# Capital Flows and the Eurozone's North-South Divide

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### Abstract

The paper offers a monetary perspective on the role of capital flows in the Eurozone's north-south divide. It argues that finance-centric narratives in Comparative Political Economy rightly emphasise financial instability in the periphery, but that the role of capital flows therein requires clarification. The paper draws on post-Keynesian monetary theory, coherent accounting, and balance-of-payments data to make three main points. First, the focus on the financial account as a driver of current accounts should be abandoned in favour of an analysis of gross capital flows. Gross flows need not stem from excess savings in core countries and can be independent from trade flows. Second, speculative portfolio flows into bond markets and foreign direct investment into real estate are causally more important than interbank flows in driving financial instability. Third, rising spreads in the periphery during the Eurozone crisis and the outbreak of the pandemic were not triggered by balance-of-payments problems but by a reversal of speculative flows in government bond markets. The argument suggests that Comparative Political Economy should dedicate more attention to institutions that render peripheral countries particularly susceptible to speculative capital flows into asset markets.

**Keywords**: Gross capital flows, balance-of-payments, current account imbalances, Eurozone crisis, sudden stop, comparative political economy, post-Keynesian macroeconomics

**JEL Codes**: E12, F32, F36, F41, O57

# 1    Introduction

A decade has passed since the 2010-12 Eurozone crisis. Back then, rising spreads on government bonds put severe pressure on the public finances of southern Europe and Ireland, forcing several countries to request official financial assistance in return for painful adjustment programmes. While the period from 2013 to 2019 was one of recovery (or acceptance of a new depressed normal in the case of Greece), the outbreak of the Covid-19 pandemic came with a temporary rebound of trouble in peripheral government bond markets. Indeed, the continued presence of a 'north/south divide' (Pérez 2019) has become a key topic in Comparative Political Economy (CPE) since the Eurozone crisis (EZC) (Copelovitch et al. 2016, Hall 2018, Iversen et al. 2016, Johnston & Regan 2017, Nölke 2015).

In CPE, the crisis is now commonly regarded as the outcome of two divergent growth models, an export-led regime in the core countries and a domestic demand-led regime in the periphery, whose joint monetary integration led to severe macroeconomic imbalances. The build-up of large current account deficits in the periphery has been identified as a main source of the EZC and the subsequent weak economic performance. Peripheral deficits, in turn, were attributed to a loss in price competitiveness due to uneven wage growth (Hall 2014, Johnston et al. 2014, Iversen et al. 2016) or a lack of non-price competitiveness in the form of technological capabilities (Gräbner et al. 2020, Storm & Naastepad 2016).

A different strand of the literature proposes finance-centric interpretations that highlight financial instability as a source of divergence in the Eurozone (Baccaro & Tober 2021, Cesaratto 2017, Fernández & García 2017, Fuller 2017, Jones 2015, Pérez 2019, Quaglia & Royo 2014, Regan 2017, Stockhammer 2016, Storm & Naastepad 2016).[1] Contrary to a popular view among European policymakers, finance-centric narratives argue that it was not excessive public but private debt that rendered the periphery sensitive to the 2008 Global Financial Crisis (GFC). They identify unsustainable credit-financed economic booms as a main cause of financial vulnerabilities in the periphery. The institutional sources of divergence in the Eurozone should thus be sought in financial and banking systems rather than public debt or labour market institutions.

Finance-centric narratives often ascribe a key role to capital flows both in the build-up and the unravelling of financial fragilities. Several proponents argue that capital flows into the periphery, especially interbank flows, provided liquidity that was lent out to domestic borrowers and thereby induced a demand-shock that fuelled an unsustainable boom (Fernández

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[1]Elements of a finance-centric interpretation have also been embraced in Copelovitch et al. (2016), Hall (2018) and Iversen et al. (2016).

& García 2017, Fuller 2017, Pérez 2019, Regan 2017). In some accounts, these flows are attributed to high saving rates and current account surpluses in the core countries (Copelovitch et al. 2016, Fuller 2017, Quaglia & Royo 2014, Regan 2017) that were 'recycled' in the periphery (Hall 2018). Some authors further propose an interpretation of the Eurozone crisis as a balance-of-payments crisis that was triggered by a sudden stop in the capital flows that were needed to finance current account deficits (Copelovitch et al. 2016, Hall 2018, Fuller 2017, Quaglia & Royo 2014).

The present paper embraces the finance-centric view of the Eurozone's north-south divide, which rightly highlights destabilising financial dynamics in the periphery's private sectors. However, it argues that the proposed mechanisms through which capital flows impact financial instability require clarification. There has been a tendency in some accounts to borrow a bit too uncritically from mainstream economics, as reflected in metaphors such as the 'recycling of surpluses' and the 'fuelling of credit booms'. The underlying neoclassical understanding of the economy, in which financial dynamics are driven by the supply of savings, leads to a fixation on current account imbalances and on net capital flows from surplus countries. This can impede an understanding of the relevant financial mechanisms, specifically the role of speculative gross capital flows that are independent from saving.

This paper offers an alternative theoretical lens to examine the role of gross capital flows in the Eurozone, drawing on post-Keynesian (PK) macroeconomic theory. Contributing to recent efforts to integrate the PK theory of demand regimes into CPE (Baccaro & Pontusson 2016, Behringer & van Treeck 2019, Hein et al. 2020, Kohler & Stockhammer 2021, Stockhammer 2022), this paper utilises the *monetary* aspects of PK theory. In this approach, money is created by commercial banks when new loans are made (Lavoie 2014, chap.4). The financing of economic expenditures is thus not constrained by the supply of saving as assumed in neoclassical theory. While commercial banks therefore play a relatively passive role in the accommodation of credit demand, PK theory highlights the speculative nature of asset markets, where herd behaviour and sudden changes in risk perceptions can given rise to booms and busts. The paper applies this PK monetary perspective to international financial transactions in the Eurozone to clarify the role of capital flows in a finance-centric view of its north-south divide.

Three arguments are made. First, an exclusive focus on the financial account and thus on *net* capital flows is not helpful. From a monetary perspective, current account deficits are financed endogenously by bank inflows. Net capital inflows are thus an *outcome*, not a cause of current account deficits. A consideration of potentially destabilising financial flows requires a focus on *gross* capital flows that are independent of trade. Importantly, these gross

flows need not stem from a 'recycling of surpluses' (or excess savings) of core countries. In a monetary economy, the creation of gross financial flows is not constrained by prior saving and may just as well originate from countries that are net borrowers.

Second, the causal role of capital flows in driving unsustainable booms needs to be reconsidered. In particular, some authors have placed a strong focus on interbank flows whose causal relevance for current account imbalances is questionable. In a PK monetary perspective, these flows are an outcome of the demand for foreign credit, not a driver of expenditures. Instead, the paper identifies portfolio flows into government bond markets and foreign direct investment (FDI) in real estate as potential drivers of destabilising speculative dynamics in the periphery.

Third, both the EZC and the recent rise in peripheral spreads during the outbreak of the pandemic should better be regarded as a speculative attacks in government bond markets than balance-of-payments crises. A closer inspection of capital flows around these events suggests that they entailed a sudden stop in *gross* portfolio debt flows, which led to a fall in government bond prices. By contrast, thanks to access to central bank liquidity, bank flows that were needed to finance trade deficits remained relatively constant during the 2010-12 EZC, casting doubt on the balance-of-payments crisis view.

The analysis has useful implications for research in CPE, which are spelled out in detail in the conclusion. First, comparative analyses of financial instability should focus on cross-country differences in the size and risk appetite of domestic financial systems rather than current account positions. Second, institutions related to housing and the investment strategies of foreign investors may influence why peripheral countries are especially prone to speculative portfolio and FDI flows. Third, central banks play a critical role in preventing speculative attacks in peripheral government bonds markets, raising the question under which conditions they are willing to play this role. Finally, domestic financial cycles in house prices and private debt may be quite independent from capital flows, warranting comparative analysis of domestic housing and financial institutions that render those cycles more volatile in the Eurozone's south.

The paper builds on a growing literature on gross capital flows (Borio & Disyatat 2011, 2015, Tooze 2018) and on empirical studies that use an endogenous-money perspective to understand European imbalances (Barredo-Zuriarrain 2019, Febrero et al. 2019). It contributes by specifically engaging with finance-centric narratives in CPE. It provides a theoretical discussion that not only encompasses the theory of endogenous money but also considers the impact of speculative capital flows on asset prices. It further clarifies the relevant account-

ing relationships and offers an empirical illustration with disaggregated balance-of-payments data on gross flows. Finally, it is noteworthy that while this paper focuses on the CPE debate on the Eurozone, it is also relevant for research in International Political Economy where the 'recycling of surpluses'-argument has been adopted to explain the global sources of domestic financial instability (e.g. Schwartz 2008 on the US sub-prime crisis).

Before discussing the three main arguments in sections 3–5, the paper briefly outlines the theoretical foundations of its PK monetary perspective and contrast it with neoclassical loanable funds theory.

# 2 Post-Keynesian monetary theory vs neoclassical loanable funds

While the finance-centric narratives' emphasis on financial instability generally dovetails with PK theory, some of its arguments that will be discussed below appear to be informed by neoclassical loanable funds theory.[2] The neoclassical view of credit is based on the assumption that banks lend out loanable funds (see Jakab & Kumhof 2019). In this view, banks first need to collect deposits (loanable funds) from savers before they can make loans to borrowers. As deposits originate from saving, which in turn is real income that is not consumed, they are tightly linked to physical resources generated in economic production. Correspondingly, loanable funds tend to be scarce, and the demand and supply of funds are brought into equilibrium through a flexible rate of interest. If households decide to save more for a given rate of interest, the supply of loanable funds will increase, putting downward pressure on the interest rate until demand equals supply. An international version of this is the notion of a 'global saving glut' in countries with current account surpluses that depresses interest rates and leads to more borrowing in deficit countries (Bernanke 2005, Caballero et al. 2008).

The PK monetary theory of credit is radically different from the loanable funds framework. At its heart is the principle of endogenous money according to which commercial banks endogenously create new deposit money when they make loans.[3] The creation of new loans, and by extension money, is driven by the demand for credit (Lavoie 2014, chap.4, and

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[2]See also Baccaro & Tober 2021 on this point.

[3]While most consistently used in PK theory, the theory of endogenous money has recently also been endorsed by economists at central banks, rating agencies, and the Bank for International Settlements (Jakab & Kumhof 2019, McLeay et al. 2014, Sheard 2013), as well as in the Critical Macro-finance approach (Murau & Pforr 2020).

Ingham 2004, chaps.2+4 for a sociological perspective). Provided borrowers are creditworthy, commercial banks accommodate the demand for credit at a given interest rate without first having to collect the deposits of savers. Having created new deposit money for borrowers, banks may in turn borrow reserves from the central bank to stay liquid. Short-term interest rates are then not determined on the market for loanable funds but by monetary policy through the central bank's monopoly on the creation of new reserves. Unlike commercial banks, non-bank actors do not have access to central bank liquidity, nor can they issue deposit money.

With private banks capable of creating money, the supply of purchasing power to finance expenditures is an elastic variable that is independent from the previous production and saving of physical resources, e.g. export surpluses. Saving and financing are thus conceptually distinct: the latter is not constrained by the former. Since commercial banks play a relatively passive role in this theory, attention is drawn to the drivers of credit demand. Keynes and Minsky (2008) regarded the interplay between speculative behaviour and asset prices as key:[4] during periods of optimism actors invest in riskier assets, whose prices thus go up, and are willing to take out credit to do so. This increases financial fragility in the economy. Sudden changes in risk perceptions can then lead to fire sales of assets, which prick the bubble and force overindebted agents to deleverage. PK theory thereby draws attention to speculative asset markets as drivers of financial instability (as opposed to an increased availability of loanable funds through more saving). This comes with a focus on non-bank financial institutions, such as institutional investors, as key players in these asset markets rather than commercial banks. In the following, an additional analytical tool from this approach will be utilised: balance-sheet accounting that keeps track of the underlying financial relationships in a monetary economy (Bezemer 2010). The next section shows that the theory of endogenous money combined with accounting provides conceptual clarification on the relationship between net capital flows, current accounts, and excess savings.

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[4]See Franke & Westerhoff (2017) for a recent theoretical survey of speculative dynamics in Keynesian economics.

# 3  On net capital flows, current accounts, and the recycling of surpluses

## 3.1  Trade flows and net capital flows

Current account imbalances are widely regarded as a key factor in the Eurozone's north-south divide. Finance-centric narratives often emphasise capital flows as opposed to competitiveness as their main drivers (Jones 2015, Regan 2017, Fuller 2017, Pérez 2019, Storm & Naastepad 2016). The argument is sometimes framed using the balance-of-payments identity: 'unsustainable current account imbalances were driven by changes in the capital account' (Storm & Naastepad 2016, pp. 64-65) or 'the financial account essentially clears "first": it is the presence of extra capital which causally precedes the decision to import' (Fuller 2017, p.6). Based on this idea, it is argued that the rising current account deficits after the introduction of the euro are the direct outcome of massive capital flows into the periphery. Fuller (2017, p.6) justifies the causal primacy of the financial account with the claim that an importer cannot 'conjure money from thin air' and thus needs to attract foreign saving before they can pay for (net) imports.

However, the argument that financial accounts drive current accounts implicitly builds on a loanable funds view that equates physical resources with financial resources. In a PK monetary perspective, domestic banks can indeed create purchasing power out of thin air, which can then be used to pay for imports.[5] The transfer of domestically generated deposits to a foreign exporter then constitutes a net capital inflow as the flip-side of the import. It is thus the decision to import that generates accompanying net financial flows (Lavoie 2014, chap.7, Harvey 2019).

To clarify how trade flows drive net capital flows, consider how the principle of endogenous money plays out on the balance sheets of the trading partners' commercial banks. Suppose a firm in a peripheral Eurozone country takes out a loan to finance the construction of new office buildings. The firm's bank correspondingly creates new euro deposits when making the loan (row 1 of Table 1). Importantly, when making the loan, the bank does not have to draw on any previously obtained liquid funds. It simply generates the deposit money that it lends to the borrower. In a second step, some of the deposits are used to import equipment from a firm located the Eurozone's north (row 2). As a result, the southern bank loses some of its reserves with the national central bank, which end up in the reserve account of the

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[5]This holds even more so in a currency union, where imports are invoiced in the importer's currency.

northern bank.[6] To stay liquid and meet legal minimum reserve requirements, the southern bank will now want to replenish its reserves. There are several ways in which this can be accomplished, the most straightforward one being an interbank loan from the northern bank, which in turn is likely to want to get rid of its excess reserves (row 3).[7]

**Table 1: Endogenous financing of imports in the Eurozone: south imports from north**

|     | Bank of southern importer | | Bank of northern exporter | |
| --- | --- | --- | --- | --- |
|     | **Assets** | **Liabilities** | **Assets** | **Liabilities** |
| (1) | Reserves +Loan to local firm | +Deposit | | |
| (2) | −Reserves Loan | −Deposit | +Reserves | +Deposit from local exporter |
| (3) | +Reserves | +Interbank loan (+KIF) | −Reserves +Interbank loan (+KOF) | |

*Note*: *KIF*: gross capital inflow; *KOF*: gross capital outflow.

To complete the discussion of the relevant accounting, consider what happens in the balance-of-payments (BoP). A simplified version of the BoP looks as follows:[8]

$$CA + FA = 0,$$

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[6]In the Eurozone, this transaction is settled through the TARGET2 system, and the national central bank of the southern bank will incur a TARGET2 liability to match the loss in reserves (see Whelan 2014). The TARGET2 liability will disappear when the southern bank borrows back reserves from the northern bank.

[7]Alternatively, the southern bank could issue a bond or sell an asset to a foreigner, but the final outcome (the replenishment of reserves) would be the same.

[8]See Kohler (2020) for an introduction to gross capital flows in the BoP. The BoP depicted here abstracts from changes in foreign exchange reserves and what the IMF calls the 'capital account'. The former arises when the central bank intervenes in foreign exchange markets and the latter is typically small and contains only very specific transactions such as transfers of non-financial assets.

or in more disaggregated form:

$$\underbrace{X - M + NFI}_{CA} + \underbrace{KIF - KOF}_{FA} = 0,$$

where the current account $(CA)$ records exports $(X)$ and imports $(M)$ of goods and services plus net foreign income $(NFI)$, i.e. foreign earnings minus foreign payments. The financial account $(FA)$ records gross capital inflows $(KIF)$ minus gross capital outflows $(KOF)$. Importantly, the financial account is thus equal to *net* capital inflows $(FA = KIF - KOF)$.

The net import of the southern firm and the corresponding loss and subsequent replenishment of bank reserves illustrated in Table 1 is thus reflected in a net capital inflow. The latter is recorded in the BoP as an increase in the financial account: $\underbrace{X - \uparrow M + NFI}_{\downarrow CA} + \underbrace{\uparrow KIF - KOF}_{\uparrow FA} = 0$. In the PK monetary perspective, it is thus changes in the current account that drive changes of the financial account, not the other way around. Trade-related capital flows are demand-driven and therefore *not* causally prior to current account deficits.

Importantly, this does not mean that the role of capital flows is confined to the accommodation of trade flows. As our analysis has shown, it is only *net* capital flows that are related to trade. As will be discussed in more detail below, *gross* capital flows are a broader category that also entail pure financial flows that are unrelated to trade. Therefore, any analysis of capital flows must carefully distinguish *gross* financial flows from *net* capital flows, especially bank flows, that arise in the context of trade finance. Unfortunately, the popular 'financial account drives current account' framing restricts the analysis of capital flows to trade-related net flows.

## 3.2 Capital flows need not stem from excess savings

Another issue related to loanable funds theory is the prominent metaphor of a 'recycling of the surpluses' (Hall 2018, p.11). This is often used to identify the geographical direction of capital flows, specifically 'massive flow of funds from the surplus countries of northern Europe to the deficit countries of the European periphery' (Copelovitch et al. 2016, p.818; see also Fernández & García 2017, p.11; Iversen et al. 2016, p.175; Fuller 2017, p.8; Quaglia & Royo 2014, p.496; and Regan 2017, pp.7+13). This metaphor suggests that capital flows stem from surplus countries that invest their excess savings in foreign assets. Current ac-

count imbalances should thus be a strong indicator of the geographical direction of capital flows.

However, the recycling metaphor has both theoretical and empirical weaknesses. On the theoretical side, it ignores that financial outflows are not constrained by the presence of excess saving/export surpluses. It thus incorrectly attributes capital outflows to surplus countries only. This can lead to misleading geographical implications. Consider the example in Table 2. Suppose a firm from the deficit country Ireland imports a good from the surplus country Netherlands. The flow of deposits out of the Irish banking system is compensated by an interbank loan from France, which has a balanced current account. However, the lack of export surpluses does not prevent the French bank from creating the interbank loan without prior saving. The French bank, in turn, may borrow funds from the Netherlands. In this stylized but not unrealistic example, the financing of trade through financial flows is completely distinct from the countries' current account positions; contrary to what the recycling metaphor would suggest. Despite having a balanced current account, France generates a net capital flow to Ireland and receives itself a net inflow from the Netherlands.

**Table 2: Ireland imports goods from the Netherlands but receives net inflows from France**

| Irish bank | | French bank | | Dutch bank | |
|---|---|---|---|---|---|
| Assets | Liabilities | Assets | Liabilities | Assets | Liabilities |
| | −Deposits of Irish importer | | | | +Deposits of Dutch exporter |
| | +Interbank loan from French bank (+KIF) | +Interbank loan to Irish bank (+KOF) | +Interbank loan from Dutch bank (+KIF) | +Interbank loan to French bank (+KOF) | |

*Note*: *KIF*: gross capital inflow; *KOF*: gross capital outflow.

The recycling metaphor can also be empirically misleading. It narrows the attention to flows from surplus into deficit countries. While empirical work does confirm the presence of such flows in the run-up to the GFC, there were also large flows into surplus countries (Dooley 2017, Hale & Obstfeld 2016, Hobza & Zeugner 2014). Figure 1 reveals that the core countries Austria, Germany, the Netherlands, and Finland indeed increased their gross

inflows in this period despite running increased current account surpluses. For example, the Netherlands received gross inflows of around 105% of GDP in the first quarter of 2007 despite a whopping current account surplus of 4.8% of GDP. Furthermore, deficit countries can just as well originate gross capital flows. Figure 2 shows that all peripheral countries, except Portugal, underwent rising capital outflows in a period in which their trade balances deteriorated. The most staggering case in point is Ireland, whose gross outflows (as a percent of GDP) increased by around 90%-pts between 2003 and 2007, while the current account balance (as a percent of GDP) deteriorated by around 6%-pts.
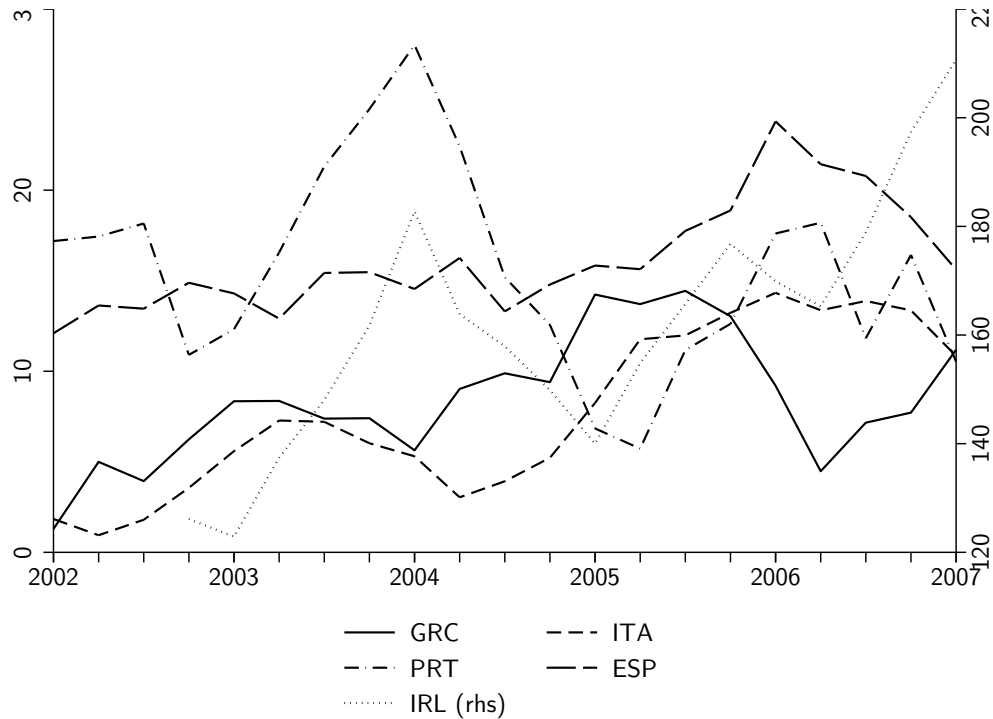
**Figure 1: Gross capital inflows (%GDP) into surplus countries**
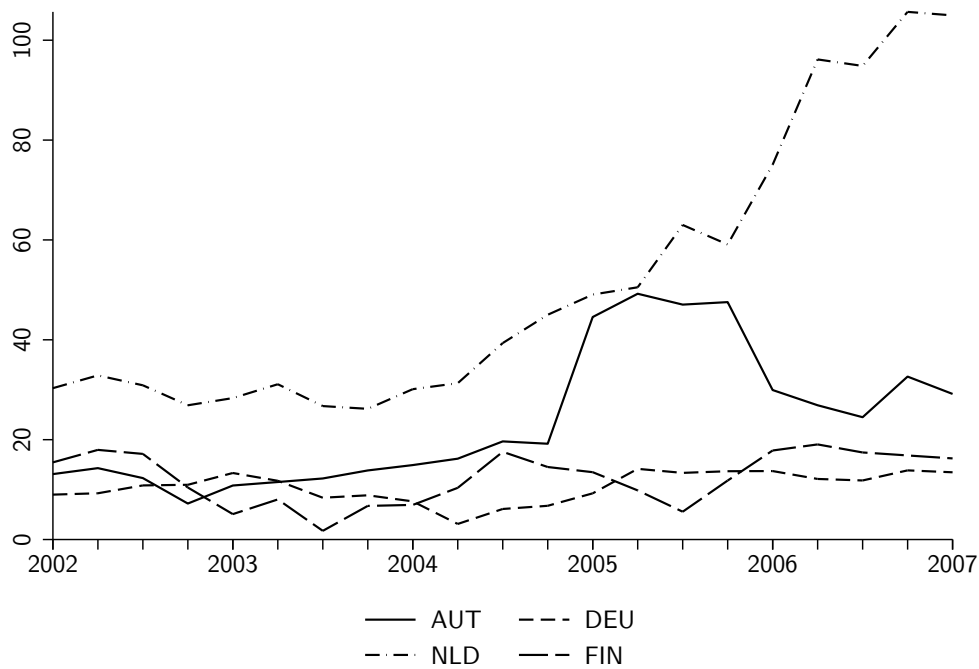


*Data sources*: IMF-BOP; author's calculations.

*Notes:* Gross capital inflows are the sum of foreign direct investment, portfolio investment, and other investment. 4-quarter moving sum (see Forbes & Warnock 2012).

**Figure 2: Gross capital outflows (%GDP) from deficit countries**

Overall, this suggests that both surplus (core) and deficit (peripheral) countries increased their foreign assets and liabilities in the pre-GFC period. Indeed, a substantial proportion of gross inflows into the periphery was neither used to finance net imports nor to sit on excess reserves, but to finance foreign investments into risky portfolio assets (see Figure A2 in Appendix B).[9] The 'recycling of surpluses' metaphor is not helpful for understanding these patterns of cross-border financial integration.

# 4    On gross capital flows and asymmetric booms

The previous section provides support for a point made by Pérez (2019, p.999), that 'capital flows can be motivated quite independently of activity captured in the current account'. A focus on such gross financial flows that are independent from trade is indeed key to a finance-centric narrative. However, how such pure financial flows affect financial instability

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[9]See Febrero et al. (2019) for more details on the case of Spain.

during boom periods requires clarification. For example, Iversen et al. (2016, p.173) express a widely held view that '[t]he flow of capital from north to south increased the growth rate in the south and put upward pressure on southern inflation', but offer little discussion of the underlying mechanisms. This section critically examines two channels through which different types of gross capital flows may contribute to the build-up of imbalances through booms that are asymmetric across north and south: first, interbank flows boost liquidity and stimulate domestic credit creation, and second portfolio and FDI flows into real estate drive up asset prices in the periphery. It will be argued that the first channel is inconsistent with a PK monetary perspective. The second one is theoretically plausible but requires more empirical scrutiny.

## 4.1    Interbank flows and domestic lending

Some authors have argued that capital flows provide credit to domestic borrowers, which boosts demand (and inflation) (Copelovitch et al. 2016, pp.818-819; Fernández & García 2017, p.6; Fuller 2017, p.9; Hall 2014, p.1228; Jones 2015, p.823; Pérez 2019, p.999; Quaglia & Royo 2014, pp.490-491; Regan 2017, p.11). Pérez (2019, p.1003) identifies a 'sharp rise in cross-border interbank flows as a cause – and not just a consequence – of Eurozone current account imbalances'. Quaglia & Royo (2014, pp.490-491) argue that Spanish banks 'borrowed on the interbank market and channelled this funding into the construction sector [...] sustaining a massive construction boom'. Fuller (2017, p.9) emphasises the sale of assets by southern banks that gave them a 'boost in terms of loanable funds [...] which they would then lend to individuals and businesses'.

Table 3 examines this proposed mechanism in more detail. Row 1 depicts the case where a southern bank takes out an interbank loan from a foreign bank. Unlike in the example discussed in Table 1, this inflow does not compensate a prior loss in reserves due to the financing of imports. As a result, reserves held with the national central bank increase. In the BoP, this leads to a simultaneous increase in gross capital inflows (the sale of a domestic liability to a foreigner) and an increase in gross capital outflows:[10]

$$\underbrace{X - M + NFI}_{CA} + \underbrace{\uparrow KIF - \uparrow KOF}_{FA} = 0.$$

[10]On the national central bank's balance sheet (not depicted in Table 3), the increase in reserves is matched by an acquisition of TARGET2 assets, which in turn is recorded as a capital outflow in the BoP.

**Table 3: Southern bank obtains liquidity from foreign bank**

| | Southern bank | | Foreign bank | |
| --- | --- | --- | --- | --- |
| | **Assets** | **Liabilities** | **Assets** | **Liabilities** |
| (1) | +Reserves (+KOF) | +Interbank loan (+KIF) | +Interbank loan (+KOF) | |
| (2) | −Government bond (+KIF) +Reserves (+KOF) | | +Government bond (+KOF) | |

*Note*: *KIF*: gross capital inflow; *KOF*: gross capital outflow. Corresponding changes on national central banks' balance sheets are omitted.

Can such a pure financial flow, which leaves the financial account unchanged, 'fuel' a domestic credit boom? From a PK monetary perspective, the are two problems with the argument that banks lent out the additional reserve. First, banks cannot lend out reserves to non-banks (McLeay et al. 2014, Sheard 2013). This is a basic institutional feature of monetary systems in which only commercial banks hold reserve accounts with the central bank, while non-bank actors hold deposit accounts with commercial banks. To lend money to a non-bank, a commercial bank must credit the corresponding deposit account of the non-bank (as depicted in row 1 of Table 1) rather than transferring reserves to the borrower. Second, commercial banks can only make new loans if there is a demand for them (Lavoie 2014, chap.4), but the capital inflow by itself does not alter credit demand. Banks do not per se need funds from abroad to increase lending, they need more credit-hungry customers.[11]

A mechanism whereby intra-Eurozone interbank flows drove credit creation in the periphery is consistent with a neoclassical framework in which banks intermediate loanable funds. However, it is incompatible with PK monetary theory in which there is no mechanism whereby an increase in bank liquidity would automatically lead to more lending.[12] Instead, interbank flows are largely a passive outcome of the refinancing decisions of domestic banks whose deposits have flown abroad (Febrero et al. 2019).

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[11]Indeed, Baccaro & Tober (2021) find no statistically significant effect of foreign bank credit on nominal wage growth in the Eurozone once domestic credit creation is controlled for.

[12]It is conceivable that access to a larger European interbank market after the introduction of the euro induced individual banks to relax lending standards. However, this is an institutional change that affected the behaviour of domestic institutions, not a capital inflow from abroad as the causal driver.

## 4.2 Portfolio and FDI flows and asset price dynamics

A PK finance-centric narrative directs attention away from bank liquidity to asset price dynamics as a driver of financial instability. This yields a second potential channel through which capital flows can impact asymmetric booms. It requires a shift in focus from interbank flows to portfolio and FDI flows. Consider now row 2 of Table 3, in which the southern bank sells a government bond to a foreign bank. While the increase in liquidity as such has no direct consequences, the sale of the bond may have. Unlike loans whose prices (i.e. interest rates) are largely fixed, trading of securities on secondary markets comes with price adjustment. Thus, the decision by the foreign bank to buy southern government bonds can indeed lead to excess demand for those bonds, pushing up their prices and depressing yields. Speculative behaviour may reinforce such dynamics for a while. Lower yields may then encourage private borrowing insofar they act as reference rates in private credit contracts. Indeed, falling interest rates due to capital inflows have been identified as one of the drivers of credit booms in the periphery (Fuller 2017, p.8) and there is statistical evidence that portfolio bond inflows reduce long-term yields (Carvalho & Fidora 2015, Warnock & Warnock 2009).

However, to what extent capital inflows were relevant in influencing long-term yields in the Eurozone and whether this, in turn, had any effects on domestic lending is an empirical question that is rarely discussed. In the Eurozone, yields on 10-year government bonds had effectively converged by the time the euro was introduced in 1999 (see Shambaugh 2012, p.167). Indeed, interest-rate convergence was part of the Maastricht criteria. Such a uniform behaviour of long-term rates does not fit with a story where massive capital flows into the south after the introduction of the euro drove down relative borrowing cost.

Another open question relates to the relationship between long-term yields and credit conditions for private domestic borrowers. In PK monetary theory, banks set lending rates by charging a premium on their refinancing cost, which in turn are determined by monetary policy (Lavoie 2014, chap.4). The premium may depend on risk perceptions in financial markets, which constitutes a mechanism through which long-term yields could impact lending rates. To assess the effect of bond yields on mortgage rates, we conduct a simple statistical exercise for Spain and Ireland, the peripheral countries with the most pronounced financial booms before the GFC. We regress mortgage rates over the period 1999M1 - 2007M12 on the long-term interest rate on government bonds to proxy spillover effects of portfolio bond flows into mortgage markets, controlling for the policy rate set by the ECB (see Appendix A for details). The long-run coefficients for both bond yields and the policy rate are positive

and statistically significant, but the latter is much larger. A simple calculation shows that the policy rate explains 73% (Spain) and 93% (Ireland) of the fall in mortgage rates between 2001 and 2004, whereas long-term rates only explain 7% and 3%, respectively. This result makes it difficult to attribute favourable borrowing costs during the peripheral boom to an asymmetric shock in portfolio bond inflows that drove down yields. By contrast, expansionary monetary policy in conjunction with specific national institutions that encourage private credit (Fuller 2015), such as variable-rate mortgages and high maximum loan-to-value ratios, are likely to have been more relevant.[13]

Another asset market that may be affected by capital flows is real estate. While a few empirical studies document significant effects of foreign demand on house prices in London (Badarinza & Ramadorai 2018) and the US (Li et al. 2020), this mechanism is under-researched. Figure 3 displays private FDI in real estate (as a percent of GDP) for the GIPS countries during the pre-crisis boom. It can be seen that compared to other countries Spain indeed experienced rising inflows in this period. This is consistent with a mechanism whereby foreign investors drive up local house prices, but the quantitative relevance of this channel for the Spanish housing boom requires more research.

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[13]The level of Spanish and Irish mortgage rates was two to three percentage points lower than those in core countries at the time (Gros 2012, p.10), which has been attributed this to differences in institutions such as variable-rate mortgages, maximum loan-to-value ratios, and credit enforcement procedures (Sorensen & Lichtenberger 2007).

**Figure 3: Private foreign direct investment in real estate, inflows (%GDP)**
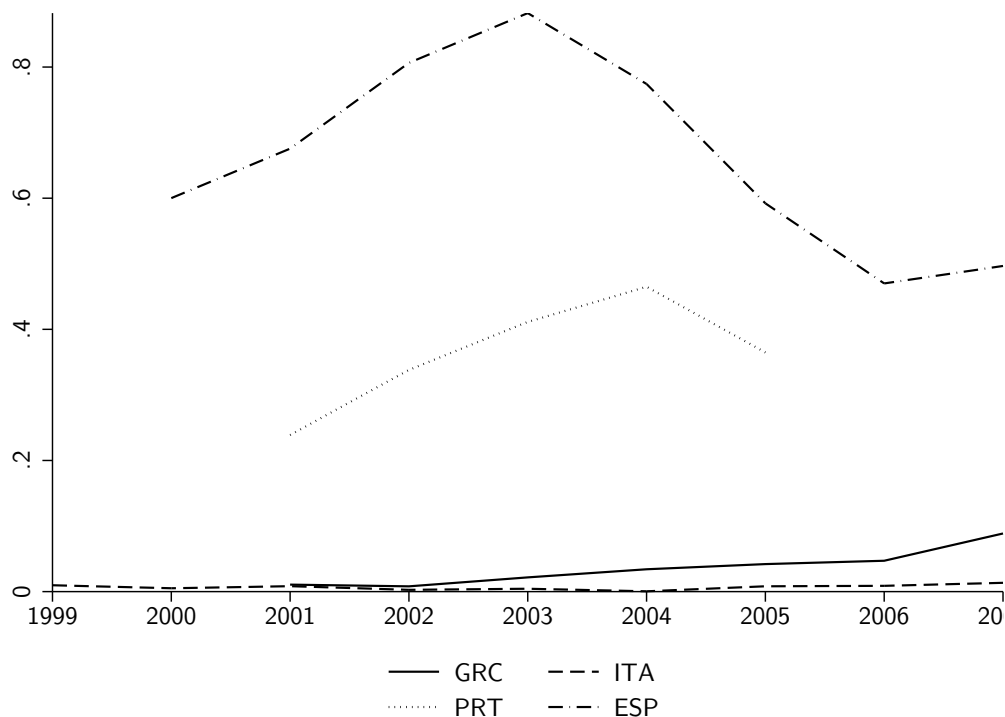
*Notes:* No data for Ireland. Values of zero at the sample start for Portugal were dropped following Forbes & Warnock (2012).

Summing up, PK monetary theory highlights asset prices rather than bank liquidity as a potential mechanism through which gross capital flows can drive asymmetric booms. Key to this point is the distinction between assets with and without secondary markets. While bank loans without secondary markets have relatively fixed rates of return, portfolio assets such as bonds, shares, and real estate are traded on secondary markets where speculative foreign investors can drive up prices, reducing rates of return and thereby impacting local economic dynamics as summarised in Figure 4.

**Figure 4: Capital flows in a PK view of unstable financial booms in the Eurozone's periphery**
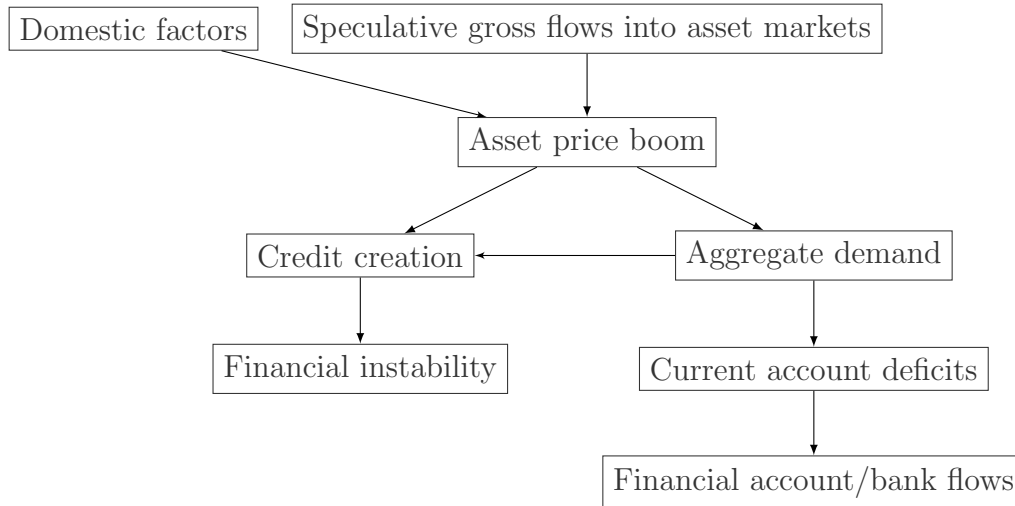


From an analytical point of view, this argument demands caution with generic statements about the expansionary effects of capital inflows. Especially current account deficits and the resulting net and interbank flows are more likely to be a consequence rather than a cause of booms. Furthermore, domestic factors, especially financial and housing institutions such as the size of the private housing market, capital gains taxes, and maximum loan-to-value ratios will impact how easily speculative dynamics emerge. Indeed, Aldasoro et al. (2020, p.23)'s empirical study cautions 'against narratives that mechanically designate capital flows [...] as the main drivers of underlying [financial] vulnerabilities.' In line with our argument, they conclude that unsustainable booms are predominantly driven by domestic factors, and that 'external forces no doubt tend to exacerbate domestic imbalances, but need not cause them' (ibid.).

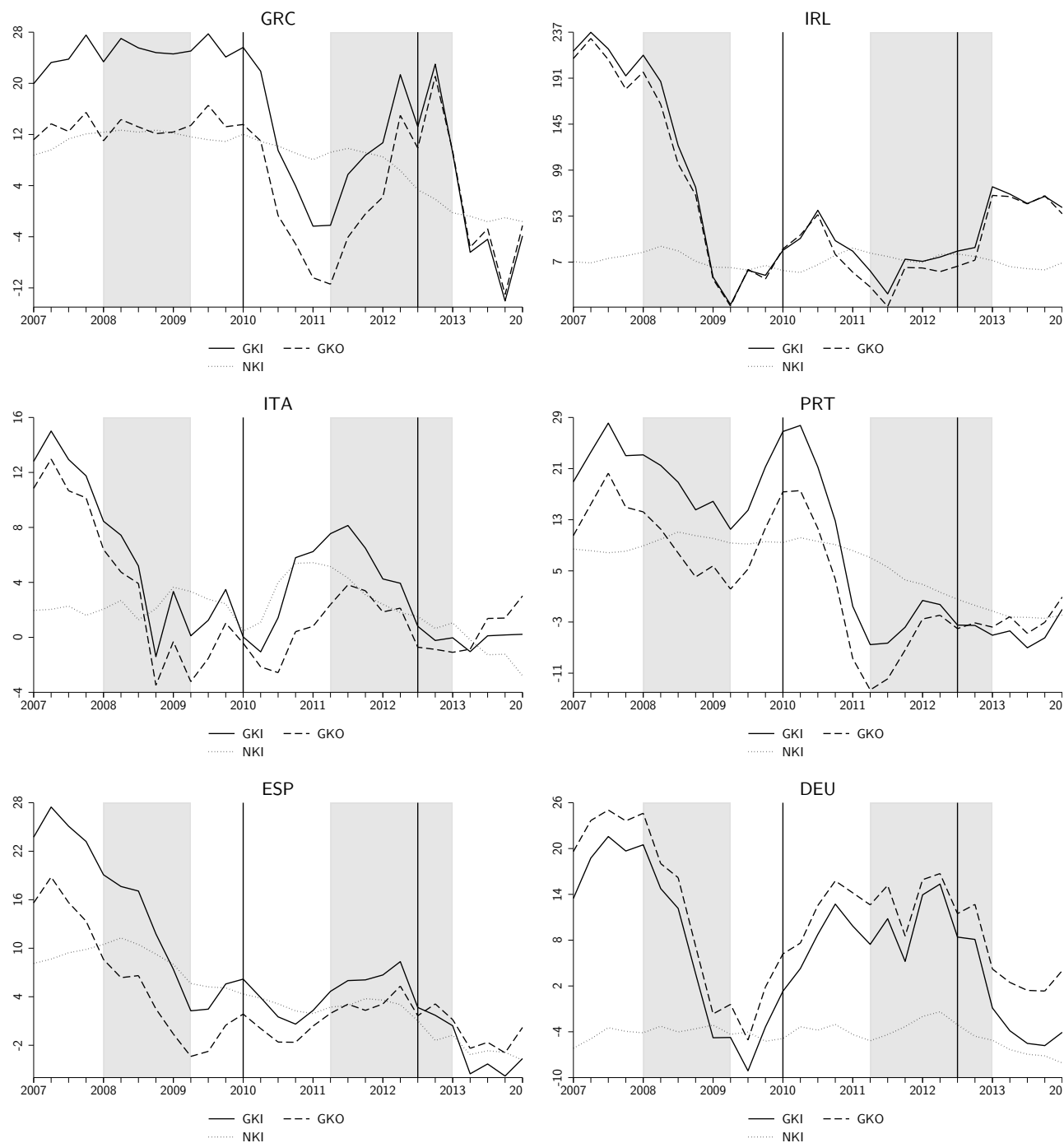# 5   On gross capital flows and crises

A final issue that requires clarification is the role of capital flows in crises. Here, the 2010-12 EZC during which government bond yields of the Eurozone's periphery diverged is a key episode of interest. According to a 'consensus narrative' advanced by mainstream economists, the EZC should be understood as a balance-of-payments crisis (Baldwin et al. 2015). This view has been adopted in several contributions by CPE scholars (see Blyth 2016, p.222; Copelovitch et al. 2016, p.817; Fuller 2017, p.10; Pérez 2019, p.999; Quaglia & Royo 2014,

p.501). The BoP-crisis narrative characterises the EZC as a sudden stop of capital inflows, specifically into the banking sector, that were needed to finance current account deficits in the periphery. As a result, current accounts were forced to rebalance.

From a PK monetary perspective, the problem with this story is that it focuses on the wrong type of capital flows. First, consider the distinction between net and gross capital flows introduced in section 3. While the literature is often ambiguous about this, the narrative of a BoP-crisis that led to a drying-up of funds to sustain trade deficits would suggest a sudden stop in *net* capital flows. Figure 5 displays gross capital in- and outflows as well as net flows for the GIIPS and Germany, for comparison. It can be seen that net flows did not change violently during the EZC (whose beginning and end are marked by vertical bars). Instead, most GIIPS already reduced their net inflows gradually since the 2008 GFC, especially Greece, Portugal and Spain. In 2012-2013, net inflows decreased somewhat faster in some of the peripheral countries, but the same happened in Germany. Indeed, at this time there was general recession in the Eurozone (marked by the grey-shaded areas), which are typically characterised by an improvement in current accounts due to a decline in import demand.

Much more interesting are the gross flows dynamics, which are substantially more volatile than net flows. For many countries (Ireland, Italy, Spain, and Germany), the largest break-down in gross flows happened during the GFC, not the EZC. Only Greece and Portugal underwent gross sudden stops during the EZC. A closer look reveals that the drastic reduction in gross inflows was often completely matched by a reduction in outflows, whereas net flows only declined slowly. If there was a sudden stop, it was in gross not net flows.

**Figure 5: Gross and net capital flows (%GDP) during the Global Financial Crisis and Eurozone Crisis**

*Notes:* GKI: gross capital inflow (%GDP); GKO: gross capital outflow (%GDP); NKI: net capital inflow (gross inflows minus outflows) (%GDP). Gross flows are the sum of foreign direct investment, portfolio investment, and other investment. All variables are constructed as the 4-quarter moving sum (see Forbes & Warnock 2012). Grey-shaded areas mark Eurozone-wide recessions. Vertical bars mark the beginning and the end of the Eurozone crisis (divergence in government bond yields).

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Second, according to the PK view outlined section 4, portfolio flows into asset markets are more important as direct drivers of financial instability than the relatively passive bank flows. Figure 6 displays portfolio debt inflows into the government sector (largely government bonds) along with other investment debt inflows (loans and deposits), which cover the bulk of cross-border bank lending (interbank lending, direct lending to non-banks, as well as changes in the TARGET2 balances of national central banks). In addition, the current account balance is displayed. The figure reveals that flows generated by the banking system (including central banks) collapsed during the 2008 GFC, not the 2010-12 EZC. The current account balances of the GIIPS (except Italy) were on an upward trajectory already since the GFC. While this current account rebalancing accelerated during the EZC, especially in the 2011-2013 recession, Figure 6 does not support the claim that the reduction in deficits was driven by a sudden breakdown of cross-border bank lending. On the contrary, liquidity in the banking system needed to sustain current account deficits kept flowing, even if through a greater reliance on the Eurosystem rather than the private interbank market (see Quaglia & Royo 2014).

By contrast, government bond flows declined severely and in fact became negative for all GIIPS in 2012. This suggests that the EZC was to a large extent a speculative attack in government bond markets driven by foreign investors. Speculation started with Greek bonds after the upward revision of previously forged budget deficit figures. The sell-off of government bonds in secondary markets led to a collapse in bond prices and an explosion of yields. As emphasised in Minskyan theory, once speculative dynamics are in motion, they are hard to stop due to herd behaviour. This can render speculation quite detached from economic 'fundamentals'. Speculation thus soon spilled over into other government bond markets. De Grauwe & Ji (2013) present empirical evidence that a large portion of the rise in peripheral spreads was disconnected from macroeconomic factors; however, accumulated current account deficits became positively correlated with yields after 2008, suggesting that redenomination risk associated with large net external debt burdens may have informed the choice of foreign investors which Eurozone countries to attack (Cesaratto 2017).

# Figure 6: Portfolio government debt inflows, bank inflows (other investment debt), and current account during the Global Financial Crisis and Eurozone Crisis
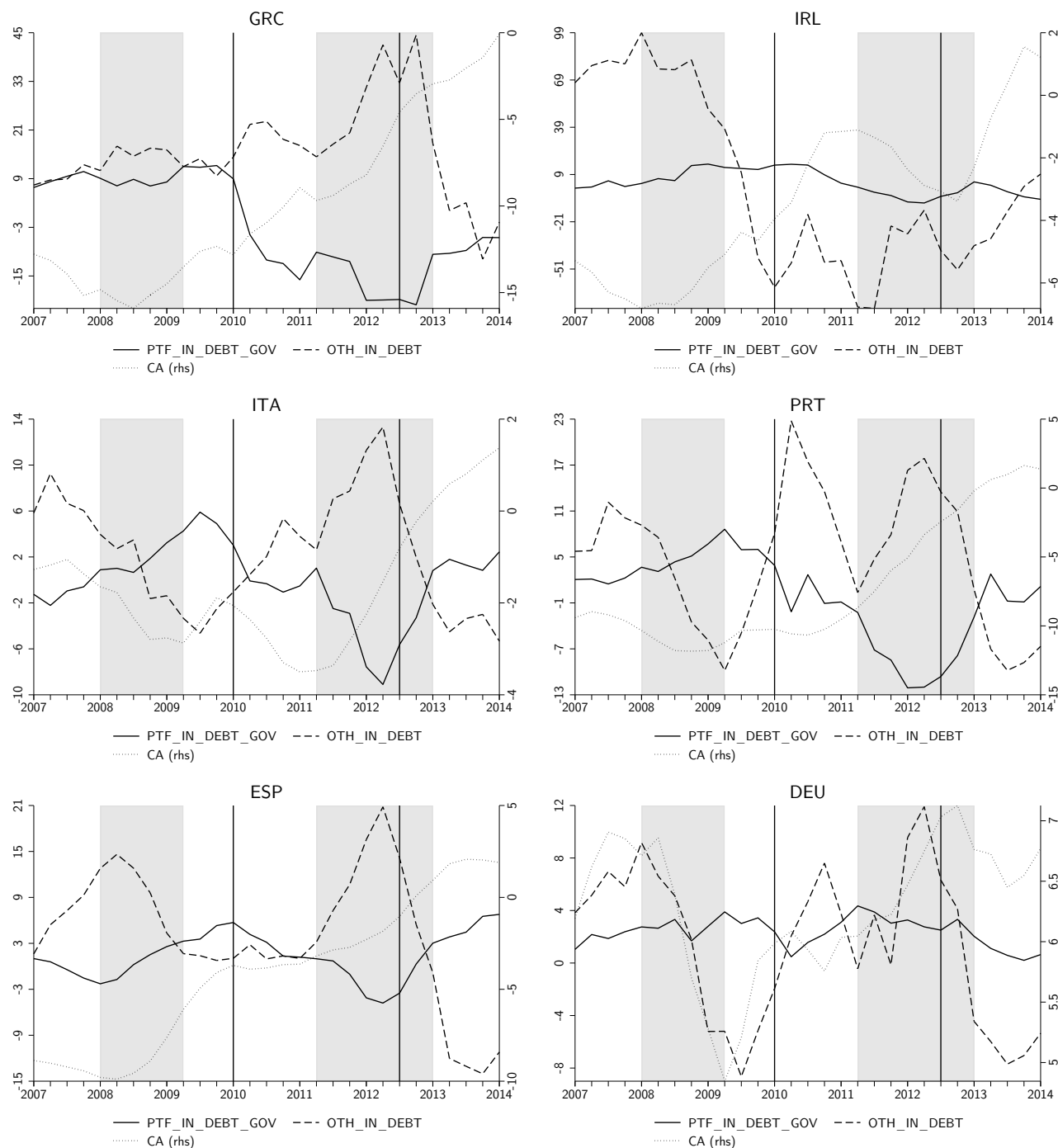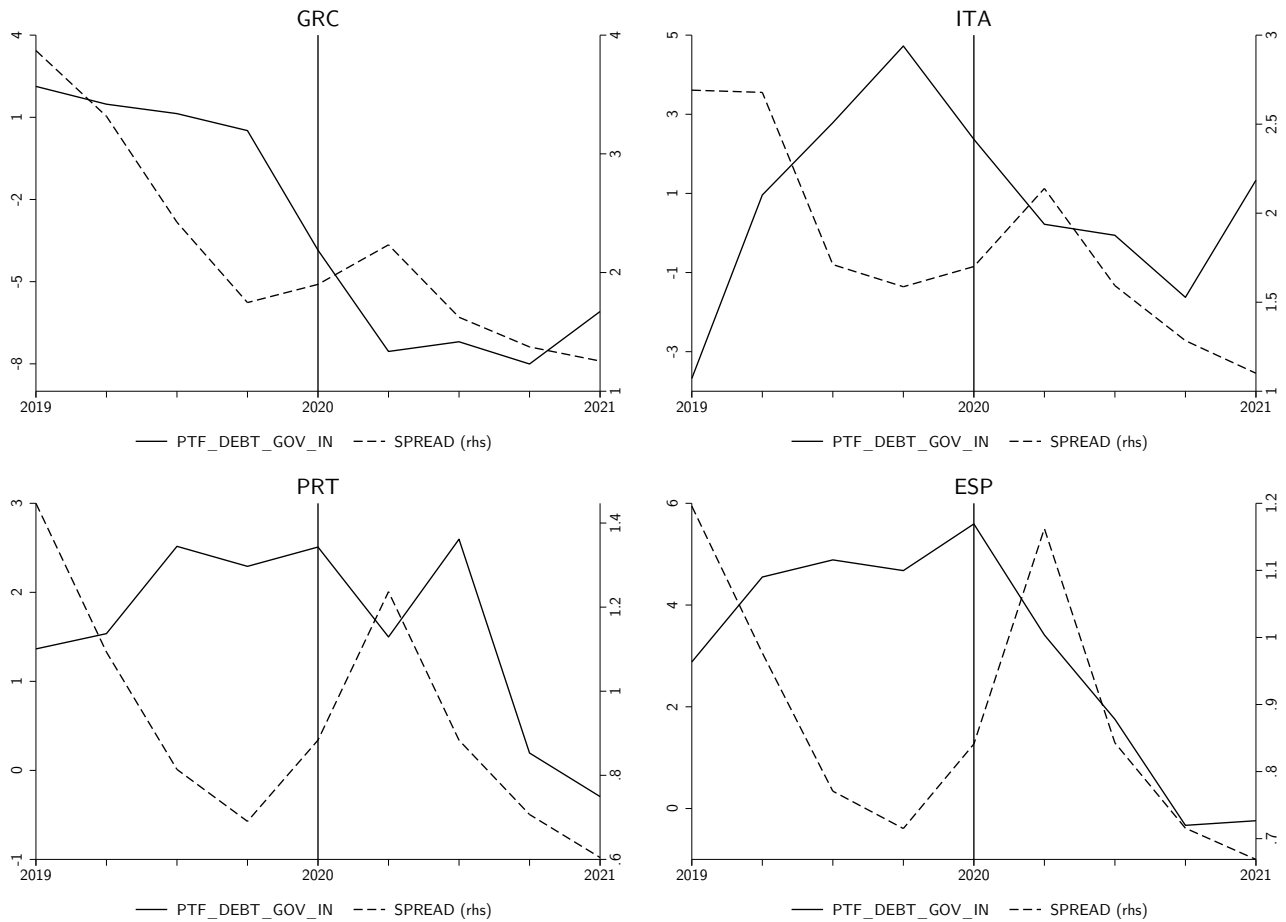


*Data sources*: IMF-BOP, OECD; author's calculations.

*Notes:* PTF_DEBT_GOV_IN: gross portfolio debt inflows into the government sector (%GDP); OTH_DEBT_IN: gross other investment debt flows (sum of other investment currency & deposits and other investment loan flows) (%GDP); CA: current account (%GDP) (Y-axis on right-hand side). 4-quarter moving sums (see Forbes & Warnock 2012). Grey-shaded areas mark Eurozone-wide recessions. Vertical bars mark the beginning and the end of the Eurozone crisis (divergence in government bond yields).

To what extent can the EZC then be characterised as a BoP crisis? The crisis certainly came with massive changes in the pattern of gross capital flows. However, the breakdown in private cross-border bank lending simply reflects a loss of confidence due to heightened solvency problems of peripheral banks that had build up fragile balance sheets during the boom (Pérez 2019, Quaglia & Royo 2014). Importantly, this does not mean that the EZC was a BoP crisis. Neither the behaviour of net flows nor total bank flows is consistent with the notion of a sudden stop that enforced a reduction of current account deficits. Instead, the empirical evidence supports the PK view that there never was a shortage of foreign currency to sustain current account deficits (Febrero et al. 2018, Lavoie 2015). Crucial for the EZC was the collapse in gross flows in secondary bond markets, which was as such independent from trade finance.

The continued relevance of such speculative portfolio flows for the Eurozone's north-south divide could again be observed during the outbreak of the Covid-19 pandemic. Despite a massive rebalancing of current accounts and a recapitalisation of banks, Greece, Italy, Portugal and Spain once again underwent rising yields in early 2020. Spreads of the latter two rose by 44% and 38%, respectively, between the last quarter of 2019 and the second quarter of 2020. Figure 7 suggests that speculative portfolio flows again contributed to these dynamics, illustrating the south's continued exposure to potential speculative attacks.

**Figure 7: Gross government debt flows and peripheral spreads during the outbreak of the Covid-19 pandemic**



*Data sources*: IMF-BOP, OECD; author's calculations.

*Notes:* PTF_DEBT_GOV_IN: gross portfolio debt inflows into the government sector (%GDP) (4-quarter moving sum); SPREAD: difference in 10-year government bonds yields with respect to Germany. The vertical bars marks the COVID-19 outbreak in Europe in 2020Q1.

In sum, the PK view highlights the special role of secondary markets for securities (as opposed to banks loans), whose flexible prices can invite speculative behaviour. This renders gross portfolio flows a potential driving force of financial crises, especially speculative attacks.

# 6 Concluding discussion: Implications for Comparative Political Economy

The paper's main argument can be summarised as follows. Finance-centric narratives of macroeconomic divergence in the Eurozone rightly emphasise financial instability in the private sector (Baccaro & Tober 2021, Cesaratto 2017, Fernández & García 2017, Fuller 2017, Jones 2015, Pérez 2019, Quaglia & Royo 2014, Regan 2017, Stockhammer 2016, Storm & Naastepad 2016). However, some of the arguments related to capital flows implicitly build on neoclassical loanable funds theory. The loanable funds approach not only entails a theoretically flawed description of the workings of finance in monetary economies, it can also mislead regarding the sources of financial instability. With respect to capital flows, it places too much emphasis on net flows related to current account balances and on interbank flows. By contrast, the alternative post-Keynesian monetary perspective put forward in this paper, directs attention to gross financial flows into asset markets. Specifically, it was argued that net flows are mostly an outcome of trade flows, and that bank flows should be seen as a reflection rather than a cause of asymmetric financial booms. Causally more relevant are speculative gross capital flows into real estate and government bond markets, which can contribute to boom-bust cycle dynamics. For the Eurozone's north-south divide, capital flows are most relevant in the form of speculative sales of peripheral bonds by foreign investors during the Eurozone crisis and the outbreak of the Covid-19 pandemic. If government bonds yields are exclusively determined by financial markets, peripheral countries will remain at risk of speculative attacks – unless European institutions unambiguously guarantee their fiscal solvency.

What are the implications for Comparative Political Economy? First, while current account balances contain useful information for cross-country analysis, they are a poor indicator for countries' international financial integration and underlying financial vulnerabilities (Borio & Disyatat 2011, 2015, Febrero et al. 2019). Comparative Political Economists interested in financial instability should abandon the fixation on current accounts and excess savings implied by loanable funds theory in favour of a monetary perspective on gross financial flows. This draws attention to cross-country differences in the size and risk appetite of domestic banking systems as a more important institutional source for financial instability than current account positions. Quaglia & Royo (2014) provide elements of such an analysis for Italy and Spain that could be combined with a monetary perspective on capital flows.

Second, more attention should be dedicated to speculative portfolio flows and foreign direct investment into real estate as opposed to trade-related interbank flows. An important

question for Comparative Political Economy is why peripheral countries are more prone to speculative dynamics. For example, housing institutions such as the relative size of private to public housing as well as residence-specific stamp duties and transaction taxes may render some property markets more attractive to foreign speculators (Everaert 2020). Similarly, institutional factors such as the share of government bonds held by foreign institutional investors may influence how susceptible countries are to speculative attacks (Cerutti et al. 2019).

Third, the paper underlines the crucial role of central banks in preventing speculative attacks in government bond markets (Febrero et al. 2018, De Grauwe & Ji 2013, Lavoie 2015). It shows that these are often driven by foreign investors. During the Eurozone crisis, doubts about the solvency of peripheral governments led to an adverse feedback loop in which the rise in yields prompted further sales of bonds. It took two years of havoc in bond markets until the ECB eventually committed 'to do whatever it takes' in 2012. In spring 2020, European monetary authorities responded much more decisively to rising spreads with the pandemic emergency purchase programme (PEPP) (De Grauwe & Ji 2022). However, the ECB's president Christine Lagarde initially deemed it necessary to remind investors that 'we're not here to close spreads'. This underlines the need for further research on the political factors that induce central banks to shield governments from speculative attacks (Mabbett & Schelkle 2019).

Finally, a finance-centric narrative of the Eurozone's north-south divide must not lose track of domestic factors. Post-Keynesian theory highlights financial cycles in house prices and private debt (Borio 2014, Palley 2011) that operate differently across countries (Kohler & Stockhammer 2021). These domestic financial cycles can be quite independent from capital flows (Aldasoro et al. 2020), and indeed may be largely endogenous. While the expansion phase may pull in capital flows, especially if domestic residents increase imports and invest in foreign assets, those flows are not the main driver of financial cycles. An understanding of why these cycles are often more pronounced in the Eurozone's periphery will require further comparative analyses of domestic housing and financial institutions (Fuller 2015, Johnston & Kurzer 2019).

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# A  Error-correction model of mortgage rates

**Figure A1: Spanish and Irish mortgage interest rates and ECB main refinancing rate**
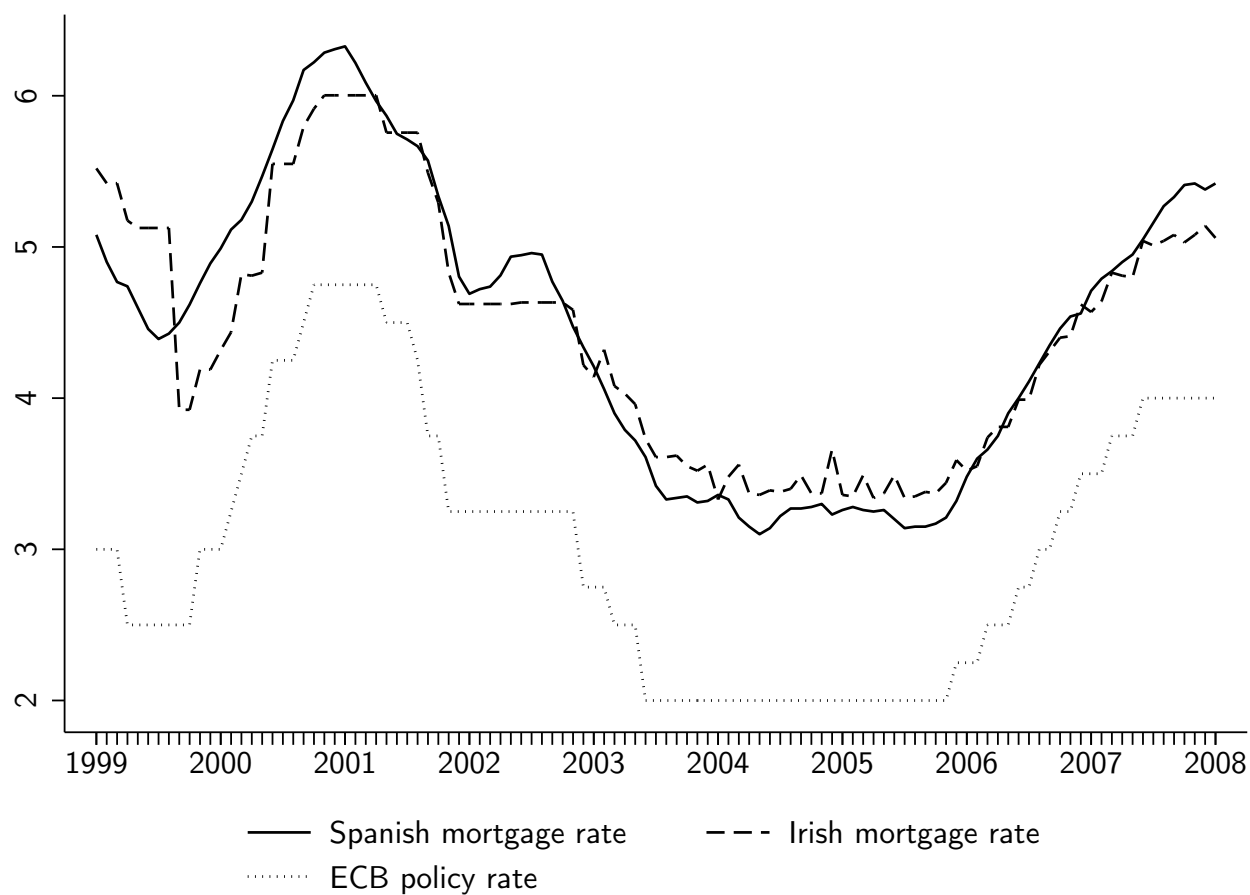


*Data sources*: Bank of Spain, BIS, Central Bank of Ireland, ECB; author's calculations.

*Notes:* Mortgage rates from the ECB database only start in 2003M1 and were therefore extrapolated backwards using the growth rate of historical mortgage rates from national sources.

**Table A4: Error-correction model of mortgage rates, Spain and Ireland**

|  | ESP | IRL |
|---|---|---|
| $\delta$ | -0.178*** | -0.625*** |
|  | (0.000) | (0.000) |
| **LR** |  |  |
| $INTR\_ECB_t$ | 0.861*** | 0.877*** |
|  | (0.000) | (0.000) |
| $INTR\_LT_t$ | 0.317*** | 0.096*** |
|  | (0.000) | (0.000) |
| **SR** |  |  |
| $\Delta INTR\_MG_{t-1}$ | 0.620*** | -0.105* |
|  | (0.000) | (0.069) |
| $\Delta INTR\_MG_{t-2}$ |  | -0.154*** |
|  |  | (0.008) |
| $\Delta INTR\_ECB_t$ | -0.017 |  |
|  | (0.707) |  |
| $\Delta INTR\_ECB_{t-1}$ | 0.142*** |  |
|  | (0.001) |  |
| $\Delta INTR\_LT_t$ |  | -0.135** |
|  |  | (0.016) |
| Constant | 0.069* | 0.809*** |
|  | (0.063) | (0.000) |
| Observations | 96 | 96 |
| Period | 2000M1 | 2000M1 |
|  | 2007M12 | 2007M12 |
| Adj. R-squared | 0.790 | 0.717 |

*Data sources*: Bank of Spain, BIS, Central Bank of Ireland, ECB, OECD; author's calculations.

*Notes*: $\delta$: error-correction term; LR: long-run coefficients, SR: short-run coefficients; $INTR\_ECB$: ECB main refinancing rate; $INTR\_LT$: 10-year government bond yield; $INTR\_MG$: mortgage rate. P-values in parentheses. The lag length was chosen so as to minimise the Bayesian Information Criterion

The proportion $\gamma^i$ of the change in mortgage rates between 2001 and 2004 explained by the policy rate and bond yields, respectively, was calculated as $\gamma^i = (\frac{\beta^i \times \Delta i}{\Delta INTR\_MG}) * 100$,

where $i = INTR\_ECB, INTR\_LT$, $\beta$ is the estimated long-run coefficient, and $\Delta$ denotes the change between 2001 and 2004 (2001M4–2004M1 for Ireland and 2001M1–2004M5 for Spain).

# B  External-asset composition of GIPS before Global Financial Crisis

**Figure A2: Share of portfolio investment in total foreign assets (%)**
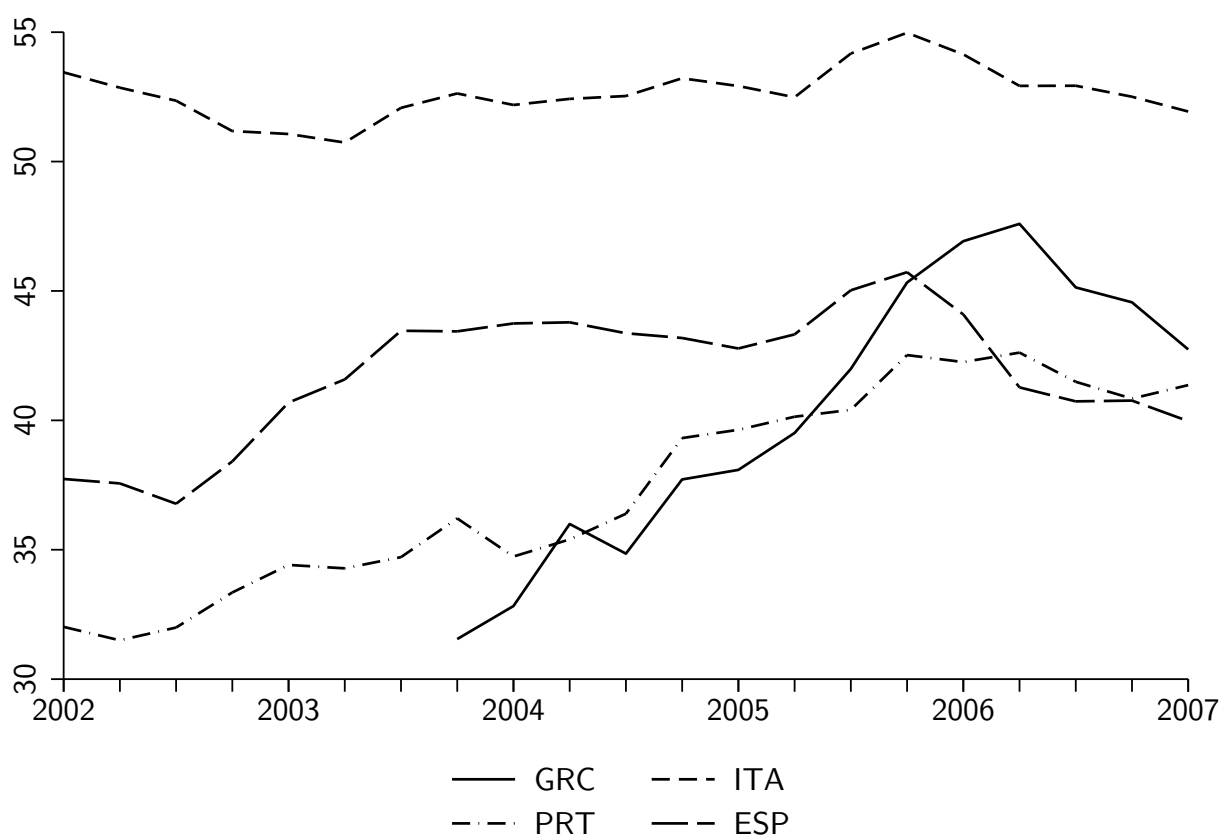


*Data sources*: IMF-BOP; author's calculations.

*Notes:* Total foreign assets are the sum of foreign direct investment, portfolio investment, and other investment. No data for Ireland.