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Global imbalances and asymmetric returns to US foreign assets: fitting the missing pieces of the US balance of payments puzzle

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The issue of whether the US earns a persistently higher return on its foreign direct investment (relative to returns to foreign-owned direct investment in the US) has received considerable attention but little closure in the 'global imbalances' debate. Measuring the rate of returns to US direct investment abroad and foreign direct investment in the US we find higher returns to US foreign direct investment relative to its foreign counterparts in the US. Given the evidence indicating higher returns to US direct investment overseas, we link the irresolution in the contemporary literature regarding the existence of these returns to the unsettled debate over the origin of global imbalances. Reviewing the macro-financial literature on global imbalances, we find a failure to acknowledge that the US current account deficit is, in part, the outcome of transnational production networks in a global economy under-pinned by dollar hegemony. Given the growth in US multinational supply chains, we argue that the US trade deficit is consistent with asymmetric returns to US direct investment and that the sustainability of these return differentials rests on the stability of the status quo.

Keywords: country and industry studies of trade; FDI; rate of return; multinational firms; current account adjustment

JEL Classifications: F14; F21; F23; F32

1. Introduction

According to the official balance of payments (BoP) data estimated by the Bureau of Economic Analysis (BEA), the US now owes the rest of the world, on net, more than four and a half trillion dollars.[1] It may seem paradoxical that the world's richest economy is also its most indebted[2] but, as the issuer of the world's predominant currency[3], the US enjoys extraordinary privileges. For instance, it can borrow very cheaply from the rest of the world, in its own currency, and without the usual outcomes associated with rising sovereign indebtedness.

Another striking feature of the US BoP accounts (see Figure 1) is that the country continues to earn more on its foreign assets than it pays to service its much larger stock of external liabilities (Curcuru, Warnock, and Thomas 2013; Hausmann and Sturzenegger 2006). As Figure 1 shows, despite the increase in US foreign indebtedness ('Net International Investment position'), US net foreign income receipts ('Balance on income') have been remarkably stable. This is contrary to the predictions of many economists (see, for instance, Higgins, Klitgaard and Tille 2005). That
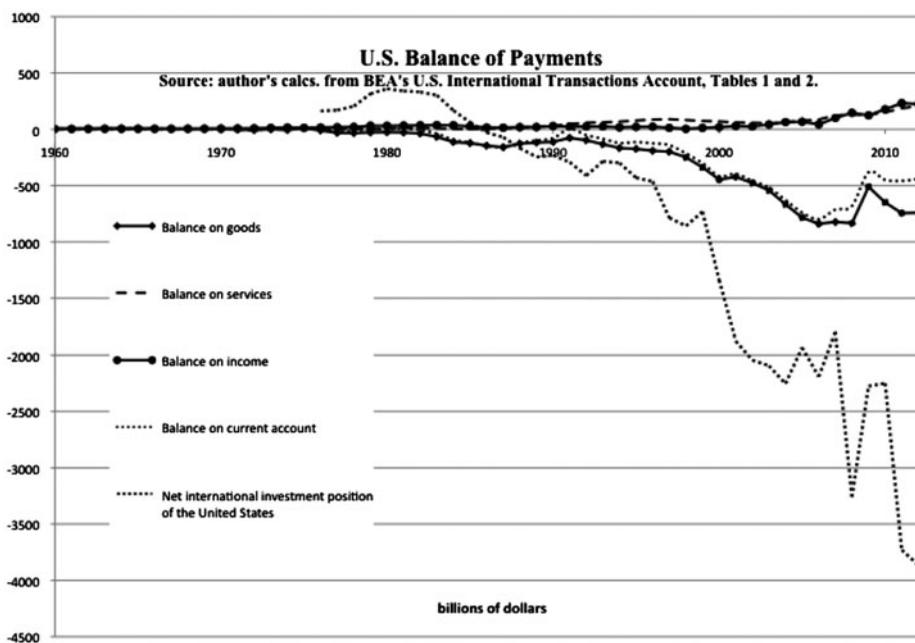
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Figure 1.   Despite Rising Foreign Indebtedness, U.S. Net Foreign Income Balances remain positive.

US net foreign income – valued around 1% of gross domestic product – buoys the US current account is particularly evident when we disaggregate the latter account into its three main components: goods (manufacturing), services, and income balances (see Figure 2). Despite the worsening of the manufacturing deficit – which amounts to about 5% of GDP – net foreign incomes and services receipts have remained positive for the US.

The consensus in the field is that superior returns to American investment abroad relative to foreign-owned investment in the United States, particularly in the direct investment category, are driving these positive net income inflows (see, for instance, Curcuru, Thomas, and Warnock 2013; Cline 2005; Gourinchas and Rey 2007; Higgins, Klitgaard and Tille 2005; Hung and Mascaro, 2004; Landefeld, Lawson and Weinberg 1992 Lane and Milesi-Ferretti 2006; Laster and McCauley, 1994; Mataloni, 2001; Obstfeld and Rogoff, 2005). While most of the above studies assume the existence of this rate of return differential, some recent studies dispute its size and existence (Bosworth, Collins and Chodorow-Reich 2007; Curcuru, Dvorak and Warnock 2008; Hausmann and Sturzenegger 2006). Using the Bureau of Economic Analysis's estimates, excess annual returns to the US from direct investment abroad were a remarkable 663–772 basis points, on average, over 20 years (Higgins, Klitgaard and Tille 2005; Hung and Mascaro, 2004). In contrast, the return differential on the equity and bond portfolios of US claims versus US liabilities was statistically insignificant (Curcuru, Dvorak, and Warnock 2008; Curcuru, Thomas and Warnock 2013). These persistent excess returns to US foreign assets expand the already relaxed inter-temporal budget-constraint for the US. It allows the US to maintain positive foreign income receipts even as its net foreign obligations have mushroomed (Obstfeld and Rogoff 2005).
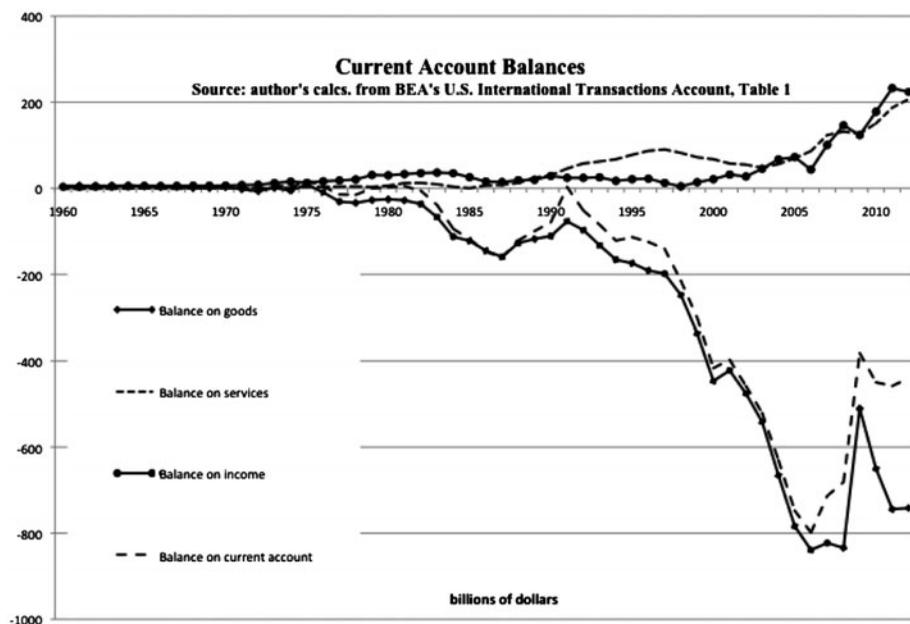
Figure 2.   Positive Net Foreign Income and Services Balances Buoy U.S. Current Account.

We argue that one cannot fully understand excess returns to US direct investment without explaining the macro-financial context in which these return differentials are manifest – a global economy defined by trade and financial imbalances, dollar hegemony, and transnational production networks. We begin by analyzing the recent debate regarding the persistent return differential between US-owned direct investment abroad (USDIA) and foreign direct investment in the US (FDIUS). To contextualize this discussion, in Section 2 we assess the literature that assumes this return differential exists and whose focus is explaining the low profitability of FDIUS. Next, we classify the recent literature on the rates of return asymmetry into two types: studies that argue that this rate of return differential is rooted in market failure and studies that, emphasizing market arbitrage, dispute the existence of a rate of return differential altogether. Examining some key models in the recent literature, in Section 3, we uncover controversies regarding the mismeasurement of assets and how that may affect the return differential. In particular, there is disagreement about how to assess the cross-border comparability of foreign direct investment. In Section 4, we test for the existence of this return differential using the Bureau of Economic Analysis's multinational financial and operating data. Aside from other related work (Ali, forthcoming), this study is the only one we know of which utilizes disaggregated industry-data to measure this rate of return differential. We find that higher returns to USDIA relative to FDIUS hold up across various measures of profitability. In Section 5 we link this rate of return asymmetry to the US's macro-financial imbalances. We argue that the standard literature ignores how US multinational firm activity contributes to these disequilibria and that – for a variety of reasons including the weakening of the exchange-rate adjustment process – US imbalances are here to stay. Section 6 concludes.

2.   Understanding the return differential to US foreign direct investment

Earlier literature attributes the return differentials between American-owned direct investment (henceforth USDIA) and foreign-owned investment based in the States (henceforth FDIUS) to differences in asset characteristics and, possibly, asymmetric tax burdens. In particular, this literature highlights that FDIUS generates comparatively lower rates of return compared with USDIA because of the relative immaturity of foreign investment in the US (Godley and Milberg 1994; Hung and Mascaro 2004; Landefeld, Lawson, and Weinberg 1992; Laster and McCauley 1994; Mataloni 2000) and greater riskiness overseas (Curcuru, Warnock, and Thomas 2013; Landefeld and Lawson 1991). With regard to taxation, the arguments are less self-evident and worth examining in some detail. One view is that foreign firms in the US disproportionately engage in transfer pricing or other modes of cross-border tax arbitrage thereby artificially lowering their US-based profits (Bosworth, Collins and Chodorow-Reich 2007; Curcuru, Warnock, and Thomas 2013; Desai, Foley, and Hines 2011 Gros 2006b; Kozlow, 2002; Landefeld, Lawson, and Weinberg 1992).

While it is difficult to assess whether transfer pricing asymmetrically affects USDIA versus FDIUS earnings, its practice is prevalent. Bernard, Jensen and Schott (2006) for instance, find a distinct difference between US export prices charged by US-based multinational firms to related firms compared with export prices charged to unrelated firms. According to Curcuru, Warnock, and Thomas (2013) transfer mispricing lowers the earnings of FDIUS while hiking up USDIA earnings. Curcuru and Thomas (2012) estimate that almost a quarter of the rate of return differential between USDIA and FDIUS in 2004 is due to transfer mispricing. Examining the foreign returns of US corporations, Bosworth, Collins and Chodorow-Reich (2007) claim that 'about one third of the excess return earned ... can be explained by firms reporting "extra" income in low-tax jurisdictions of their affiliates.' It is worth noting – as Curcuru, Warnock, and Thomas (2013) do – that in the BoP data USDIA earnings are pre-US taxes while earnings on FDIUS are post-US taxes. Taking into account these taxes would reduce USDIA returns by approximately 2% (Curcuru, Thomas, and Warnock 2013).

Yet another hypothesis – besides age, risk, and taxes (Curcuru, Warnock, and Thomas 2013) – explaining the low returns to FDIUS is that foreign investors willingly lower profits to capture a share of the large US market (Godley and Milberg 1994; Mataloni 2001; Mann and Pluck 2005). There is some indirect evidence supporting this claim: for instance, Goldberg and Dillon (2007) show that the pass-through of exchange-rate fluctuations into the final prices of import goods is much less for the US compared with all OECD countries (see Goldberg and Dillon 2007; Goldberg and Tille 2006).

This rate of return puzzle received renewed attention in the 'global imbalances' debate that examines the sustainability of the US current account deficit. Some studies argue that the compositional differences between US foreign liabilities versus US foreign assets are driving these asymmetric returns (Gourinchas and Rey 2007; Lane and Milesi-Ferretti (2006, 2005)). Others, for instance, Hausmann and Sturzenegger (2006) and McGrattan and Prescott (2010) emphasize that the stock of US foreign assets is grossly under-valued resulting in artificially higher rates of return. Below, we classify the more recent analyses into two categories: studies that assume international financial market arbitrage (Gros 2006b; Hausmann and Sturzenegger 2006) and studies that attribute excess returns to US foreign assets to large-scale 'market

failure' attributable to American predominance in the international financial regime (Gourinchas and Rey 2007; Lane and Milesi-Ferretti 2006).

2.1. Market-arbitrage models

Noting the discrepancy between positive net foreign income flows and large net liabilities in the US balance of payments, Hausmann and Sturzenegger (2006) argue that official statistics grossly underestimate US foreign assets abroad. In particular, BoP statistics do not capture intangibles such as the liquidity and insurance premia imbedded in dollar-assets or the brand-recognition of US foreign direct investment. These intangible exports generate income, at least part of which should eventually manifest in the BoP as foreign income receipts (Buiter 2006). Attempting to incorporate such mismeasured incomes and capital stocks, McGrattan and Prescott (2010) find that once accounted for, intangibles explain more than half of the return differential between USDIA and FDIUS. Like Hausmann and Sturzenegger (2006), they too, find that once these missing assets are accounted for, the US current-account deficit may actually be quite stable.

There is little doubt that exports of intangibles are growing. However it is difficult to fully account for them.[4] We think that Hausmann and Sturzenegger's attempt to measure these missing assets ('dark matter') by simply capitalizing US net foreign income receipts using an arbitrary rate of return of 5% is problematic. Theoretically, estimating 'dark matter' – which Hausmann and Sturzenegger estimate to be worth $3.1 trillion – based on an arbitrary capitalization rate means that their estimates cannot be falsified or independently verified (Buiter 2006). Empirically, given the heterogeneity of capital goods, it is erroneous to use a uniform rate of return to estimate aggregate capital stocks.

2.2. Market failure models

Unlike Hausmann and Sturzenegger, Gourinchas and Rey (2007) among others[5] argue that differences in the portfolio composition of US foreign assets (relative to foreign-owned US assets) may drive their superior earnings. Gourinchas and Rey (2007) find that the US's 'exorbitant privilege'[6] – manifested in its ability to generate excess returns on its (negative) net foreign assets – has considerably increased post Bretton Woods (1973–). These excess returns may arise either from a 'return effect' or a 'composition effect'. The former refers to a total return differential between US and foreign assets for each asset category (stocks, bonds, etc.). The 'composition effect' reflects the overwhelming share of low-yielding debt in the foreign-owned US assets portfolio relative to the FDI and equity-heavy US-owned foreign assets portfolio. Emphasized here is the structural asymmetry in the American external balance sheet – a long-standing outcome of the dollar's hegemony – in which 70% of US foreign assets are in riskier foreign currency assets (equity, FDI) whereas almost all of its foreign liabilities are in low-yielding dollar-denominated assets such as debt (Gourinchas and Rey 2007). Gourinchas and Rey (2007) estimate that the US earned an average of 2.11 percentage points in excess annualized returns on its foreign investment from 1952 to 2004. They find that the 'return effect' – rather than the composition effect – appears to be the dominant factor driving these asymmetric returns.

Contrary to much of the literature, Gourinchas and Rey (2007) find that the return differential favoring US foreign direct investment was the smallest across asset categories: only 34 basis points, on average, from 1973 to 2004. The authors also find that the 'composition effect', while relatively small compared with the return affect, has been growing and accounted for between a quarter to one-third of post Bretton Woods (1973–) excess returns to US foreign assets. Revisiting Gourinchas and Rey's (2007) methodology, Gourinchas, Rey and Govillot (2010) find a long-term differential of 3.5% from 1973–2009. Using a variety of estimates,[7] Gourinchas and Rey (2014) find that from 1973 to 2011, returns to US foreign assets vary from 2–3.8% depending on the treatment of 'other changes'[8] (which may or may not be attributed to valuation effects)[9] when calculating the net foreign asset stocks.

Extending Gourinchas and Rey (2007) 'exorbitant privilege' hypothesis – albeit using different data and time-periods – Habib (2010) tests differential returns between foreign assets and foreign liabilities for 49 countries from 1981 to 2007. He estimates that the US stands out as the most exceptional generator of excess returns to foreign assets across different asset classes. Like Gourinchas and Rey (2007) Habib finds that composition effects – and in his own study, country risk – are relatively unimportant. However, Curcuru, Thomas and Warnock (2013) regard such large cross-country comparisons with skepticism because of differences in direct investment definitions and other quality issues that make national data-sets irreconcilable with one another.

3.   Foreign direct investment and asset valuation

Common to both the 'market failure' and 'market arbitrage' perspectives is a critique of how foreign direct investment is valued in the official US balance of payments. This discrepancy between (positive) net foreign income flows and (negative) net foreign asset stocks (see Section 1) is related to a larger puzzle in the US BoP, i.e., the discrepancy between the accumulated current account flows and net US foreign liabilities. Bosworth, Collins, and Chodorow-Reich (2007) calculate that accumulated US current account balances imply a net US international investment position – foreign assets minus foreign liabilities – of –$5.5 trillion at the end of 2006 compared with their actual value of –$2.6 trillion. Commenting on the significantly greater stock-flow inconsistencies in the US balance of payments as compared with the stock-flow discrepancies in other OECD country balance sheets, Gros (2006b) speculates that the way in which capital stocks are valued in the US BoP may be the source of the rate of return differential. Curcuru, Dvorak, and Warnock (2008) offer a different explanation regarding the impact of stock-flow discrepancies on the return differential. In the official statistics, the rate of return on foreign direct investment is calculated as the ratio of recorded income flows to the stock of foreign direct investment. Curcuru, Thomas, and Warnock (2008) note that while the positions data are fully revised, the flows data are only partially revised. The result, they argue, is that returns using (unrevised) flows are always higher than returns using the revised stocks data.

Gourinchas and Rey (2007), among others, find serious flaws in the official balance of payments data and reconstruct the US international investment position with their own adjustments, which they claim are not properly accounted for by the BEA. The problem, however, with these revised estimates is that they are difficult to

compare not only with official statistics but also with each other given the variety of methods employed to estimate stocks, flows, valuation effects, and data-sources used. Also at issue is whether these idiosyncratic estimates while precise may not be accurate. In an unusual public statement, the BEA dismissed such 'alternate views' of the US BoP data, claiming that these estimates were 'not consistent with existing or proposed new international statistical standards, they each raise a number of conceptual problems, and some of them contain inaccurate statements about BEA's methodologies or international statistical standards' (Bureau of Economic Analysis 2006).

This incident highlighted the many problems with measuring assets in the balance of payments data: how to account for intangible assets, capital gains, exchange-rate movements, and inflation on asset values as well as the cross-border comparability of FDI. How foreign direct investment – universally measured by firms at historical rather than current-cost or market value and which usually involves idiosyncratic firm-specific assets – should be valued is particularly controversial. Computations of capital stocks use flawed perpetual inventory models and idiosyncratic depreciation allowances. However, given the prevalence of cross-border profit shifting (for tax purposes) by multinational corporations, it is possible that income flows data too may not be entirely reliable. Do excess returns to USDIA relative to FDIUS hinge on statistical problems associated with asset valuation, as suggested by Hausmann and Sturzenegger's 'dark matter' thesis? This unresolved problem suggests the usefulness of using a multiplicity of measures – those that utilize both income (flows) data as well as asset (stocks) data – to capture the returns to direct investment.

4. Measuring the rate of return differential

Higgins, Klitgaard, and Tille (2007) find that using industry level balance-of-payments data 'only deepens the rate of return differential puzzle'. Curcuru, Thomas, and Warnock (2013) note that the literature examining the dynamics of the rate of return is still in its 'nascent' stages and that part of the problem confronting researchers is the validity of the underlying data. Our intervention in this apparent impasse in the debate is twofold: first, to measure the profitability of foreign direct investment using the disaggregated industry data as opposed to the controversial aggregate balance of payments data (see Ali, forthcoming).[10] Second, alongside the standard measures, we use flow measures of profitability that don't rely on the capital stock data. While cash-flow measures of profits are uncommon, in their investigation of the dynamic efficiency of US direct investment, Desai, Foley, and Hines (2011) use similar measures.[11] Our flow-based measure of profits is the incremental rate of return. It is the ratio of the change in overall gross nominal profits to the previous period's gross nominal capital expenditures (Shaikh 2008). Conceptually, it is similar to the marginal rate of return on investment (Shaikh 2008).

The Bureau of Economic Analysis's (BEA) rich source of multinational data comes from mandatory and confidential annual surveys. These financial and operating industry accounts data are collected at the consolidated business enterprise or company- level and classified according to the primary industry of the enterprise (Mataloni 1995). The survey of US Direct Investment Abroad (USDIA) details the operations of the foreign affiliates of US-headquartered multinationals (parents). Meanwhile the BEA's survey of Foreign Direct Investment in the United States

(FDIUS) concerns itself with the operations of US-based affiliates of foreign-owned multinationals (see Ali, forthcoming). Derived as it is from company balance sheets, these financial and operating data are recorded on a book-value basis (Barefoot and Mataloni 2011). To estimate the inflation-adjusted rates of return we divide absolute numbers such as profits with the capital stock (both in current dollars) for a particular year. This division cancels out the price vector resulting in real rates of return (Ali forthcoming; Shaikh 2008).

There is yet another problem that confronts us. Output in the financial, real estate, and management sectors is problematically estimated from incomes not market expenditures (Basu and Foley 2013). We exclude these problematic sectors to focus on non-FIRE majority-owned affiliates or subsidiaries (USDIA and FDIUS) from 1999 – 2005 (see Ali, forthcoming).

We run four iterations – pre- and post- tax, using both gross and net capital stocks – of the average rate of returns. We also calculate the incremental rates of return as well as the return on assets and the profit margin. Transnational corporations actively shift profits across borders: this is why, alongside post-tax profits, pre-tax profits are also worth evaluating. Wolff (2003) notes that total profits may be hidden in capital consumption allowances affecting the net returns. Hulten (1992) and Shaikh (1999b) among others have argued that measures of output and capital stock should be gross of these fictitious capital consumption allowances. Hence, when calculating the average rates of return, we use both the gross and the net profit rates. Another reason for calculating the gross capital stocks is that differences in accounting for asset depreciation (in the FDIUS versus the USDIA net capital stock) may affect the rate of return differential. This is particularly the case when firms write down heavy depreciation or amortization charges when making large investments or following mergers and acquisition. It is worth noting here that FDIUS, for instance, is overwhelming acquired through mergers (Ali, forthcoming; US Bureau of Economic Analysis 2006). Using a variety of profit rates allows us to more fully capture the dynamics of the rate of return differential compared with studies that focus on a singular rate of return. We also calculate the volatility of returns measured by standard deviations and coefficients of variation (see Ali forthcoming).

Given the short *durée* examined here, we are more interested in the general patterns rather than the actual values of the various profit rates. We find that through 1999–2005, FDIUS consistently underperforms USDIA across all iterations of the average rates of return, the incremental rates of return (except for the pre-tax incremental rate for manufacturing), profit margins, and returns on assets for both the weighted 'all industries' aggregate as well as the 'manufacturing' aggregates (see Tables 1, 2, 3). For the average and the incremental rates of return (Tables 1 and 2), in general, the pre-tax differential returns to USDIA are higher than the post-tax differentials. As Table 1 shows, the average rate of return differential between USDIA and FDIUS is greater for the net rates relative to the gross rates. Depreciation allowances (as a share of output) are slightly higher for FDIUS (11%) compared with 14% for USDIA (Ali, forthcoming). This asymmetry in accounting for depreciation reduces the accounting profits of FDIUS resulting in lower *net* profit rates (which subtract capital consumption allowances from the gross operating surplus) for this portfolio. As Table 3 shows, return differentials to USDIA are least pronounced for profit margins followed by the returns on assets.

As all three tables show, contrary to the risk-return correlation, we find that returns to FDIUS are not only poorer but also more volatile as measured by most

Table 1.   Average rates of return.

	Weighted average %	Excess return to USDIA %	Standard deviation %	Coefficient of variation %
Pre-tax gross				
USDIA (All)	22	10	3	13
FDIUS (All)	12		2	17
USDIA (Man.)	21	10	1	5
FDIUS (Man.)	11		3	27
Post-tax gross				
USDIA (All)	17	8	2	14
FDIUS (All)	9		2	21
USDIA (Man.)	18	9	1	14
FDIUS (Man.)	9		2	21
Pre-tax net[*]				
USDIA (All)	27	18	5	20
FDIUS (All)	9		3	37
USDIA (Man.)	25	17	3	11
FDIUS (Man.)	8		4	56
Post tax net[*]				
USDIA (All)	19	13	5	23
FDIUS (All)	6		2	35
USDIA (Man.)	20	15	3	17
FDIUS (Man.)	5		3	64

[*]Note that the net returns are also reported in Ali (forthcoming Appendix 1, Table A1).

standard deviations and all coefficients of variation across all measures of profitability. For aggregate manufacturing, across all profit rates, both standard deviations and coefficient of variations are always relatively higher for FDIUS.

The denominator of the incremental rates of return is gross capital expenditures. These are highly volatile compared with the capital stocks. Thus, the incremental rates of return (see Table 3) fluctuate much more – as evident in their standard deviations and coefficients of variation – compared with the measures of profitability based on capital stocks. We find that aggregate returns to USDIA – and hence the return differential – are even greater for the incremental rates compared with the gross profit measures. For aggregate manufacturing, however, differential excess returns to USDIA are considerably less for the incremental rates of return compared with the pre-tax gross and net capital stock returns. For instance, the rate of return differential between USDIA and FDIUS manufacturing is just 6 percentage points higher for USDIA using the post-tax incremental profits and this differential disappears altogether for the pre-income tax incremental rate of return.

Shaikh (2008) argues that the incremental rates of return regulate the movement of investment across sectors and countries. The tendential equilibrium of the pre-tax incremental rate indicates the presence of competitive cross-border dynamics in manufacturing. However, industry-wide incremental rates of return are still substantially higher (about 14% more for the pre-tax incremental returns) for USDIA. We should also note that between 1999 and 2005, the trade-weighted dollar – a good but imperfect proxy for capturing how exchange rates affect direct investment – depreciated by 14%, possibly inflating US overseas income.

Unlike studies of the return differential using the aggregate BoP data which, includes the problematic FIRE sectors (for example, Curcuru, Thomas, and Warnock

Table 2.   Incremental rates of returns.

	Weighted average %	Excess returns to USDIA %	Standard deviation %	Coefficient of variation %
Pre-tax				
USDIA (All industries)	26	14	30	115
FDIUS (All industries)	12		21	175
USDIA (Manuf.)	16	0	24	150
FDIUS (Manuf.)	16		35	219
Post-tax				
USDIA (All industries)	21	12	23	108
FDIUS (All industries)	9		20	227
USDIA (Manu.)	17	6	21	122
FDIUS (Manu.)	11		31	287

Table 3.   Other measures of profitability.

	Weighted average %	Excess return to USDIA %	Standard deviation %	Coefficient of variation %
Return on assets				
USDIA (All industries)	5	4	1	26
FDIUS (All industries)	1		2	200
USDIA (Manufacturing)	6	5	1	13
FDIUS (Manufacturing)	1		2	200
Profit margins				
USDIA (All industries)	8	3	1	8
FDIUS (All industries)	5		1	20
USDIA (Manufacturing)	8	2	0	4
FDIUS (Manufacturing)	6		1	17

Source for Tables 1–3: author's calculations using BEA data, see Appendices 1 and 2 for sources and definitions.

2013) ours do not. Compared with the longer-term studies discussed in Section 2, our analysis here is much more short-term. However our results – using disaggregated direct investment data – are broadly consistent with studies based on the balance of payments data. Like Gourinchas and Rey (2007), Gourinchas and Rey (2014) and Habib (2010) we find that excess returns to US assets (relative to US liabilities) aren't because of their relatively greater riskiness or 'leverage' but because of an 'extraordinary "return" effect' (Habib 2010) across industries. In related work, we examine the drivers of these return differentials more closely (see Ali forthcoming).

5.   The macro-financial context: a gestalt approach

Curcuru, Warnock, and Thomas (2013) write that the returns differential lies 'at the heart' of the BoP stock-flow discrepancies and the positive incomes balance puzzle. We connect the lack of resolution in the contemporary global imbalances literature over the existence and sources of excess returns to US assets abroad to the larger debate over the origin and persistence of global imbalances. Understanding the macro-financial context – the relative importance of trade-based, financial, or investment-led drivers of the US current account deficit, in particular, and the related

global trade and financial imbalances, in general – in which these excess rates of return to US foreign direct investment manifest themselves may, in turn, help shed light on the rate of return differential.

The large global trade and financial imbalances that defined the global economic landscape in the late 1990s significantly declined as world trade shrank following the Great Recession. At their peak in 2006, imbalances amounted to about 5.6% of world GDP. By 2013 they had declined to about 3.6% of GDP (IMF 2014). The US continues to be the leading contributor to these global asymmetries even as its current account deficit fell from 1.6% of world GDP in 2006 to 0.54% of world GDP in 2013 (IMF 2014). In 2006, China was the second largest contributor to global imbalances on the surplus side. Since then, China's current account surplus almost halved from 0.56% of world GDP to 0.25% of world GDP in 2013. As the flow imbalances diminished but didn't reverse, the stock imbalances (cumulated flows plus valuation effects) have widened (IMF 2014). The US net stock of foreign liabilities increased from 4% of GDP in 2006 to almost 8% of world GDP in 2013. According to the IMF this was because of the increased global demand for dollar-denominated safe-haven assets (IMF 2014). In terms of the future, Blecker (2011) and Gagnon (2011) argue that the reduction in these imbalances is a temporary result of the 2008 crisis. The IMF (2014) however, is more optimistic, arguing that the narrowing of imbalances means that they do not pose a systemic threat. Echoing Kindleberger's hegemonic stability thesis, the Fund states that the strength of the dollar appears to be an essential ingredient to the stability of these imbalances (IMF 2014).

5.1. Contemporary explanations of the US current account deficit

In contemporary theory, the correlation between external deficits and economic growth is often explained by the Fisher separation theorem. In this view, countries that borrow from abroad should be able to invest more (as they are less constrained by domestic saving) and therefore should grow faster (Prasad, Rajan and Subramanian 2007). The presumption is that given efficient markets, investment should flow where returns are the greatest (presumably to the global South where capital is more scarce). Therefore, domestic saving rates would be uncorrelated with domestic investment rates. This theorem underpins influential explanations of the US trade deficit, such as Bernanke's 'savings glut' and Cooper's 'financial accommodation' hypothesis.

Cooper claims that financial inflows drive the US trade imbalances: hence, the current account should be considered a deficit only in accounting terms (Cooper 2005). Bernanke (2005) argues that the size and growth in the US current account cannot be explained by trade-related reasons. Like Cooper, he maintains that the US trade deficit is the unintended consequence of financial inflows into the US: 'the U.S. balance ... for the most part ... has been passively determined by foreign and domestic incomes, asset prices, interest rates, and exchange rates, which are themselves the product of more fundamental driving forces' (Bernanke 2005). World savings plowed into US financial instruments arise from export-driven regimes as well as the savings of rapidly aging economies. This massive influx of foreign savings into US assets, particularly since the mid-1990s, explains much larger stock of US assets held by foreigners (US liabilities) compared with the stock of foreign assets held by US residents.

Implicitly, the financial accommodation hypothesis not only rests on the superiority of US assets but also on the greater productivity and higher profitability of US-based firms. As Bordo explains, the global savings glut takes place 'above all in the U.S. which has seen a disproportionate growth in the demand for its assets because it offers a higher real rate of return based on the economy's long-run good performance' (Bordo 2005). Yet the empirical evidence contradicts Bordo's claim. While FDI inflows into the US have grown at a faster rate than FDI outflows since 1995, a growing source of US financial inflows are deposited in low-yielding debt securities rather than high-yielding equity. These facts undermine Bernanke, Cooper and Bordo's hypotheses that foreign investors are buying US equity to maximize their (risk-adjusted) long-term returns (see Eichengreen 2006).

Dooley, Folkerts-Landau and Garber (2004) propose an alternative theory of the US deficit in their espousal of the re-emergence of a 'Bretton Woods' type international monetary régime. The authors claim that the US trade deficit is an unintended consequence of 'peripheral' development strategy. The contemporary Bretton Woods II international order is based on a dualism. While 'periphery' countries – their focus is China – rely on pegged exchange rates to promote export-led growth, 'center' countries – for example the US and UK – maintain a parallel system of flexible exchange rates and accumulate current account deficits. According to Dooley et al., China's dollar-denominated foreign exchange reserves function as 'collateral' to secure US foreign direct investment (Dooley, Folkerts-Landau and Garber 2004). The authors argue that in exchange for US FDI and international financial intermediation, China runs trade surpluses. This, in turn, allows the country to accumulate massive dollar reserves that buoy up the USD and also necessitates exchange-rate intervention and the strict enforcement of capital controls in China.

No doubt many export-driven economies, including China, rely on the US as their largest export-market and as the issuer of highly desirable dollar-denominated financial assets. But why (commenting on patterns not intentions), on the one hand, does China purchase huge amounts of low-yielding US debt while, on the other hand, the US takes advantage of superior rates of return on Chinese-based investment and enjoys the ability to write-off its foreign debt to China (Chinese-owned dollar assets) through dollar depreciation? Dooley, Folkerts-Landau and Garber (2004) imply that these are the burdens of original sin – a country's inability to borrow and lend internationally in its own currency – that must be borne by 'periphery' economies.[12] In other words, China is willing to sacrifice a higher rate of return on its foreign assets and/or more domestic-driven aggregate demand on the altar of its export-oriented growth strategy.

Dooley, Folkerts-Landau and Garber (2004) maintain that the contemporary financial régime in which the periphery is willing to accumulate US debt is stable. Their optimism is shared by a number of prominent economists including Bernanke (2005), Cooper (2005) and Bordo (2005) for whom the 'underlying force of financial globalization' (Cooper 2005) will promote a benign unwinding of these global imbalances. As Bordo explains, the demand for US instruments by foreigners and the decline in investor home bias along with the 'underlying long-run positive fundamentals' will make for a fairly smooth adjustment process (Bordo 2005). With hindsight, however, these imbalances *inter alia* contributed to the 2008 crisis (a subject that has been discussed by others so will not be elaborated upon here). In disagreement with Bordo, we think that these imbalances are unlikely to disappear for several reasons (see Section 5.3).

Yet another problem with the 'saving glut' and 'financial accommodation' theses is the way in which they elide how the US has inordinately benefited from overseas borrowing. Gourinchas and Rey (2007) and Lane and Milesi-Ferretti (2005) are among the few who highlight the 'asymmetric interdependence between "creditor" (advanced) and "debtor" (developing) countries' (Lane and Milesi-Ferretti 2005). The fact that US foreign debt is overwhelmingly denominated in dollars means that exchange-rate exposure has shifted away from the US onto the rest of the world (Poole 2005). This asymmetric burden of adjustment is 'instrumental in the stabilization' of the US's external accounts (Gourinchas and Rey 2007). The power of its currency has allowed the US to run persistent trade deficits through more borrowing. Dollar hegemony has also shaped the perverse 'uphill' direction of global capital flows from poorer to richer countries (McKinnon 2005, 2010). In short, its 'exorbitant privilege' makes US domestic and foreign budgets less constrained relative to all other countries that do not benefit from their currency being the world's money.

5.2.   Global imbalances and multinational corporations

Another issue that requires further attention in the global imbalances debate is: what is the meaning of the US trade deficit when almost half of all US imports are at the behest of US multinationals themselves (Landefeld and Kozlow 2003). Godley (2005), Dorman (2007), Blecker (2011) and Milberg and Schmitz (2011) argue that finance-led explanations fail to appreciate the production-based factors that have contributed to these global imbalances. International competition has driven tremendous growth in intra-firm and intermediate inputs trade. In 2006, more than one-third of US imports and more than one-fifth of US exports were intra-company (Porter 2012), i.e. parent companies sourcing inputs from their foreign subsidiaries. (This figure is a conservative estimate of intra-firm trade: for example, these numbers do not capture arm's length imports by US multinationals from foreign subcontractors.)

Trade statistics further muddle the issue. While the exports of intangible goods or services to US multinational subsidiaries abroad might not show up in trade-flows data, global-supply networks exaggerate trade volumes. Whenever an intermediate or final product crosses a border it is recorded both as an import and export and value-added may be counted multiple times over. Not only do trade statistics not capture intellectual property correctly (see Section 2.1) but, based as they are on customs data, they inadequately measure each country-based contribution to output along complex global supply chains.

For instance, every time an iPhone is shipped to America, US trade data registers an increase in the trade deficit by the final good's price at the factory gate in the 'last reported country of origin' (OECD 2011) – say $195 from China – minus the US inputs shipped to China to produce the iPhone – say, for instance, $25. In other words, the US bilateral trade deficit with China increases by $170 per phone while the Chinese bilateral trade surplus with the US increases by $195 (OECD 2011). Apple, a US multinational, earns most of the profits on the sale of this product while profit margins for its Chinese suppliers are typically quite thin (Dedrick, Kraemer and Linden 2010). Meanwhile, other countries, such as South Korea, that export most of the sub-components of the iPhone to China for final assembly do not configure at all in this bilateral accounting imbalance (Xing 2011). If accounted for properly, using a value-added approach to measure exports and imports, the bilateral Korean surplus/ US deficit should increase more than the US–China imbalance (OECD 2011).

Other factors, like tax-avoidance strategies such as domiciling businesses offshore, impact the US trade deficit too. A recent McKinsey report finds that that the US deficit in insurance services is mainly driven by off-shoring re-insurance activities to tax havens such as Bermuda (McKinsey 2012). McKinsey also finds US trade surpluses in generating royalties overseas compatible with its trade deficit in computer and information services. The simple explanation is that many US multinationals (Apple comes to mind again) 'have opted to apportion sizable export revenue to Ireland [and other tax havens] because of the tax breaks available there.' (McKinsey 2012, 30)

These new and rapidly growing types of off-shoring activities may artificially inflate the US deficit. In fact, a declining trade balance might very well be consistent with higher profitability for US multinationals (Milberg 2006; Milberg and Schmitz 2011). Thus, to view the current account balance simply as the 'passive outcome' of movements in the capital account – as does a sizable swathe of the contemporary global imbalances literature – is misleading. Godley (1995) debunks financially motivated explanations of the trade deficit because of their disengagement from the disaggregated firm-level decisions that influence the trade balance. However, Godley-type structuralist trade models where a country's trade deficit reflects a loss of competitiveness also fail to account for international outsourcing. Declining US competitiveness would imply declining growth in US exports yet the growth in US exports has been pretty similar to the growth in US imports: on average, 10% over 1973–2011 (author's calculations, BEA 2013).[13]

In short, the activities of transnational production networks are inadequately captured by current nation-based trade statistics. In the absence of value-added trade data it is difficult to assess how much distortions in trade statistics have impacted global trade imbalances. However, it is clear from the discrepancies between the US financial and current account – which impact the stock-flow inconsistencies in the US BoP (Curcuru, Warnock, and Thomas 2013) – that this is a problem worth investigating.

5.3.   *Global Imbalances and the weakening of exchange-rate adjustment*

While in competitive advantage and 'developmental strategy' models, as well as certain finance-driven models, there is a long-term proclivity for US trade deficits, other models including Bernanke's and Cooper's – where a complicated convergence of factors such as differences in economic growth rates, interest-rate differentials, exchange-rate regimes, differing consumption preferences, changing demographic preferences, and the financial safe haven provided by the US – are more ambiguous in their conclusions. Even though '[m]odern dynamic theory makes no such claim for a strong connection between the external imbalance and the real exchange rate' (Backus et al. 2009) – and the current literature ascribes the US trade deficit to differences between the US and its trading partners such as demographic factors, economic growth rate differentials, and, as mentioned earlier, the financial safe-haven argument – the idea that the exchange-rate will adjust continues to dominate discussions on the global imbalances.

In standard trade theory, international trade imbalances are self-correcting through the real exchange rate (Shaikh 1999a; Shaikh 2007). Protracted external imbalances are ruled out as a country's terms of trade adjust so as to balance the trade account. In contrast to this standard price adjustment mechanism (which hinges on the faulty

Trade Weighted Dollar Index: Major Currencies
Source: author's Calcs. from Federal Reserve Bank of St. Louis

Figure 3.   The Value of the Dollar (Post-Bretton Woods).

quantity theory of money), in competitive advantage models there is no such automatic adjustment mechanism (Shaikh 2007). Hence, persistent trade imbalances – based on absolute rather than comparative cost differences in a country's exports sector – are possible (Shaikh 2007). Looking at the short-term evidence, Roubini and Setser (2005) find periods of dollar appreciation associated with worsening trade balances (1980–1985, 1995–2002) and periods of dollar depreciation (1986–1990) associated with improving trade balances. However, from 2002–2006, the dollar depreciated by 16% in real terms while the trade deficit rose from 4.5% to 6.1% of GDP while the largest decline in the current account deficit occurred in 2009 (Labonte 2010). The last development brings to mind Kregel's pithy observation that '[a]djustment now comes in the form of a financial crisis' (Kregel 2008).

Observing the long-term trade-weighted dollar index (Figure 3) the coexistence of persistent trade deficits with a moderate (30%) deterioration in the trade-weighted dollar index over 30 years indicates the relatively minor role played by devaluation as a clearing mechanism (also see IMF 2014). In part, this is because world-wide dollar invoicing and pricing to the US market means that US import prices are relatively insensitive to changes in the exchange-rate (see Section 2). Devaluation as a means of mitigating imbalances is further constrained because of the institutional macro-environment in which several export giants, including China, informally peg their currencies to the dollar. Hence, dollar depreciation provides limited scope in improving the US trade deficit. The IMF (2014) has recently acknowledged the '[l]imited role of exchange rate adjustment' in addressing these imbalances. Given the multilateral aspect of these global imbalances, the conflicting domestic policies of different countries, and the absence of multi-national institutions and initiatives to effectively manage and coordinate exchange-rate and monetary policy, upward exchange-rate revaluation for trade surplus countries and downward revaluation for deficit countries appear unlikely.

6.   Conclusion

Asymmetric returns to USDIA versus FDIUS have largely been explained by differences in age, risk, and taxation characteristics (Curcuru, Thomas and Warnock 2013). However a number of recent analyses question the aggregate BoP data on which this return differential is based. Using the BEA's disaggregated MNC data, we find sectoral-based evidence of higher relative returns to USDIA. These higher returns are not correlated with greater risk. Given the paucity of firm data on transfer pricing and other modes of tax evasion, it is difficult to disentangle the impact of taxation on the rate of return differential (see Ali forthcoming). We advocate a gestalt approach to understanding this rate of return differential. This involves understanding its rootedness in a global economy characterized by trade and financial imbalances: these themselves originate in a dollar-based international financial system, the heavy reliance of export-driven economies on the US, and the rapid internationalization of transnational supply chains. Such an over-determined perspective, focusing on cumulative causation,[14] is at odds with mainstream analyses that rather narrowly focus on national savings and investment imbalances as the sources of these global disequilibria. Implicitly, we argue that the US current-account deficit is consistent with higher returns to US direct investment. The US trade deficit is not a sign of a 'lack of international competitiveness' but instead indicative of the US's centrality to global production, investment, and trade. In this light, positive income balances for the US current account aren't puzzling but quite consistent with rising US multinational firm profitability made possible, in part, by producing overseas. We do recognize that these return differentials dynamics are 'best looked at in a long-term perspective' (Curcuru, Thomas, and Warnock 2013) and recommend more studies investigating this issue for the extended post-crisis period.

Disclosure statement

No potential conflict of interest was reported by the author.

Notes

1. Bureau of Economic Analysis, September 24, News Release, International Investment Position 2013.
2. In absolute not relative terms.
3. About 87% of all global currency transactions are conducted in dollars (Bank for International Settlements 2013).
4. Take, for instance, dollar seignorage: notwithstanding the difficulty of fully accounting for its quantitative contribution to 'dark matter', it is probably very small compared with

the \$3.1 trillion in stock worth of 'dark matter' as calculated by Hausmann and Sturzenegger. According to some estimates, at most one-sixth of the three trillion worth of 'dark matter' may be accounted for by dollar seignorage.

5. Including Curcuru, Dvorak, and Warnock (2007), Lane and Milesi-Ferretti (2005), and Higgins, Klitgaard, and Tille (2007).
6. The term 'exorbitant privilege' was coined by Valéry Giscard d'Estaing in the early 1960s to express French resentment over the American stronghold over the international financial order.
7. Based on their 2007 paper as well as those of other key authors.
8. Such as capital gains or mismeasured flows and stocks.
9. Valuation effects refer to adjustments – such as exchange-rate adjustments, or market valuation – other than those arising purely from financial flows in estimating the 'direct investment' stock. These valuation effects, in turn, affect the net international investment position (a country's stock of foreign assets minus foreign liabilities).
10. We employ methodology and data-sets also used in Ali (forthcoming). However these data-sets are utilized differently. In this article we assess a wide range of profit measures. In Ali (forthcoming), as part of a much wider assessment of the impact of transnational activity on US profits, output, and employment, we only calculate the net average rates of return to USDIA and FDIUS against domestic based production (NIPA).
11. Comparing repatriated earnings on US foreign direct investment overseas against net foreign investment spending by US parent companies from 1982–2010, Desai, Foley, and Hines (2011) find much higher rates of cash-flow surplus generation for the foreign affiliates of US companies compared with their US parent companies.
12. Dooley, Folkerts-Landau and Garber (2004) do not use the term 'conflicted virtue' preferring the broader category 'original sin' instead. Following McKinnon (2005), we understand 'conflicted virtue' as an aspect of 'original sin' particular to net creditor peripheral economies. For example, China or Japan cannot use their trade surpluses to lend internationally in their own currencies. If trade surpluses lead to their own currencies appreciating, these countries possibly face debt deflation at home as their (own-currency denominated) domestic liabilities mushroom in value while their dollar-denominated foreign assets depreciate. Even for these creditor economies, virtue (running trade surpluses) comes at a cost.
13. US Bureau of Economic Analysis, US International Transactions Accounts Data, Release Date: December 18, 2012, Table 1. US International Transactions Data.
14. I thank one of the anonymous referees of this publication for raising this point.

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Appendix 1. Data sources

Source for USDIA: Bureau of Economic Analysis, International Economic Accounts, Operations of Multinational Companies, U.S. Foreign Direct Investment, Product Guide for U.S. Foreign Direct Investment abroad, 1b. 'Operations of U.S. Affiliates of Foreign Companies, Comprehensive Financial and Operating Data', Majority Owned Non-Bank Affiliates, Years 1999–2005; Tables 3A2 B3–4; 3E2; 3G2; 3K2; 3J4.

(http://www.bea.gov/scb/account_articles/international/iidguide.htm#USDIA).

Source for FDIUS: Bureau of Economic Analysis, International Economic Accounts, Operations of Multinational Companies, Product Guide for Foreign Direct Investment in the U.S, various years, IIb. Operations of U.S. Affiliates of Foreign Companies, Comprehensive Financial and Operating Data, Majority Owned Affiliates (1997–2005). Tables J2 (1997–2001); 3A2; 3B1; 3E10; 3I1; 3F1; 3I6; 3I6 (2002–2005). (http://www.bea.gov/scb/account_articles/international/iidguide.htm#FDIUS).

Appendix 2. The calculation of profit rates

Given that:

GVA_t = Gross value added of industry i at year t.
$NIBT_t$ = Indirect business taxes[15] of industry i at year t.
EC_t = Compensation of employees of industry i at year t.
K_{t-1} = Stock of plant and equipment of industry i at year t-1 (gross and net).
I_{t-1} = Investment in fixed assets (plant, property, and equipment) of industry i at year -1[16]
CT_t = Corporate income taxes of industry i at year t.
$\Delta I_{t-(t-1)}$ = Change in Inventories
CCA_t = Capital Consumption Allowances of industry i at year t.

Average rates of return
Pre-tax gross = $(GVA_t - EC_t - NIBT_t)/(\text{Gross } K_{t-1} + I_{t-1})$
Post-tax gross = $(GVA_t - EC_t - NIBT_t - CT_{t-1})/(\text{Gross } K_{t-1} + I_{t-1})$
Pre-tax net = $(GVA_t - EC_t - NIBT_t - CCA_{t-1})/(\text{Net } K_{t-1} + I_{t-1})$
Post-tax net = $(GVA_t - EC_t - NIBT_t - CT_{t-1} - CCA_t)/(\text{Net } K_{t-1} + I_{t-1})$

Incremental rates of return
Pre-tax = $(GVA_t - EC_t - NIBT_t) - (GVA_{t-1} - EC_{t-1} - NIBT_{t-1})/(I_{t-1} + \Delta I_{t-(t-1)})$
Post-tax = $(GVA_t - EC_t - NIBT_t - CT_t) - (GVA_{t-1} - EC_{t-1} - NIBT_{t-1} - CT_{t-1}))/(I_{t-1} + \Delta I_{t-(t-1)})$

Profit margins
= $(GVA_t - EC_t - NIBT_t - CT_{t-1} - CCA_t)/\text{Sales}$

Return on assets
= Net income/Total Assets