

POLITICAL ECONOMY RESEARCH INSTITUTE

PERI

University of Massachusetts Amherst

Threat Effects and the Internationalization of Production

James Burke
Gerald Epstein

2001

10th floor Thompson Hall
University of Massachusetts
Amherst, MA, 01003-7510
Telephone: (413) 545-6355
Facsimile: (413) 545-2921
Email: peri@econs.umass.edu
Website:
<http://www.umass.edu/peri/>



WORKINGPAPER SERIES

Number 15

POLITICAL ECONOMY
RESEARCH INSTITUTE

Threat Effects and the Internationalization of Production

James Burke and Gerald Epstein

Department of Economics and the Political Economy Research Institute (PERI)

University of Massachusetts, Amherst

November, 2000

Revised April 2001

Paper prepared for the "Workshop on Globalisation, Income Distribution and Structural Change", Chennai, India, December 14-17, 2000. The authors thank Arjun Jayadev and Patricia Kelly for their contributions to this paper. The authors would also like to thank the Conference participants, and especially, C.P. Chandrasekhar, Jayati Ghosh, and Sushil Khanna for many helpful comments. A grant from the Ford Foundation to the Political Economy Research Institute financed the research for this paper. Gerald Epstein is Professor of Economics and Co-Director of the Political Economy Research Institute, University of Massachusetts, Amherst; James Burke is Visiting Lecturer, University of Massachusetts, Amherst.

Please send comments, suggestions and correspondence to:
Gerald Epstein: gepstein@econs.umass.edu

I. Introduction

Multinational corporations (MNCs) have become an increasingly important force in the dynamics of the global economy. For example, according to the United Nations, during the last 20 years, the gross product of the foreign affiliates of multinational corporations increased faster than global GDP while foreign affiliate sales increased faster than global exports. Sales of foreign affiliates worldwide (\$14 trillion in 1999 versus just \$3 trillion in 1980) are now nearly twice as large as global exports. And the ratio of world FDI stock to world GDP increased from 5% to 16% during the last twenty years. Taking into account both their international and national production, the United Nations Conference on Trade and Development estimates that multinational corporations produced about 25% of the world's GDP in 1999. (UNCTAD, World Investment Report, 2000, p. xv)¹.

This large and increasing economic role of multinational corporations is matched by a powerful political voice in the construction of an emerging global neo-liberal regime. One measure of this influence is the fact that increasing numbers of bilateral, regional and international agreements, such as those in the WTO, contain significant protections for foreign investment by MNCs, in some cases involving fundamental alterations of national labor, social and environmental policies (UNCTAD, 1999a, 2000). Another component of the emerging neo-liberal regime which reflects the political agenda of MNCs is the relative shifting of tax burdens in the OECD countries from capital to labor, presumably at least partly as a result of the increased mobility of capital (Carey and Tchilinguirian, 2000).

As one might expect, the impact of MNCs on developing and developed countries is hotly debated, as it was in the 1950's and 1960's. At one extreme are the neo-liberal boosters, who argue that MNCs provide stable capital inflows, jobs, technology transfer and investment to "host countries", while increasing growth and employment in the "home" countries. On the other hand, critics contend that international capital mobility in general and MNCs in particular are creating a "race to the bottom" around the globe, enhancing profits and political power for multinational corporations and local elites who benefit from their presence, while eroding wages, tax bases, social protections and the environment around the globe.

Unfortunately, different views on the impacts of MNCs not only characterize a divide between leftists and pro-labor forces on the one hand, and business boosters on the other; they also divide progressive forces, often along lines of those from the "North" vs. those from the "South". Often, northern labor's opposition to outward foreign direct investment (FDI) to the countries of the south is seen by southern workers and NGOs as protectionist and harmful to workers in southern countries. At the same time, efforts by southern governments to attract foreign direct investment are sometimes seen by northern workers as an attempt to "take good jobs" away from them.

It is clearly important, then, to understand as much as we can about the true impact of MNCs and FDI both in the North and the South. Among other things, more

¹ UNCTAD uses the term transnational corporation (TNC) rather than multinational corporation (MNC), which we use here. To a large extent, which term one uses is mostly a matter of habit and taste.

knowledge of these impacts may help progressives from different parts of the world to find common ground. This in turn could help them work together, and fight against the forces of neo-liberal globalization when these forces are inimical to the well being of the majority of the world's population.

This paper cannot pretend to fully provide this understanding, but we do attempt to demonstrate some points that bear on this debate. Our main argument is that foreign direct investment, the other activities of MNCs, and the international environment in which they take place, embody a destructive asymmetry which is detrimental to workers and citizens both in the less developed countries, and to those in the developed world as well. The asymmetry is based on the fact that MNCs invest relatively little in most developing countries while, at the same time, even a little bit of investment for many developing countries constitutes a significant marginal contribution to those countries' investible resources. At the same time, there are a relatively large number of political jurisdictions in which MNCs can invest, and a relatively small number of MNCs who can make significant investments. The World Investment Report 1999 estimates that perhaps as many as 6,000 national, regional and local public sector entities compete for the various investment projects undertaken each year by MNCs. (World Investment Report, 1999a, p. 154.)

Together, these asymmetries mean that, even though foreign investment *as a whole* is of enormous importance to MNCs, it is generally the case that any particular investment in a developing country, with one or two possible exceptions, is relatively unimportant to them. As a result, the bargaining power of political jurisdictions relative to MNCs is often very low.

It turns out that this argument also holds – but to a much smaller degree -- for workers and communities in the *developed economies* vis-a-vis MNCs because of the large number of sites for investment, and the threats which MNCs can use to shift production to those sites. The problem is not as acute for workers in the developed economies, however, because foreign investment does not constitute, at the margin, such an important component of savings, investment or employment.

Certain aspects of the emerging global framework make this asymmetry worse: among these are the relative lack of foreign aid for the poorest countries; the erratic nature of portfolio flows, which makes FDI seem more attractive by comparison, even though FDI is fairly erratic itself; and the rules of the WTO and other trade/investment agreements which make it difficult or impossible for countries to manage foreign investment in the interests of their citizens.²

Epstein and Gintis (1992) argue that rules such as those embedded in national, regional and international agreements that benefit foreign investors, create an "International Credit Regime" which embodies a solid enforcement structure for international investment – that is, one that protects foreign investors from interference by local governments. This stronger enforcement structure protects foreign investors and, therefore, can lead to more international investment. However, as part of that structure, countries typically make themselves more dependent on foreign investment and more vulnerable. It is this dependence and vulnerability that is becoming such a potentially

² One could add to that the restrictive macroeconomic policy that, world- wide, has constrained economic growth for the last 20 years or so. See Crotty, Epstein and Kelly, 1998, for a similar argument which also emphasizes the aggregate demand context.

serious problem for many developing countries, and even for some in the developed world.

These asymmetries and institutional context, and the negative effects they create, are by no means inevitable outcomes of "globalization" or foreign investment per se. Indeed, managed in the right way and under the right circumstances, foreign investment can be beneficial for developing and developed countries alike. These problems result instead from the current domestic and international context in which investment takes place, which are strongly shaped by politics and policy. With the right configuration of political power, nationally and globally, the situation can be significantly altered.

The political/policy upshot of this argument is that workers and citizens in richer and poorer countries have more common ground than is often recognized in discussions of reform proposals of globalization and international institutions. Undoubtedly, significant differences nonetheless remain. But much can be accomplished if the "unnecessary" conflicts of interest due to the destructive aspects of current globalization can be brought to light and overcome. Then the arguments and debates could focus on those conflicts that are real and substantial.

The rest of the paper is organized as follows: The next section presents a picture of the worldwide distribution of foreign direct investment and international production and how it has evolved over the last several decades. As we will see, the available data are highly imperfect and, as a result, we only have some educated guesses about a number of key variables related to the globalization of production. In section III we present some empirical work which supports the argument that, at least in some industries, capital seems to move production globally in search of lower wages, possibly making it more difficult for workers to win wage gains from mobile capital. Section IV discusses more generally the impact of capital mobility on bargaining outcomes between capitalists and workers, emphasizing the role of "threat effects". Section V discusses threat effects and bargaining between multinational companies and governments over taxes, subsidies and the location of investment. Section VI briefly some issues concerning the impact of FDI on developing countries. And Section VI concludes.

II. The Recent Distribution of Foreign Direct Investment and International Production by Multinational Corporations by Region and Industry³

Table 1 presents the rate of growth of several measures of MNC activity since the middle 1980's, as well as some measures of global economic activity as a basis for comparison. In addition, this table introduces several measures of MNC activity that will reappear throughout this section. Foreign direct investment (FDI) is a financial measure of MNC behavior, which refers to equity investments by a company or individual in a company in a foreign country, providing the investor has at least a 10% ownership share. Two other variables – sales of foreign affiliates and gross product (or value added) of foreign affiliates -- quantify the real activity of foreign affiliates of MNCs. The advantage

³ In this paper, we limited our scope of inquiry to non-financial corporations. International financial institutions and banks have become increasingly important in the global economy and deserve separate treatment.

of these latter measures is that they measure international production itself, rather than simply financial investment. A disadvantage is that these data are not nearly as widely available as are data on FDI. Indeed, with the exception of the FDI and M&A figures, the data presented in Table 1 consist mostly of extrapolations from a relatively small number of countries. There are other activities of MNC behavior in foreign countries that these data do not capture. Non-equity related activities – such as subcontracting, for example – are not included in these equity-based measures (but see below for an estimate of these).

Table 1 indicates that these estimates of MNC activities have been growing at a significantly faster rate in recent years than has world GNP, national gross fixed capital formation, or exports of non-factor goods and services. Note also the rapid growth of international mergers and acquisitions in recent years, a topic we will discuss some more below.

Table 1: The Expansion of Multinational Corporations' International Activities, 1986-99

	(Annual Rates of Growth, percent)			
	<u>1986-1990</u>	<u>1991-1995</u>	<u>1996-1999</u>	<u>1999</u>
FDI Inflows	24.0	20.0	31.9	27.3
FDI Outflows	15.7	27.0	45.6	16.4
Cross Border M&A's	26.4	23.3	46.9	35.4
Sales of Foreign Affil.	15.8	10.4	11.5	17.8
Gross Product of For. Affil.	16.4	7.1	15.3	17.1
Exports of For. Affil.	13.2	13.9	12.7	17.9
Employment of For. Affiliates	5.6	5	8.3	11.9
Memorandum:				
GDP at Factor Cost	11.7	6.3	.6	3.0
Gross Fixed Capital Formation	13.5	5.9	-1.4	-.3
Exports of Goods and Non-factor Services	9.5	1.5	-1.8	3.0

Source: UNCTAD, World Investment Report (WIR), 2000, Table 1.1, p. 4.

Note: Not included in this table are the value of worldwide sales by foreign affiliates associated

with their parent firms through non-equity relationships and the sales of parent firms themselves. Worldwide sales, gross product, total assets, exports and employment of foreign affiliates are estimated by extrapolating the worldwide data of foreign affiliates of TNC's from France, Germany, Italy, Japan and the United States (for sales and employment) and those from Japan and the United States (for exports), those from the United States (for gross product) and those from Germany and the United States (for assets) on the basis of the shares of those countries in the worldwide outward FDI stock. (WIR, p.4)

Table 2 presents data on the size of FDI stock and world exports relative to the size of the economy over the last century or so. By both measures, as the world enters the new century, the quantitative measures of globalization are surpassing that of the early 20th century. The stock of foreign direct investment relative to GDP has quadrupled since 1950 and increased by two-thirds since 1913. The ratio of world exports to GDP tripled since 1950, and increased almost three-fold since 1913. We have argued that although the quantitative measures of globalization today have come to match their early 20th Century levels, the qualitative significance of globalization is quite different in any case (Baker, Epstein and Pollin, 1998; see below).

**Table 2: World Stock of FDI and Exports Relative to World GDP, 1913-99
(Percent)**

	<u>1913</u>	<u>1950</u>	<u>1999</u>
FDI relative to GDP	9.0	4.0	15.9
World Exports relative to GDP	8.7	7.0	22.9

Sources: FDI: 1913 and 1950, Richard Kozul-Wright (1995); 1999, World Investment Report, 2000, Tables 1.1, b-2. The 1999 figures are an estimate.

World Exports: 1913 and 1950: Angus Maddison, Monitoring the World Economy, 1820-1992, OECD 1995. 1999, World Investment Report, 2000, table 1.1.

Table 3 presents data on the regional distribution of inward and outward stock of foreign direct investment and how it has evolved since 1980. The key point to notice is that stocks of both inward and outward FDI are highly concentrated in the developed economies; the overwhelming share of FDI flows is between the developed countries. In particular, in 1999, 67.7% of the inward stock was in the developed economies; and almost 90% of the outward stock were from the developed countries. Still, recently there has been an increase in the share of FDI going to the developing world, so that by 1999, one-third of the stock of inward investment was in the developing countries, compared with around 25% in 1980.

**Table 3: The Regional Distribution of FDI Inward and Outward Stock, 1980-99
(Percentage)**

	<u>Inward Stock of FDI</u>			<u>Outward Stock of FDI</u>		
	1980	1990	1999	1980	1990	1999
World	100	100	100	100	100	100
Developed	75.5	78.4	67.7	96.9	95.2	89.9
Developing	24.5	21.4	32.1	3.1	4.8	9.8
All Developing minus China	23.2	20.0	23.7	3.1	4.6	9.3

Source: UNCTAD, World Investment Report, 2000, authors' calculations from tables B2 and B3.

Within the developing countries themselves, however, these stocks are highly concentrated among a handful of countries. In the developing world, as is well known, China and other Asian countries, including Taiwan, Hong Kong, Thailand, Malaysia and Singapore get a significant share of the developing world's FDI. As the fourth row of table 3 shows, if China is excluded from the data, the share of inward stock held by the developing world has been more or less stagnant over the last 20 years, at a little less than a quarter.

More generally, both inward and outward flows are highly concentrated. Inward FDI is concentrated in a handful of countries -- ten countries received 74% of all global FDI flows in 1999. Among the developing countries, only ten developing countries received 80% of total FDI flows to the developing world in this same period. More importantly, as the World Investment Report notes, there are no signs that the concentration of FDI across countries has been declining over time. Of course, if we had better data on other aspects of MNC activities, for example, sub-contracting, outsourcing and licensing, we might find evidence that MNC activities have become more dispersed in recent years.

Despite the fact that lion's share of investment goes to the developed countries, and that, even within the developing countries FDI is highly concentrated, FDI is still quantitatively quite important to many developing countries. Table 4 presents data of FDI inflows relative to gross domestic capital formation (GDCF) in all industries and in manufacturing, and private domestic capital formation (PDCF) in all industries, in the developed and developing world between 1980 and 1998 (with a separate section on Eastern Europe). Table 4 shows that FDI has become increasingly important in relation to capital formation between 1980 and 1998 especially in the developing world and especially in manufacturing. For the developing countries, the rates of growth of FDI as measured against GDCF have become quite high in all industries and for private

investment. For example, by 1998, inward FDI flows into manufacturing was more than one-third of gross fixed capital formation in manufacturing for developing countries.

Table 4: Ratios of FDI flows to Gross Domestic Capital Formation (GDCF) and Private Domestic Capital Formation (PDCF), by region and sector, 1980, 1990, 1998.

<u>Region/Country</u>	FDI inflows as a % of GDCF: <u>All industries</u>	FDI inflows as a % of GDCF: <u>Manufacturing</u>	FDI inflows as a % of PDCF: <u>All industries</u>
World			
1980	2.3	9.0	3.4
1990	4.1	14.0	5.4
1998	11.1	21.6	13.9
Developed Countries			
1980	2.7	8.5	3.4
1990	4.9	11.9	5.2
1998	10.9	16.6	12.9
Developing Countries			
1980	1.2	11.7	3.6
1990	4.0	22.3	6.7
1998	11.5	36.7	17.7
Central and Eastern Europe			
1980	.1		
1990	1.5		.7
1998	12.9		16.2

Source: World Investment Report, 2000, table 1.2, p. 5

According to the World Investment Report, a large number of countries had FDI flows in excess of 20% of Gross Domestic Capital Formation (World Investment Report, 2000, p. 5). Thirty –eight out of 162 developing countries listed in the World Investment Report, or almost 25% of them, had FDI levels of 20% of GDCF or greater. Twelve of these countries had FDI levels of 40 percent or more of GDCF. This compares with 2 out of 25 developed countries with FDI levels in excess of 20 percent of GDCF (or just 8 percent of them).

Of course, these data do not imply that all FDI inflows finance gross fixed investment. For example, mergers & acquisitions generate inflows of FDI, but do not necessarily increase gross fixed capital formation. Using the GFCF measure may therefore over-state the importance of FDI inflows for national investment and growth. They nonetheless do give a comparative sense of how large the flows are and suggest that these flows might be quite significant for many countries.

Hence, even though most developing countries do not get much FDI, many get a large amount as compared with their gross investment. Another way to make this point is that, many developing countries who get very little from the point of view of the

investors in the developed countries, nonetheless may be rather dependent on FDI in the sense that FDI inflows are large relative to the size of their economies. This asymmetry lies at the heart of the dynamics of FDI and developing countries.⁴

Not only is FDI highly concentrated by country. It is also highly concentrated in the hands of a relatively small number of companies. For example, despite the fact that there were 60,000 parent firms with more than 600,000 foreign affiliates in 1998, only 100 firms, mainly from developed countries, account for approximately 13% of the total assets of all foreign affiliates, 19% of all foreign sales and 18% of foreign employment among all MNCs (World Investment Report, 2000, pp. 8-9; 71).⁵ This degree of concentration only serves to strengthen the asymmetries that increase the power of MNCs in their bargaining with workers and governments.

Mergers and Acquisitions

As Table 1 shows, the rate of growth of international mergers and acquisitions (M&A's) has been extremely large in recent years. Especially in developed economies, but also increasingly in developing economies, the preferred mode of entry of MNCs is through acquisitions, rather than through new -- or so-called greenfield -- investments. According to the World Investment Report, 2000, which has a large section devoted to this issue, "Over the past decade, most of the growth in international production has been via cross-border M&A's... the ratio of the value of cross-border M&A's to world FDI flows reached over 80% in 1999."⁶ M&A's are particularly significant as a mode of entry for FDI in developed economies. In the developing world, greenfield FDI is still dominant. However, FDI flows to developing countries associated with M&A's have been on the rise; their value increased from roughly one-tenth of the value of total FDI inflows at the end of 1980's to one-third at the end of the 1990's.

The increasing significance of acquisitions as a mode of entry for FDI raises many difficult issues of interpretation of the data. They make even more salient the fact that FDI does not represent real investment, but is simply a financial flow. To look at the impact of FDI on production, productivity and management, one needs to look underneath the FDI figures to study what is happening in the real sector.⁷ Unfortunately, these data are not nearly as available as are data on FDI.

⁴ This argument begs the question of how useful FDI is, of course. It is possible that, even if inward FDI is large relative to gross capital formation, it is nonetheless not very useful for developing countries; more on this below.

⁵ The World Investment Report (2000) warns us that these estimates are very rough and should be treated with caution (p. 93, fn. 2)

⁶ World Investment Report (2000) has a long and useful discussion about why it is somewhat misleading to scale M&A's by FDI. They are calculated in quite different ways. Scaling by FDI here does not imply they are the same type of financial transaction but does give a sense of the magnitude.

⁷ The impact of M&As relative to FDI has not been sufficiently studied to know with any degree of certainty its implications. The World Investment Report (2000) suggests that in the short run, greenfield investment is better for the recipient country because it adds production and jobs initially, whereas jobs are often lost in an acquisition and no productive capacity is added. However, they suggest that studies indicate that in the long run, there is little difference. It is hard to understand this point, unless additional investment is so significant as to swamp the initial lack of additional real investment. The one potential long-run negative aspect that the World Investment Report highlights is the possible reduction in domestic competition as a result of the merger.

International Production Data

Most of the information presented thus far is based on foreign direct investment data. While these are important measures of large scale international equity flows, they do not necessarily convey much information on the quantitative significance of production carried out by foreign owned firms in various parts of the world. In this section we present data on international production defined in this sense. The data are primarily based on work of Robert Lipsey and his colleagues; unfortunately, the availability of these data is extremely limited, and as a result, the picture conveyed by them is very sketchy.

According to Lipsey, (1998) these data show that internationalized production -- production in a country controlled by firms based in another country -- grew from about 4½ percent of world output in 1970 to over 7 percent in 1995. The United Nations estimates that the share has further increased to around 10% in 1999, an increase of over one-third in that short period of five years and more than a doubling since 1970 (see Table 5).

Table 5: Estimated Shares of International Production in World GDP, 1970-99

<u>Year</u>	<u>Affiliate output share from 4 Countries as % of World GNP*</u>	<u>Share of 4 Countries in World FDI Stock**</u>	<u>Estimated Share of Internationalized Production in World GDP***</u>
1970	2.5	(55)	4.5
1977	3.1	(57)	5.4
1982	3.2	(55)	5.8
1990	3.0	50	6.0
1992	3.1	50	6.2
1993	3.2	49	6.5
1994	3.4	47	7.2
1995	3.5	48	7.3
1999****			10.0

Source: Lipsey, 1998; World Investment Report, 2000.

Notes: The estimated share of "internationalized production" is derived by extrapolating from column (2) based on the four countries' share of world FDI stock. (For the 1999 figure, see below)

*U.S., Japan, Germany, and Sweden

**Figures in Parentheses are straight-line interpolations from estimates for 1960, 1975, 1980 and 1985

***Including four countries, extrapolated from columns 2 and 3.

****The 1999 figure is an estimate from World Investment Report, 2000, table 1.1, based on a regression analysis of the relationship between FDI and affiliate output by U.S. MNCs.

Lipsey reports that the importance of internationalized output fell substantially in developing countries between 1977 and 1990 – from 5.3 percent to 3.9 percent of GNP - but has been increasing since then, reaching 5.4 percent by 1994 (Lipsey, 1998). Some of the decline in internationalized output in the earlier period may have been due to the nationalization of the petroleum sector, which had the highest level of internationalized production in the 1970s but has since declined sharply in developing countries.

Among the broadest industry groupings, manufacturing is now the most internationalized sector in the world economy. In 1990, the share of internationalized

output in manufacturing reached 16.3 %, about a 40% increase over the 11.6% level existing in 1977. Despite the declining role of manufacturing output in the world economy, internationalized manufacturing output increased relative to total world output from 2.3% in 1977 and 1982 to around 3% in 1989-1992 and to about 4% in 1994-1995 (Lipsey, 1998).

The data in table 6 confirm the impression that foreign owned production is quite significant in a number of Asian economies, especially in Singapore and Malaysia. In Singapore, the share of foreign owned production in manufacturing was over 70% in 1990-1991, and has been increasing since the 1970's. In Malaysia, on the other hand, while the share of foreign owned production in all industries was high in the early 1990's (30.1 percent in all industries and 26.3 percent in manufacturing), it has been cut in half since the 1960's. This decline presumably partly reflects backward linkages and multiplier effects from FDI in the Malaysian economy that has helped to generate indigenous production. The rate of growth of foreign production in China and in Guangdong Province of China is very rapid. In China as a whole, the proportion of value added in all industries held by foreign firms increased over six fold from 1.4% in the 1980's to 9.1 percent in 1990-1991. In Guangdong Province of China (in the Southeast part of China, near Hong Kong) the share increased 10 fold over that period from 3.2 percent to 32.7 percent.

Table 6: Foreign Firms' Share of Total Country Value Added in Selected Asian Developing Countries, 1960s-1990s (Percent)

Country	All Industries				Manufacturing			
	1960s	1970's	1980's	'90-'91	1960's	1970's	1980's	'90-'91
China			1.4	9.1				
Guangdong			3.2	32.7				
Hong Kong							13.1	16.9
India		1.85	1.6			7.6	5.8	
Indonesia								
Korea		4.4				14.9	11.4	
Malaysia	63.5	50.4	40.6	30.1	57.6	54.1	41.9	26.3
Singapore						64.5	67.6	71.7
Thailand						15.5	13.3	14.8

Source: Lipsey, Bromstrom and Ramstetter, 1995. Table 15.

Similar data for Latin American countries is very sketchy. For Uruguay, 29 percent of total manufacturing output was accounted for by foreign owned firms in the 1990s, while the share of majority owned affiliates of U.S. MNCs in total manufacturing

output in Brazil was 9.7 percent in Brazil and 13 percent in Mexico in that period (Lipsey, Blomstrom, and Ramstetter, 1995, Table16).⁸

Another important way in which MNCs play a large role in the international economy is as major conduits of trade between countries. The dominance of MNCs in world trade is seen in figures on trade between “related parties” (that is firms and their foreign affiliates) for the U.S. In 1998, imports by related parties made up 47 percent of total U.S. imports while exports by related parties accounted for 32 percent of all U.S. exports.⁹ Related parties may refer either to U.S. firms and their foreign affiliates abroad or foreign firms and their affiliates in the United States. The control these firms hold over the flow of trade in the world economy may represent another possible source of bargaining power for MNCs, especially in relation to the governments of some developing countries. Given the large role of MNCs in trade flows, the actions of by these firms can impact not only production and investment levels in an economy but also a country’s balance of payments through redirecting the cross-border flows of trade between subsidiaries. In this way, the bargaining power of MNCs in the world economy may be greater than what is implied simply by looking at international production data.

These data, such as they are, confirm that for a number of countries, foreign owned production is quite significant, especially in the manufacturing industry. But from the point of view of total world production, the vast majority of production remains nationally owned, despite rapid growth in international production in recent years.

The relatively small amount of internationalized production implied by the available data does raise an interesting political and economic question: what would be the economic costs of simply eliminating this 10% of internationalized production? Or cutting it back to the 4.5% figure of 1970? Would the overall efficiency costs be very high? The thought experiment is worth making because with all the hoopla about MNCs and internationalized production, one is often led to believe that MNCs control of world production through their international operations are overwhelming. Of course, it is important to keep in mind that, when one includes these firm’s domestic production in the figure, MNCs produce around 25% of world output: a significant amount by any measure. But the thought experiment here is simply to cut back the international ownership of production by 50%-- or by 100%.

One thing is clear: such a cut back would be likely to significantly harm the profitability of many MNCs. This is made clear by considering the figures below on U.S. MNCs.

Some Stylized Facts on U.S. MNCs

Since United States companies own the largest stock of FDI (and the U.S. keeps relatively more complete statistics on FDI), it will be useful to look in a little more detail at data on the affiliates of U.S. MNCs. (Also, see the next section for more discussion of U.S. MNCs). Table 7 presents some basic facts about the operations of U.S. based

⁸ An important aspect of foreign owned production, especially in manufacturing in Asia and Latin America, is the role of women. Women occupy a disproportionate share of the labor force in these operations, particularly in the export platforms of MNCs. While all of the significant ramifications of this fact and the reasons for it are beyond our ability to discuss in this paper, it is important to note the gender dimension here. See Braunstein, 2000, and the references therein, for a discussion of these issues.

⁹ U.S. Census Bureau, Foreign Trade Division, Press Release, July 1999.

MNCs in goods producing industries. A number of indicators in table show that the share of foreign operations in total U.S. MNC operations has risen between 1977 and 1994. Employment in foreign affiliates reached 31.6 percent of total (foreign and domestic) employment by 1994 while foreign affiliate sales came to make up 29 percent of total U.S. MNC sales by that year. The large share of total net income coming from international operations for U.S. MNCs is a significant indicator of the importance of FDI for these firms. By 1994, over one-third of total net income for U.S. MNCs had its source in the operations of foreign affiliates (35.3 percent).

The importance of developing countries in the operations of U.S. MNCs has also risen in recent years. Foreign affiliate employment in developing countries reached 34 percent of affiliate employment by 1994 from 28 percent in 1977. The share of total affiliate income attributed to developing countries grew quite dramatically in this time period, almost doubling from 14 percent to 27 percent. By 1994, foreign affiliates provided about one-third of total net income for U.S. MNCs in the Machinery, Electrical Equipment and Transport Equipment industry groups. Not surprisingly, as Table 7 shows, wages in developing countries are only a fraction of those U.S. MNCs pay at home. Increasingly, U.S. MNCs have made use of affiliates in developing countries to produce goods for sale in the U.S. market. The share of sales to the U.S. market out of total sales from developing country affiliates has more than doubled - from about 9 percent in 1977 to about 22 percent in 1994.

In summary, the relative importance of foreign operations for U.S. MNCs, and in particular the importance of affiliates in developing countries, has grown both in terms of where production takes place and where revenues and profits are generated.

Table 7: U.S. MNC Operations, Manufacturing Industries, 1977 and 1994

	<u>1977</u>	<u>1994</u>
<u>Foreign Affiliate Share</u>		
Of Total MNC Sales	21.2%	29.0%
Of Total MNC Employment	26.6%	31.6%
Of Total MNC Income	21.4%	35.3%
 <u>Developing Country Affiliate Share</u>		
Of Total Foreign Affiliate Employment	28.0%	34.0%
Of Total Foreign Affiliate Net Income	14.0%	27.2%
 <u>Ratio of Average Compensation in Foreign Affiliates to Average Compensation in U.S. Operations</u>		
Developed Countries	.71	.90
Developing Countries	.26	.29
 <u>Foreign Affiliate Sales to U.S. Market as a Share of Total Affiliate Sales to All Locations</u>		
Developed Countries	9.2%	12.1%
Developing Countries	8.6%	21.7%

Source: Burke, 1999.

For the argument of this paper, the main point these data illustrate is that international operations as a whole - and particularly operations in developing countries - have become increasingly important for U.S. MNCs and, yet, the data discussed above indicates that the role played by any particular site is relatively insignificant. What this means for U.S. MNCs is that the global investment climate is extremely important to them; hence it makes sense for them to invest a great deal of resources to shape the international legal, political and economic environment to serve the interests of U.S. based MNCs. At the same time, they can credibly threaten to leave or reduce investment in one site of production, especially in the developing world, and move to another.¹⁰

This implies, conversely, that while it may be very difficult to wring concessions on a country by country basis from MNCs concerning the rules of international investment and the distribution of the costs and benefits of globalization, the ability to

¹⁰ An exception in the developing world to this rule may be China, considering the very large *potential* market there.

bargain with MNCs may be significantly enhanced at an international or regional level. This is especially true if, as implied above, that for the world as a whole, internationalized (that is, foreign owned) production is a relatively small share of total production. So, while this production is of great importance to the MNCs who earn profits from it, it is of relatively much less importance to the world as a whole.¹¹

Outsourcing as a Measure of the Role of MNCs

So far we have described two types of measures to describe the role of multinational corporations and their operations in the world economy. The first measure has been foreign direct investment, a financial measure. The second type of measure has been production activity, measured in various ways - for example, the share of foreign owned output in world output in different industries, countries and regions. Since both of these are equity ownership based measures, neither of them, in general, will necessarily capture other important aspects of internationalized economic activities by firms carried out through non-equity relationships and supply chains, including the role of sub-contracting and licensing.

One way to capture information on globalized economic activities is to look at the role of international "outsourcing" in production. Feenstra and Hanson (1996), for example, define international outsourcing as the importation of intermediate products from foreign affiliates, sub-contractors, or other firms from abroad. This is not a perfect measure of the role of sub-contracting, of course, because it includes imports by foreign affiliates. But to some extent it gets at a wider measure of internationalized production by firms - which includes a role for foreign subcontracting - which the other equity based measures miss.

Table 8, derived from Feenstra 1998, presents estimates of international outsourcing in Canada, Japan, the U.K. and the U.S. from 1974 to 1993. The measure of outsourcing in the table is the value of imported intermediate products as a share of total manufacturing output for each country. The data exhibit a general and quite large increase in international outsourcing over this period for these countries, with the exception of Japan. The levels are higher in the U.K. and Canada than they are in the U.S., but the rates of growth are quite high in all three of these countries. For example, between 1974 and 1993, there was an increase from 15.9 percent to 20.2 percent in Canada, an increase from 13.4 percent to 21.6 percent in the U.K., and a doubling of the outsourcing share for the U.S. between 1975 and 1995, from 4.1 percent to 8.2 percent. Feenstra reports particularly large increases in international outsourcing in some manufacturing industry groups. For example, in the Electrical Equipment industry group he reports the outsourcing share in the time period rising from 13 to 31 percent in Canada, from 15 to 35 percent in the U.K., and from 5 to 12 percent in the United States.

¹¹ We realize that we might be overstating this case. To the extent that internationally owned production creates technological advantages at the forefront of knowledge in certain key areas, then its importance may be greater than implied by its simple share of world output. On the other hand, there are other ways to gain access to such technology (eg., licensing).

Table 8: International Outsourcing in Selected Countries, 1974, 1984, and 1993
Imported Intermediate Products as a Share of Manufacturing Output, Percent

<u>Country</u>	<u>1974</u>	<u>1984</u>	<u>1993</u>
Canada	15.9	14.4	20.2
Japan	8.2	7.3	4.1
United Kingdom	13.4	19.0	21.6
United States	4.1	6.2	8.2

Source: Feenstra (1997). Note: U.S. Estimates are for 1975, 1985, and 1995.

III. Does Capital Pursue Low Wages Abroad?

In this section we sharpen our focus on the location of international production to deal explicitly with an important political and economic question, one that has only been implicit thus far. Do MNCs move across borders in search of low cost labor? Is there a tendency, as some have claimed, for MNCs to continuously move down the wage scale, making it difficult for countries to both raise wages and retain FDI at the same time (Barnet and Cavanaugh, 1995)? There is a great deal of research on the determinants of FDI. Most of it suggests that market size and demand are the most important determinants of investment. But more recent work indicates that, at least for some industries and periods, wage costs and tax rates are also crucial.¹²

We look to data on the international distribution of FDI stocks and the production activities of multinational firms to explore the relationship between national wage levels and the activities of MNCs in recent years. The results of our analysis show a shift of foreign direct investment and multinational foreign affiliate production from high-wage industrialized countries towards developing countries where wages are substantially lower. Furthermore, among the developing countries and for some key industries, FDI and multinational production has become significantly more concentrated in some of the world's lowest wage countries in the 1990s. We also chose one industry group - Electronics Equipment - to carry out regression analysis using data for U.S. MNCs. This industry group is focused upon as one in which the data shows a substantial shift in foreign affiliate production towards sites in developing countries. Regression analysis in this industry supports the conclusion that low wage costs have drawn these firms to produce in certain countries, even when controlling for other factors that influence the sourcing of foreign production.

In the analysis presented in this section, wages refer to average manufacturing wages in 1994 or 1995. The wage levels are defined in this way: high wages are greater than 66 percent (or two-thirds) of the U.S. average manufacturing wage; middle level wages are from 25 percent to 66 percent of the U.S. wage; and low wages are less than 25

¹² See Crotty, Epstein, Kelly, 1998, for a recent survey of some of these studies.

percent of the U.S. wage. The countries of Western Europe, Canada or Japan are examples of countries in the high-wage group; Mexico, Brazil and Korea are in the middle-wage group; China, Malaysia and India are examples of countries in the low-wage group. (See Appendix for additional information on the country groupings and sources of data.)

Table 9 gives a broad view of changes in the distribution of FDI stock in the world economy among high, middle and low wage host countries over the past 20 years. Between 1980 and 1999, the share of worldwide FDI stock in high wage host countries fell from 76 percent to 70 percent, representing a modest shift from foreign investment in high labor cost to middle and low labor costs sites. It should be noted that these figures include FDI stocks in all industries, and so reflect foreign investment in many activities in which it is unlikely that labor costs would play a large role in the choice of geographic location. For instance, there are sizeable amounts of FDI in industries that are engaged in extractive activities (mining and petroleum, for example) which dictate their geographical location. Likewise, much foreign investment is in distribution, marketing and financial activities that are meant to support sales in large local markets and consequently their geographical location is almost solely driven by these considerations.

Table 9 also indicates that the increase in the share of FDI stock in non-high wage host countries since 1980 is entirely accounted for by the rise in the share of low wage countries as a location for foreign investment stocks. In the 1990s, the FDI stock in low wage countries grew rapidly, from 6 percent to 12 percent of the world's total FDI stock. Table 10 presents a closer look at the distribution of FDI stock between the two groups of non-high wage host countries. Between 1980 and 1999, the low wage country share of total FDI stock in the non-high wage countries increased from 27 percent to 41 percent, with most of that increase taking place in the 1990s. The data for worldwide FDI stocks, then, shows rapid growth in foreign investment in the very lowest wage countries during the decade of the 1990s.

Table 9: Distribution of World FDI Stock Between High, Middle and Low Wage Countries, 1980 – 1999.
(Percent Shares)

	1980	1990	1999
High Wage Countries	76	80	70
Non-High Wage Countries (Middle and Low Wage)	24	20	30
Middle Wage Countries	18	14	17
Low Wage Countries	7	6	12

Source: Authors calculations from UNCTAD, World Investment Report, 2000. Column does not sum to 100 percent in 1999 due to rounding.

**Table 10: Distribution of Non-High Wage Country FDI Stock Between Middle and Low Wage Countries, 1980 – 1999.
(Percent)**

	<u>1980</u>	<u>1990</u>	<u>1999</u>
Middle Wage Countries	73	68	59
Low Wage Countries	27	32	41

Source: Authors calculations from UNCTAD, World Investment Report, 2000.

Table 11 presents data for U.S. multinational firms to show the international distribution of production activity for U.S. foreign affiliates engaged in manufacturing from 1977 to 1997. At this broad industry level, we can see that in the twenty years since 1977 U.S. multinational firms have been increasing the shares of their production carried out in non-high wage host countries – from 15 percent in 1977 to 23 percent in 1997. (Country wage levels are assigned by the same criteria as in the analysis above. Also, see Appendix for additional information on the country groupings and sources of data.) The share of gross product by U.S. manufacturing foreign affiliates in middle wage countries increased from 13 percent to 19 percent of global affiliate gross product between 1977 and 1997. The share of the low wage countries rose from 1 percent of global U.S. affiliate production in 1977 to 4 percent in 1997, with all of this increase taking place in the decade of the 1990s. In fact, most of the shift in foreign production for U.S. MNCs towards non-high wage countries took place in the 1990s; from 1990 to 1997, the share of non-high wage developing countries in total foreign production increased from 15 to 23 percent.

**Table 11: Distribution of Foreign Production Between High, Middle and Low Wage Countries for U.S. MNCs, All Manufacturing, 1977 – 1997.
(Percent)**

	<u>1977</u>	<u>1990</u>	<u>1997</u>
High Wage Countries	86	85	77
Non-High Wage Countries (Middle and Low Wage)	14	15	23
Middle Wage Countries	13	14	19
Low Wage Countries	1	1	4

Source: Author's calculations from Bureau of Economic Analysis, Survey of U.S. Direct Investment Abroad, various years, and Bureau of Economic Analysis, Survey of U.S. Direct Investment Abroad, Final Results, 1994.

Among manufacturing industry groups, the Electric and Electronic Equipment group and the Machinery Manufacturing group are among those that have most rapidly adopted foreign production in non-high wage countries during the past two decades. Table 12 presents shares of foreign affiliate production across high, middle and low wage countries between 1977 and 1997 for these two industry groups. Between 1977 and 1997, the share of U.S. foreign affiliate production located in high-wage countries for the Electric and Electronic Equipment industry fell from 81 percent to 64 percent. In 1977, over 90 percent of all foreign affiliate production in non-high wage countries for U.S.

MNCs in this industry took place in the middle wage countries; by 1997, over one-third of this production was being carried out in low wage countries. Most of this shift towards the lowest wage countries took place during the 1990s. For this industry group, then, international production for U.S. firms has shifted away from high wage, developed countries and towards countries where wages are significantly lower - to middle wage countries (Mexico, Singapore) in the 1980s, and, in the 1990s, to the very lowest wage countries (such as China and Malaysia).

Table 12: Shares of Foreign Affiliate Production in High, Middle and Low Wage Countries for U.S. MNCs in Two Industries, 1977, 1990 and 1997. (Percent)

	<u>1977</u>	<u>1990</u>	<u>1997</u>
<u>Electric and Electronic Equipment Industry</u>			
High Wage Countries	81	72	64
Non-High Wage Countries (Middle and Low Wage)	19	28	36
Middle Wage Countries	17	23	23
Low Wage Countries	2	5	13
<u>Machinery Manufacturing Industry</u>			
High Wage Countries	94	89	76
Non-High Wage Countries (Middle and Low Wage)	6	11	24
Middle Wage Countries	6	11	20
Low Wage Countries	0	0	4

Source: Foreign affiliate production figures from U.S. Bureau of Economic Analysis, Survey of U.S. Direct Investment Abroad, various years.

For the Machinery Manufacturing group, the movement towards locating foreign affiliate production in non high-wage countries since 1977 is similar to that seen in the Electric and Electronic Equipment group for U.S. multinational firms. The share of U.S. foreign affiliate production in high wage countries has fallen from 94 percent in 1977 to 76 percent twenty years later. Most of the fall in the share of high wage countries for this industry (13 of the 18 percent decline in the high wage country share) happened in the 1990s. For the Machinery Manufacturing industry most of the movement away from the high-wage countries was accounted for by increases in the share of production taking place in middle wage host countries. Between 1977 and 1997, the middle wage countries accounted for 14 of the 18 percent increase in the share of affiliate production located in non-high wage countries. For the Machinery Manufacturing group, international production for U.S. firms has shifted away from high wage developed countries and towards countries where wages are significantly lower. But the movement has been mostly to the middle wage countries – beginning in the mid-1990s a relatively small share of total international production has shifted towards the lowest wage countries (from less than 1 percent in 1992 to 4 percent in 1997).

To further explore the relationship between the distribution of foreign production by multinational firms and labor costs, we next carried out regression analysis using data from U.S. MNCs in the Electric and Electronic Equipment industry. We choose this industry group as one that has experienced a substantial increase in the share of

production taken place in non-high wage countries in the last decade as well as a substantial movement towards production in the low wage countries. We focused on the period of the 1990s and look for the role of labor costs in determining changes in two things: foreign affiliate gross product in a country and the share of total world international production carried out by U.S. firms in that country.¹³ Clearly, the two dependent variables are related - increases in foreign affiliate gross product will tend to be associated with increases in the share of total foreign affiliate gross product for each country. Each equation is meant to explain the choice of multinational firms to locate international production across countries.

Each of the two equations sets the amount of MNC foreign production in a country as a function of several macroeconomic variables (economic growth, market size, infrastructure, trade openness, the presence of past foreign production in the country) and the labor costs faced by MNCs undertaking production in the country. In particular, the two wage level dummies are included to test the hypothesis that multinational firms chose the location for their international production in pursuit of low labor costs. If multinational production does shift locations in search of low-wage workers, we would expect to see a positive and significant coefficient on these variables. We have separate dummies for the middle-wage and low-wage countries to test whether multinational firms see middle- or low-wage workers as most desirable in making location decisions.

A detailed description of the regression equations, data sources and results are presented in the Appendix. While the full regression results are presented in Tables 13 and 14 below, here we will simply discuss the results in regards to the two country wage level dummy variables. In both equations, the coefficient for the dummy for middle wage countries was insignificant while the coefficient on the low-wage dummy was positive and significant (at a significance level of 8 percent). These results support the claim that, for U.S. multinational firms in the Electric and Electrical Equipment industry, low labor costs were a significant factor in the location of foreign production activities in the 1991-97 period. In particular, many U.S. MNCs in this industry appear to have viewed very low wages as important in choosing sites in which to carry out their foreign production in the 1990s.

¹³ The choice of variables in the regression equations and the rationales for including these variables have been inspired by the FDI inflow regressions presented in UNCTAD, World Investment Report, 1999.

Table 13: Foreign Production Equation I
Dependent Variable: Change in Country U.S. MNC Foreign Gross Product,
Electric and Electronic Equipment Industry, 1991-1997

<u>Variable</u>	<u>Coefficients</u>	<u>Standard</u> <u>Error</u>	<u>t-score</u>	<u>Significance</u>
Constant	267.03	250.13	1.07	.294
GDP Growth	1036.125	1082.19	.96	.346
GDP	2.036E-10	.000	2.29	.030
Investment/GDP	-21.41	13.61	-1.57	.126
Trade/GDP	2.625	.997	2.63	.013
Gross Product Share	4009.13	2112.93	1.90	.07
Middle Wage	69.13	132.73	.52	.61
Low Wage	356.03	193.56	1.84	.08
F-test	4.015			.003
Adjusted R-square: 0.363				
Country Observations: 37				

Data Sources and Variable Definitions: See Data Appendix.

Table 14: Foreign Production Equation II
Dependent Variable: Change in Country Share of Total U.S. MNC Foreign Gross
Product,
Electric and Electronic Equipment Industry, 1991-1997

<u>Variable</u>	<u>Coefficients</u>	<u>Standard</u> <u>Error</u>	<u>t-score</u>	<u>Significance</u>
Constant	1.06E-02	.010	1.07	.294
GDP Growth	4.11E-02	.043	.96	.346
GDP	8.07E-15	.000	2.29	.030
Investment/GDP	-8.49E-04	.001	-1.57	.126
Trade/GDP	1.04E-04	.000	2.63	.013
Gross Product Share	-3.12E-01	.084	-3.73	.001
Middle Wage	2.74E-03	.005	.52	.606
Low Wage	1.41E-02	.008	1.84	.076
F-test	3.638			.006
Adjusted R-square: 0.333				
Country Observations: 37				

Data Sources and Variable Definitions: See Data Appendix.

In summary, our analysis in this section of the changing pattern of world FDI stocks and the foreign production of U.S. MNCs shows that there has been a movement of foreign direct investment toward lower wage sites over the past two decades. The U.S. data suggests that there have been especially large shifts in the share of foreign production carried out in lower wage countries for MNCs in goods producing industries. Our regression analysis using data for U.S. MNCs in the Electric and Electronics Equipment industry indicates that MNCs do seek to locate their production in countries in which workers earn very low wages. These results are consistent with the fear that, at

least in certain industries, it may be difficult for workers to maintain wage levels when MNCs have other low wage sites available, especially if these sites are favorable for FDI in other ways.

Does Outward FDI Displace Home Production and/or Exports?

A related question concerns whether MNC investment abroad leads to an increase or a reduction in employment in the home country. This is obviously important both for the economic impact and the political impact of MNC investment. A substantial amount of research has tried to assess whether increased FDI has led to less employment in the home country. The results of this research are quite mixed with the clearest evidence coming from firm level data. For the United States, Lipsey (1999) finds that there has been almost no aggregate shift of employment or production to foreign countries, since continuing shifts to foreign locations by U.S. manufacturing firms have been largely offset by shifts into the United States by foreign multinationals.

But, significantly, Lipsey does find that higher levels of production in developing countries by a firm are associated with lower employment at home for a given level of production. The reason is that U.S. multinationals tend to allocate their more labor-intensive production to developing country affiliates and retain more capital and skill intensive operations in the U.S.

Other studies using disaggregated – usually firm level – data find similar results. Fors and Kokko (1999) find that Swedish MNCs also seem to be substituting foreign for domestic labor, with home operations probably becoming less labor intensive. These findings contradict earlier studies of Sweden that used more aggregative data (e.g. Lipsey, Ramstatter, Blomstrom, 1999).¹⁴

A related question is whether increased FDI leads to more or less production at home. Most theoretical models of FDI suggest that there should be both substitution and complementarity effects between FDI and domestic production. But most empirical research has failed to find the substitution effects. (See Blonigen, 1999, for a recent survey.) The trouble with previous research, however, is that they have used relatively aggregated data. By contrast, Blonigen (1999) uses product level data on Japanese FDI in the U.S. Blonigen looks at production and exports by Japanese firms producing automobiles as well as eleven consumer goods. He finds strong evidence of both substitution and complementarity effects for FDI by Japanese firms.

The upshot of this analysis is that when firms move production abroad in search of lower cost labor, this production may well substitute for production at home. Holding constant for production, the firm may upgrade average skill levels in domestic production. But domestic production may fall, and thereby limit the amount of skill upgrading that can occur.

IV. Threat Effects I: Capital Mobility and Labor Markets

¹⁴ Similarly, Slaughter, who uses industry rather than firm level data in the U.S., found no statistically significant impact of production transfer by U.S. multinational corporations on the relative demand for unskilled labor in the U.S. (Slaughter, 1998b)

The previous section suggested that various asymmetries in the structure of foreign investment and the global economy tend to increase the bargaining power of MNCs relative to local governments and communities. We have also pointed to a shift in foreign production over time by MNCs toward lower wage countries. The divergence in bargaining power can lead to a shift in the distribution of income away from workers and communities and towards MNCs. We have seen that, while there has been a shift in recent years toward more investment in low wage countries, in fact the majority of flows remains between the developed economies. Therefore, it might be thought that in developed countries, these problems of unbalanced bargaining power and income distribution cannot be large when most investment is between countries with similar wage levels and tax rates. However, the shift in bargaining power and the distributional implications that result can occur even if foreign direct investment is between countries or regions of the same income level. Moreover, the problems may occur even if investment does not flow at a higher level than before. The kind of story we have in mind is the following:¹⁵

Imagine there are two countries and that in each country there are two “communities” at least one of which has an excess supply of labor (i.e., unemployment, measured or disguised). Now assume there are two multinational corporations, one located in each country, so that in each country there is one community without an MNC. Also, to stack the argument against us, assume that there is a substantial fixed cost to moving from one locale to another, but that if the MNC pays that fixed cost, it can close down its operation in one place and move to the other. Similarly, assume that wages and all other costs, including taxes, and productivity levels, are initially the same in all four communities. Assume that neither the MNCs nor the communities can collude, that the companies want to maximize expected profits and that initially the communities want to maximize the sum of total wages accruing to them. Also assume for simplicity that workers (working and unemployed) are represented by unions.

Now, let’s say that due to a change in norms, or other aspects of the external environment, the two MNCs decide to open their location decisions for bidding and tell all four communities that they are willing to move to the location of the highest bidder. First assume that the only issue on the table is wages. The communities without MNCs located in them will put in a bid low enough to attract the MNCs, as long as the lower wages are above the opportunity costs of the unemployed workers of taking the jobs (their fall back positions). To attract the MNCs, the bid must be low enough to provide savings to the MNCs sufficient to pay for the fixed costs involved in moving. Whether a bid is above the fall-back position of the workers will depend on a host of factors, most notably the level of the fixed cost facing the MNC, the unemployment benefits and the family structure prevalent in the community (for example, whether unemployed workers are expected to perform child care within the family and are compensated for doing so, etc.) The lower the fixed cost, the worse the social safety net, and the lower the opportunity cost within the family of outside employment, the more likely a bid will be put in which is low enough to induce MNC movement.

Given that bid, the workers in the communities where the MNCs are currently located will have to decide whether to lose their jobs, or take a pay cut to reduce the

¹⁵This story is taken from Crotty, Epstein and Kelley, 1998.

differential between their pay and that offered by the other communities to a level which is less than the fixed cost. If the opportunity costs of employment are the same in all communities, then they will reduce their wage offers to close the gap to a level below the fixed costs. Note that their wages will not be driven all the way down to the offers of the workers in the other communities. They will be driven down to match the other offers only when there are no fixed costs of moving. In either case, the MNCs will not move. There will be no FDI. But there will be a decline in wages induced by the threat of moving: this is an example of what we call the “magnification effect”.

In the forgoing analysis, substitute the word “taxes” for “wages” and there will be a decline in tax rates resulting from the threat of moving, despite the fact that there will be no movement of capital whatsoever. Note that the existence of the other communities not only causes a shift down in the demand curve (actually, the bargained wage curve) for labor. They also increase the elasticity of the curve, making it more difficult to raise wages or taxes. (See Rodrik, 1997).

Now assume that there is an allotment of new investment that each MNC wants to make and that the cost of the new investment is independent of the locale in which it is placed. Each MNC will initiate a bidding war and, if the four communities are identical, then the bidding war will drive down the wages to the opportunity costs of employment in these communities (though one must take into account that some of the communities already have MNCs and therefore their opportunity costs might be different). Assume that the new allotment of investment flows randomly, since the MNCs are indifferent to where it goes and therefore it makes no difference to the outcome whether it goes to one country (net FDI), goes to both countries (no net FDI but gross FDI) or stays in the home country (neither net nor gross FDI). So, in this case there can be declines in wages (tax rates) even if there is no net investment but there is gross investment. If there are agglomeration effects so that it is more profitable to make the new investment where the old one has already existed, then the wages (or taxes) in the communities where the investment is currently existing will not be bid down to the same level as at the other countries, but they will be bid down nonetheless, unless the agglomeration effects are quite large.

Of course, the situation becomes worse for the workers in these two countries if now a third country opens itself up to investment with all the same characteristics as the first two, but with lower opportunity costs of employment. Then the FDI will flow away from the first two countries to the newly opened country, call it China. But one needn't have this third country to get the changes in wages and taxes pointed to above. Note, that if there are risks associated with FDI and these risks increase with the amount of investment in one locale then even if the third country does open up, not ALL investment will go there, even absent transaction costs.

Finally, look at the countries that have bid for the FDI but have not received any, because, for example, their productivity levels are too low. They have reduced their tax rates and wage rates. If this, in turn, lowers tax and wage rates already prevailing in these countries, then the existence of this bidding process has altered the distribution of income and reduced the level of public services that the community can afford. In short, bidding can have negative effects even if no investment comes.

In Crotty, Epstein and Kelley, (1998) we argue that in this story, three factors have contributed toward driving the main results: First, insufficient aggregate demand to

provide full employment contributed to the outcome. Second, there is a change in the set of practices of multinational corporations which leads them to alter the way that they have done business in the past, and put up their location decisions for bidding, while at the same time being willing to lay off workers, close down plants and move elsewhere to increase profits. Third, there is an absence of domestic or international rules of the game that would prevent communities and workers from driving down their own wages and tax rates.

Thus, three factors – inadequate aggregate demand, coercive competition, and weak domestic and international rules – create the context in which these threat effects are potentially so powerful and destructive.

In this paper, add another factor: namely the asymmetry between the large number of jurisdictions for which small amounts of investment are significant, relative to the small number of suppliers for which any particular site is relatively unimportant. The relative insignificance of any particular site occurs at the same time that all sites together are extremely important to MNCs. Hence, MNCs invest a great deal of effort to reduce the ability of countries as a group to manage multinational investment. These factors together can go a significant way toward explaining the current evolution of the international investment regime.

Formalizing "threat effects" and the "bargaining channel"

A number of recent papers have investigated theoretically the impact of foreign direct investment on wages and employment relations through their impact on bargaining relations. (Rodrik, 1997,1999; Zhao, 1995; 1998; Bughin and Vannini, 1994; Naylor and Santoni, 1999) A simple Nash-Bargaining model offers insight into the impact of increased openness and exit options on wages, employment and income distribution. (E.g. Blanchflower, Oswald and Sanfey, 1996; Borjas and Ramey, 1995; Rodrik, 1999; these build on Svejnar, 1986).

The simplest version is due to Rodrik, 1999, which we draw on here. Rodrik considers a small open economy with at least two sectors: one, a competitive sector with constant costs, where the wage is set at w^* , and a second, a rent creating sector, where the wage (w) is determined in bargaining between workers and firms. The profits of firms in the rent sector are equal to π . If firms move production abroad, they receive π^* . Hence, w^* and π^* are labors' and capital's outside options or "fall back" positions.

Rodrik adopts a Nash bargaining framework and assumes that the solution to the bargain arises from the maximization of the Nash product:

$$(1) \max \mathbf{f} \log[(u(w) - u(w^*))n] + (1 - \mathbf{f}) \log(\mathbf{p} - \mathbf{p}^*)$$

where \mathbf{f} and $1 - \mathbf{f}$ represent workers' and firms' bargaining power, and $u(\cdot)$ represent the utility workers receive. Assume $u' > 0$ and $u'' < 0$. n is the employment level in the rent sharing sector and output in that sector is represented by the production function $f(n)$ with $f' > 0$ and $f'' < 0$.

In that case:

The first order conditions yield equations (2) and (3), which can be solved for equation

(2).

$$(2) w \cong w^* + \frac{f}{1-f} \left(\frac{p - p^*}{n} \right)$$

$$(3) \frac{dw}{dp^*} < 0$$

Equation (2) shows that the current wage (w) is equal to a workers' outside option (w^*) plus a share of the company's profits per worker (n), where the share depends on the workers' bargaining power and the size of the firm's profits (δ) and outside option (δ^*). The higher the firm's outside option, the lower the rent-sharing. Equation (3) shows that workers' wages decline when the firm's outside option increases.

Rodrik also shows that employment goes down and firm profits go up with an increase in the availability of firms' profits abroad. This simple model neatly illustrates how an increase in outside options facing the firm can lower workers' wages and increase firm profits. Note that no changes in prices or investment need occur for these changes in factor prices to occur.

This model is most applicable to a situation where there are one way investment flows, say between a Northern country and a Southern one. But, as we have seen, most (though a decreasing portion) of FDI occurs as two-way flows between the more developed countries of the North. Several recent papers have developed a similar analysis applicable to such two-way flows (Zhao, 1995; 1998; Bughin and Vannini, 1994; Naylor and Santoni, 1999). The message of these papers is that, in more complicated settings and with two-way flows of investment between similar countries, the simple result of the single country Nash framework usually holds. That is, an increase in firms' outside options due to foreign direct investment lowers workers' wages for every level of employment and increases corporations' levels of profit.

Recent research in this area by Reddy (2000) and Dube and Reddy (2000) improves considerably on this earlier work by clarifying the ways in which outside options operate and by integrating the bargaining process into a general equilibrium setting (Reddy, 2000; Dube and Reddy, 2000). Reddy (2000) analyzes the effects of increased capital mobility in the presence of free trade. The paper develops a theoretical model of intra-firm bargaining in which an increase in capital mobility (modeled as decreases in the transactions cost of repatriation of profits) leads the "outside option" of employers to improve vis-a-vis that of workers, and intra-firm rents to shift accordingly in favor of employers. Two regions with integrated product and capital markets but with different prevailing outside wage rates are modeled. Rents are assumed to arise from the varying presence of a fixed factor of production (which may be thought of as 'organizational capability') among firms, which in turn differ for a given firm among its different alternative 'locations' (at the current location, at a different location at home, and at a different location abroad).

The model shows in a general equilibrium context that under relatively conventional assumptions (efficient bargaining over rents, rent maximization by workers, profit maximization and price-taking by firms, homothetic preferences, homogeneous

production technologies which can be ranked by factor intensity), an increase in capital mobility can be expected to lead to a decrease in workers' rents at a broad range of firms, with constancy of these rents at others, even in the complete absence of any actual relocation, or changes in the prices and quantities of goods produced.

The model's assumptions regarding the rent-maximizing objective pursued by 'worker collectives' and the efficiency of bargaining help to establish a "duality" between the competitive and rent-sharing economies which simplifies the analysis. Consequently, changes in distribution have no effects on production allocation. The model therefore demonstrates the possibility of a pure "threat effect" of increased capital mobility, which does not depend in any way upon actual capital movements to generate substantial income distribution consequences. If transactions costs of capital mobility decrease to a sufficient extent, actual relocation can be triggered.

The consequences of such relocation, although more difficult to unambiguously characterize, are also examined. It is demonstrated that there exist up to three zones into which industries may be divided. The most labor intensive industries will actually relocate to the lower wage region since they are best positioned to take advantage of reduced labor costs. The most capital intensive industries, in contrast, will be unable to relocate or credibly threaten to do so. Industries at an intermediate level of labor intensity will be the ones in which employers do not relocate yet in fact can strengthen their bargaining position, and thus their share of available rents, by credibly threatening to do so.

Previous Empirical Work on Threat Effects and Income Distribution

While the theoretical literature on bargaining and threats is highly developed (see Gintis, 2000, Rasmussen, 1994 for recent surveys) empirical implementation of bargaining models is much less developed. (A notable exception is Svejnar (1986); also, for results on the impact of outsourcing in the U.S. see Feenstra and Hanson, 1996a, 1996b, 1999; Feenstra, 1998, and in the UK, Anderton and Brenton (1999).)

Perhaps the most tantalizing indirect work in this area is that of Francisco Rodriguez from the University of Maryland. Using data from the UN National Accounts data and the UNIDO manufacturing data base for the period, 1970-1998, Rodriguez found that openness, as measured by trade/ GNP is associated with significantly higher capital shares. The result is very robust and economically significant. A one-standard deviation increase in openness is associated with a shift of between 3 to 9 percentage points in GDP towards capital. There is at best weak evidence that the effect differs for poor and rich countries, so that Heckscher-Ohlin effects are unlikely to be the cause. Possibly the bargaining channel can explain some of the shift. This certainly merits further analysis.

These studies, while suggestive of the importance of capital mobility and threats, also point up the difficulty of studying threats' impact without more direct evidence.

Direct Research on Threats and Capital Mobility

The only previous work that provides direct evidence on threat effects and capital mobility of which we are aware are by Bronfenbrenner (1997, 2000) who undertook two

studies. The first, (1997) studied union certification campaigns and first contract negotiations in the United States, between 1993-1995. The second studied union certification campaigns in 1998-1999. They both involved surveys and follow up telephone interviews with lead union organizers and negotiators.¹⁶ Through this process, Bronfenbrenner was able to gather a great deal of information about the nature of threats: how they were delivered, whether they were carried out, which firms tended to make them and which were perceived as credible by workers.

In the United States, it is illegal to explicitly and unambiguously threaten to shut down a plant to thwart a unionization drive. As Bronfenbrenner's data show, however, this did not stop firms from making threats, both explicit and implicit. Bronfenbrenner shows that "plant closing threats are an extremely pervasive and effective component of employer...strategies". According to her 1997 study, employers threatened to close the plant in 50 percent of all elections and 52 percent of all unionization petition withdrawals. In another 18 percent of the campaigns, the employer threatened to close the plant during the first contract campaign after the election was won.

These overall percentages mask some substantial variation across industries. There is some evidence that a higher percentage of threats are made in industries where the plants are actually more likely to be mobile. For example, threats occurred in only 25 percent of health care industry units and 27 percent of retail industry campaigns; but they occurred in 65 percent of manufacturing units and 50 percent of transportation units. Bronfenbrenner makes a rough break down of "mobile" industries vs. "immobile" ones and find that threats to shut down the plant were made in 62 percent of the mobile units, compared with 36 percent of the immobile units.¹⁷ These threats seemed to make a difference to the outcome. The union election win rate was 33 percent in units where plant closing threats occurred compared to an overall win rate of 40 percent.¹⁸

In short, mobility seems to matter for threats; and threats seem to matter for elections and other outcomes. Also note that mobility seems to matter for outcomes, even not taking into account threats: the win rate was much lower in mobile industries than in immobile ones. The implicit threat associated with mobility seems to have an impact as well.

Bronfenbrenner's studies have offered a great deal of insight into the impact of threats and mobility on unionization drives. However, with their focus on unionization campaigns, they have not addressed the issue of the impact of mobility and threats on

¹⁶Her 1997 study was based on a random sample of 600 union certification elections and 400 cases where the petition to hold an election were withdrawn. The samples were drawn from the entire National Labor Relations Board universe of cases with 50 or more employees that took place between 1993-1995. Bronfenbrenner (2000) is based on surveys of lead organizers from a random sample of 600 NLRB certification elections. For each case in the sample Bronfenbrenner and her team also conducted computerized database searches to determine the parent corporation, any foreign sites or locations, the countries in which the firm's customers and suppliers are located, and the firm's global and U.S. employment totals.

¹⁷Mobile industries include manufacturing, sites, storage and warehouse facilities as well as some transportation and service units. Immobile industries include health care, construction, hotel and restaurant and entertainment facilities and most communication and service units.

¹⁸Bronfenbrenner does not report standard errors so one doesn't know if these differences are statistically significant.

wages directly. And these studies deal with the U.S. only. So our knowledge of the nature and impact of threat effects from capital mobility around the world is still, unfortunately, extremely limited. For example, our knowledge of the operation of threat effects in developing countries is quite limited. We do know that MNCs tend to pay higher wages than local firms in most developing countries. (See Caves, 1996, for a recent survey of MNCs). However, there are many anecdotal stories concerning threats by companies to move to sites with even lower wages if workers try to unionize or raise their wages. Nonetheless, a systematic analysis of the extent of these threats and their impacts in developing countries remains to be carried out.

V. Threat Effects of Capital Mobility II: Taxation and Host Bidding¹⁹

Threat effects not only operate between MNCs and workers; they also affect the bargaining between MNCs and governments over taxation, infrastructure development, and economic policies at all levels. Companies can either threaten to leave or threaten to invest elsewhere unless governments implement particular changes in taxes, subsidies and other government policies.

One can look at this question from the point of view of the role of international capital mobility on the evolution of inter-jurisdictional-tax competition. Research on the relationship between capital mobility, inter-jurisdictional tax competition and public policy is much more advanced than that on wages and labor-capital relations.²⁰ Starting in the 1970's, Oates (1972) began the development of a canonical model of inter-jurisdictional tax competition. As Oates put it: "The result of tax competition may well be a tendency toward less than efficient levels of output of local services. In an attempt to keep taxes low to attract business investment, local officials may hold spending below those levels for which marginal benefits equal marginal costs, particularly for those programs that do not offer direct benefits to local business" (Oates, 1972, p. 143, as quoted in Wilson (1999)). While Oates focused on federalism, the same argument can be readily applied to issues of international taxation (Wilson, 1999). This view differed from the Tiebout model which argued that taxes and spending would efficiently reflect tax and spending preferences of individuals, allowing them to sort themselves into communities with the optimal level of taxation and spending for each community. The new literature which built on Oates' insights noted various externalities which tax competition would impose, thereby making bidding for tax bases inefficient and leading to the under provision of crucial public goods.

There seems to be considerable evidence that international capital mobility is driving down taxes on a global basis. The OECD published a report in mid 1998 dealing with the increasingly common phenomena of tax competition between states in order to attract MNCs (OECD, 1998). The study contends that the accelerating process of globalization of trade and investment has fundamentally changed the relationship among domestic tax systems. In their words " Globalization and the increased mobility of capital has also promoted the development of capital and financial markets and has encouraged

¹⁹ Arjun Jayadev made extensive and significant contributions to this section. Please consult his paper (Jayadev, 2000) for more detailed discussion of some of these issues.

²⁰For an excellent recent survey of this literature, see Wilson (1999).

countries to reduce tax barriers to capital flows” (OECD, 1998, p. 14). The study reviews empirical data to conclude that “ harmful preferential tax regimes that drive the effective tax rate levied on income from the mobile activities significantly below rates in other countries have the potential to cause harm by: distorting financial and real investment flows, undermining the integrity and fairness of tax structures, discouraging compliance by all taxpayers, reshaping the desired level and mix of taxes and public spending, causing undesired sifts of part of the tax burden to less mobile tax bases such as labor, property and consumption and increasing the administrative costs and compliance burden on tax authorities and taxpayers.”(OECD, 1998, p. 16)

Another recent OECD study suggests that this shifting may well be occurring (Carey and Tchilinguirian, 2000). According to this study, there has been a trend shift in the OECD average relative tax burden from capital to labor which reflects a decline in labor’s share of national income that has not been matched by a decline in labor’s share of the total taxation.²¹

There is also some direct evidence that tax rates paid by multinational corporations have been declining over time, as one might expect if tax competition were important. Table 15 presents data on average effective tax rates paid by U.S. manufacturing multinational corporations in 17 developed economies and 15 developing economies in 1984 and 1994. The table shows the tax rates have declined rather dramatically between the early 1980's and the early 1990's. Interestingly, the rates are roughly the same between developed and developing countries. Notice also that the coefficient of variation is lower for both sets of countries in the 1990's than in the early 1980's. In short, tax competition seems to have reduced both the tax rate and the divergence of tax rates within each group over the period, while the overall dispersion has stayed roughly the same.

Table 15: Average Effective Tax Rates for Manufacturing Affiliates of U.S. MNCs, 1984, 1990

	<u>1984</u>	<u>1990's</u>
<u>Developed Countries</u>		
Mean	.249	.126
(Standard deviation)	(.156)	(.069)
Coefficient of variation	.62	.55
<u>Developing Countries</u>		
Mean	.240	.134
(Standard deviation)	(.196)	(.081)
Coefficient of variation	.81	.60

Source: Altshuler and Hubbard (2000). Calculated from table 2. The 1990's are an average of 1992 and 1994.

²¹ As the authors point out, however, there are significant problems interpreting Average Effective Tax Rates (AETR's) upon which this research is based. Therefore, much more work needs to be done before we know whether these results will hold once micro data and information on tax-shifting has been further analyzed.

Moreover, there is evidence that the location of assets responds to differentials in tax rates, further lending support to the argument that bidding for investment may be contributing to the decline in tax rates. Altshuler, Grubert and Newlon (1998) find, for example, that between 1984 and 1992 the elasticity of investment with respect to tax rates by manufacturing affiliates of manufacturing MNCs increased from 1.5 to almost 3. These data are consistent with an increase in attention paid by manufacturing MNCs to taxes in their location decisions over this period.

Indeed, MNCs create special problems in this regard. Hines, for example, reports that MNC production gives enormous opportunities to reduce tax burdens through such mechanisms as income shifting and transfer pricing (Hines, 1996; 1999). This also gives governments opportunities to compete by helping MNCs implement these strategies. Says Hines, "One clear implication of the quantitative evidence is that the investment, financing and other activities of multinational corporations are quite sensitive to their tax treatment. This sensitivity carries numerous implications for tax policy, including the standard for governments to compete with each other to offer firms ever-lower tax rates to attract activities that are believed to be beneficial to their economies. An alternative to tax competition is to form supranational agreements to harmonize tax rates and tax bases; but such attempts are notoriously ineffective and quickly abandoned."²²

Studies have also shown that U.S. companies that had subsidiaries in low-tax countries had lower overall U.S. tax ratios than U.S. companies with subsidiaries in high-tax countries (Grubert and Slemrod, 1994; Tanzi, 1993, p. 103). Recent work by Altshuler and Hubbard (2000) and Altshuler, Grubert and Newlon (1998) show that U.S. manufacturing investment by MNCs responds to lower tax rates, and that the response seems to have increased in recent years. Even the WTO Secretariat seems to agree that this may be a problem: "as competition for FDI intensifies, potential host governments find it increasingly difficult to offer less favorable conditions for foreign investment than those offered by competing nations." (WTO, 1996)

While tax competition is beginning to be debated in developed countries, the incentive competition being forced on developing countries attempting to integrate into the world market is less studied. It is clear from the few studies that have been done, however, that developing countries may be in a less advantageous position under the system of global competition for FDI. As Moran puts it: "With the exception of some oil exporting states, the developing countries and economies in transition do not have the financial resources to offer grants along the line of many OECD countries. Instead the most frequently used investment incentives are tax holidays... but the complexities of deploying these incentives and the administrative weakness in these countries themselves prevent these tools from being used effectively." (Moran, 1998; p.101) Nonetheless, bidding for foreign investment has become a major activity by both developed and developing countries.

The World Investment Report shows that many countries throughout the world have changed their tax and regulatory laws governing foreign direct investment in the last decade. Over the period 1991-1999, the overwhelming majority of national policy

²²Note that not all aspects of globalization reduce tax rates on capital. Hines (1996) reports examples where transfer pricing can increase tax revenue for the United States.

changes -- 94 percent of the 1,035 changes -- favored foreign investors (World Investment Report, 2000, p. 6). In 1999 for example, these policies included more general and sectoral investment incentives (20 percent of the changes), more liberal entry and operational conditions (40 percent of the changes) more sectoral liberalizations (20 percent). Countries which recently made substantial changes in their FDI regimes in order to make them more favorable to foreign investors in the past year include Cambodia, India, Russia, Slovenia, Sudan and Thailand.

These changes in national tax and regulatory policies are only part of the overall trend toward making the institutional environment more attractive for foreign investment in the past decade. Other government actions have included bilateral investment treaties (BITs) which numbered 1,856 by the end of 1999, and double taxation treaties (DTT), which numbered 1,982 by the end of 1999. Indeed, as the World Investment Report notes, "BITs and DTTs were concluded at a rate of one every two working days during 1999 – an impressive rate of treaty-making" (World Investment Report, 2000, p. 6). Regional agreements have also been important with NAFTA being the most famous but only one of several in recent years, including agreements between Chile and Mexico and between the members of the European Community and Mexico. More generally, investment liberalization and protection has become an important issue in many international economic agreements, including many of the free trade, and cooperation agreements signed between the European Community and third countries (World Investment Report, 2000).

The creation of this enforcement structure is at least as important for the quantity of international investment as the much discussed declines in information costs due to technological changes (See Epstein and Gintis, 1992; Braunstein and Epstein, 1998). At the same time, this structure has led to significant competitive bidding for foreign investment. In fact, there are strong theoretical reasons to suspect that this competitive bidding for foreign investment by national and sub-national governments is harmful to national and local economies. For example, in the U.S. the "War Between the States", has become a metaphor for state competition for investment. Subsidies cost local governments tens of billions of dollars in lost tax revenue, yet as the willingness to offer such concessions becomes universal, they have less and less effect on plant location decisions. The Federal Reserve Bank of Minneapolis called for a federal law prohibiting state and local tax incentives for particular companies as an attempt to reduce this destructive war. (See Federal Reserve Bank of Minneapolis, 1996; Holmes, 1995)

Among the most enlightening theoretical treatments of this problem is due to Jha, et. al., (2000). They develop a multi-stage game theoretic model of bidding which illustrates how destructive the results can be. They show that a state facing a prospect of continual failure in the bidding process will have to resort to what they term a "suicide strategies" in the bidding war in order to win at any cost. They further demonstrate that in the absence of any tacit understanding between states, a losing state in the initial stage, can in fact become a Stackelberg leader in terms of exercising influence on winning states. As a result, by playing suicide strategies the loser can inflict heavy losses on the initial winner. They go on to argue that suicide strategies bear resemblance to some aspects of economic liberalization.

Arguments in favor of incentives rely heavily on the assumption that governments have detailed knowledge of the value/size of the positive externalities associated with

each FDI project. In practice, it would be an almost impossible task to calculate these effects with any accuracy, even with the aid of well-trained specialists. In reality, getting drawn into competitive bidding for an FDI project is like sending government officials to an auction to bid on an item whose actual value to the country is largely a mystery.

Empirical Evidence on the Impacts of Incentives

There has been a substantial amount of empirical research on the effects of incentives on FDI (See Moran 1998, Caves, 1996 and Jayadev, 2000 for recent surveys). Looked at as a whole, the empirical evidence is quite ambiguous on the effects of these incentives on investment. Because the studies ask different questions, study different countries and time periods and study different types of incentives, it is extremely difficult to offer a simple, definitive picture of the impact. Hence, a full review is well beyond the scope of this paper. Here we will simply try to give a flavor of the results.

For example, the 1992 UN report on the determinants of foreign direct investment suggests that the sensitivity of FDI flows to tax and similar incentives is rather low.²³ The evidence collected by the Overseas Development Institute supports the notion that specific incentives such as lower taxes have no major impact on FDI, particularly when they are seen as compensation for continuing comparative disadvantages.²⁴ (See also Pfefferman, 1992 and Bhattacharya et al. 1997.)

On the other hand, some studies show that tax agreements and fiscal incentives are important in attracting investment. For example, Blonigen and Davies (2000) find that U.S. inward and outward FDI responds positively to tax treaties, though with long lags. The response seems to be greater than would be implied only by the marginal changes in the tax rates, however. This increased response might be due to risk reduction and signaling of openness indicated by countries' willingness to sign the treaties.

There is also evidence that removing restrictions and providing good business operating conditions are generally believed to have a positive effect. In China, the 'open-door' policy and enhanced incentives for investing in the special economic zones contributed to the initial influx of FDI. Further incentives, such as the granting of equal treatment to foreign investors in relation to local counterparts and the opening up of new markets (e.g. air transport, retailing, banking), have been reported as important factors in encouraging FDI flows in recent years. In India the relaxation of most of the regulations regarding foreign investment is seen as contributing to the increased FDI flows in the last couple of years.

The most comprehensive study of incentives and disincentives to FDI is that of Guisinger and associates, but unfortunately, this study is over 20 years old (Guisinger, 1985). "It is often argued that investment incentives are generally insignificant compared to important determinants such as production and market size... Increasing the incentives is often the most effective, and certainly the most expeditious way to counter a competitor's threat to market share." (Guisinger, 1985, pp. 37-51) Guisinger and associates attempt to ascertain the real effect of incentives by asking whether a foreign investment project would have located in a particular location had it not been for the incentives provided. To explore the importance of incentives in FDI decisions, four

²³ "The determinants of Foreign Direct Investment: A survey of the evidence" UN 1992

²⁴ Overseas development Institute 1997

industries were studied (Automobiles, Petrochemicals, Food Products, and Computers). The rather powerful conclusion was that in only one-third of the investment cases studied factors other than incentives dominated the location decision. In the remaining two-thirds of the cases, incentives were the decisive factor in the decision to relocate.

Summary of Empirical Evidence

Though the empirical evidence seems quite murky, the lessons we can draw for this discussion seem quite clear: incentives work often enough at the margin that they lead many policy makers to believe that they must bid for investment; yet they work sufficiently infrequently that bidding is a high risk business. In the end, this suggests that dynamics of bidding is fraught with dangers for governments that engage in it, yet at the margin, under the current regime, there are strong pressures to continue playing the game.

The Costs of Excessive Bidding

The fiscal costs of excessive bidding for firms are only the most obvious cost. In addition, there may be significant distortions of other types that result from sub-national and international bidding for firms. Developing countries, in particular, may for budgetary or balance-of-payment reasons feel compelled to utilize highly distorting incentives, such as land grants, monopoly rights, and guarantees against import competition to foreign investment projects. Several examples can illustrate this point. In China's southeast coast, the granting of the use of agricultural land at dirt cheap prices as part of the incentive package has led to serious environmental problems in some cities. Two examples are reported by UNCTAD²⁵. In the first, Poland, in late 1991, raised its tariffs on imported cars from 15 to 35 percent, to meet a condition of GM for participation in a joint project. In the second, this time in the Czech Republic in the same year, Volkswagen made maintenance of high tariffs on imports of passenger cars for four years a condition for its ownership engagement in the local car producer Skoda.

Shah, 1995, in a wide ranging study of the use of tax incentives in developing countries such as Malaysia, Thailand, Mexico, Brazil and Pakistan shows that these policies can lead to highly distorted decision making for firms as they alter incentives between capital intensive and labor intensive industry as well as between short-term and long-term profitability. If changes in incentives are simply the by-product of bidding for FDI, they are less likely to be appropriate than if they are designed as part of a long-term industrial strategy taking into account both national and foreign investment. (Chang, 1998; Nembhard, 1996)

V. The Impact of FDI on Domestic Economies

Thus far we have discussed some of the difficulties facing governments and workers as they confront MNCs and capital mobility. The other side of the ledger concerns the benefits that countries and citizens can gain from FDI and MNCs. In short,

²⁵ "Global FDI Flows Surge to \$325 Billion in 1995, an All-Time High" (TAD/INF/2671), *UNCTAD Press Release*, 4 June 1996 pp.38

what is the impact of FDI and MNCs on domestic economies? If it is positive enough, the benefits can outweigh the costs we outline here and even if the international system is inefficient in the way it delivers FDI, the benefits may be sufficiently large that this is relatively unimportant.

This, of course, is a huge and complex topic and one we cannot properly address in the confines of this paper. But we do want to make several points that are especially relevant to the issues we have addressed here.

Relative Stability of FDI vs. Portfolio Investment

An increasingly common view in policy circles is that FDI is a better form of investment for developing countries because it is more "stable" than portfolio investment. (See for example, Lipsey, 1999; UNCTAD, 1999b). This view has gained adherents partly as a result of the recent Asian financial crisis when portfolio flows were highly unstable. A number of papers have shown the coefficient of variation for FDI is smaller for most countries than for portfolio and other non-FDI flows. This contrasts with results from a study in the 1980's which showed no significant difference in the stability of the flows (Claessen and Gooptu, 1995).²⁶

The implications of the claim that FDI is less volatile than portfolio investment, however, are not at all clear. For one thing, it may be a statistical artifact, due to the fact that most countries' FDI data do not include data on the reinvestment of retained earnings (the U.S. is an exception). For example, it is possible that reinvestment of retained earnings are just as volatile as are portfolio investments, but do not show up as part of FDI. Moreover, the recent findings on the stability of FDI may be the result of special features of the Asian financial crisis itself. In particular, South Korea and other countries were forced to open up their firms to inward FDI or liberalize flows substantially, and, therefore drew in a large amount of FDI. These one-time, special factors therefore may not be operative the next time there is a major outflow of portfolio investment.

Most important, however, is that these arguments do not take into account the overall costs and benefits of attracting FDI. Having a flow which is more stable, but which on balance does not yield net benefits, is not in itself beneficial. The issues we have raised throughout this paper about the problems with the current regime of FDI at least raises questions about the overall value of more stable FDI flows, if they are in fact more stable. Adding to the list we discussed above (inefficient bidding, threat effects on workers and communities, and the limits on wage increases due to the movement of production to lower wage sites) we address the issue of crowding out next.

Crowding In - Crowding Out

One important factor which affects the degree to which a host country benefits from FDI is whether and the degree to which inflows of FDI crowd in domestic investment. Advocates often point to the crowding-in effects, but recent evidence concerning developing countries suggests that crowding-in cannot be taken for granted.

²⁶ Interestingly, the United States is an important exception to these findings; its FDI inflows in the last several decades have been very volatile (Lipsey, 1999).

Agosin and Mayer (2000) study the relation between inflows of FDI and domestic investment for the period 1970-1996 in three regions: Africa, Asia and Latin America. Their basic finding is that crowding-in occurred in Asia but crowding out occurred in Latin America. In Africa, the results were less clear.

The authors conclude this way: "A recent piece of research by one of the authors of this paper reveals that the most far-reaching liberalizations of FDI regimes in the 1990s took place in Latin America, and that FDI regimes in Asia have remained the least liberal in the developing world (Agosin, 1999). Several Asian countries still practice screening of investment applications and grant differential incentives to different firms. As already noted, some types of investment have remained prohibited for most of the period under review. Nonetheless, it is in these countries that there is strongest evidence of (crowding in) CI. In Latin America, on the other hand, these practices have been eliminated in most countries. Nonetheless, liberalization does not appear to have led to (crowding in) CI." (Agosin and Mayer (2000), p. 14)

Liberalization vs. FDI Control

The point above emphasizes the question of whether liberalization, even if it does bring in more FDI, allows a country to manage it sufficiently so that it benefits the domestic economy and its citizens. The most important conclusion of a good deal of literature is that for FDI to enhance economic development, it must fit within the overall development strategy. (Dunning 1994; WIR, 1999; Nembhard, 1996.)²⁷

But liberalization itself, and the investment treaties that are accompanying it, make it more difficult for economies to utilize FDI to its best advantage. While the extent of this liberalization varies considerably by country, several policy changes prevail including reduction or elimination of screening and prior authorization procedures, joint-ownership requirements, and restrictions on profit remittances. These changes along with the extension of national treatment to foreign firms which prohibits discriminatory practices that favor domestic firms are viewed by advocates of liberalization as eliminating the principal policy obstacles which impeded foreign direct investment in the past (UNCTAD 1992a, 1992b and 1994).

The experiences of the East Asian NICs, the most successful developing nations over the past two decades, suggest the flaws in this approach. Education, infrastructure and other public services played a central role in their development strategies and contributed to their success by fostering environments favorable to both domestic and foreign investment. Moreover, this region attracted FDI despite the presence of some of the most restrictive investment regimes in the world. For example, China rigorously screens foreign investment, limits it to specific sectors and ties incentives to various export, foreign exchange, local content and other performance requirements while many other nations have been eliminating screening procedures, reducing sectoral restrictions, and dismantling performance requirements. Similarly, Malaysia subjects projects (both foreign and domestic) to a demanding screening process which evaluates size, local involvement, labor and output market availability, and infrastructure and foreign exchange requirements or contributions. (U.S. Department of Commerce 1996; See also Ha-joon Chang (1998) for an important discussion of these issues.)

²⁷ Thanks to Trish Kelly for her contributions to this section.

In short, liberalization, the rules in the WTO and other investment agreements may prohibit precisely those policies that in the past have contributed to the beneficial impacts of FDI, when and where they have been beneficial. As these tools for domestic management are taken away, it seems likely that many of the beneficial impacts may be reduced or eliminated as well. (See Crotty, Epstein and Kelley, 1998 and Epstein, 2000 for an elaboration of these arguments.)

VI. Conclusion

We said at the beginning of this paper that controversy about MNCs and FDI not only divide advocates of neo-liberalism on the one hand and progressive forces on the other; but they also divide progressives in the North from those in the South. Are there some lessons we can draw from this paper's discussion that can point to some common ground between these progressive forces, allowing us to focus, if we must, on those less tractable issues that remain?

The main argument of this paper is that the structure of international production in the world economy, and the emerging neo-liberal rules that govern it, work primarily to enhance the bargaining power of MNCs at the expense of citizens in both the rich countries of the North and poorer countries of the South. The factors which enhance the bargaining power of these firms are: 1) The concentration of investment in the developed world, 2) The small number of MNCs that control a large share of the investment, 3) The relative unimportance of any particular site to MNCs and the relative importance at the margin of foreign investment to a large number of developing countries, 4) The small amount of foreign aid, 5) The unreliability of portfolio investment, and 5) The low levels of aggregate demand in much of the world. As a result, many countries are willing to buckle to the pressure and liberalize their economies and sign bilateral and regional investment agreements that reduce their control over investment and lead them to bid for it.

Despite the relative unimportance of any particular site of investment to MNCs, having access to the world as a whole is extremely important to their profitability. Hence, they are willing to invest enormous resources (through their collective organizations and individually) to press for international rules that enhance their protections and profits at the expense of citizens of nations around the world.

These asymmetries have resulted in a global shift toward the interest of global corporations in recent decades.

Ironically, though, from the point of view of the world as a whole, internationalized production is still quite modest, at most 10% of total production. The question arises, does the world's citizens really need this internationalized production? Or does it need this much of it? And does it need it on these terms? One suspects not.

We believe that the clear implication of this analysis is that progressive forces in the South and the North must get together to discuss a new set of international rules which severely limit the destructive bidding practices in which they are now engaged. It seems clear that this ought to be an area of common ground. Agreement on this issue, of course, does not imply that significant differences might not remain. For example, progressive forces from the South might argue that while destructive bidding strategies

should certainly be barred, locales in the South ought to have some more flexibility in this regard than should Northern countries, in order to overcome regional disadvantages.

But what all sides can presumably agree on is that the attempt by the WTO and other bilateral and regional agreements to tie the hands of local authorities from managing foreign investment in the interests of the countries' citizens must be taken off the table. Citizens in no country gain from this. Only the MNCs gain.

As we just argued, international production is only a small proportion of world production. But through the "magnification effects" of threats and asymmetries we have described, its perceived importance and actual political importance has been greatly increased. Part of the reason for this has been the difficult macroeconomic environment of austerity and unstable financial flows that have characterized most of the last several decades. Presumably, progressives from both the North and South can also agree in principle that these macroeconomic forces of austerity and instability must be reversed.

If we can agree on these principles (among others) and discover mechanisms for effectively promoting these changes, we are, of course, still likely to have major disagreements. But we will have nonetheless made significant progress in beginning to reverse the destruction created by global neo-liberalism.

Appendix: Data Descriptions, Sources and Analysis for Section III

A.1. Distribution of World Foreign Direct Investment Stock in Host Countries

Data Description and Sources:

The data for the international distribution of foreign direct investment stock across host countries is from UNCTAD, World Investment Report 2000. The stock of FDI is expressed on a historical cost basis. The countries are broken down into the groupings of high-wage, middle-wage and low-wage according to data on average wages for production workers from two sources: ILO, Yearbook of Labour Statistics and U.S. Bureau of Labor Statistics website (*International Statistics* heading) at www.bls.gov. Wages are defined in relation to U.S. average manufacturing production worker wages in 1994 as reported by the U.S. Bureau of Labor Statistics. The categories are set this way: High -over 66 percent of U.S. wage; Middle - between 25 percent and 65 percent of U.S. wages; and Low - less than 25 percent of the U.S. wage. The distribution among the three wage level groups for the 63 countries included in this analysis is: High wage – 24 countries; Middle wage – 24 countries; and Low wage – 15 countries.

A.2. Distribution of Foreign Affiliate Gross Product of U.S. Multinationals in Host Countries

Data Description and Sources:

The data for the international distribution of foreign affiliate gross product across host countries for U.S. multinational firms is from the U.S. Bureau of Economic Analysis. For the years 1977, 1982, 1989 and 1994-97, the data is from BEA, Survey of U.S. Direct Investment Abroad, various years, and accessible on the BEA website at www.bea.doc.gov. For the years 1990-1993, the data is from BEA, *Survey of Current Business*, various issues. For this analysis, the wage data used to assign countries to the three wage level groups (low, middle and high as described in section A.1 above) refers to the wages paid to manufacturing production workers in foreign affiliates of U.S. multinational firms in each country in 1994. This foreign affiliate average wage data is provided in the BEA, Survey of U.S. Direct Investment Abroad, Final Results, 1994. The distribution among the three wage level groups for the 50 countries included in this analysis is: High wage – 23 countries; Middle wage – 16 countries; and Low wage – 11 countries.

A.3. Regression Analysis: Determinants of Host Country Production by Foreign Affiliates of U.S. Multinational Firms

Data Description and Sources:

The foreign affiliate production and foreign affiliate average wage data used in the regression analysis is from the U.S. Bureau of Economic Analysis sources described in section A.2 above. The high, middle and low wage levels are defined as described in section A.1 above. For almost all the countries included in the analysis, the GDP, trade ratio, and investment ratio data are from the World Bank's *World Development Indicators* data set. For Germany and New Zealand, these macroeconomic variables are taken from the International Monetary Fund's *International Financial Statistics* data set

because of incomplete data reporting in the WDI data set. The distribution among the three wage level groups for the 37 countries included in this analysis is: High wage – 21 countries; Middle wage – 10 countries; and Low wage – 6 countries.

Data Analysis:

We wish to explore if it was low wages or other factors that have accounted for the shift of production towards lower wage countries in this industry in the 1990s.

The two regression equations have the same left-hand side independent variables but different dependent variables and are in this form:

$$\begin{aligned} \text{ChgGP}_i = & \beta_1 + \beta_2(\text{GDP Growth}_i) + \beta_3(\text{GDP}_i) + \beta_4(\text{Investment/GDP}_i) \\ & + \beta_5(\text{Trade/GDP}_i) + \beta_6(\text{GPSHare}_i) + \beta_7(\text{Middle Wage}_i) + \beta_8(\text{Low Wage}_i) + \varepsilon_i, \end{aligned}$$

and

$$\begin{aligned} \text{ChgGPSHare}_i = & \beta_1 + \beta_2(\text{GDP Growth}_i) + \beta_3(\text{GDP}_i) + \beta_4(\text{Investment/GDP}_i) \\ & + \beta_5(\text{Trade/GDP}_i) + \beta_6(\text{GPSHare}_i) + \beta_7(\text{Middle Wage}_i) + \beta_8(\text{Low Wage}_i) + \varepsilon_i, \end{aligned}$$

where

ChgGP_i = **dependent variable**: change in gross product of foreign affiliates between 1991 and 1997 for country i;

ChgGPSHare_I = **dependent variable**: change in the share of total foreign affiliate gross product between 1991 and 1997 for country i;

GDP Growth_I = GDP growth between 1989 and 1991 for country i;

GDP_I = GDP in 1991 for country i;

Investment/GDP_I = investment to GDP ratio in 1995 for country i;

Trade/GDP_I = exports plus imports to GDP ratio in 1995 for country i;

GPSHare_i = share of foreign affiliate gross product in 1991 for country i;

Middle Wage_I = dummy variable for average wage in U.S. foreign affiliate greater than 25% but less than 67% of average U.S. production worker wage in 1994 for country I;

Low Wage_I = dummy variable for average wage in U.S. foreign affiliate less than 25% of average U.S. production worker wage in 1994 for country I;

e_I = error term for country i.

The GDP growth variable is the country's economic growth rate over the two-year period from 1989 to 1991. High growth in a country is thought to lead to expansions in the production of foreign affiliates in the country because it indicates an expanding market for the products of the affiliates. However, because expanding production by multinational firms in a country may lead to high GDP growth, we wish to avoid problems of mutual causality (simultaneity) and so use the growth rate of GDP for two years beginning in 1989. The GDP variable indicates the country's level of GDP in 1991. The potential for expansion of foreign affiliate production is thought to be a function of

the size of the country's economy; also, a large economy indicates a sizeable market in which the multinational firm may wish to establish a presence in order to sell its goods. We expect the coefficients on the GDP growth and the GDP variables to be positive and significant.

The investment to GDP ratio is included as an independent variable because it serves to indicate both the level of infrastructure development in the country and the availability of investment opportunities. These each are thought to encourage the inflow of foreign investment and the expansion of foreign affiliate production in a country. We expect a positive and significant coefficient on this variable in the regression equations. The investment-GDP ratio is for 1995, a year in the middle of the 1991-97 period. The trade (exports plus imports) to GDP ratio measures the degree to which the country engages in trade and is open to the international economy. High trade volumes and openness are both expected to lead to high levels of multinational firm activity in a country. A multinational firm's trade ties with a country often precede entry by the foreign affiliates of the firm. Openness to trade is often associated with openness to foreign investment as well and to consumers' desires for the products of foreign firms, whether produced abroad or domestically. For these reasons, we expect that the coefficients on the trade ratio variable will be positive and significant. The trade ratio is for the year 1995. The gross product share variable is for 1991 and is included because it indicates the extent to which foreign affiliates are established in a country and the size of foreign production at the beginning of the period. Countries that already have large amounts of foreign production are more likely to experience large expansions in this production, both because foreign affiliates in the country are established in the location and because of the scale of existing production. We expect a positive and significant coefficient for this variable.

The results of the regression analyses are presented in tables 13 and 14 in section III above. For both equations, the coefficient on the GDP growth variable is not significant. Perhaps this is because growth over the two years from 1989 to 1991 in a country is a poor indicator of the country's growth conditions several years later in the 1991-97 period. In both equations, the coefficient on the investment ratio variable is also counter to expectations - it turns out to have a negative sign and has a significance level of less than 10 percent. The coefficients on the GDP and trade ratio variables both have the expected sign and significance in each equation. The coefficient on the gross product share variable is significant in both equations but has the expected sign in the gross product change equation but the opposite sign in the gross product share equation. Apparently, a high share of total foreign affiliate gross product in 1991 for a country did encourage more production, but not enough to keep pace with growing worldwide foreign affiliate production. Finally, in both equations the coefficient for the dummy for middle wage countries was insignificant while the coefficient on the low-wage dummy was positive and significant (at a significance level of 8 percent). As discussed previously in section III above, these results support the claim that, for U.S. multinational firms in the Electric and Electrical Equipment industry, low labor costs were a significant factor in the location of foreign production activities in the 1991-97 period.

Selected Bibliography

- Agosin, Manuel R. 1999. "Liberalization and the International Distribution of FDI. Santiago, Chile. Department of Economics. mimeo.
- Agosin, Manuel R. and Ricardo Mayer. 2000. "Foreign Investment in Developing Countries. Does It Crowd In Domestic Investment?". UNCTAD/OSG/DP/146. February.
- Altshuler, Rosanne, Harry Grubert and T. Scott Newlon. 1998. "Has U.S. Investment Become More Sensitive to Tax Rates?" NBER Working Paper, 6383.
- Altshuler, Rosanne and R.Glenn Hubbard. 2000. "The Effect of The Tax Reform Act of 1986 on The Location of Assets in Financial Services Firms", NBER, 7903, September.
- Anderton, Bob and Paul Brenton. 1999. "Did Outsourcing to Low Wage Countries Hurt Less Skilled Workers in the U.K.?", in Brenton and Pelkmans.
- Autor, D., L. Katz, and A. Kruger, 1997. "Computing Inequality: Have Computers Changed the Labor Market?" *Princeton University Industrial Relations Working Paper* No. 377.
- Avi-Yonah, Reuven S., 1998. Globalization, Tax Competition and the Fiscal Crisis of the State, manuscript, Havard Law School.
- Baker, Dean, Gerald Epstein and Robert Pollin, eds. 1998a. Globalization and Progressive Economic Policy, Cambridge: Cambridge University Press.
- Baker, Dean, Gerald Epstein and Robert Pollin, 1998b.. "Introduction" in Baker, Epstein and Pollin.
- Barnet, Richard J. and John Cavanagh. 1994. Global Dreams: Imperial Corporations and the New World Order. New York: Simon and Schuster.
- Bergsten C. Fred, Thomas Horst and Theodore H. Moran, 1978. American Multinationals and American Interests. Washington: Brookings Institution.
- Bhattacharya, A, Montiel P and Sharma, S. 1997. "Foreign Direct Investment and Incentives" Finance and Development. June: 3-6
- Blanchflower, David G., Andrew J. Oswald and Peter Sanfey, 1996. "Wages, Profits and Rent Sharing", Quarterly Journal of Economics, Volume CXI, No. 1, February, pp. 227-252.
- Blonigen, Bruce A. 1999. In Search of Substitution Between Foreign Production and Exports. NBER Paper, No. 7154. June.
- Blonigen, Bruce A. and Ronald B. Davies, 2000. "The Effects of Bilateral Tax Treaties on U.S. FDI Activity", NBER Paper, 7929, October.
- Bluestone, Barry, and Bennett Harrison. 1974. The Deindustrialization of America: Plant Closings, Community Abandonment and the Dismantling of Industry. New York: Basic Books.
- Borensztein, Eduardo, Jose' De Gregario and Jong-Wha Lee, 1995. "How Does Foreign Direct Investment Affect Economic Growth?", NBER Paper, no. 5057.
- Borjas, George J. and Valerie A. Ramey, 1995. "Foreign Competition, Market Power and Wage Inequality". Quarterly Journal of Economics, Volume CXI, No. 1, February, pp. 1075-1111.

- Braunstein, Elissa. 2000. "Gender and Foreign Direct Investment". World Development.
- Braunstein, Elissa and Gerald Epstein. 1999. "Towards a New MAI", in Jonathan Michie and John Grieve Smith., eds. Global Instability and World Economic Governance. New York: Routledge Press.
- Brenton, Paul and Jacques Pelkmans.1999. Global Trade and European Workers. New York: St. Martins Press.
- Bronfenbrenner, Kate, 1997. The Effects of Plant Closing or Threat of Plant Closing on the Right of Workers to Organize, Report to Department of Labor, September, 1996, mimeo.
- Bronfenbrenner, Kate, 2000. "Uneasy Terrain: The Impact of Capital Mobility on Workers, Wages and Union Organizing". Report to The U.S. Trade Deficit Review Commission. mimeo. Cornell University.
- Bughin, James and Stefano Vannini, 1995. "Strategic Direct Investment under Unionized Oligopoly", International Journal of Industrial Organization. 13. Pp. 127-145
- Burke, James, 1997. "The Effects of Foreign Direct Investment on Investment, Employment and Wages In the United States". mimeo. Department of Economics, University of Massachusetts, Amherst.
- Burke, James, 1999. "How Globalized Are U.S. Corporations and Why Does It Matter?", mimeo, Department of Economics, University of Massachusetts.
- Carey, David and Tchilinguirian, Harry 2000. Average Effective Tax Rates on Capital, Labour and Consumption. OECD. Economics Department Working Papers, No. 258.
- Caves, Richard E (1996). Multinational Enterprise and Economic Analysis. Cambridge: Cambridge University Press. 2nd Edition.
- Chang, Ha-Joon. 1998. " Globalisation, Transnational Corporations, and Economic Development - Can the Developing Countries Pursue Strategic Industrial Policy in a Globalising World Economy?" in Baker, Epstein and Pollin. Globalization And Progressive Economic Policy. Cambridge: Cambridge University Press.
- Chitrakar, Ramesh and John Weiss (1995). "Foreign Investment in Nepal in the 1980s: A Cost Benefit Evaluation," The Journal of Development Studies, 31, No. 3, February: 451-466.
- Claessen, S. and S. Gooptu (1995). "Can Developing Countries Keep Foreign Capital Flowing In?" Finance and Development, September: 62-65.
- Cline,William R. 1997. Trade and Income Distribution. Washington, D.C.: Institute for International Economics
- Collins, Susan M. Imports, ed. 1998. Exports and the American Worker. Washington: Brookings Institution.
- Coe, David T., Elhanan Helpman and Alexander W. Hoffmaister, 1995. "North-South R&D Spillovers", NBER Paper, No. 5048.
- Crotty, James, Gerald Epstein, and Patricia Kelly 1998. "Multinational Corporations in the Neo-Liberal Regime," in Dean Baker, Epstein and Pollin, eds. Globalization and Progressive Economic Policy. Cambridge: Cambridge University Press.
- Cummins, Jason G. and R. Glenn Hubbard, 1995. "The Tax Sensitivity of Foreign Direct Investment: Evidence From Firm-Level Panel Data", in Martin Feldstein, James R. Hines, Jr. and Glenn Hubbard, The Effects of Taxation on Multinational Corporations. Chicago: University of Chicago Press, pp. 123-152.

- Davies, Ronald. 2000. "State Tax Competition for Foreign Direct Investment: Much Ado about Nothing?", mimeo, University of Oregon.
- Dowrick, Steve. 1989. "Union-Oligopoly Bargaining", Economic Journal. December, 1989. 1123-1142.
- Dunning, John H., 1994. "Re-evaluating the Benefits of Foreign Direct Investment," Transnational Corporations, Volume 3, No. 1, February: 23-51.
- Epstein, Gerald. 2000. Review: World Investment Report, 1999, UNCTAD. Challenge. May-June. Vol. 43, No. 3, pp. 107-114.
- Epstein, Gerald A. and Herbert Gintis, "International Capital Markets and the Limits of National Economic Policy," in Tariq Banuri and Juliet Schor, eds. Financial Openness and National Autonomy, Oxford: Clarendon Press, 1992, pp. 167-1987.
- Epstein, Gerald. 1996. "International Profit Rate Equalization and Investment: An Empirical Analysis of Integration, Instability and Enforcement." In Epstein and Gintis, eds., Macroeconomic Policy the After the Conservative Era, Cambridge: Cambridge University Press, pp. 308-31.
- Freidman, Joseph, Daniel Gerlowski, and Jonathan Silberman, 1992. "What Attracts Foreign Multinational Corporations? Evidence From Branch Plant Location in the United States," Journal of Regional Science, Vol. 32, NO. 4, pp. 403-418
- Federal Reserve Bank of Minneapolis, 1994. "Congress Should End the Economic War Among the States," <http://woodrow.mpls.frb.fed.us/sylloge/econwar/war-cite.html>
- Feenstra, Robert C. (ed). 2000. *The Impact of International Trade On Wages*. Chicago: The University of Chicago Press.
- Feenstra, Robert C. 1998. "Integration of Trade and Disintegration of Production in the Global Economy". Journal of Economic Perspectives. Fall, 1998, vol. 12, No. 4, pp. 31-50.
- Feenstra, Robert C. and Gordon H. Hanson, 1996a. "Globalization, Outsourcing and Wage Inequality," *American Economics Review*, May, pp. 240-245.
- Feenstra, Robert C. and Gordon H. Hanson, 1996b. "Foreign Investment, Outsourcing and Relative Wages," in Robert C. Feenstra, Gene M. Grossman and Douglas A. Irwin, eds., *Political Economy of Trade Policy: Essays in honor of Jagdish Bhagwati*. Cambridge, MA: MIT Press, pp. 89-127.
- Feenstra, Robert C. and Gordon H. Hanson, 1999. "The Impact of Outsourcing and High-Technology Capital on Wages: Estimates for the United States, 1979-1990," *Quarterly Journal of Economics*, August.
- Figlio, David N and Bruce A. Blonigen. 1999. "The Effects of Direct Foreign Investment on Local Communities", NBER Working Paper, No. 7274.
- Fors, Gunnar and Ari Kokko, 1999. "Home Country Effects of FDI: Foreign Production and Structural Change in Home Country Operations". www.NBER.org
- Freeman, Richard B. and Medoff, James 1979, New Estimates of Private Sector Unionism in the U.S. *Industrial and Labor Relations Review* 32, pp. 143-74.
- Gintis, Herbert. 2000. Game Theory Evolving. Princeton: Princeton University Press.

- Graham, Edward. M Forthcoming. "The Economic Effects of Investment Incentives on Host Economies" in Competing for Foreign Direct Investment: Government Policy and Corporate Strategy in Asia ed. by Encarnation D.J and Velic, B. Oxford University Press: forthcoming
- Guisinger, Stephen. 1985. "Investment incentives and performance requirements: patterns of International Trade, Production and Investment": Prager (1985)
- Haddad, Mona and Ann Harrison (1993). "Are There Positive Spillovers from Direct Foreign Investment? Evidence from Panel Data for Morocco," Journal of Development Economics, 42, No. 1, October: 51-74.
- Gresik, Thomas. 2000. "The Taxing Task of Taxing Transnationals", mimeo, Department of Economics, The Pennsylvania State University.
- Grubert, Harry and Joel Slemrod, 1994. "The Effect of Taxes on Investment and Income Shifting to Puerto Rico", NBER Working Paper, no. 4869.
- Head, C. Keith, John C. Ries and Deborah L. Swenson, 1994. "The Attraction of Foreign Manufacturing Investments: Investment Promotion and Agglomeration Economies", NBER Paper, No. 4878.
- Hanson, Gordon H. and Ann Harrison. 1995. Trade, Technology, and Wage Inequality. NBER Working Paper No. 5110. May. National Bureau of Economic Research.
- Harrison, A., "Productivity, Imperfect Competition and Trade Reform: Theory and Evidence," Journal of International Economics. 1994. 53-73.
- Harrison, A., "Who Gains from Trade Reform? Some Remaining Puzzles," NBER Working Paper 6915, 1999.
- Harrison, A., and A. Revenga, "The Effects of Trade Policy Reform: What Do We Really Know?" NBER Working Paper No. 5225, 1995.
- Hines, James R., Jr. 1996. "Altered States: Taxes and the Location of Foreign Direct Investment in the United States", American Economic Review, 86(5): 1076-1094.
- Hines, James R., Jr. 1996. "Tax Policy and the Activities of Multinational Corporations", NBER Paper, No. 5589.
- Hines, James R., Jr. 1999. "Lessons from Behavioral Responses to International Taxation", National Tax Journal, June, Vol. LII, No. 2, pp. 305-323.
- Holmes, Thomas J. 1995, "Analyzing a Proposal to Ban State Tax Breaks to Businesses," *Federal Reserve Bank of Minneapolis Quarterly Review*, pp. 29-39.
- Jayadev, Arjun. 2000. "Competition For Foreign Direct Investment: A Review Of The Theoretical Reasoning And Empirical Evidence." mimeo, University of Massachusetts.
- Jha, Raghendra, Hari Nagarajzn and Kolumum R. Nagarajan, 2000. "Fiscal Federalism and Competitive Bidding." mimeo. IGIDR, Bombay, India.
- Kohr, Martin. 2000. "Globalization and the South: Some Critical Issues". UNCTAD. April.
- Kozul-Wright, Richard 1995. "Transnational Corporations and the Nation State", in Jonathon Michie and John Grieve-Smith, editors, *Managing the Global Economy*, Oxford University Press, Oxford.
- Lipsey, Robert E. 1998. "Internationalized Production In Developed And Developing Countries And In Industry Sectors". NBER Working Paper, 6405.

- Lipsey, Robert E. 1999a. "The Role of FDI in International Capital Flows", NBER Paper, No. 7094, April.
- Lipsey, Robert. 1999b. "Foreign Production By U.S. Firms and Parent Firm Employment", NBER Working Paper, No. 7357.
- Lipsey, Robert, Magnus Blomstrom and Eric Ramstetter. 1995. "Internationalized Production in World Output", NBER Paper no. 5385.
- Lipsey, Robert, Eric Ramstetter and Magnus Blomstrom, 2000. "Outward FDI and Parent Exports and Employment: Japan, the United States and Sweden", NBER Working Paper, No. 7623
- Low J. and Subramaniam. 1996. "TRIMs in the Uruguay Round: An Unfinished Business?", in The Uruguay Round and the Developing Economies, ed. by Martin and Winters; World Bank Discussion Papers 307, Washington, D.C.
- Maddison, Angus, 1995. The Monitoring the World Economy, 1820-1992, OECD, Paris.
- Mbeakani, Kennedy. 1998. "Foreign Direct Investment and Economic Growth" National Institute for Economic Policy, Occasional Papers.
- Moran, T. 1998. Foreign Direct Investment and Development: The New Policy Agenda for developing Countries and Economies in Transition. Washington: Institute for International Economics.
- Naylor, Robin and Michele Santoni. 1999. "Foreign Direct Investment and Wage Bargaining", University of Warwick, Centre for the Study of Globalization and Regionalization and Economic and Social Research Council. (www.csgr.org)
- Nembhard, Jessica Gordon, 1996. Capital Control, Financial Regulation and Industrial Policy in South Korea and Brazil. Westport, Ct: Praeger Publishers.
- Oates, Wallace. 1972. Fiscal Federalism. New York: Harcourt Brace, 1972.
- Organization for Economic Cooperation and Development : "Harmful Tax Competition, An Emerging Global Issue" (1998)
- Pfeffermann, Guy. 1992. "Facilitating Foreign Investment," *Finance and Development*, March.
- Rasmusen, Eric. 1994. Games and Information: An Introduction to Game Theory. New York: Blackwell, 2nd Edition.
- Rauch, James E. and Vitor Trindade, 2000. "Information and Globalization: Wage Co-Movements, Labor Demand Elasticity and Conventional Trade Liberalization", NBER Working Paper, 7671.
- Revenga, A. L., "Exporting Jobs? The Impact of Import Competition on Employment and Wages in U.S. Manufacturing," *Quarterly Journal of Economics*, CVII (1992), 255-284.
- Revenga, A. L., "Employment and Wage Effects of Trade Liberalization: The Case of Mexican Manufacturing," Journal of Labor Economics, XV (1997), S20-S43.
- Reddy, Sanjay, 2000. Bargaining And Distribution:Essays On International Integration And National Regulation. Dissertation, Department of Economics, Harvard University.
- Reddy, Sanjay and Arindrajit Dube. 2000. "Liberalization, Income Distribution and Political Economy: The Bargaining Channel and Its Implications". Mimeo, Harvard University, Department of Economics.

- Rodrik, Dani. 1997. Has Globalization Gone Too Far? Washington: Institute for International Economics.
- Rodrik, Dani. 1999. "Globalisation and Labour, or: if Globalisation is a bowl of cherries, why are there so many glum faces around the table?" in, Richard E. Baldwin, et. al., eds., Market Integration, Regionalism and the Global Economy. Cambridge: Cambridge University Press and the Centre for Economic Policy Research.
- Shah, Anwar. 1995. Fiscal Incentives for Investment and Innovation. Oxford University Press
- Slaughter, Matthew J., 1995. "Multinational Corporations, Outsourcing, and American Wage Divergence," NBER Working Paper 5253.
- Slaughter, Mathew, 1998b. "Production Transfer Within Multinational Enterprises and American Wages", forthcoming, Journal of International Economics.
- Svejnar, Jan. 1986. "Bargaining Power, Fear of Disagreement and Wage Settlements: Theory and Evidence from U.S. Industry", Econometrica, vol. 54, No. 5 (September, 1986), 1055-1078.
- Tanzi, Vito, 1995. Taxation in an Integrating World. Washington: Brookings Institution.
- Tanzi, Vito. 1999. "Is there a Need for a World Tax Organization" in Razin and Sadka, 1999, pp. 173-186.
- United Nations Centre on Transnational Corporations, 1991. Government Policies and Foreign Direct Investment. ST/CTC/SER.A. 17. New York: United Nations, November.
- _____ 1992. The Determinants of Foreign Direct Investment, A Survey of the Evidence. ST/CTC/12. New York: United Nations.
- UNCTAD. 1996a, Incentives and Foreign Direct Investment, New York and Geneva: United Nations
- UNCTAD. 1996. World Investment Report (WIR) 1996
- UNCTAD. 1997. World Investment Report (WIR) 1997
- UNCTAD. 1998. World Investment Report (WIR) 1998.
- UNCTAD. 1999. World Investment Report (WIR) 1999.
- UNCTAD. 1999b. "Comprehensive Study of the Interrelationship Between Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI). UNCTAD, 23 June 1999. UNCTAD/GDS/DFSB/5.
- UNCTAD. 2000. World Investment Report (WIR) 2000.
- United Nations Center on Transnational Corporations. 1992. The determinants of Foreign Direct Investment- A survey of the evidence, United Nations, NY.
- United States Department of Commerce, Bureau of Economic Analysis, Survey of U.S. Direct Investment Abroad, various years.
- _____, Survey of Current Business, various issues.
- United States Department of Commerce, International Trade Administration, 1996. Country Commercial Guidelines, Investment Climate Sections.
- Wells, L. "Investment Incentives: An Unnecessary Debate" The CTC reporter 22 (Autumn) 1986

Wells, L and Wint A: " Marketing a Country: Promotion as a Tool for attracting Foreign Investment" FIAS occasional paper #1. Washington. 1990

Wilson, John D. 1999. "Theories of Tax Competition", National Tax Journal, June, Vol LII, No. 2., pp. 269-303.

Wood, Adrian. 1994. North-South Trade, Employment and Inequality. Oxford: Clarendon Press.

Wood, Adrian. 1995. "How Trade Hurt Unskilled Workers," Journal of Economic Perspectives. Volume 9, No. 3, Summer, 1995, pp. 57-80.

Wood, Adrian. 1998. "Globalisation and the Rise in Labour Market Inequalities", Economic Journal, Vol. 108 (450), pp. 1463-82, September.

Woodward, Douglas and Robert Rolfe. 1993. "The Location of Export-Oriented Foreign Direct Investment in the Caribbean Basin." Journal of International Business Studies 24(1): 121-144.

World Trade Organization. 1996. Trade and Foreign Direct Investment Report.

Zhao, Laixun, 1995. "Cross-hauling Direct Foreign Investment and Unionized Oligopoly". European Economic Review. Pp. 1237-1253.

Zhao, Laixun. 1998. "The Impact of Foreign Direct Investment on Wages and Employment", Oxford Economic Papers, 50, pp. 284-301.