DIRECT INVESTMENT CONTROLS AND INTERNATIONAL EQUILIBRIUM: THE U.S. EXPERIENCE

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INTRODUCTION

A parent firm engages in foreign direct investment (FDI) when it establishes a subsidiary in a foreign (host) country and exerts managerial control over the subsidiary and the assets it acquires. Ownership of 10 percent of a subsidiary's outstanding shares is deemed by the U.S. Department of Commerce to be sufficient for an investment to be classified as FDI. In actual practice, however, United States FDI usually involves the parent firm's majority ownership of a subsidiary's assets. In addition to FDI from the parent firm, a subsidiary can finance the acquisition of assets with equity infusions from sources other than the parent firm or by incurring debts to third parties.

As Guy Stevens points out, using the propositions of Franco Modigliani and Merton Miller, it is reasonable to assume that a parent firm is interested in maximizing its market value when it acquires (establishes) a subsidiary abroad [1972, 327, 340]. Consequently one expects that the parent, reflecting financial market conditions, will choose the optimal mix of FDI, equity from other investors, and debt in acquiring and utilizing its affiliate's assets. It follows, therefore, that government policy will have an important effect on a multinational enterprise's (the parent's plus the subsidiary's) decisions. Specific efforts can be observed in the consolidated balance sheet of a multinational enterprise's (MNE's) foreign affiliates (subsidiaries). The balance sheet items affected by changes in government policy will depend on the specific design of that policy. If the policy were designed like the "Johnson controls" on U.S. FDI, then from a Modigliani-Miller perspective "[theoretically, one should not expect this type of restraint program to have any effect on asset changes" (Stevens, 1972, 340). The dominant effect should appear on the equity-liabilities side of the balance sheet as a shift away from parent equity (FDI) toward third-party, foreign equity or liabilities to foreign lenders.

This paper concentrates exclusively on the policies aimed at limiting U.S. foreign direct investment outflows for balance of payments reasons that became strongest with the mandatory controls initiated by President Lyndon Johnson in 1961. I expect it to accomplish three purposes. First, I sketch the historical environment that was the backdrop for the initiation of the Johnson controls of FDI. Then a summary of the regulations and estimates of their effectiveness is presented. Finally, I evaluate the Johnson controls from several theoretical perspectives.

HISTORICAL SETTING

Although multinational enterprises have exerted influence on international economic relations at least since mercantilist times, their importance was limited in the
1930s by the Great Depression and in the early 1940s by World War II. After 1945, encouraged by and benefiting from improved international relations, United States multinational enterprises (MNEs), followed by their counterparts in Canada, Europe and Japan, expanded greatly, both in terms of numbers and in size. With the post-World War II expansion of multinational enterprises, especially those headquartered in the U.S., it became increasingly apparent that traditional economic theory was inadequate to explain the motives, the domestic and foreign effects, and other aspects of direct investment by enterprises operating multinationally. In addition, the United States, the most important national source of new direct investment in the post-World War II period, encountered increasingly difficult balance of payments problems. These problems were initially addressed by domestic policy manipulation - "operation twist" in monetary policy, for example.

By 1963, the Interest Equalization Tax was proposed and in 1964, enacted to discourage the purchase of foreign securities by U.S. residents. This initial direct policy intervention was followed in 1965 by the Federal Reserve Board's Voluntary Foreign Credit Restraint program that "sized" U.S. banking and nonbanking financial institutions to "voluntarily" limit their lending to foreigners (including foreign subsidiaries of U.S. firms) in accordance with guidelines the Board established. In 1965 the U.S. government also initiated a voluntary program aimed at limiting outward direct foreign investment. This third program was made mandatory on January 1, 1968, the date on which the Foreign Direct Investment Program (FDIP) was instituted by President Johnson's Executive Order 11387.

Both the voluntary program to limit U.S. direct investment abroad and the FDIP focused on the equity-liability side of MNEs' balance sheets. There was no attempt to thwart the expansion of U.S. firms' assets abroad. Rather, the aim was to force some of the financing of asset acquisition "offshore" by limiting the contributions (FDI) that the parent firm could make to its subsidiary's expansion. In order to address the economic and political reverberations of these efforts to control FDI outflows, the FDIP assigned each country that might host U.S. FDI to one of three Schedules (Schedules Areas).

The severity of the restrictions varied among Schedules. Developing countries were placed in Schedule A, where the FDI limitation on U.S. firms was least. An intermediate level of restriction pertained to U.S. firms operating in selected sterling bloc countries, in Japan, and in certain oil producing countries. These potential host countries were placed in Schedule B by the Office of Foreign Direct Investments (OFDI), the office established to administer the FDIP. Additional discrimination among countries took the form of exempting investments in Canada (initially in Schedule B) from the regulations. Schedule C included all other countries, principally South Africa and the industrialized countries of Europe. (In 1970, Spain was moved from Schedule C to B). This discrimination among nations reflected general foreign policy considerations and an evaluation of the historical pattern of U.S. foreign direct investment including an estimate of the extent to which each host nation's economic viability was dependent on U.S. FDI.

FDIP REGULATIONS

The Foreign Direct Investment Program, aimed at limiting the balance of payments impact of U.S. direct investment by requiring the direct investor (the DI) to borrow outside the U.S. to partially offset actual direct investment (capital transfers and reinvested earnings of the DI's foreign affiliates). Each direct investor was permitted a prescribed "allowable" amount of direct investment each year. If actual direct investment exceeded the allowable amount, the direct investor could come into compliance with the FDIP Regulations by long-term foreign borrowing. Since the amount so borrowed was treated as a balance of payments offset against the actual direct investment, the difference between actual direct investment and the FDIP-induced foreign borrowing was defined as "regulated direct investment." Regulated direct investment, which was expected to be positive, was required to be equal to or less than the DI's allowable. Thus, in balance of payments accounting terms, the inflow of foreign borrowing netted out against the outflow of direct investment.

Each direct investor was permitted to choose from several methods of determining the amount of allowable direct investment for any one year. In its initial year of 1965, the OFDI offered three alternative "allowables," this was later expanded to five alternatives. First, any DI was originally permitted to invest $1 million per year worldwide. This so-called "minimum allowable," relevant only to small DIs, was increased to $2 million in 1971. Second, a variation on the simple minimum allowable was to limit investment in Schedule B and C countries to $1 million (later $2 million) plus investment in Schedule A (developing) countries to an additional $4 million per year. Effective with the 1973 compliance year, this $2 million plus $4 million was converted into a $6 million general, worldwide minimum allowable. Third, for larger DIs the historical allowable was most applicable in 1965. It permitted regulated direct investments each year equal to 110 percent of a DI's 1965-66 average investments in Schedules A, B, and C countries; 65 percent of the average in Schedule B countries; and 35 percent in Schedule C.

As the Program evolved, the "allowables" were added as an option available to DIs, especially larger ones. Beginning in 1969, DIs could invest in each Schedules Area the equivalent of 30 percent of the previous year's earnings in that area. In 1971, this was expanded to 40 percent. Some flexibility was introduced by permitting any allowable direct investment authorized by the regulations for Schedule C countries to be used in Schedule A or B countries and any direct investment authorization unused in B to be used in A. This "downstreaming" process furthered the Program's goal of minimizing interference with direct investment in developing countries.

For 1970 and subsequent years, the Program was further liberalized by the introduction of a fifth formula for computing a DI's allowable, the Incremental Earnings Allowable. This allowable was additional to whatever other allowable permitted. It was also not restricted by Schedules Area. To calculate the incremental earnings allowable, a DI would first determine the mean value of its 1966-67 worldwide earnings (the base period) and subtract this amount from current year earnings to arrive at incremental earnings. Then forty percent of the incremental earnings was calculated and from this amount the DI's largest available allowable was subtracted. The amount remaining was the incremental earnings allowable. For example, suppose that in 1970 direct investor XYZ calculated its incremental earnings to be $8.0 million and the largest of its available allowances was $3.0 million. To calculate the incremental earnings allowable, the $3.0 million would be subtracted from $3.2 million (40 percent of $8.0 million). The $200,000 incremental earnings allowable, so calculated, was available to the DI for use in any country in addition to its usual $3.0 million allowable.

Finally, if a direct investor considered even the largest of these allowable too stringent, it could petition the Director of OFDI for a "Specific Authorization" (SA) to make a direct investment in excess of the allowable prescribed by the regulations. Such
petitions were administratively handled on a case-by-case basis. The flexibility provided
by this provision was important in assuring that the ownership and management presence
of U.S. enterprises abroad was not diminished. To my knowledge, there is no recorded
tally of the total value of Specific Authorizations approved. However, since small direct
investors either would not be applying for an SA or would be unlikely to command the
expertise needed to mount a successful request, it is reasonable to expect that specific
authorizations were substantial rather than inconsequential. For example, a large,
innovative, very profitable DI was annually granted a Specific Authorization because to
reappraise most of its foreign earnings would have caused a foreign relations "flag." And
foreign debt financing of the magnitude required to come into compliance with the FDIP
would have caused that DI substantial and undue hardship.11

To ensure that the OPDI's regulations were followed, nominal penalties were in-
cluded for any DI deliberately out of compliance. However, although the regulations
provided for penalties of not more than $10,000 and/or 10 years in prison, "moral
suspicion" was sufficient to insure compliance. Moral suspicion was "leveraged" by the fact
that if a DI was not in compliance with the regulations, it could not obtain the cooperation
of OPDI when seeking an interpretation of the regulations or when applic-
ing for a Specific Authorization. Moreover, because President Johnson's order creating
the FDIP was couched in terms of meeting a national emergency, further compliance
leverage could be generated, if necessary, by equating compliance with patriotism.

In structure, then, the Johnson mandatory controls were rather straightforward.
They were to improve the immediate balance of payments position of the U.S. by "forcing" U.S. direct investors to borrow more abroad than they otherwise would have borrowed. I now turn to the question: was the FDIP successful in this endeavor?

EVALUATING THE FDIP

Precise answers to this question are difficult to obtain because the Program's
evolution involved its liberalization. Foreign Direct Investment Program: Selected
Statistics of June 1974 presents data that provide insights into the Program's progres-
sive liberalization and evolution (OPDI, 1974, 8). 1965 was the most stringent year of
the FDIP, if one compares the amount of foreign borrowing that was used as an offset
against foreign direct investment with the FDI actually made. In 1968, the proceeds of
foreign borrowing used as an offset equalled 64 percent of FDI. This measure decreased
to 55 percent in 1969 before leveling off at 42 percent in 1970 and 40 percent in 1971.
Following a 34 percent borrowing to direct investment ratio in 1972, the 14 percent
recorded for 1973 indicates that the Program effectively ended in that year -- the year of
the final collapse of the Bretton Woods exchange rate regime. Officially the Program
ended in 1974.

One can also observe that simultaneously direct investment in the Scheduled Areas
expanded in every year but 1972 and was 212 percent larger in 1973 than in 1965.12 One
can judge that the growth of FDI in the Scheduled Areas was robust by way of noting
that in 1972 U.S. investment in Canada, which faced no restrictions, was only 63
percent larger than in 1968. Against this backdrop of the FDIP's evolution, I now
examine two sources of empirical data -- regression estimates and MNE balance sheet
data collected by the Office of Foreign Direct Investments -- in order to better under-
stand the impact(s) of the FDIP.13

REGRESSION RESULTS

Six empirical studies that specifically attempt to estimate either the FDIP's impact
or its impact together with the 1965 voluntary program are summarized in Table 1. For
two of these studies, I report multiple tests so that nine estimates are covered. Regard-
less of the dependent variable's definition, all of these tests show a balance of payments
improvement to have resulted from the FDIP's implementation in 1965 and in 1969, as
well, when the data for that year are included. In five of the six tests that included
the voluntary program, the evidence indicates that it also had a favorable balance of
payments effect. Finally, in all of the four tests that examined post-1965 data to
determine the annual effectiveness of the Program, the estimates reveal that the FDIP
had progressively less impact on the balance of payments.14

Of the studies covered in Table 1, Stevens (1972), Richard Harring and Tom Willett
(1972), and Dan Larkins (1976) all used the plant and equipment (P & E) portion of
assets as their dependent variable. Using a model in which the current year's P & E
expenditures by a U.S. DI's foreign subsidiary are a function of the size of the host
country market (the previous year's sales), the change in the size of that market, the
good with which the actual capital stock of the subsidiary adjusts to the desired stock,
and a dummy variable for the first year of the FDIP, Stevens estimated that in 1968 the
P & E expenditures abroad were reduced by $51.11 million. Using the same model, he was
unable to identify a statistically significant effect for the 1965 voluntary program.

Harring and Willett, having previously identified "an extremely strong statistical
relationship between U.S. domestic P & E expenditures and those of foreign subsidiaries
of U.S. corporations," estimated equations in which the F & E expenditures of the
foreign subsidiaries were a function of P & E expenditures in the U.S. tone, and dummy
variables for the FDIP, and for the FDIP and the voluntary program combined (1972, 62).
Specifying the FDIP dummy to identify Program effects in both 1965 and 1969, they
estimated that foreign subsidiary P & E expenditures had been reduced by $615 million.
When they modify the dummy to reflect some effect from the voluntary program in 1966
and 1967 and a slightly diminished effect of the FDIP in 1969, Harring and Willett
estimate that the combined programs reduced foreign manufacturing P & E expendi-
tures by $810 million.

An alternative approach taken by Harring and Willett involved the use of pre-FDIP
relationships between U.S. and foreign subsidiaries P & E expenditures to predict what
P & E expenditures would have been in 1968 and in 1969 in the absence of the Program.
Comparing these estimates to the actual expenditures, they calculated a "shortfall" of
manufacturing plant and equipment expenditures in 1965 of $686 million and in 1969 of
$533 million, a two-year total of $1,219 million. Subsequent to this work, the Depart-
ment of Commerce revised the P & E expenditure data. Using these new data, Larkins
(1976) recalculated the FDIP-induced shortfalls using Harring and Willett's alternative
approach. He estimated a $458 million shortfall in 1968 and one of $183 million in 1969.
These sum to a total of $641 million, an estimate that is essentially identical to the one
Harring and Willett originally obtained using their dummy variable approach.

The consistency of these estimates indicates that, contrary to expectations and the
FDIP's goals, real investment was reduced by about $500 million in 1968 and by another
$100-140 million in 1969. Stevens pointed out that this effect is plausible in light of the
Investment controls

Anthony Scapens and Laurence Mayer [1973] approached the question of the FDIP's impact by estimating program-related changes in the parent firms' equity flows (FDI) to their foreign affiliates (subsidiaries) in the European Economic Community (EEC). They used the size of the EEC market and various dummy variable specifications as independent variables. Since all of the EEC countries were classified in OFDI's Schedule C, the Program's effect was expected to be apparent in these data. Scapens and Mayer estimated that in its first two years the FDIP alone reduced total FDI in the Community by $492 million. When the dummy variable's specification included consideration of the voluntary program, the estimated reduction increased by approximately $100 million. Peter Lindert [1971] also focused on FDI. Using a portfolio-balance approach and Gary Hufbauer and Michael Adler's "reverse-classical case," he estimated that FDI in Continental Europe was reduced by $1,124 million in 1968. Subsequently Stevens [1976] challenged Lindert's assumptions that he ignored Hufbauer and Adler's "classical and anti-classical cases." However, Stevens concluded that while the outcome for U.S. direct investment in the most important host areas, European, is ambiguous, it should be recognized that "temporary controls would be worthwhile if and only if the social rate of discount is greater than .065 [1976, 149]." Significantly, this threshold rate is one-third the rate identified by Lindert.

Stevens [1972] also estimated that foreign borrowing by DIs in manufacturing increased by $2,129 million in 1968. This estimate, together with the estimates of reduced R & E expenditures and indications that the FDIP did reduce FDI, makes quite plausible Seng Kwaak's [1974] estimate that as a result of the Program the net liquidity Balance of Payments improved by $3.1 billion in 1968. Kwaak's simulation also estimated a $2.8 billion improvement in 1969.

Robert Krainer, in a 1972 article extending to multinational enterprises the Modigliani-Miller proposals, serendipitously revealed evidence of the impact of the FDIP and the duration of that impact. In his estimates he found extraordinarily large (considering the pattern otherwise prevailing) debt financing of asset expansion in Europe by U.S. MNEs for each quarter of 1968 and for the first quarter of 1969. Also Severn [1973] noticed this pattern and demonstrated that it was FDIP-related. These data indicate that the FDIP effectively disrupted the usual pattern of financing U.S. foreign affiliates for only five quarters.

FDIP Balance Sheet Data

The vigor with which U.S. enterprises were acquiring assets in the Schedular Areas between 1966 and 1971 and the effect of the FDIP on the financing of those assets can be seen in balance sheet data. Table 2 presents summary, consolidated 1966 and 1971 balance sheets for the AFNs (subsidiaries) of U.S. DIs in all industries. Because the Program did not apply to Canada, Canadian data reflect all the market forces influencing direct investment/financing decisions except the impact of the FDIP. Therefore Canadian data are included to provide a benchmark against which to measure changes in the financial structure of AFNs located in Schedular countries. If the absence of the FDIP, AFNs in Schedular countries would have responded to market forces as their

Canadian counterparts did, the impact of the Program can be measured as the differ-

<table>
<thead>
<tr>
<th>Year of author and title</th>
<th>Dependent variable</th>
<th>Foreign direct investment (FDI)</th>
<th>FDIP-related</th>
<th>OFDI foreign assets (AFNs)</th>
<th>OFDI foreign liabilities (AFNs)</th>
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<td>Lindert [1971]</td>
<td>FDI</td>
<td>Yes</td>
<td>NC</td>
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<tr>
<td>Stevens [1972]</td>
<td>FDI</td>
<td>Yes</td>
<td>NC</td>
<td>NC</td>
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<tr>
<td>Seng Kwaak [1974]</td>
<td>FDI</td>
<td>Yes</td>
<td>NC</td>
<td>NC</td>
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Note: NC = Not considered.
TABLE 2
Consolidated Balance Sheet of the Foreign Affiliates of 440 Large U.S. Direct Investors
(Millions of Dollars and Percent)

<table>
<thead>
<tr>
<th>Account</th>
<th>1966 Canada</th>
<th>Value</th>
<th>%</th>
<th>Scheduler Areas</th>
<th>Value</th>
<th>%</th>
<th>1971 Canada</th>
<th>Value</th>
<th>%</th>
<th>Scheduler Areas</th>
<th>Value</th>
<th>%</th>
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<tr>
<td>Assets</td>
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<tr>
<td>Total</td>
<td>15,333</td>
<td>100</td>
<td>46,829</td>
<td>100</td>
<td>23,680</td>
<td>100</td>
<td>89,255</td>
<td>100</td>
<td>21,153</td>
<td>100</td>
<td>37,206</td>
<td>41</td>
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<tr>
<td>Fixed</td>
<td>7,867</td>
<td>52</td>
<td>21,073</td>
<td>45</td>
<td>12,346</td>
<td>52</td>
<td>37,206</td>
<td>41</td>
<td>18,197</td>
<td>43</td>
<td>45,442</td>
<td>46</td>
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<tr>
<td>Current</td>
<td>6,465</td>
<td>42</td>
<td>21,463</td>
<td>46</td>
<td>9,937</td>
<td>42</td>
<td>45,442</td>
<td>46</td>
<td>10,210</td>
<td>47</td>
<td>59,065</td>
<td>48</td>
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<tr>
<td>Other</td>
<td>961</td>
<td>6</td>
<td>4,112</td>
<td>9</td>
<td>1,297</td>
<td>6</td>
<td>5,927</td>
<td>10</td>
<td>865</td>
<td>6</td>
<td>9,278</td>
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<td>Liabilities &amp; Equity:</td>
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<tr>
<td>Short-term</td>
<td>2,645</td>
<td>17</td>
<td>13,274</td>
<td>28</td>
<td>4,385</td>
<td>19</td>
<td>28,236</td>
<td>32</td>
<td>6,040</td>
<td>17</td>
<td>41,902</td>
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<td>Long-term</td>
<td>1,936</td>
<td>13</td>
<td>5,195</td>
<td>11</td>
<td>3,515</td>
<td>15</td>
<td>13,108</td>
<td>14</td>
<td>2,269</td>
<td>6</td>
<td>30,642</td>
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<td>Direct investment</td>
<td>9,486</td>
<td>63</td>
<td>27,025</td>
<td>55</td>
<td>14,195</td>
<td>61</td>
<td>47,225</td>
<td>53</td>
<td>8,126</td>
<td>22</td>
<td>85,325</td>
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<td>Other equity</td>
<td>1,066</td>
<td>07</td>
<td>1,385</td>
<td>03</td>
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<td>09</td>
<td>1,066</td>
<td>07</td>
<td>2,294</td>
<td>09</td>
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</table>


Note: Each large U.S. parent firm was required to file with the OFDI a consolidated balance sheet for all of its foreign affiliates. This annual reporting was done on Form FDI-106. These data are for 440 parent firms. For a fuller description of the sample see page 3, footnote 6 in the above mentioned source.

Conclusions from Empirical Studies

These empirical studies yield surprisingly consistent results. Not only do the regression results support each other, but the balance sheet data reinforce the judgments derived from the regression estimates. For example, the $4.365 million estimated total increase in foreign indebtedness from the balance sheet data fits reasonably well with Guy Stevens' estimate that indebtedness increased by $2.129 million in 1966, the profile of the FDIP's liberalization, and Krainer's findings. The implication that emerges from these empirical data is that the restriction of direct investment outflows is possible, at least for short periods, without causing major disruptions in the investment plans of MNEs.

In addition, retrospectively one might say that the FDIP's purpose was symbolic as much as it was meant to foster actual improvement in the balance of payments. That is, in a world where other concerns (such as foreign relations, domestic political relations with DFIs, and long-run balance of payments considerations) enter the policy making equation, mandatory restrictions may be useful as attention-getting, policy-focussing devices. Because most empirical studies suggest that the voluntary controls were having some effect, the announcement of the FDIP, and especially its timing -- 10:45 a.m., January 1, 1968, at the LBJ Ranch in Texas -- may have been designed to be symbolic, to rivet the nation's attention on the balance of payments problem. One might argue that the public relations/national esteem effect was at least as important as the improvement in the balance of payments.

THEORETICAL PERSPECTIVES ON THE FDIP'S USEFULNESS

Having surveyed the FDIP's nature and its balance of payments effects, the U.S.'s experience with the Program can be evaluated using a combination of four theoretical perspectives. Delbert Snider's (1964) criteria for a capital control program provide one perspective. The theoretical foundations enumerated by Alec Cairncross provide another. Third, this evaluation should attempt to position the U.S. FDIP experience within the Modigliani-Miller framework. Fourth, use of the theory of the second best, promulgated by several writers, is instructive.
Snider identified four criteria for an acceptable policy to control the outflow of direct investment and long-term portfolio capital from the United States - employment, efficiency and a non-economic criticism he labeled "institutional." Asserting that most economists agree that "one of the two or three current major economic problems of the United States is the reduction and ultimate elimination of the balance-of-payments deficit," he wrote: "No one would contest the grave seriousness of a failure to show a marked improvement ... over ... the next three or four years [1964-68]." [1964, 346]. After declaring internal deflation, import restrictions and other flexible exchange rates or devaluation of the dollar as politically unacceptable, he focussed on capital controls. The voluntary program and especially the FDIP demonstrated the capability of meeting Snider's effectiveness criterion. The empirical evidence indicates that at least in 1962 and 1968, the balance of payments deficit was reduced. The employment criterion was also satisfied in that the controls were designed to avoid a negative impact on employment in both the U.S. and foreign countries. Since the freedom of U.S. citizens to acquire foreign assets was not abridged and the U.S. controls were consistent with the principles and practice of international agreements, the institutional criterion was met, as well. As for the efficiency criterion, Snider identified several factors that were distorting the international allocation of resources and argued that capital controls might function as an offset to some or all of them. If one views the FDIP within the framework of the theory of the second best as an offset against prevailing distortions in the international economy, one can also conclude that Snider's efficiency criterion was effectively met. In summary, from Snider's theoretical perspective, the FDIP gets high marks.

Caincross, who comprehensively deals with capital controls in the U.S. and the United Kingdom, adds a "political" effectiveness criterion to the Snider list. Put as a question, the criterion is this: Did the controls buy time so that domestic deflation or/and devaluation of the dollar could be avoided? The answer is that dramatic deflation was avoided, but the controls were insufficient to offset the dollar's devaluation and its subsequent floating. According to Caincross, this is to be deemed a failure, "the failure was in the whole balance-of-payments strategy pursued by the United States" [1974, 51]. However, if the deflation developments are taken to be favorable, there is probably little question that by 1975, the U.S. body politic viewed floating exchange rates as less "humiliating" than would have been the case in 1968. This "buying of time" to permit the evolution of the national consensus in the U.S. can be viewed as a success.

The theoretical perspective provided by Modigliani-Miller is succinctly stated by Stevens: "From them [1] conclude that a program which limits financing directly -- and only financing -- will not affect the market value of the firm or its investment strategy" [1972, 340]. As Stevens calculated, the FDIP caused some disruption of DI's plant and equipment investment in 1968. According to OPDI data, the disruption of fixed asset growth was effectively over in two years. Moreover, from an equity/terminate perspective, Kainer's data indicate that the sources of MNE financing had returned to the historical pattern by the second quarter of 1969 (after 5 quarters). Cumulatively, it seems that the FDIP did not significantly disrupt the normal operations of U.S. multinational enterprises. Because the Program was designed to avoid disruptions of MNEs' international expansion, the FDIP also gets "passing grades" from the Modigliani-Miller theoretical perspective. In addition to the arguments provided by Snider connecting capital controls with international efficiency, Severn, from a different perspective, has commented on

**NOTES**

1. Operation Twist was an effort by the U.S. Federal Reserve Board in the early 1960s to "twist" or distort the term structure of domestic interest rates so that the short-term rate would be pushed up, while the long-term rate was depressed. The aim was to retain or attract short-term, sensitive, international, short-term financial capital while encouraging domestic real investment. See Greens, (1979), 604-605 for a more extensive description of this policy.
3. A comprehensive synopsis of these three programs together with an overall estimate of their effectiveness is provided by John Horvath and Eleonor Sabokchuk (1979).

4. OPID's direct investment is the sum of the direct investor's actual equity in its foreign affiliate plus the affiliate's liabilities to the DI.

5. Section 1062.31B of the FIRB "Regulations" indicates that those countries that designated as less developed by the U.S. Internal Revenue Code section 482(c) for purposes of implementing the International Equalization Tax were included in Schedule A. "Schedule B countries are such other foreign countries as the Secretary of Commerce may determine to be developed countries in which a high level of capital inflow is essential for the maintenance of economic growth and financial stability, and where these requirements cannot be adequately met by non-U.S. sources... Schedule C countries are all foreign countries not included as Schedule A or B countries (OPID, 1972 Foreign Direct Investment Program, 7).

6. Some borrowing in the short-term market was permitted as long as it was explicitly identified to be for program compliance and as long as a commitment was made not to repay the debt.

7. Generally the compliance year was the same as the calendar year. However, a DI could petition to comply on the basis of the normal fiscal year. If OPID granted this petition, the DI would be required to file the regular quarterly calendar year reports plus fiscal year reports. Prior to 1971, the compliance year was precisely the calendar year. Beginning in 1971, a DI had the first two months of the subsequent year to come into compliance. (OPID, 1972 General Bulletin, 59 and 50).

8. The term "annual earnings" was defined as the DI's share of the algebraic sum of the total earnings and current foreign tax credits of each affiliate within the DI for all fiscal years.

9. The description of the incremental normability cap was found in U.S. Department of Commerce, Office of Foreign Direct Investments, OPID, 1972 General Bulletin, 48-49.


11. The collapse of the Breton Woods exchange rate system that began in late 1971 created sufficient uncertainties to depress direct investment between 1972 and 1975 which levels. It should be noted that the 1972 direct investment in the Scheduled Area was still 1.4 times larger than in 1968.

12. A selected bibliography of studies examining direct investment controls from both theoretical and empirical perspectives is in Sabokchuk (1979, 50). Two related works that should be mentioned are the Aldrich and Hurwitz (1969) article and the Karel Holik (1972) survey.

13. There is a great deal of evidence that, over time, MNEs adapted to the FIDP regulations. However, the dismantling of the Program's impact probably had more to do with the liberalization of the regulations than with MNE adjustments. Some liberalization probably reflected pragmatic adjustments of the rules to the realities of data collection and policy implementation. Some might reflect a change in "political philosophy" that means to have occurred as responsibility for implementing the regulations shifted from the Johnson administration to the Nixon administration. In January 1971, a new FIDP was created to oversee the policies of the Breton Woods System at the time that improvements in this underlying economic conditions were not the actual for Program liberalization.


15. The actual deficit, using the Net Liquid Liabilities Deficit as the measure was $914,441 in 1968, and $11 billion in 1969. To provide perspective, one can observe, for example, that if Kriwacki (1961) estimate is accurate, the Net Liquid Liabilities Deficit would have been 54 percent worse in 1969 than it was.

16. These data are taken from Sabokchuk (1974, 50 and 61). The data are for 440 U.S. direct investors. Each DI completed OPID forms FID-105 which presented a consolidated balance sheet for all of its U.S. affiliates with assets in excess of $500,000. It should be noted that the FID-105 sample averaged 74.6 percent of the OPID universe during the 1968-71 period and that OPID data contain no FID-105 primary identifiers in financial. The choice of 1968 as the base year was made with the understanding that the voluntary program had some measurable effect in 1967, the year before the implementation of the FIDP. Some effects might have been present in 1966 also, but it thought it to be less than 1967 in the earliest year for which data are available.

17. The basis in the year following establishing the FIDP is reproduced in 1972 Foreign Direct Investment Program, (1972, 23-4).

18. The FIDP had several other impacts that are not elaborated on here. First, the foreign borrowing that was mandated provided a strong positive impetus to the development of the Eurocurrency markets. Second.

REFERENCES


The History of the Static Equilibrium Dominant Firm Price Leadership Model

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Introduction

Dominant firms have played an important role in the analysis of imperfectly competitive markets for almost a century. Early static equilibrium models treated the dominant firm as a price leader and, therefore, passive quantity follower. There was little recognition that the large firm's position might erode without the active use of its power to prevent rivals and potential entrants from expanding their market shares. Subsequent research recognized this internal inconsistency, thus incorporating strategy and dynamics into the models (Bain, 1949; Worchester, 1957; Gaskins, 1971). These later models allowed the dominant firm to set prices sufficiently low to limit or deter entry, yet high enough to maximize the net present value of profits over time. The goal of this article is to look back at the development of the original static equilibrium model of a dominant firm, in which the large firm acts as a myopic price leader, without considering the implications of its action on its future market share or profits. We call this the dominant firm price leadership model.

The dominant firm in this model is expected to behave as a price leader in anticipation that its smaller rivals will behave as passive price followers. Consequently, the dominant firm derives its demand for a homogeneous product as a residual by subtracting its rivals' aggregate supply from industry demand. It then maximizes its profits by behaving as if it locates the output level where its marginal cost (MC) equals marginal revenue (MR) derived from its demand, i.e., like a monopolist. In this model the rivals do, in fact, behave as price-takers. Consequently, the expectations of all sellers are fulfilled and a stable equilibrium results.

Equilibrium output in this market falls short of the competitive level, but exceeds the level that the dominant firm would offer for sale if it were a complete monopolist. In this situation the deadweight welfare loss is a weighted average of the efficiency losses of complete monopoly and of perfect competition (zero), the weights depending on the industry elasticity of demand, the aggregate supply elasticity of the dominant firm's rivals, and the market shares of the dominant firm and its rivals. These market shares, in turn, depend on the technologies and factor prices available to each firm, and the number of rivals in the competitive fringe. The essence of the model is that the monopolist's usual output restriction is mitigated by expanded output from the rivals