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The Balance of Payments Stage Hypothesis: A Comparative Analysis of East Asia, Europe, and North America^{*}

Jun-Hyung Ko[†]

Abstract

This paper reexamines the balance of payments (BoP) stage hypothesis through a comparative analysis of East Asia, Europe, and North America, with particular emphasis on the interaction between external balances and demographic structure. Using descriptive evidence on current accounts and age dependency ratios, we document how countries occupy distinct BoP stages that reflect both their level of economic development and their demographic transition. The analysis highlights systematic regional differences. East Asian economies largely follow a sequential progression from debtor to creditor status, whereas European economies exhibit more heterogeneous and, in some cases, non-linear transitions, shaped by post-crisis adjustment. In contrast, North American economies demonstrate a persistent reliance on external financing.

Keywords: Balance of payments stage hypothesis; demographic transition; dependency ratio

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[†] College of Economics, Aoyama Gakuin University

1 Introduction

The balance of payments (BoP) stage hypothesis has long served as a foundational framework for understanding the evolution of external accounts over the course of economic development. The hypothesis posits that countries tend to move sequentially from an early-stage debtor position toward eventual creditor status as income rises, savings increase, and capital accumulation proceeds. Despite its intuitive appeal, empirical support for the BoP stage hypothesis has been mixed, particularly in recent decades characterized by deep financial integration, persistent global imbalances, and pronounced demographic change.

This paper revisits the BoP stage hypothesis from a comparative and demographic perspective. Rather than testing the hypothesis as a strict, deterministic sequence, we interpret BoP stages as stylized outcomes reflecting the interaction between trade balances, income flows, capital mobility, and population structure. Using descriptive evidence from East Asia, Europe, and North America, we examine how countries in each region occupy distinct BoP stages and how these positions evolve alongside demographic transitions, as measured by age dependency ratios.

Our analysis yields three main insights. First, East Asian economies display a relatively orderly progression consistent with the traditional BoP stage hypothesis. Since the late 2000s, Japan has reached a mature creditor stage in which positive income balances dominate its external surplus, while South Korea occupies immature creditor stage supported by export surpluses and high savings. China and several Southeast Asian economies appear to be following similar trajectories, staying in a debt-repayment stage.

Second, European economies exhibit substantially greater heterogeneity and less linear adjustment. While some countries, most notably Germany, maintain persistent creditor positions, others have experienced abrupt shifts in external balances driven by crisis-induced adjustment and fiscal constraints. These cases illustrate that BoP stages can be reversible and shaped by institutional and macroeconomic shocks rather than gradual development alone.

Third, North America presents a systematic deviation from the classical hypothesis. The U.S. sustains a long-standing current account deficit while earning positive net investment income, reflecting its unique role in the global financial system. Recently, income balance turned negative which let the U.S. transition

from the credit-disposing country to the immature debtor country. Interestingly, since the late 2000s, Canada also fell into the immature debtor country with negative current account and trade balance. Including Mexico, this region became capital and goods importers.

A central contribution of this paper is to link these regional patterns to demographic dynamics. We document a close correspondence between BoP stages and age dependency ratios, suggesting that demographic transition provides a key microfoundation for long-run external adjustment. Countries benefiting from demographic dividends tend to generate trade surpluses and accumulate external assets, while aging societies increasingly rely on income balances. This perspective helps reconcile the BoP stage hypothesis with modern evidence and explains why its predictions hold more strongly in some regions than in others.

The remainder of the paper is organized as follows. Section 2 reviews the balance of payments stage hypothesis and related literature. Section 3 describes the data and empirical framework. Section 4 presents regional evidence for East Asia, North America, and Europe. Section 5 discusses the role of demographic transition in shaping BoP stages. Section 6 concludes.

2 Literature

The BoP stage hypothesis originates in early postwar analyses of international adjustment and economic development. One of the earliest systematic formulations is provided by Crowther (1957), who argued that countries' external accounts evolve predictably as economies develop. In Crowther's framework, young economies rely on foreign capital to finance investment, leading to current account deficits, while mature economies accumulate foreign assets and eventually become net creditors. External balances are thus interpreted as a long-run reflection of development rather than short-run macroeconomic disequilibria.

This stage-based view was further elaborated in the late 1950s and early 1960s. Alexander (1959) and Machlup (1964) emphasized the structural nature of external adjustment, highlighting the role of trade balance dynamics and income flows associated with foreign investment. These contributions formalized the idea that the composition of the current account matters for understanding external sustainability, distinguishing between trade-driven

deficits and those arising from income payments on accumulated liabilities.

The hypothesis gained prominence in development economics through the work of Chenery and Strout (1966), who embedded external balances into a broader framework of capital requirements and growth constraints. Their two-gap model interpreted current account deficits as a natural outcome of investment-led development, reinforcing the notion that early-stage debtor positions are neither abnormal nor undesirable. This perspective aligned closely with the BoP stage hypothesis by framing external borrowing as a transitional phenomenon.

Subsequent theoretical advances introduced intertemporal optimization into the analysis of external balances. Sachs (1981) and Obstfeld and Rogoff (1995) reformulated the current account as the outcome of forward-looking saving and investment decisions under capital mobility. In these models, persistent current account deficits or surpluses can arise as optimal responses to expected income growth, productivity shocks, or demographic change. While not explicitly stage-based, the intertemporal approach provides a rigorous microfoundation for the BoP stage hypothesis by linking development dynamics to external borrowing and lending over time.

Empirical assessments of the BoP stage hypothesis have produced mixed results. Early cross-country studies found broad correlations between income levels and current account positions, lending partial support to the stage framework. However, more recent evidence documents substantial heterogeneity across countries and regions. Lane and Milesi-Ferretti (2002) show that the accumulation of external assets and liabilities has accelerated dramatically since the 1990s, weakening the traditional link between development stage and net external position. Similarly, Chinn and Prasad (2003) find that standard development indicators explain only part of the observed variation in current account balances.

A key challenge to the classical hypothesis arises from the persistence of mature debtor economies. Lucas (1990) famously questioned why capital does not flow systematically from rich to poor countries, highlighting institutional and financial frictions. Building on this insight, Gourinchas and Jeanne (2013) document that capital often flows “uphill,” from developing to advanced economies, a pattern that is difficult to reconcile with a linear stage model. The United

States provides a prominent example of a country sustaining large and persistent current account deficits without apparent external stress.

Recent literature has emphasized the importance of asset composition and income balances in understanding these deviations. Glick and Rogoff (1995) and Lane and MilesiFerretti (2007) show that countries can sustain debtor positions if their external assets earn higher returns than their liabilities. This insight aligns with the observation that some advanced economies maintain positive income balances despite negative net foreign asset positions, complicating the interpretation of BoP stages based solely on trade balances.

Another strand of the literature highlights demographic transition as a key determinant of external balances. Drawing on life-cycle theory (Modigliani and Brumberg, 1954), studies such as Higgins (1998) demonstrate that age structure strongly influences national saving and, by extension, current account outcomes. Aging societies tend to dissave, while economies with expanding working-age populations generate excess savings. This evidence provides an important but underexplored foundation for the BoP stage hypothesis, linking long-run demographic forces to external adjustment.

More recently, scholars have argued for a reinterpretation of the BoP stage hypothesis as a flexible, region-specific framework rather than a universal law. Obstfeld (2012) emphasizes that global financial integration allows external imbalances to persist far longer than envisioned in early postwar models. From this perspective, BoP stages represent equilibrium outcomes shaped by development level, demographics, institutional arrangements, and global financial conditions.

This paper contributes to the literature by returning to the original spirit of the BoP stage hypothesis, as articulated by Crowther (1957), while incorporating modern insights on demographic transition and financial structure. By adopting a comparative regional approach and focusing on the joint evolution of trade balances, income balances, and dependency ratios, the analysis bridges classic development theory with contemporary evidence on global imbalances.

3 Data and Empirical Framework

The analysis relies on a harmonized set of macroeconomic and demographic indicators including economies from East Asia, Europe, and North America,

selected to capture a broad range of development levels and demographic structures. This regional focus allows for meaningful comparison across economies that differ in their exposure to global financial markets and their stages of demographic transition.

Balance of payments data are drawn from World Development Indicators and decomposed into their principal components: the trade balance, the primary income balance, and the overall current account. This decomposition is central to the BoP stage hypothesis, as it distinguishes between surplus positions driven by trade competitiveness and those sustained by income from accumulated external assets.

Demographic structure is measured using age dependency ratios, defined as the ratio of the non-working-age population to the working-age population. This measure captures the life-cycle dynamics emphasized in saving-investment theory and provides a parsimonious indicator of demographic pressure on external balances. Changes in dependency ratios are interpreted as slow-moving structural forces that influence national saving behavior over long horizons.

Finally, the relationship between BoP stages and demographic structure is examined by comparing external balance trajectories with changes in dependency ratios. While the paper does not estimate causal effects, the co-movement of demographic and external indicators provides suggestive evidence on the role of population aging and demographic dividends in shaping long-run external adjustment. This framework is well suited to evaluating the relevance of the BoP stage hypothesis in a global economy characterized by financial integration and demographic heterogeneity.

4 BoP stages in each region

The BoP stage hypothesis provides a sophisticated lens through which we can track a nation's economic maturity. By analyzing the interplay between the current account (CA), the trade balance (TB), and the income balance (IB), we can determine whether a country is a developing borrower, a productive exporter, or a wealthy investor. The progression generally follows a cycle defined by the equation $CA \approx TB + IB$. When a nation is young, it borrows ($IB < 0$); as it matures, it exports ($TB > 0$); and in its final stage, it lives off investment returns ($IB > 0$), even if it stops producing a trade surplus.

Following Crowther (1957), we describe six stages of development in terms of a country's balance of payments evolution. In Stage I (young debtor), a country imports capital to finance infrastructure, running current account deficits ($CA < 0$, $TB < 0$, $IB < 0$). In Stage II (maturing debtor), growth accelerates, but deficits persist as investment remains high ($CA < 0$, $TB > 0$, $IB < 0$). In Stage III (transition), export capacity improves and the current account begins to balance ($CA > 0$, $TB >> 0$, $IB < 0$). In Stage IV (young creditor), the country generates surpluses and starts exporting capital abroad ($CA > 0$, $TB > 0$, $IB > 0$). In Stage V (mature creditor), large and sustained surpluses are driven by returns on foreign investments rather than trade ($CA > 0$, $TB < 0$, $IB >> 0$). Finally, in Stage VI (aging creditor), the current account may weaken or return to deficit as domestic consumption rises and investment income declines relative to imports ($CA < 0$, $TB < 0$, $IB > 0$).

4.1 East Asia

East Asia provides the clearest empirical support for the balance of payments stage hypothesis among the regions considered in this study. Over the past two decades, economies in the region have exhibited relatively orderly transitions in their external accounts, reflecting export-led growth, high domestic savings, and favorable demographic conditions. The evolution of trade and income balances suggests a progression from debtor and debtrepayment stages toward mature creditor status, broadly consistent with the canonical stage framework.

In Panel A in Figure 1A Japan serves as the primary example of a successful transition from an Immature Creditor (Stage IV) to a Mature Creditor (Stage V). Until the late 2000s, Japan was an Immature Creditor, characterized by a “double positive” where both its trade balance and income balance were in surplus ($TB > 0$, $IB > 0$), leading to a massive current account surplus ($CA > 0$). However, since the late 2000s, Japan's trade balance has generally turned negative ($TB < 0$) due to rising energy costs and manufacturing offshoring. Despite this, its current account remains positive because its income balance—the returns on decades of foreign investment—is so large that it outweighs the trade deficit. This shift identifies Japan as a fully Mature Creditor that lives off its global wealth.

In Panel B in Figure 1A, South Korea has followed a trajectory similar to

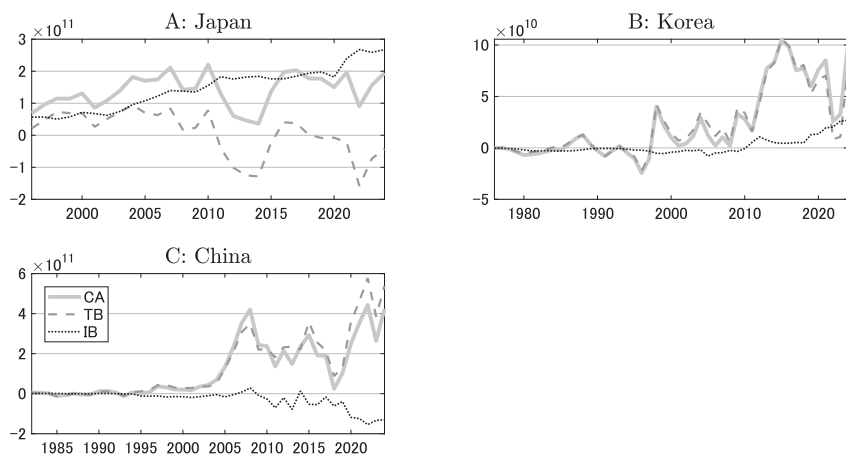


Figure 1A. East Asian current account (CA), trade balance (TB) and income balance (IB) data.

Japan but is at a slightly earlier stage, currently functioning as a robust Young Creditor (from Stage III to Stage IV). Following its rapid industrialization, Korea moved from a debtor status to a consistent trade surplus ($TB > 0$). In recent years, its income balance ($IB > 0$) has also turned positive and begun to grow as Korean conglomerates expand their global footprint. Unlike Japan, Korea's trade balance remains firmly in the positive, meaning it has not yet reached the "Mature" stage where it relies solely on investment income, but it is effectively accumulating the foreign assets necessary to do so in the future.

China in Panel C in Figure 1A is currently moving through a rapid Debt Repayer phase (Stage III). Historically an Immature Debtor that relied on foreign capital to build its industrial base, China pivoted to an export-led growth model that generated massive trade surpluses ($TB > 0$). While its income balance (IB) has historically hovered near zero or slightly negative due to the high profits earned by foreign firms within China, the nation is aggressively using its trade wealth to transition from a borrower to a global lender. This rapid repayment of external reliance through the accumulation of foreign assets suggests China is laying the groundwork for a future transition directly into the creditor stages.

According to the empirical data presented in Figure 1B, South East Asian

The Balance of Payments Stage Hypothesis

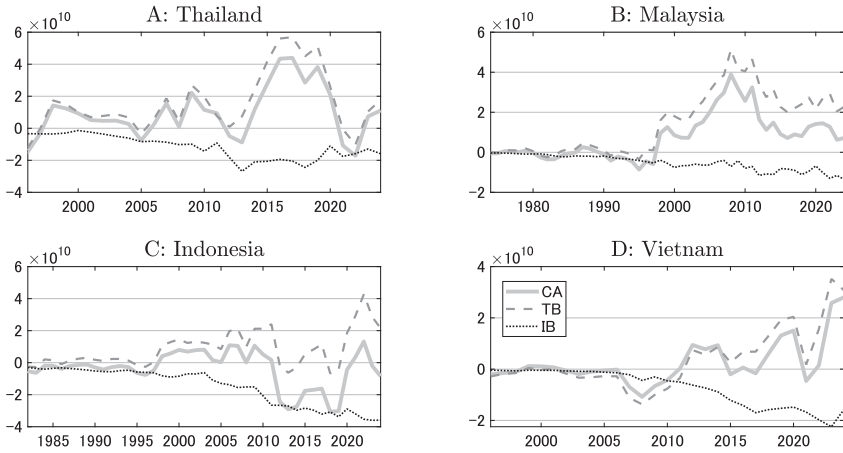


Figure 1B. East Asian current account (CA), trade balance (TB) and income balance (IB) data.

countries show the common movements from Stage II to Stage III. Thailand transitioned into a “debt-repayment country” following the 1997 Asian financial crisis. This stage is defined by a consistent trade surplus ($TB > 0$) that is sufficiently large to offset a persistent deficit in the primary income balance ($IB < 0$), thereby maintaining a positive current account position as the nation services its external liabilities. Similarly, Malaysia functions as a debt repayment country moving toward the “immature creditor” stage, characterized by a robust and stable trade surplus that consistently overpowers its negative income balance. Indonesia, while historically mirroring the characteristics of an “immature debtor,” has recently strengthened its position as a debt repayment country. Driven by a surge in commodity-related export revenues, Indonesia’s trade balance ($TB > 0$) has expanded rapidly, narrowing the structural current account deficit previously exacerbated by its negative income account. Finally, Vietnam is currently in the early phase of the debt repayment stage, having successfully pivoted to an export-led growth model. By securing a steady trade surplus ($TB > 0$) to finance the income outflows ($IB < 0$) associated with high levels of foreign direct investment, Vietnam is replicating the developmental trajectories previously observed in North Asian economies such as South Korea

and China. Collectively, these nations demonstrate that the Southeast Asian region is methodically ascending the hierarchy of the balance of payments stages, shifting from a reliance on foreign capital to the systematic accumulation of net external assets.

Taken together, the East Asian evidence suggests that the BoP stage hypothesis retains substantial explanatory power in contexts characterized by export-oriented development and favorable demographic conditions. As discussed in Section 5, the region demonstrates how demographic structure, trade performance, and gradual accumulation of external assets interact to produce sequential and relatively predictable BoP stage transitions.

4.2 Europe

European economies exhibit the greatest heterogeneity in balance of payments dynamics among the regions examined in this study. While some countries conform broadly to the BoP stage hypothesis, others display abrupt reversals and persistent deviations driven by monetary integration, financial crises, and demographic pressures. As a result, BoP stages in Europe are less orderly and more sensitive to institutional and macroeconomic shocks than those observed in East Asia.

In Figure 2A, the U.K. illustrates a rare and troubling “reverse” transition, moving from a Mature Creditor back into a Mature Debtor (Stage VI to Stage I). Historically, the U.K. relied on a positive income balance ($IB > 0$) to offset its persistent trade deficit ($TB < 0$). However, the figures from the mid-2010s show that the income balance has frequently dipped into the negative ($IB < 0$). With both the trade and income balances in the red, the UK’s current account has plunged into a deep deficit ($CA < 0$). This suggests the U.K. has lost its status as a net creditor and is now a Mature Debtor, reliant on selling domestic assets to foreigners to fund its economy.

France currently demonstrates the characteristics of a Mature Debtor with a unique reliance on secondary income streams to stabilize its external position. Historically, France maintained a strong trade surplus ($TB > 0$) during the 1990s, functioning as a Young Creditor (Stage III). However, after experiencing Stage IV until the mid-2000s, its trade balance has evolved into a persistent deficit ($TB < 0$). While its primary income balance (IB) has remained

The Balance of Payments Stage Hypothesis

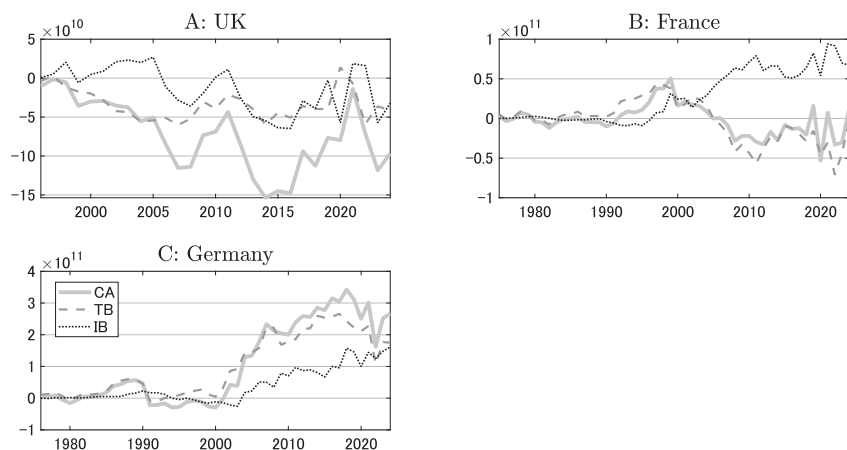


Figure 2A. European current account (CA), trade balance (TB) and income balance (IB) data.

significantly positive—reflecting strong returns on overseas investments—the magnitude of the trade deficit has frequently pulled the overall current account into negative territory ($CA < 0$). Unlike the U.K.’s total regression, France’s status is defined by this tension between being a robust global investor and a net importer of goods, placing it firmly in the Mature Debtor category as it consumes more than it produces while living off previous investment wealth (Stage VI).

Germany currently mirrors the Young Creditor stage, but it shows signs of extreme resilience. After experiencing Stage III in the early 2000s, Germany cemented its status with a massive trade surplus ($TB > 0$) and a rising income balance ($IB > 0$) (Stage IV). Unlike Japan, Germany has not yet transitioned to a trade deficit; it continues to dominate global manufacturing. The signs for Germany are a strongly positive current account ($CA > 0$) driven by the rare combination of being both a top-tier world factory and a top-tier world creditor.

Figure 2B displays current account, trade balance, and income balance in the selected countries that were heavily damaged during the Euro area crisis. From the early 1990s to the early 2000s, Italy can be categorised in Stage III with huge trade surplus. However, it has undergone a significant transition from a Debtor

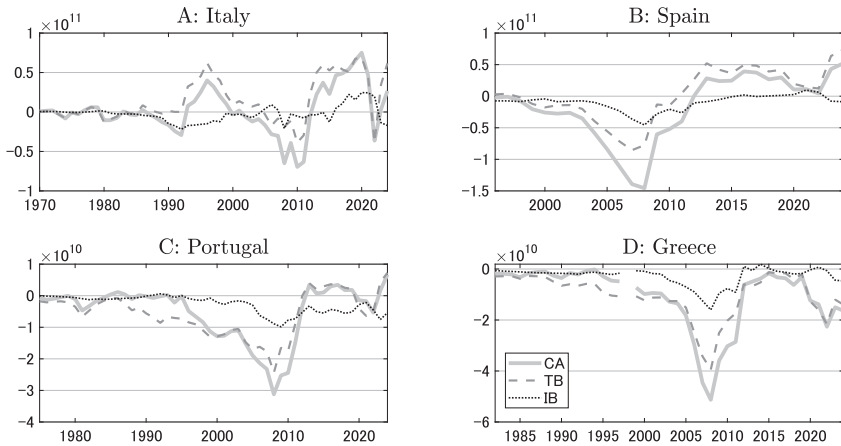


Figure 2B. European current account (CA), trade balance (TB) and income balance (IB) data.

repayment back toward a Debtor Country (Stage I) following the sovereign debt crisis of the early 2010s. For much of the 2000s, Italy ran persistent current account deficits ($CA < 0$) driven by a weakening trade balance and a negative income balance ($IB < 0$). The figures show a dramatic “Vshaped” reversal starting around 2012, where Italy successfully pivoted to a substantial trade surplus ($TB > 0$). This shift, characteristic of the Debt Repayment stage (Stage III), allows the nation to use its export earnings to offset the primary income deficit—the interest and dividends paid to foreign holders of Italian debt. From the mid-2010s, Italy’s current account has returned to a surplus position (Stage IV), signaling a phase of internal rebalancing where domestic savings are being used to reduce external liabilities and rebuild the nation’s net international investment position.

Within the framework of the balance of payments stage hypothesis, Spain, Portugal, and Greece have all demonstrated the significant structural realignments required to transition from debtor statuses to the debt repayment stage. Prior to the 2008 global financial crisis, these nations functioned as immature debtors (Stage I), characterized by deep trade deficits ($TB < 0$) and negative income balances ($IB < 0$) due to heavy interest payments on external debt, which

resulted in massive current account deficits ($CA < 0$). In the post-crisis era, these economies were forced to rebalance through internal devaluation and austerity, and Spain and Portugal succeeded to lead to a pivotal swing into trade surpluses ($TB > 0$) (Stage III). While their income balances remain generally negative ($IB < 0$) as they continue to service past debts, the magnitude of their trade surpluses has become sufficient to pull their overall current accounts into positive territory ($CA > 0$), a hallmark of the debt repayment country. However, Greece failed to transition from Stage I to upper stages so far.

Overall, the European evidence highlights that the BoP stage hypothesis must be interpreted flexibly in the presence of monetary integration and asymmetric adjustment mechanisms. While creditor and debtor positions persist, transitions between stages are often abrupt and policy-driven, complicating the notion of a smooth, development-based sequence.

4.3 North America

North America presents a systematic departure from the traditional BoP stage hypothesis. Unlike East Asia, where external adjustment largely follows a sequential progression, the region is characterized by persistent external imbalances that reflect structural features of financial markets and the international monetary system rather than transitional stages of development.

In Figure 3, the U.S. continues to defy the linear progression of the hypothesis, acting as a credit-disposing country with a chronic current account deficit ($CA < 0$) (Stage VI). The U.S. has maintained a massive trade deficit ($TB < 0$) for decades, but has managed to keep its income balance positive ($IB > 0$): it earns more on its overseas assets than it pays to its creditors. However, the U.S. economy may fall into the Stage I with its negative income balance ($IB < 0$) in the near future.

Canada exhibits a more conventional but still incomplete alignment with the BoP stage hypothesis. While Canada has accumulated significant external liabilities with negative income balance ($IB < 0$), trade balance significantly improved ($TB > 0$) in the 2000s. This pattern moves Canada from a mature debtor (Stage II) to a debt-repayment country (Stage III). However, since the global financial crisis in the late 2000s, Canada shows a clear movement toward Stage I.

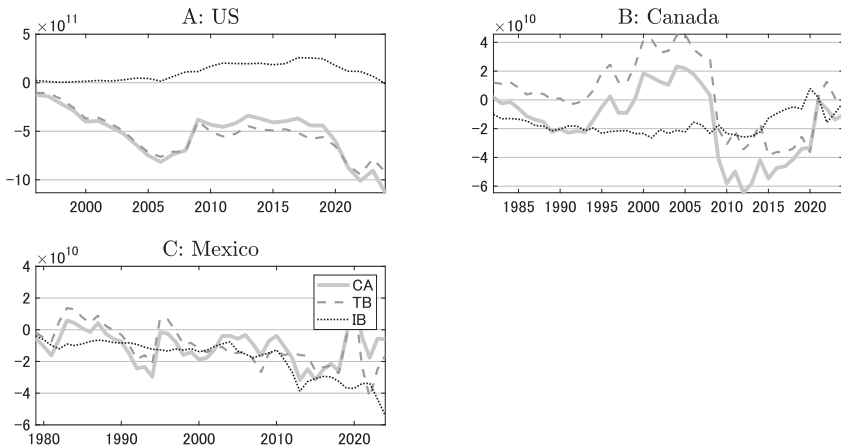


Figure 3. North American current account (*CA*), trade balance (*TB*) and income balance (*IB*) data.

Mexico represents the most stable example of a Young (Immature) Debtor (Stage I). For the last forty years, Mexico has shown a trade balance that hovers near zero ($TB \approx 0$) while maintaining a consistently negative income balance ($IB < 0$). This results in a persistent current account deficit ($CA < 0$). This is the hallmark of an economy that is still in the “building” phase, where foreign companies invest in domestic factories and then send the profits back to their home countries, keeping Mexico in a stage of perpetual reliance on foreign capital for growth.

5 Demographic Transition and Balance of Payments Stages

A central insight emerging from the regional analysis is the close association between demographic structure and balance of payments stages. From a life-cycle perspective, economies with a large and expanding working-age population tend to generate excess savings relative to domestic investment, giving rise to current account surpluses. Conversely, economies with rising dependency ratios face downward pressure on national saving as a growing share of the population dissaves. These demographic forces operate slowly but persistently, shaping external balances over long horizons and influencing the tran-

sition between BoP stages. Hence, incorporating demographic transition into the framework provides a coherent explanation for both the orderly progression observed in some regions and the persistent deviations evident in others.

5.1 East Asia

Figure 4A illustrates the evolution of age dependency ratios between 2000 and 2023 for Japan, Korea, China, Thailand, Malaysia, Indonesia, and Vietnam. The trajectories differ markedly across countries, reflecting heterogeneous stages of demographic transition. For analytical clarity, countries can be grouped according to the direction and shape of the time trend in their dependency ratios.

Japan exhibits a persistently increasing dependency ratio throughout the entire sample period. The ratio rises steadily from below 50 percent in the early 2000s to approximately 70 percent by 2023, indicating rapid population aging driven by sustained low fertility and increased life expectancy. The consistently positive and relatively steep slope distinguishes Japan from the other economies and places it firmly in the late stage of demographic transition.

Korea, China, and Thailand display U-shaped dependency ratio dynamics, characterized by an initial decline followed by a sustained increase. In Korea, the dependency ratio decreases until the early 2010s, reflecting the exploitation of a demographic dividend, before rising sharply thereafter as aging accelerates. China follows a similar pattern, with a turning point around 2011–2012, coinciding with a contraction of the working-age population. Thailand also exhibits a U-shaped profile, although the post-turning-point increase is more gradual, suggesting a slower pace of demographic aging relative to Korea and China. These countries are currently transitioning from a dividend phase to an aging phase, implying growing demographic pressures on economic growth and public finances.

In contrast, Indonesia and Malaysia show persistently declining dependency ratios over the entire period. The downward-sloping trends indicate continued expansion of the working-age population relative to dependents, consistent with an earlier stage of demographic transition. Although the rate of decline moderates in more recent years—particularly in Malaysia—there is no clear evidence of a structural reversal, suggesting that these economies continue to benefit from favorable demographic conditions.

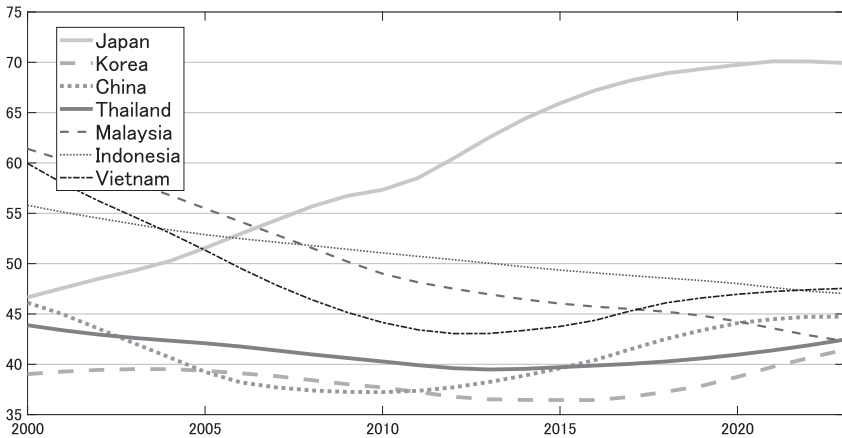


Figure 4A. Age dependency ratio in East Asia.

Vietnam occupies an intermediate position. Its dependency ratio declines markedly during the 2000s, followed by stabilization and a mild increase after the mid-2010s. This pattern indicates that Vietnam is approaching the end of its demographic dividend phase, with population aging beginning to emerge, albeit at a more gradual pace than in Korea or China.

Overall, the slope-based classification of dependency ratio trends underscores substantial cross-country heterogeneity in demographic dynamics across East and Southeast Asia.

5.2 Europe

Figure 4B shows the evolution of age dependency ratios from 2000 to 2023 for selected European economies, including the U.K., Germany, France, Italy, Spain, Portugal, and Greece. Although initial levels differ somewhat across countries, the overall pattern is one of broadly rising dependency ratios, reflecting widespread population aging across Europe.

France exhibits a persistently increasing dependency ratio throughout the period. Starting from the mid-50 percent range in 2000, the ratio rises steadily to above 60 percent by 2023. The consistently positive slope suggests early and sustained aging dynamics, despite relatively higher fertility compared with other European countries.

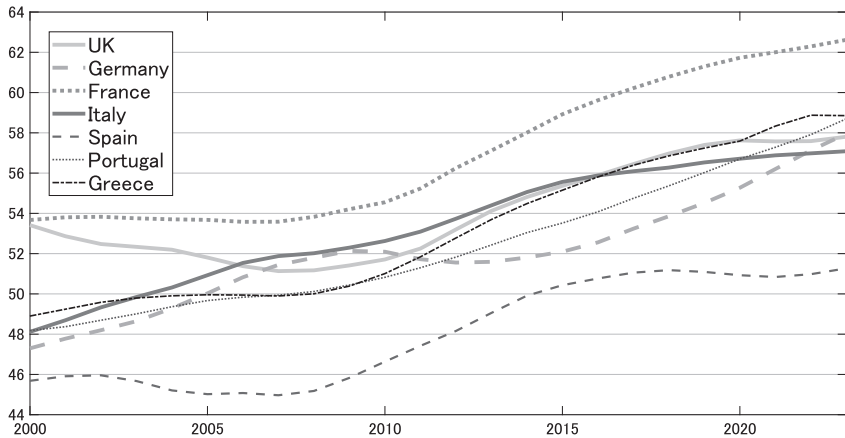


Figure 4B. Age dependency ratio in Europe.

Germany, Italy, and the U.K. display mild U-shaped or near-flat patterns in the early 2000s, followed by a clear and sustained increase from around the late 2000s onward. The U.K. exhibits a flatter profile than continental Europe but nonetheless experiences a gradual upward trend beginning in the early 2010s. In Germany, the dependency ratio remains broadly stable until the mid-2000s before rising steadily thereafter, reflecting accelerated aging following prolonged low fertility. Italy shows a similar trajectory, with a modest decline or stagnation in the early years and a pronounced increase after 2010.

Spain, Portugal, and Greece share a common pattern characterized by an initial period of relative stability or slight decline, followed by a pronounced increase after the global financial crisis. Spain's dependency ratio declines marginally in the early 2000s before rising steadily after 2010. Portugal and Greece display similar turning points, with particularly strong increases in the post-2012 period.

Overall, the slope-based classification indicates that European countries are largely clustered in the aging phase of demographic transition, with dependency ratios rising across all cases by the end of the sample period. Differences across countries primarily reflect the timing and steepness of the upward shift rather than the direction of change. These trends imply mounting pressures on labor supply, pension systems, and public finances across Europe, underscoring the

demographic dimension of long-run macroeconomic sustainability.

5.3 North America

Figure 4C depicts the evolution of age dependency ratios between 2000 and 2023 for the U.S., Canada, and Mexico. Although the three countries share close economic integration, their demographic trajectories differ substantially, reflecting distinct stages of demographic transition.

The U.S. displays a comparatively flat trajectory in the early 2000s, followed by a gradual increase beginning in the mid-2010s. After declining modestly from about 50 percent to the high-40 percent range, the dependency ratio rises steadily and exceeds its initial level by the early 2020s. This pattern reflects the onset of population aging, driven in part by the retirement of the baby boom cohort, although the increase remains moderate relative to more rapidly aging economies.

Canada follows a clearer U-shaped pattern. The dependency ratio declines throughout the 2000s, reaching a trough around 2007–2009, before rising steadily thereafter. By the early 2020s, Canada's dependency ratio converges toward that of the U.S. The post-2010 increase is consistent with accelerated aging dynamics, reflecting low fertility and rising life expectancy, partially offset by immigration.

Mexico exhibits a persistently declining dependency ratio over most of the sample period. The ratio falls steadily from approximately 65 percent in 2000 to below 50 percent by the late 2010s, indicating a prolonged demographic dividend driven by declining fertility and a rapidly expanding working-age population. In the most recent years, the downward trend flattens, suggesting that Mexico may be approaching a demographic turning point, although there is as yet no clear evidence of a sustained reversal.

Taken together, the slope-based classification for North America highlights pronounced heterogeneity in demographic dynamics. Mexico remains largely in a demographic dividend phase, albeit nearing its end, while the U.S. and Canada have entered an aging phase characterized by rising dependency ratios. These divergent trends imply differing medium- to long-term pressures on labor markets, public pension systems, and fiscal sustainability across the region.

Taken together, these findings suggest that demographic transition provides

The Balance of Payments Stage Hypothesis

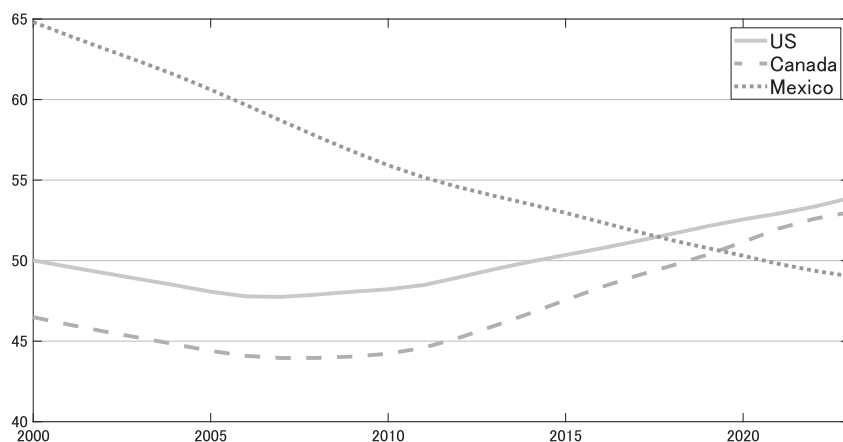


Figure 4C. Age dependency ratio in North America.

a key microfoundation for the BoP stage hypothesis, but its effects are mediated by financial structure, institutional arrangements, and global integration. BoP stages should therefore be understood as equilibrium outcomes resulting from the interaction of slow-moving demographic trends and region-specific economic mechanisms. This interpretation reconciles the traditional stage hypothesis with the persistence of global imbalances in the modern era.

6 Conclusion

This paper has revisited the balance of payments stage hypothesis through a comparative analysis of East Asia, Europe, and North America with particular emphasis on the role of demographic transition. The regional evidence reveals marked differences in the relevance of the stage hypothesis. East Asian economies largely conform to the traditional progression from debtor to creditor status, supported by export-led growth, high savings, and favorable demographic conditions. Over time, these economies have shifted from trade-driven surpluses toward income-driven external positions, highlighting the importance of accumulated foreign assets in advanced stages of development. In contrast, North America, and particularly the U.S., presents the clearest deviation from the classical framework, sustaining a mature debtor position through financial dominance rather than trade competitiveness. Europe exhibits heterogeneous

and often non-linear transitions, reflecting the influence of monetary integration, crisis-driven adjustment, and demographic aging.

We find that the BoP stage hypothesis remains a useful organizing framework when interpreted flexibly and augmented with demographic considerations. The hypothesis is most informative in contexts where demographic dividends and export-oriented growth interact to generate predictable patterns of external adjustment and less so in economies with exceptional financial roles or binding institutional constraints.

Future research could build on this analysis by formally modeling the interaction between demographic transition and external balance dynamics, or by conducting panelbased empirical tests that incorporate dependency ratios, net foreign asset positions, and asset-liability composition. Such extensions would further clarify the conditions under which BoP stages emerge and persist in the contemporary global economy.

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The Balance of Payments Stage Hypothesis

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