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ABSTRACT

Who Determines Mexican Trade Policy?*

This Paper uses a political economy approach to analyse the pattern of Mexican manufacturing sector protection during the period of trade policy reforms between 1985 and 1989 when Mexico experienced both an important inflow of foreign direct investment (FDI) and a significant trade liberalization. The approach takes into account the potential role of FDI on endogenous tariff formation. It turns out that the data is coherent with the proposed approach in which trade policy formulation reflects political support and in which the sectoral presence of FDI has a strong influence on the determination of the pattern of tariff protection before and during the reform. In particular in Mexican manufacturing, FDI-intensive sectors received higher protection in import-competing sectors, though the move towards greater openness was associated with a reduction in the influence of industrial and FDI lobbying.

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NON-TECHNICAL SUMMARY

The political economy literature is increasingly called upon to help gain a better understanding of the pattern of protection. To explain different protection levels in different industries, it is necessary to focus on the role played by different domestic pressure groups in the determination of protection. With Foreign Direct Investment (FDI) increasing at an average of 27% per year during the period 1985–95, pressures arising from the participation of foreign groups in lobbying is becoming a significant determinant of the structure of protection. Arguably, such pressures are likely to be particularly important in the manufacturing sectors of developing countries where FDI is sizeable.

The theoretical literature has identified several mechanisms through which FDI may affect levels of protection. *Quid pro quo* FDI, which takes place in anticipation of tariff increases in the host country, may help to defuse protectionist pressures through several channels, as suggested by Bhagwati, Dinopoulos and Wong (1992). It can, for example, buy goodwill from the host country government, or co-opt labour unions and weaken their incentives to lobby for protection 'to save jobs'. Hillman and Ursprung (1993) also suggested that increasing FDI inflows may lead to lower levels of protection. This is because, when FDI rises, import competition is reduced, as foreign firms now sell from the host country (FDI).

While the theoretical literature has generally identified mechanisms through which FDI reduces protection levels, one may think of at least two mechanisms through which FDI may lead to higher tariffs in the host country. Indeed, this will occur if either FDI has a better lobbying technology due to a larger experience in lobbying, or if host governments are more sensitive to FDI interests due, for example, to a higher credibility of foreign firms in the lobbying game. There is some anecdotal evidence that this has been the case recently when several Eastern European countries negotiated bilateral trade agreements with the European Union, or in the case of Mercosur, where the automobile sector is excepted from internal free-trade and has an important presence of foreign firms.

The aim of this paper is to try to identify the role played by FDI in the determination of Mexican trade policy. A Mexican case study is relevant for at least four reasons. First, a broad trade reform took place during the period under analysis (1985–90), so it is possible to study the pattern of changes in protection. Second, Mexico was a country with a significant and growing share of FDI. Third, unlike most of the evidence in the political economy literature so far, Mexico was not a member of GATT, so it had freedom in tariff-setting well beyond that available for GATT members. Finally, a panel database of

manufacturing firms is available so it is possible to measure relatively accurately, indicators of market structure recognized to be important in the determination of the demand for protection.

The results show that FDI was a significant player in the determination of Mexico's tariff structure. The data suggests that if the presence of FDI in itself tended to lower tariffs, this was not true for import-competing sectors. Import-competing sectors with large shares of FDI tended to be over-protected. However, this has been (partially) corrected during the trade policy reform and it appears that in 1990 the influence of FDI on tariff structure is almost negligible.

1 Introduction

The political economy literature is increasingly called upon to help gain a better understanding of the pattern of protection. For example, it predicts that in manufacturing, sectors where firms are highly concentrated will obtain higher levels of protection, as free-riding by firms lobbying for protection is easier to overcome in small groups. Similarly, declining industries will receive higher levels of protection as the opportunity of lobbying is lower in a slow-growing industry than in a dynamic sector. These and other predictions of the political economy literature have been tested on cross-section data sets for manufacturing activities in developed economies.[1]

This empirical literature usually concentrates on the role of different domestic pressure groups in the determination of protection. However, with the increasing importance of Foreign Direct Investment (FDI), pressures arising from the participation of foreign groups in lobbying should be taken into account.[2] Arguably, such pressures are likely to be particularly important in the manufacturing sectors of developing countries where FDI is sizeable.[3] Focusing on the role of FDI may help obtain a more complete picture of the political-economy determinants of protection for at least two reasons. First, there is a tradition in the development literature that gives a prominent role to FDI in the process of industrialization.[4] Second, the role of FDI has long been recognized in the trade literature. In recognition of the importance of FDI, a trade-theoretic literature has developed starting in the late eighties with Bhagwati's

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[1]The surveys by Ray (1990), Rodrik (1995), Magee (1997) review the main findings of this literature. It should be noted that the bulk of evidence is for developed countries that have their tariffs tied, as a result of their GATT membership. This seriously limits the usefulness of the predictions derived from these studies, since tariff reductions have followed, with few exceptions, straight line formulas that apply for all countries.

[2]FDI has been increasing at an average of 15% during the last decade.

[3]Inflows of FDI developing countries have increase from an average share of .7% of developing countries' GDP in 1985 to 4.5% in 1997. Mexico is no exception. During the same period the ratio of FDI stock to GDP went from 3.8% to 7.1% (OECD (1997).

[4]For some, FDI provides the stimulus for acquiring and mastering new technologies, thereby providing positive externalites, while for others it is an impediement to industrialization as its only purpose is to take advantage of cheap labor and establish dominant positions in the host country's market. The debate is covered in Helleiner (1989).

(1987) concept of quid pro quo FDI, which takes place in anticipation of tariff increases in the host country and can potentially diffuse the threat of protection.[5] Similarly, in a political-economy setup, Hillman and Ursprung (1993) show that tariff-jumping FDI can result in lower levels of protection at equilibrium, even in cases where FDI lobbies for protection and its lobby technology is as efficient as the technology of domestic firms.

So far, these theoretical predictions have only been tested on the US, where quid pro quo FDI is more likely to occur than in developing countries.[6] Also, as noted above, the US tariff, like that of other developed countries has been bound by the GATT for a long time, with tariff reductions taking place in a multilateral context according to straight line formula reductions, making it difficult to discern the effects of pressure-group activity on trade-policy formulation. At the same time, there is little evidence for developing countries where this problem of tariff-binding has not arisen, at least until recently.

This paper looks for further evidence on the potential effects of FDI on trade-policy formulation. It also provides as a case study in a developing-country context where quid pro quo FDI is likely to be less important.[7]The evidence is for the Mexican manufacturing sector during the period 1985-1990. A Mexican case study is relevant for at least four reasons. First, a broad trade reform took place during this period, so it is possible to analyze the pattern of changes in protection. Second, Mexico was a country with a significant and growing share of FDI. Third, unlike most of

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[5]The influence of quid pro quo FDI on tariffs and welfare is also examined in Bhagwati, Brecher, Dinopolous and Srinivisan (1987), Bhagwati, Dinopolous and Wong (1992), and Grossman and Helpman (1994).

[6]The empirical literature agrees on the fact that trade policy is a determinant of FDI in the US, Europe and Japan, but there is little evidence that quid pro quo FDI has successfully reduced protection in the US. For empirical evidence, using different and interesting methodologies, see Azrak and Wynne (1995), Barrell and Pain (1999), Blonigen and Feenstra (1996), and Blonigen and Figlio (1998).

[7]One exception is Kraemer (1995), which also focuses on the Mexican trade policy reform. Kraemer concludes that the weight of foreign investors in an industry is of no importance for the sectoral structure of liberalization. The methodology used in this study is different from the one in Kraemer's, as discussed in section 3.

the evidence on the political economy literature so far, Mexico was not a member of GATT, so it had freedom in tariff-setting well beyond that available for GATT members. Finally, a panel data base of manufacturing firms is available, so it is possible to measure relatively accurately, indicators of market structure recognized to be important in the determination of the demand for protection.

To anticipate the main results, it turns out that the correlates of tariff changes in Mexican manufacturing protection during the period are broadly consistent with the view that FDI is an important "political economy factor" along the lines that would be predicted by the recent literature on endogenous protection. Section 2 discusses briefly Mexican trade policy reform during the period covered by the study. Section 3 reviews the theoretical predictions from the endogenous trade-policy literature, emphasizing the role of FDI. Using the influence-driven approach, we show that the usual prediction in the literature (namely that tariff levels and FDI should be negatively correlated) which is not borne out by the evidence is not robust. Section 4 describes the model specification, while section 5 reports the results. Section 6 concludes.

2   Mexican trade policy reform

Following the 1982 debt crisis, new trade restrictions were introduced, and both trade and FDI plunged (in 1984, total trade was 40 percent below its 1980 level, and FDI declined by 50 percent). Trade policy reform started in 1985 with an important cut in quantitative restrictions (import-licensing mainly). It was followed by a first round of tariff reduction in April 1986 (according to Mexico's GATT accession) and completed by a (before-schedule) second round in December 1987 (Economic Solidarity Pact). Since then, until 1990, the structure of protection remained almost unchanged. Thus Mexico's trade and FDI policies were sharply reoriented towards more openness starting in the mid-eighties and during the period covered by this study.

Indicators of the magnitude of the trade reforms for manufacturing during 1985-90 appear in table 1. They suggest that reduction in protection in manufacturing was swift and drastic. In less than three years, both quantitative and tariff restrictions were substantially reduced, as well as their dispersion.[8] However, the impact on imports was delayed, as the import penetration ratio only increased after 1988. This lagged response was partly due to weak demand, reflected by production levels below their long run trend. It was also the consequence of the strong real depreciation of the Mexican peso during 1986-1987 which allowed domestic producers to adjust more smoothly to the new exposure to international competition.

INSERT TABLE 1 HERE: GLOBAL TRENDS IN MEXICAN
MANUFACTURING: 1984-1990.

The regulatory environment traditionally discouraged FDI in most industries, with minority participation restrictions and prior authorization from the central government. Reforms began in 1986, with the initiation of debt-to-equity conversion schemes and the exemption of small to medium levels of investment from government approval for foreign majority participation. Total FDI inflows (primarily to manufacturing) correspondingly increased, although they dropped again in 1988 with the end of the debt-to-equity swaps program. However, the trend was soon reversed again in 1989 with the adoption of a new law, which eased substantially the regulatory obstacles to foreign investment.[9] Given the change in trade policy and the perspective of a NAFTA agreement, it is clear that this new generation of FDI was no longer of the tariff-jumping type, but rather outward-oriented, as illustrated by the case of the maquiladoras.

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[8]The reduction in effective protection was also substantial (close to 50 percent on average when comparing the 1984-1985 period to the 1986-1987 period).

[9]Majority investment in nonrestricted sectors was eligible to receive automatic approval if it met six clearly defined criteria (e.g., capital originates outside Mexico, satisfaction of existing environmental regulations, etc...) Limited access to the Mexican stock market was permitted through special trust funds. Automatic approval was granted if the National Foreign Investment Commission failed to reach a decision within 45 days.

Close consultation with business has been a key factor in the re-orientation of Mexico's trade policy. The GATT (1993) trade policy review of Mexico reports a high level of cooperation and linkage between the government and the private sectors through entities such as the Coordinating Body for Foreign Trade Entreprises (COECE). There is also strong evidence of lobbying during the reform period, as reported by Kraemer (1995). A survey by Story Mexican Businessman in 1986, reports that 80 percent of Mexican industrialists turn to their industrial association when trying to influence a public-policy decision and only 3 percent think it is useless to attempt to influence policy by any means. Moreover, the same survey classifies trade protection as the policy that can be more easily influenced. Presumably then, industrialist lobbies had an important influence in the determination of Mexican trade policy. But were owners of foreign capital also important players in the determination of Mexican trade policy and, if so, in which direction did they affect it?

3   Predictions of the endogenous protection literature

As suggested by Magee, Brock and Young (1989), it is useful to view policy choices as being determined in a political "market" in which the choice of policy plays the same role as prices in an ordinary market. An equilibrium is reached when policies have been adjusted to the point where the marginal value of resources spent by opposing parties is equal. In practice, however, how those who seek protection and how those who oppose it exert their influence, and hence the outcome, depends on the institutional context or supply side of the market which is usually treated summarily in the literature. Fortunately, as we are concentrating on the pattern of protection across sectors, the institutional context is less important as it presumably affects all

sectors more or less equally.[10]

3.1 Endogenous tariffs in the presence of FDI

Much of the theoretical literature on endogenous tariffs in the presence of FDI is theoretical and predicts generally that the presence of FDI should lead to lower levels of tariffs regardless of the approach (trade-theoretic or political-economy). To begin with, on welfare grounds and in imperfectly competitive markets (markets in which FDI is more likely to occur as suggested by Diaz-Alejandro, 1970 or Markusen, 1995), the presence of foreign capital reduces the rationale for tariffs based on profit-shifting to domestically-based firms. If foreign-owned firms repatriate their profits, then there is no reason to try to shift profits to domestically based firms. In the extreme case where all domestically-based firms are foreign-owned, the case for protection reduces to the usual terms-of-trade argument.[11]

Next, in models where FDI participates in the decision-making process through lobbying, it has been shown that the presence of FDI is likely to lead to lower tariffs. Hillman and Ursprung (1993) argue that even in the case of cirumventing FDI where foreign firms lobby for protection, the outcome is likely to imply a lower level of protection. This is because when FDI rises, import competition is reduced, as foreign firms now sell from the host country. This, in turn, reduces the gain to national firms from protectionist policies in their home market. Competition now comes from inside the border. Thus, the incentive of national firms to contribute for protection is lower and, therefore, the entry of FDI may result in lower levels of protection.[12]

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[10]Helpman (1995) shows that the predictions from the political economy literature are quite robust to model selection −e.g. the political-support function, direct or representative democracy, the tariff formation model, or the influence−driven approach− so that in discussing predictions, one need not distinguish competing approaches. Rather, it is useful to distinguish tariff-formation in the presence of, and in the absence of FDI. The brief review below serves to place into perspective the empirical results.For a comprehensive review of the literature, see Rodrik (1995) or Magee (1997).

[11]See Dick (1993), Lee (1990) and Olarreaga (1996).

[12]This implicitly assumes that domestic and foreign firms share the same lobbying technology (or, more accurately, that foreign firms do not have a better lobbying technology). Also, the government is as sensitive to foreign firms as to domestic firms.

In a trade-theoretic context, Bhagwati (1987) and Bhagwati *et al.* (1987) introduced the notion of quid pro quo FDI (quid pro quo FDI is motivated by a protectionist threat in the host country), and showed that it helps defuse protectionist pressures through several channels (see Bhagwati, Dinopoulos and Wong (1992)). First, FDI can buy goodwill from the host country government and, therefore, reduce protection through its supply side. Second, it can co-opt labor unions and weaken their incentives to lobby for protection 'to save jobs'. Third, 'anti-foreign-bashing' can be built by obtaining visibility through FDI. Fourth, it may co-opt the host country firms that seek to lobby for protection (directly through joint-ventures with domestic firms or indirectly by participating in industrial lobbying).[13] Thus for all the above reasons one would expect that:

- the larger is the share of FDI, the lower the tariff.

The empirical literature on quid pro quo FDI and tariff formation is small and restricted to FDI in the US. Azrak and Wynne (1995) using industrial data, showed that Japanese FDI in the US is sensitive to the probability that an antidumping duty will be imposed (i.e., expected increase in protection); but they do not test for the effect of this FDI on tariffs in the US. Blonigen and Feenstra (1997) confirm Azrak and Wynne's finding, but also look at the effects of FDI on tariffs. They find mixed evidence for the protectionist diffusion effect of quid pro quo FDI at the industry level. Blonigen and Figlio (1998) also found the same result using a different methodology. By focusing directly on the voting behavior of senators in the US, Blonigen and Figlio found that legislators who leaned towards free trade relaxed their protectionist stance after the entry of FDI. On the other hand, legislators who were initially protectionists, toughened their protectionist positions after the entry of FDI.

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[13]However, the effect of quid pro quo FDI on protection is not as clear as suggested above. Grossman and Helpman (1994b) showed that quid pro quo FDI does not necessarily result in lower tariffs. Bhagwati, Dinopoulos and Wong (1992) suggest that quid pro quo FDI may also be perceived as a threat by the host government and may therefore lead to higher protection.

Unlike the theoretical literature that appears unanimous, the empirical gives elusive evidence on the effects of FDI on tariff levels. Thus one is brought to question the robustness of that prediction. Below, we develop several arguments that suggest a positive correlation between FDI share and tariff levels.

3.1.1 Can FDI lead to higher tariffs?

There at least two reasons why tariffs may be higher in sectors with large shares of FDI. First, owners of foreign capital (i.e., FDI), may have access to a better lobbying technology. One can imagine that multinational companies have a larger experience of lobbying in different countries which they can adapt to the host government. Second, governments may be more sensitive to FDI interests than to the interests of nationals. This may be so for several second-best arguments ranging from the fact that foreign companies may be more credible in the lobbying game than domestic producers (e.g., due to financial constraints domestic producers cannot keep their promises) to the perception that FDI brings technology spillovers. For these and other reasons, governments may be more receptive to FDI demands, as notably has been the case recently when several Eastern European countries negotiated bilateral trade agreements with the EU.

To simplify, focus on the case where the government is more sensitive to demands from owners of foreign capital than from owners of domestic capital. Even then, somewhat surprisingly, this is not enough to result in higher tariffs in sectors with large shares of FDI. As will be shown below, the weight given to FDI in the government's objective function needs to be larger than the sum of the weights given to owners of domestic capital and to social welfare for this to happen .

Take the following faniliar setup from the Grossman and Helpman (1994) framework. Assume a small open economy with n sectors producing with a constant returns to scale technology employing sector-specific capital and intersectorally mobile labour. Sector specific capital can be domestic or foreign-owned. Sector 0 employs only labour

under constant returns to scale. Thus the productivity of labour in sector 0 determines the equilibrium wage. Good 0 serves as numéraire. Consumers have identical and additive quasi-linear utility function. The utility function is quasi-linear in good 0. This allows to abstract from income and substitution effects in the consumption of goods which are produced employing foreing capital.

The lobbying game is *à la* Grossman and Helpman where owners of sector-specific capital in each sector (domestic and foreign) face the government with a 'truthful' contribution function conditioned on the domestic price in their sector (i.e, the world price plus the tariff).[14] Truthfulness implies that in the neighbourhood of the equilibrium, the derivatives of the sector contribution with respect to the domestic tariff is equal to the derivative of the profit function with respect to the tariff; i.e., the marginal cost of a tariff increase should be equal to its marginal benefit for the lobbying group.[15] Owners of domestic and foreign capital share the same lobbying technology, but lobby through different groups.[16] The government's objective function combines political contributions and *national* social welfare. The latter reflects government's concern for the average voter. Thus, the government's problem can be written as

$$\max_{\mathbf{t}} \; V(\mathbf{t}) \equiv C(\mathbf{t}) + \beta C^{\star}(\mathbf{t}) + \alpha W(\mathbf{t}) \tag{1}$$

where $C = C^{\star}$ are the contribution functions of domestic and foreign-owned firms respectively (all variables refering to owners of foreign firms will be denoted with a '$\star$'); $\mathbf{t}$ is the tariff vector; W is social welfare; α is the weight given to social welfare in the government's objective function and β is the weight given to foreign firms'

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[14]To simplify, unlike Grossman and Helpman (1994), we assume that lobbies ignore the effect of trade protection on the cost of living. Combined with previous assumptions allows us to treat the multiple-principal problem in Grossman and Helpman as several principal-agency problems that can be solved independently.

[15]For a discussion of truthful equilibrium in this context, see Bernheim and Whinston (1986).

[16]This assumption which adds to the clarity of the exposition can be relaxed without modifying the results.

contributions in the government's objective function.

Given the above simplifying assumptions, there are n first-order conditions that can be solved independently. Thus, using the truthfulness property of the contribution function, yields the following implicit expression for the optimal tariff in sector i :

$$\frac{\partial V}{\partial t_i} = \frac{\partial \pi}{\partial t_i} + \beta \frac{\partial \pi^\star}{\partial t_i} + \alpha \frac{\partial W}{\partial t_i} \tag{2}$$

where π and $\pi^\star$ are profits of domestic and foreign firms respectively. Recalling the small country assumption, which implies that $\partial p_i / \partial t_i = 1$, and using Hotelling's lemma, equation (2) becomes

$$\frac{\partial V}{\partial t_i} = y_i + \beta y_i^\star + \alpha \frac{\partial W}{\partial t_i} \tag{3}$$

The expression for the change in welfare following a tariff increase is given in the appendix. Note that it only includes *nationals'* interests, i.e., it excludes the change in foreign firms' profits. It is given by:

$$\frac{\partial W}{\partial t_i} = \Leftrightarrow y_i^\star + t_i \frac{\partial m_i}{\partial t_i} \tag{4}$$

where m_i are imports. Substituing (4) into (3) and solving for t_i yields the optimal tariff, $\hat{t}_i$

$$\hat{t}_i = \frac{y_i + \beta y_i^\star \Leftrightarrow \alpha y_i^\star}{\alpha \left\| \frac{\partial m_i}{\partial t_i} \right\|} \tag{5}$$

Defining $y_i^T = y_i + y_i^\star$ as total output in sector i and rearranging (5), it yields

$$\hat{t}_i = \frac{y_i^T}{\alpha \left\| \frac{\partial m_i}{\partial t_i} \right\|} \left[1 + s_i^\star (\beta \Leftrightarrow 1 \Leftrightarrow \alpha) \right] \tag{6}$$

where $s_i^\star$ is the share of output produced by foreign-owned capital. The term outside the square brackets in (6) is the optimal Grossman-Helpman tariff in the absence of foreign firms. The second term in squared brackets captures the effects of foreign firms' lobbying on the determination of the optimal tariff.

Proposition *The optimal tariff in sector i will increase with the share of* FDI *in sector i if and only if the weight given to* FDI *political contributions in the government's objective function is larger than the sum of the weights given to domestic firms contributions plus social welfare.*

Proof.   From (6) note that $\partial \hat{t}_i / \partial s_i^\star > 0 \Leftrightarrow \beta > 1 + \alpha$. □

If the government gives the same weight to foreign firms' political contributions as to domestic firms, i.e. $\beta = 1$, then tariffs would be negatively correlated with the share of FDI. This is so because the income of owners of foreign capital does not enter the national welfare function which in turn gives incentives to the government to have lower tariffs in sectors with large shares of FDI, based on relative welfare effects.[17] Note also that the fact that the government gives more weight to foreign firms than to domestic firms' political contributions is not a sufficient condition for tariffs to increase with the share of FDI. The reason for this is that domestic firms' profits enter twice in the government's objective function. First through contributions and second through social welfare, whereas foreing firms profits enter only through political contributions. Finally, if the government does not distinguish between domestic and foreign firms and includes foreign firm's profits in its welfare function, then the share of FDI would

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[17]For similar results in a general-equilibrium trade-theoretic framework, see Bhagwati and Brecher (1980), Bhagwati and Tironi (1980), Schweinberger and Vosgerau (1997) and Olarreaga (1998).

have no effect on the tariff level, i.e. $\beta = 1 + \alpha$.

3.1.2 Does fdi trade-orientation matter?

Is FDI in export-competing sectors going to affect tariff formation in the same way as FDI in import competing sectors? This is a pertinent question, especially for Mexico with its proximity to the US market. To our knowledge, there is no evidence on this. We address the issue by using an interacting term between net import-penetration (nm/y^T) and the share of FDI $(s^\star)$ in each sector. The net import-penetration ratio (imports minus exports divided by output) is an indicator of 'revealed comparative disadvantage' that serves as a proxy for a sector's trade orientation.[18] FDI trade-orientation can then be proxied by:

$$mFDI = (m \Leftrightarrow x)/y^T * s^\star = nm/y^T * s^\star \tag{7}$$

where $mFDI$ is the interacting variable, m is the level of imports, x is the level of exports, y^T is total output and $s^\star$ is the share of output produced by foreign firms.[19]

A positive sign for $mFDI$ in the tariff equation estimated in the empirical sector will imply that sectors which are import competing (i.e, have a comparative disadvantage) and where there is an important presence of FDI, will tend to have higher tariffs. And this by proposition 1 will suggest that the weight given to foreign firms political contributions in the government's objective function is higher than the sum of the weights given to domestic firms political contributions and social welfare.

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[18]Bowen (1983) argues why revealed comparative advantage indicators should be normalised by production and not total trade.

[19]Foreign firms are here defined as those with more than 10% of foreign capital.

3.2 Other determinants of the patterns of protection

With the few exceptions noted above, the empirical literature has neglected the role of FDI, and has concentrated on the determinants discussed below. These, and some theoretical arguments (also briefly reviewed below), are relevant for the Mexican case and are included in the empirical specification. To justify the empirical specification below and place our findings in perspective, we note the following :

- Protection having the characteristics of a public good, and contributions to lobbying being voluntary, organizational costs will be an increasing function of group size. Hence tariffs should be positively correlated with industry concentration.[20]

- If labor unions are well organized,[21] industries with significant shares of employment will obtain higher wages and be more protected.[22]

- Large sectors will have more political weight. Regulators will be sensitive to the size of the sector. Moreover, the lower the import-penetration ratio (imports over output), the lower the relative weight of consumers compared to producers in the government's objective function.[23] Thus, the lower the import-penetration ratio (net imports over output), the higher the rate of protection. For a theoretical justification, see Grossman and Helpman (1994a). Rodrik (1995) challenges this result on empirical grounds (see Anderson, 1980).

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[20]Note however, that the theoretical literature is divided on this. Cornes and Sandler (1996) argue that as size of the group increases, this may also result in higher contributions by the group. Hillman (1991) argues that the theory on lobbying and size group is not wel- founded in empirical measures of industry concentration. Yet, surveys of the empirical literature suggest this is a robust result (see Rodrik, 1995 Magee, 1997, or Bilal, 1998).

[21]And there is evidence that they were in Mexico. COPARMEX is the employer's confederation and had strong influence on government's decisions as reported by Kraemer (1995).

[22]Kruger and Summers (1987) find strong evidence for the US. and for a theoretical justification, see Cadot et al. (1997).

[23]To see this, note that $m/y = (c - y)/y = c/y - 1$, where m denotes imports (or net imports), c is consumption and y is the level of production.

- Declining industries tend to obtain more protection (see Hillman, 1982, or Brainard and Verdier, 1994). In a dynamic context, the 'compensation effect' predicts that declining industries (slow-growing) will lobby more as the opportunity cost of lobbying will be lower. This suggests that import-penetration ratios should be positively correlated with changes in tariffs.

- Labor intensive sectors tend to be more protected than capital intensive sectors (see for example, Finger and Harrison, 1994 or the survey by Rodrik, 1995). There is no clear theoretical explanation for this phenomenon.[24]

- The institutional context. In Mexico firms are legally obliged to join chambers that are either industry or region-specific. If firms in a specific industry are spread across all the country, then their influence over the government's decision-making process should be higher as they would exert their influence through different associations (chambers). Moreover, all trade legislation in Mexico has to be approved by the Senate, implying that some geographic dispersion may help to defend the interest of an industry.[25] An index of geographic concentration should then be negatively correlated with tariffs.

4 Empirical specification

The politically-determined tariff equation is given by:

$$t_{i,t} = f[\underset{+}{H_{i,t}}, \ \underset{-}{k/\ell_{i,t}}, \ \underset{+}{\lambda_{i,t}}, \ \underset{-}{nm/y_{i,t}^T}, \ \underset{+}{\Delta nm/y_{i,t}^T}, \ \underset{-}{G_i}, \ \underset{?}{\text{FDI}_{i,t}}, \ \underset{?}{m\text{FDI}_{i,t}}] \tag{8}$$

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[24] Rodrik (1995) argues that in cross-country regressions, this result may capture the fact that labor abundant countries tend to be poor countries with important government revenue constraint leading them to impose higher tariffs. But this does not explain the results in a cross-section context.

[25] As put by Rogowski (1987): "When automakers or dairy farmers entirely dominate twenty small constituencies and are a powerful minority in fifty more, their voice will certainly be heard in the nation's council."

where the signs under the variables summarize the previous discussion. In, 8, $t_{i,t}$ is tariff in sector i at period t, H is the Herfindal index of firm concentration, (k/ℓ) is the capital labor ratio, λ stands for the share of labor in each sector, nm/y^T is the import penetration ratio defined in 7, $\Delta nm/y^T$ is the change in import penetration, G is an indicator of geographic concentration (which is time-invariant) and $s^\star$ is the share of output produced by firms with at least 10 percent of foreign capital, $mFDI$ is the interacting term between import penetration and share of FDI defined in 7.

Data are described in the appendix. The time-period covers 1985 to 1990 and is for the 2-digit Mexican National Account Manufacturing Categories (39 sectors), with some aggregation due to incompatibility with trade data.

Estimation of such an equation is prone to endogeneity problems as FDI may be due to tariff-jumping or to high price-cost margins in some sectors, which themselves may be due to high tariffs. Also, the labor share in sector i may depend on tariff levels and the presence of FDI in that sector. Therefore, equation (8) is estimated jointly with the following equations:[26]

$$s^\star_{i,t} = f\big[\underset{?}{t_{i,t}},\ \underset{+}{t_{i,t-1}},\ \underset{+}{pcm_{i,t}},\ \underset{+}{H_{i,t}},\ \underset{-}{G_i},\ \underset{-}{wage_{i,t}}\big] \tag{9}$$

$$\lambda_{i,t} = f\big[\underset{+}{t_{i,t}},\ \underset{?}{s^\star_{i,t}},\ \underset{-}{H_{i,t}},\ \underset{+}{G_i},\ \underset{-}{wage_{i,t}},\ \underset{+}{y_{i,t}}\big] \tag{10}$$

$$pcm_{i,t} = f\big[\underset{+}{t_{i,t}},\ \underset{+}{H_{i,t}},\ \underset{+}{G_i},\ \underset{+}{(k/y^T)_{i,t}},\ \underset{-}{pen_{i,t}}\big] \tag{11}$$

where the signs below the variables will be discussed shortly. In the above equations, pcm is the price-cost margin, $wage$ is the average wage rate, k/y^T is the capital-output ratio, y is the share of output of sector i in the economy and

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[26]The inclusion of an import-equation (as in Trefler, 1993) would have been desirable, but no data on import prices were available. However, we performed a Hausman-Wu exogeneity test over the whole panel and we could not reject at the hypothesis that nm/y^T is exogenous even for very low levels of confidence (H=0.27). This may be due to the fact that we use net import penetration ratio as the explanatory variable and not the classic import-penetration ratio.

$pen = m/(y + x \Leftrightarrow m)$ is the import penetration ratio.[27]

According to the discussion above, we expect t_{it} to enter positively in (10) and in (11) as a higher tariff should increase both the labor share and the price-cost margin. The sign of t_{it} in (9) should be positive if FDI is of the tariff-jumping type. The lagged tariff is also expected to enter positively into the FDI equation as high tariffs in period $t \Leftrightarrow 1$ may be positively correlated with expected increases in tariffs (as suggested by Blonigen and Feenstra, 1996). If FDI is of the quid pro quo type then an expected increase in protection should lead to higher levels of FDI.[28] The sign of the share of FDI in the labour equation would also depend on the type of foreign direct investment.

The price-cost margin should enter positively in the FDI equation as high profits should attract more FDI. Industry-concentration, H, should also enter positively into the FDI equation as this may capture the idea of potentially lower levels of competition in the domestic market. H is expected to enter negatively into the share of labor equation as the share of labor is used as a proxy for labor union strength, and it is expected that high levels of industry concentration should make labor organization more difficult as capital owners will more easily oppose their formation. H should enter positively into the price-cost margin equation as industry concentration facilitates price collusion (implicit or explicit). The geographic-concentration index, G, should enter negatively in the FDI equation, as it is expected to capture competition in factor markets. G should enter positively in the labor share equation, since the more geographically concentrated an industry is, the easier it should be to organize labor unions. Geographic concentration should also facilitate collusive behaviour by firms and, therefore, so we expect a positive sign in the price-cost margin equation.

The wage should be negatively correlated with FDI as sectors with lower wages

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[27]Alternative specifications were estimated and are discussed in the next section.

[28]This is probably a very rough proxy for expected increases in protection and one should ideally work with anti-dumping investigation data as Azrak and Wynne (1995) or Blonigen and Feenstra (1997) did for the US. The constraint here is that Mexico had no anti-dumping authority before 1986 and only ratified Article VI of the GATT in March 1988. By 1990 only 19 anti-dumping investigation were concluded which leaves us with very few non-zero observations to carry out any econometric analysis.

should attract FDI. The correlation with labor-shares should be negative, if one expects this to capture demand for labor. The share of output (y) should be positively correlated with labor shares, as a larger output implies a larger labor demand. Finally, the capital/output ratio (k/y^T) which serves as a proxy for capacity utilization is expected to be positively correlated with price-cost margins (pcm) and a higher exposure to international competition (i.e., high value for pen) is expected to decrease price-cost margins.[29]

These three equations attempt to resolve the endogeneity problems mentioned above.[30] Moreover, the estimation of an FDI equation (equation (9)) allows us to draw some conclusions on the type of FDI that took place before and during the reform.

Equations (9)-(11) are estimated using a 3SLS technique, which also lelps control for possible missing exogenous variables. All regressions are run in double-log form (except for the two exogenous variables that can take negative values (i.e., pen and nm/y^T).

5 Results

We wish first to identify the extent and the direction in which FDI affected Mexico's tariff structure. Second, we would also like to identify changes that may have occurred during the trade policy reform. To answer these questions, we report first results of regressions for the whole panel 1985-1990 (table 2). This allows us to identify the effect of FDI on Mexico's tariff structure. To capture any changes that may have occured during the reform, we estimated the equations for two sub-panels, 1985-1987 and 1988-1990 to identify any reform effects (table 3).[31] We also ran regressions for

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[29]See Levinsohn (1993).

[30]Note that if fdi is endogenous, then the interacting term $mfdi$ is also endogenous and therefore in regressions we instrument it by exogenous variables determining fdi multiplied by nm/y^T.

[31]Only table 2 contains results for the four equations. Tables 3 to 5 report the results for the tariff and fdi equations only. The other results are available from the authors.

the two end-years, 1986 and 1990 (table 4) and compared results again. Finally, as regressions on levels at the end-period may be affected by what happened in the past, we report regression results both for differences over the whole panel and for the difference between 1986 and 1990 (table 5).

5.1 Determining tariffs in Mexico: 1986-1990

The results in table 2 suggest that Mexico's tariff structure significantly reflects industrial lobbying along the lines discussed above.[32] Indeed, virtually all variables have the expected signs, most of them highly significant statistically. For example, industrial concentration, H, is highly correlated with the tariff structure, according to theoretical predictions. Likewise, highly concentrated sectors tend to receive higher tariffs. Also, sectors with a high capital/labor ratio (k/ℓ) receive lower protection, corroborating the survey findings reported above according to which entrepreneurs believe that trade policy is most amenable to influence by lobbying activity. The labor union proxy (λ) is also highly significant suggesting that sectors that are large employers of labor tend to be more protected. Moreover, declining sectors (i.e., those where the change in the import-penetration ratio, $\Delta nm/y^T$ has been large) also enjoy larger tariffs. Also, as predicted, geographic concentration, G, of an industry tends to lead to lower levels of tariffs. The only result at odds with the a prioir predictions is that sectors with large import-penetration ratios, nm/y^T, enjoy higher tariffs, but as mentioned earlier, this seems to be an empirical regularity. Overall, these preliminary results are surprisingly coherent and consistent with a priori expectations.

What is the influence of FDI on Mexico's tariff structure? Note first that the two variables capturing the effects of FDI are very significant (99% level). The coefficient in front of the share of output produced by foreign firms , $s^\star$, is negative, a result

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[32]Results reported in tables 2 to 5 do not include industry or time dummies. However regression run including dummies are consistent with the ones reported in the tables. Moreover, note that the time-invariance of G is also capturing some of the industry-specific effects.

consistent with several explanations offered in section 3.2. Thus, at first sight, in the case of Mexico at least, the presence of FDI leads to lower levels of protection.

As discussed earlier, however, one would expect that FDI trade-orientation matters. Recall that the import-penetration ratio controls for the trade-orientation of each sector, but it takes the share of FDI as given. The interacting term ($mFDI = nm/y^T * s^*$), captures simultaneously the effect of FDI and its trade-orientation. The coefficient is positive and highly significant statistically, suggesting that import-competing sectors with large FDI shares tend to be more protected. According to the proposition of section 3.1, this would suggest that the weight given to foreign firms in the government's objective function is higher than the weight given to social welfare. Of course, this is only one, among several, possible interpretations as the result could also be due to a better lobbying technology by foreign firms.[33]

INSERT TABLE 2 HERE: MEXICO'S TARIFF STRUCTURE 1986-1990

What kind of FDI? The FDI equation tends to suggest that most of Mexican FDI is of the tariff-jumping type. Sectors with large tariffs tend to have higher levels of FDI, as indicated by the positive and significant coefficient in front of t. Moreover, the price-cost margin, pcm, also enters positively in the FDI equation, and it is itself positively and significantly correlated with tariffs. The lagged tariff $,t_{t-1}$, is supposed to be a proxy for the expected increase in protection to try to capture quid pro quo FDI. The coefficient turns out to be significant, but negative, which raises questions as to what that variable is really capturing. Industry concentration $,H$, also seems

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[33]To test for the robustness of results, we ran regressions without including the interacting terms. None of the coefficients change sign or significance, though the R^2 value falls a little because of multicollinearity problems. Moreover, as the number of observations is not very large, following Belsley, Kuh and Welsch (1980), we carry out an outlier analysis over the 195 observations by eliminating them one by one. Again, none of the variables in the tariff equation change sign or significance. Of course, when dropping one observation at a time, one would miss the possibility that a combination of observations may be influential. However, the results in table 3, where the panel is subdivided into two sub-panel containing 78 and 117 observations, show that the coefficients in front of the two fdi variables do not change signs, nor do they loose statistical significance. These outlier tests suggest robustness of the results with respect tp the data.

to attract FDI, whereas geographic concentration of an industry is not an attracting factor, probably due to factor market rivalry. Finally, domestic relative wages across industries do not seem to be an important factor in attracting FDI. All the other variables turned out to have the expected sign (though some were insignificant), with the exception of the industry concentration indicator in the price-cost margin equation and the wage in the labor equation.

So the data suggest that most of Mexican FDI was of the tariff-jumping type. Sectors with large shares of FDI tend to have lower tariffs. However, if one controls for FDI trade orientation, it turns out that import-competing sectors with large shares of FDI were over protected.

The next section focusses on the changes that occured during the reforms. Has FDI been an important political facor? Was FDI in import-competing sectors still over protected after the reforms?

5.2   Determining tariffs during the reforms

Table 3 reports results for the two sub-periods. It can be seen that they are consistent with results for the whole panel in table 3 (with the exception that the change in import penetration did not seem to be an influential factor during the first period). Some coefficient values change, but coefficents before and after the reform are all within one standard error deviation.[34] Industrial lobbying and FDI were significantly correlated with the tariff structure both before and after the trade policy reform.

<center>INSERT TABLE 3 HERE MEXICO'S TARIFF STRUCTURE</center>
<center>1986-1987 and 1988-1990</center>

The picture changes, however, when we compare the two end-years in table 4. Now both industrialists' lobbying and foreigners' lobbying were significant players in 1986

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[34]By this we mean that taking one standard deviation up from the coefficient with the lower value we are within one standard deviation down from the coefficient with the large value.

(results consistent with those reported in tables 2 and 3). In 1990 however, results change. Industrial lobbying captured by industry concentration, H, the capital/labor ratio, k/ℓ, and the labor union proxy,λ, are still significant factors. But there is a significant drop in FDI influence on the tariff structure. Indeed, the share of FDI ($s^\star$) becomes insignificant and the interacting term is only significant at the 90 % level.

INSERT TABLE 4 HERE: MEXICO'S TARIFF STRUCTURE:

1986 and 1990

As argued before, the fact that FDI in import-competing sectors seems to be still over-protected in 1990, may only reflect history. Thus, table 5 reports results in first differences and for the difference between 1985 and 1990 to try to capture what happened with FDI influence during the reform.

To estimate results in first-differences we dropped the geographic concentration indicator since it was time invariant. We also dropped the change in import penetration, because of difficulties interpreting the results.

Under this specification, results for the difference between 1986 and 1990 suggest that capital/labor ratios were a significant determinant of changes in the tariff structure that occurred between 1985 and 1990. Controlling for other intervening factors, sectors with an increase in capital/labor ratios experience increases in tariffs (or smaller decreases). Surprisingly, sectors where the share of labor had increased experienced larger decreases in tariffs. Sectors which experience a large increase in import penetration during the period benefit from larger increases in tariffs. Changes in industry concentration do not seem to affect changes in the tariff structure.

INSERT TABLE 5 HERE: CHANGES IN MEXICO'S TARIFF STRUCTURE

(log-differences)

The surprising results come from the effects of FDI on the tariff structure. Sectors where the share of FDI increased, experienced larger increases in tariffs (or lower

decreases in tariffs).[35] Changes in the inter-acting term do not affect changes in tariff strcture. Thus it seems that sectors where both FDI and import-penetration have increased did not experience higher increases in tariffs which, in a way, is a correcting step, and explains the fact that the inter-acting term was only significant at the 90 % level in 1990.

This is further confirmed when regressions are run on first log-differences. The explanatory power of the regressions is very low, but the inter-acting term has a highly significant and negative coefficient, which suggests that the over-protection of FDI before the trade-policy reform tended to be partially corrected. Sectors where there has been a large increase in FDI and import-penetration tended to experience larger tariff reductions.

6   Conclusions

The correlates of the tariff structure for the Mexican manufacturing sector during the turbulent reforms of the second half of the eigthties, are broadly consistent with predictions from the trade literature on endogenous tariffs. Subject to the caveats surrounding any statistical results from reduced-form equations with less-than-perfect proxies for the variables, the possibility of important omitted effects stemming from potential mispecification, and so on, it would appear that industrial lobbying was an important factor in the determination of Mexico's tariff structure and its reform.

More importantly, FDI also seemed to be a significant player in the determination of Mexico's tariff structure. The data suggest that if the presence of FDI in itself tended to lower tariffs, this was not true for import-competing sectors: import-competing sectors with large shares of FDI tended to be over-protected. However, this has been (partially) corrected during the trade-policy reform and it appears that in 1990 the influence of FDI on tariff structure is almost negiligible. So, to answer the

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[35]This seem to rule out the possibility of quid pro quo fdi during the period.

question in the title of this paper, it seems that FDI had an important influence on Mexico's tariff structure by obtaining higher levels of protection in import-competing sectors, but this was, at least partially, corrected by the reform of the late 1980s.

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Data Sources

Data on import and exports were taken from Casar (1993). Figures on the average nominal tariff by sector (weighted by output) were provided by Mexico's Secretaría de Comercio y Fomento Industrial (SECOFI, 1992) and data on the domestically produced output was taken from Mexico's Instituto Nacional de Estadística, Geografía e Informática (INEGI, various years). All other data used in calculations were derived from an industrial (unpublished) plant-level census performed by INEGI, which covers a rough 70% of total manufacturing value-added (see Grether, 1997 for a detailed description of data selection and treatment). Data was reaggregated to match the 39 industrial categories used by Casar (1993). Capital stock is estimated at the replacement cost of its components. Labor units are expressed in terms of blue collar equivalent hours, using the relative wage to convert white collar hours. The FDI share corresponds to the share of output of those firms whose social capital was, in 1991, controlled by more than 10% by foreign ownership. Finally, following Audretsch and Feldman (1993), the index of geographic concentration is estimated by a Gini coefficient relating the cumulative regional share in employment in a particular sector with the cumulative regional share in total manufacturing employment (regions correspond to the 31 states of the Mexican Federation).

Appendix: Derivation of welfare effects

At any point, the economy is characterized by its income-expenditure identity, namely

$$E(1, p, W) \equiv R(1, p, k, \ell) + T(p) \tag{12}$$

where 1 is the price of the numéraire, $E(.)$ is nationals expenditure function (i.e., it excludes the expenditure from onwers of specific capital. $R(.)$ is the national revenue function,[36] k is the vector of n domestically-owned specific factors, and $T(.)$ is tariff revenue.

Differentiating this identity with respect to p_i and letting E_i and R_i stand respectively for the partial derivatives of the expenditure and revenue functions with respect to p_i gives

$$E_i + E_W \frac{\partial W}{\partial p_i} = R_i + \frac{\partial T}{\partial p_i}. \tag{13}$$

Let c_i and y_i stand for nationals consumption and production of good i. Rearranging (13) and using Shephard's and Hotelling's lemmas, and recalling that E_W is the inverse of the marginal utility of income which should be equal to one given our quasi-linear utilitu function on the numéraire, we have

$$\frac{\partial W}{\partial p_i} = y_i \Leftrightarrow c_i + \frac{\partial T}{\partial p_i}. \tag{14}$$

Now given the small country assumption we have that $\partial p_i = \partial t_i$. Let us choose units so that all international prices are equal to one; $t_i = p_i \Leftrightarrow 1$ is the tariff rate, the specific and ad-valorem forms being here identical and $\partial p_i / \partial t_i = 1$. Thus, tariff revenue can

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[36]The national product could be directly related to Gross National Product (i.e. it excludes revenue from foreign factors).

be written as $T(p) = \sum_i t_i\, m_i(p_i)$ (where m_i are total imports in sector i), so that

$$\frac{\partial T}{\partial t_i} = m_i + t_i \frac{\partial m_i}{\partial t_i}.$$

where $m_i = c_i \Leftrightarrow y_i^T$, where y_i^T includes production of both domestic and foreign-owned firms; i.e. $y_i^T = y_i + y_i^\star$. Substituting this into (14) gives

$$\frac{\partial W}{\partial t_i} = \Leftrightarrow y_i^\star + t_i \frac{\partial m_i}{\partial t_i}.$$

Table 1

Global trends in Mexican manufacturing: 1985-1990^a

	1985	1986	1987	1988	1989	1990
import protection^b						
average tariff^c	26	24.3	17.3	10.6	12.6	12.5
dispersion of tariffs	25.5	18.0	11.8	7.9	6.0	6.3
coverage of import licenses^d	69.7	43.4	30.6	22.7	21.2	18.9
index of real exchange rate^e	112.1	161.1	172.5	134.9	126.5	122.2
production, trade and FDI						
production growth^f	0.7	-4.6	-2.6	-1.6	2.9	6.1
import penetration rate	10	9	8	11	14	18
growth of total FDI inflows^g	25	210	113	-20	36	31

^{a}Source: Grether (1997) and Kessel and Samaniego (1992).

^{b}average between the June and December values of each year

^{c}weigthed by production

^{d}average share of commodity categories subject to import licensing as a percentage of the value of the category's production.

^{e}(1970=100), an increase means a real depreciation of the Mexican peso.

^{f}percentage of deviation from the predicted value of a trend fitted over the 1980-1990 period.

^{g}including non-manufacturing sectors.

Table 2[a]

Mexico's tariff structure 1986-1990

	tariff eq. (t)	FDI eq. ($s^\star$)	price-cost eq. (pcm)	labor eq. (λ)
Constant	3.99***	4.03***	-1.76***	-3.01*
	(.34)	(1.12)	(.28)	(1.59)
t		1.79**	.29***	1.00***
		(.88)	(.09)	(.19)
t_{t-1}		-2.08**		
		(.83)		
$s^\star$	-.29***		.33***	.11
	(.10)		(.10)	(.17)
$mFDI$	1.28***			
	(.26)			
nm/y^T	.46***			
	(.17)			
$\Delta nm/y^T$	.07**			
	(.03)			
H	.41***	.40***	-.13***	-.80***
	(0.09)	(0.10)	(0.05)	(0.15)
G	-.46**	-1.02***	-.38***	.17
	(.21)	(.30)	(.12)	(.32)
k/ℓ	-.37***			
	(.06)			
λ	.30***			
	(.05)			
pcm		1.56***		
		(.32)		
$wage$		.48		1.96***
		(.35)		(.34)
k/y^T			.13***	
			(.04)	
pen			-0.00	
			(0.00)	
y				.06
				(.08)
R^2	0.23	0.15	0.21	.26
# obs.	195	195	195	195
S.E.R	0.57	0.99	0.34	0.02

[a]Estimations use a 3SLS. Figures in parenthesis are heteroscedastic-consistent standard errors (White Robust). Data is available from 1985, but the presence of lagged variables lead us to estimate the system of equations from 1986. $\star$ is for significance at the 90% level, $\star\star$ at the 95% level and $\star\star\star$ at the 99% level.

<div align="center">

Table 3^a

Mexico's tariff structure: 1986-1987 and 1988-1990

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	1986-1987 tariff eq. (t)	1986-1987 FDI eq. ($s^\star$)	1988-1990 tariff eq. (t)	1988-1990 FDI eq. ($s^\star$)
Constant	5.34***	4.51***	3.91***	5.24*
	(.55)	(1.16)	(.41)	(1.21)
t		.86		0.02
		(.72)		(.76)
t_{t-1}		-1.3**		-1.07
		(.64)		(.81)
$s^\star$	-.61***		-.28***	
	(.16)		(.10)	
$mFDI$	1.17***		1.36***	
	(.28)		(.30)	
nm/y^T	.50***		.49***	
	(.19)		(.17)	
$\Delta nm/y^T$	-.19		.48**	
	(.03)		(.21)	
H	.58***	.47***	.36***	.45***
	(.09)	(.14)	(.10)	(.11)
G	-.79**	-1.07***	-.27	-1.26***
	(.37)	(.33)	(.22)	(.33)
k/ℓ	-.18***		-.20***	
	(.07)		(0.05)	
λ	.45***		.28***	
	(.05)		(.06)	
pcm		1.43***		1.91***
		(.27)		(.34)
$wage$		.50***		.17
		(.26)		(.34)
R^2	0.21	0.33	0.17	.22
# obs.	78	78	117	117
S.E.R	0.59	0.62	0.46	0.79

^aEstimations use a 3SLS over the four equations (including a price-cost margin equation and a labor equation). The table only reports results for the tariff and the FDI equation. Figures in parenthesis are heteroscedastic-consistent standard errors (White Robust). $\star$ is for significance at the 90% level, $\star\star$ at the 95% level and $\star\star\star$ at the 99% level.

Mexico's tariff structure: 1986 and 1990

	1986 tariff eq. (t)	1986 FDI eq. ($s^\star$)	1990 tariff eq. (t)	1990 FDI eq. ($s^\star$)
constant	4.74***	4.31***	3.67***	3.19**
	(.61)	(1.33)	(.48)	(1.28)
t		.84		-.59
		(.52)		(1.01)
t_{t-1}		-.87*		-.52
		(.41)		(1.35)
$s^\star$	-.58***		-.00	
	(.20)		(.11)	
$mFDI$	.94**		.72*	
	(.39)		(.43)	
nm/y^T	.83		.07	
	(.55)		(.28)	
$\Delta nm/y^T$	-1.61		1.09	
	(1.58)		(.80)	
H	.51***	.31**	.21*	.38***
	(.20)	(.13)	(.12)	(.14)
G	-.89*	-.42	-.0	-1.21**
	(.53)	(.41)	(.29)	(.49)
k/ℓ	-.24***		-.23***	
	(.08)		(.08)	
λ	.41***		.23***	
	(.11)		(.07)	
pcm		.98***		1.33**
		(.12)		(.62)
$wage$		1.03***		.65
		(.38)		(.47)
R^2	.25	.47	.23	.30
# obs.	39	39	39	39
S.E.R.	.57	.46	.35	.58

^{a}Estimations use a 3SLS over the four equations (including a price-cost margin equation and a labor equation). The table only reports results for the tariff and the FDI equation. Figures in parenthesis are heteroscedastic-consistent standard errors (White Robust). $\star$ is for significance at the 90% level, $\star\star$ at the 95% level and $\star\star\star$ at the 99% level.

<div align="center">

Table 5[a]

Changes in Mexico's tariff structure (log-differences)

</div>

	1990 vs 1986 tariff eq. (t)	1990 vs 1986 FDI eq. ($s^\star$)	1986 to 1990 tariff eq. (t)	1986 to 1990 FDI eq. ($s^\star$)
constant	-1.22***	-.11**	.04	.01
	(.24)	(.06)	(.07)	(.02)
t		-.18**		.03
		(.08)		(.03)
t_{t-1}		.03**		.04*
		(.02)		(.03)
$s^\star$	-3.72***		-2.13*	
	(1.02)		(1.28)	
$mFDI$	0.76		-.66	
	(.53)		(.98)	
nm/y^T	.13		-.69	
	(.52)		(.58)	
H	.44**	.07	-.06	.22**
	(.22)	(.05)	(.26)	(.09)
k/ℓ	1.97**		-2.40***	
	(.90)		(.36)	
λ	2.05**		-2.67***	
	(.85)		(.51)	
pcm		(.15)***		-.24***
		(.02)		(.05)
$wage$		-.07		-.01
		(.08)		(.03)
R^2	.27	.17	.27	.02
# obs.	39	39	156	156
S.E.R.	.37	.10	.40	.09

[a]Estimations use a 3SLS over the four equations (including a price-cost margin equation and a labor equation). The table only reports results for the tariff and the FDI equation. The geographic concentration index (G) had to be dropped from the regression as it is time-invariant. Figures in parenthesis are heteroscedastic-consistent standard errors (White Robust). $\star$ is for significance at the 90% level, $\star\star$ at the 95% level and $\star\star\star$ at the 99% level.