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CURRENT AND CAPITAL ACCOUNT INTERDEPENDENCE: AN EMPIRICAL TEST

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Abstract:
This study uses two alternative specifications to test the interdependence between the current and capital accounts of the balance of payments. The empirical specifications, derived from the balance of payments constraint and from national income accounting relationships, respectively, yield consistent support for the interdependence hypothesis. The balance of payments specification returns positive findings for nine of the ten sample countries. These are corroborated by the general equilibrium specification in three instances. Neglect of the comprehensive lag structure of the underlying model may account for the relatively weak support from the general equilibrium specification of the interdependence hypothesis.

Keywords: Current account; Capital account; Developing countries; G-5; Interdependence

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1. Introduction

The interrelation between the current account (CA) and capital account (KA), more recently known as the financial accounts, of the balance of payments is a fundamental relation in open economy macroeconomics. The "interdependence" between these component accounts captures the reactions of the financial and real sectors to systemic disturbances and their interaction during the adjustment process (Fausten, 1989-90). These reactions constitute channels for the intersectoral transmission of disturbances, and expose the susceptibility of the domestic nonfinancial sector to developments in international asset markets. Prominent intermediate variables which play a role in this process include income, foreign direct investment, exchange rates, interest rates, and so on.

One issue of particular interest is the simultaneity of the CA and KA. In the limiting case of freely floating exchange rates, CA deficits are financed entirely by KA surpluses and, conversely, net capital flows are "financed", or transferred, through commensurate imbalances on current account. Formally, the simultaneity of the two component external accounts is captured in the double-entry bookkeeping practice of balance of payments accounting. The economic substance of this phenomenon derives from the fact that voluntary transactions involve exchanges of equivalents – i.e., any sale or purchase involves a *quid pro quo*. Both equivalents are determined simultaneously and, in the case of cross-border transactions, are recorded in the external accounts.

The requirement that net flows on the two component accounts of the balance of payments must be mutually consistent implies that at any point in time the flow balances of the two accounts are mirror images of each other (CAB = -KAB). The resulting "redundancy" problem", viz. that in a closed system with *n* variables only *n*-1 variables are independent while the *n*th variable must be determined residually, is captured in the balance of payments constraint. However, the constraint itself does not identify which variable (or component account) is the residual element, i.e., should be written on the left hand side. The alternative options have inspired alternative "views" of the balance of payments that assign primacy to different sectors of the economy in the determination of balance of payments outcomes (Johnson, 1966). Emphasis on either the CA or the KA as the autonomous driver of cross-border transactions flows has been invoked as a rationale for selecting either the real or the financial sector of the economy for explicit analysis of external balance issues. These alternative structural and analytical perspectives are reflected, respectively, in the traditional "commodity" approach and the more modern "monetary" and "assets" approaches to the balance of payments and exchange rates.

Reliance on the formal equivalence of the alternative component accounts can easily lead to structural misspecification. Modelling a country's economic interactions with the rest of the world from the alternative narrow behavioural perspective of either component account, or associated approaches, can easily ignore important structural relations. Hence, a reorientation towards an integrated general equilibrium approach to the balance of payments would be conducive to a more reliable modelling strategy. The general equilibrium perspective explicitly acknowledges the quintessential intermediation function of the financial sector instead of modelling it as a self-contained domain of economic behaviour. More importantly, it assigns a central role to the interaction between the financial and nonfinancial (real) sectors for the simultaneous determination of the CA and KA balances. That is, variables in both the financial and the real sectors play essential roles in determining simultaneously the outcomes on current and capital account.

The "technical" relationship between the current and capital accounts has been examined empirically within the Granger causality framework. Wong and Carranza (1999) investigated the effects of external shocks of a variable on the two component accounts. Their Vector Auto-Regression framework (VAR) is based on specific assumptions about adjustment speeds. First, they assume that the foreign exchange market, like other assets markets, reacts more quickly than other domestic markets to external shocks. Secondly, they assume that the current account is more responsive to changes in the real exchange rate (RER) than to changes in real interest rates, whereas the capital account could be equally responsive to both for a given state of exchange rate expectations (Wong and Carranza, 1999, p. 226). They used quarterly data for four emerging markets - Argentina, Mexico, the Philippines, and Thailand - covering the post-Bretton Woods era from the mid-1970s to the mid-1990s. The empirical estimations were conducted for two sub-sample periods (pre-and post-1988) in recognition of the rapid globalization of capital markets from the late 1980s until the mid-1990s.

Wong and Carranza's main findings from the bivariate VAR framework are ambivalent: CA Granger-causes KA for Argentina in the first sub-period, and for the Philippines and Thailand in the second sub-period. At the same time, the KA does Granger-cause the CA for all sampled countries in the second sub-period. The evidence of bidirectional causality renders these findings inconclusive: in the second sub-period the CA causes KA for the Philippines and Thailand while the opposite direction of causation holds for all countries, including the Philippines and Thailand. The empirical finding of two-way causality reinforces the intuition that temporally based causality relationships may not reveal the true structural relationship that exists between the component accounts of the balance of payments.

Yan (2005) extended the Wong and Carranza (1999) study by taking into account omitted variables like the real exchange rate and GDP. The set of sample countries was increased to five developing and five developed countries. The developing countries - Argentina, Mexico, Indonesia, South Korea, and Thailand had all been severely affected by the currency crises of the 1990s. The developed countries are the G-5 economies that had enjoyed liberalized capital mobility before 1989 – France, Germany, Japan, the U.K. and the U.S. Adopting the bivariate VAR framework used by Wong and Carranza (1999), Yan (2005) found that the KA causes the CA in the developing countries rather than accommodating (financing) it over the observation period for the entire study, 1989:1 – 2000:4. This is consistent with the Wong and Carranza findings. In contrast, causation seems to run in the opposite direction for the developed countries, the CA leading the way and the KA financing the current account imbalances.

Table 1. Granger Causality Findings

Wong & Carranza (1999)	**Pre-1988**	**Post-1988**
CA $\rightarrow$ KA	Argentina	Philippines, Thailand
KA $\rightarrow$ CA		Argentina, Mexico, the Philippines, Thailand

Yan (2005)	1989.1 – 2000.4
CA $\rightarrow$ KA	Developed (France, Demark, Japan, UK, US)
KA $\rightarrow$ CA	Developing (Argentina, Indonesia, Mexico, the Philippines, Thailand)

The studies by Wong and Carranza (1999) and Yan (2005) do not provide conclusive evidence of the nature of the fundamental structural interdependence between the CA and KA. Rather, the VAR findings merely attest to the statistical probability, based on past information, of the temporal adjustment patterns of the CA and KA. As an econometrics exercise, the causality approach (Granger, 1988) essentially involves statistical tests of the extent to which the current value of a variable can be reliably predicted by the past values of other variable(s). While this approach is concerned with statistical 'predictability' it does not provide evidence validating theoretical structures which are important for understanding systemic responses to exogenous shocks. Specifically, Granger causality tests do not shed any light on theoretical priors concerning the nature of the CA and KA interdependence. One way to interpret these empirical findings is to argue that evidence of interdependence between the CA and KA is a *necessary* condition to warrant further empirical testing of the nature of the interrelationship. If the CA and KAs are not interdependent, then positive findings from causality tests must be received with caution because they may reveal purely temporal associations that are devoid of any structural content.

The present study explores the structural interdependence between the CA and KA within the empirical framework of the balance of payments (BoP) constraint embedded within a general equilibrium framework. There have been only limited attempts at examining the CA and KA relation empirically. The two main instances are the previously cited studies by Wong and Carranza (1999) and Yan (2005) which examine the statistical association between the current and capital accounts for evidence of Granger causality. The present study investigates the interdependence between the current and capital accounts. Evidence of interdependence can potentially validate the generic causality findings of earlier studies. It employs two mutually consistent analytical frameworks for modelling the interdependence. One framework is defined by the external balance constraint, or *ex post* balance of payments identity. The other is a reduced form representation of the simultaneous market clearing requirements implied by the general equilibrium perspective of a two-sector economy that informed the seminal work by Feldstein and Horioka (1980) on cross-border capital movements.[1]

The next section develops the theoretical framework to derive two alternative specifications for empirical tests of the CA and KA interdependence hypothesis. Section 3 reports the results, and Section 4 concludes the study.

[1] Feldstein and Horioka (1980) formally applied the general equilibrium perspective to the analysis of international capital movements by emphasising the saving - investment relation. If capital is immobile internationally, then national investment must follow domestic saving whereas investment is not so constrained in the presence of capital mobility. Hence, they explore the degree of international capital mobility by estimating a regression of the general form $\left(\frac{I}{Y}\right) = \alpha + \beta\left(\frac{S}{Y}\right)$. Evidence that β =0 indicates that S and I are not correlated and, hence, establishes a presumption of perfect international capital mobility. Conversely, β =1 is consistent with the obverse case in which capital does not move across international borders.

2. Theoretical Framework

Balance of Payments (BoP) Constraint:

The *ex post* Balance of Payments (BoP) identity is given by:

$$BoP = CA + KA + \Delta IR \equiv 0 \quad (1)$$

where ΔIR denotes net official monetary movements.[2] CA imbalances can be financed either in private capital markets (KA) or by official reserve flows (ΔIR). Conversely, any attempt by the authorities to build up their net foreign asset holdings requires commensurate CA surpluses unless they acquire those foreign assets from private domestic holdings. A system of floating exchange rates obviates the need for any $\Delta IR \neq 0$. However, that ideal system does not exist in the modern flexible exchange rate environment. Central banks have consistently intervened in the FOREX market to "lean into the wind" or to manage exchange rates.

(i) Basic model

The basic relation between CA and KA outcomes is represented in equation (1). This relation allows the alternative interpretations that current or capital account transactions are the accommodating vehicle:

$$CA = - KA - \Delta IR \quad (2)$$

Or,

$$KA = - CA - \Delta IR$$

In practice, equations (2) do not hold in the empirical analogues of the theoretical relations because of statistical and conceptual difficulties in the reporting and recording of balance of payments data. These difficulties are recognised as residual “errors and omission” or “balancing item” in the balance of payments records. In principle, the estimated parameters for the constant and residuals from the two relations in (2) could simply be read as ‘net errors and omissions’ (BI) where the constant term captures their structurally stable components while the residual error term reflects their structurally unstable components. Alternatively, the reported Errors & Omissions can be included among the regressors. This strategy is adopted in the present investigation.

Accordingly, the empirical counterpart to the conceptual balance of payments constraint should be written as $\overline{CA} + \overline{KA} + \overline{\Delta IR} - \overline{BI} = 0$, where italizised variables with over-bars denote measured magnitudes. Since data for the balancing item is available we include this variable in the equations explicitly rather than merely assuming it to be reflected in the constant and residual terms. Those terms can then be interpreted as capturing other structural characteristic of current and capital account behaviour. Thus, the alternative structural relations suggested by the balance of payments constraint can be written algebraically as in (3) and (4), specifying alternatively the current and capital account as the accommodating component account of the BoP.

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[2] Initially, ΔIR is assumed to be zero. This assumption applies strictly only in the hypothetical limiting case of freely floating exchange rates. Generally speaking, the change in official reserves in a given year is small relative to the net transactions flows on current and capital accounts. However, the recent experience of China counsels caution in invoking that generalization.

$$\overline{CA} = -\overline{KA} - \overline{\Delta IR} + \overline{BI}$$
$$\overline{CA_t} = \beta_0 + \beta_1 \overline{KA_t} + \beta_2 \overline{\Delta IR_t} + \beta_3 \overline{BI_t} + e_t \qquad (3)$$

and,
$$\overline{KA} = -\overline{CA} - \overline{\Delta IR} + \overline{BI}$$
$$\overline{KA_t} = \beta_0^{'} + \beta_1^{'} \overline{CA_t} + \beta_2^{'} \overline{\Delta IR_t} + \beta_3^{'} \overline{BI_t} + \varepsilon_t \qquad (4)$$

The regression equations (3) and (4) can be explicitly estimated by the OLS estimator for the $\overline{CA}$ and $\overline{KA}$ variables. The restrictions β_1 = -1 (and $\beta_1^{'}$ = -1)[3] can be tested by coefficient restrictions tests - Wald test (χ^2 statistics). CA and KA interdependence is indicated if the restrictions hold; hence the null hypothesis of β_1 = -1 (and $\beta_1^{'}$ = -1) should be statistically significant.

(ii) Financial account

In conformity with current nomenclature and practice we can emphasize instead the financial account (FA) to identify the modified reduced form relations (5 and 6). The financial account assimilates private capital flows and official reserve transactions (FA≡KA+ΔIR).

$$\overline{CA} = -\overline{FA} + \overline{BI}$$
$$\overline{CA_t} = \beta_0^{FA} + \beta_1^{FA} \overline{FA_t} + \beta_2^{FA} \overline{BI_t} + \varphi_t \qquad (5)$$

and,
$$\overline{FA} = -\overline{CA} + \overline{BI}$$
$$\overline{FA_t} = \beta_0^{FA'} + \beta_1^{FA'} \overline{CA_t} + \beta_2^{FA'} \overline{BI_t} + \theta_t \qquad (6)$$

Since the $\overline{BI}$ variable represents undifferentiated errors and omissions and since it is not known whether these errors and omissions are attributable to goods or to financial flows, the appropriate placement of that variable in the estimating equations is uncertain. If $\overline{BI}$ consisted predominantly of unrecorded or incorrectly reported cross-border transactions in goods and services then it should be assimilated with the measured $\overline{CA}$ and written on the left hand side in equations (3) & (5), and on the right hand side in equation (4) & (6). Conversely, if $\overline{BI}$ consisted predominantly of unrecorded financial flows then it should be listed on the right hand side of equations (3) & (5) (and on the left hand side of equations (4) & (6)). There is little robust evidence about the nature of $\overline{BI}$ (Fausten and Brooks, 1996; Fausten and Pickett, 2004; Tang 2005, 2006a, 2006b). However, one plausible working hypothesis is to argue that the composition of the BI has changed progressively with changes in the global market environment. Traditionally, "leads and lags" in trade may have been the dominant source of recording errors. With the progressive dismantling of exchange controls and financial liberalisation and

[3] This requirement is a strong-form interdependence test theoretically informed by the balance of payments constraint. By and large, β >0 does indicate some interaction between the current and capital accounts. The parameter estimates reported in Appendix A all have the *p*-values less than 0.10, supporting the weaker version interdependence tests.

securitisation, “hot money” flows and “off-balance-sheet” transactions are likely to have assumed increasing importance as determinants of errors and omissions in the bop records. Hence, agnosticism would suggest that $\overline{BI}$ could be placed on either side in the estimating equations. The alternative working hypothesis suggests that the placement of $\overline{BI}$ should change over time. Alternative specifications address the ambivalence about the appropriate positioning of the BI-variable.

(iii) Augmented component accounts

One variant accepts the working hypothesis that its constitution has changed over time. In the environment of progressive liberalisation of capital markets the BI term may have come increasingly to represent unrecorded financial transactions. Hence, we combine the $\overline{BI}$ with the $\overline{CA}$ variable for the pre-1989 period and with the $\overline{KA}$ (or $\overline{FA}$) variable for the post-1989 period to form the ‘augmented’ component account variables $CA_t^* = CA_t + BI_{pre-1989}$, $KA_t^* = KA_t + BI_{Post-1989(inclusive)}$ (or $FA_t^* = FA_t + BI_{Post-1989(inclusive)}$), respectively. Given the extremely sharp structural change implied by this modelling, and given the pervasive lack of robust empirical evidence about the constitution of the balancing item, an alternative variant distributes the recorded errors and omissions evenly across the current and capital account balances. In this variant, the ‘augmented’ component account variables combine half of the $\overline{BI}$ with each of the $\overline{CA}$ and $\overline{KA}$ (or $\overline{FA}$) variables for the entire sample period such that $CA_t^{**} = CA_t + 0.5BI_t$ $KA_t^{**} = KA_t + 0.5BI_t$ and $FA_t^{**} = FA_t + 0.5BI_t$. Again, the restrictions tests for interdependence can be empirically implemented for the modified OLS regression equations:

$$\overline{CA_t^*} = \beta_0^{'} + \beta_1^{'}\overline{KA_t^*} + \beta_2^{'}\overline{\Delta IR_t} + e_t^{'} \quad (3')$$

$$\overline{CA_t^{**}} = \beta_0^{''} + \beta_1^{''}\overline{KA_t^{**}} + \beta_2^{''}\overline{\Delta IR_t} + e_t^{''} \quad (3'')$$

$$\overline{KA_t^*} = \beta_0^{'} + \beta_1^{'}\overline{CA_t^*} + \beta_2^{'}\overline{\Delta IR_t} + \varepsilon_t^{'} \quad (4')$$

$$\overline{KA_t^{**}} = \beta_0^{''} + \beta_1^{''}\overline{CA_t^{**}} + \beta_2^{''}\overline{\Delta IR_t} + \varepsilon_t^{''} \quad (4'')$$

and,

$$\overline{CA_t^*} = \beta_0^{FA'} + \beta_1^{FA'}\overline{FA_t^*} + \varphi_t^{'} \quad (5')$$

$$\overline{CA_t^{**}} = \beta_0^{FA''} + \beta_1^{FA''}\overline{FA_t^{**}} + \varphi_t^{''} \quad (5'')$$

$$\overline{FA_t^*} = \beta_0^{FA'} + \beta_1^{FA'}\overline{CA_t^*} + \theta_t^{'} \quad (6')$$

$$\overline{FA_t^{**}} = \beta_0^{FA''} + \beta_1^{FA''}\overline{CA_t^{**}} + \theta_t^{''} \quad (6'')$$

(iv) Dummy variable

The structural discontinuity associated with the accelerating globalization of capital markets from the late-1980s (Wong and Caranza, 1999) can be captured by decomposing the sample period or by introducing a dummy variable (*Dum*) into the estimating equations. Given the small sample size implied by the use of annual data in this study, the dummy variable approach is more appropriate than dividing the sample period into pre-1989 and post-1989 sub-periods. Dum takes the value of one for 1989 and onward, and zero otherwise. The regression equations can be estimated by:

$$\overline{CA_t} = \beta_0''' + \beta_1''' \overline{KA_t} + \beta_2''' \overline{\Delta IR_t} + \beta_3''' \overline{BI_t} + \beta_4''' Dum + e_t''' \quad (3''')$$

$$\overline{KA_t} = \beta_0''' + \beta_1''' \overline{CA_t} + \beta_2''' \overline{\Delta IR_t} + \beta_3''' \overline{BI_t} + \beta_4''' Dum + \varepsilon_t''' \quad (4''')$$

and,

$$\overline{CA_t} = \beta_0^{FA'''} + \beta_1^{FA'''} \overline{FA_t} + \beta_2^{FA'''} \overline{BI_t} + \beta_3^{FA'''} Dum + \varphi_t''' \quad (5''')$$

$$\overline{FA_t} = \beta_0^{FA'''} + \beta_1^{FA'''} \overline{CA_t} + \beta_2^{FA'''} \overline{BI_t} + \beta_3^{FA'''} Dum + \theta_t''' \quad (6''')$$

Open Economy Macro Equilibrium:

The alternative modeling approach to CA and KA interdependence is informed by the general equilibrium perspective of the two-sector open economy. It 'complements' the former approach which is essentially based on *accounting* relationships by incorporating relevant *structural* relationships. The two main component accounts of the balance of payments enter into the relevant market clearing conditions of an open economy. The current account balance represents the excess supply of domestic output while the balance on capital account reflects the excess demand for bonds or, in the contemporary emphasis on the "financial account", the excess demand for assets.

From national income-expenditure relationships the current account balance is equivalent to the national saving – investment balance:

$$CA = S^n – I,$$

where I denotes domestic investment and S^n national saving, i.e., the sum of private and public sector saving (budget surplus). This relation illustrates one of the fundamental benefits of economic openness which is to explode the tight constraint between S^n and I that exists in a closed economy. In an open economy national saving can be invested at home or abroad so that the savings-investment relation can be rewritten as ($S^n=I^d+I^f$ where $I^f \equiv CA=-KA$). Foreign investment (I^f) is reflected in the acquisition of foreign assets (KA<0) and commensurate transfers of domestic real resources to users abroad (CA>0), so that

$$(S^n - I) = CA = -KA \quad (7)$$

The clearing condition for the domestic goods market embeds the current account of the balance of payments in the domestic income-expenditure relationships. Similarly, the clearing condition for assets markets determines the net transaction flows on the financial account. Hence, we are able to modify equations (3) and (4) by substituting (S^n-I) for CA and (-KA), respectively. Taking account of the errors and omissions $\overline{BI}$ in the measured transaction flows we get the corresponding reduced form representations.

$$\overline{CA} = (\overline{S^n} - \overline{I}) - \overline{\Delta IR} + \overline{BI}$$

$$\overline{CA_t} = \alpha_0 + \alpha_1 \overline{I_t} + \alpha_2 \overline{S_t^n} + \alpha_3 \overline{\Delta IR_t} + \alpha_4 \overline{BI_t} + u_t \quad (8)$$

and,

$$\overline{KA} = -(\overline{S^n} - \overline{I}) - \overline{\Delta IR} + \overline{BI}$$

$$\overline{KA_t} = \alpha_0' + \alpha_1' \overline{I_t} + \alpha_2' \overline{S_t^n} + \alpha_3' \overline{\Delta IR_t} + \alpha_4' \overline{BI_t} + v_t \quad (9)$$

Again, in conformity with current nomenclature and practice we can combine private capital flows and international reserve movements in the financial account (FA≡KA+ΔIR) to identify the modified reduced form relations

$$\overline{CA} = (\overline{S^n} - \overline{I}) + \overline{BI}$$
$$\overline{CA}_t = \alpha_0 + \alpha_1 \overline{I}_t + \alpha_2 \overline{S_t^n} + \alpha_3 \overline{BI}_t + \eta_t \tag{10}$$

And

$$(\overline{KA} + \overline{\Delta IR}) \equiv \overline{FA} = -(\overline{S^n} - \overline{I}) + \overline{BI}$$
$$\overline{FA}_t = \alpha_0^{FA'} + \alpha_1^{FA'} \overline{I}_t + \alpha_2^{FA'} \overline{S_t^n} + \alpha_3^{FA'} \overline{BI}_t + \omega_t \tag{11}$$

As before, the interdependence of CA and KA can be empirically tested by a Wald test (χ^2 statistics) on the joint significance of the α-coefficients (α_1 = -1 and α_2 = 1), and the corresponding variants across the different specifications.

As discussed previously, the ambivalence about the appropriate positioning of the BI-variable can be addressed by using 'augmented' component account variables (i.e. CA^*, CA^{**}, KA^*, KA^{**}, FA^*, and FA^{**}). And, lastly, we introduce the zero-one dummy variable (*Dum*) to capture the rapid globalization of the capital markets in the late-1980s until the mid-1990s.

$$\overline{CA}_t^* = \alpha_0' + \alpha_1' \overline{I}_t + \alpha_2' \overline{S_t^n} + \alpha_3' \overline{\Delta IR}_t + u_t' \tag{8'}$$
$$\overline{CA}_t^{**} = \alpha_0'' + \alpha_1'' \overline{I}_t + \alpha_2'' \overline{S_t^n} + \alpha_3'' \overline{\Delta IR}_t + u_t'' \tag{8''}$$
$$\overline{KA}_t^* = \alpha_0' + \alpha_1' \overline{I}_t + \alpha_2' \overline{S_t^n} + \alpha_3' \overline{\Delta IR}_t + \nu_t' \tag{9'}$$
$$\overline{KA}_t^{**} = \alpha_0'' + \alpha_1'' \overline{I}_t + \alpha_2'' \overline{S_t^n} + \alpha_3'' \overline{\Delta IR}_t + \nu_t'' \tag{9''}$$

And, for the specification in terms of the financial account

$$\overline{FA}_t^* = \alpha_0^{FA'} + \alpha_1^{FA'} \overline{I}_t + \alpha_2^{FA'} \overline{S_t^n} + \omega_t' \tag{11'}$$
$$\overline{FA}_t^{**} = \alpha_0^{FA''} + \alpha_1^{FA''} \overline{I}_t + \alpha_2^{FA''} \overline{S_t^n} + \omega_t'' \tag{11''}$$

$$\overline{CA}_t = \alpha_0''' + \alpha_1''' \overline{I}_t + \alpha_2''' \overline{S_t^n} + \alpha_3''' \overline{\Delta IR}_t + \alpha_4''' \overline{BI}_t + \alpha_5''' Dum + u_t''' \tag{8'''}$$
$$\overline{KA}_t = \alpha_0''' + \alpha_1''' \overline{I}_t + \alpha_2''' \overline{S_t^n} + \alpha_3''' \overline{\Delta IR}_t + \alpha_4''' \overline{BI}_t + \alpha_5''' Dum + \nu_t''' \tag{9'''}$$

And,

$$\overline{CA}_t = \alpha_0''' + \alpha_1''' \overline{I}_t + \alpha_2''' \overline{S_t^n} + \alpha_3''' \overline{BI}_t + \alpha_4''' Dum + \eta_t''' \tag{10'''}$$
$$\overline{FA}_t = \alpha_0^{FA'''} + \alpha_1^{FA'''} \overline{I}_t + \alpha_2^{FA'''} \overline{S_t^n} + \alpha_3^{FA'''} \overline{BI}_t + \alpha_4^{FA'''} Dum + \omega_t''' \tag{11'''}$$

Since both approaches (Balance of Payments constraint and Open Economics Macro Equilibrium) are embedded in a common analytical framework defined by the open economy income expenditure relationships the two sets of specifications should provide consistent results concerning the interdependence between the current and capital accounts.

3. Data and Methods

The core variables are the balances on current account ($\overline{CA}$), capital account ($\overline{KA}$), financial account ($\overline{FA}$), investment ($\bar{I}$), national savings ($\overline{S^n}$), net official monetary movements ($\overline{\Delta IR}$), and net errors and omissions ($\overline{BI}$). Annual data for these variables other than savings are obtained directly from *International Financial Statistics*. In line with previous literature, data for national savings are derived from the national income accounts as Gross Domestic Product (GDP) minus both Private and Government Consumption. Nominal values are converted into real terms by CPI deflators (except for Germany where the GDP deflator is used). National account variables such as GDP, C and G are given in local currency, while the external accounts variables ($\overline{CA}$, $\overline{KA}$, $\overline{FA}$, $\overline{\Delta IR}$ and $\overline{BI}$) are reported in USD. Therefore, national currency-denominated variables were converted into USD by average exchange rates. The data are measured in billions of USD. Following Yan (2005), our country sample consists of five developing countries – Argentina (1976-2006), Mexico (1979-2006), Indonesia (1981-2005), South Korea (1976-2006) and Thailand (1975-2006) - and the G-5 economies – France (1975-1998), Germany (1971-1998), Japan (1977-2006), U.K. (1970-2006) and the U.S.(1970-2006). The period of observation covers approximately three decades starting in the mid-1970s. The sample periods are highly dependent on data availability for the individual sample countries.

The OLS estimator is employed to estimate equations (3) - (11'''). Interdependence between the current and capital accounts is examined by computing the χ^2 statistic on β_1 = -1 and β_1' = -1 (a strong form interdependence test) of equations (3), (3'), (3''), (3'''), (5), (5'), (5'') and (5'''), and (4), (4'), (4''), (4'''), (6), (6'), (6'') and (6'''), respectively. In the general equilibrium specifications we need to test the joint significance of the saving and investment coefficients by employing a Wald test (χ^2 statistic) on α_1 = 1 and α_2 = -1, and on the corresponding variants in the alternative specifications. Statistical significance of the coefficients supports CA and KA interdependence. Equivalent testing approaches are used for the alternative specification in which the dummy variable (*DUM*) is included on the right-hand side of the equations.

4. Results

Appendix A reports test results for the current and capital account interdependence based on the balance of payments constraint. Tables A.1-A.8 present the empirical findings from testing equations 3-6, and the various specifications discussed in the preceding section. The results obtained from specifications informed by the general equilibrium perspective are reported in Appendix B Tables B.1-B.8 present the relevant parameter estimates ($\hat{\beta}_1$ and $\hat{\beta}_1'$ and α's) together with the restriction tests (χ^2 statistics) of the null hypothesis of interdependence (β_1 = -1 and $\beta_1^{'}$ = -1) for equations 8-11. The substance of these findings with respect to the question of interdependence between the current and capital accounts is summarised in Tables 2 and 3.

Table 2. Summary of findings from Balance of Payments Constraint specifications (Appendix A, Tables A.1-A.8)

Table	A.1	A.2	A.3	A.4	A.5	A.6	A.7	A.8
U.S.	-	-	-	-	-	-	√	√
U.K.	-	-	-	-	-	-	√	√
Germany	√	√	√	√	√	√	√	√
Japan	-	-	-	-	-	-	√	√
France	-	-	-	-	-	-	-	-
Thailand	√	√	√	√	√	√	√	√
South Korea	√	√	√	√	√	√	√	√
Indonesia	√	√	√	√	√	√	√	√
Mexico	√	√	√	√	√	√	√	√
Argentina	√	-	√	√	-	-	√	-

Note: "√" indicates support of CA and KA interdependence.

Table 3. Summary of findings from Open Economics Macro Equilibrium specifications (Appendix B, Tables B.1-B.8)

Table	B.1	B.2	B.3	B.4	B.5	B.6	B.7	B.8
U.S.	-	-	-	-	-	-	-	-
U.K.	√	-	√	√	√	-	-	-
Germany	-	-	-	√	-	-	√	√
Japan	-	-	-	-	-	-	√	√
France	-	-	-	-	-	-	-	-
Thailand	-	-	-	-	-	-	-	-
South Korea	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-
Argentina	-	-	-	-	-	-	-	-

Note: "√" indicates support of CA and KA accounts interdependence.

Table A.1 presents the findings for the basic bop-constraint specification that is captured in equations (3) and (4). In both cases the BI variable is on the right hand side of the equation. Consistently, at the 10 per cent level of significance, the *p*-values of the χ^2 statistics do not reject the null hypotheses of interdependence (β_1 = -1 and $\beta_1^{'}$ = -1) for six of the ten sampled countries. These six countries include all five developing countries and Germany. Similar findings are obtained for the financial account (FA) specification (equations 5 and 6) that are reported in Table A.2. However, in this specification interdependence is no longer supported for Argentina.

The results for current and capital account interdependence under alternative conjectures about the nature and composition of errors and omissions are presented in tables A.3-A.6. Table A.3 attempts to capture the significant increase of the late 1980s in financial integration by combining the BI variable with current account data prior to 1989 and with capital account data thereafter. In contrast, the evidence in table A.4 ignores this particular piece of empirical evidence and embraces an agnostic view that attributes half the errors and omissions to misreporting of current account transactions and the other half to misreporting of capital account transactions. The corresponding positioning of the balancing item (BI) variable in the financial accounts specification is reported in Tables A.5 and A.6. Again, the presumption of interdependence is consistently supported for the five developing countries and Germany. The particular method of attributing the errors & omissions to current or capital account transactions seems to have no substantive effect on the apparent interdependence between the two flow balances. The notable exception to this generalisation is the case of Argentina in the FA-specification.

Lastly, we recognise explicitly the rapid globalization of the capital markets in the late-1980s until the mid-1990s (Wong and Carranza, 1999) by including a dummy variable on the right-hand side together with the raw BI variable (Table A.7). Table A.8 reports the corresponding test results for the FA specification. This specification yields remarkably compelling evidence of component account interdependence for all sample countries with the exception of France. Again, the interdependence finding for Argentina is affected adversely when the financial account specification is employed (Table A.8).

Evidence of interdependence is noticeably less persuasive when the general equilibrium perspective is adopted. In this case we report (in Appendix B) the estimated parameters and χ^2-statistics (Wald tests) of the joint significance of the α-parameters. This set of tests returns robust evidence of interdependence only for the UK. And that limited evidence of support disappears when the financial account specification is adopted (Table B.2). On the other hand, the agnostic distribution in equal measure of reported errors & omissions across current and capital account transactions returns support for the interdependence hypothesis also for Germany (Table B.4). In other words, the null hypothesis of CA and KA interdependence is consistently supported for one G-5 member country – the U.K. – and in some instances for Germany as well. Notably, no evidence of interdependence is returned for any of the developing countries when testing the general equilibrium specification of the external balance.

Tables B.7 and B.8 report results for the general equilibrium specification in which a dummy variable, *DUM*, is used to capture the financial liberalisation of the late 1980s. As in the previous set of tests, recognition of the progress of financial integration generates more extensive support for the interdependence hypothesis. The *p*-values for the restrictions tests that satisfy the 10 per cent level of significance do not reject the null hypothesis of interdependence for the cases of Germany and Japan (Tables B.7 and B.8). Curiously, the null is rejected for the U.K. which enjoyed consistent support in the other general equilibrium specifications.

Two observations about current and capital account interdependence are immediately apparent. First, all variant specifications based on the balance of payments constraint consistently yield evidence of interdependence between CA and KA for four of the five developing countries - Thailand, South Korea, Indonesia, and Mexico – as well as for Germany (Table 2). The fifth developing country – Argentina - also returns evidence of interdependence as long as the conventional capital account specification was not replaced by the financial account specification. This high sensitivity to placement of the IR variable may be attributable to the sharp fluctuations in Argentina's reserve flows during the observation period.

Secondly, however, none of the specifications based on the two-sector equilibrium approach simultaneously supports the presumption of interdependence between the two component account variables for this set of sample countries, with the exception of Germany. One possible explanation of this finding is the failure of our specifications to capture the dynamic interaction between CA and KA balances in the income-expenditure adjustment process.

5. Concluding Remarks

The objective of this study is to investigate empirically the interdependence between the current and financial cross-border transaction flows. Two analytical frameworks were used to derive testable specifications of the interdependence relation. One is based on the balance of payments constraint and the second specification is derived from national income accounting relationships. We have explicitly recognised official financing flows in the empirical exercise as well as the fact that reported data do not conform to the corresponding analytical constructs giving rise to errors & omissions in statistical reports. In the present context, this discrepancy is manifest in the quantitatively significant and volatile residual balance of payments component, the balancing item or "errors and omissions". The empirical challenge posed by these residual entries is whether they reflect predominantly goods market or financial transactions. Failing compelling evidence in support of either interpretation but recognising the potential transformation of the reported "errors and omissions" against the backdrop of financial liberalisation we have experimented with various formulations suggested by the alternative interpretations.

Our regression results provide reasonably robust empirical evidence of current and capital account interdependence. This finding is consistently supported for five developing countries - Argentina, Mexico, Indonesia, South Korea, Thailand - and sporadically for four developed countries - the U.S., the U.K., Germany and Japan - by several variants of the relatively simplistic specification based on the balance of payments constraint. Interdependence is also supported by some variants of the more complex specification based on the open economy general equilibrium perspective. This approach, utilising national income accounting relationship, corroborates the interdependence finding for the U.K., Germany and Japan. More significantly, Germany and Japan are the two countries for which the hypothesis of CA and KA interdependence is supported by some variants of each of the two types of specification.

It is not surprising that the general equilibrium perspective does not generate findings as robust as those obtained from the simpler specification based on the balance of payments constraint. Simultaneity of the data for CA and KA balances is continuously ensured in the latter by the residual balance of payments entry, "errors and omissions".

The alternative general equilibrium specification, in contrast, requires the completion of appropriate adjustment processes in domestic goods markets. Those adjustments are susceptible to a variety of lags, distortions and market failures which affect the regression results. From this perspective it is particularly notable to find support for the hypothesis for at least some of the sample countries. This finding immediately suggests that one direction for extension of this research is to refine the modelling strategy by incorporating suitable lag structures into the specification.

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Appendix A. Parameter Estimates and Wald Tests for Specifications based on the Balance for Payments (BoP) Constraint

Table A.1. Parameter Estimates and Wald Tests for Equations (3) and (4)

	$\hat{\beta}_1$ (equation 3)	χ^2 statistic on β_1 = -1	$\hat{\beta}_1^{'}$ (equation 4)	χ^2 statistic on $\beta_1^{'}$ = -1
the U.S.	-0.996654	4.207617	-1.003268	3.962343
	(0.000)	(0.0402)	(0.000)	(0.0465)
the U.K.	-1.01967	11.26545	-0.979641	13.0742
	(0.000)	(0.0008)	(0.000)	(0.0003)
Germany	-1.00529	**0.74292**	-0.993849	**1.027751**
	(0.000)	**(0.3887)**	(0.000)	**(0.3107)**
Japan	-1.038816	6.442099	-0.95723	9.204904
	(0.000)	(0.0112)	(0.000)	(0.0024)
France	-0.953	8.48819	-1.043339	6.021487
	(0.000)	(0.0036)	(0.000)	(0.0141)
Thailand	-1.00003	**0.151072**	-0.99997	**0.152748**
	(0.000)	**(0.6975)**	(0.000)	**(0.6959)**
South Korea	-0.995651	**0.177449**	-1.001461	**0.019779**
	(0.000)	**(0.6736)**	(0.000)	**(0.8882)**
Indonesia	-0.999449	**0.448828**	-1.000537	**0.42549**
	(0.000)	**(0.5029)**	(0.000)	**(0.5142)**
Mexico	-1.000	**1.186421**	-1.000	**1.186422**
	(0.000)	**(0.2761)**	(0.000)	**(0.2761)**
Argentina	-0.99999	**1.023441**	-1.000	**1.023412**
	(0.000)	**(0.3117)**	(0.000)	**(0.3207)**

Notes: The value reported in (.) is *p*-value.

Equation (3): $\overline{CA}_t = \beta_0 + \beta_1 \overline{KA}_t + \beta_2 \overline{\Delta IR}_t + \beta_3 \overline{BI}_t + e_t$

Equation (4): $\overline{KA}_t = \beta_0^{'} + \beta_1^{'} \overline{CA}_t + \beta_2^{'} \overline{\Delta IR}_t + \beta_3^{'} \overline{BI}_t + \varepsilon_t$

Table A.2. Parameter Estimates and Wald Tests for Equations (5) and (6)

	$\hat{\beta}_1^{FA}$ (equation 5)	χ^2 statistic on β_1^{FA} = -1	$\hat{\beta}_1^{FA'}$ (equation 6)	χ^2 statistic on $\beta_1^{FA'}$ = -1
the U.S.	-0.996051	6.248057	-1.003879	5.934239
	(0.000)	(0.0124)	(0.000)	(0.0148)
the U.K.	-1.01882	10.89856	-0.980484	12.65409
	(0.000)	(0.001)	(0.000)	(0.0004)
Germany	-1.002733	**0.173768**	-0.99621	**0.338588**
	(0.000)	**(0.6768)**	(0.000)	**(0.5606)**
Japan	-1.043638	11.52018	-0.954276	15.12735
	(0.000)	(0.0007)	(0.000)	(0.0001)
France	-0.970334	2.844932	-1.023511	**1.606036**
	(0.000)	(0.0917)	(0.000)	**(0.205)**
Thailand	-1.00002	**0.075372**	-0.9999	**0.076536**
	(0.000)	**(0.7837)**	(0.000)	**(0.782)**
South Korea	-1.007889	**1.173352**	-0.990724	**1.678798**
	(0.000)	**(0.2787)**	(0.000)	**(0.1951)**
Indonesia	-0.999467	**0.419941**	-1.000518	**0.396395**
	(0.000)	**(0.517)**	(0.000)	**(0.529)**
Mexico	-1.000	**0.982607**	-1.000	**0.892607**
	(0.000)	**(0.3216)**	(0.000)	**(0.3216)**
Argentina	-0.99999	29.5771	-1.000	29.577
	(0.000)	(0.000)	(0.000)	(0.000)

Notes: The value reported in (.) is *p*-value.

Equation (5): $\overline{CA}_t = \beta_0^{FA} + \beta_1^{FA}\overline{FA}_t + \beta_2^{FA}\overline{BI}_t + \varphi_t$

Equation (6): $\overline{FA}_t = \beta_0^{FA'} + \beta_1^{FA'}\overline{CA}_t + \beta_2^{FA'}\overline{BI}_t + \theta_t$

Table A.3. Parameter Estimates and Wald Tests for Equations (3') and (4')

	$\hat{\beta}_1^{'}$ (equation 3')	χ^2 statistic on $\beta_1^{'}$ = -1	$\hat{\beta}_1^{'}$ (equation 4')	χ^2 statistic on $\beta_1^{'}$ = -1
the U.S.	-0.99655	5.250012	-1.003381	4.99086
	(0.000)	(0.0218)	(0.000)	(0.0322)
the U.K.	-1.01916	13.786	-0.980346	15.678
	(0.000)	(0.0007)	(0.000)	(0.0004)
Germany	-1.001207	**0.027976**	-0.9975	**0.120963**
	(0.000)	**(0.8672)**	(0.000)	**(0.728)**
Japan	-1.030285	3.609855	-0.964373	5.701935
	(0.000)	(0.0574)	(0.000)	(0.0169)
France	-0.938116	10.53591	-1.0568	6.994286
	(0.000)	(0.0012)	(0.000)	(0.0082)
Thailand	-1.000033	**0.203906**	-0.999966	**0.205864**
	(0.000)	**(0.6516)**	(0.000)	**(0.65)**
South Korea	-0.994271	**0.343141**	-1.003045	**0.095239**
	(0.000)	**(0.558)**	(0.000)	**(0.7576)**
Indonesia	-0.999335	**0.918521**	-1.000655	**0.88287**
	(0.000)	**(0.3379)**	(0.000)	**(0.3459)**
Mexico	-1.000	**0.126078**	-1.000	**0.126078**
	(0.000)	**(0.7225)**	(0.000)	**(0.7225)**
Argentina	-1.000	**1.876008**	-1.000	**1.875994**
	(0.000)	**(0.1708)**	(0.000)	**(0.1708)**

Notes: The value reported in (.) is *p*-value.

Equation (3'): $\overline{CA_t^*} = \beta_0^{'} + \beta_1^{'}\overline{KA_t^*} + \beta_2^{'}\overline{\Delta IR_t} + e_t^{'}$

Equation (4'): $\overline{KA_t^*} = \beta_0^{'} + \beta_1^{'}\overline{CA_t^*} + \beta_2^{'}\overline{\Delta IR_t} + \varepsilon_t^{'}$

Table A.4. Parameter Estimates and Wald Tests for Equations (3") and (4")

	$\hat{\beta}_1^{"}$ (equation 3")	χ^2 statistic on $\beta_1^{"}$ = -1	$\hat{\beta}_1^{"}$ (equation 4")	χ^2 statistic on $\beta_1^{"}$ = -1
the U.S.	-0.996548	4.699507	-1.003377	4.436094
	(0.000)	(0.0302)	(0.000)	(0.0352)
the U.K.	-1.019715	11.62161	-0.979595	13.49009
	(0.000)	(0.0007)	(0.000)	(0.0002)
Germany	-1.003883	**0.280473**	-0.994806	**0.511152**
	(0.000)	**(0.5964)**	(0.000)	**(0.4746)**
Japan	-1.050955	2.764606	-0.930161	6.629954
	(0.000)	(0.0964)	(0.000)	(0.010)
France	-0.937634	13.04257	-1.058971	9.141986
	(0.000)	(0.0003)	(0.000)	(0.0025)
Thailand	-1.000029	**0.158821**	-0.999971	**0.16053**
	(0.000)	**(0.6902)**	(0.000)	**(0.6887)**
South Korea	-0.993422	**0.414819**	-1.003651	**0.125215**
	(0.000)	**(0.5195)**	(0.000)	**(0.7234)**
Indonesia	-0.999339	**0.802224**	-1.000649	**0.772369**
	(0.000)	**(0.3704)**	(0.000)	**(0.3795)**
Mexico	-1.000	**0.166195**	-1.000	**0.166195**
	(0.000)	**(0.6835)**	(0.000)	**(0.6835)**
Argentina	-1.000	**1.785165**	-1.000	**1.785153**
	(0.000)	**(0.1815)**	(0.000)	**(0.1815)**

Notes: The value reported in (.) is *p*-value.

Equation (3"): $\overline{CA_t^{**}} = \beta_0^{"} + \beta_1^{"}\overline{KA_t^{**}} + \beta_2^{"}\overline{\Delta IR_t} + e_t^{"}$

Equation (4"): $\overline{KA_t^{**}} = \beta_0^{"} + \beta_1^{"}\overline{CA_t^{**}} + \beta_2^{"}\overline{\Delta IR_t} + \varepsilon_t^{"}$

Table A.5. Parameter Estimates and Wald Tests for Equations (5') and (6')

	$\hat{\beta}_1^{FA'}$ (equation 5')	χ^2 statistic on $\beta_1^{FA'} = -1$	$\hat{\beta}_1^{FA'}$ (equation 6')	χ^2 statistic on $\beta_1^{FA'} = -1$
the U.S.	-0.996109	6.964551	-1.003829	6.641804
	(0.000)	(0.0083)	(0.000)	(0.0100)
the U.K.	-1.017985	12.86125	-0.981499	14.64042
	(0.000)	(0.0003)	(0.000)	(0.0001)
Germany	-1.000275	**0.001482**	-0.998398	**0.050379**
	(0.000)	**(0.9693)**	(0.000)	**(0.8224)**
Japan	-1.034581	6.949431	-0.962244	9.57676
	(0.000)	(0.0084)	(0.000)	(0.002)
France	-0.957154	5.789665	-1.036869	3.653191
	(0.000)	(0.0161)	(0.000)	(0.056)
Thailand	-1.000023	**0.104884**	-0.999977	**0.10628**
	(0.000)	**(0.746)**	(0.000)	**(0.7444)**
South Korea	-1.007403	**1.043175**	-0.991164	**1.535399**
	(0.000)	**(0.3071)**	(0.000)	**(0.2153)**
Indonesia	-0.999526	**0.505258**	-1.000464	**0.483242**
	(0.000)	**(0.4772)**	(0.000)	**(0.487)**
Mexico	-1.000	**0.10851**	-1.000	**0.10851**
	(0.000)	**(0.7418)**	(0.000)	**(0.7418)**
Argentina	-0.99999	13.51842	-1.000001	13.51837
	(0.000)	(0.0002)	(0.000)	(0.0002)

Notes: The value reported in (.) is *p*-value.

Equation (5'): $\overline{CA_t^*} = \beta_0^{FA'} + \beta_1^{FA'} \overline{FA_t^*} + \varphi_t'$

Equation (6'): $\overline{FA_t^*} = \beta_0^{FA'} + \beta_1^{FA'} \overline{CA_t^*} + \theta_t'$

Table A.6. Parameter Estimates and Wald Tests for Equations (5") and (6")

	$\hat{\beta}_1^{FA"}$ (equation 5")	χ^2 statistic on $\beta_1^{FA"}$ = -1	$\hat{\beta}_1^{FA"}$ (equation 6")	χ^2 statistic on $\beta_1^{FA"}$ = -1
the U.S.	-0.996056	6.433175	-1.003874	6.110501
	(0.000)	(0.0112)	(0.000)	(0.0134)
the U.K.	-1.018802	11.12766	-0.980495	12.92981
	(0.000)	(0.0009)	(0.000)	(0.0003)
Germany	-1.002591	**0.127786**	-0.996062	**0.299037**
	(0.000)	**(0.7207)**	(0.000)	**(0.5845)**
Japan	-1.06677	6.781555	-0.922488	12.22154
	(0.000)	(0.0092)	(0.000)	(0.0005)
France	-0.955189	7.366727	-1.040078	4.969877
	(0.000)	(0.0066)	(0.000)	(0.0258)
Thailand	-0.960543	**1.737434**	-1.011604	**0.13548**
	(0.000)	**(0.1875)**	(0.000)	**(0.7128)**
South Korea	-1.007557	**1.029584**	-0.99093	**1.533458**
	(0.000)	**(0.3103)**	(0.000)	**(0.2156)**
Indonesia	-0.999516	**0.460535**	-1.000472	**0.438126**
	(0.000)	**(0.4974)**	(0.000)	**(0.5080)**
Mexico	-1.000	**0.194214**	-1.000	**0.194214**
	(0.000)	**(0.6594)**	(0.000)	**(0.6594)**
Argentina	-1.000	9.463306	-1.000	9.463269
	(0.000)	(0.0021)	(0.000)	(0.0021)

Notes: The value reported in (.) is *p*-value.

Equation (5"): $\overline{CA_t^{**}} = \beta_0^{FA"} + \beta_1^{FA"}\overline{FA_t^{**}} + \varphi_t^{"}$

Equation (6"): $\overline{FA_t^{**}} = \beta_0^{FA"} + \beta_1^{FA"}\overline{CA_t^{**}} + \theta_t^{"}$

Table A.7. Parameter Estimates and Wald Tests for Equations (3''') and (4''') with a Dummy Variable

	$\hat{\beta}_1'''$ (equation 3''')	*Dum*	χ^2 statistic on β_1''' = -1	$\hat{\beta}_1'''$ (equation 4''')	*Dum*	χ^2 statistic on β_1''' = -1
the U.S.	-1.00132	2.957	**0.671055**	-0.9986	2.9729	**0.760163**
	(0.000)	(0.000)	**(0.4127)**	(0.000)	(0.000)	**(0.3833)**
the U.K.	-1.005665	-1.2695	**1.160026**	-0.993498	-1.23886	**1.566114**
	(0.000)	(0.000)	**(0.2815)**	(0.000)	(0.000)	**(0.2108)**
Germany	-1.008314	0.729	**1.881091**	-0.99093	0.73668	**2.317553**
	(0.000)	(0.0745)	**(0.1702)**	(0.000)	(0.0687)	**(0.1278)**
Japan	-1.013092	3.698	**0.500731**	-0.978916	3.14	**1.391012**
	(0.000)	(0.0382)	**(0.4792)**	(0.000)	(0.0767)	**(0.2382)**
France	-0.938294	0.897676	13.15521	-1.059149	0.8729	9.48611
	(0.000)	(0.0718)	(0.0003)	(0.000)	(0.102)	(0.0021)
Thailand	-1.000011	0.0015	**0.022154**	-0.999988	0.001501	**0.022778**
	(0.000)	(0.222)	**(0.8817)**	(0.000)	(0.222)	**(0.8800)**
South Korea	-0.99859	0.58275	**0.024036**	-0.999257	0.587163	**0.006668**
	(0.000)	(0.0054)	**(0.8768)**	(0.000)	(0.0051)	**(0.9349)**
Indonesia	-0.99963	-0.00924	**0.149089**	-1.000352	-0.00946	**0.134538**
	(0.000)	(0.700)	**(0.6994)**	(0.000)	(0.6933)	**(0.7138)**
Mexico	-1.000	-0.00006	**1.945957**	-1.000	-0.00006	**1.945958**
	(0.000)	(0.2957)	**(0.163)**	(0.000)	(0.2957)	**(0.163)**
Argentina	-0.99999	180.48	**1.98022**	-1.000	180.48	**1.98018**
	(0.000)	(0.1468)	**(0.1594)**	(0.000)	(0.1468)	**(0.1594)**

Notes: The value reported in (.) is *p*-value. *Dum* is a dummy variable with 1 for 1989 and onward; 0 for other periods.

Equation (3'''): $\overline{CA}_t = \beta_0''' + \beta_1''' \overline{KA}_t + \beta_2''' \overline{\Delta IR}_t + \beta_3''' \overline{BI}_t + \beta_4''' Dum + e_t'''$

Equation (4'''): $\overline{KA}_t = \beta_0''' + \beta_1''' \overline{CA}_t + \beta_2''' \overline{\Delta IR}_t + \beta_3''' \overline{BI}_t + \beta_4''' Dum + \varepsilon_t'''$

Table A.8. Parameter Estimates and Wald Tests for Equations (5''') and (6''') with Dummy Variable

	$\hat{\beta}_1^{FA'''}$ (equation 5''')	*Dum*	χ^2 statistic on $\beta_1^{FA'''}$ = -1	$\hat{\beta}_1^{FA'''}$ (equation 6''')	*Dum*	χ^2 statistic on $\beta_1^{FA'''}$ = -1
the U.S.	-0.999961	2.662006	**0.00057**	-0.999951	2.683296	**0.000911**
	(0.000)	(0.0003)	**(0.981)**	(0.000)	(0.0003)	**(0.9759)**
the U.K.	-1.004828	-1.2712	**0.873473**	-0.994327	-1.24103	**1.231209**
	(0.000)	(0.000)	**(0.35)**	(0.000)	(0.000)	**(0.2672)**
Germany	-1.006198	0.796753	**0.906591**	-0.992843	0.809457	**1.241625**
	(0.000)	(0.0716)	**(0.341)**	(0.000)	(0.065)	**(0.2652)**
Japan	-1.019557	3.612141	**1.41645**	-0.974239	3.055335	**2.691752**
	(0.000)	(0.0403)	**(0.234)**	(0.000)	(0.0792)	**(0.1009)**
France	-0.957733	0.804203	4.752858	-1.035644	0.722054	2.890704
	(0.000)	(0.175)	(0.0292)	(0.000)	(0.2445)	(0.0891)
Thailand	-1.000014	0.001436	**0.040675**	-0.999985	0.001436	**0.04149**
	(0.000)	(0.1848)	**(0.8402)**	(0.000)	(0.1849)	**(0.8386)**
South Korea	-1.004381	0.632703	**0.490458**	-0.994596	0.624328	**0.760903**
	(0.000)	(0.0018)	**(0.4837)**	(0.000)	(0.002)	**(0.383)**
Indonesia	-0.999635	-0.00853	**0.145476**	-1.000346	-0.00876	**0.130435**
	(0.000)	(0.7213)	**(0.7029)**	(0.000)	(0.7141)	**(0.718)**
Mexico	-1.000	-0.00005	**1.506997**	-1.000	0.00005	**1.506997**
	(0.000)	(0.3477)	**(0.2196)**	(0.000)	(0.3477)	**(0.2196)**
Argentina	-0.99999	184.755	25.26163	-1.0000	184.7553	25.26155
	(0.000)	(0.1057)	(0.000)	(0.000)	(0.1057)	(0.000)

Notes: The value reported in (.) is *p*-value. *Dum* is a dummy variable with 1 for 1989 and onward; 0 for other periods.

Equation (5'''): $\overline{CA}_t = \beta_0^{FA'''} + \beta_1^{FA'''}\overline{FA}_t + \beta_2^{FA'''}\overline{BI}_t + \beta_3^{FA'''}Dum + \varphi_t'''$

Equation (6'''): $\overline{FA}_t = \beta_0^{FA'''} + \beta_1^{FA'''}\overline{CA}_t + \beta_2^{FA'''}\overline{BI}_t + \beta_3^{FA'''}Dum + \theta_t'''$

Appendix B. Parameter Estimates and Wald Tests for Specifications based on Open Economy Macro Equilibrium

Table B.1. Parameter Estimates and Wald Tests for Equations (8) and (9)

	$\hat{\alpha}_1$ (equation 8)	$\hat{\alpha}_2$ (equation 8)	χ^2 statistic on α_1 = -1 and α_2 = 1	$\hat{\alpha}_1'$ (equation 9)	$\hat{\alpha}_2'$ (equation (9)	χ^2 statistic on α_1' = 1 and α_2' = -1
the U.S.	-1.0818	1.034859	41.86841	1.082826	-1.03256	45.26606
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
the U.K.	-0.876	0.8129	**3.049006**	0.863596	-0.81073	**3.369306**
	(0.000)	(0.000)	**(0.2177)**	(0.000)	(0.000)	**(0.1855)**
Germany	-1.1785	1.108817	5.124648	1.182727	-1.10973	5.891181
	(0.000)	(0.000)	(0.0771)	(0.000)	(0.000)	(0.0526)
Japan	-0.86134	0.909139	11.00911	0.853758	-0.89803	10.3031
	(0.0002)	(0.0001)	(0.0041)	(0.000)	(0.000)	(0.0058)
France	-0.66053	0.679621	35.91294	0.687436	-0.70291	23.34137
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Thailand	-0.88793	0.786283	44.56352	0.887893	-0.7862	44.61472
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
South Korea	-0.89093	0.852255	38.14223	0.886388	-0.89868	42.1992
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indonesia	-0.68783	0.52326	24.504	0.687792	-0.52303	24.55769
	(0.0023)	(0.0188)	(0.000)	(0.0023)	(0.0189)	(0.000)
Mexico	-0.60233	0.482027	224.4269	0.602328	-0.48203	224.85
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Argentina	-0.88492	0.839576	67.7869	0.88492	-0.83958	67.7861
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Notes: The value reported in (.) is *p*-value.

Equation (8): $\overline{CA}_t = \alpha_0 + \alpha_1 \overline{I}_t + \alpha_2 \overline{S}_t^n + \alpha_3 \overline{\Delta IR}_t + \alpha_4 \overline{BI}_t + u_t$

Equation (9): $\overline{KA}_t = \alpha_0' + \alpha_1' \overline{I}_t + \alpha_2' \overline{S}_t^n + \alpha_3' \overline{\Delta IR}_t + \alpha_4' \overline{BI}_t + v_t$

Table B.2 Parameter Estimates and Wald Tests for Equations (10) and (11)

	$\hat{\alpha}_1$ (equation 10)	$\hat{\alpha}_2$ (equation 10)	χ^2 statistic on α_1 = -1 and α_2 = 1	$\hat{\alpha}_1^{FA'}$ (equation 11)	$\hat{\alpha}_2^{FA'}$ (equation 11)	χ^2 statistic on $\alpha_1^{FA'}$ = 1 and $\alpha_2^{FA'}$ = -1
the U.S.	-1.08785	1.043256	46.80774	1.090013	-1.042538	50.50368
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
the U.K.	-0.8585	0.790906	**4.248305**	0.847179	-0.790063	4.679325
	(0.000)	(0.000)	**(0.1195)**	(0.000)	(0.000)	(0.0964)
Germany	-1.13958	1.073928	4.843266	1.148355	-1.078925	5.715739
	(0.000)	(0.000)	(0.0888)	(0.000)	(0.000)	(0.0574)
Japan	-0.9886	1.038918	14.3395	0.970608	-1.017174	13.38228
	(0.0001)	(0.000)	(0.0008)	(0.000)	(0.000)	(0.0012)
France	-0.68369	0.707993	29.68835	-0.70377	-0.722917	21.98089
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Thailand	-0.88532	0.789668	53.48351	0.885272	-0.789589	53.54132
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
South Korea	-0.94567	0.908186	34.57892	0.939705	-0.8963	40.59038
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indonesia	-0.73857	0.590107	22.3572	0.738395	-0.589683	22.43634
	(0.0012)	(0.0081)	(0.000)	(0.0012)	(0.0081)	(0.000)
Mexico	-0.5486	0.423923	246.97	0.548597	-0.423923	246.9716
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Argentina	-0.8928	0.847964	2054.206	0.892788	-0.847964	2054.173
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Notes: The value reported in (.) is *p*-value.

Equation (10): $\overline{CA}_t = \alpha_0 + \alpha_1 \overline{I}_t + \alpha_2 \overline{S}_t^n + \alpha_3 \overline{BI}_t + \eta_t$

Equation (11): $\overline{FA}_t = \alpha_0^{FA'} + \alpha_1^{FA'} \overline{I}_t + \alpha_2^{FA'} \overline{S}_t^n + \alpha_3^{FA'} \overline{BI}_t + \omega_t$

Table B.3. Parameter Estimates and Wald Tests for Equations (8') and (9')

	$\hat{\alpha}_1^{'}$ equation (8')	$\hat{\alpha}_2^{'}$ equation (8')	χ^2 statistic on $\alpha_1^{'}$ = -1 and $\alpha_2^{'}$ = 1	$\hat{\alpha}_1^{'}$ equation (9')	$\hat{\alpha}_2^{'}$ equation (9')	χ^2 statistic on $\alpha_1^{'}$ = 1 and $\alpha_2^{'}$ = -1
the U.S.	-1.08577	1.02812	14.5605	-1.08689	-1.026	15.43133
	(0.000)	(0.000)	(0.0007)	(0.000)	(0.000)	(0.0004)
the U.K.	-0.87841	0.77409	**3.03965**	0.86558	-0.77121	**3.01485**
	(0.000)	(0.000)	**(0.2188)**	(0.000)	(0.000)	**(0.2215)**
Germany	-1.16098	1.089612	3.1427	1.16996	-1.09412	7.4897
	(0.000)	(0.000)	(0.0432)	(0.000)	(0.000)	(0.0236)
Japan	-0.89694	0.94217	9.94299	0.89251	-0.93426	8.90121
	(0.0002)	(0.0001)	(0.0069)	(0.0001)	(0.000)	(0.0117)
France	-0.64735	0.67402	54.0239	0.679339	-0.70352	28.654
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Thailand	-0.88613	0.789518	52.2545	0.886091	-0.78945	52.3089
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
South Korea	-0.89803	0.8688	18.331	0.896239	-0.86085	21.8743
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Indonesia	-0.6047	0.42773	34.445	0.60469	-0.4275	34.5041
	(0.0131)	(0.0738)	(0.000)	(0.0131)	(0.074)	(0.000)
Mexico	-0.4165	0.18843	53.177	0.4165	-0.18843	53.177
	(0.1512)	(0.5478)	(0.000)	(0.1512)	(0.5478)	(0.000)
Argentina	-0.63978	0.58137	12852.04	0.63978	-0.58137	12851.97
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Notes: The value reported in (.) is p-value.

Equation (8'): $\overline{CA}_t^* = \alpha_0^{'} + \alpha_1^{'}\overline{I}_t + \alpha_2^{'}\overline{S}_t^n + \alpha_3^{'}\overline{\Delta IR}_t + u_t^{'}$

Equation (9'): $\overline{KA}_t^* = \alpha_0^{'} + \alpha_1^{'}\overline{I}_t + \alpha_2^{'}\overline{S}_t^n + \alpha_3^{'}\overline{\Delta IR}_t + v_t^{'}$

Table B.4. Parameter Estimates and Wald Tests for Equations (8’’) and (9’’)

	$\hat{\alpha}_1^{''}$ equation (8’’)	$\hat{\alpha}_2^{''}$ equation (8’’)	χ^2 statistic on $\alpha_1^{''}$ = -1 and $\alpha_2^{''}$ = 1	$\hat{\alpha}_1^{''}$ equation (9’’)	$\hat{\alpha}_2^{''}$ equation (9’’)	χ^2 statistic on $\alpha_1^{''}$ = 1 and $\alpha_2^{''}$ = -1
the U.S.	-1.04372	0.996188	9.569028	1.04484	-0.99399	10.64051
	(0.000)	(0.000)	(0.0084)	(0.000)	(0.000)	(0.0049)
the U.K.	-0.85798	0.784773	**4.157237**	0.845155	-0.781898	**4.533216**
	(0.000)	(0.000)	**(0.1251)**	(0.000)	(0.000)	**(0.1037)**
Germany	-1.12458	1.068031	**3.731761**	1.133552	-1.07254	**4.598872**
	(0.000)	(0.000)	**(0.1548)**	(0.000)	(0.000)	**(0.1003)**
Japan	-0.87933	0.927351	11.06739	0.855166	-0.899456	10.77012
	(0.0002)	(0.0001)	(0.004)	(0.0001)	(0.000)	(0.0046)
France	-0.67563	0.698062	26.21811	0.70762	-0.727563	14.92694
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.0006)
Thailand	-0.8883	0.77813	71.33603	0.888257	-0.778062	71.40424
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
South Korea	-0.8543	0.818962	31.89821	0.852513	-0.811022	36.74668
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Indonesia	-0.68328	0.515741	41.69104	0.68325	-0.51551	41.7799
	(0.0017)	(0.0145)	(0.000)	(0.0017)	(0.0146)	(0.000)
Mexico	-0.47734	0.284488	78.29246	0.47734	-0.28449	78.29247
	(0.021)	(0.1934)	(0.000)	(0.021)	(0.1934)	(0.000)
Argentina	-0.6704	0.6136	12979.45	0.6703	-0.613621	12979.36
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Notes: The value reported in (.) is p-value.

Equation (8’’): $\overline{CA_t^{**}} = \alpha_0^{''} + \alpha_1^{''}\overline{I_t} + \alpha_2^{''}\overline{S_t^n} + \alpha_3^{''}\overline{\Delta IR_t} + u_t^{''}$

Equation (9’’): $\overline{KA_t^{**}} = \alpha_0^{''} + \alpha_1^{''}\overline{I_t} + \alpha_2^{''}\overline{S_t^n} + \alpha_3^{''}\overline{\Delta IR_t} + v_t^{''}$

Table B.5 Parameter Estimates and Wald Tests for Equation (11')

	$\hat{\alpha}_1^{FA'}$ equation (11')	$\hat{\alpha}_2^{FA'}$ equation (11')	χ^2 statistic on $\alpha_1^{FA'}$ = 1 and $\alpha_2^{FA'}$ = -1
the U.S.	1.107545 (0.000)	-1.057493 (0.000)	16.57903 (0.0003)
the U.K.	0.870492 (0.000)	-0.777197 (0.000)	**3.125589 (0.2095)**
Germany	1.148361 (0.000)	-1.073573 (0.000)	7.520572 (0.0233)
Japan	1.028394 (0.000)	-1.072774 (0.000)	12.82534 (0.0016)
France	0.716283 (0.000)	-0.748764 (0.000)	20.24797 (0.000)
Thailand	0.885142 (0.000)	-0.789139 (0.000)	55.49659 (0.000)
South Korea	0.946169 (0.000)	-0.912635 (0.000)	20.27265 (0.000)
Indonesia	0.659761 (0.0101)	-0.482901 (0.0556)	30.097 (0.000)
Mexico	0.218588 (0.2829)	0.028451 (0.8981)	63.81913 (0.000)
Argentina	0.01101 (0.9603)	-0.040537 (0.8325)	617.0808 (0.000)

Notes: The value reported in (.) is p-value.

Equation (11'): $\overline{FA_t^*} = \alpha_0^{FA'} + \alpha_1^{FA'}\overline{I_t} + \alpha_2^{FA'}\overline{S_t^n} + \omega_t^{'}$

Table B.6. Parameter Estimates and Wald Tests for Equation (11'')

	$\hat{\alpha}_1^{FA''}$ equation (11'')	$\hat{\alpha}_2^{FA''}$ equation (11'')	χ^2 statistic on $\alpha_1^{FA''}$ = 1 and $\alpha_2^{FA''}$ = -1
the U.S.	1.06939 (0.000)	-1.031506 (0.000)	11.0259 (0.004)
the U.K.	0.835432 (0.000)	-0.770043 (0.000)	5.604684 (0.0607)
Germany	1.127028 (0.000)	-1.066332 (0.000)	4.780406 (0.0916)
Japan	0.981379 (0.000)	-1.028112 (0.000)	14.46042 (0.0007)
France	0.74339 (0.000)	-0.771369 (0.000)	11.29867 (0.0035)
Thailand	0.861502 (0.000)	-0.737706 (0.000)	40.50901 (0.000)
South Korea	0.923971 (0.000)	-0.885138 (0.000)	29.7147 (0.000)
Indonesia	0.727018 (0.0013)	-0.559543 (0.011)	37.38658 (0.000)
Mexico	0.325533 (0.0261)	-0.11814 (0.4445)	93.65702 (0.000)
Argentina	0.117485 (0.5489)	-0.138034 (0.4171)	709.9948 (0.000)

Notes: The value reported in (.) is p-value.

Equation (11''): $\overline{FA_t^{**}} = \alpha_0^{FA''} + \alpha_1^{FA''}\overline{I_t} + \alpha_2^{FA''}\overline{S_t^n} + \omega_t^{''}$

Table B.7. Parameter Estimates and Wald Tests for Equations (8’”) and (9’”) with a Dummy Variable

	$\hat{\alpha}_1'''$ equation (8’”)	$\hat{\alpha}_2'''$ equation (8’”)	*Dum*	χ^2 statistic on α_1''' = -1 and α_2''' = 1	$\hat{\alpha}_1'''$ equation (9’”)	$\hat{\alpha}_2'''$ equation (9’”)	*Dum*	χ^2 statistic on α_1''' = 1 and α_2''' = -1
the U.S.	-1.07661	1.0676	-21.35	12.2389	1.076721	-1.07104	25.092	12.5644
	(0.000)	(0.000)	(0.06)	(0.0022)	(0.000)	(0.000)	(0.024)	(0.0019)
the U.K.	-0.8073	0.796208	-13.3	8.156333	0.80087	-0.795	12.145	8.589987
	(0.000)	(0.000)	(0.001)	(0.0169)	(0.000)	(0.000)	(0.001)	(0.0136)
Germany	-1.16043	1.194612	-32.478	**1.041136**	1.16525	-1.1927	31.409	**1.011443**
	(0.000)	(0.000)	(0.091)	**(0.5942)**	(0.000)	(0.000)	(0.094)	**(0.6031)**
Japan	-1.07131	1.0556	47.905	**0.321312**	1.02692	-1.08836	-39.507	**0.094347**
	(0.000)	(0.000)	(0.013)	**(0.8516)**	(0.000)	(0.000)	(0.032)	**(0.9539)**
France	-0.67328	0.6953	-1.0929	25.43486	0.708316	-0.72849	1.7912	15.65288
	(0.000)	(0.000)	(0.672)	(0.000)	(0.000)	(0.000)	(0.543)	(0.0004)
Thailand	-0.8587	0.724943	1.2998	13.35413	0.85868	-0.7249	-1.299	13.3622
	(0.000)	(0.000)	(0.361)	(0.0013)	(0.000)	(0.000)	(0.361)	(0.0013)
South Korea	-0.89074	0.85979	-1.1587	10.8448	0.88629	-0.84581	0.6146	12.34539
	(0.000)	(0.000)	(0.592)	(0.0044)	(0.000)	(0.000)	(0.791)	(0.0021)
Indonesia	-0.77148	0.641478	8.9408	19.15636	0.771523	-0.64135	-8.949	19.21914
	(0.0002)	(0.0015)	(0.005)	(0.0001)	(0.0002)	(0.0015)	(0.005)	(0.0001)
Mexico	-0.559	0.4275	-261.7	160.75	0.55906	-0.42752	261.66	160.7548
	(0.000)	(0.000)	(0.126)	(0.000)	(0.000)	(0.000)	(0.126)	(0.000)
Argentina	-0.8866	0.841	-1773810	62.5156	0.8866	-0.84107	1773964	62.51482
	(0.000)	(0.000)	(0.92)	(0.000)	(0.000)	(0.000)	(0.916)	(0.000)

Notes: The value reported in (.) is p-value. *Dum* is a dummy variable with 1 for 1989 and onward; 0 for other periods.

Equation (8’”): $\overline{CA}_t = \alpha_0''' + \alpha_1'''\overline{I}_t + \alpha_2'''\overline{S}_t^n + \alpha_3'''\overline{\Delta IR}_t + \alpha_4'''\overline{BI}_t + \alpha_5'''Dum + u_t'''$

Equation (9’”): $\overline{KA}_t = \alpha_0''' + \alpha_1'''\overline{I}_t + \alpha_2'''\overline{S}_t^n + \alpha_3'''\overline{\Delta IR}_t + \alpha_4'''\overline{BI}_t + \alpha_5'''Dum + v_t'''$

Table B.8. Parameter Estimates and Wald Tests for Equations (10''') and (11''') with a Dummy Variable

	$\hat{\alpha}_1'''$ equation (10''')	$\hat{\alpha}_2'''$ equation (10''')	*Dum*	χ^2 statistic on α_1''' = 1 and α_2''' = -1	$\hat{\alpha}_1^{FA'''}$ equation (11''')	$\hat{\alpha}_2^{FA'''}$ equation (11''')	*Dum*	χ^2 statistic on $\alpha_1^{FA'''}$ = -1 and $\alpha_2^{FA'''}$ = 1
the U.S.	-1.084082	1.076248	-20.42773	16.03005	1.085586	-1.081297	23.9982	16.79512
	(0.000)	(0.000)	(0.0693)	(0.0003)	(0.000)	(0.000)	(0.031)	(0.0002)
the U.K.	-0.787545	0.770657	-13.17066	10.67621	0.782408	-0.771579	12.02333	11.03575
	(0.000)	(0.000)	(0.0005)	(0.0048)	(0.000)	(0.000)	(0.0014)	(0.004)
Germany	-1.126615	1.166017	-33.0237	**0.915724**	1.135842	-1.167832	31.8827	**0.88906**
	(0.000)	(0.000)	(0.0807)	**(0.6326)**	(0.000)	(0.000)	(0.0835)	**(0.6411)**
Japan	-1.201362	1.17605	56.5332	**1.130292**	1.150004	-1.132814	-47.67319	**0.637963**
	(0.000)	(0.000)	(0.0051)	**(0.5683)**	(0.000)	(0.000)	(0.0131)	**(0.7269)**
France	-0.700655	0.728772	-1.52556	20.97749	0.726956	-0.751326	2.085758	14.66426
	(0.000)	(0.000)	(0.5704)	(0.000)	(0.000)	(0.000)	(0.477)	(0.0007)
Thailand	-0.858462	0.734882	1.17347	13.1286	0.858442	-0.73485	-1.17247	13.13545
	(0.000)	(0.000)	(0.4004)	(0.0014)	(0.000)	(0.000)	(0.4007)	(0.0014)
South	-0.946614	0.914363	-0.780628	6.839051	0.94001	-0.898286	0.250972	9.061296
Korea	(0.000)	(0.000)	(0.728)	(0.0327)	(0.000)	(0.000)	(0.9161)	(0.0108)
Indonesia	-0.806248	0.68773	9.448272	19.19547	0.806112	-0.687364	-9.453919	19.29123
	(0.0001)	(0.0005)	(0.0025)	(0.0001)	(0.0001)	(0.0005)	(0.0025)	(0.0001)
Mexico	-0.511191	0.374714	-296.6386	187.9708	0.511191	-0.374714	296.6386	187.9709
	(0.000)	(0.000)	(0.0823)	(0.000)	(0.000)	(0.000)	(0.0823)	(0.000)
Argentina	-0.894423	0.849344	-1869788	1705.762	0.894423	-0.849344	1869950	1705.735
	(0.000)	(0.000)	(0.90921)	(0.000)	(0.000)	(0.000)	(0.9092)	(0.000)

Notes: The value reported in (.) is p-value. *Dum* is a dummy variable with 1 for 1989 and onward; 0 for other periods.

Equation (10'''): $\overline{CA}_t = \alpha_0''' + \alpha_1'''\overline{I}_t + \alpha_2'''\overline{S}_t^n + \alpha_3'''\overline{BI}_t + \alpha_4'''Dum + \eta_t'''$

Equation (11'''): $\overline{FA}_t = \alpha_0^{FA'''} + \alpha_1^{FA'''}I_t + \alpha_2^{FA'''}\overline{S}_t^n + \alpha_3^{FA'''}\overline{BI}_t + \alpha_4^{FA'''}Dum + \omega_t'''$