

Macroeconomics

for Emerging East Asia

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5. Balance of Payments Accounts

Transactions between residents of one economy and residents of the rest of the world are captured in the economy's balance of payments accounts. The balance of payments must balance. If an economy buys more than it sells in one category, it must sell more than it buys by the same amount elsewhere.

Exports, imports, interest on foreign reserves, wages of expatriate workers, foreign investment, borrowing from abroad – all are examples of transactions that enter an economy's balance of payments. The main division in the balance of payments is between the current account and the capital and financial account. The current account encompasses transactions involving the sale of goods and services, payments to labor and capital, and unilateral transfers. The capital and financial account pertains to the acquisition and disposal of assets and liabilities.

An economy's balance of payments can reveal strengths and vulnerabilities in its external position, and hint at potential macroeconomic risks. Foreign trade can be a boon to growth for many reasons: it allows an economy to specialize in production, following its comparative advantage in the use of resources; it permits the exploitation of scale economies through access to a broader market; it intensifies competition and promotes adoption of best practices; and it facilitates technology transfer and learning from the rest of the world. At the same time, however, reliance on trade exposes an economy to global market fluctuations and creates vulnerability to external shocks. Similarly, participation in international financial markets yields benefits but also carries risks. Foreign capital can facilitate business expansion and the transmission of new technologies and ideas. But it also creates obligations set in foreign currencies that may become difficult to meet.

We begin this chapter by laying foundations in basic accounting principles. We characterize credits and debits within the balance of payments context and explain how the practice of double-entry bookkeeping ensures that the balance of payments will balance. We then outline the structure of the accounts, first in broad overview, then filling in the details. China serves as the case study for this chapter. China is of interest because the large imbalances in its payments over recent decades have redounded throughout the global economy. We follow the China case with an overview of balances in the main accounts for the economies of Emerging East Asia. Finally, we relate the balance of payments to the macroeconomic aggregates introduced in Chapter 4 and briefly preview the connection to domestic money creation, the next subject to be taken up.

A. Accounting Principles

The balance of payments records international flows over a period of time, typically a year or a quarter. In contrast, stocks of foreign assets and liabilities are measured at an instant in time and are recorded under a separate framework – the international investment position. Balance of payments transactions for assets and liabilities register as changes in an economy's international investment position.

Transactions recorded under the balance of payments take place between residents of an economy and non-residents. Residents include persons and institutional units such as corporations or government agencies whose predominant economic interests lie within the economy's territory. For persons, residency is usually established on the basis of the principal dwelling place, although other criteria may also figure in. Students, for example, are usually treated as residents of their home countries. It is possible for individuals to claim residence in the territory of one economy while being employed in the territory of another. Corporations are regarded as resident in the jurisdiction where they are registered. For other types of enterprises, residency is generally determined by the principal locus of activity.

Every transaction enters the balance of payments twice, once as a credit and once as a debit, such that the two entries cancel out. The sum of all credits and debits should therefore equal zero, at least in principle. Statistical procedures being incomplete and imperfect, however, a non-zero residual tends to emerge. This residual is assigned to the balancing item "net errors and omissions."

Credits & Debits

Credits are associated with payment inflows, debits with payment outflows. Thus a credit generally involves the sale of something, a debit the purchase of something. The sale or purchase may pertain to goods and services or to assets and liabilities.

For goods and services, exports result in a credit, imports a debit.

Asset transactions are more complicated because an asset can be bought and later resold. When a foreign entity makes an investment in an economy, it acquires an asset from a domestic entity, thus yielding a credit for the domestic economy. If the foreign entity later disposes of the asset by transferring it back to a domestic entity, that registers as a debit. Conversely, if a domestic entity makes an investment abroad, that results in a debit, and when the asset is liquidated and the funds repatriated, that is a credit.

Income payments may be made across borders to pay for the services of capital and labor. Payments for capital services take the form of interest and dividends, payments for labor services the form of wages and salaries. Such factor payments are credits when received by residents of the domestic economy and debits when made to non-residents.

Sometimes payments are made unilaterally with no quid pro quo. Such payments are often made in the form of remittances from family members resident abroad.

To sum up, credits (+) are associated with payment inflows pertaining to:

- exports of goods and produced services;
- interest and dividend receipts from abroad;
- compensation of domestic residents from foreign sources;
- inbound unilateral transfers;
- inbound investment;
- sale of foreign assets held by domestic residents, including ...
- decumulation of official reserve assets by the monetary authority.

Debits (-) are associated with payment outflows pertaining to:

- imports of goods and produced services;

- interest and dividend payments made to foreign residents;
- compensation paid to foreign residents from domestic sources;
- outbound unilateral transfers;
- sale of domestic assets held by foreigners;
- outbound investment, including ...
- accumulation of official reserve assets by the monetary authority.

Double-Entry Bookkeeping

Every transaction involves both credit and debit sides. To illustrate, we work through three examples, proposing an initiating credit or debit flow, then considering alternative possibilities for the offsetting flow. We use T-accounts to delineate credits and debits (following the balance of payments convention of placing credits on the left and debits on the right in reverse of the standard business accounting format).

Case #1: An agribusiness firm in the home economy exports a shipment of tangerines. The export of goods generates a payment receipt that appears as a credit on the balance of payments. The debit that results will depend on how the foreign exchange earnings are utilized. Perhaps the exporting firm acquires a deposit in a foreign bank. Perhaps it pays off a foreign loan. We could even allow for the exporter to take payment in cash, and this too would be treated as the acquisition of a foreign asset. (While cash payment may seem unlikely for tangerines, there are certainly instances of transactions for which cash is used.) In some guise then, the foreign exchange earnings from exports are directed toward the acquisition of an asset or the liquidation of a liability, and this constitutes the debit side of the transaction.

CASE #1

Credits (payment inflow)	Debits (payment outflow)
export of tangerines	⇒ deposit acquired in foreign bank (OR foreign currency loan repaid) (OR cash hauled off in a briefcase)

Case #2: A bank from the home economy extends a loan to a foreign firm. The loan itself is a payment outflow that registers as a debit on the balance of payments of the home economy. The form of the associated credit depends on how the foreign firm uses the loan proceeds. Perhaps it buys goods from the home economy which then appears as an export credit. Or perhaps it acquires deposits in the lending bank. Either way, the result manifests as a credit on the balance of payments.

CASE #2

Credits (payment inflow)	Debits (payment outflow)
export sales financed (OR deposits acquired in lending bank)	← loan to foreign firm

Case #3: A remittance is made by a family member working overseas to her relatives back home. The remittance itself is a credit on the home economy's balance of payments. The matching debit may take the form of foreign currency assets acquired by the receiving household. Or the remittance may be structured such that the household receives local currency and a financial intermediary acquires the foreign currency asset. Either way, a debit is registered on the balance of payments. That the remittance is a one-way transfer rather than a two-way transaction does not matter for purposes of double-entry accounting on the balance of payments. It is not the real movement of goods and services that enters the balance of payments in any case, but rather the associated payment flows.

CASE #3

Credits (payment inflow)	Debits (payment outflow)
remittance	⇒ foreign assets acquired by recipient (OR assets acquired by intermediary)

B. Structure of the Accounts

The accounts within the balance of payments are differentiated by the type of item for which payment is being made. We outline the main accounts first, then explore the elements of the main accounts in more detail.

Main Accounts

The main division in the balance of payments is between the current account and the capital and financial account. The current account covers payments for goods and services, including the services of labor and capital, and also absorbs unilateral transfers. The capital and financial account captures payments for assets, ownership of which can potentially revert back across the border at a later date. The capital and financial account is often loosely referred to as simply the capital account. Technically, this designation pre-dates the 1993 revision to the accounting system. Under this revision what had previously been referred to as the capital account was renamed the financial account with the newly named capital account absorbing certain transactions previously subsumed under the current account. The capital account as now formally defined is very small in size. We adhere to official terminology in this text, referring to the capital and financial account by its full name or shortening to just "financial account". Note, however, that common parlance generally goes with "capital account". Further muddying the

waters, we typically refer to flows on the financial account as “capital flows”. The terminology, then, is somewhat loose.

For analytical purposes, the activity of the central bank (or authorities sharing the function of foreign exchange market intervention) is separated by a line from the remainder of the capital and financial account, as represented in Table 5.1. The combined balance on items “above the line” is known as the “overall balance”. Central bank transactions appear “below the line”. Table 5.1 identifies transactions of the central bank as the official settlement balance. This item may also be referred to as reserve assets. The final element in Table 5.1 picks up net errors and omissions. In principle, if all transactions between domestic residents and the rest of the world were fully and properly measured, this item would be zero. Because accounting systems are imperfect, however, this entry deviates from zero in practice, sometimes substantially so.

Table 5.1: Balance of Payments Main Accounts

	Credits	Debits	Balance
Current Account
Capital & Financial Account
Official Settlement Balance
Net Errors & Omissions

The official settlement balance is positive when the central bank is a net seller of foreign exchange assets since this involves a payment inflow. Conversely, the official settlement balance is negative when the central bank is a net buyer of foreign exchange assets since this involves a payment outflow.

Within our sample of Emerging East Asian economies, the market interventions of central banks can be large and consequential for macroeconomic outcomes. Items above the line involve autonomous transactions of economic agents undertaken for their own sake. By contrast, central bank activity below the line is generally motivated by the desire to accommodate above-the-line transactions. For example, central banks often buy up foreign exchange earnings in support of a trade surplus to keep export industries going strong. They also respond to buy or sell when large capital flows in or out threaten to be disruptive.

Under the terms of a dual-entry bookkeeping regimen, the elements of Table 5.1 must sum to zero. Abstracting from net errors and omissions, we have:

$$CA + CFA + OSB = 0, \tag{5.1}$$

where: CA = current account balance;
 CFA = capital and financial account balance excluding central bank activity;
 OSB = official settlement balance.

The balance on any of these three items taken on its own can be positive, negative, or zero. If the combined balance on items above the line is positive, the official settlement balance must be negative. That is, if the current account and the capital and financial account together are in surplus, the central bank must be a net buyer of foreign assets. Conversely, if the current

account and the capital and financial account together are in deficit, the central bank must be a net seller of foreign assets. In short, the central bank finances a deficit or surplus position in the overall balance.

Account Details

The current account contains three principle elements: trade in products, further divided between goods and services; income payments for trade in factor services (primary income); and current transfers (secondary income). Goods are distinguished from services by their physical presence. They exist separately from the act of production whereas services generally exist only in the act of production. Included in services trade are transport, communication, construction, insurance, finance, and information services.

Under the trade account, both goods and services are the output of a production process. In contrast, the services of primary factors are utilized directly and generate income payments for their contributions. The income item of the current account contains sub-components for labor and capital identified respectively as compensation of employees and investment income. Investment income includes interest, dividends, rent, and reinvested earnings. Reinvested earnings are in principle counted in the host country as both a debit in the current account and a credit in the capital and financial account.

Finally, current transfers are unilateral payments in exchange for which nothing is received in return. Counted within this item are both personal transfers, often in the form of remittances from family members working abroad, and public transfers, mainly income taxes and social welfare contributions and benefits.

The capital and financial account is divided in the first instance according to the elements in its name. The capital account itself amounts to so little quantitatively that for practical purposes the financial account is virtually synonymous with the capital and financial account. Transactions covered in the capital account involve “non-produced non-financial assets”. Put in positive terms, this embodies claims on natural resources, such as land and mineral rights; marketable rights and entitlements, such as the right to operate a port or the entitlement to purchase a product on an exclusive basis; and marketing assets such as brand names, trademarks, and logos.

The financial account contains four functional asset classes: direct investment; portfolio investment; financial derivatives; and other investment. Separately identified are the official reserve assets of the monetary authority which span various functional asset classes. For each asset class both inbound and outbound flows are registered. An inbound investment counts as a credit when a domestic asset is acquired by a foreign resident and a debit when the asset is disposed of. Conversely, an outbound investment counts as a debit when an overseas asset is acquired by a domestic resident and a credit when the asset is disposed of.

Direct investment involves a significant ownership stake in a firm and connotes a high degree of control over its operations. Portfolio investment in stocks and bonds is conducted through an economy’s financial markets and allows quicker liquidation of positions than direct investment but affords little or no influence over business operations. Derivatives are instruments that derive their value from underlying assets with the aim of transferring risk. “Other investment” captures primarily loans, deposits, trade credits and advances, and accounts receivable and payable. (Chapter 7 on finance goes into depth on these asset classes.) The functional

classification of assets differentiates along lines pertinent to macroeconomic and financial stability concerns. Sudden movement of funds in and out of an economy can be highly disruptive. Direct investment usually entails a long-term commitment whereas portfolio investment and short-term lending can be highly volatile. Emerging economies typically adopt regulations to try to contain the potential for volatility.

If the overall balance on the capital and financial account plus official reserves is positive, the economy is a net borrower from the rest of the world. If it is negative, the economy is a net creditor to the rest of the world. An economy's net international creditor or debtor position is integrally related to domestic saving and investment behavior, as will be elaborated in Section E.

C. The China Case

China ran sizable payments imbalances during its period of rapid growth in the 2000-aughts, to be followed by jarring volatility in the 2010s. Given its size, the rest of the world – and most pointedly the US – struggled to contend with China's economic emergence, as China itself learned to contend with the destabilizing forces of greater openness. China's experience offers a case study of what the balance of payments accounts can tell us, not only about a particular economy but about the world it meets up with. We examine China's balance of payments for 2014 in some detail, going back in time because less detail has been publicly reported in more recent years. We then consider movement in the country's net positions on broad accounts over the period 2002-2020.

A Close Look at 2014

China's balance of payments accounts for 2014 are presented in Table 5.2. Both the current account and the capital and financial account were in surplus, the former by \$220 billion, the latter by a much smaller \$38 billion. The net payments inflows on these accounts were partially offset by a payments outflow in the reserve assets account meaning the central bank was acquiring foreign reserves. The net debit in reserve assets was \$118 billion. The difference between this and the overall balance above the line of \$258 billion falls to net errors and omissions.

Within the current account, the bulk of activity emanated from goods trade. This item exhibited a much larger surplus than the current account overall, with China's services trade generating the major countervailing deficit. Income payments, too, showed a small deficit. Most of the activity underlying the incomes item traced to investment income whereas employee compensation played a much smaller role. Although China received substantial interest income on the reserve assets held by its central bank, the amount fell short of outgoing returns paid on foreign investments hosted by China. Finally, a small deficit on current transfers also contributed to offsetting the surplus on goods trade.

Table 5.2: Balance of Payments, China, 2014

in US\$ billion

	Credit	Debit	Balance
Current Account	2799	2579	220
Goods Trade	2354	1878	476
Services Trade	191	383	-192
Incomes	213	247	-34
Current Transfers	41	71	-30
Capital & Financial Account	2573	2535	38
Capital Account	2	2	0
Financial Account	2571	2533	38
<i>Direct Investment</i>	<i>435</i>	<i>227</i>	<i>209</i>
Outbound	56	136	-80
Inbound	380	91	289
<i>Portfolio Investment</i>	<i>166</i>	<i>84</i>	<i>82</i>
Assets	29	40	-11
Liabilities	137	44	93
<i>Other Investment</i>	<i>1969</i>	<i>2222</i>	<i>-253</i>
Assets	99	402	-303
Liabilities	1870	1820	50
Reserve Assets	31	149	-118
Net Errors & Omissions	0	140	-140

Within the capital and financial account, capital account flows are minuscule such that the financial account amounts to virtually the whole. Within the financial account in turn, the “other investment” category exhibits the largest volume of flows, and within this most of the activity is on the liabilities side. These liabilities mainly constitute Chinese borrowing from foreign sources, with credits representing the initial receipt of funds and debits the repayment. This borrowing is largely short-term, aimed at supporting trade transactions and other working capital needs rather than financing long-term investment. Because of this, credits and debits tend to cancel out within a year’s time leaving only a small balance. The balance of US\$50 billion against credits of US\$1870 billion is consistent with this pattern. Against this, however, on the assets side of “other investment” a deficit erupted of exceptionally large proportions by historical standards. A deeper delve into the balance of payments accounts shows this to have been largely associated with Chinese residents acquiring deposits abroad. This activity will be placed in context in the next sub-section which traces China’s balance of payments over time.

The deficit in “other investment” was more than offset by surpluses for direct investment and portfolio investment to result in a modest overall surplus on the financial account. Within both these categories, large inflows of foreign funds predominate as seen by credits on inbound direct investment and on liabilities in portfolio investment. The inflows on direct investment represent long term commitments that do not pivot quickly toward an exit. Nor under China’s capital controls do portfolio flows respond readily to changing sentiments about the investment environment. We will see in the next sub-section, however, how the forces of market perception can play out with more time.

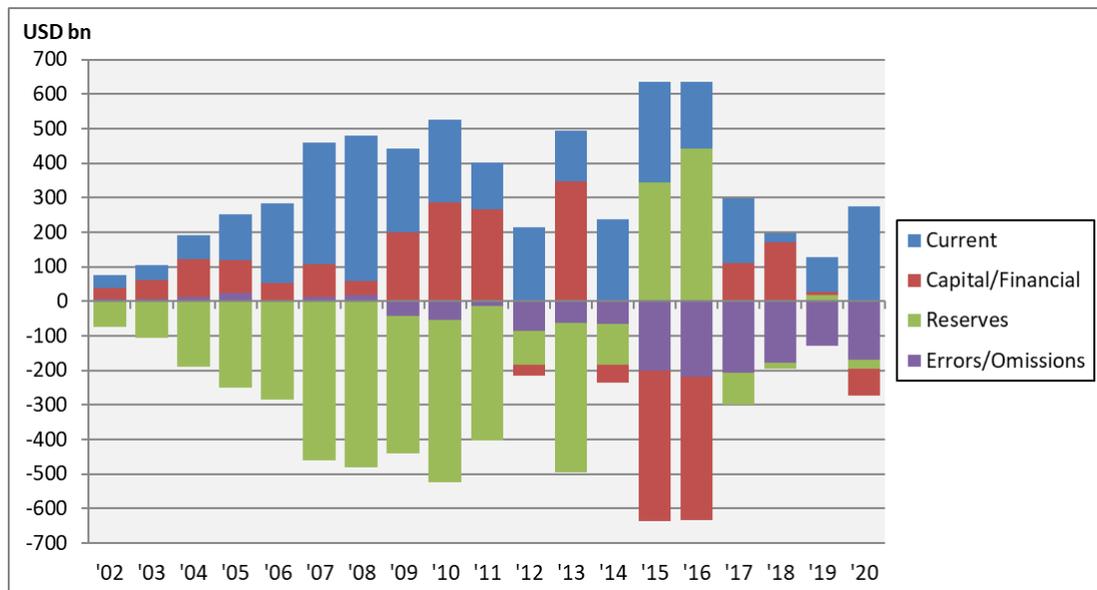
Above the line in the combined current and capital and financial accounts, a surplus of US\$258 billion materialized. This was balanced below the line in part by central bank acquisition of reserves at US\$118 billion. When the central bank acquires reserves it must buy foreign currency by selling renminbi in the foreign exchange market which puts downward pressure on the value of the renminbi. The lower value of the renminbi makes China's exports cheaper and its imports more expensive. Reserve accumulation and the trade surplus thus represent two sides of the same coin, so to speak.

Finally, the US\$140 billion outflow under errors and omissions is the measure of our ignorance. On balance, much money moved out without leaving a trace.

Main Accounts over Time

Net magnitudes over time on China's main accounts are captured in Chart 5.1. The story is one of surging imbalances in one direction during the 2000-aughts followed by a great deal of volatility thereafter.

Chart 5.1: Balance of Payments, China, 2002-2020



China joined the World Trade Organization in 2001 after a 15-year stretch of negotiations. With that, its exports soared and its economic growth accelerated well into double digit rates. As is common for developing countries during a period of sustained take-off (illustrated by Taiwan in Chart 4.4), China's saving rate rose sharply against an investment rate that, already exceptionally high, did not keep pace. Per the relationship developed in Equation (4.7), $S - \hat{I} = X - M$, slower growth in investment than in saving meant that imports did not keep pace with exports either. The central bank did its part to keep the growth engine running in the face of lagging domestic consumption by purchasing the export earnings not going toward import purchases. In effect, China was lending to the US to support American consumption of Chinese goods. Chart 5.1 reflects these dynamics in a ballooning current account surplus, up from US\$35

billion in 2002 to US\$421 billion in 2008, accompanied by rising reserve accumulation. Year by year central bank build up of foreign reserves accumulated to reach nearly US\$2 trillion in 2008, which at the time seemed quite stunning (although it was not over yet).

Relative to GDP, China's current account surplus peaked in 2008 at a ratio that exceeded 10 percent, much to the ire of trade partners who took this as a sign of unfair practices. In the following few years, however, not only was the surplus to fall in absolute terms but given China's rapid GDP growth, the ratio to GDP shrank to just 2.8 percent by 2011. This is not an outsized figure by world standards.

The contraction in China's current account surplus in 2009 was brought on by the collapse in world trade that followed the Great Financial Crisis. The investment climate in China nevertheless remained vibrant, aided by a government stimulus program that fed credit into infrastructure development. With relaxation of capital controls, foreign funds poured in. What was lost in the way of a current account surplus was thus made up by burgeoning surpluses on the financial account. Reserve accumulation continued apace, and the US\$3 trillion threshold was surpassed in 2011.

In a foretaste of what was to come, the financial account balance reversed in 2012 when investors grew worried about a slowdown in China's economic growth and the potential for renminbi depreciation. But sentiment soon rebounded, and strong capital inflows resumed in 2013. The next bout of investor skittishness was not so easily overcome, however. By 2014,¹ maintenance of a renminbi tie to the US dollar as the dollar was appreciating relative to other currencies conveyed a sense of increasing overvaluation of the renminbi. Once the central bank finally succumbed to pressure to engineer a tentative devaluation, panic set in. Investors unloaded renminbi assets and moved their money to other shores while borrowers hastened to repay foreign currency loans and shift new borrowing into domestic currency. In each of 2015 and 2016, net outflows on the financial account exceeded US\$400 billion in addition to which outflows of more than US\$200 billion a year appeared as errors and omissions. In the face of this capital flight, the central bank sought to allay fears by liquidating reserve assets and selling foreign currency to meet the demand in the foreign exchange market. Between mid 2014 and late 2016, central bank reserves plummeted from US\$4 trillion to US\$3 trillion. To observers who had judged China's reserves to be excessive, the speed at which they could slip away was eye popping.

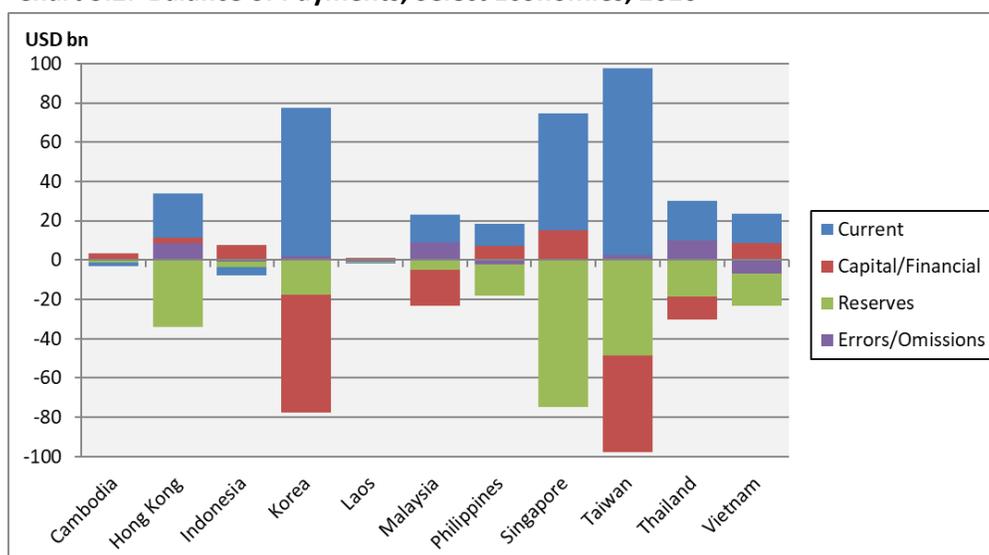
Eventually, the market stabilized. By 2017, the balance showing on the capital and financial account had returned to positive territory. However, errors and omissions have continued to register net outflows that more than offset the net inflows on the capital and financial account. As part of the government's strategy to stabilize the market, it tightened controls on the cross-border movement of funds. The continued large volume of implied outflows suggests ingenuity on the part of economic agents in circumventing these controls.

D. Emerging East Asian Economies, 2020

¹ Magnitudes for 2014 in Chart 5.1 do not conform with those in Table 5.2. The data for the chart are from a 2020 database whereas those for the Table are from a 2015 release that was later subject to updating. Detail at the level of the 2015 release is no longer publicly reported.

China is far from alone in the region in running current account surpluses, as Chart 5.2 bears out for 2020. The surplus for the region stood at US\$307 billion in addition to China's US\$274 billion. These figures were up with the pandemic from 2019 values of US\$225 for the region plus US\$103 billion for China. Korea, Singapore, and Taiwan all ran surpluses in the US\$60-100 billion range. Relative to GDP, these magnitudes outstripped China's 2008 peak for Singapore at 17.6 percent and Taiwan at 14.2 percent. While Korea's surplus was comparable in absolute terms, relative to its GDP the figure was not a standout at 4.6 percent.

Chart 5.2: Balance of Payments, Select Economies, 2020



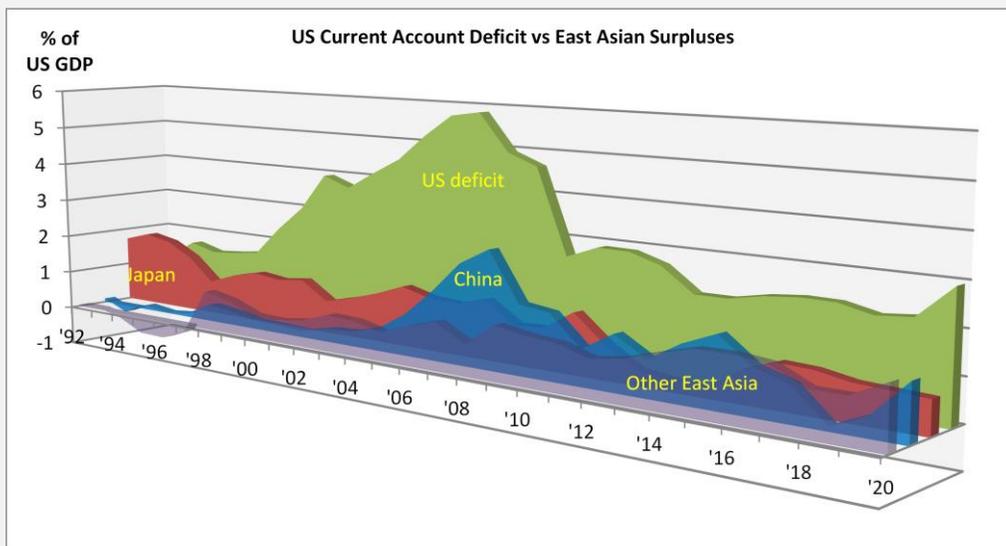
The economies running current account surpluses balanced the inflows with differing mixes of central bank and non-central bank capital outflows. For Singapore, net capital flows were inbound which added to the overall surplus the monetary authority absorbed. For Korea and Malaysia the central bank played a relatively minor role in balancing current account surpluses whereas for Hong Kong, the Philippines, Thailand, and Vietnam the central bank's role was dominant. Cambodia, Indonesia, and Laos ran current account deficits that were small in all cases relative to surpluses elsewhere in the region but in Cambodia's case large relative to its GDP at 8.7 percent. This pattern continues a history of large capital inflows to Cambodia as reflected in the stock measure of its foreign direct investment shown in Chart 2.4. Balancing this capital inflow, Cambodia not only ran a current account deficit but was also able to increase its official reserves.

The Hong Kong case is distinctive in that the monetary authority is obliged to maintain a fixed exchange rate relative to the US dollar, buying dollars to absorb a surplus on the overall balance of payments and selling to fill a deficit. In 2020, all major elements of Hong Kong's balance of payments were in surplus with the inflows duly purchased by the monetary authority in exchange for equivalent issue of Hong Kong dollars.

Large current account surpluses for Emerging East Asia have been the norm ever since the Asian Financial Crisis. Of course, for one part of the world to run a current account surplus, another part must run a deficit. That role has fallen largely to the US, as Box 5.1 recounts.

Box 5.1: Global current account imbalances

Globally, economies that sell more products than they buy must square off against counterparts that buy more than they sell. The US has assumed the net buyer position in a major way through recent decades as the figure below shows. At its peak in 2006, the US current account deficit reached nearly 6 percent of its GDP. This gap was so enormous that the surplus of all of East Asia, inclusive of Japan, filled only 2/3 of it.



The year 1998 was pivotal for global current account imbalances. The Asian Financial Crisis precipitated capital flight not only from much of Emerging East Asia, but from the broader developing world as well. The resulting deficits in emerging market financial accounts had to be met with surpluses in their current accounts. Meanwhile, investors seeking safe haven were drawn to US dollar assets, and capital movements into the US were of necessity balanced by current account deficits there.

The shift in China's current account balance came later with gradual upward creep in the early 2000s followed by sharp ascendance later in the decade even as the US deficit started to narrow. The Great Financial Crisis brought a retrenchment in US trade, and with it a sharp contraction in the country's role in absorbing Asian surpluses. Indeed, from 2009 onward, the collective surpluses of East Asia, including Japan and China, exceeded the US deficit, meaning that other countries became more of an outlet for Asia's net exports.

With the pandemic in 2020, China's surplus rose sharply in tandem with the US deficit. Both countries responded to the crisis with government stimulus programs, the difference being that support in China went mainly to businesses to sustain production while support in the US went mainly to households to sustain consumption. Resulting changes in trade balances were predictably complementary.

E. Linkage to the National Income & Product Accounts

The main elements of the current account of the balance of payments enter directly into national income and product aggregates. Recall that GDP as defined under the expenditures

approach incorporates exports minus imports along with consumption and investment (both consumption and investment being specified here to include government spending as signified by the hat, following the notation of Chapter 4):

$$\text{GDP} = \hat{C} + \hat{I} + X - M, \quad (4.5)$$

where: \hat{C} = consumption by households and government;
 \hat{I} = investment by households, businesses, and government;
 X = exports;
 M = imports.

Through inclusion of the trade balance, GDP captures goods and services produced in the home economy and sold for export while netting out spending on imports of goods and services which are implicitly subsumed in the other components of spending. Mathematically, the relationship appears to suggest that if an economy can increase its exports and/or reduce its imports, it will increase its domestic output. With respect to reducing imports, this is strictly an illusion since lower imports necessarily correspond to lower expenditures elsewhere for no net gain.

With respect more generally to exports net of imports there is a more indirect catch. Balance of payments accounting requires that a surplus on the trade account be met with a countervailing deficit elsewhere. Non-trade items in the current account typically being small, as a practical matter this implies net capital outflows, either through the official settlement balance or through other channels. In other words, an economy must serve as a net lender to the rest of the world to sustain a trade surplus. This comes at a cost in that domestic saving is being channeled abroad rather than invested at home where it might find application in projects that would contribute to higher output in the future. In particular, rather than accumulating assets abroad, an economy might instead use its export revenues to purchase capital equipment that would boost its future productive capacity. Much of the capital outflow from Emerging East Asia has resulted from a deliberate policy choice to accumulate reserve assets, the merits of which choice can be debated. Does the stimulus to growth from policies that expand exports in conjunction with reserve accumulation outweigh the mitigation to growth from channeling saving abroad? An understanding of the balance of payments accounts does not answer this question, but it does help frame the analysis.

Let us elaborate on the connection between the domestic saving-investment balance and the external balance. Besides the trade balance, the current account balance also captures net foreign factor income and net foreign transfer income:

$$\text{CA} = X - M + Y_f \quad (5.2)$$

where: CA = current account balance;
 Y_f = net foreign factor and transfer income.

Recall from Equations (4.1) and (4.2) that adding net foreign factor and transfer income to GDP yields gross national disposable income, GNDI, which we can now express incorporating the current account balance:

$$\text{GNDI} = \hat{C} + \hat{I} + \text{CA}. \quad (5.3)$$

In Chapter 4 we defined a notion of saving, S , as that part of GDP which was not consumed. Setting $\hat{C} + S$ equal to the expression for expenditures GDP, we derived a relationship between saving net of domestic investment and the trade balance:

$$S - \hat{I} = X - M. \quad (4.7)$$

This notion of saving rests on output produced in an economy rather than income earned by an economy's residents. The income basis is more useful for reckoning saving if we wish to decompose saving behavior along institutional lines (households, enterprises, and government) or factor lines (labor and capital) regardless of country of residence. Let us define an income based notion of saving as the difference between GNDI and consumption so that:

$$\text{GNDI} = \hat{C} + S' \quad (5.4)$$

where: S' = saving out of GNDI.

Note that the value of consumption is treated as the same regardless of which income measure we use. It is the saving residual that absorbs the difference.

With GNDI as our notion of income and S' our notion of saving, the current account balance now reflects the difference between saving and investment:

$$S' - \hat{I} = \text{CA}. \quad (5.5)$$

The saving-investment gap defined in this way is in turn equal to the negative of the balance on the combined capital and financial account and official settlement balance. That is to say, saving taken as S' net of domestic investment captures the full net outflow of capital to the rest of the world.

In practice, the difference between the two notions of saving is usually small relative to the size of an economy because net foreign factor and transfer income is usually small relative to the size of an economy. For some economies, however, the difference is material. The Philippines with its large contingent of overseas workers is a case in point. Net foreign factor and transfer income raised Philippine GNDI by nearly 9 percent over GDP in 2019. This has critical implications for how we interpret the country's saving behavior. Subtracting consumption from GDP yields a saving rate of just 14.3 percent whereas subtracting the same consumption figure from GNDI brings the rate up to a more normal 22.1 percent (versus a global average of 25 percent). The saving shortfall relative to investment as implied by the trade balance was 9.6 percent of GDP but as implied by the current account balance was just 0.8 percent GNDI.

To conclude, drawing from the expenditures approach to GDP measurement, the trade balance is often taken as the measure of an economy's saving-investment gap. This measure is misleading for economies that have large net foreign factor incomes, however. For such economies, the current account balance better captures saving with respect to the full measure of income and more accurately reflects net international capital flows.²

F. Summary & Linkage to the Money Supply

Transactions between residents of one economy and the rest of the world are recorded in the economy's balance of payments. By virtue of double-entry bookkeeping, the balance of payments must balance. If an economy shows a surplus in one segment of the accounts, it must show a matching deficit elsewhere. For the major economies of Emerging East Asia in recent decades this has meant trade surpluses (net credits) largely being met through foreign reserve acquisition by monetary authorities (net debits). Many economies in the region have accumulated enormous foreign reserve caches by following this routine through sustained periods of years.

The acquisition of reserves by a monetary authority has important ramifications for the domestic money supply and hence the economy. Money is the subject of our next chapter. We outline the connection briefly here. If a monetary authority buys foreign exchange, it issues domestic currency to support the purchase. Conversely, if the authority sells foreign exchange, it withdraws domestic currency from circulation. Changes in the money supply in turn affect credit availability and the level of economic activity. An economy's balance of payments position is therefore integrally related to its macroeconomic performance.

² As a matter of accounting precision, when the current account balance is the measure of the saving-investment gap, the appropriate income basis is GNDI. Alternatively, when the trade account balance is the measure of the gap, the appropriate income basis is GDP. In fact, it is common practice to compare current account balances with GDP – and we did so in discussing Chart 5.2 – but technically, doing so mismatches notions of income between numerator and denominator. Even in the Philippine case though, the quantitative difference does not amount to much. The country's current account balance relative to GDP was 0.8 percent in 2019 versus a current account balance relative to GNDI of 0.7 percent.

Data Note

China's balance of payments data for Table 5.2 are from the State Administration of Foreign Exchange of the People's Bank of China.

Balance of payments data for 2020 for the broad sample of Emerging East Asian economies and the US and for the China time series of Figure 5.1 are from the IMF International Financial Statistics database.

Taiwan's balance of payments data are from the Central Bank of the Republic of China (Taiwan).

Bibliographic Note

The standard reference on balance of payments accounting is the IMF's *Balance of Payments and International Investment Position Manual, Sixth Edition*, published in 2009. The first edition of this manual dates back to 1948. The current edition embodies major revisions to its predecessor which had served since 1993. Significant advances include: extending coverage to encompass the international investment position in view of the importance of understanding an economy's balance sheet in assessing macroeconomic vulnerabilities; addressing the demands of globalization through more elaborate treatment of multinational corporations, labor migration, and cross-border production processes; and dealing with developments in finance such as derivatives and securitization. Nevertheless, the overall structure of the accounts remained the same.

A separate manual – *The Balance of Payments Compilation Guide* – provides advice on the practical aspects of compiling balance of payments statistics. Other guides exist to cover balance of payments compilation in such specific areas as direct investment, portfolio investment, international reserves, trade in services, external debt, international banking, and remittances.

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