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Business Cycles, the Current Account, and Administered Protection in Mexico

Joseph Francois[1,2,3]

Gunnar Niels[1,4]

[1] *Erasmus University Rotterdam,* [2] *Tinbergen Institute,* [3] *CEPR,* [4] *OXERA.*

Tinbergen Institute
The Tinbergen Institute is the institute for economic research of the Erasmus Universiteit Rotterdam, Universiteit van Amsterdam, and Vrije Universiteit Amsterdam.

Tinbergen Institute Amsterdam
Roetersstraat 31
1018 WB Amsterdam
The Netherlands
Tel.: +31(0)20 551 3500
Fax: +31(0)20 551 3555

Tinbergen Institute Rotterdam
Burg. Oudlaan 50
3062 PA Rotterdam
The Netherlands
Tel.: +31(0)10 408 8900
Fax: +31(0)10 408 9031

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Business Cycles, the Current Account, and Administered Protection in Mexico*

Joseph Francois
Tinbergen Institute and CEPR

Gunnar Niels
OXERA and
Erasmus University Rotterdam

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Abstract: Antidumping actions in the United States and EU are known to be linked to macroeconomic conditions. In part, this is because positive injury findings may be easier to make in a downturn. We explore the evidence for Mexico, one of the main "new" antidumping using countries. Injury determination is also critical in Mexico's antidumping policy, as a majority of unsuccessful complaints have been rejected because of negative injury findings rather than negative findings of dumping. Working with data from 1987 through 2000, we provide evidence for a relationship between macro-economic factors and antidumping complaints, including current account and exchange rate movements, and both local and global general macroeconomic conditions.

Keywords: antidumping, political economy of trade policy, Mexico

JEL codes: F10, F13

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1. Introduction

The pressure for import protection often increases during macroeconomic downturns or periods of exchange-rate appreciation. For example, Leidy (1997) finds that the number of antidumping and countervailing duty (i.e. subsidy remedy) complaints in the USA increases with the unemployment rate and decreases with the rate of industrial capacity utilization. A positive relationship between the number of complaints and the real value of the dollar is also found. Feinberg (1989) also links antidumping actions to movements in exchange rates. In a more recent study covering the USA, the EU, Australia and Canada, Knetter and Prusa (2000) establish that both a real currency appreciation and a fall in real GDP growth lead to an increase in antidumping complaints.

While the demand for import protection is linked to macroeconomic conditions, there is also evidence that the supply of administered protection (primarily antidumping duties) is also a function of the business cycle. An explanation offered by both Feinberg and Leidy is that the actual supply of protection under antidumping rules is not really related to dumping by foreign firms, but rather to the ability to show injury suffered by domestic industries. In the USA, for example, negative injury determinations are the main reason why complaints are unsuccessful, while positive findings of dumping margins are more frequent. Domestic industries may thus perceive that there is a greater chance of success during macroeconomic downturns and exchange-rate appreciations, since they are more likely to be suffering injury in these conditions (independently of whether this injury really is fully or partially caused by dumping).

In recent years (and especially since the conclusion of the Uruguay Round of GATT negotiations in 1993), there has been a rapid spread of administered protection regimes to almost all low- and middle-income developing countries. (See Miranda et al, 1998, and Zanardi, 2002). Yet, the empirical literature in this area remains focused on the track record of the traditional antidumping regimes: the U.S., EU, Canada, and Australia. We extend the literature by exploring the relationship between macroeconomic factors and antidumping complaints in one of the most important new regimes, the one in Mexico.

We have organized the paper as follows. Section 2 provides an overview of the antidumping regime in Mexico, (based on the database detailed in Section 3). As in the USA, the majority (close to 80%) of unsuccessful complaints in Mexico have been rejected because of a negative injury finding rather than a negative dumping finding. In Section 3 we work with data from 1987 through 2000. We find evidence for a relationship between macro-economic factors and antidumping complaints, including exchange rate movements, and for a linkage with both local and global general macroeconomic conditions.

2. Antidumping in Mexico

National antidumping laws must be consistent with WTO/GATT rules. Mexico adopted its antidumping law in 1986, the year it joined the GATT. The antidumping rules were originally laid out in the Unfair Trade Practices Regulations 1986, and enforced by the Ministry of Trade and Industry (now the Ministry of the Economy). In 1993, the legal framework was modified. The antidumping rules were included in the Foreign Commerce Law, published in July 1993, and further set out in the Foreign Commerce Law Regulations, published in December 1993. The Unidad de Prácticas Comerciales Internacionales (International Trade Practices Unit) was created as a special division within the Ministry of the Economy to undertake investigations under the antidumping rules (as well as under the CVD and safeguard rules).[1]

In the period spanning from the beginning of 1987 to the end of 2000, the Mexican antidumping authority undertook a total of 172 investigations. Considering all cases in which a final decision was published, the overall "success rate"—ie, the proportion of investigations resulting in duties or undertakings—was 67.4%. This is much higher than the average success rate of all antidumping investigations world-wide between 1987 and 1997, which was 47.1%. (See Miranda et al, 1998.) Thus, Mexico appears to have applied the antidumping rules more aggressively than other regimes.

[1] For a more comprehensive description of the legal framework of antidumping in Mexico, see Leycegui (1995).

Figure 1 shows the distribution of the levels of antidumping duty imposed by the Mexican authority. It only refers to the 69 cases resulting in an *ad valorem* duty, the first of which was only imposed in May 1992. Before that date—and in some cases since then—only per-unit or weight-based duties were imposed. As elsewhere, antidumping duties in Mexico are generally very high. The modal duty is between 21% and 40%. Leaving out China, the unweighted average duty is 50%.[2] As can be seen from Figure 1, China stands out from the other countries because it is subject to particularly high duties, mostly exceeding 100%, and in one case as amazingly high as 1,105%.[3] The unweighted average antidumping duty for China is 253%. Just how high these duties are is evident from a comparison with Mexico's "normal" import tariffs. The unweighted average of Mexico's most-favored-nation (MFN) import tariff is 17%, while the modal MFN tariff is 13%.[4] Normal import tariffs are even lower than MFN for the countries with which Mexico has a preferential trade agreement (which include the USA and Canada in NAFTA, various Central and South American countries and the EU). In particular, the complete abolishment of import tariffs within 15 years under NAFTA—where the majority of Mexico's imports come from—is already well underway, bringing antidumping duties further out of line with prevailing import tariffs.

[Figure 1 about here]

On a regional basis, North America (i.e., the USA and Canada) was the most frequently targeted region under the antidumping law, accounting for

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[2] According to Hindley and Messerlin (1996, p. 29), the average dumping duty is roughly 20%–25% in the EU and 30%–35% in the USA, although Blonigen and Prusa (2001, p. 23) report an average duty in the USA of about 60% over the past decade.

[3] This last case concerned footwear and parts thereof from China, exported to Mexico by companies such as Reebok and Nike. The investigation was opened in April 1993 and finalised in December 1993. The "fair" value was determined as the export price to third countries (Taiwan, South Korea and Thailand).

[4] These figures are based on information provided by the Ministry of the Economy. In 2000, Mexico had *ad valorem* MFN import tariffs on 11,079 eight-digit tariff items, which is 97% of all tariff items (the remainder either had a per-unit tariff or a hybrid). These tariffs range between 3% and 260%, with the unweighted average being 17% and the modal 13%.

34.3% of all investigations, followed by East Asia (26.7%), Latin America (17.4%), the EU and its member states (9.9%) and Eastern Europe and the former USSR (8.7%). Of these regions, the EU and East Asia suffered a higher than average success rate (82.4% and 73.9%, respectively), while only Latin America experienced a distinctly below-average success rate (53.3%). Compared to each region's share in total Mexican imports over the period, North America is under-represented as an antidumping target (34.3% of antidumping investigations versus 74.4% of imports), while Latin America, East Asia and Eastern Europe and the former USSR are over-represented.

As to individual target countries, Mexico has initiated antidumping investigations against 33 different countries (including the EU, which sometimes is targeted as a whole). The five most frequently targeted countries are the USA (55 investigations, or 32.0%), China (26 investigations), Brazil (19) South Korea (9) and Venezuela (6). Of these, China suffered a clearly above-average success rate (84.6%), while South Korea experienced a below-average success rate (44.4%). The USA's share in antidumping investigations is much smaller than its share in total Mexican imports in the same period (72.5%), while the reverse is true for the other major targets.

Table 1 shows that the steel industry is by far the most important complainant in antidumping investigations in Mexico. Steel and steel products account for 30.2% of all investigations, and had a very high success rate of 82.7%. The chemical industry is another regular complainant, representing 22.7% of the investigations. Other important industries are textiles, plastics, electrical equipment and processed food. This sectoral distribution in fact makes Mexico a quite typical antidumping user as it is similar to the distribution of antidumping investigations world-wide. (See Miranda, 1998).

[Tables 1,2 about here]

Table 2 shows how frequently the Mexican antidumping authority used each of three methodologies to determine the "fair" value of the imports

under investigation. It should be noted that information on the methodology used has not been published in 25 cases. In addition, in a number of cases more than one methodology was used (for example, for different exporting firms covered in the same investigation). The home-price methodology, which under the WTO rules should be applied in the first instance, is used in almost half of the investigations. The constructed-value methodology is used in 25% of cases, and the third-country-export methodology in 16%.

3. Empirics

3.1 Data Overview

We have constructed a database of antidumping investigations in Mexico for 1987-2000.[5] The relevant variables for the present exercise are summarized in Table 3. The database builds heavily on one developed by the Directorate General for Economic Studies of the Mexican Federal Competition Commission, called SIAM.[6] SIAM summarizes the information on all antidumping and CVD decisions published by the antidumping authority in the Mexican *Official Journal* between January 1987 and December 2000. For a typical investigation, the authority publishes three different decisions, announcing, respectively, the initiation of the investigation, the preliminary duties (if any), and the final outcome. SIAM puts the different decisions referring to the same investigation together under one "action". These actions can then be accessed, for example, by product, by tariff class or by country.

In organizing our data we have used a number of specific definitions and criteria to classify antidumping investigations. Because these criteria are to some extent subjective, the total number of investigations in our dataset may differ from those given by other sources, such as the WTO or the Mexican antidumping authority itself. This is mainly for four reasons. First, only antidumping investigations are considered in the analysis. The

[5] These data are available on request, and can be downloaded from www.intereconomics.com/francois.

[6] SIAM stands for Sistema de Información sobre Acciones antidumping y antisubvenciones de México (Information System on Antidumping and CVD Actions in Mexico).

(relatively few) CVD investigations in Mexico are omitted. Second, where an investigation involves multiple target countries, each country is counted as a separate investigation. The same approach might in principle have been taken where an investigation involves multiple products. After all, competitive conditions—and hence the outcome of the dumping margin and injury assessment—may vary significantly between products. However, this is not practical, since, first, a product is not an unambiguously delineated concept, and second, some investigations cover literally hundreds of different products that happen to be in the same broad tariff class. Thus, an investigation involving one target country but related multiple products counts as one. Third, cases covering multiple exporters from the same target country are treated as a single investigation. This is also for practical reasons, since many investigations cover all exporters from the target country. Fourth, only cases where an official investigation has actually been opened, and a final decision published, are taken into account. This excludes the several instances where the antidumping authority has rejected a complaint for not fulfilling certain requirements, for example, the representativeness of the complainants (also known as "standing"). It also excludes the few instances where the investigation was closed before a final decision was reached, for example, because no imports of the product in question were found to have taken place during the investigated period, or because the complainants withdrew.[7]

3.2 Specification

In the empirical exercise that follows, the number of investigations initiated (*CASES*) is the dependent variable. Because the Mexican antidumping regime has only existed since 1986, and the first investigations were not initiated until 1987, we use biannual rather than annual figures. This doubles the total number of observations for the dependent variable to 28. (See Figure 2). Given standard investigation timetables, it is reasonable to assume that firms can file a complaint, and the authorities can initiate the investigation, within six months after the explanatory

[7] The withdrawal of a complaint once the investigation is ongoing seems to be a much more common phenomenon in the USA. See Prusa (1992). In Mexico, such early withdrawals have been rare.

variables have an impact (and lagged effects of explanatory variables can be included in the analysis at any rate).

[Figure 2 about here]

Formally, our regressions take the form:

$$CASES_t = c + \beta_1 \left[\sum_{t-y}^{t-1} CASES \right] + \beta_2 RER + \beta_3 CAB + \beta_4 MANPROD + \beta_5 WORLDMAN + \beta_6 DUM94/1_t$$

where $t = 1$ (1987-1),…, 28 (2000-2); c is a constant term; and $1 \leq y \leq t$. The other variables are discussed below and in Table 3.

To estimate the currency effect, the real exchange rate of the Mexican peso (*RER*), as reported by the Mexican Central Bank (Banco de México, 2001), is taken as explanatory variable. This exchange rate is reported monthly in index form, and is a trade-weighted average of the exchange rate of the peso with respect to 111 countries, adjusted for consumer price inflation. These figures are averaged into a six-monthly index. An increase in the index value means an appreciation of the peso and *vice versa*.

Mexico's total current account balance is an alternative measure of trade conditions which might explain the number of antidumping complaints. Political pressure for trade protection is likely to increase with the size of the current account deficit.[8] This variable (*CAB*) is also sourced from Banco de México (2001)—which reports the current account balance on a monthly basis in dollar terms—and re-expressed in six-monthly index form. As expected, the *CAB* variable is highly (negatively) correlated with the RER variable—the correlation coefficient is –0.84. Therefore, below the two variables are analyzed separately.

[8] Throughout most of the period considered, Mexico has sustained a current account deficit. The only semesters with a surplus are 1987-1, 1987-2, 1988-1 and 1996-1.

To estimate the effect of overall macro-economic activity, an index of total domestic manufacturing output (*MANPROD*) is taken as explanatory variable. After all, antidumping law only covers trade in goods, and domestic manufacturing output seems the most accurate indicator of how those potentially affected by dumping (domestic manufacturers) are faring overall.[9] The index is based on the same monthly publication of indices by Banco de México.

In addition, following the studies of Feinberg, Leidy, and Knetter and Prusa, an index of macro-economic activity world-wide (*WORLDMAN*) is considered as a further explanatory variable. This is to control for the fact that downturns in other countries may cause firms from those countries to dump by selling below average total cost. The index has been compiled from world manufacturing output indices taken from various issues of the *Monthly Bulletin of Statistics* published by the UN Statistics Division. It turns out that the *WORLDMAN* and *MANPROD* variables are highly correlated—the correlation coefficient is 0.97, suggesting that Mexican domestic manufacturing output is closely related to global manufacturing activity. For this reason the variables are analyzed separately below.

A number of additional explanatory variables have been modeled. First, the lagged number of investigations is considered in order to capture the "depletion effect" (ie, a high number of complaints in one period may "deplete" the stock of potential complaints in the following period).[10] Several combinations of cumulative lags have been tried, given that the depletion effect may be cumulative over a certain timeframe. It turns out that the sum of the number of investigations in the periods t–1 and t–2 (ie, the 12 months before the period of the start of the investigation) has the most significant impact. Only this lagged variable is reported below.

Second, several combinations of the lagged values of *RER*, *CAB*, *MANPROD* and *WORLDMAN* have been included to test whether complaints are caused by trade and macro-economic factors in previous periods. However, it turns out that these lagged effects are insignificant and the results are therefore not reported below. With respect to lagged values, Knetter and Prusa (2000, p. 19) observe that:

[9] GDP was tested as an alternative indicator of macroeconomic activity, but did not lead to more significant results.

> While not specified under WTO rules, all of the reporting countries generally analyze pricing behavior over the year prior to the filing of the case in order to assess LTFV [less than fair value]. By contrast, all of the reporting countries evaluate injury over a longer time horizon. In general, injury is determined over the three years preceding the filing. Given these features of the law, it seems plausible to consider lags from one to three years for our variables.

However, while the time periods these authors refer to may be relevant for the outcome of investigations, it is not so clear why they should influence the number of complaints. For the present analysis, only lags of one and two periods have been considered (ie, up to one year), and even these turn out to have insignificant effects, as mentioned above.

Third, the model includes a dummy (*DUM94/1*) that takes the value of 1 from the first semester of 1994 onwards. This is to control for the sharp fall in number of investigations after 1993. This marks the coming into force of the Foreign Commerce Law and its Regulations in July 1993 and December 1993, respectively. These set out clearer requirements and procedures for the filing of antidumping complaints, and may thus have had an impact on the number of accepted complaints.

[Table 3 about here]

3.3 Results

Tables 4 and 5 report OLS results for various models of *CASES*. Table 4 shows the results for six different model specifications in levels. Table 5 shows the results for two model specifications where the dependent and explanatory variables are expressed in logarithms.[11]

[Tables 4 and 5 about here]

[10] This term has been borrowed from Leidy (1997, p. 137), who finds such an effect in the USA.

From the results in both Tables, each of the macro-economic variables considered has a statistically significant relationship with the number of antidumping investigations initiated. In particular,

- In each specification where it is included, the coefficient of *RER* lies within the 99% confidence interval. The positive sign of the coefficient means that, as expected, the number of complaints increases when the real exchange rate appreciates.

- The *CAB* variable, which is tested as an alternative to *RER*, also has a statistically significant coefficient (at the 1% level in specification (5) and at the 5% level in specification (6)). It has the expected negative sign, indication that a worsening of the current account balance leads to a higher number of antidumping complaints.

- The *MANPROD* and *WORLDMAN* variables, representing domestic and global manufacturing output, respectively, have a statistically significant negative relationship with the number of antidumping cases (at the 1% level in most specifications; at 5% in the others).[12] Thus, pressure for antidumping protection does indeed increase in macro-economic downturns.

Table 5 also shows that there is some evidence of a depletion effect. In specifications (2) to (4) the number of antidumping investigations in the two lagged periods has a statistically significant impact on the number of investigations in the following period. The coefficient has the expected negative sign. However, in specification (1) the coefficient is only significant at the 10% level, while in specifications (5) and (6), and in Table 5, it is insignificant.

Finally, the dummy variable for 1994-1, which is only included in specifications (1) and (2), turns out to be insignificant. This suggests that the sharp fall in the number of antidumping complaints after 1993 can be

[11] Table 5 does not assess the current account variable (*CAB*). This variable has negative values for many periods so that the logarithm cannot be used.
[12] The finding that global output has a significant impact is consistent with Knetter and Prusa (2000) but not with Leidy (1997).

sufficiently explained by the other macro-economic factors and the depletion effect.

4. Summary

Mexico is a clear example of an emerging economy that has embraced trade openness, but that at the same time has become a heavy user of antidumping. In this paper, we explore macroeconomic linkages to antidumping investigations. Our data shows that pressure for protection under the antidumping law are influenced by macro-economic factors, including both the business cycle and current account conditions. Specifically, the number of antidumping complaints increases when the real exchange rate appreciates or the current account deficit widens, and when growth in manufacturing output slows down. Given the structure of antidumping law, both factors raise the probability that domestic industries will be found to be suffering injury, regardless of whether imports are actually dumped or not.

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Table 1:

Mexican antidumping investigations and success rate by complaining industry (1987–2000)

Target	Number of investigations	Share of investigations	Success rate
Steel and steel products	52	30.2%	82.7%
Chemicals	39	22.7%	64.1%
Textiles and textile products	17	9.9%	47.1%
Plastics and plastic products	12	7.0%	58.3%
Electrical equipment	9	5.2%	55.6%
Processed food	9	5.2%	66.7%
Machinery and non-electrical equipment	8	4.7%	62.5%
Wood and paper products	5	2.9%	40.0%
Rubber and rubber products	5	2.9%	80.0%
Other manufactures	10	5.8%	60.0%
Miscellaneous[1]	6	3.5%	83.3%
Total	*172*	*100%*	*67.4%*

Note: [1] Includes non-metallic minerals, ceramics, cement and leather products.

Table 2:

Methodologies used in Mexico to determine the "fair" value (1987–2000)

"Fair" value methodology	**Number of investigations[2]**	**Share of investigations[2]**	**Success rate**
Home price	83	47.7%	66.3%
Export price to third country	28	16.3%	60.7%
Constructed value	43	25.0%	76.7%
Unknown[1]	25	15.1%	64.0%
Total	*172*	*100%*	*67.7%*

Note: [1] Unknown means no information on methodology used was given in the decision as published in the *Official Journal*. [2] Totals do not sum to 172 or 100% since in a number of cases two different methodologies were used.

Table 3:

Description of the variables included in the linear regression model

Variable	Description	Data source	Expected sign
Dependent variable			
CASES	Number of investigations initiated in semester. Linear variable with mean of 6.1 and standard deviation of 7.1.	Own database built from various issues of the *Diario Oficial de la Federación.*	n.a.
Explanatory variables			
$CASES_{(t-1)}+CASES_{(t-2)}$	Number of investigations initiated in previous two semesters (capturing depletion effect). Linear variable with mean of 13.0 and standard deviation of 11.7.	Own database built from several issues of the *Diario Oficial.*	–
RER	Trade-weighted average real exchange rate of peso with respect to 111 currencies. Linear index variable with 1987-1=100, mean 152.9 and standard deviation 28.5.	Banco de México, *Indicadores Económicos y Financieros* (www.banxico.org.mx).	+
CAB	Average current account balance in period. Linear index variable with 1987-1=100, mean –201.7 and standard deviation 174.3.	Banco de México, *Indicadores Económicos y Financieros* (www.banxico.org.mx).	–
MANPROD	Total domestic manufacturing output (in volume terms). Linear index variable with 1987-1=100, mean 137.3 and standard deviation 25.5.	Banco de México, *Indicadores Económicos y Financieros* (www.banxico.org.mx).	–
WORLDMAN	World manufacturing production. Linear index variable with 1987-1=100, mean 121.9 and standard deviation 15.4.	United Nations, *Monthly Bulletin of Statistics*, various issues.	–
DUM94/1	Dummy variable with value 0 until 1993-2 and 1 from 1994-1, to capture effect of new antidumping rules which came into force at the end of 1993.	n.a.	–

Table 4:

OLS regression analysis with number of antidumping investigations initiated biannually (*CASES*) as dependent variable

Explanatory variable	(1)	(2)	(3)	(4)	(5)	(6)
Constant	5.47	50.4	2.73	28.7	25.3	36.2
	(0.57)	(2.31)**	(0.71)	(2.86)***	(2.63)**	(2.78)**
$CASES_{(t-1)}+CASES_{(t-2)}$	–0.40	–0.51	–0.34	–0.33	–0.28	–0.26
	(–1.90)*	(–2.45)**	(–2.35)**	(–2.46)**	(–1.50)	(–1.46)
RER	0.42	0.39	0.37	0.30		
	(3.06)***	(3.83)***	(4.50)***	(4.54)***		
CAB					–0.04	–0.03
					(–2.79)***	(–2.67)**
MANPROD	–0.44		–0.36		–0.17	
	(–2.28)**		(–4.36)***		(–2.47)**	
WORLDMAN		–0.82		–0.53		–0.27
		(–2.88)***		(–4.66)***		(–2.65)**
DUM94/1	2.25	6.09				
	(0.43)	(1.17)				
Adjusted R^2	0.44	0.50	0.47	0.50	0.24	0.27
ARCH LM test *F*-statistic	0.37	0.13.	0.35	0.09	0.27	0.23

Note: OLS regression with 26 included observations. Estimated coefficients are shown with *t*-statistics in parenthesis. *** means coefficient is significantly different from zero at 1% level; ** means significant at 5% level; * means significant at 10% level (using two-tailed test). The ARCH LM test is performed to test for autocorrelation in regressions with lagged dependent variables. The test uses two lagged residuals. The *F*-statistic in each case shows that the null hypothesis (errors are serially uncorrelated) cannot be rejected.

Table 5:

OLS regressions with number of antidumping investigations initiated biannually (*CASES*) as dependent variable—values in logarithms

Explanatory variable	**(1)**	**(2)**
Constant	–0.98	14.2
	(–0.22)	(2.17)**
Log{$CASES_{(t-1)}$+$CASES_{(t-2)}$	–0.38	–0.44
	(–1.28)	(–1.60)
Log(RER)	5.87	4.76
	(3.77)***	(4.10)***
Log(MANPROD)	–5.33	
	(–3.38)***	
Log(WORLDMAN)		–7.42
		(–3.90)***
Adjusted R^2	0.46	0.51
ARCH LM test *F*-statistic	1.06	1.37

Note: OLS regression with 25 included observations. Estimated coefficients are shown with *t*-statistics in parenthesis. *** means coefficient is significantly different from zero at 1% level; ** means significant at 5% level; * means significant at 10% level (using two-tailed test). The ARCH LM test is performed to test for autocorrelation in regressions with lagged dependent variables. The test uses two lagged residuals. The *F*-statistic in each case shows that the null hypothesis (errors are serially uncorrelated) cannot be rejected.

Figure 1:

Frequency of different levels of *ad valorem* antidumping duties imposed by Mexican antidumping authority (number of cases, 1987–2000)

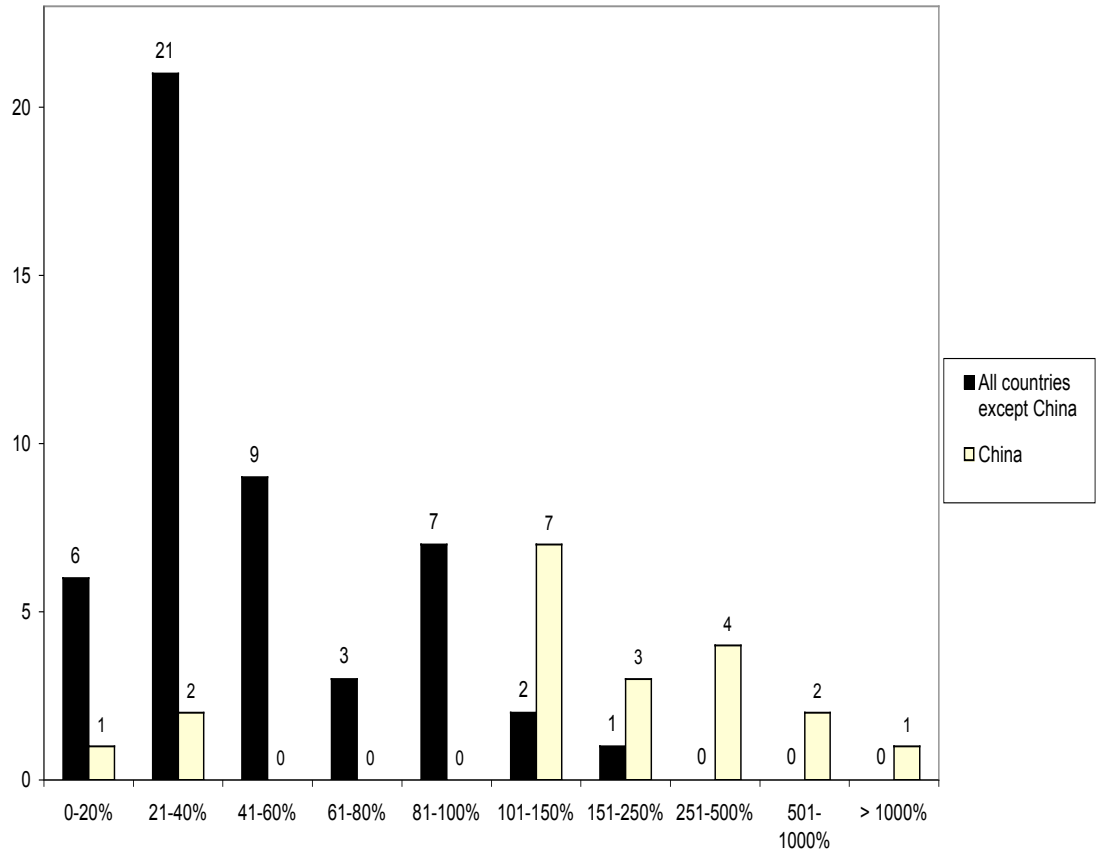

Figure 2:

Number of antidumping investigations initiated in Mexico per semester (1987–1 to 2000–2)