

DIRECT INVESTMENT AND SUSTAINABILITY

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The activities of multinational firms seem to pose theoretical and empirical problems for the study of sustainability – this latter defined as the study of the path of US external balances and its implications. On the theoretical side, a number of prominent economists have argued that the activities of multinational firms are so complex and extensive that we can no longer measure their contribution to the US external accounts and balance of payments by such traditionally-defined flows as direct investment income, royalties, and capital flows. Whether we accept or reject these theoretical criticisms, it must be admitted that these traditionally-defined empirical flows associated with multinational corporations (MNCs) have exhibited some puzzling and disquieting properties. Paramount among them is the fact that for at least three decades the rate of return on US direct investment abroad (USDIA) has far exceeded that on foreign direct investment in the United States (FDIUS). This is the case no matter how one chooses to measure the denominator in calculating the rate of return.² Nevertheless, direct investment capital keeps flowing into the United States. The questions in the minds of many American policymakers are: Can this situation be an equilibrium one? And, if not, when does the party end?

¹ My thanks go to Chad Cleaver for able assistance in collecting a wide variety of data and in creating the figures and tables, and to Harry Grubert, for carrying out the research on which much of this paper is based. The present version of this paper was completed in April 2002.

² See Figure 1, at the beginning of section II, for graphs of the various measures of rates of return. The various alternative denominators are discussed in section II.

I. Do the Activities of Multinationals Necessitate the Replacement or Modification of Traditional Measures of the Balance of Payments and Equilibrium?

Just posing the question suggests the preposterousness of anything but a negative answer. After all, as will be reviewed below, the balance of payments as currently defined can be shown to be imbedded in the market clearing conditions for any reasonable macroeconomic model; if so, it must balance in an *ex ante* as well as an *ex post* sense; hence, the behavior of any economic agent – including MNCs – must fit in or be consistent with balance-of-payments equilibrium.

Eminently reasonable people, however – among them Robert Baldwin and DeAnne Julius – have taken a contrary position; at least it seems that they have.³ So perhaps it behooves us to look at their arguments in more detail. Behind their arguments is the sense that dwelling on the trade and current account deficits suggests that the U.S. economy is weak and/or vulnerable, while *they*, on the other hand, have a strong view and some evidence that U.S. firms are dynamic and progressive. They are looking for measures that display this dynamism in a positive light. And the disappointing picture painted by emphasizing the trade or current account balance does not suffice. Put another way, they are searching for the proper measure of U.S. competitiveness.

This criticism of the traditional BOP measures has evolved. Just about a decade ago, Julius generated considerable interest, and not a little press, with what amounted to an assault on the BOP concepts as useful for or, even, related to *ex ante* equilibrium. Later, Baldwin, in *Behind the Numbers*, modified that assault, maintaining, more reasonably, that studying the MNC made it clear that BOP

³ See Julius (1990), National Research Council (1992), Baldwin (1998).

concepts had to be “supplemented” with other more appropriate concepts. In my view, there are two types of issue raised by the Baldwin and similar critiques. First, one can examine the extent to which measuring what the MNC does requires indicators and concepts beyond things such as the current account balance. Second, one can examine the extent to which the myriad of flows associated with the MNC are mismeasured in terms of their BOP impact or contribution. Discussion of this second issue revolves around the fact that many of the MNC’s transactions are not at *arm’s length*. When key transactions are between related business entities, the firm has, at least potentially, the freedom to price goods and services in order to further other objectives – such as tax minimization. Thus was spawned the discipline of “transfer pricing”: the study of the MNC’s pricing of goods and services traded among affiliated enterprises.

The first section of the Division’s recent discussion of sustainability examined criteria for sustainability in terms of promoting conditions that “the path of the external balances not lead to a point where the United States defaults on its international obligations” (p 3), or avoiding conditions where “U.S. liabilities to foreigners as a share of foreigners’ assets become unreasonably large.”(p 5).⁴ In this study, the path of the change in U.S. liabilities to foreigners (the negative of the change in the U.S. net investment position, ΔNIP_t) is linked through the balance-of-payments identity to the sum of investment income, the trade balance (TB), the statistical discrepancy (SD), and the valuation adjustment or capital gains. Using a simplified expression for investment income, $r_t NIP_{t-1}$, (where r_t is a common interest rate applied to both US liabilities and credits) and the valuation adjustment ($v_t NIP_{t-1}$), the balance-of-

⁴ Division of International Finance paper (2001), entitled: “Sustainability of the U.S. Current Account Deficit.”

payments identity implies the following (their equation (2)):

$$\Delta NIP_t = r_t NIP_{t-1} + TB_t + SD_t + v_t NIP_{t-1}, \quad (1)$$

Using the identity and the apparently fairly weak condition that the nominal rate of interest (r_t) equals the rate of growth of nominal GDP in the long run, the authors derive that a necessary condition of sustainability is that the balance on trade and services must converge to zero.

Not only can equation (1) be treated as an ex post identity, but it can also be used as an ex ante equation in any reasonably specified macro model – equal to the sum of the market clearing conditions for a given country.⁵ Thus any argument that tries to call into question the balance of payments condition as an ex ante or ex post *theoretical* concept holds no water. As a corollary, any argument that the traditional view of the MNC's contribution to the balance of payments is in error must, then, be about how the MNC's contributions to equation (1) are measured, not about the validity of the equation itself.

DeAnne Julius' Net Foreign Sales Balance

In a 1990 book and various articles,⁶ Julius concentrates on appropriate measures for U.S. competitiveness in a world of multinational firms. She rightly conjectures that focusing exclusively on the trade balance does not give a proper measure of the contribution of MNCs – to almost anything. In trying to devise a measure of MNC competitiveness, she, intuitively, works toward something that includes the contribution of MNC sales in foreign countries as well as the associated trade flows. In so doing, Julius thinks she is going for something different from the MNC's contribution to the balance of

⁵ Stevens et al. (1984), pp. 64-67.

⁶ Julius (1990a), (1990b).

payments. Her proposed indicator is a “net foreign sales balance” – explained in her own words below:

“Competitiveness can be assessed by converting traditional import and export figures into measures of ‘foreign purchases’ and ‘foreign sales’ that assign transactions according to nationality of ownership, rather than residence. This can be done by subtracting foreign investment-related trade from the traditional trade measures – to avoid double counting – and then adding the local sales and purchases of foreign-owned companies.” (J. of Commerce, 7/10/90)

Moreover, when Julius implements her indicator empirically, she calculates that for 1986 the “net foreign sales balance” was a *positive* \$57 billion, rather than the negative \$144 billion for the trade balance.

My contributions to this debate – in a 1990 memo and a latter comment on a Baldwin article⁷ – were to show that Julius’ empirical implementation of her measure was erroneous (and, in fact, when corrected was negative in sign), and to demonstrate that her theoretical measure was actually equal to the net contribution of U.S. and foreign-owned firms to the U.S. *current account*: the sum of the contributions to the balance on trade and services (including royalties) plus net direct investment income. As such, the Julius’ measure inadvertently measures the traditionally-defined net contribution of the MNC sector to the U.S. balance of payments.

Robert Baldwin’s “Net Sales of Goods and Services by Americans to Foreigners”

Robert Baldwin in the book *Behind the Numbers* and in a number of articles explores in more detail new indicators related to Julius’ concept and, more generally, the implications of an “ownership-based” rather than a residence-based balance of payments.⁸ He carefully breaks the identity between

⁷ Stevens (1990) and (1998).

⁸ National Research Council (1992).

Julius' indicator and the balance of payments, but it is unclear whether the resulting balance is worth much. In a comment on Baldwin's later work, I try to determine, by using a small simulation model, whether his newer indicators are predictive for clear cases of increases in American competitiveness. They are not.⁹

II. Differing Rates of Return on Direct Investment at Home and Abroad

The conclusion of the last section is that the theoretical reservations raised about the consistency of multinational firm activities and the traditional balance-of-payments accounts do not explain the empirical problems raised in the introduction. It is true that, empirically, direct investment looks like a good deal from the point of view of the U.S. current account. But if the flow of net direct investment income and the associated rates of return are *too good to be true*, the fault is in our yardstick, not our equations.

Figure 1 shows the extent of the "problem." Whatever denominator one uses with the numerator direct investment income (or any other measure of MNC profits) to calculate a rate of return, the picture is always clear and overwhelming. Figure 1 shows the typical picture for three possible denominators: the historical direct investment position (the measure of the value of the controlling ownership or equity position of the direct investor); the total assets or the total sales of direct investors. In each panel, the rate of return for U.S. direct investment abroad (USDIA) is significantly higher than that for foreign direct investment in the United States (FDIUS). Thus, in the upper panel, using the historical direct investment position as the denominator, for the past two decades, the return

⁹ Stevens (1998).

differential has varied from 4 percent in 1999 to almost 10 percent in 1991, a year when the rate of return on FDIUS went negative. Given that both direct investment positions are in the \$1500 billion range today, a differential in rates of return of, say, five percent leads, according to equation (1), to a positive balance-of-payments impact of \$75 billion dollars a year.

Two questions regarding this phenomenon are investigated in this section: Are these return differentials real or imaginary? And if real, can we expect them to persist indefinitely?

By imaginary, I mean differentials that reflect only accounting manipulations rather than actual economic forces; thus, if the differential is imaginary, a revised set of balance-of-payments entries, more reflective of underlying economic forces, should make the differential either disappear or become much smaller. If the differential is real, we are presented with the curious situation that, for some reason, foreigners are currently willing to accept rates of return on their capital that are far below what Americans earn abroad; moreover, it will also be shown that this rate of return earned by foreigners is considerably less than what American-owned firms earn in domestic U.S. industry. If the differential turns out to be real, then a further question becomes paramount: Will this differential persist?

If the differential is imaginary, some sources of investment return are being missed or being attributed erroneously to other BOP accounts or actors; for the most part, the search for errors has focused on FDIUS. Over the years, a number suspects have been identified, debated, and to a limited extent tested. A common feature of this class of explanations of the differential is that, although sources of investment return are entered erroneously, the current account balance turns out not to be in error. Thus, if the current account is looked at as the major empirical measure of sustainability, then this mismeasurement of the returns to FDIUS does not change our overall conclusion on sustainability.

A major culprit fingered over the years in the class of imaginary factors is "transfer pricing." In

order to shift profits from one country to another – and thus to minimize taxes – a firm that ships exports or imports to its foreign subsidiary may either over-price or under-price these goods. Applied to the case of FDIUS, many firms have been accused of over-pricing the intermediates they ship to their U.S. affiliates, thus artificially reducing the U.S. profits of these affiliates. The current account balance of the United States is not affected, however: for the over-pricing increases the value of imports into the United States (increasing a BOP debit) at the same time it reduces profits of FDIUS (reducing a BOP debit). Other flows that can be manipulated to shift profits – the general practice colorfully called “income stripping” – include misstating royalty and management fees, and artificially inflating or deflating interest rates on loans between parent and affiliate. In some cases, even an accurate treatment of interest charges will affect the differential between rates of return on FDIUS and USDIA: if there is a systematic difference between these debt/equity or debt/assets ratios, as there seems to be, then, even with a proper treatment of interest payments, the rates of return will differ.

The above set of practices – except for the effect of different debt/equity ratios – are clear accounting manipulations that would not occur if the parent firm abroad and the subsidiary were dealing at arm’s length. A second set of potential practices is less clear because contemporary accounting treatments are arguably less clear; but I will argue that the result is the same with respect to the subsidiary’s profitability and the zero impact on the current account. Consider, for example, the possible treatment of the profits of a U.S. high-tech firm purchased by a foreign parent. Assume that this U.S. firm has developed patents that the foreign parent intends to use in its home-country operations.¹⁰ If the foreign parent pays royalties for this knowledge that reflect the full value of the

¹⁰ Charlie Thomas deserves credit (or, possibly, censure) for suggesting this example.

information, then the rate of return on the U.S. affiliate may be high indeed. However, suppose the parent merely transfers the use of the patent to its home operations and pays no royalty. The rate of return for the U.S. affiliate may look quite low, artificially low in terms of the actual contribution of the technical knowledge to the profits of the firm as a whole; however, the example was formulated to imply that, however the profits the US subsidiary are entered, the overall system is in equilibrium. A true accounting picture would exhibit one of two things: (1) either a royalty inflow (to counterbalance the newly generated export of technical knowledge); or (2), a capital outflow equal to the capital value of the patent. This second approach would reduce the value of the FDIUS just enough to raise the observed rate of return to an equilibrium value.

Thus, the low observed rate of return on FDIUS in this case is not “too good to be true”; it may even reflect the salutary state of a direct investment that increases net world output, by allowing a given stock of technology to be used more widely. The net increase of world GDP generated by this US-developed technology does not show up as it should in U.S. exports or royalties; however, the current account is not biased: the *net* flow of U.S. resources associated with the foreign direct investment is truly the low observed rate of return: the foreign owners are satisfied with this because they also reap the newly generated return from the exported U.S. technology. (In this case, the marginal cost of sharing this technology has been set up to be zero for the United States.)

This argument can be extended to all sorts of ways that a takeover can enhance the overall profitability of a given multinational firm – if not actual technical transfers as analyzed above, then amorphous contributions under the rubric of “synergies.” Thus, many foreign firms justify takeovers in terms of getting a foothold in the large and dynamic U.S. market; in accounting terms, if the rate of return of the U.S. subsidiary is low, it must be exporting some sort of factor to the parent that enables

the latter to increase its profits – if not today, then prospectively in the future. Thus, underutilized marketing facilities in the U.S. can lower costs or raise the profitability of foreign exports from the parent – properly treated as some sort of hidden export of a marketing service to the parent. Similarly treated would be economies of scale allowed to the parent's manufacturing processes in the home country: higher output for the combined firm in a given product which allows a higher profit margin. An empirical test of these hypotheses, would be required to find higher profits somewhere in the combined firm – to offset the low or lower profits observed in the U.S. subsidiary. In some cases, we might show that the U.S. firm had a lower profit rate after being taken over, or even that it received lower royalty payments from abroad. However, if the takeover really led to synergy effects, then the whole firm would be more profitable than the individual parts taken before the merger; a test on the profits of the whole multinational firm may be required to uncover this higher overall profitability.

Even more murky, but reflecting arguments developed historically in the theory of the multinational firm, are synergies that can be described as oligopolistic or monopolistic. The easiest case is that of a takeover that is anticompetitive, raising overall profits because of the acquisition of increased market power. Less obvious are the supposed oligopolistic synergies derived by duplicating or matching the behavior of market rivals; thus, it is often said that oligopolists typically match the moves of their closest competitors.¹¹

In the following sections, we shall attempt to determine whether existing empirical studies are able to sort out the alternative explanations for the differential among observed rates of return.

The Nature and Persistence of Low Rates of Return on FDIUS

¹¹ This argument was introduced by Stephen Hymer (1976).

In recent years, owing almost exclusively to the outstanding research of Harry Grubert of the U.S. Treasury and a number of collaborators, we have learned a good deal about the determinants of the apparently low rates of return for foreign-owned subsidiaries operating in the United States (as seen in Figure 1).¹² In short, Grubert has been able to sort out the truth or falsity of a number of hypotheses conjectured by other researchers – including the present writer – concerning the determinants of these low observed rates of return. His research has been made possible by his ability, as a Treasury employee, to use all firms' IRS returns and, thus, to be able to compare the profitability of both domestically-owned and foreign-owned firms located in the United States. In such a framework, the effect of the following factors have been examined for individual firms: industry, age, debt/equity ratio, production structure, depreciation rate, ratio of intangible assets to total assets, receipt of dividends and royalties and – importantly – a given firm's propensity to manipulate profit rates by transfer pricing. The very interesting bottom line of Grubert's most recent paper is that by examining the impact of these and more factors, *almost all* of the difference between the rates of return of foreign and domestically-owned firms *has been accounted for*. A good summary of his most important results is found in his Table 3, reproduced below from Grubert (1997). The effect specific to foreign ownership is shown by the coefficients of the variable labeled "Foreign" in the second row of the table. One should note that the size of the estimated coefficient for foreign ownership becomes progressively smaller as one moves from left to right across the table. In the first column of Table 3, in a regression using the 1993 ratio of taxable income to sales as the dependent variable and only industry dummy variables as independent variables, a foreign-owned firm has a rate of return that averages 3-1/2 percent lower than a

¹² See, especially, Grubert (1997).

comparable domestic firm. (Since the gross differential between the two populations is 4.6 percent, the industry composition accounts for slightly more than one percentage point of this base differential.) As one moves across the columns of the table, adding independent variables and changing the dependent variable in important ways, the estimated foreign discrepancy decreases to less than 1 percent : - 0.0086 in regression (6). Although the discrepancy is still significantly different from zero, Grubert's factors have explained over 75 percent of the original discrepancy.

A number of factors contribute varying parts to the explained part of the original differential; these factors appear both as independent variables in the various equations, and as modifications to the dependent variable. Turning to the explicitly listed independent variables, a number of industries have significant coefficients: transportation and utilities, electronics, and drugs show significantly positive coefficients. The variable "Purchases/Total Expenses," a proxy for the degree to which a firm uses intermediates – and thus has low value added – is strongly negative; this effect is particularly understandable given that the dependent variable is the rate of return on *sales*. With respect to the debt/assets ratio: all other things equal – including total assets – a high ratio reduces profits because of the interest payments on the debt. Finally, the very significant negative sign on the variable (1/Total Assets) supports the hypothesis that large firms are able to garner higher rates of return. Once these various factors are taken into account, no clear pattern emerges for the age dummies: in equation (6), only the variable "age 2" – for firms existing more than 5, but less than 10 years – is significant; moreover, very young firms, where previous results suggested a significantly lower rate of return, show a *positive*, but insignificant impact.

In addition to these independent variables, very important changes are made to the dependent variable as one moves across Table 3. Starting from the measure of taxable income in the first two

columns, columns 3 and 4 use an “adjusted” income measure that adds back depreciation charges. Finally, in columns 5 and 6, Grubert approximates a version of “operating” income by taking the adjusted income measure from columns 4 and subtracting that part of income represented by the receipt of royalties, interest and dividends from affiliated firms (mostly foreign subsidiaries). Changing the dependent variable this way is equivalent to including these additions and subtractions as independent variables with a prefixed coefficient of plus or minus 1.0. Thus, besides industry differences, foreign-owned firms in the United States differ significantly from their domestically-owned counterparts in having significantly higher debt per unit of assets, higher depreciation charges, and much less income in the form of royalties and dividends from other firms.

In a separate test, Grubert goes on to show that it is unlikely that differences in transfer pricing behavior – at least in 1993 – explain any of the differential that remains. Using data that distinguish minority foreign-owned from majority foreign-owned firms, Grubert shows that, according to his tests, these two classes of firms do not differ significantly in their behavior or underlying profitability. Since minority-owned firms are unlikely to be under administrative control by the foreign investor, if transfer pricing were a major determinant of return differentials, we would expect these firms to have significantly higher rates of return than the majority-owned firms.

Let us now return to the two fundamental questions that introduced this section: Are the differences in average rates of return between foreign-owned firms in the US and domestically-owned firms the result of “real” causes, rather than just accounting manipulations? And, if so, can we expect such differences to persist indefinitely? Grubert in my view has made a convincing case that the rate-of-return differential is more than accounting smoke and mirrors – although some accounting manipulations may be present in the treatment of depreciation and, even, the reporting of royalties and

dividends. *A fortiori*, the same can be said of the differences between the rates of return on FDIUS and USDIA abroad. These “real” factors included differences in industry composition, the structure of production (value added per unit of production), debt/asset ratios, depreciation rates, and royalties and dividends received.

Insofar as these factors reflect real differences, they cannot change profitability instantaneously, the way an accounting practice can. Some seem fairly permanent: the industry composition, the structure of production in terms of the use of intermediates, and the possession of certain intangible assets such as patents and other knowledge, that allow certain firms to earn large royalties and dividends (although, as discussed above, it is at least possible that differences in royalty flows reflect different accounting treatments). The depreciation rate, on first blush, may seem quite fixed, determined by the firm’s depreciable assets; however, at least part of these assets may be in the form of “goodwill” and “intangible” assets that tend to be higher for FDIUS, particularly for takeovers. Finally, the debt/equity ratio is significantly higher for FDIUS than domestically-owned firms (and FDI abroad), and, over time, can clearly be changed.

Although in this memo I cannot establish how much of the differential for each factor is real and immutable, we can ask how crucial the observed differences are for the overall differences in rates of return. Let us concentrate for the moment on two variables that seem rather easily manipulated in the short to medium run: depreciation rates and the debt/equity or debt/assets ratio. What would be the effect of moving these two variables for foreign-owned firms to the average for US-owned firms? Grubert shows for his 1993 sample, that depreciation expenses as a ratio to sales averaged 33 hundredths of a percent higher for FDIUS (his Table 4, not shown here). Further, interest expenses, the result of different debt/asset ratios, averaged 7 tenths of a percent higher for foreign-owned firms.

Added together, the average effect of these two, relatively changeable factors, was just over 1 percentage point (of the overall average difference in rates of return of 4.6 percentage points). Thus, even if these relatively malleable differences between foreign and domestically-owned firms were eliminated, the differential in rates of return would still be at least 3.5 percent, most of which is explained by the variables discussed above.

A similar, but somewhat different bottom line on the maximum effect of differences in interest payments and depreciation rates emerges if we look at a different source of data, industry averages, instead of Grubert's estimated regression coefficients. Thus, comparing BEA's data for FDIUS in manufacturing to that of the Census-FTC data for all U.S. firms in manufacturing, one can note that for 1998 or 1999 depreciation expenses as a percentage of assets were virtually identical for FDIUS and the US manufacturing industry as a whole (3.71 percent versus 3.70 for the US manufacturing industry as a whole); interest expenses, on the other hand, differed somewhat more (1999): 2.4 percent of assets for FDIUS versus 2 percent on average for all U.S. manufacturing, a differential somewhat smaller than indicated by Grubert's regression coefficient of 0.7 percent. The total effect, at 0.4 percent, is a bit less than half of that estimated using Grubert's coefficients. If one were to adjust the rate of return for FDIUS in manufacturing to reflect the depreciation rate and interest expenses of the US industry as a whole, the rate of return on FDIUS for 1998 would rise to approximately 2.4 percent. As noted earlier, if we take Grubert's estimated coefficients, the return on FDIUS would rise by 1.03 percent. In any case, even assuming complete convergence, a large differential would still be present: between 2-1/2 and 3 percent. According to Grubert, this differential would be the result of more fundamental and persistent factors such as returns to technology in the form of royalties and dividends, industry differences, and so on.

The Nature and Persistence of High Rates of Return on US Direct Investment Abroad

Figure 1, discussed above, shows that, no matter how one measures the denominator, since 1970 at least, the profitability of direct investment abroad has always comfortably exceeded that on foreign direct investment in the United States. The basic questions toward which the present and the last section are directed are whether this differential is real and whether it is likely to persist. The last section addressed this question only indirectly, by comparing the rate of return on FDIUS, not to direct investment abroad, but to the rate of return realized by U.S.-owned firms also located in the United States. This section also largely takes an indirect approach – comparing the rates of return of U.S.-owned foreign affiliates primarily to those, again, of U.S.-owned firms located in the United States. However, if we can conclude that the real rate of return of U.S.-owned foreign affiliates is greater or equal to this latter, then we can also conclusively answer our bottom-line questions. We focus on the manufacturing industry more than we would ideally, because of the limitations of U.S. domestic data for other industries.

Figure 2 presents rates of return on total assets for total manufacturing for the three ownership breaks we are concentrating on. As was the case in Figure 1 for all industries, the rate of return on assets for USDIA in manufacturing, as expected, is uniformly four or more percentage points higher than the comparable rate of return for FDIUS. Between these two, the dashed line, is the plot of the rate of return for American-owned U.S. firms in manufacturing.¹³ The overall picture suggests that the rate of profit of foreign direct investment abroad, while greater than that for domestic operations, is

¹³ In this figure, for the rate of return of American-owned firms in the United States, we are plotting operating profits minus interest payments – excluding royalties and dividends from other firms. For USDIA and FDIUS, these income items are not reported annually and, therefore, are not excluded; but available data indicate that in manufacturing they are a small percentage of assets.

much closer to this latter than to the return for FDIUS. Moreover, if we were to adjust for the somewhat higher debt/equity ratio of domestic operations (shown in Figure 3), the two lines would be closer still.

One factor that serves to explain why the operating rates of return abroad may be somewhat higher than rates of return in the United States is the supposed technical superiority of those U.S. firms, so-called multinationals, that own US foreign subsidiaries. Once every 5 to 7 years, during Census years, BEA collects enough data on the parent firms of U.S. foreign subsidiaries to make meaningful comparisons between these multinationals and the average of U.S. firms, multinational or not. Table A, below, presents such a comparison for 1998. For this year, we are able to obtain comparable data for these two classes of firm for total manufacturing and certain manufacturing sub-industries. The table shows that for total manufacturing the rate of return (on sales) for MNC parents was about $\frac{1}{2}$ percent higher than for the overall industry: 5.98 percent to 5.51 percent. Of the four sub-industries where comparable data were available, all but electrical showed significantly higher rates of return for MNC parents. Thus, there is at least some evidence to suggest that the higher rates of return of USDIA is related to the technical superiority of the multinational organizations to which they belong. As noted, the above considerations and table are for operating profits alone, exclusive of the receipt of royalties and dividends from other firms – an addition that would very likely favor MNC parents even more.

Another factor that might be related to more permanent differences between the rate of return between FDI abroad and domestic U.S. firms is differences in the industry composition of the two. Grubert's results suggest that such differences would likely be small. We cannot estimate coefficients as Grubert does, but, given some data on rates of return by sub-industry, we can roughly adjust our total manufacturing data to reflect the different industrial composition. In Figure 4, we take the rates of

return for comparable sub-industries and weight these by a common set of weights to produce a variant of Figure 2, above, but based on a common industrial structure. The adjustments in Figure 4 have little impact on the differences between the average rates of return: the large differential between FDIUS and FDI abroad continues to be 4 percent or more; the rate of return on domestic manufacturing (calculated only from 1995-1998), remains between the other two lines.

Of the other factors identified by Grubert, while no coefficient estimates are available, comparisons of average values for depreciation rates and interest payments can at least throw some light on the potential impact of the two factors, identified above, that are most likely to converge over time. These variables are available for FDI abroad only for some years. Data for interest payments by USDIA seem available no later than 1994, the year of the last full Census: at that time, the ratio of interest to total assets was 1.4 percent for manufacturing and, also, for the aggregate of all industries (exclusive of finance). Depreciation expenses are available for more recent years; in 1998, the depreciation rate was 3.2 percent for manufacturing and 1.6 percent for all industries. If we were to posit a complete convergence to the U.S. rate of interest payments and the depreciation rate for USDIA in manufacturing, the rate of return abroad would drop by 1.1 percentage points – enough in 1998 to have the adjusted rate of return abroad fall from 5.8 percent to 4.7 percent (about 0.7 percentage points *below* the rate of return for U.S. manufacturing as shown in Figure 2).

In the previous section, we estimated that the same sort of adjustments of the depreciation rate and interest payments for FDIUS would *raise* the rate of return in manufacturing modestly – about 0.4 to 1.0 percentage points, depending on whether Grubert's coefficients or industry averages were used. If the adjustment is made for both USDIA and FDIUS, then, using the 1998 industry averages for manufacturing, the differential between the two would narrow by 1.5 percentage points (0.5 because of

differences in depreciation rates and 1.0 because of interest payments); that is a little less than a half of the 3.42 percentage point differential in 1998. For all industries, entirely because of much higher interest payments by FDIUS, the differential would narrow by 1.6 percentage points, more than halving the differential from 3 to 1.4 percentage points.

III. Summary and Conclusions

Despite arguments to the contrary, the conclusion of section I was that the existing balance-of-payments accounts are at least sufficient to analyze the impact of the direct investment activities of multinational firms on questions of sustainability. This does not mean that the analysis is simple and straightforward. Rather, sections I and II have shown a number of examples of such activities generating complicated interactions among a number of BOP accounts – trade and royalty accounts, in particular. Nevertheless, I have concluded that the overall impact on the current account balance should still be the focus when analyzing the impact of a particular transaction or a class of transactions on sustainability.

The above conclusion implies that the various questions and conundrums observed in examining the levels and trends in such BOP accounts as direct investment income must be taken seriously; they cannot be dismissed as artifacts of an irrelevant accounting system. Paramount among such conundrums is the longstanding positive differential between the rate of return on US direct investment assets abroad (USDIA) and that on foreign direct investment in the United States (FDIUS). In reviewing research work in this area, particularly that of Harry Grubert of the US Treasury, it has become clear that this differential is real – in the sense that a significant part, and perhaps the major part, of it is not just the product of accounting manipulations. In particular, the impact of the classic accounting manipulation of

transfer pricing was found, in the mid 1990s at least, to be small. The practice of “income stripping” by manipulating borrowing and interest rates among related entities may have been present, but the calculations in the above section suggest that the impact of such a practice could account at most for only 1 percentage point of the differential in manufacturing, and 1.6 percentage points for all industries. Somewhat more uncertain is the possible impact of accounting variations in how technological exports are booked. Although Grubert showed dividends and royalties to explain about 1.5 percentage points of the differential in his sample, the data that are available for USDIA and FDIUS show a much smaller differential; this is primarily because royalty and dividend income are small for both sets of firms.¹⁴ Of course, the smallness of these flows does not logically exclude the possibility, discussed above, that exports of technology by FDIUS are large and unaccounted for. In any case, an important conclusion with respect to the impact of accounting manipulations is that, no matter what their size, none that I could identify, affected the current account. Thus they do not affect conclusions on the impact of direct investment on sustainability.

Grubert’s work throws light on the importance or unimportance of many other factors for the differential – although it should be recalled that his empirical work was limited to explaining the differential rate of return between FDIUS and US-owned firms in the United States. Besides rejecting the importance of the impact of transfer pricing, Grubert finds significant differential effects associated with the industry composition of FDIUS, the average size of the firms, the importance of intermediates in the production process, the rate of depreciation, the debt/equity ratio, and the receipt of dividends

¹⁴ Royalties were 1/3 of 1 percent for manufacturing USDIA in 1994, and only 0.12 percent for all industry. Dividends and other returns from equity investments for USDIA seem to come almost exclusively from holding companies; these are not listed under manufacturing.

and royalties from other firms. Among hypotheses rejected was, in addition to the impact of transfer pricing, a significant impact for the age of the firm.

Among these factors, I sought to examine the interrelated questions of whether they were the result of "mere" accounting manipulations and whether the differential impact of a particular factor could converge to zero over time. I concluded that it was conceivable that the differentials in the debt/equity ratios and depreciation rates could converge to zero: the former because of the possibility of income stripping and the ease of changing debt levels; the latter because of the potential importance of the depreciation of goodwill and intangible assets for recently purchased foreign investments in the United States. Even at the outside, the total effect of the convergence of these two factors could not eliminate the 1998 differential in the rate of return between USDIA and FDIUS, but it could be halved. If the differential for all industries were halved to 1.4 percent, the net positive impact on our balance of payments at today's levels of direct investment would be about \$21 billion per year. Contemplating such a scenario suggests, at least, that the present configuration of direct investment receipts and payments is near or at equilibrium and sustainability.

If this scenario is factually wrong, then we return to the explanation that either foreign direct investors are willing to accept significantly lower rates for return than their US counterparts, or that the former are particularly inept at choosing their US investments. In the first case, the United States reaps the bonus of the differential and we can expect the equilibrium to last indefinitely. In the latter, the forecasting errors of foreign investors will mean that eventually they will have to swallow capital losses; if they learn from these errors and losses, it could be that foreign investment in the future will be lower. However, Figure 1 suggests that even thirty years of significant differentials has not slaked the thirst of foreigners for direct investments in the United States.

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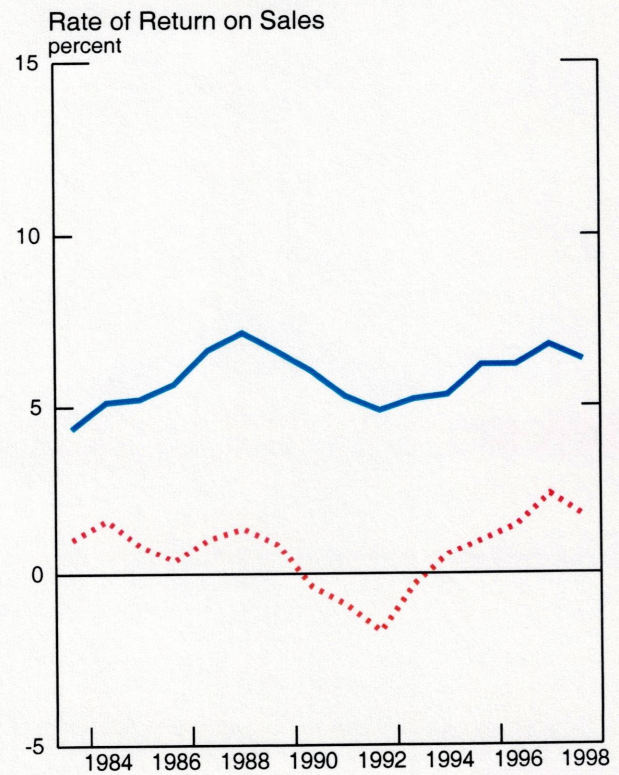
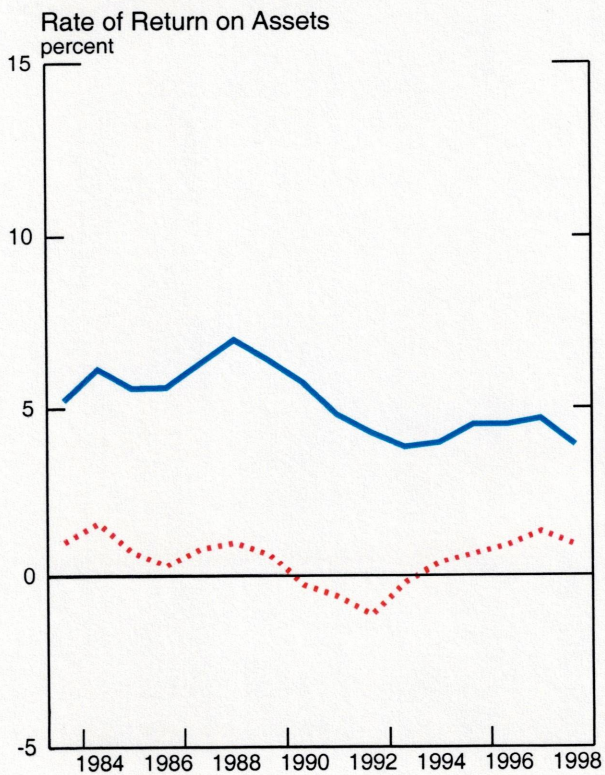
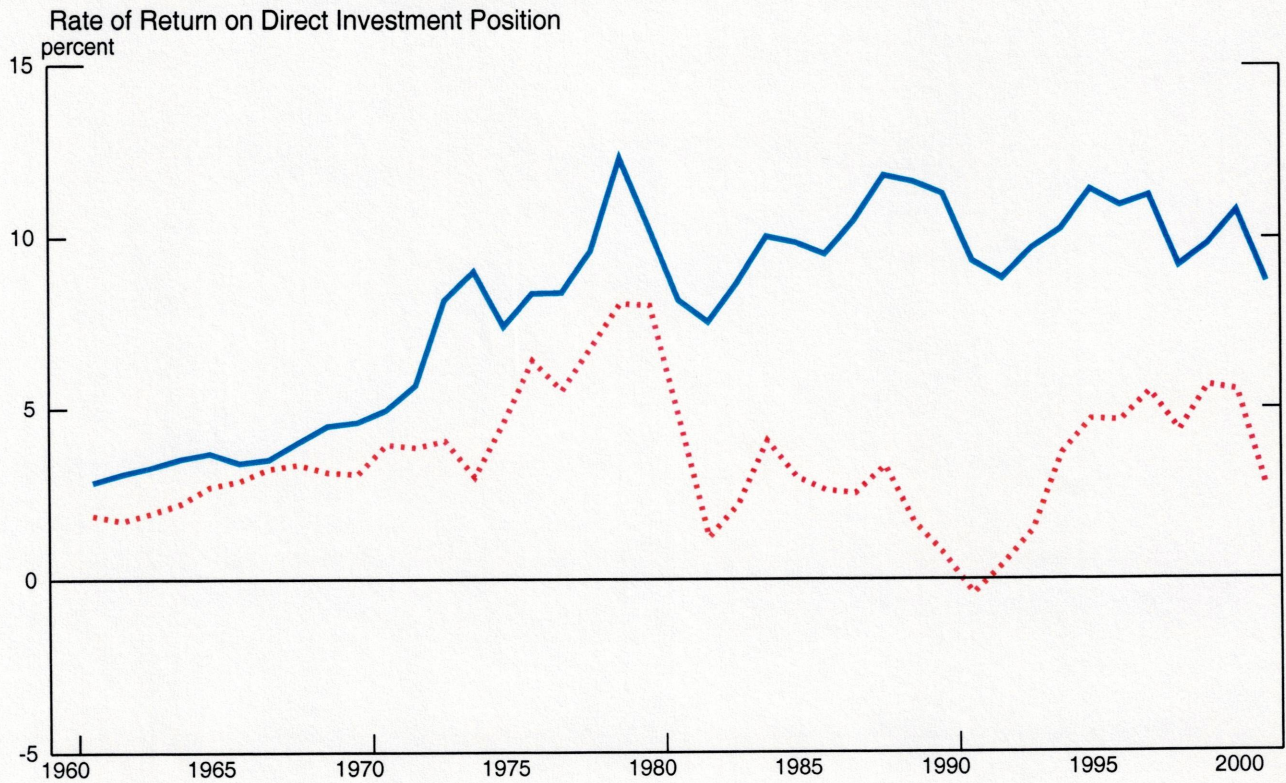
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Figure 1. Rate of Return on Direct Investment
All Industries



— Foreign Affiliates of U.S. Firms
..... U.S. Affiliates of Foreign Firms

TABLE 3
SALES MARGINS*
(WEIGHTED BY SALES)

Independent Variables	(1) Taxable Income/Sales	(2) Taxable Income/Sales	(3) Adjusted Income/ Sales	(4) Adjusted Income/ Sales	(5) Operating Income/ Sales	(6) Operating Income/ Sales
Intercept	.0304 (14.76)	.1097 (28.94)	.0924 (33.47)	.1864 (35.93)	.0681 (25.68)	.1479 (29.34)
Foreign	-.0352 (12.90)	-.0266 (10.03)	-.0249 (6.79)	-.0216 (5.95)	-.0101 (2.87)	-.0086 (2.43)
Wholesale	-.0016 (.45)	.0043 (1.22)	-.0254 (5.32)	.0058 (1.20)	-.0325 (7.09)	-.0040 (.86)
Transportation and Utilities	.0296 (9.25)	.0230 (6.86)	.1296 (30.16)	.0892 (19.46)	.1325 (32.11)	.1011 (22.70)
Food	.0157 (3.56)	.0136 (3.27)	.0102 (1.72)	.0106 (1.86)	.0044 (.77)	.0067 (1.22)
Electronics	.0236 (5.73)	.0167 (4.29)	-.0459 (8.30)	.0442 (8.29)	.0206 (3.87)	.0226 (4.37)
Chemicals	.0303 (5.94)	.0212 (4.40)	.0558 (8.15)	.0370 (5.61)	.0219 (3.33)	.0087 (1.36)
Drugs	.1086 (12.88)	.0936 (11.81)	.1012 (8.95)	.0821 (7.57)	.0356 (3.28)	.0238 (2.26)
Purchases/Total Expenses		-.0125 (3.44)		-.0854 (17.18)		-.0754 (15.60)
Debt/Assets		-.0969 (27.94)		-.0554 (11.67)		-.0601 (13.03)
Inverse of Total Assets		-.1268 (4.63)		-.4338 (11.58)		-.1630 (4.48)
Age 1		-.0033 (1.03)		-.0013 (.29)		.0054 (1.28)
Age 2		-.0017 (.69)		.0110 (3.16)		.0156 (4.58)
Age 3		-.0110 (3.03)		-.0197 (3.95)		-.0088 (1.83)
Age 4		-.0001 (.03)		-.0059 (1.10)		.0094 (1.81)
Age 5		-.0124 (4.24)		-.0166 (4.14)		-.0002 (.06)
R Squared Adjusted	.1006	.2156	.2156	.2892	.2249	.2798
Mean of Dependent Variable	.0400	.0400	.1225	.1225	.0880	.0880

*t values in parenthesis.

Figure 2. Total Manufacturing

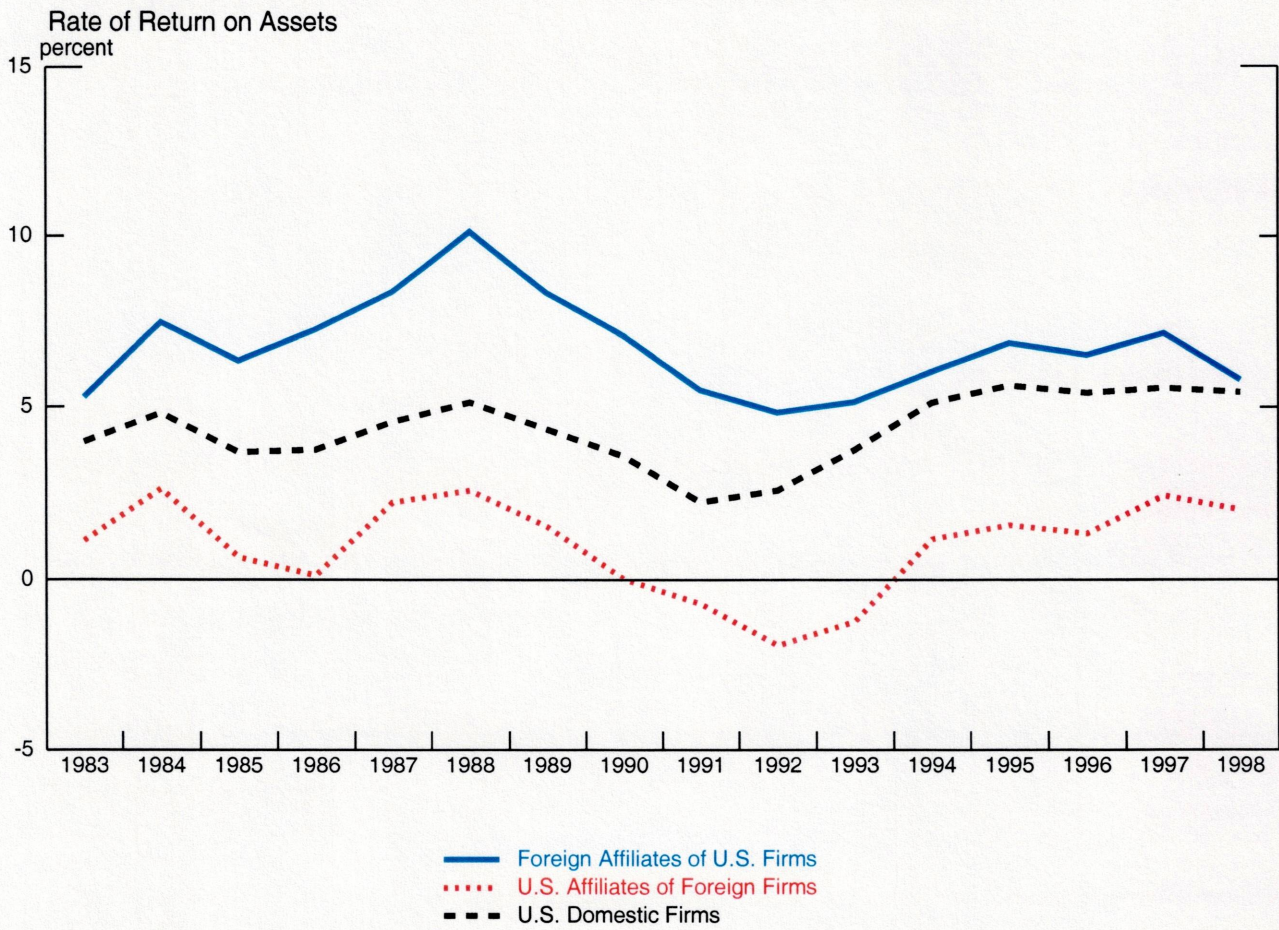


Figure 3. Debt/Equity Ratios

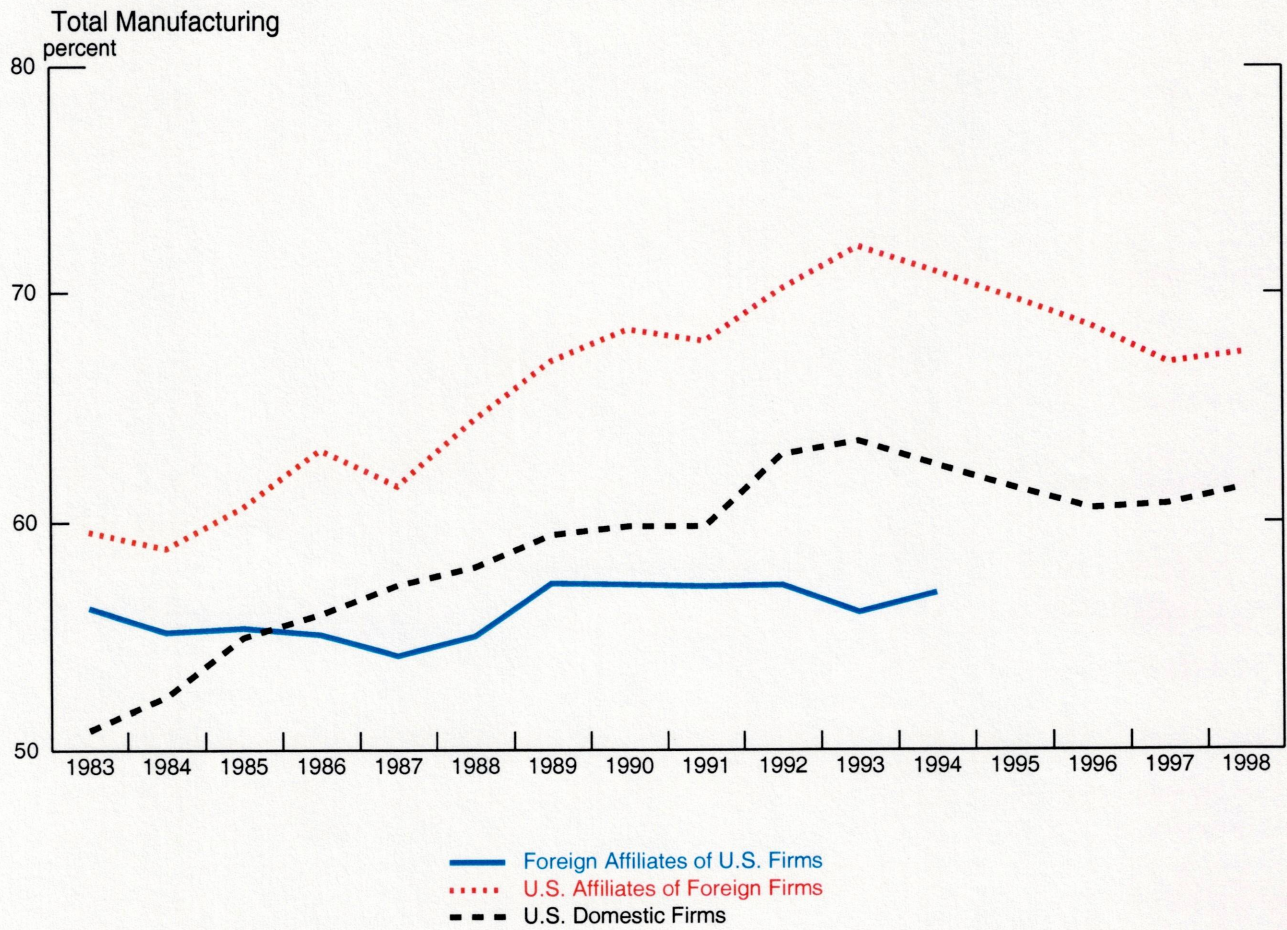


Table A: 1998 Rates of Return for Multinationals and for All U.S. Firms
(percent)

Domestic Profits/Sales	Total Mfg.	Chem. & Allied	Food & Kindred	Electrical	Transportation
All U.S. Firms	5.51	6.80	7.16	6.57	3.88
U.S. Multinationals	5.98	9.06	9.26	5.91	6.57

Figure 4. Sub-Industries

