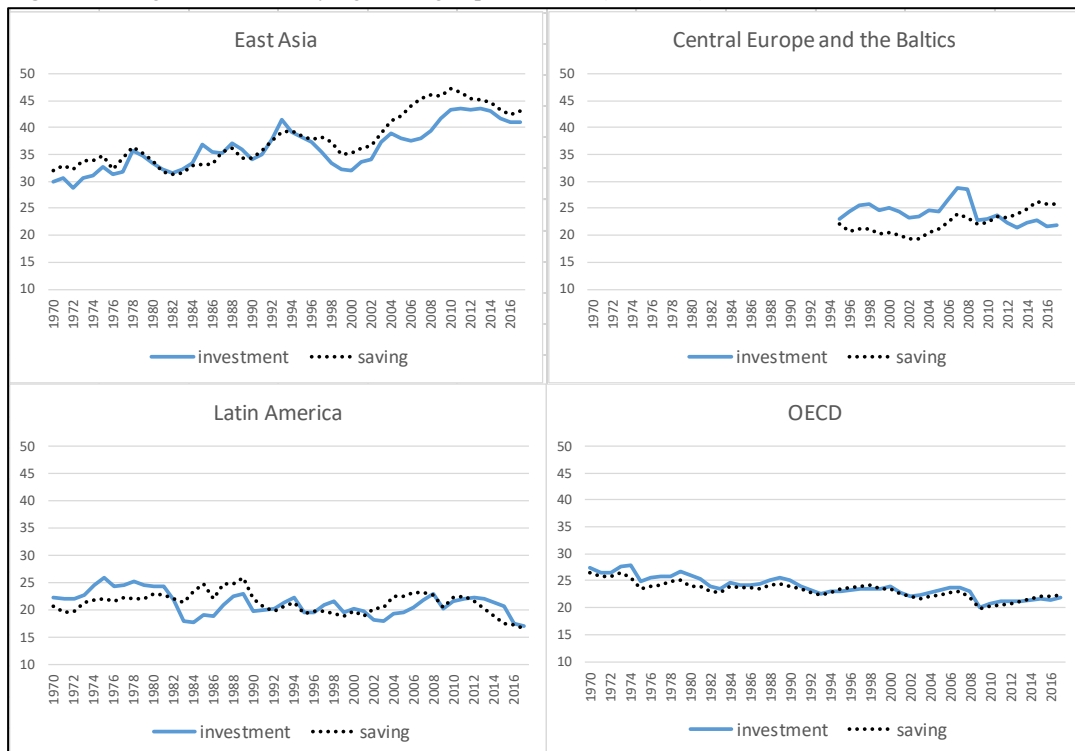
1. Saving-Investment balances

Now we move on to how foreign capital flows are linked to growth finance. One of the benefits of financial integration comes from intertemporal trade, which enables foreign savings to finance domestic investment opportunities through the global financial market. In other words, domestic investment is not constrained by domestic savings anymore, so that current accounts of the balance of payments need not to be balanced.

We first assess to what extent foreign savings play a role of growth finance to support domestic investment.

Figure 9 shows the ratios of domestic savings and investment to GDP in OECD and EMEs in East Asia, Central and Eastern Europe (CEE) and Latin America (LA) for the period of 1970-2017. Contrasting to OECD where both ratios slowed down gradually from 30% to 20% of GDP, the ratios in East Asia show upward trends from 30% to 40% of GDP until the AFC, stagnated for a decade, and then savings recovered more strongly than investment, so that their current accounts (= saving-investment gaps) stayed significantly positive since the 2000s. Specifically, both ratios are more than 40% of GDP with savings being larger than investment, which means that their domestic investments need not rely on foreign savings at least on the net basis.

Figure 9. Saving and investment by region and group, 1970-2016 (% of GDP)



Source: Adapted from World Bank(n.d.)

EMEs in CEE and LA appear similar to each other, but contrasting to East Asia. Investment ratios often

exceeded savings, suggesting that domestic investment needs foreign savings. These ratios are mostly less than

25% of GDP, which is comparable to those of OECD. In other words, looking at EMEs as a whole, CEE and LA are not exceptional, but East Asia is.

1. Depth of domestic financial systems and growth finance

Next we examine how these domestic savings are used to finance domestic investment, by looking at stock figures, not flows. Generally, investment is financed through internal finance such as retained earnings and external finance such as loans and bond and/or stock issuance. Since investment information is thought to be more imperfect and asymmetric in EMEs than in AEs partly due to the degree of institutional developments, financial intermediaries (banks) instead of capital markets play a major role in external finance in EMEs. In fact, it is only after EME financial crises in the 1980s and the 1990s when the role of securities markets is focused as an alternative channel of external finance.

Again, generally, firms choose as financing instruments, by the ascending order of financing costs, i.e. first, internal finance as retained earnings, and then, among external finance, indirect finance such as loans from related firms, inter-firm loans, and bank loans in non-open markets, and finally, direct finance such as corporate bonds and stocks issuance in open markets. In other words, the capital market is the lender of last resort to firms facing with internal finance constraints. In fact, the role of finance in economic development has been regarded as an issue of external finance of deficit sectors or firms. Development of corporate stock markets was driven by large scale financing needs of industrialization in present AEs, while postwar rapid growth of Japan and industrialization of Korea and Taiwan were supported by policy finance as well as indirect finance.

As opposed to in northeast Asia, in southeast Asia such as Malaysia and Thailand, commercial and trade finance developed earlier than industrial finance,

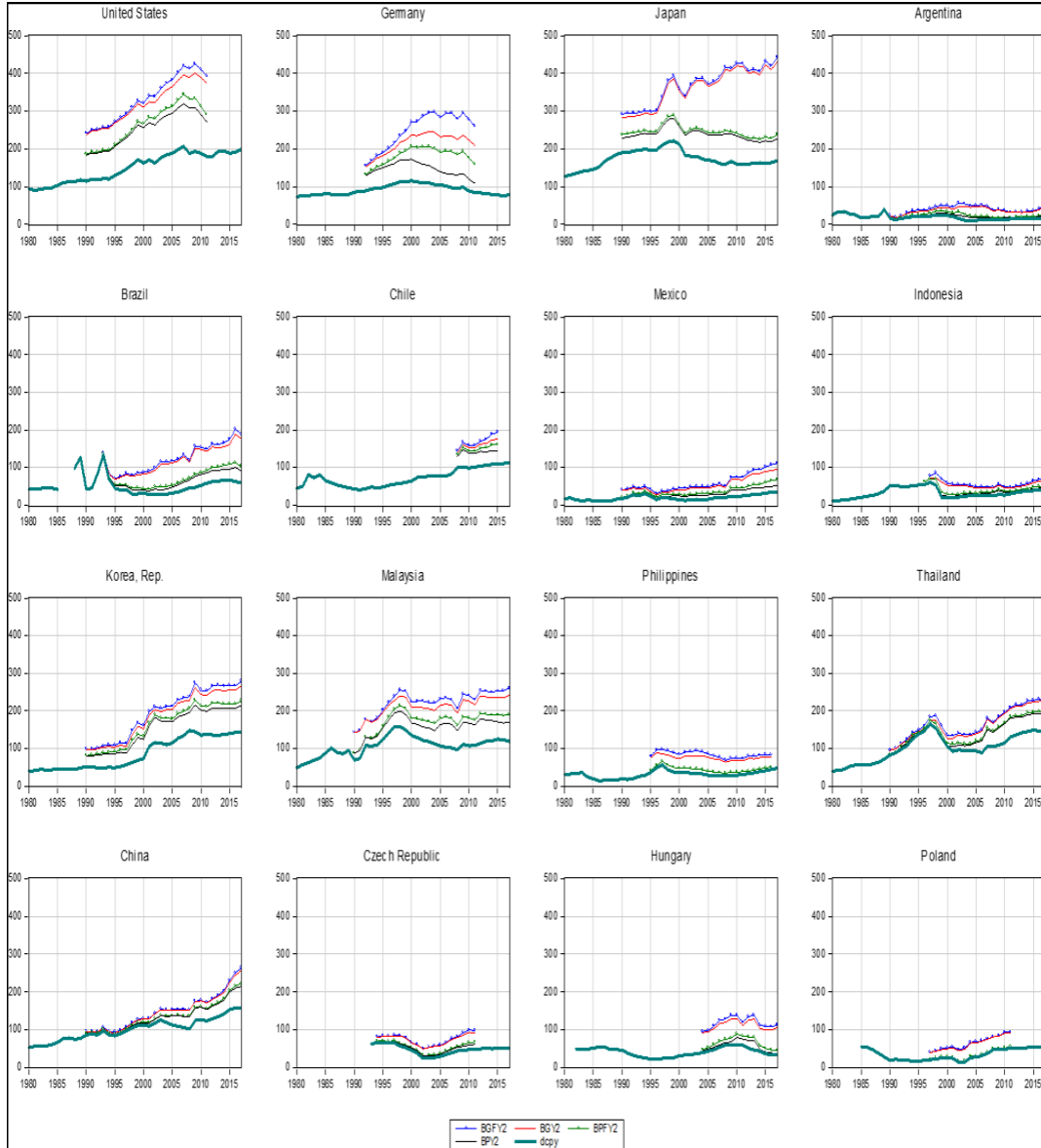
which started late and multinational corporations rather than governments played more important roles (Kohsaka (2015)). Under these initial conditions, firms relied more on internal finance among conglomerates or related firms and less on external finance, which consists mostly of financial intermediaries with the capital market playing only complementary and limited roles.

Figure 10 based on World Bank's Global Financial Development Database (GFDD) shows the size of external finance in selected AEs and EMEs in East Asia and Latin America, which covers both private sector's external finance (credit on private sector, domestic and overseas bond issuance) and public sector's finance (domestic and overseas bond issuance). While private external finance relative to GDP shows more or less upward trends across economies, their levels are wide spread between AEs and EMEs as well as among EMEs. While private credit exceeded 100% of GDP by the 1980s in AEs, it exceeded GDP by the 2000s only in China, Korea, Malaysia and Thailand and the other EMEs, particularly those in Europe and Latin America, are far behind even in the 2010s.

Furthermore, looking at Indonesia, Malaysia and Thailand, private credits stagnated and were hardly substituted by private bonds, partly because substantial parts of domestic savings are intermediated to the public sector through public bond issuance. As another notable fact, corporate savings have increased since the 2000s in some EMEs as well as in AEs (IMF (2006), Bates et al. (2009) and Bayoumi et al. (2010)). Particularly in China and Korea, contrasting to falling domestic savings, we see strong increases in corporate savings through squeezing dividends and accumulating retained earnings.

In this section, we ensured that EMEs in East Asia have less relied on foreign savings for domestic investment as compared to EMEs in the other regions and less relied on external finance as compared to AEs, although East Asia is financially more developed than the other EME regions.

Figure 10. Sizes of financial intermediation, selected economies, 1980-2017 (% of GDP)



Note: The size of financial intermediation is cumulated as: from the bottom, 1) domestic credit to private sector, 2) private bond issuance (domestic), 3) private bond issuance overseas, 4) public bond issuance (domestic), 5) public bond issuance overseas.

Source: Adapted from World Bank(n.d.).

V. Capital accumulation and productivity growth

The fact that investment is mainly financed internally is not unusual in East Asia, though. Even in

the United States, most of nonfinancial firms' gross investments are financed internally, and only less than 20% of them are externally financed, most of which are debt, i.e. loans and bond issuance (Myers

(2001))⁶. In this section, we discuss how these relatively domestically and internally financed domestic investments contribute to their economic growth.

According to the conventional view of economic growth, accumulation of production factors such as labor and capital is necessary for growth, but, since marginal productivities of these factors are falling under diminishing returns, significant long-run economic growth cannot be sustained without total factor productivity growth (TFP). This had appeared to hold for AEs including postwar Germany and Japan. Specifically, some argued that East Asian Miracle in the 1980s and early 1990s were based on extremely high investment ratio or factor accumulation without TFP growth, therefore not sustainable (e.g. Krugman (1994)).

Recent revisions of GDP based on SNA2008 (United Nations (2009)) restructured factor inputs in value added production. They disaggregate labor inputs by skills on one hand and include capital input to intangible assets such as R&D, computer software, on-the-job training, etc. on the other, which are to enhance output capacity, but used to be deducted before as expenditures for intermediate inputs.

Jorgenson (2018) shows sources of economic growth in the United States, 1947-2012, by re-estimation based on SNA2008. It turned out: To this long-term annual average GDP growth of 3%, TFP growth of 0.6% contributed only by 20%, while capital accumulation of 1.7% contributed by 3 times as large as TFP growth. In other words, even in a technology frontier such as the United States, investment or capital deepening is the most important source of economic growth. Of course, this is not to deny the importance of TFP growth. But, we should note that SNA2008 just

narrows down “the degree of ignorance” part of TFP⁷.

International comparison of sources of economic growth based on SNA2008 is not straightforward, though. Because the revisions are not completed globally and input factor prices based on PPP are not available. We use Total Economy Database (TED) based on estimation by The Conference Board NY, which covers 128 economies since 1980. According to The Conference Board (2019), it shows that for the period of 2000-2007 (2010-2017, correspondingly hereafter) labor productivity growth of 2.9% (2.1%) consists of capital contribution of 1.7% (1.1%) and TFP of 0.5% (0.2%) in AEs, which is almost comparable to US in that capital contribution is significantly larger than TFP. Similarly, labor productivity growth of 6.1% (4.7%) in EME and developing economies consists of capital contribution of 3.3% (3.9%) and TFP of 1.6% (0.0%), which suggests that the relative contributions are comparable to AEs and their post-GFC growth is sustained largely by capital accumulation.

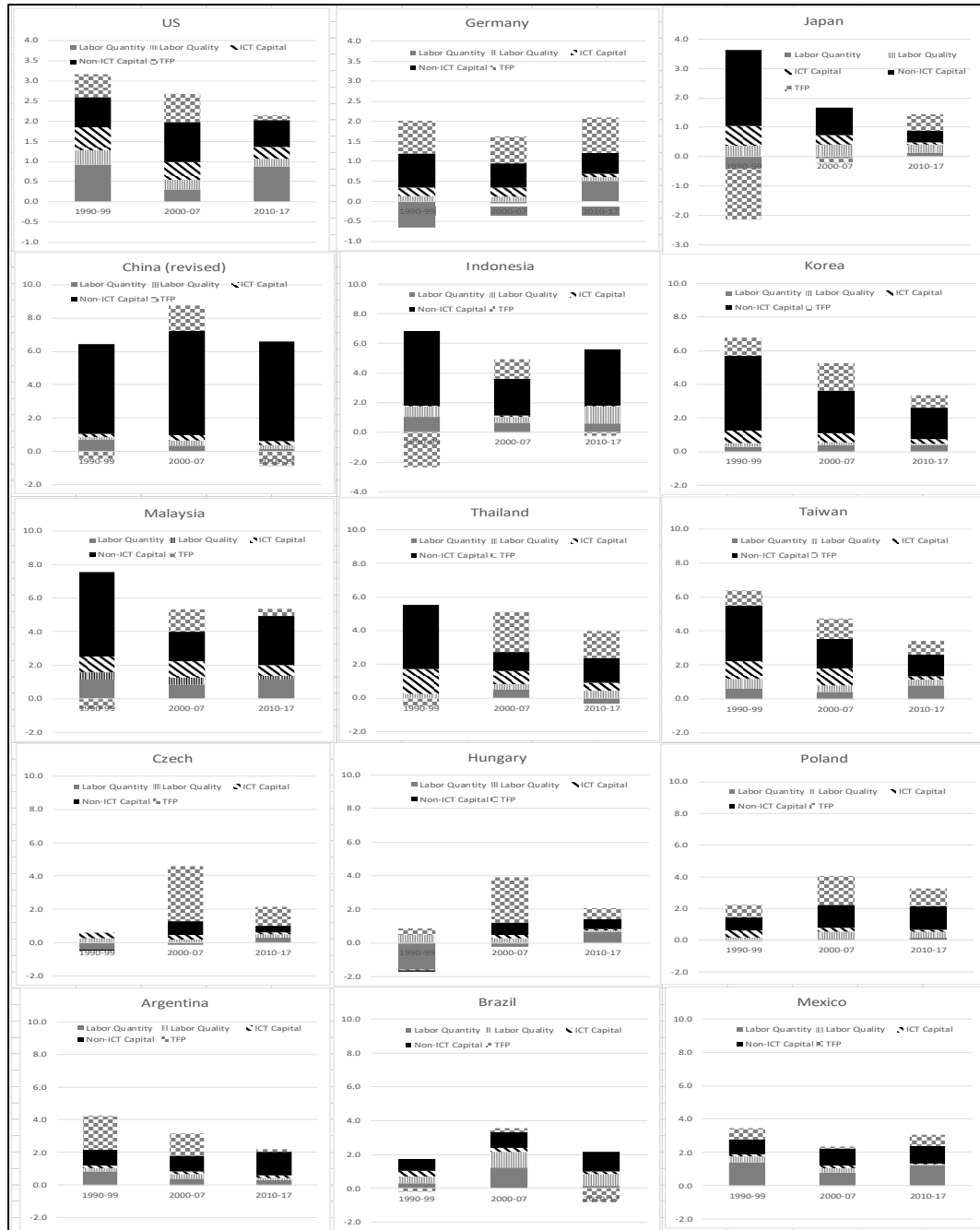
Figure 11 shows the sources of individual economies’ growth for the periods of 1990-1999, 2000-2007 and 2010-2017 by TED, where they disaggregate labor input into quality and quantity and capital input into ICT capital and non-ICT capital⁸. Overall, throughout economies and periods, we can ensure that non-ICT capital input contributes most to labor productivity growth. Specifically, in EMEs with higher productivity growth (mostly in East Asia), non-ICT capital is the largest contributor, followed by ICT-capital and TFP.

⁶ Nevertheless, developments of external finance (= financial development) have been regarded as promoting economic growth (Rajan and Zingales (1998), Chihak et al. (2013)), because financial development helps discovering investment opportunities, selecting, monitoring investment activities, and diversifying risks. In fact, the degree of financial development in AEs widely exceeded that of EMEs.

⁷ Since TFP growth is a productivity growth not explained by factor inputs, it is calculated as a residual from output growth due to factor inputs based on a specific production function which relates output and factor inputs. Thus, TFP growth depends on the specification of production functions, the measurement of factor inputs, and the degree of utilization of factor inputs. Therefore, we should note that it includes not only efficiency improvements due to pure technological advances and/or organizational changes, but also measurement errors and other miscellaneous disturbances. This is the reason for “the degree of ignorance”.

⁸ Here ICT refers to sectors of computers and of information and communication products, and non-ICT to the other sectors.

Figure 11. Sources of economic growth, selected economies, 1990-2017 (%)



Source: Adapted from The Conference Board(n.d.).

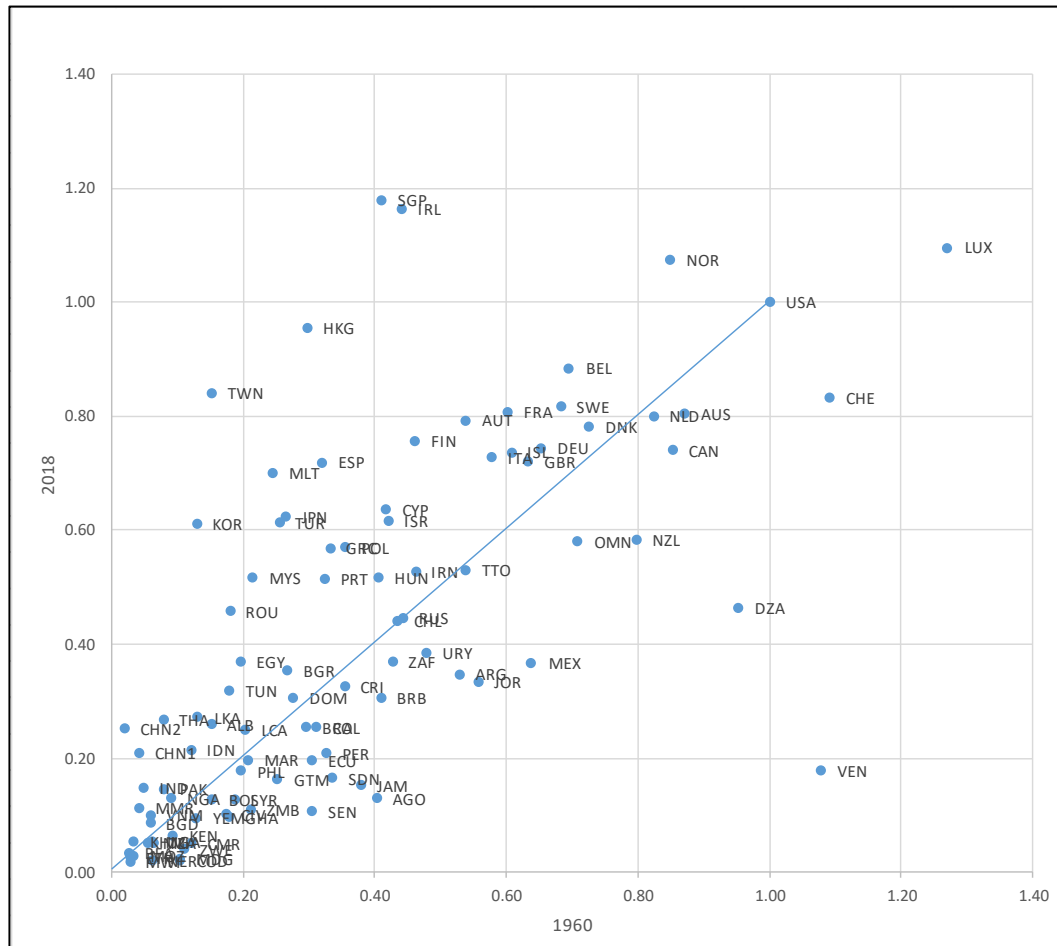
By contrast, in EMEs in Europe as well as Latin America, capital's contribution is smaller than TFP's, resulting in modest productivity growth.

Dispersed performances in productivity growth across selected EMEs during the period of 1990-2017 glimpsed as above indicate how difficult to catch up

with the US productivity level. We now compare (labor) productivity levels of individual economies relative to the United States in the years of 1960 and 2018 in Figure 12. Economies located above (below)

the 45 degrees line are those whose labor productivity caught (failed to catch) up with or converged to (diverged from) that of US, i.e. convergers above the line and divergers below the line.

Figure.12. Convergence and divergence of labor productivities, 1960-2018 (US = 1)



Note: Each plot name follows ISO8 country codes.

Source: Adapted from The Conference Board(n.d.).

The Figure highlights the fact that EMEs in East Asia attained income convergence from their initial, low productivity levels, whilst those in Latin America diverged from higher levels. As vertical distances from the 45 degrees line indicate how fast an economy's productivity converges to US productivity, the pace of convergence of Hong Kong (HKG), Korea (KOR), Singapore (SGP) and Taiwan (TWN) during the

period exceeds not only those of advanced economies such as Germany and Japan, but that of China (CHN1 and CHN2 near the origin). Who dare say this is a myth. At the same time, however, the Figure reminds us of the reality that most developing economies including those in Latin America and Sub-Sahara Africa not converged to, but *diverged* from US in terms of productivity during the period. Again, income

convergence is not a rule, but an exception. That is, no Great Convergence, which is myth.

VI. Economic growth and welfare

So far, we observed exceptional income convergence of EMEs in East Asia through high productivity growth with active capital accumulation, domestically financed. This growth pattern could have significant impacts on their individuals' welfare, however. This final section discusses the welfare implication of their economic growth patterns, focusing on representative individuals of each economy in the global perspective.

While SNA has nothing to say about the distribution of GDP among individuals, we can only conjecture that, the larger the aggregate income (GDP), the better the individuals' welfare under a given income distribution. In fact, per capita GDP has been used as a proxy for aggregate welfare. For instance, Human Development Index (HDI), one of popular measures of economic development, consists of three measures to cover income, education and health with equal weights.

Meanwhile, together with increasing interests in poverty, inequality and individuals' welfare such as in the Millennium Development Goals, UN and other institutions started efforts to build non-proxy measure of social welfare⁹. Starting from a simple individuals' utility maximization model, Jones and Klenow (2016) constructed a representative individual's welfare measure, combining consumption and its distribution in microeconomic household surveys with macroeconomic consumption in SNA, covering 152 countries for the year of 2007.

Their welfare measure is not a flow variable such as per capita GDP, but a consumption equivalent measure for expected utility obtained from randomly chosen individuals' life-time consumption and leisure. Their simplest version, which we use here, measures life-time consumption and leisure using national average life expectancy, national average working hours, distribution of individual consumption based on household survey, and average propensity to consume based on SNA.¹⁰

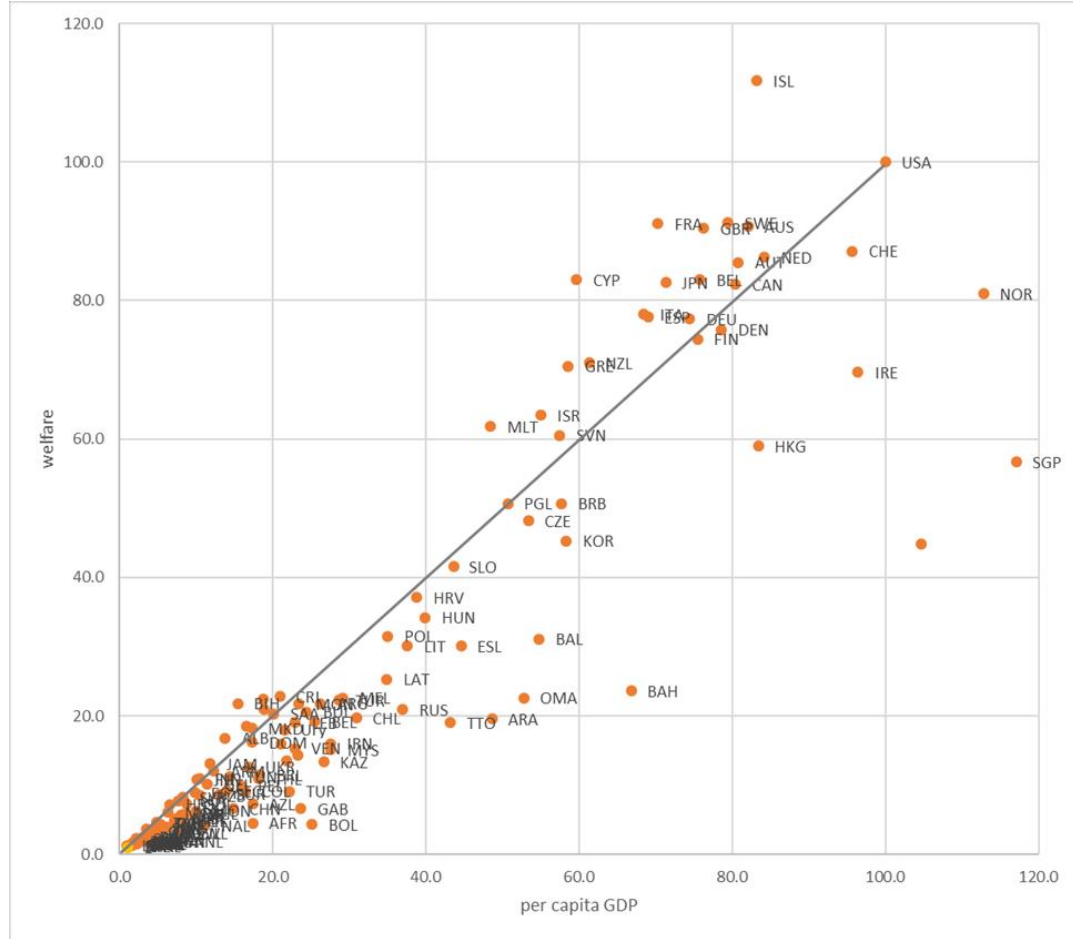
Figure 13 shows estimation results in the year of 2007 with per capita GDP on the horizontal axis and a welfare measure (λ) on the vertical axis both as a ratio relative to those of US. We may see largely one to one correspondence between the two measures, which implies that per capita GDP could be a rough measure of welfare. Looking more carefully, however, it shows that, except for advanced economies clustering near USA, almost all of other economies go under the 45 degrees line, that is, their per capita GDPs overstate welfare levels. What causes the divergences between the two measures?

Answers are easy to see in this simple framework, if we go back to the definitions of the welfare measure. Remember that it is what randomly chosen (representative) individuals are expected to obtain from life-time consumption and leisure. That is, the longer the life expectancy and the shorter the working hours, the larger the expected life-time consumption or the welfare. Similarly, the smaller the inequality in consumption distribution and the higher the propensity to consume out of income, the larger the expected life-time consumption, which tends to enhance the welfare as compared to the income. Note here in particular that,

⁹ Specifically, Stiglitz et al. (2010) claim that the measure should include: 1) not only output, but also income and consumption, 2) households' viewpoints, 3) links between income-consumption and wealth, 4) microeconomic information on distribution, 5) non-market behaviors as domestic production, leisure, subjective measures, quality of life (education, health) and sustainability (quality of environment).

¹⁰ Assume flow utility of country i as $u(c, l) = u + \log c_i + v(l)$, where c : consumption, l : leisure. Suppose a distribution of individuals' consumption as $\log c_i \sim N(c_i, \sigma_i^2)$, i.e. $E(\log c_i) = \log c_i - \sigma_i^2/2$. Then, expected life-time utility: $U_i = e_i[u + \log c_i + v(l) - \sigma_i^2/2]$, e_i : life expectancy at birth. Suppose $U_{US}(\lambda_i) = U_i(1)$. Then, a welfare of country i 's individual consumer relative to that of the US is:

$$\begin{aligned} \text{Log } \lambda_i &= (e_i - e_{US})/e_{US} && \text{life expectancy} \\ &+ \log c_i - \log c_{US} && \text{consumption} \\ &+ v(l_i) - v(l_{US}) && \text{leisure} \\ &- (\sigma_i^2 - \sigma_{US}^2)/2 && \text{inequality in consumption} \end{aligned}$$

Figure 13. Welfare vs. per capita GDP, 2007 (US = 100)

Source: Jones and Klenow (2016) (adapted from: <http://www.Stanford.edu/~chadj/BeyondGDP500.xls>).

the higher the saving rate, the lower the propensity to consume, generally.

Individual countries' causes of divergences between welfare and income levels can be detected from Table 2. For example, while per capita GDP of France is 70.3% of that of US, its welfare level is 91.2% of and closer to that of US due to three reasons. France's life expectancy is longer, its labor hours are shorter and its consumption inequality is smaller than their counterparts of US. As in the case of France, the ratios of welfare to per capita GDP are mostly higher in advanced economies than US, resulting in general convergence in both income and welfare among these economies.

On the contrary, these ratios in developing economies are generally lower than US due to their divergences from US in life expectancy, labor hours, propensity to consume and inequity in consumption. EMEs in East Asia are not exception this time. Still, they constitute a distinct group from these two cases above¹¹. Particularly, Hong Kong and Singapore are conspicuous in their very low welfare level relative to per capita GDP even despite their long life expectancy. The most crucial factor to this is their low propensity to

¹¹ Although gaps between welfare and income measures are larger in East Asia than in the other regions, their rankings in both measures remains almost the same among EMEs.

Table 2. Welfare measure estimates and their components, selected economies, 2007

Economies	Codes	Welfare	Per capita GDP	Life expectancy	Propensity to consume	Gini coefficient	Labor hour	Labor participation
Luxenburg	LUX	125.0	179.0	80.1	0.508	25.9	1,566	0.693
United States	USA	100.0	100.0	77.8	0.845	35.9	1,709	0.489
Sweden	SWE	91.2	79.4	80.9	0.701	22.5	1,612	0.501
France	FRA	91.1	70.3	80.8	0.776	26.1	1,485	0.424
Japan	JPN	82.6	71.3	82.5	0.724	30.5	1,808	0.504
Germany	DEU	77.3	74.4	79.5	0.695	27.9	1,422	0.483
Hong Kong	HKG	59.0	83.4	82.4	0.548	35.9	2,395	0.499
Singapore	SGP	56.7	117.1	80.4	0.426	35.9	2,292	0.546
Czech	CZE	48.2	53.4	76.7	0.730	23.9	1,793	0.497
Korea	KOR	45.3	58.3	79.3	0.632	29.3	2,306	0.486
Hungary	HUN	34.2	39.9	73.2	0.836	27.0	1,970	0.421
Poland	POL	31.5	35.0	75.2	0.838	34.1	2,078	0.393
Mexico	MEX	22.6	29.1	76.0	0.811	44.0	2,177	0.395
Argentina	ARG	21.8	26.2	75.1	0.759	35.9	1,841	0.371
Chile	CHL	19.7	30.9	78.5	0.655	48.1	2,168	0.419
Malaysia	MAL	15.1	27.6	73.4	0.565	40.3	1,709	0.400
Brazil	BRZ	11.5	18.3	72.1	0.789	45.9	1,841	0.488
Thailand	THL	10.9	18.1	73.5	0.687	42.6	1,709	0.557
China	CHN	6.6	14.8	72.6	0.544	45.8	1,709	0.591
Indonesia	IDN	5.7	8.0	67.7	0.781	34.7	1,709	0.431
Philippines	PHL	4.9	7.2	67.8	0.829	45.3	1,709	0.356
Vietnam	VNM	4.0	5.9	74.2	0.645	36.3	1,709	0.522
India	IND	3.9	6.3	64.1	0.704	36.8	1,709	0.392

Source: Jones and Klenow(2016) (adapted from <http://www.Stanford.edu/~chadj/BeyondGDP500.xls>).

consume, which comes from their *factor income distribution biased for capital*. Despite their overall rapid labor productivity growth, low labor shares in factor income distribution are shared in common in East Asia, say, in China, Korea, Malaysia, and Thailand, which in fact generate higher saving rates and lower propensity to consume than the counterparts of advanced economies.

Admitting that this welfare measure defined as lifetime consumption and leisure is boldly simplified,¹² its concept is well-founded in economics, therefore the

estimated results, being consistent with SNA, look insightful. Particularly, from our viewpoint, the interaction or tradeoff between capital accumulation and welfare is intriguing. Given the static nature of this framework, it may not be certain for present higher savings and lower propensity to consume to continue in the future. Nevertheless, considering political economic difficulties to radically change factor income distribution, lower propensity to consume shared in East Asia could be persistent and constitute a good reason why high income growth does not necessarily lead to high welfare levels there.¹³ In other words, it

¹² Although inequality works only through consumption here, it will work against human capital accumulation through education and health. For example, life expectancy of the rich people tends to be longer than that of the poor. Then, policies and institutions to promote redistribution of income and assets would be necessary not only from welfare concerns, but from sustainable growth concerns.

¹³ Since this model is basically static, it implies that, the higher the propensity to consume, the higher the welfare. In a traditional neoclassical growth model, however, the *golden-rule* saving rate gives the maximum consumption level in the long-run steady state. In view of this, the present US propensity to consume appears to be higher than the optimal level,

would be important to note that, while EMEs in East Asia have attained exceptional productivity growth based on capital accumulation, but it is not without welfare costs.

IV. Conclusion

Only if the international capital market be perfect, international capital flows would be able to accelerate EMEs' growth and improve their welfare through intertemporal trade and asset trade. Intertemporal trade through net capital flows enables domestic investment with higher returns to be financed by foreign savings at lower interest rates, enhancing the dynamic efficiency of resource allocation on one hand, and enables consumers to smooth their consumption levels over time. International asset trade through gross capital flows enables risk diversification, enhancing the static efficiency of global resource allocation and minimizing fluctuations in income and consumption.

In reality, however, net capital flows rarely finance domestic investment with higher returns (Rodrik (2009)). Volatile net flows rarely contribute to consumption smoothing, but rather often generate negative shocks to domestic consumption. Similarly, gross capital flows rarely diversify investment risks, but rather often magnify risks with their pro-cyclicality, generating booms-and-busts accompanied with serious sustained stagnation (Prasad (2011)).

Since the 1980s, EMEs have been advised to liberalize financial markets and to open up capital accounts to accept foreign investments. It had been said that capital flows are productive, while capital controls are ineffective. In the AFC in 1997, to be blamed was not financial liberalization, but fixed exchange rates and crony capitalism (Krueger (2004)). Under the circumstances, the policy authorities in East Asia managed to muddle through the difficulties after

which means that lower than US propensities to consume do not necessarily lead to lower welfare relative to income. But, smaller labor shares in East Asia likely generate higher than optimal saving rates, thus, still lower welfare relative to income levels there.

the economic crisis and learned how to cope with exchange rates and capital flows.

International capital flows could finance domestic investment beyond domestic saving constraints, but rather they magnify economic fluctuations and booms-and-busts, as warned by Diaz-Alejandro (1985). Throughout the lost decade of Latin America in the 1980s and the AFC in the 1990s, however, international institutions have insisted on financial liberalization, capital account opening-up and exchange rate flexibility as part of the mantra of general market liberalization. Eventually, after the GFC, they admit that international capital flows could lead to economic disasters. Nowadays, they support policy measures to restrain the volatility of capital flows by capital controls and foreign exchange market interventions, but with some conditions, reluctantly¹⁴.

Even though they admit the danger of excessive capital inflows and the necessity of capital flow management (Ostry et al. (2011)), they still believe that the basic priority of macroeconomic policies should be flexible exchange rates, minimum public debt and macro-prudence, not selective policy tools such as foreign exchange market intervention nor capital controls. Policy authorities of EMEs know this very well, particularly those in East Asia. Making better use of tactics and euphemism, they manage to control tools and channels of international investors under the name of *capital flow management measures*, not of capital controls (Qureshi et al. (2011)). This is really a clever way of handling both private businesses who insist on larger playing fields and policy advisors who insist on perfect market myth.

Looking back, Hong Kong, Korea, Singapore and Taiwan used to be called as Asian Newly Industrializing

¹⁴ “What, then, can policymakers do? One approach that has enjoyed increased support in recent years is intervention to reduce the volatility of capital inflows and the associated effects on the exchange rate. Recent research has provided a rationale for the use of capital controls and foreign exchange intervention, and the IMF has supported this approach in particular circumstances as part of a comprehensive economic management approach.” (IMF (2013), p. 113)

Economies (ANIEs) or the four Asian Tigers. They started their rapid, export-led growth by labor intensive manufacturing production and now by high tech production. ASEAN4 more or less followed these forerunners with some time lags. Their successes were praised as East Asian Miracles, but, once their growth performances collapsed with the AFC, the East Asian Myth story showed up, arguing that their growth was based not on TFP growth but on unusual capital accumulation such as in the Soviet Union (Krugman (1994)).

In fact, they recovered their growth momentum in the 21st century, particularly the four tigers. Singapore exceeded US in income levels in the early 2000s, and all the four tigers *graduated* from developing economies status, which is truly exceptional. Although they are heterogeneous one another in various aspects, they attained high productivity growth and fast structural change, committing to global trade integration, in common.

Hong Kong and Singapore switched from manufacturing exporters to regional financial centers, using comparative advantages and agglomeration effects as terminal urban economies. Korea and Taiwan generate their own *global firms* (Bernard (2018)) and GVCs by themselves now, making the global frontier in ICT. In other words, the tigers have materialized sustained productivity growth with physical and human capital accumulation, making real stories, not myth.

As to the source of economic growth, we learned that the role of TFP growth presumed by technological progresses is somewhat overstated and capital accumulation remains as the major source of growth. But, it is not to deny the importance of innovations

such as the ICT revolution and its next generation which enhances TFP growth through the increasing complementarities among industries as in the case of global value chains (GVC) (Jones (2011) and World Bank (2019)).

Along with capital accumulation for growth, we are witnessing trends where more capital inputs become intangible and they have stronger complementarity with skilled labor, leading to larger income shares of these input factors in output. Particularly, this trend could raise their already high capital income share in high growth EMEs as in East Asia. In view of the tradeoff between their growth and welfare, they may need to institutionalize redistribution of capital and other income in order not only to improve welfare, but to simply sustain capital inputs for the future growth.

It has become less transparent if ASEAN4 could follow the tigers in growth and structural change. Technological progresses and global consumer preferences seem to become less friendly to new manufacturers, by way of such as smart factories and de-industrialization. Under the circumstance, it would be too naive to assume that these new global business linkages lead to Great Convergence across most of EMEs in various regions.

Furthermore, as a so-called last but not least important point, the recent geopolitical conflict between China and US likely discourage expansion as well as deepening of the integration through trade and investment, which of course affect not only ASEAN4 but other EMEs including the tigers. And now, finally, the two invisible and visible specters are haunting global economic integration. Nobody knows the trouble we've seen, but someone, if any, with perfect foresight.

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