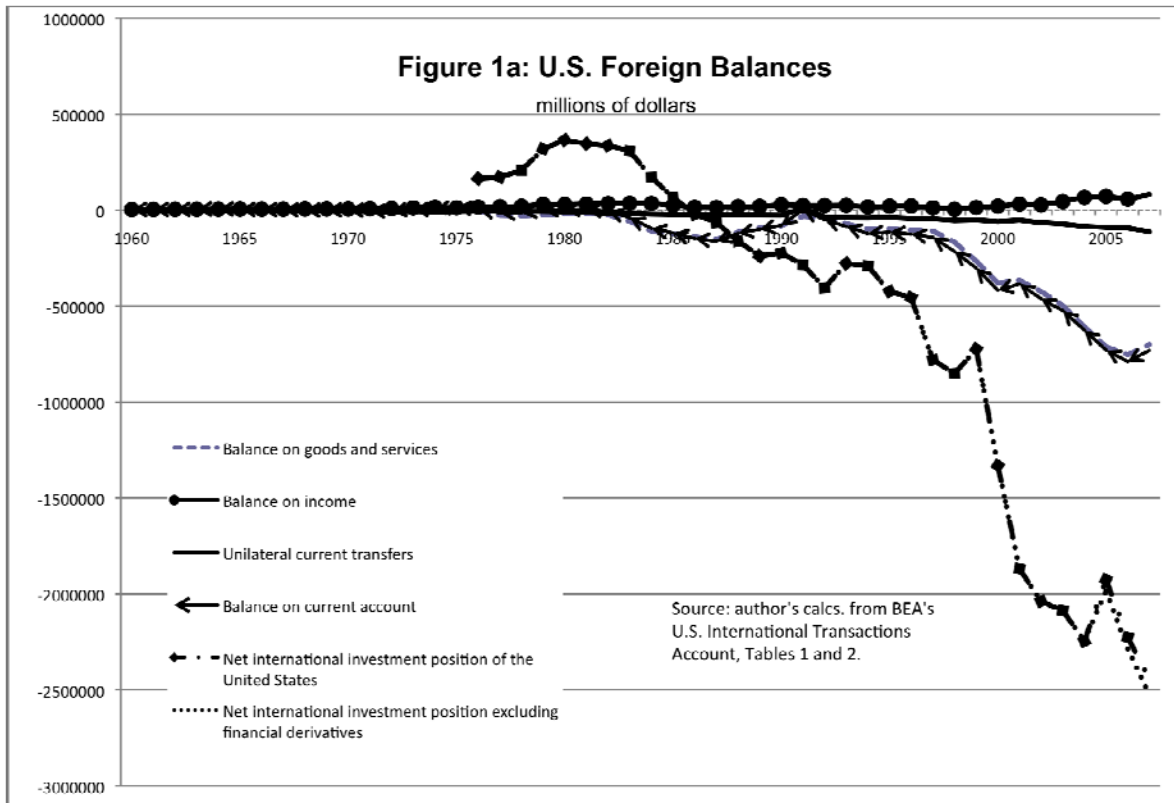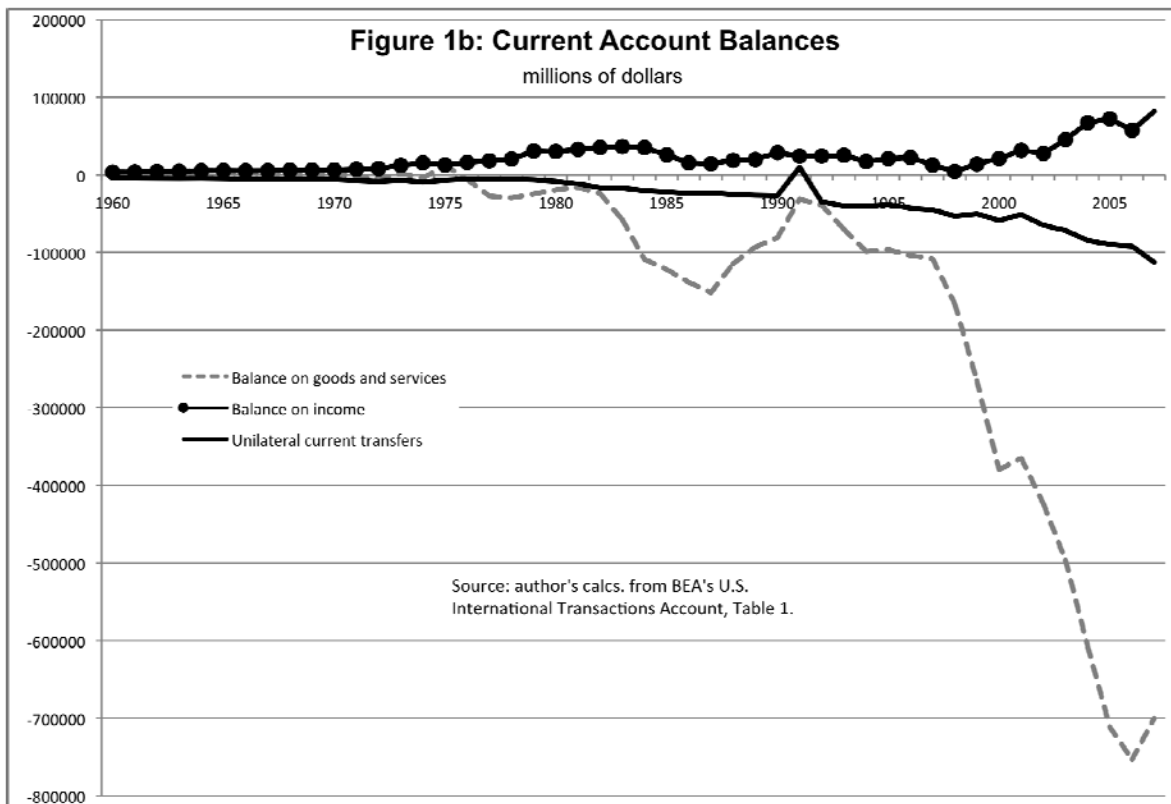# Asymmetric Returns to U.S. Foreign Assets: American Superiority or Accounting Fiction?

The puzzle of why the U.S. persistently earns higher returns on its foreign direct investment (relative to returns on foreign-owned direct investment in the U.S.) has received considerable attention lately in the recent 'global imbalances' debate. Testing the rates differential is also important because it is an apparent source of stability in the U.S. external accounts. Conventional analysis emphasizes that if these differentials are small or non-existent the chances of a disorderly balance of payments adjustment process are all the more likely. This literature is approached from the classical Marxian theory of international competition to investigate—using the BEA's 4-digit ISI level multinational financial and operating data—the comparative profitability of majority-owned non-bank U.S. foreign direct investment abroad (USDIA) relative to majority-owned non-bank U.S. based foreign direct investment (FDIUS). Supplementing the traditional (neoclassical and Marxian) measures of profitability is an alternate flow-based measure or the incremental rate of return (Shaikh 1995). This flow-based measure of the profit rate is particularly useful because it bypasses the significant problems associated with stock-flow consistencies and controversies regarding asset valuation in the U.S. foreign accounts. If this international rates of return asymmetry is 'accounting fiction'—a statistical artifact rooted in problems associated with asset valuation in the U.S. balance of payments—it implies that U.S. external balances are even less stable than previously thought. However I find that superior returns to USDIA relative to FDIUS are robust across different measures of profitability and are particularly pronounced for the incremental or new sectoral investment. Arguably the incremental rates of return, more than the average rates, best capture the profit dynamism of a sector—the fact that profit differentials are more pronounced for these returns on new investment lends further credence to the 'American exceptionalism' hypothesis. A comparative analysis of other industrial characteristics is also consistent with the 'American imperialism/exceptionalism' hypothesis. The risk-return trade-off does not appear to explain the higher returns to the U.S.-owned direct investment portfolio relative to the foreign-owned U.S. based portfolio. It is also found that the U.S. multinationals (relative to foreign multinationals in the U.S.) are remarkably adept at extracting surplus value across sectors. Despite a relatively higher tax burden, U.S. MNCs exhibit higher levels of 'capital productivity' and a greater profit share in value added across most sectors. Our industry-based analysis also refutes some basic presumptions of neoclassical aggregate production functions and international capital market arbitrage. I close by commenting on the state of U.S. imperialism in the ability of American-owned multinationals to extract superior profits abroad and the implication of our findings for the continued stability of U.S. external balance of payments.
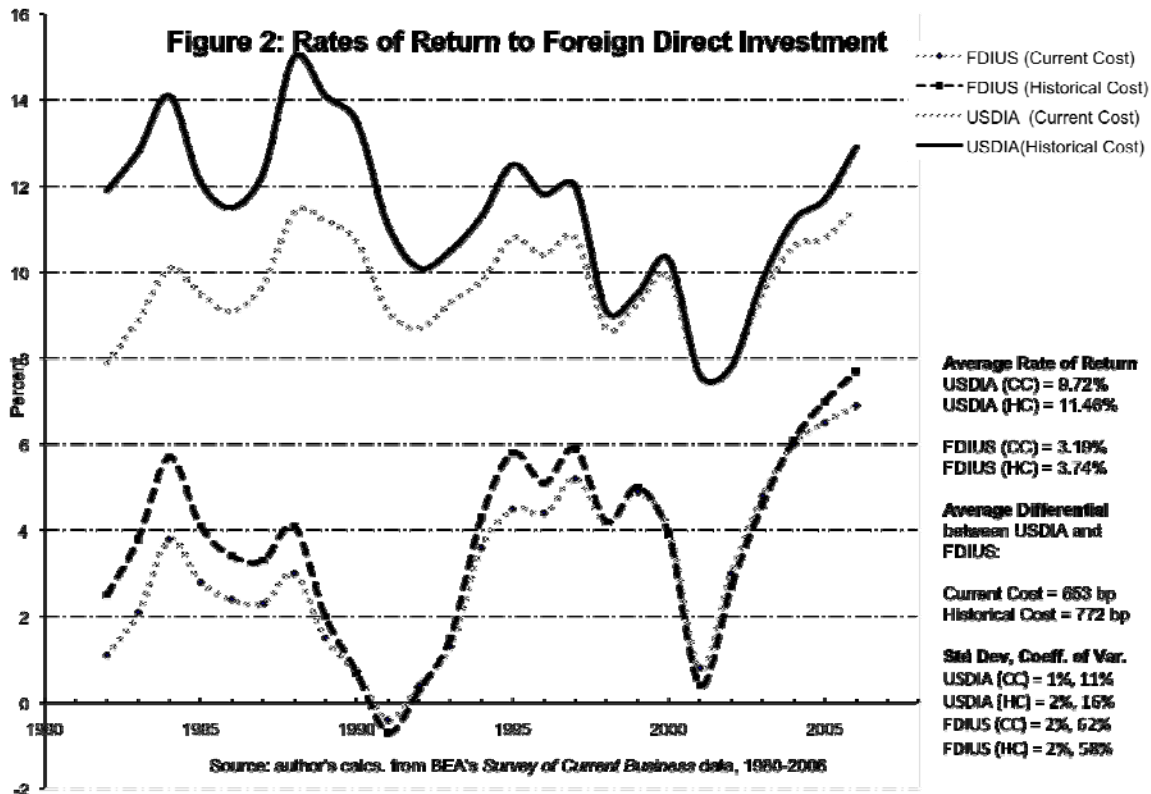
1. Introduction

A puzzling feature of the U.S. international balance of payments sheets is that despite running an unusually large current account deficit ($731. 2 billion at the fourth quarter of 2007 or 5.3% of GDP)[i] and foreign liabilities exceeding foreign assets[ii] (by $2.44 trillion at the end of 2007 or 17.67% of GDP)[iii] the country "somehow manages" to earn more on its foreign assets than it pays out to service its much larger stock of international liabilities (*The Economist*, Jan 26, 2006)[iv] as clearly evidenced by the continued positive net income earnings on its foreign balances.

Figure 1a: U.S. Foreign Balances
millions of dollars

Legend:
- Balance on goods and services
- Balance on income
- Unilateral current transfers
- Balance on current account
- Net international investment position of the United States
- Net international investment position excluding financial derivatives

Source: author's calcs. from BEA's U.S. International Transactions Account, Tables 1 and 2.

Figure 1b: Current Account Balances
millions of dollars

- - - - Balance on goods and services
——●—— Balance on income
——— Unilateral current transfers

Source: author's calcs. from BEA's U.S.
International Transactions Account, Table 1.

Despite substantial recent research, analysts do not agree on whether the U.S. "really does better, and if so, why" (Bosworth, Collins and Chodorow-Reich 2007, pp. 1). The official consensus—the general consensus in the field until fairly recently—is that the higher profitability of American investment abroad relative to foreign-owned investment in the United States, particularly in the direct investment category, are driving these net income flows (Cline 2004; Dumenil and Levy 2004; Godley and Izurieta, 2001; Higgins et al. 2005; Hung and Mascaro 2004; Mataloni 2001; Obstfeld and Rogoff 2005).

Comparing rates of returns within each asset class for the last twenty years, excess average annual returns to the U.S. from direct investment abroad have been—using the most conservative estimates—a remarkable 550-560[v] basis points respectively supporting the above argument (Hung and Mascaro 2004, Higgins 2005[vi]). Meanwhile the return differential on equity and bond portfolios (U.S. claims versus U.S. liabilities) is statistically insignificant (Curcuru, Dvorak and Warnock, 2007[vii]).

Figure 2: Rates of Return to Foreign Direct Investment

Legend:
- FDIUS (Current Cost)
- FDIUS (Historical Cost)
- USDIA (Current Cost)
- USDIA (Historical Cost)

Average Rate of Return
USDIA (CC) = 9.72%
USDIA (HC) = 11.46%

FDIUS (CC) = 3.19%
FDIUS (HC) = 3.74%

Average Differential between USDIA and FDIUS:

Current Cost = 653 bp
Historical Cost = 772 bp

Std Dev, Coeff. of Var.
USDIA (CC) = 1%, 11%
USDIA (HC) = 2%, 16%
FDIUS (CC) = 2%, 62%
FDIUS (HC) = 2%, 58%

Source: author's calcs. from BEA's *Survey of Current Business* data, 1980-2006

On the one hand, it could be that American owned direct investment (henceforth USDIA) earns superior profits abroad because of currency and country risk factors, relative interest rate differentials, capital gains and losses, and other 'institutional rigidities' (Landefeld 2006; McGrattan and Prescott, 2006). Although the data that can be used to measure corporate profitability internationally is very limited, as it suggests that the profitability of U.S. firms is about average when compared to firm averages in other advanced countries (Higgins 2005, 5).

On the other hand, it could be that aggregate foreign-owned investment based in the States does relatively badly: indeed the literature highlights the exceedingly poor performance of foreign direct investment in America (see, for instance, Laster and MacCauley, 1994[viii] and Landefeld and Lawson, 1991)[ix]. While the rates of return on U.S. direct investment abroad[x] as measured by the Bureau of Economic Analysis[xi] (henceforth BEA) have not been inordinately high, the average rate of return on foreign-owned direct investment in the U.S. (henceforth FDIUS) is even lower than the average rate of return for all domestic non-financial U.S. companies (Mataloni, 2000).[xii]

Earlier studies took it for granted that the return gap was real (Laster and Maccauley, 1994; Landefeld 1992)—the question was what was driving it—but a number of recent studies do not accept the return gap as given. Instead much of the new research argues that the problem may lie in the numbers themselves. In section two we look at the earlier research—most of it from the 1990s—that assumes this return differential is real. This literature focuses on the low profitability of foreign direct investment in the U.S. (FDIUS) and argues that foreign-owned investment in the U.S. earns lower rates of return because of differences in its characteristics (age-related effects, risk compensation, tax

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arbitrage). Section three examines the current literature on the rates of return asymmetry which I have classified into two types: studies emphasizing market failure and studies emphasizing market arbitrage. The theoretical controversies regarding asset valuation in the U.S. balance of payments accounts are discussed in section four. Significant problems associated with stock-flow consistencies and asset valuation suggest the efficacy of alternate flow-based measures of profitability. In Section five I investigate the profitability of U.S. owned foreign direct investment relative to foreign owned direct investment in the U.S. at the 4 digit ISI (based on NAICS) industry level. Besides using the standard measures of profitability, I calculate an alternate flow-based measure of profitability—the incremental rate of return—at the 4 digit NAICS industry level for majority-owned non-bank U.S. foreign direct investment abroad and majority-owned non-bank foreign direct investment in the U.S. I find that the rate of return advantage to U.S. assets holds true not only at the average but also for the incremental rates of return across industries. I also conduct a comparative investigation of other industrial measures to assess whether they are consistent with the superior performance of U.S. F.D.I. relative to foreign-owned U.S. based direct investment. While this paper does not conclusively answer the question of what is driving 'American exceptionalism' it does provide new evidence of the rate of return differential at the industry level using the BEA's multinational financial and operating data and suggests what might be driving these excess returns to U.S. owned capital. Section 6 concludes.

2. What Is Driving The Rate of Return Gap?

Maturation effects

       Hung and Mascaro find that while the effects of transfer pricing and tax arbitrage are potentially large (but essentially unknowable), the dominant factor driving these asymmetric returns is that American direct investment abroad is older relative to foreign-owned direct investment in the U.S. (Hung and Mascaro, 2005). In other words, FDIUS has had relatively less time to realize profits (after bearing heavy initial start-up costs) and achieve market power (BEA, Hung and Mascaro, 2005; Mataloni 2000; Laster and MacCauley 1994; Godley and Milberg, 1994; Landefeld, Lawson and Weinberg, 1992).[13]

Risk Compensation

       The second commonly-cited explanation of FDIUS's relatively low profitability is that USDIA is riskier than FDIUS. Hung and Mascaro (2005) find that the standard deviation of returns is higher for USDIA relative to FDIUS for the years 1982-2003 (Hung and Mascaro, 12). But measures that use risk-adjusted returns show opposite results: Hung and Mascaro find higher Sharpe ratios for USDIA from 1982-2003.[xiii] More specifically, USDIA received almost twice the return per unit of risk or faced almost half the risk per unit of return, compared to FDIUS "strongly contradicting the risk-compensating hypothesis" (Hung and Mascaro, 13). Comparing U.S. owned international equity portfolios relative to foreign benchmark portfolios, Thomas, Warnock, and Wongswan (2004) also find significantly higher Sharpe ratios for U.S. investors (Thomas et. al 2004, 1).[xiv]

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Profit Sharing

The third hypothesis is that profit-sharing is at play: in other words, foreign direct investors in the U.S. disproportionately indulge in transfer pricing or other modes of tax arbitrage thereby artificially lowering their profits (Bosworth et al. 2007; Gros 2006; Kozlow 2006; Landefeld, Lawson, Weinberg 1992).[xv]. Using country-specific income and tax data, Bosworth et al. find that "about one third of the excess return earned by U.S. corporations abroad can be explained by firms reporting 'extra' income in low tax jurisdictions of their affiliates" (Bosworth, Collins and Chodorow-Reich 2007, 16).[xvi]

While profit-sharing may play a significant role in shaping the reported distribution of multinational profits across borders, it is difficult to estimate tax evasion practices and harder still to assess the degree to which FDIUS relative to USDIA is prone to such practice.[xvii]

A fourth but related hypothesis that also enjoys some currency is that investors are 'willing' to lower profits to capture a share of the large U.S. market (Godley and Milberg, 1994; Mataloni 2001; Mann and Pluck 2005). There is some indirect evidence supporting this claim. Goldberg et al. show that the pass-through of exchange rate fluctuations into the final prices of import goods is much less for the U.S. relative to other countries (Goldberg and Dillion, 2007; Campa and Goldberg, 2006; Goldberg and Tille, 2006). As Mann explains, "exporters don't want to risk losing market share in the large and competitive American market—even if that means decreasing their own profit margins to keep prices stable in the United States" (Mann and Pluck, 2004).

3. Asymmetric Returns And The 'Global Imbalances'

The asymmetric rates of return puzzle has received renewed attention lately in the context of the 'global imbalances' debate that examines the sustainability of the U.S. trade deficit.[xviii] Some recent studies emphasizing 'valuation effects'[xix] argue that a (negative) premium on dollar assets (liabilities for the U.S.),[xx] is driving these asymmetric returns to U.S. owned investment (Gourinchas and Rey 2005; Lane and Milesi-Ferretti 2006, 2005).[xxi] Others like Hausmann and Sturzenegger (2005) and McGrattan and Prescott (2007) emphasize that the stock of USDIA is grossly undervalued.

Common to both sides of the debate is a critique of how foreign direct investment stocks or flows are valued. Several authors have commented on the huge discrepancy between (positive) net foreign income flows and (negative) net foreign asset stocks in the official balance of payments series[xxii]. For instance, Bosworth et al. have calculated that cumulated past current account balances—recent deficits vary from $700 to $800 billion annually—suggest a net liability position of -$5.5 trillion at the end of 2006 compared to their actual value of -$2.6 trillion (Bosworth 2007, 2).

Significantly greater stock-flow inconsistencies in the U.S. balance of payments as compared with stock-flow discrepancies (between the cumulated current account and the change in the net international investment position) of other O.E.C.D. country external balance sheets imply that the way in which stocks are valued in the U.S. balance of payments accounts may be the source of this apparent differential (Gros, 2006). [xxiii]

Curcuru, Dvorak and Warnock (2007) demonstrate the impact of stock-flow discrepancies in the balance of payments positions data and the flows series on the rate of return differences. Recall that in the official statistics, the rate of return on foreign direct investment is calculated as recorded income flows/stock of foreign direct investment. While the positions data are fully revised to "reflect new data from the high quality but

infrequent benchmark surveys", the flows data are only partially revised. The end result, argue Curcuru et al. is that returns using flows are always higher than the returns using the stock (position) series (Curcuru et al., 23).[xxiv] In keeping with the recent trend in this field, Curcuru et al. also abandon BEA data and construct their own measurements of U.S. portfolio assets and liabilities.

We now turn towards a close examination of some of the key models in this recent literature. The models may be classified into two categories: those that assume international financial market arbitrage (Hausmann and Sturzenegger, Gros) and those that reject it (Gourinchas and Rey, Lane and Milesi-Ferretti).

Market-Arbitrage Models

"Dark Matter"

Hausmann and Sturzenegger argue that (as continued positive foreign income receipts despite a deteriorating net foreign asset position suggest) there is a huge discrepancy between the positive net foreign income flows and negative net foreign asset stocks in the official balance of payments series. The reasoning that relatively greater rates of return on U.S. investment are the source of these positive foreign income receipts implies (wrongly to them) that American investors are consistently smarter than foreign investors in the U.S.[xxv]

Instead the authors claim that official statistics grossly underestimate U.S. foreign assets abroad. In particular, they do not capture the exports of American global liquidity services, insurance services[xxvi], and knowledge services[xxvii]—all of which involve a persistent return differential between U.S. assets and liabilities[xxviii] and, in turn, imply enhanced stability for the U.S. economy (Hausmann and Sturzenegger, 14). [xxix] So, Hausmann and Sturzenegger argue that "the spread between an emerging market asset portfolio and U.S. liabilities (i.e. US-issued or –based assets) portfolio is an unaccounted asset or 'dark matter' that should accrue to the U.S. investment position" (Hausmann and Sturzenegger, 13).

The exports of these intangible services should have been recorded in the current account[xxx] but were instead hidden in the capital account, bundled with financial instruments: specifically, U.S. currency, U.S. debt, and U.S.-owned foreign direct investment (Buiter, 2006). While abroad, these exports produced income, at least part of which should eventually show up as foreign investment income (Buiter, 2006).

Hausmann and Sturzenegger shed light on the very real inadequacies in measuring these intangible service exports.[xxxi] But the problem is that it is difficult to compare the above estimates of intangibles with BEA data. Because 'dark matter' is basically inestimable, as they themselves admit in their sanctioning of an arbitrary multiplier, Hausmann and Sturzenegger's hypothesis is "not scientific, i.e. it cannot be falsified" (Gros 2006b, 8, footnote 11).

There is little doubt that exports of intangibles, especially financial assets, are growing—the 'global saving glut' that found its home in U.S. assets implies that dollar seignorage, a U.S. export, has been enhanced post-Asian financial crisis[xxxii]. However, Hausmann and Sturzenegger's claim that they can adequately measure 'dark matter' by simply capitalizing the aggregate U.S. service flow by an arbitrary discount rate of 5% that results in $3.1 trillion worth of unaccounted assets abroad—at most one-sixth of which may

be accounted by seignorage—that, in turn, wipes out the U.S. current account deficit is, as Buiter calls it, a truly heroic assumption (Buiter 2006)[xxxiii].

The "Reinvested Earnings" (or Mismeasured Earnings) Hypothesis

        While Hausmann and Sturzenegger doubt the inherent superiority of U.S. foreign investment, Gros questions the inferior performance of foreign-owned investment in the U.S[xxxiv] (Gros 2006b, 2). While the rate of return on U.S. owned portfolio assets has been the same as the returns on foreign-owned portfolio investment in the U.S (Gros 2006, Higgins 2005), official data implies that foreign investors immediately start losing when they invest more than 10% in a U.S. company.[xxxv]

        The problem, Gros argues, lies not in tax evasion but in the inclusion of 'reinvested earnings' in the foreign direct investment capital flows data (that comprise of reinvested earnings, equity flows, and inter-company debt)[xxxvi]. Retained earnings do not represent actual financial flows but are, notes Gros, a 'purely accounting identity'. Calculated from profits and distributed earnings[xxxvii] figures in the survey data of multinational firms[xxxviii], retained earnings are included in the Balance of Payments as direct investment income receipts (Gros, 5).[xxxix]

        Given that total capital flows for FDIUS and USDIA are about the same, and 'new capital committed' flows almost double for FDIUS than it is for USDIA—reflecting the U.S. as a dynamic economy attracting fresh investment funds—the difference in reinvested earnings of FDIUS relative to USDIA in earnings is striking: for the period between 1990-2005, FDIUS retained earnings were less than $1 billion, on average, whereas USDIA reinvested earnings were $46 billion on average (my calculations, BEA data)[xl]. Gros argues that the skewed appearance of retained earnings is most likely because of tax evasion[xli]: while the foreign profits of U.S. owned firms aren't taxable unless repatriated, foreign-owned firms are motivated to show less profits in their U.S. affiliates to minimize U.S. corporate taxes that are higher than those of most other countries.[xlii] Instead, he maintains that that the way in which reinvested earnings are accounted for in the balance of payments data and its double counting in the market valuation of foreign direct investment substantially distort the returns to foreign direct investment. [xliii]

        The asymmetry in (reported) reinvested earnings leads, according to Gros, to a further distortion in the balance of payments: specifically, in the market valuation of foreign direct investment. Foreign direct investment is calculated using both firm accounting data and stock market indices (that reflect reinvested earnings). Both the stock index and direct investment equity positions include reinvested earnings and so, if the change in the index is multiplied by the equity portion of the position, reinvested earnings will be double-counted (Bureau of Economic Analysis, 2006).

        Because reinvested earnings are disproportionately greater for USDIA compared to FDIUS, argues Gros, including reinvested earnings overstates the returns to USDIA and understates the returns to FDIUS. However Gros's argument that reinvested earnings are double-counted in the market valuation of the foreign direct investment position is undercut by the BEA that maintains that its methodology for calculating F.D.I. makes adjustments in the market valuation of foreign direct investment is correct[xliv].

        In any case, given the asymmetric effects of reinvested earnings as they are accounted for by the official series, Gros argues that the Balance of Payments should be analyzed in the traditional way: using actual payment flows rather than stocks. Leaving out reinvested earnings and treating F.D.I essentially like portfolio investment—focusing on dividend repatriation—eliminates about two-thirds of the return on outward F.D.I (Bosworth, 9). It also means—a conclusion diametrically opposite that of Hausmann and

Sturzenegger's—that the U.S. deficit is much worse (about $1 trillion more) than is officially recorded (Landefeld, 2006).

Portfolio Composition

Another important factor driving the asymmetrically higher earnings on US assets (relative to foreign-owned U.S. assets) is the portfolio 'composition effect' i.e. the higher share of credit market instruments and government securities in the foreign-owned U.S. portfolio relative to the F.D.I. and equity heavy U.S. portfolio (Tille, 2005). While Hausmann and Sturzenegger do not take the 'composition effect' into consideration, Curcuru, Dvorak and Warnock, Gourinchas and Rey, Lane and Ferreti, and Higgins et al. have all argued for its relevance.[xlv]

Higgins finds that more than half of the increase in foreign-owned U.S. assets (U.S. liabilities) from 1982 to 2004 has been in interest-bearing assets (fixed income securities, banking, and other assets) while the increase in U.S. owned foreign assets has been much more evenly spread out across interest sensitive assets (particularly banking and other), equities, and F.D.I. Returns on interest-sensitive assets and liabilities (such as government debt securities and corporate bonds) moved in tandem with each other whereas, in sharp contrast, returns to U.S. foreign direct investment were considerably higher—by an average of around 5.6 percent since 1982—relative to returns to foreign-owned direct investment in the U.S.[xlvi]. While the share of F.D.I in U.S. foreign assets has been fairly stable from 1990 onwards (around 25-30%) the share of F.D.I in foreign owned U.S. assets is only 15%[xlvii].

Market Failure Models

'The Exorbitant Privilege' and 'Equity Premium'

The most detailed study of the effect of these differences in portfolio composition on the rates of return asymmetry is that of Gourinchas and Rey. Instead of supplementing official estimates, Gourinchas and Rey construct a revised international investment series for the U.S. for the entire Bretton Woods era and beyond replacing income flow data with their own estimates of total returns —one that emphasizes total return inclusive of capital gains and losses instead of nominal receipts and payments (Bosworth, 10)— based on the performance of country-specific market indexes and the country composition of U.S. investments abroad (Bosworth, 10).

Gourinchas and Rey argue that the U.S.'s 'exorbitant privilege'[xlviii] may arise from a 'return effect' or 'composition effect'. The former refers to a higher return differential between U.S. and foreign assets for each asset category[xlix]. The latter, they argue, arises from the structural asymmetry in the American external balance sheet, in that seventy percent of U.S. foreign assets are in high-risk foreign currency assets, whereas almost all of American foreign liabilities are in low-yielding dollar assets (Gourinchas and Rey, 1).

Decomposing total returns for each asset class, Gourinchas and Rey estimate that differential rates of return between U.S. assets and liabilities are most pronounced in the equity category (373 basis points from 1973-2004). They calculate that the U.S. earned an average of 211 basis points in excess[l] annual real returns on foreign investment from 1952-2004. The 'return effect' was the predominant factor structuring these asymmetrical returns: it explained 1.97 of 2.11 of total excess returns and was attributable to a greater 'liquidity discount' enjoyed by the U.S. by virtue of its status as 'issue[r] of the international currency'.[li] They also find that this negative risk premium to U.S. capital

increased post Bretton-Woods (1973-2004) to 332 basis points (annualized average). Gourinchas and Rey estimate that the differential rates of return between U.S. assets and liabilities were most pronounced in equity or stocks (of 373 basis points from 1973-2004). This surprising finding is echoed by Lane and Milesi-Ferretti who report (albeit over a much smaller time period) that excess returns are largely generated by equity return differentials rather than FDI.

      At odds with the general consensus, Gourinchas and Rey find that the excess return on US foreign direct investment was the smallest, even smaller than returns in the 'debt' and 'other' categories.[lii] The excess return to FDIUS, according to them, was only 34 basis points on average from 1973-2004. The authors also find that the 'composition effect'[liii], arising from the asymmetrical asset composition of foreign assets relative to liabilities, while small, has been growing and accounts for between a quarter to one-third of post Bretton Woods (1973—) excess returns.

      Gourinchas and Rey note that while the U.S., by virtue of its unique status in the international financial order, has always faced a weakened external constraint, its 'exorbitant privilege' has considerably increased since the advent of the floating exchange rate system. The growing importance of the composition effect lends credence to their hypothesis that the U.S.'s role has shifted from that of world liquidity provider a la Bretton Woods regime to that of a world venture capitalist. This increased return differential post 1973 is the outcome, they claim, of a venture capitalist portfolio strategy whose increasingly long position on risky foreign assets is hedged by short-selling its own-currency denominated debt securities.[liv]

4. Asset Valuation and Foreign Direct Investment

      Both Gourinchas and Rey and Lane and Ferreti highlight the "asymmetric interdependence between 'creditor' (advanced) and 'debtor' (developing) countries" (Lane and Ferretti 2005, 1). The fact that ninety-five percent of the international claims on the U.S. are denominated in dollars means that the exchange rate exposure has shifted to the rest of the world (Poole, 6). This asymmetric burden of adjustment is 'instrumental in the stabilization' of the U.S.'s external debt (Gourinchas and Rey 13, also see Cline). Perpetuating this bilateral asymmetry are valuation effects: in the case of the U.S., for example, dollar depreciation will not only increase net exports but also increase the dollar value of financial holdings abroad, positively affecting the net international investment position. While "the US has always faced a weakened external constraint", valuation effects—including changes in exchange rates and asset prices (capital gains)—have not only become much more pronounced but also in favour of the US after the advent of floating exchange regime in 1973 (Gourinchas and Rey, 5).[lv]

      How reliable are Gourinchas and Rey's estimates? Like Hausmann and Sturzenegger they find serious flaws in the BEA data and try to remedy that by constructing a revised international investment series to accommodate for exchange rate changes as well as capital gains and losses they claim are not accounted for by the official series. At issue is whether their—and this is true of all other models of the U.S. external balances that have abandoned BEA estimates—particular estimation of the various valuation effects are precise without being accurate.[lvi]

      Perhaps asset valuation is the proverbial 'elephant in the room' in the debate on the asymmetrical returns to U.S. foreign investment. There are several ways in which asset

valuation underpins this debate: 1) accounting for intangible foreign assets (important in Hausmann and Sturzenegger, Gros, and McGrattan and Prescott 2) accounting for capital gains, exchange rate movements[lvii] and inflation on asset values[lviii] and 3) the even more fundamental problem of the cross-border comparability of direct investment assets that are universally measured by firms at historical rather than current-cost.

How foreign direct investment should be valued is particularly controversial. While one can make the case that income data (based on reported flows) is more reliable than asset data (based on computed stocks), it is quite possible that income flows data itself might not be entirely reliable.[lix]

In its official news releases of the international investment position, the BEA presents only the current period price estimations of direct investment (at both current-cost and market-value; the latter measure tries to account for subsidiary firms holding intangible stocks[lx]). The historical cost estimates are however available and, at the country and industry level, the direct investment series is estimated only on a historical cost basis.[lxi]

Buiter, for instance, argues that market indexing is much less reliable than historical cost valuation based on general accounting practices (Buiter 2006, 2). The majority of foreign direct investment assets are illiquid, highly idiosyncratic ownership interests in companies that are typically unlisted and not traded on the stock exchange (also see IMF, 2008). While the BEA itself is partial to the current cost valuation of direct investment (see Kozlow 2004), it qualifies that "there is no widely accepted standard for revaluing company financial statements at historical cost into prices of the current period." (Nguyen 2005; Kozlow 2002).

To impute the market value of these assets by simply indexing them to the stock market in the country in which they are located requires a bold leap of faith, especially in countries with undeveloped, illiquid, non-transparent, distorted equity markets (also see Buiter). Market valuation assumes that the assets of privately owned companies follow the broad stock index in terms of their prices and industry composition (Lipsey 2001, 29). Not only are Hausmann and Sturzenegger, Gourinchas and Rey, but even the BEA's own market valuation of direct investment—Buiter argues that the BEA market value measure very likely overstates net FDI worth by understating foreign-owned direct investment in the U.S. since the U.S. market has not been as bubbly as some of the emerging economy stock markets—is subject to this critique.

That asymmetric returns to U.S. foreign investment hinge on problems associated with asset valuation implies that U.S. owned asset stocks and/or foreign-owned US asset values are systemically biased which seems doubtful. At the same time significant flow-stock discrepancies between the cumulated current account deficits and the net international investment position of the U.S. relative to other O.E.C.D. countries, as highlighted by Gros[lxii], suggest that it may be instructive to gauge the profitability of foreign direct investment using alternate cash flow-based measures that don't rely on the foreign direct investment asset values in the Balance of Payments.

5. Measuring the Rate of Return Differential (Incomplete text; missing figures)

To make sense of how internationally mobile capital is compatible with considerably uneven rates of return to FDIUS relative to USDIA, we test the profitability of foreign direct investment in the U.S. and U.S. owned foreign direct investment using

various measures of the ex post profit rate. Compared to relying on a functional form or aggregate production function that lacks solid theoretical foundations (see Felipe and Franklin, 2003)—our measures of profitability impose very little structure on the data. Our objective is to test whether the presumption of superior returns to USDIA relative to FDIUS is robust across different measures of profitability including the average rates of return, returns on assets (net income/sales) and profit margins (profits net of taxes/sales).

One of these measures is the incremental rate of profit as conceptualized by Shaikh (Shaikh 1995). This alternate measure of profitability—the 'incremental rate'—measures the rate of return to new investment (Shaikh 1995; Elton and Gruber, 1991, 454).[lxiii] The incremental rate of profit is distinct from traditional accounting measures that capture the average lifetime rates of return on investment (calculated as flows/stocks) or market measures that use an empirically poor performing constant discount rate (Shaikh 2007, Shaikh 1995). Problems associated with net capital stock valuation are that it relies on a well criticized set of problematic assumptions (see for instance Hulton 1992). For instance, the perpetual inventory's method of assessing depreciation assuming infinite service lives has very little empirical validity (Shaikh 2007; also see Cooper 2005). Another reason for using measures other than the net capital stock measure is that differences in accounting for asset depreciation may affect the rates of return differential particularly in industries where firms make large fixed or intangible asset investment and incur heavy depreciation or amortization charges (see, for instance it, Mohanram, 138). These simplifying assumptions "impart an unknown degree of error to estimates of the average rate of profit." (Shaikh 2007; OECD, 2001, BEA 2003, M-6; and Cooper, 2005.)

Moreover, the traditional measures of profitability—for instance, returns to assets or returns to equity—do not illuminate how profit rates operate as 'signal transmitters' in the movement of inter-industrial and international investment (Shaikh 1995, Christodoulopous 1996, 117-118). Shaikh has argued that the 'rate of return on new investment' is more appropriate with regard to directing the intra- and inter-industrial flow of capital (Shaikh, 1995, 8). Given stochastic uncertainty, focusing on short-term real rates of return is key (Shaikh 1995; Christodopoulous 1996, p.122 citing Vickers 1993, pg. 25). Of course, as first differences of the profit rate, the incremental rates are much 'noisier' or volatile than the average rates of profit (see Shaikh 2007, 16).

The current profits, Pt, earned by an industry are the sum of the current profits on most recent gross investment ($r_t IG_{t-1}$) and current profits on all earlier vintages (P^*_t). This latter term represents the current profit that would have accrued in the absence of investment (I_{t-1}). Therefore,

$$\Delta P = P_t - P_{t-1} = r_t IG_{t-1} + (P_t^* - P_{t-1})$$

Assuming that for a period up to a year, the current profit on carried-over vintages (P_t^*) to last period's profit on the same capital goods (P_{t-1}) are similar, then the current rate of return on new investment or gross fixed capital formation is simply:

$$iror_t^i = \frac{\Delta P_t^i}{I_{t-1}}$$

In short, the incremental rate of return (iror) or the current gross profits of newer capital is the ratio of the change in overall gross nominal profits to the previous period's gross nominal capital expenditures. Conceptually, the incremental rate of profit is very similar to the marginal rate of return on investment (Shaikh 2007, 174; Damodoran 2001,

695; Elton and Gruber 1991, 454). In comparison, the average rate of return is the rate of total profits to the capital stock is:

$$r_t^i = \frac{P_t^i}{K_t^i}$$

I test the null hypothesis that foreigners directly investing in the U.S. do so with the same degree of efficiency (measured by profitability) as U.S. residents directly investing abroad. I do this by calculating the incremental and average rates of profit for majority-owned[lxiv] non-bank affiliates (USDIA and FDIUS) from 1999 to 2005[lxv] at the 4 digit ISI (based on NAICS) industry and aggregate level.

$$H_0: \; iror_{FDIUS} \approx iror_{USDIA}$$

where the iror's are the incremental rate of returns of FDIUS and USDIA

Profits (P_{ji}^t) are estimated as: $P_i^t = GVA_i^t - EC_i^t - NIBT_i^t - CT_i^t$ = Profits (net of taxes). Both the capital stock and investment are adjusted for inventories.

The multinational financial and operating data includes both the net and the gross measures of capital stock: the latter is more reliable partly because it is free from the problematic assumptions used in calculating asset depreciation.[lxvi] However I also show the rate of return using the net stock measure.

GVA_i^t = Gross value added of industry i at year t.
$NIBT_i^t$ = Indirect business taxes of industry i at year t.[lxvii]
EC_i^t = Compensation of employees of industry i at year t.
K_i^t = Stock of gross property, plant and equipment of industry i at year t (gross and net).
I_i^t = Investment in fixed assets (plant, property, and equipment) of industry i at year t[lxviii]
PT_i^t = Corporate income taxes of industry i at year t.

If my null hypothesis is rejected, it implies that foreign investors in the U.S. consistently under-perform relative to their American counterparts.[lxix]
In its direct investment series, the BEA publishes very detailed financial and operating data at the industry, aggregate, and country level[lxx]. This empirical project draws from this rich source of industry data aggregated from firm-level data and based on mandatory annual surveys of multinational firms conducted by the BEA[lxxi]. Arguably these data-sets are more reliable than the aggregated Balance of Payments data which has generally been usually applied to calculate the rate of return differential (see Alfaro and Charleton 2007, 1)[lxxii]. The international transactions data is based on financial flows—equity capital, intercompany debt or reinvested earnings—whereas the multinational surveys are primarily concerned with the financial and operating expenses of firms. The two are conceptually different.[lxxiii]
Using the available financial and operating data, I calculate the incremental and average rate of profit for non-bank majority-owned affiliates (USDIA and FDIUS) from 1999 - 2005 at the 4 digit (NAICS based) international survey industry (ISI) and aggregate level. The objective is to test whether the presumption of superior returns to U.S. FDI holds up using different measures of profitability.

I also calculate other measures of profitability: the returns on assets (net income/sales); profit margins (profits net of taxes/sales) as well as the volatility of returns measured by standard deviations or coefficients of variation (when possible).[lxxiv] Furthermore I test whether other industry characteristics including research and development expenditures, labor productivity (defined as gross value added/employment), growth rates of real capital and investment, and capital-labor ratios are different for the USDIA and FDIUS series.

From 1999-2005 (the time span for which data is available for both series) FDIUS consistently, through all the various measures of profitability, underperforms USDIA. Of the 17 major industry groupings, the only 3 digit industry groups for which FDIUS rates of return are relatively higher are "Petroleum and coal products"[1]; "Management of Non-bank companies"[2], "Administration, support, and waste management" and "Transportation equipment"[3].

Surprisingly, the risk-return correlation synonymous with the efficient market hypothesis doesn't hold up. Returns to FDIUS (as demonstrated by the standard deviation and coefficient of variation of average returns) are poorer and consistently more volatile relative to returns to USDIA (see, for example, 'All Industries', the aggregate level, as well as 'Manufacturing') using our simple proxies of risk.[4]

For reasons mentioned earlier, the gross capital stock measure is preferred (see Hulten 1992). However it is still useful to test the rate of return differential using the net capital stock as the domestic rates of return are measured only in net capital stock. While returns are higher for USDIA and lower for FDIUS using the net capital stock denominator and the return differential is also higher once depreciation is taken into account (relative to the gross measure). The net return differential is twice as great for manufacturing and almost twice as great on aggregate (true of pre-income tax; post-income tax; post tax inv.). The rate of return differential between USDIA and FDIUS is least pronounced for profit margins.

The incremental rates of return

It is possible that the rate of return asymmetry is 'accounting fiction' rooted in the fact that the direct investment capital stock is only available at historical cost. Since the aggregate USDIA asset stock is of older vintage than the aggregate FDIUS stock the former, ceteris paribus, may be underpriced. Theoretically, the consequence on the rates of return is that the historical priced property, plant and equipment stock artificially inflates USDIA and deflates FDIUS returns. If that is indeed true, the incremental rates of return based on capital expenditures in the same given year for both series should reveal a closing of the rate of return gap. However we find that excess returns to USDIA not only persist but are almost twice as great on the aggregate (when compared to the gross profit measures but not two net average rates of return for the incremental rates). Of course, as first differences of the profit rate, the incremental rates are much 'noisier' or volatile than the

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[1] Except for all the average net profit rates

average rates of profit (see Shaikh 2007, 16). However, in manufacturing, differences are a bit less for the incremental rates of profit compared to the pre-tax gross capital stock returns.

The incremental rates of profit are a proxy for the profit rate on new investment (Shaikh 2007). These rates, more than the average rates of return, best capture the profit dynamism of a sector. These marginal returns to new investment may be understood as the 'targeted rates of return' for intra and inter-industry investment flows (Shaikh 2007). dustry. The fact that the rates of return differential between USDIA and FDIUS is more pronounced for the incremental as compared to the average rates of return rather than less suggests the tendential equalization of the marginal returns on investment across borders— lends further credence to the 'American exceptionalism' hypothesis. However what is driving American multinational dynamism—its 'firm specific advantage' to borrow Hymer's term—needs further examination (Hymer 1976, Caves 2007).

Chart 1: Comparing Rates of Returns from 1999-2005 (this is incomplete)

Returns on Assets	FDIUS	USDIA	Diff. in Means	S.D. FDIUS	S.D. USDIA	C.V. FDIUS	C.V. USDIA
All industries							
Manufacturing							

Profit Margins
All industries
Manufacturing

Average Rate of Return (gross capital stock)
All industries
Manufacturing

Average Rate of Return (net capital stock)
All industries
Manufacturing

Incremental Rate of Return (2001-2005)
All industries
Manufacturing

S.D refers to standard deviation and C.V. to the coefficient of variation.

What is driving the excess return to U.S. capital?

1. Sectoral composition

Are differences in sectoral composition a driver of asymmetric returns to U.S. foreign direct investment? According to Dumenil and Levy it is although their explanation ('this is because U.S. are the leaders of foreign direct investment') is somewhat elusive. (Dumenil and Levy 2009b). With regard to the sectoral share[5] of value added the greatest difference between USDIA and FDIUS is only 8% in mining (USDIA – FDIUS) but no more than 3% for all other sectors.

The difference between USDIA and FDIUS share of sales in a given sector is no more than 6% (for aggregate manufacturing, all other sectors and sub-sector differences are less); the spread between the sectoral share of profits is 7% for manufacturing (fdius > usdia); 17% for mining (usdia – fdius) ; 12% for finance and insurance(usdia – fdius), 'other industries' (usdia – fdius), and wholesale trade (fdius >usdia). With regard to the average sectoral share of employment the greatest difference between USDIA and FDIUS is 10% (usdia – fdius; also in manufacturing).
(redo this section:)

2. Size

In terms of size, USDIA is bigger than FDIUS on several measures consistent with the classical Marxian notion that bigger size is correlated with higher profitability. In terms of employment: average fdius employment is only 62% that of usdia; in terms of average value added, fdius is about 68% as large as usdia; in terms of asset size, fdius is 74% of usdia and in terms of sales: fdius are only three quarters compared to usdia.

3. 'Efficiency' of capital and labor in production

Labor productivity growth is exactly the same for both series, around six percent, for 'All Industries' and for 'Manufacturing' as well from 1999-2005. Average labor productivity[6] is about one percentage point higher at the aggregate level for FDIUS relative to USDIA for the same time period: this is because FDIUS is more capital intensive (see figure; this is because FDIUS is more capital intensive). However differences in labor productivity between the two series vary considerably in certain industries such as petroleum and mining where USDIA labor is considerably more efficient and "Real estate and rental and leasing" where FDIUS labor is relatively much more productive.

FDIUS's slightly higher labor productivity is consistent with its relatively greater capital intensity (higher capital-output ratio) and its relatively higher unit labor costs (defined as employee compensation/output). On average, FDIUS labor is about one-third more expensive than USDIA labor. While on aggregate, unit labor costs are falling[7] from 1999-2005 as is to be expected from Marx-biased technical change (see Foley and Michl 200?; Mohun 2009, 1037)): for both series the annualdecrease in industry-wide unit labor costs is 1% for FDIUS and 2% for USDIA.

The fact that FDIUS labor is more expensive than USDIA labor makes sense given the locational differences between FDIUS, located in a developed capitalist economy, and USDIA[8] which is partly located in underdeveloped capitalist regions. This geographical

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[7] Falling unit labor costs indicate means productivity is rising faster than wages signifying rising exploitation (see Shaikh FROP)

asymmetry also helps explain FDIUS's higher fixed capital to variable capital ratios. USDIA's aggregate capital/labor ratio of 14% is 76% that of FDIUS at 19% (and a little more than half of FDIUS's K/L ratio with regard to manufacturing).

The only sectors for which capital per worker is higher for USDIA (in order of greatest difference between USDIA and FDIUS) are Mining; Petroleum and coal; Management of nonbank companies and enterprises; Rental and leasing (except real estate); and Health care and social assistance. Industry 'capital deepening' ratios widely vary contrary to the assumption of neoclassical aggregate production functions (see Shaikh 2009 on APF). Sectors that are particularly capital-intensive are real estate (why?); mining (USDIA), utilities (FDIUS) and Petroleum and coal products (USDIA). Both USDIA and FDIUS K/L (nominal value of capital/nominal wage bill) ratio are increasing (rising technical composition of capital) consistent with a rising organic composition of capital (Shaikh, FROP) at about the same pace in these six years around 3%, slightly more for FDIUS. USDIA's capital/output ratio across industries is 82% compared to FDIUS's (and 74% of FDIUS's capital/output ratio with regard to manufacturing). However the K/Y ratio is slightly falling for both, more so for USDIA. [9]IS this because of increasing labor?

Decomposing the profit rate:

The rate of profit should move proportionately to profit share and inversely to the capital-output ratio (see Wolff, 486). We may decompose the aggregate profit rate into profit share and 'capital productivity' (See Shaikh, pg.108).

Decompose the rop into profit share (r/y) and capital productivity (y/k)

$$r/k = (r/y) * (y/k)$$

where r: rate of profit; y: output and c: capital stock.

where y/k is the inverse of the capital-output ratio-or 'capital productivity' (Mohun 2009)[10] (USDIA – FDIUS) i.e. USDIA is about 10% on average more 'capital productive' on aggregate than FDIUS.

Of the 17 major industries, USDIA capital is less productive than FDIUS only for Mining; Professional, scientific, and technical services; Management of nonbank companies and enterprises; Administration, support, and waste management; Health care and social assistance; and Accommodation and food services.

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[8] In 2001, high-wage countries accounted for 62 percent of the total employment by foreign affiliates (chart 2, page).2[8]" (Mataloni 2004, pg. 53).

[10] for problems associated with defining 'capital productivity' see Foley and Michl and Mohun (2003?)

On aggregate, 'capital productivity' contributes an average of 0.38 to the USDIA pre-tax profit rate and 0.24 of FDIUS profits whereas the profit share contributes to 0.562 of USDIA pre-tax profits and 0.46 of FDIUS profits. So USDIA's larger profit share in output and capital productivity explain asymmetric returns. Meanwhile decomposing other aspects of value added, employee compensation as a share of value added is starkly clear: USDIA wage share (43%) is only 65% as large as FDIUS's wage share in value added. Decomposing capital productivity:

p/k = surplus value profits/wage bill * wage bill/capital stock (inverse of kl ratio). USDIA is remarkably successful in extracting surplus value: aggregate surplus value is 89% compared to FDIUS's 37%: 241% more than FDIUS! USDIA K/L is relatively lower so inverse L/K is higher than FDIUS.

Comparing Industrial Characteristics

The growth rate of sales, employment and gross capital are all higher for USDIA which is consistent with USDIA's relatively higher profitability (see Figures 14 – 16). FDIUS's investment growth rate was about half a percentage point faster, on aggregate, compared to the growth rate of investment of USDIA over 1999-2005 (see Figure 17).

Labor productivity growth is exactly the same for both series for 'All Industries' and for 'Manufacturing' as well from 1999-2005 (see Figure 18). Average labor productivity (defined as gross value added/employment) is about one percentage point higher at the aggregate level for FDIUS relative to USDIA for the same time period (see Figure 19). However differences in labor productivity vary considerably in certain industries such as mining where USDIA labor is considerably more efficient and "Real estate and rental and leasing" where FDIUS labor is relatively much more productive. FDIUS's slightly higher labor productivity is consistent with its relatively higher unit labor costs (defined as employee compensation/output) given the location differences between FDIUS and USDIA) as well as FDIUS's higher capital-output and capital-labor ratios compared to USDIA.

Hausmann and Sturzenegger (2005), McGrattan and Prescott (2007) and Bridgman (2007) among others have argued that U.S. investments are higher in intangible assets which explains their superior income generating capacity. If we take research and development expenses or capital expenditures (both relative to gross fixed assets) as proxies for intangible assets, arguably it is not "dark matter" (differentials in human capital or superior technology) that is driving greater returns to USDIA since FDIUS is relatively richer on this account (see Figures 23 and 24; in particular, "Professional, Scientific and technical services" (Figure 24) which is the industry grouping of "knowledge workers"). However intangibles may be poorly captured by these proxies.

The incremental rates of profit are a proxy for the profit rate on new investment (Shaikh 2007). These rates, more than the average rates of return, best capture the profit dynamism of a sector. In other words, these marginal returns to new investment may be understood as the 'targeted rates of return' for intra and inter-industry investment flows (Shaikh 2007). The fact that the rates of return differential between USDIA and FDIUS is more pronounced for the incremental as compared to the average rates of return—rather than less which would suggest the tendential equalization of the marginal returns on investment across borders—lends further credence to the 'American exceptionalism' hypothesis.

6. Conclusion (incomplete)

Once again, the question arises: why does the U.S. continue to receive huge foreign direct investment inflows—$107.1 billion annually, on average from 1990-2005[lxxv]— despite the stunningly poor performance of foreign-owned investment in the U.S. A closer look at capital flows, particularly that of 'new capital committed'[lxxvi] in the foreign direct investment category, reveals that foreign-owned 'new capital' inflows into the U.S. (on average, over 1990-2005) were twice as large ($106.11 billion) as U.S. owned new capital flows abroad ($54.87 billion on average over the same period). That foreign investors should continue to massively directly invest in the U.S.—looking at new capital committed, more than twice as much as American investors—despite being 'taken to the cleaners' requires explanation (Gros 2006b, 9). This is the subject of further work.

If we trust the operating expenses reported by multinationals to the BEA, transfer pricing and other modes of regulatory arbitrage do not asymmetrically favour FDIUS as has been suggested by Gros among others. Perhaps the best explanation is a simple one: foreign firms are willing, for strategic reasons, to take short-term losses for long-term gains in the U.S. market. The strongest evidence of this behavior on the part of foreign firms in the U.S. lies in the empirical regularity that the pass-through of exchange rate fluctuations into the final prices of import goods is much less for the U.S. relative to other countries (Goldberg and Dillion, 2007; Campa and Goldberg, 2006; Goldberg and Tille, 2006). Given that the U.S. is often the largest market for many exporters, foreign producers are willing to accept lower profit margins (when their currencies appreciate) to keep dollar prices constant against competitors. The same micro-principle may be operating industry-wide with regard to foreign direct investment in the U.S.

In much of the recent work on the global imbalances, except for the market arbitrage models, the presumption of these returns differentials play an important role[lxxvii]. So testing the rates differential is important because it is an apparent source of stability in the U.S. international accounts. Conventional analysis emphasizes that if these differentials are small or non-existent, the chances of a disorderly balance of payments adjustment process are all the more likely (see Curcuru, Dvorak and Warnock, 2007, 25). My research based on multinational firm financial and operating data suggests that the rate of return differential holds true across various measures of profitability including the flow-based incremental rate of return. In conclusion, the higher rates of return enjoyed by American owned multinationals relative to foreign multinationals in the U.S. is a stabilizing force in the U.S. balance of payments sheets.

Appendix 1 (incomplete): Data Source
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#USDIA1).

Respondents asked to follow Financial Accounting Standards Board Statement, No. 52 (FASB 52) i.e. a yearly average exchange rate for income statement items and to use a year-end exchange rate for balance sheet items such as capital stock[lxxviii].

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: Guide To Industries

Industry Classification for International Surveys

All industries	ISI digit
Manufacturing	
Food	
Beverages and tobacco products	
Textiles, apparel, and leather products	
Paper	
Printing and related support activities	4
Petroleum and coal products	
Chemicals	
Basic chemicals	4
Resins and synthetic rubber, fibers, and filaments	4
Pharmaceuticals and medicines	4
Soap, cleaning compounds, and toilet preparations	4
Other chemicals	4
Plastics and rubber products	
Nonmetallic mineral products	
Primary and fabricated metals	
Primary metals	4
Fabricated metal products	4
Machinery	
Agriculture, construction, and mining machinery	4
Industrial machinery	4
Other Machinery	4
Computers and electronic products	

Computers and peripheral equipment	4
Communications equipment	4
Semiconductors and other electronic components	4
Navigational, measuring, and other instruments	4
Other computers and electronics	4
Electrical equipment, appliances, and components	
Transportation equipment	
Motor vehicles, bodies and trailers, and parts	4
Other transportation equipment	4
Miscellaneous manufacturing	
Wholesale trade	
Retail trade	
Information	
Publishing industries	4
Motion picture and sound recording industries	4
Broadcasting (except internet) and telecommunications	4
Internet, data processing, and other information services	4
Finance (except depository institutions) and insurance	
Finance, except depository institutions	4
Insurance carriers and related activities	4
Real estate and rental and leasing	
Real estate	4
Rental and leasing (except real estate)	4
Professional, scientific, and technical services	
Architectural, engineering, and related services	4
Computer systems design and related services	4
Management, scientific, and technical consulting	4
Other prof. sci. and tech. services	4
Other industries	
Agriculture, forestry, fishing, and hunting	
Mining	
Utilities	
Construction	
Transportation and warehousing	
Management of nonbank companies and enterprises	
Administration, support, and waste management	
Health care and social assistance	
Accommodation and food services	
Miscellaneous services	

Source: U.S. Department of Commerce, Bureau of Economic Analysis 2007.
Guide To Industry Classification for International Surveys. Italics indicate 4 digit industries.

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[i] Source: Bureau of Economic Analysis, U.S. International Transactions Accounts Data, Table 1 (Downloaded August 27, 2008).

[ii] The international investment position or the stock of foreign assets and liabilities helps us understand the balance sheet sustainability and vulnerabilities of a country including asset maturity and currency mismatches of a country's external debt and the asset composition of a country's external debt (see IMF, 2008).

[iii] Source: Bureau of Economic Analysis, International Investment Position of the United States at Yearend, 1976-2007, Table 2 (Downloaded August 27, 2008).

[iv] The U.S. has been a net importer since the late seventies. After small fluctuations, the trade sector has been in deep deficit from the mid-eighties onwards (Obstfeld and Rogoff 2005, 75; Papadimitriou 2006, 5; Shaikh 2003b, 9). Despite a deteriorating net international investment position ever since—whose degeneration rapidly accelerated along with the current account deficit from the late nineties onwards—U.S. net external income balances have been remarkably stable (and positive) for over twenty-five years. Obstfeld and Rogoff show that the rate of return advantage coupled with the growth in foreign leverage has allowed the U.S. to maintain positive net international investment income balances even as the net international investment position has become increasingly negative (Obstfeld and Rogoff 2005, 80).

[v] The BEA's own figures on the rates of return are higher (see figure 2). Landefield (2006) estimates that the average rate of return from 1982-2004 was 9.6% for USDIA and 2.9% for FDIUS (at current cost), a difference of 670 basis points.

[vi] The rate of return is calculated as the ratio of direct investment income flows to direct investment assets from the Balance of Payments Account. Hung and Mascaro use the market value measure of direct investment stocks (Hung and Mascaro, 31). Higgins et al. employ the historical cost measure of direct investment stocks.

[vii] Instead of using BEA data, Curcuru, Dvorak and Warnock construct their own estimates of returns on bond and equity portfolios of U.S. assets and U.S. liabilities.

[viii] measuring historical cost return on investment and sales

[ix] using current cost estimates of the rates of return

[x] the federal agency responsible for producing and disseminating this data

[xi] Landefeld (2006) notes that on average USDIA at current cost is only about one percentage point greater than that of domestic non-financial firms over the last couple of decades.

[xii] Mataloni (2000) finds that there is no rate of return difference between foreign and domestic firms with a market share of 30%. As Cline notes, this suggests that "a major source of the lower return for foreign firms in the U.S. market is their lesser degree of oligopoly power than for the large U.S. firms" (Cline 2005, 56). Up until the late 1970s foreign direct investment in the U.S. had been negligible (McGratten and Prescott, 3). In 1977 the Trading with the Enemy Act of 1917—which allowed the U.S. to seize control of foreign assets in an international emergency—was revised by the International Emergency Economic Powers Act in effect taking away the U.S.'s right to transfer title of foreign assets to itself in the event of an international crisis (McGrattan and Prescott 2006, 5).

[xiii] The Sharpe ratio measures the excess return to risk and is calculated as the ratio of the difference between the direct-investment return and a benchmark return to the standard deviation of the direct investment return (Hung and Mascaro, 13). Investments exhibiting higher Sharpe ratios carry lower risk (per unit of excess return). Taking the betas of FDIUS and USDIA, an alternate measure of risk, Hung and Mascaro find only marginal differences between FDIUS and USDIA (Hung and Mascaro, 14).

[xiv] These differences in the Sharpe ratios were especially pronounced after 1990.

[xv] The growth in holding companies or special purpose vehicles (SPVs) in offshore financial havens is one indication of how large taxation and regulatory issues have become (see Bertaut, 2005). Another striking instance of how critical tax issues are to multinationals is evident when the retained earnings of US firms fell close to zero in 2005—unprecedented at the global level since 1950, notes Kozlow (2006, 7)—compared to $120 billion during the same period in 2004 after the enactment of the American Jobs Creation Act (AJCA) of 2004. The AJCA allowed U.S. owned affiliates to shift dividends (distributed earnings) to parents at substantially reduced taxation rates (for one year only, either 2004 or 2005). Reinvested earnings climbed back to positive in the 2006. See Kozlow (2006) for a careful analysis of the affects of the AJCA on each component (equity, debt, reinvested earnings) of U.S. direct investment flows.

[xvi] However Bosworth et al. maintain the relevance of the return gap clarifying that "[w]e caution, however, against more extreme attempts to reconcile the return puzzle by restating the official balance of payments figures. The official data may exaggerate the U.S. FDI

premium but its size and persistence suggest that the return differential is quite real"
(Bosworth, Collins and Chodorow-Reich 2007, 16).

[xvii] Tax evasion may play a big (albeit difficult to estimate) role. Compared to its major
trading partners, U.S. taxes are higher than those of Netherlands, Mexico, U.K. and France,
about the same as those in Canada and Germany, and lower than those in Italy and Japan
(BEA, 2006).

[xix] Valuation effects refer to all adjustments—capital gains, exchange rate adjustment or
market valuation—in evaluating the direct investment stock or position other than those
arising purely from capital flows.

[xx] in all asset categories not just F.D.I.

[xxi] So while Cline maintains that portfolio balance theory explains why foreigners choose to
keep the low-risk spectrum of their foreign asset portfolio in the world's most liquid
market, in European quarters this 'liquidity discount' (or a relatively lower interest paid by
the U.S. on its interest-bearing assets) for returns to U.S. assets translates into 'the
exorbitant privilege' or American financial hegemony (see Gourinchas and Rey, 2005).
Lane and Milesi-Ferreti note that "there is also evidence that, on average, U.S. investors
make superior returns within asset categories—particularly for FDI" (Lane and Milesi-
Ferretti 2006b). However as Gros and Laster and MacCauley have noted, it is not that US-
owned direct investment is particularly profitable but that foreign-owned direct investment
does exceedingly bad in the U.S.

[xxii] Part of the stock-flow discrepancy, Hausmann and Sturzenegger argue, comes from the
exclusion of capital gains and losses (i.e. valuation effects) from the current account
estimates (the result of the BEA making its measures compatible with IMF practice in the
early 1990s) when theoretically they should not be omitted (Hausmann and Sturzenegger,
3).

[xxiii] The BEA defends its methodology against Gros's and other related charges (that it
doesn't account for valuation effects) in the following rather unusual public statement: "It
has also been suggested that the year-to-year change in the international investment
position is conceptually equivalent to the current account balance. This is incorrect, as
valuation adjustments (such as those arising from price changes or from changes in foreign
currency exchange rates) can significantly affect the value of the investment position.
Under international statistical standards that virtually all countries follow, valuation
adjustments are excluded from the current account and from the overall international
transactions accounts. However, the BEA does calculate valuation adjustments and
includes them in its calculation of the change in the international investment position."
(BEA, 2006).

[xxiv] Curcuru et al. point out that revisions are less pronounced on the liabilities side because
the BEA has better information on foreign holdings of U.S. securities (esp. treasury backed
securities) relative to its information on US owned assets abroad. They also caution against

relying on the BEA position estimates given that they contain series breaks with changes in methodology etc. (Curucu et al., 22).

[xxv] The insurance premium (on risky assets versus, for instance, treasury bills) that allows the US to purchase higher-return emerging market assets hedged by low-return t-bills suggests a 'money machine' (Buiter 2006) or major financial market failure, one that has paradoxically increased after financial liberalization (Gourinchas and Rey 2006) but Hausmann and Sturzenegger disagree that this is the case.

[xxvi] The insurance category extends to a whole class of financial assets. Hausmann and Sturzenegger admit that these two categories, finance and insurance, might be hard to separate: for instance, foreign-purchased U.S. debt instruments may be classified as insurance exports as well as liquidity services exports.

[xxvii] 'knowledge' includes know-how, brand recognition, expertise, management research and development: intangible services that produce superior returns on USDIA

[xxviii] For instance, according to Hausmann and Sturzenegger, the return differential on American foreign investment involves the export of U.S.-owned "blue-print . . . or business know-how" or other forms of expertise, better financial structure, legal protection, or intellectual property such as brand-name, that generate greater rents to American multinationals.

[xxix] In terms of balance sheet accounting, the ability of the U.S. to issue relatively lower rates on its debt instruments should qualify as an asset or a negative ability.

[xxx] The BEA argues that a simple 'reclassification of receipts from income on USDIA to U.S. services exports will result in offsetting changes within the current account and leave the balance on the current account unaffected (BEA, 2006).

[xxxi] The UNCTAD's 2006 World Investment Report highlights that global R&D expenditures have grown rapidly over the last decade to about $677 billion in 2002. The United States is the leading spending country and only ten countries account for more than four-fifth of the world total R&D expenditure. Even though the world's spread of R&D activities is highly concentrated, both by country and corporation, the internationalization of R&D through trans-national corporations (that, conservatively estimated, account for two-thirds of business R&D expenditures) is expanding. Accounting for intangible assets also plays a key role in McGrattan and Prescott (2007)'s estimates of the return gap between USDIA and FDIUS.

[xxxii] Seignorage refers to the Federal Reserve and Treasury's ability to issue a lot more high-powered money than any other country, in effect, "borrowing interest free on a not insubstantial scale" (de Long, 2006). When U.S. currency circulates abroad, this amounts to a highly subsidized if not interest free foreign loan (Cohen 2003, 11). While dollar seignorage, "indeed is dark matter" (Buiter 2006) and admittedly difficult to fully account for, its quantitative contribution to 'dark matter' is arguably very small compared to the $3.1 trillion in stock of dark matter. Rogoff (2002) has estimated that 75% of the $700 billion in total outstanding currency is held abroad, amounting to an interest-free

irredeemable loan or foreign asset of $525 billion. Hypothetically, one may wipe out the U.S. net external deficit by this amount after subtracting for the unknown and unreported foreign currency held in the U.S. In short, at most one sixth of the three trillion mentioned by Hausmann and Sturzenegger may be accounted for by dollar seignorage.

[xxxiii] Another implication of this 'arbitrary' multiplier effect is that "given the stock is $6 trillion rather than reported $3.5 trillion, the rate of return on USDIA is really 4.7% rather than 8% (Higgins 2007, 4).

[xxxiv] In effect Gros argues that there is foreign-owned "dark matter" in the U.S: he calls the U.S. a 'black hole' in which foreign assets disappear.

[xxxv] 10% is the somewhat arbitrary threshold separating portfolio investment from direct investment in the official accounts.

[xxxvi] The BEA defines reinvested earnings as the parent's claim on the current period undistributed earnings of their foreign affiliates. Equity capital flows arise when domestic companies make payments to unaffiliated parties for purchases for capital stock or equity shares when acquiring a foreign business or to affiliated foreign parties by parent companies when increasing their equity and capital spending in a foreign affiliate. Equity capital decreases reflect a reduction by parents of their equity abroad. Intercompany debt flows represent changes in net outstanding loans between parents and affiliates. These flows are not adjusted at current-cost.

[xxxvii] Reinvested earnings = profits – distributed profits

[xxxviii] While a major source of financing for direct investment, they do not give rise to forex transactions that would flow through the banking system. According to the BEA, the official accounts of Japan and France, among many countries, lack information on reinvested earnings(http://www.bea.gov/bea/ai/0395iid/box1.html).

[xxxix] The BEA however defends its rationale for including reinvested earnings in the current account arguing that "it allows the current account to more completely reflect current income at the disposal of direct investors, and allows the current account to more accurately reflect the profitability of investments" (Kozlow 2006, 13).

[xl] Gros reports that US firms abroad report over $100 billion more *per annum* in reinvested earnings for the period (1982-2004) but his data does not account for negative reinvested earnings for USDIA (after the Tax Repatriation Act) in 2005 (Gros 2006b).

[xli] Reinvested earnings (earnings less dividends) are calculated from reported flows on profits and distributed earnings. Foreign firms show very little reinvested earnings in the U.S. whereas US firms report over $100 billion more p.a. in reinvested earnings (Gros 2006b). According to Gros, this is most likely for tax reasons: US firms profits aren't taxable unless repatriated whereas foreign firms want to minimize U.S. corporate taxes that are higher than that of most other countries.

[xlii] Not transfer pricing per se (which would have showed up in the terms of trade, argues Gros but other forms of evasion (that takes advantage of differing regulatory regimes) such as amortization of goodwill whereby merger activity by foreign companies functions as a tax shield for profits (Gros 2006b, 4).

[xliii] Because FDI is calculated using both firm accounting data and stock market indices (unlike portfolio returns data that only uses stock market prices), as Gros shows, reinvested earnings are actually double-counted when assessing returns to FDI. In short, including reinvested earning overstates the returns to USDIA and understates the returns to FDIUS.

[xliv] According to the BEA, it removes reinvested earnings before calculating the change in the stock market index, applies the adjusted change in the index to the equity portion of the position excluding reinvested earnings, and then re-values reinvested earnings to reflect end-of-year prices rather than average prices. However, BEA states that in its methodology it "removes reinvested earnings before calculating the change in the stock market index, applies the adjusted change in the index to the equity portion of the position excluding reinvested earnings, and then revalues reinvested earnings to reflect end-of-year prices rather than average prices." (BEA, August 26, 2006) (See http://faq.bea.gov/).

[xlv] In their estimates that also incorporate valuation effects (exchange rates and stock prices), Lane and Milesi-Ferretti note that because riskier portfolios have higher returns on average than more conservative ones, the greater weight of equity instruments in U.S. assets and of debt instruments in U.S. liabilities contributes to the positive return differential of the U.S. owned portfolio.

[xlvi] Higgins et al. also find that excess returns to U.S. owned equity were fairly narrow, around 150 to 350 basis points. They calculate the rate of return on equity as dividends over market value while the other rates of return as ratio of income streams (coupon payments on fixed income securities, interest on bank debt, dividend payments on equity, and profits on FDI holdings.) Overall returns also depend on capital gains and losses from changes in asset values but are not taken into account given that they do not generate investment income flows across countries (Higgins, 2).

[xlvii] According to my calculations: 14.7% at current cost ratio and 20.5% at market value.

[xlviii] The term 'exorbitant privilege' was coined by the Charles de Gaulle's administration in the early 1960s, expressing French resentment over the American stronghold over the international financial order. In the 1960s, the U.S. was running moderate current account surpluses but heavily investing in foreign direct investment: as a share of U.S. gross external assets, F.D.I. increased from nothing to 40% from 1952 to 1973 (Gourinchas and Rey, 14). In fact, U.S. foreign direct investment accounted for half the world's FDI stock in 1960 (Lipsey, 2001, 25). From the American perspective, the U.S. was merely functioning as the world's banker: lending long and borrowing short, it was supplying loans and investment funds to foreign enterprises and liquidity to foreign asset holders (Kindleberger, Depres and Salant (1966)). From the French angle, the U.S. was abusing its power by printing money or issuing loans that were held sometimes involuntarily by foreign central banks (Gourinchas and Rey, 143). In other words, the U.S. was borrowing

money from the rest of the world almost "free of charge" and using it to purchase foreign companies (Gourinchas and Rey 14). Such an artificially strong dollar subsidized the ""invasion" of Europe by U.S. multinationals" (Eichengreen 2004, 9). In the 1950-1960s, the real return on U.S. debt was 0.80% on average (Gourinchas, 18). With the advent of the floating regime, real returns to U.S. debt are even lower, around 0.32% on average (Gourinchas, 18). The share of the U.S. in the world's FDI stock is now less than a quarter and the U.S. is a major recipient of FDI. (Lipsey, 2001). In the 1960s, long-term capital outflows led to a continuous drain on US gold reserves, despite American attempts to limit the size of the balance of payments deficit, eventually leading to a collapse of the Bretton Woods system in 1971.

[xlix] equity, debt, foreign direct investment and other (bank loans and trade credits)

[l] in relation to the foreign-owned U.S. portfolio.

[li] Gourinchas and Rey note that while the U.S., by virtue of its unique status in the international financial order, has always faced a weakened external constraint since the advent of the floating exchange rate system, its 'exorbitant privilege' has considerably increased and 'valuation effects have not only become much more pronounced but also in favour of the U.S. (Gourinchas and Rey, 5).

[lii] These findings contradict much of the BEA-based analysis including that of Cline and Higgins who find the most pronounced differential returns between U.S. assets and liabilities in the F.D.I category.

[liii] To clarify, the composition effect would be zero if the U.S. external asset portfolio has the same asset composition as the U.S. external liabilities portfolio.

[lv] Lane and Milesi-Ferretti also address the other side of this asymmetry in some detail: that valuation effects have wreaked havoc on emerging market economies. While exchange-rate depreciation may eventually improve the trade balance of a developing country, if the country is a net debtor in foreign currency instruments, its net foreign asset position may deteriorate (Lane and Milesi-Ferretti 2006b)..

[lvi] Hausmann and Sturzenegger are the few who admit that their estimates are 'rough' or 'arbitrary'.

[lvii] Lane and Milesi-Ferretti find that during 2002-2004, exchange rate and asset price fluctuations or valuation effects played a 'key role' in explaining the return differential. During this time, the dollar substantially weakened against European currencies, raising the returns on the substantial US. assets held in these countries as their currencies appreciated. Superior relative returns on foreign stock markets also compounded these favourable gains to the US foreign asset portfolio during this time (Lane and Milesi-Ferretti, 2006b, 2005).

[lviii] This point is also highlighted by Gourinchas and Lane and Milesi-Ferretti.

ˡⁱˣ Direct investment flows consist of inter-company debt flows, equity flows, and reinvested earnings; as Gros has show, the last category—while technically not a 'flow' retained earnings are recorded as such by the BEA—is particularly problematic. Lipsey notes, "[s]cholarly discomfort with the treatment of direct investment flows as capital flows goes back a long time" to Kindleberger's and Dunning's critique of the treatment of FDI as purely capital flows (Lipsey 2001, 8)

ˡˣ The problem with historical-cost measures (that value assets at book value) is that they do not account for changes in prices and do not match the treatment of fixed capital in the U.S. N.I.P.A. accounts (Lipsey 2001, 28). The current cost method accounts for inflation by values parents' share of affiliate investment in plant and equipment using the current replacement cost of capital equipment (using country-specific capital goods price indexes), in land using general price indexes, and in inventories using perpetual inventory model estimates of their replacement cost. The market value method values owner's equity component of the direct investment position using indexes of stock market prices (BEA, News Release, June 29, 2006; Kozlow 2002).
       Bosworth et al. are the few who prefer book value accounting methods as they are more consistent with valuation methods used to compute rates of return to domestic capital: 'The market valuation concept short-circuits all of the underlying adjustments to balance sheets of foreign affiliates by directly incrementing net equity positions in line with country-specific equity market indexes." (Bosworth, 3)

ˡˣⁱ Note that all three measures of the direct investment capital stock account for currency value changes.

ˡˣⁱⁱ Gros argues this is because of missing foreign-owned assets in the U.S.: the obverse of "dark matter".

ˡˣⁱⁱⁱ The AMECO database, for instance, defines the marginal efficiency of capital as the change in net output divided by the lagged level of real investment. In this definition, however, profits rather than output are normalized by investment (see Shaikh 2007).

ˡˣⁱᵛ Majority owned foreign affiliates are those in which the combined ownership of all U.S. parents is greater than fifty percent.

ˡˣᵛ Detailed financial and operating data only begins in 1997 for FDIUS and 1999 for USDIA. Since capital expenditures are only available from 2000 onwards for USDIA, the incremental rates of return is from 2001-2005.

ˡˣᵛⁱ Hulten notes that "gross output is the correct concept for estimating the structure of production." (Hulten 1992, S10).

ˡˣᵛⁱⁱ The "indirect business taxes" (IIIG2)) refers to taxes other than income and payroll taxes plus production royalty payments to governments minus subsidies received from governments.

ˡˣᵛⁱⁱⁱ My investment proxies are 'capital expenditures' (USDIA series) and 'property, plant and equipment expenditures' (FDIUS series).

[lxx] Note that the industry and country data is measured at historical cost.

[lxxi] The "world's most fully developed system of data collection of direct investment operations" according to the BEA (Whichard, 1).

[lxxii] Alfaro and Charlton write that the "activities of multinational corporations (MNCs) are best measured by the firm level data." Unfortunately, this data is not widely available. Researchers tend to use FDI flows from the Balance of Payments accounts as a proxy for multinational activity (Alfaro and Charleton, 2007)

[lxxiii] personal correspondence, Bill Zeile, BEA; also see FDIUS Methodology guide 2002 and USDIA Methodology guide 1999.

[lxxiv] Returns on assets are defined as net income/assets; profit margins are profits net of taxes/sales. All rates of return are post tax (indirect business taxes + corporate income taxes) and both capital stocks and investment expenditures have been adjusted for inventories.

[lxxv] USDIA flows were 100.7 billion on average over the same time period (own calculations, BEA). The U.S. is the largest source and main receipient of foreign direct investment. Outflows were 161,216 billionand inflows more than 175, 559 billion (BEA, 2008, First and Second quarter).

[lxxvi] Based on my calculations from BEA data following Gros's definition of 'new capital committed'. New Capital Committed = Total Flows – Reinvested Earnings. Note the composition of these new capital flows: for both series this is mostly equity but also some debt.

[lxxvii] Tille and Van Wincoop are almost apologetic that in their model the impact of these return differentials are small (see Curcuru, Dvorak and Warnock (2007, 2).

[lxxviii] personal correspondence, Ray Mataloni, Bureau of Economic Analysis, Feb 25, 2008.