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ABSTRACT

Canada: No Place Like Home for Antidumping

We analyze temporary trade barriers (TTB) in Canada in 1989-2009. We find that, despite the retreat in TTB stocks in the last decade, there are signs of a rebound. New AD cases have surged during the crisis, which portends a rise in AD stocks that could last for several years. Thus, the connection of AD protection to the business cycle remains strong. A second finding is that there appears to be a major structural shift underway in terms of the products and countries on which TTBs are applied. The product scope of AD protection has narrowed, and increases in AD protection have taken place in sectors with relatively small reductions of MFN tariffs. China and, to a lesser extent, other developing countries are being targeted with far greater intensity than ever before. Finally, the duration of AD remedies fell during the first half of the 2000s though this seems to have been reversed in the latter half of the decade.

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1 Introduction

Canada is the ancestral home of antidumping (AD) law. In 1904, it became the first country to adopt an AD law; other industrialised countries quickly followed suit.

Antidumping provisions were later incorporated into the General Agreement on Tariffs and Trade (GATT) in 1947. Today, virtually all members of the World Trade Organization (WTO) have AD laws in operation.

Despite its prominent (some would say, infamous) place in antidumping history, Canada has not been among the major users of AD or other temporary trade barriers (TTBs) since 1989. At their two-decade peak in 2000, Canadian AD duties covered around 2% of all Harmonized System (HS) 6-digit products and less than 1% of total Canadian imports by value. While this is roughly average for industrialised countries, it lags well behind the US, the EU and several developing countries (*eg* India, China, Argentina, Brazil, and Mexico). Moreover, AD coverage has retreated substantially since the peak, despite the 2008-9 global economic crisis. Thus, neither the aggregate level nor the aggregate trend of Canadian TTB usage seems to indicate a strong protectionist tendency. Could it be that antidumping policy is no longer welcome in its home and native land, or will it return in the wake of the global economic crisis to stand on guard for Canada once again? In what follows, we explore this question in greater detail.

The main finding is that, despite the retreat in TTB stocks in the first decade of the 2000s, there are signs of a rebound. New AD cases have surged during the crisis, which portends a rise in AD stocks that could last for several years. Thus, the connection of AD protection to the business cycle remains strong. A second finding is that there appears to be a major structural shift underway in terms of the products and countries on which TTBs are applied. China and, to a lesser extent, other developing countries are being targeted with far greater intensity than ever before, and sectors that compete against Chinese imports are the ones seeking protection. Indeed, although China accounts for less than 10% of Canada's imports, seven out of the ten AD cases initiated during the 2008-9 crisis were against China. Moreover, as the typical AD duty against China remains in effect for over ten years (nearly twice as long as against the rest of the world), the AD surge during the 2008-9 crisis could be unprecedented in its duration.

2 Aggregate Trends in Canadian TTBs

All Canadian TTBs during the sample period 1989-2009 were in the form of either antidumping or countervailing duties. Only four safeguard cases – three general and one special case against China – were initiated, but none resulted in duties. Of the countervailing duties imposed almost all were imposed on the same products covered by existing AD remedies (AD duties or price undertakings). Thus, countervailing duties add virtually nothing to the TTB coverage ratios. For this reason, we focus our analysis on AD remedies.

Tables 1 and 2 (and corresponding Figures 1 and 2) show the overall stocks and flows of AD remedies at the 6-digit HS level.¹ Table 1, which shows count measures, is based on equation (1) of Bown (2011). For the stock, the count measure refers to the fraction of all 6-digit HS codes (with positive imports) in which an AD remedy was in force in a given year. For the flow, the count measure refers to the fraction of all 6-digit HS codes (with positive imports) in which an AD case was initiated in that year. Table 2, which shows value measures, is based on equation (2) of Bown (2011). Value measures provide information on the share of total imports affected by an AD remedy (stock) or an initiation (flow).

2.1 AD Initiations

Figure 1 shows three distinct spikes in the count measure of AD initiations. The first was 1992, the second was the period from 1997 to 2001, and the third was 2009.² When measured in value (Figure 2), we see spikes in 1992, 1997 and 2009. A discrepancy between the two series occurs in 2001, where a surge is present in the count measure that does not appear in the value measure, suggesting that cases initiated in 2001 targeted numerous products with relatively small import value.

¹ Ideally, we would like to construct these measures at the 10-digit HS level, which is the level of disaggregation of Canadian data in the World Bank's Temporary Trade Barriers Database (Bown, 2010). The problem is that the HS classification was modified four separate times during this period. The TTB database records only the 10-digit code of the affected product at the time of the initiation, which means that a TTB in force for multiple years could get lost if the 10-digit code of the affected product is modified. The only way to track TTBs accurately over time is to use a 10-digit concordance for each modification. However, the Canadian Border Services Agency (CBSA) provides a concordance only for the most recent modification (CBSA, 2007).

² While our data go back only to 1989, Malhotra and Rus (2009) document earlier surges in initiations in 1985 and 1987.

Theory suggests that AD initiations should increase during periods of weak domestic demand, weak foreign demand and an appreciating real exchange rate.³ The reason has to do with the material injury test that is the main determinant of the success or failure of an AD filing. In practice, there are two parts to the test. The first requires showing that the domestic industry is suffering injury, based on indicators such as profits, employment, prices, or capacity utilisation. The second requires showing that the injury is due to the dumped imports, which normally requires establishing that imports have increased. When an industry experiences a decline in domestic demand, as would normally occur during a recession at home, the industry has an easier time convincing the government (specifically, the Canadian International Trade Tribunal) of injury. A decline in demand for the same product in foreign markets causes firms in those countries to export more to Canada, thus increasing Canadian imports. Similarly, an appreciation in the real exchange rate increases Canadian imports. Thus, recessions both in Canada and abroad and an appreciating Canadian dollar tend to increase the likelihood of satisfying the material injury test.⁴ Anticipating this greater likelihood, industries should increase their initiations.

The response of initiations to the macroeconomic experience of Canada appears reasonably consistent with the theory. Figure 3 shows real GDP growth, unemployment, the real exchange rate (US dollars per Canadian dollar, adjusted for inflation), and the current account. Canada experienced deep recessions in 1991 and 2009 in parallel with the global recessions of those time periods. These episodes were accompanied by current account deficits and relatively high real exchange rates. All of these factors predict a surge in AD initiations.

The macroeconomic basis for initiations during the 1997-2001 period is less obvious. Neither the Asian financial crisis of 1997 nor the US recession of 2001 caused major disruptions in Canadian GDP growth or unemployment. Furthermore, the real exchange rate was at an historic low. The only indication of impact of the foreign shocks on Canada

³ See Knetter and Prusa (2003) and Hallworth and Piracha (2006) for further discussion and evidence regarding the macroeconomic determinants of AD filings.

⁴ The other half of an AD investigation involves estimation of dumping margins, which is conducted by CBSA. Like injury, dumping margins also may be affected by macroeconomic conditions. For example, foreign firms may respond to an appreciation in Canada's real exchange rate by raising prices charged to Canadian importers, thus reducing the dumping margin. This suggests a theoretically ambiguous effect of real exchange rates on initiations. Empirical work by Knetter and Prusa (2003) show that currency appreciations significantly increase AD filings in a sample consisting of Canada, Australia, the EU and USA for 1980-98, suggesting the material injury effect is dominant.

was a short-lived current account deficit corresponding to the Asian financial crisis. It could be that the foreign shocks alone were sufficient to drive the surge in initiations that occurred. However, as a more disaggregated analysis will reveal in subsequent sections, the reality is more complex. Part of the rise in initiations is due to sectors renewing protection obtained in the earlier surge. Furthermore, while the Asian financial crisis did coincide with a strong shift in AD actions towards Asian countries, this shift appears to have had long-lasting effects.

2.2 AD Stocks

Turning to the stock measures, the average stock over the sample period by the count measure is 1.5% with a maximum of 2.1% in 2000 and a minimum of 1.1% in 1991. The average stock by value is 0.5% with a maximum of 0.78% in 2001 and a minimum of 0.2% in 1989. Figures 1 and 2 also show that stocks display a very clear hump-shaped pattern with a peak between 2000 (count) and 2001 (value). Compared to this peak, the increases in stocks associated with the recessions were quite minor. Furthermore, the stock of TTBs rose steadily during the 1990s and fell rather dramatically during the 2000s. If anything, these trends in TTB stocks appear to be procyclical. The correlation between the AD stock count measure and Canadian GDP growth is 0.5 (while the correlation with real exchange rate is -0.86).⁵

At first glance, the finding that TTB stocks are procyclical seems puzzling. After all, why would a system that is arguably designed to provide protection to industries under stress give more protection in good times? It is also somewhat troubling, because it would imply that TTB stocks are likely to continue to rise as Canada emerges from the aftermath of the global recession of 2008-9.

One explanation for the procyclical pattern in TTB stocks has to do with the persistence of AD remedies. Once in effect, an AD remedy typically remains in place for five or more years, which means that a surge in initiations during a recession will lead to an accumulation of AD stocks lasting well into the recovery. That is, it could be that the bulge in AD stocks in the late 1990s is simply the lagged result of the recession-driven flurry of

⁵The correlation with GDP growth is statistically significant at the 5% level, while the correlation with real exchange rate is significant at the 1% level.

initiations in the early 1990s. If this is correct, then the future will indeed feature more protection, as the 2009 surge in initiations works its way through.

A more optimistic possibility is that the Canadian government has changed its policy. Specifically, it could be that decline in TTB stocks that began in 2001 is the result of a permanent change in Canadian government's likelihood of awarding or revoking AD remedies.

Can we detect whether the Canadian government has changed its AD policy? One way to get at this question is to assume that it has not – that is, assume constant award and revoke rates – and ask to what extent initiations alone can explain the pattern of AD stocks. If initiations do a poor job of explaining AD stocks, we would take this as an indication that award and revoke rates are changing over time. This would then warrant further investigation as to the source of such changes.

By definition, the stock of AD remedies is equal to the sum of all past successful initiations (*ie* initiations that result in a remedy) minus remedies revoked. There are three key rates that determine the motion of the stock: the rate at which initiations receive preliminary AD remedies, the rate at which preliminary remedies are converted into final remedies, and the rate at which final remedies are revoked. Assuming these rates are constant, we can estimate a simplified version of this model as follows:

$$S_t = \alpha + \beta_1 F_t + \beta_2 F_{t-1} + \beta_3 S_{t-2} + \varepsilon_t$$

where S_t and F_t are our stock and flow measures in year t , respectively. The coefficient β_1 is the rate at which initiations in year t are awarded duties in year t . The coefficient β_2 is the rate at which initiations in year $t-1$ are awarded duties in year t , either because of delayed preliminary duties or final duties being imposed. The coefficient β_3 measures the rate of carryover from earlier stocks.

Figure 4 shows that the estimated model is reasonably good at predicting the actual stocks, based on past flow and stock data. In fact, the model explains 70% of the variation in AD stocks. The estimated coefficients are also plausible: $\beta_1 = 0.33$, $\beta_2 = 0.8$ and $\beta_3 = 0.56$. Thus, we expect that the upswing in AD stocks in 2009 will continue for several more years.

On the other hand, the model does have a tendency to under-predict the stocks during the late 1990s and over-predict them after 2000. This is indicative of either the success rates being greater, or the revoke rates being smaller, in the 1990s than in the 2000s. Indeed, the raw success rate of initiations in the data (percent of initiations that result in final

AD remedies) is 70% in the 1990s and 53% in the 2000s. This may reflect a change in policy or a change in the quality of cases. We discuss several possibilities in later sections.

3 Canadian TTBs by Industry

In this section we break down the count and value measures, both stock and flow, according to product category. We use the 21 sections of the Harmonized System (HS) as our product categories. Figure 5 shows the shares of 6-digit HS codes within each section that have been affected by an AD remedy (stock) *at any time* during the 1989-2009 period, both in count and in value terms. Of the 21 sections, 14 have experienced at least one AD remedy during the sample period.

Canadian antidumping activity tends to be concentrated in a few product categories. The most active is footwear and headgear. Some 33% of products and 20% of the value of imports in this category have been subject to an AD remedy. The second most active by count is base metals, which includes steel. About 15% of products and 5% of the value of imports in this category have been subject to an AD remedy. Close behind is prepared foodstuffs, beverages, spirits and tobacco, with 14% (count) and 10% (value), and vegetable products, with 5% (count) and 8% (value). It is worth noting that, except for steel, this list of most active users of antidumping is quite different from the rest of the world. Worldwide, the chemical industry is the most active, followed by steel, machinery and textiles (Stevenson, 2007).

Figures 6 and 7 show stocks and flows of AD remedies over time across industries. Figure 6 shows the count measure, while Figure 7 shows the value measure. A few conclusions are evident immediately. First, the number of sectors active in seeking AD remedies seems to have declined with each wave of AD initiations. All sectors were active in seeking AD protection during the recession of the 1990s. The majority of sectors initiated AD investigations during 1997 and 2001, though fewer than in the previous wave. Only five sectors initiated AD investigations in 2009: plastics, footwear, steel, machinery and miscellaneous manufactures. For two of these, machinery and miscellaneous manufactures, only a tiny fraction of imports by value were targeted, as can be seen in Figure 7. Thus there is a clear narrowing of the product scope of Canadian AD investigations.

Second, many of the AD initiations in the second and third waves are immediately preceded by declines in the AD stock, suggesting that industries sought to replace recently

revoked protection. Examples include base metals, vegetable products and wood products in 1998 and footwear, plastics and machinery in 2009.

Finally, the two most active sectors, footwear and base metals, exhibit high stocks of AD protection throughout the period.

3.1 Footwear

Canada's footwear industry has been in steady decline since the 1950s. In 1950 the industry employed over 20,000 workers, by 1985 this was down to 14,000, and in 2008 there were only 2,700 employees (Canadian Industry Statistics, 2010). Most footwear produced in Canada is in the form of winter boots.

Figures 6 and 7 show that the footwear industry petitioned for the initiation of AD cases in 1989, 1992, 2000-2002 and 2009, resulting in substantial count rates of AD protection for all years after 1989, except 2008. For some reason, the footwear industry allowed its protection to lapse in 2008 but quickly reapplied and was awarded a preliminary duty in 2009. The 2008 drop in AD stock on footwear helps explain the dip in overall AD stock that occurred that year.

3.2 Steel

The Canadian steel industry is a frequent user of antidumping. Figure 6 illustrates that in only three of the past 20 years has the industry *not* initiated an AD case. The most active periods of AD initiation were 1992 and 1998-2001. These time periods correspond to historic low points in world steel prices. Low world steel prices make it easier for the industry to qualify for AD protection, both because positive dumping margins, based on the gap between average cost and price, and material injury, based on the 'price suppression' argument, become easier to establish. It should also be noted that 2001 saw the initiation of a major steel safeguard case in the US. While Canadian exports were exempt from the safeguard duties by virtue of the North American Free Trade Agreement (NAFTA), it may be that firms sought to protect themselves from the trade deflection that protection of the US steel industry would cause.⁶ During the 2009 recession, Canadian AD initiations on steel rose again, despite the fact that world steel prices had rebounded strongly from the 2001 lows and did not fall appreciably in the downturn.

⁶ See Bown and Crowley (2007) for discussion and evidence on trade deflection.

The stock of AD remedies in the steel sector has been mostly rising throughout the sample period. It reached a peak in 2005 according to the count measure, though the 2005 peak was slightly lower than 2001 in value terms. Nevertheless, the overall pattern of AD remedies in the steel sector runs counter to the pattern observed in the aggregate. Whereas aggregate TTBs dropped off sharply after 2001, steel protection has remained high.

4 Uruguay Round Tariff Cuts

The sectoral trends in Canadian AD must be seen in light of other changes taking place in the structure of Canadian trade policy at the same time. For example, it is worth noting that the rise of AD stocks in the late 1990s coincides with the implementation of the tariff cuts negotiated in the Uruguay Round.

The connection between tariff cuts and the growth of AD is theoretically ambiguous. On the one hand, sectors that are politically powerful to prevent tariff reductions may also be able to expand, or prevent reductions in, antidumping protection. This suggests a negative relationship between tariff cuts and AD growth. On the other hand, it may be that tariff cuts themselves cause producers to seek AD remedies as a replacement, suggesting a positive relationship between tariff cuts and AD growth.

Figure 8 shows the relationship between Uruguay Round tariff cuts and changes in average annual AD stocks (in logs) before and after 1995, for each sector with positive AD activity. The change in stock is measured by count; however, the value measure produces a qualitatively similar picture. The tariff cuts are measured as the trade-weighted average of absolute cuts of MFN applied tariffs between 1993 and 2000, and the trade weights are from 1993. There is a negative correlation of -0.54 between the two measures that is significant at the 5% level. This suggests that while there may be cases in which AD remedies replace MFN tariffs, the tariff replacement effect is swamped by the ability of certain sectors to sustain both tariff and AD protection. The machinery sector was liberalised both through tariff cuts and a retreat of AD stocks. Meanwhile, food and beverages, footwear, arms, stone and plaster were spared significant tariff cuts and were increasingly protected by AD duties. That the sectors with the greatest AD growth tend to be those with the smallest Uruguay Round tariff cuts points to a growing divergence in total import protection between protected and liberalising sectors.

5 Targets of Canadian TTBs

Which exporting countries have been most targeted by Canadian antidumping remedies? Here we measure the distribution of AD remedies across exporting countries by counting the number of products from each exporting country that are subject to a Canadian AD remedy in each year. Summing over all years and dividing by the total number of product-year-target country combinations produces an overall share of Canadian AD remedies by country. It turns out that the most frequently targeted country is the US with 10% of the total, followed by China (8%), Brazil (7%), Germany (6%) and Taiwan (5%). Figure 9 illustrates the worldwide distribution of targets by grouping countries into regions. Europe and Asia are the most frequently targeted regions. Moreover, AD protection is roughly evenly distributed between developing and developed regions.

5.1 Moving Targets

Figure 10 shows the evolution of Canadian AD targeting by region over time. Here there are several striking patterns. First, AD stocks against the US, Western Europe, Australia and New Zealand peaked in the mid-1990s and continued to fall through 2009. Second, AD protection against all other regions surged in 2001. For most regions, this surge was short-lived and protection returned to levels comparable to the early 1990s. For China and South Africa, however, this reversal did not occur, and for Asian less developed countries (LDCs) the reversal was only partial.⁷ Finally, the 2009 surge in AD stocks was directed entirely at China and less developed countries in Asia.

Figure 11 documents more clearly the shift in targeting of AD protection from developed to developing countries and from West to East. This figure compares the number of product-years of protection across the two decades of the sample for all major target countries (*ie* target countries with more than 100 total product-years of protection). Those countries above the 45 degree line are the ones against which AD protection has increased in frequency, while those below the line experienced a decrease. The vast majority of countries above the line are developing countries (indicated with a black diamond), while only two developing countries are below, though one of those two (Brazil) is virtually unchanged. Looking at the very largest targets, there is a major shift away from the US and towards China.

⁷ Less developed countries refer to non-high-income countries according to the World Bank definition.

Figure 12 shows the degree to which Canadian AD remedies are concentrated across different target exporters. The measure of concentration used is a Herfindahl index: the sum of squared shares of AD remedies by country. The figure shows that from 1989 to 2003, Canada became steadily more diversified in its use of AD remedies, while beginning in 2003 this trend is sharply reversed. Although the total stock of AD remedies has not dramatically risen during the crisis, this suggests the imposed remedies are targeting an increasingly small group of (developing country) exporters. Combined with our earlier findings of the narrowing of the product scope of AD initiations and the coincidence between small tariff cuts and large AD increases across sectors, these findings point to a much more focused trade policy for Canada. Canada has increasingly turned away from protecting its manufacturing sector from imports from the US and Europe. Instead, it is protecting itself from developing Asia and especially in those sectors where it is losing comparative advantage to China.

5.2 The NAFTA Effect

While the US was the biggest target of Canadian AD remedies, this should come as no surprise considering that the US accounts for the majority of Canadian imports. In 2007, for example, 55% of Canadian imports were from the US, China was second with 9%, Germany was third with 3%, while Brazil and Taiwan accounted for less than 1% each.⁸ Seen in this context, AD action against the US is in fact disproportionately low.

Bown (2007) argues that this feature of Canadian TTBs serves to reinforce the discrimination inherent in Canada's external trade policy, because of the tariff preferences already granted to the US and Mexico through NAFTA. Whether this apparent NAFTA bias in Canadian AD is in fact a result of NAFTA or some other factor is unknown.

There is not sufficient data on Canada's use of AD towards the US prior to the Canada-US trade agreement in 1987, but it is likely that it was never commensurate with US-Canada trade volumes. One possible explanation for this is the fear of retaliation. Being highly dependent on trade with the US, Canada may restrain its AD against the US industries to avoid US retaliatory AD against Canadian exports. Blonigen and Bown (2003) provide empirical support for this mechanism.

Bhagwati and Panagariya (1996) were among the first to express concern about the

⁸ Statistics Canada.

selective use of antidumping as a means of reinforcing discrimination in free trade agreements (FTAs). Their hypothesis is confirmed by the empirical work of Prusa and Teh (2010). They estimate that AD provisions in preferential trade agreements (PTAs) decrease initiations of AD cases between partners by 33-55%, while increasing initiations of AD cases against non-PTA members by 10-30%.

In addition to NAFTA, which took effect in 1994, Canada entered into FTAs with Chile and Israel in 1997, Costa Rica in 2002, and several more countries in 2007-9 (EFTA, Peru, Colombia, Jordan, and Panama).

6 Duration of Canadian AD Remedies

AD remedies generally do not last forever. Although there are extreme cases, such as whole potatoes from the US, which have faced a 32% AD duty for the past 25 years, the average duration of Canadian AD is seven and a half years. The median duration is just under six years. These duration figures are measured from the initiation date, which typically precedes the imposition of final duties by several months. Looking at final duties only, the median duration is five years. This is consistent with the WTO's mandatory 'sunset' rule, which specifies that final duties should last no more than five years, unless an investigation prior to that date establishes that revocation would be likely to lead to continuation or recurrence of dumping and injury. An AD remedy may also be reviewed before or after the five-year review at the request of an 'interested party' (*eg* an exporter), though the information an interested party must submit in support of such a review is considerable and costly.

Figure 13 shows the duration of AD remedies for cases initiated during three time periods—1989-95, 1996-2001 and 2002-9—encompassing the three waves of initiations described in Section 2. The figure shows the percentage of cases on which AD remedies remained in effect after so many months from the date the case was initiated.

In each of the three periods, there is a clear drop between five and six years. Interestingly, however, the decline is more gradual for cases initiated during 1989-95. In particular, during this period, there were a number of cases being revoked before the mandatory sunset review, whereas in second and third periods, almost all duties survived at least five years. While it is tempting to attribute this to the WTO sunset rule, which went into effect in 1995, Canada had already adopted a five-year sunset rule in 1984. It is possible

that this is a spillover effect from the US, which had no sunset provision prior to 1995. Before 1995, exporters subject to US duties requested reviews idiosyncratically. If these same exporters were also subject to Canadian duties, they may have chosen to synchronise their review requests to economise on legal costs. Alternatively, the gradualism of the 1989-95 period may just be a function of the products (a wide variety) and countries (predominantly Western developed countries) that were targeted.

The more striking aspect of Figure 13 is that the three periods feature very different survival rates beyond the five-year review. Compared to 1989-95, initiations during 1996-2001 had fewer cases lasting beyond the review, whereas cases initiated after 2002 had more. The relatively short duration of 1996-2001 cases, combined with the relatively low success rate of cases initiated after 2000, probably accounts for the over-prediction of AD stocks emerging from our stock model of Section 2.

Figure 14 shows the duration of AD remedies from a target country perspective. There is very little difference in patterns between developed and other developing countries, other than the tendency for revocation prior to the five-year review for developed countries. Measures imposed on China, on the other hand, displays consistently greater duration. This is not simply the result of China emerging as the prominent target in the 2000s. AD remedies against China lasted longer than average in all three waves.⁹

The general picture that emerges from both the target and duration analyses is that Canadian import-competing industries regard China as their number one threat. The Canadian government has responded by implementing more AD duties against China and keeping them in force longer.

7 Canada in the WTO

Although macroeconomic fluctuations, TTB persistence and shifting comparative advantage go a long way towards explaining the behavior of Canadian TTBs, the picture would not be complete without factoring in Canada's WTO membership. We have already discussed the effects of the tariff cuts and sunset provision introduced following the Uruguay Round. However, Canada continues to be involved in ongoing multilateral negotiations over AD rules and has been affected by WTO dispute settlement rulings.

⁹ It is also not the case that China alone drives the higher duration seen in 2002-9 cases; Figure 13 changes very little when China is removed.

The Doha Round negotiations commenced in 2001 with reform of the AD agreement on the agenda. While calls for reform had long been resisted by the traditional users of AD, the rapid spread of AD use by non-traditional users after 1995 led to widespread support for including AD on the Doha agenda (though the US remained reluctant). While not a member of the reform-minded ‘Friends of Antidumping’ (FOA) group, Canada became actively involved in the negotiations, accounting for nearly a third of the specific reform proposals tendered in 2002 and 2003 (Finger and Zlate, 2005).¹⁰ In half of its proposals, Canada has been joined by the FOA. The most notable recommendations among Canada’s proposals are to ‘avoid the unwarranted permanence of trade restrictions under the guise of AD duties’ and to ‘take the broader public interest into account’ when determining remedies. In 2005, it also proposed extensive revisions to the process of sunset reviews (WTO Negotiating Group on Rules, 2005). While it is difficult to prove, it seems plausible that Canadian AD authorities chose to exercise a degree of self-restraint during the time Canada was making these proposals at the WTO. This may help explain the high rate of revocations and low rate of new duties in this period.

Further evidence of Canada’s willingness to restrain its behavior in light of the WTO is found in the 2005 decision of the Canada Border Services Agency (CBSA) to discontinue the practice of ‘zeroing’ in the determination of dumping margins.

A dumping margin is defined as the difference between the ‘fair’ or ‘normal’ value of a product and the actual price charged by a foreign firm in the domestic market of the complaining industry. If prices vary over time or across different varieties of the product, then the dumping margins may vary as well, and in particular, they may be positive in some cases and negative in others. To establish a single dumping margin for the purposes of applying AD remedy, it is common practice to take the average of the margins over varieties and time periods. Zeroing is the practice of first converting all of the negative dumping margins to zero before taking the average. Its effect is to inflate the average dumping margin, thus providing higher protection to the complaining industry.

Zeroing is standard practice in the US, but it has been challenged in several disputes in the WTO. The WTO Appellate Body has ruled that zeroing is contrary to member countries’ commitments under the WTO Antidumping Agreement, Article 2.4.2, on the

¹⁰ The FOA group consists of Brazil, Chile, Colombia, Costa Rica, Hong Kong, Israel, Japan, Norway, Singapore, South Korea, Switzerland, Taiwan, Thailand and Turkey.

grounds that it fails to take into account 'all comparable export transactions' in the calculation of dumping margins. It is likely that the CBSA discontinued zeroing to avoid being targeted in future disputes. It is interesting to note that the decision was announced one month after Canada joined the EU in sanctioning the US over another WTO-illegal practice, known as the 'Byrd Amendment'.

The proximate effect of the CBSA rule change was the termination of an AD case on laminate flooring from Austria, Belgium, Germany and Poland. In its reasons for termination, the CBSA concluded that margins of dumping for these countries were insignificant. Two other countries, China and France, were ultimately hit with duties, and thus zeroing decision had no direct affect on our count measure of AD stocks. However, it did affect the value measure, reducing it by about 5% on average from 2005 onwards.

The long-term impact is more difficult to discern. While no further cases since 2005 have been terminated for insignificant dumping margins, the change could have deterred cases with small margins from being initiated. It also may have reduced dumping margins, and thus the AD duty rates, imposed in most cases.

8 Conclusions

Despite the retreat in Canadian TTB stocks in the first decade of the 2000s, there are signs of a rebound. New AD cases have surged during the 2008-9 crisis, which portends a rise in AD stocks that could last for several years. There is also evidence of a major structural shift underway in terms of the products and countries on which Canadian TTBs are applied. The product scope of AD protection has narrowed, and increases in AD protection have coincided with relatively small reductions of MFN tariffs. China and, to a lesser extent, other developing countries are being targeted with far greater intensity by 2009 than they were at earlier points in the sample. The duration of Canadian AD remedies fell during the first half of the 2000s though this seems to have been reversed in the later half of the decade. While Canada has shown some willingness to reign in its AD policy during the Doha negotiations, whether this is temporary or permanent is difficult to discern. Its intense targeting of China and its lengthening of AD duty duration in since 2002 raises doubts about its permanence.

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Table 1: Canada's Count Measure by Year (AD only)

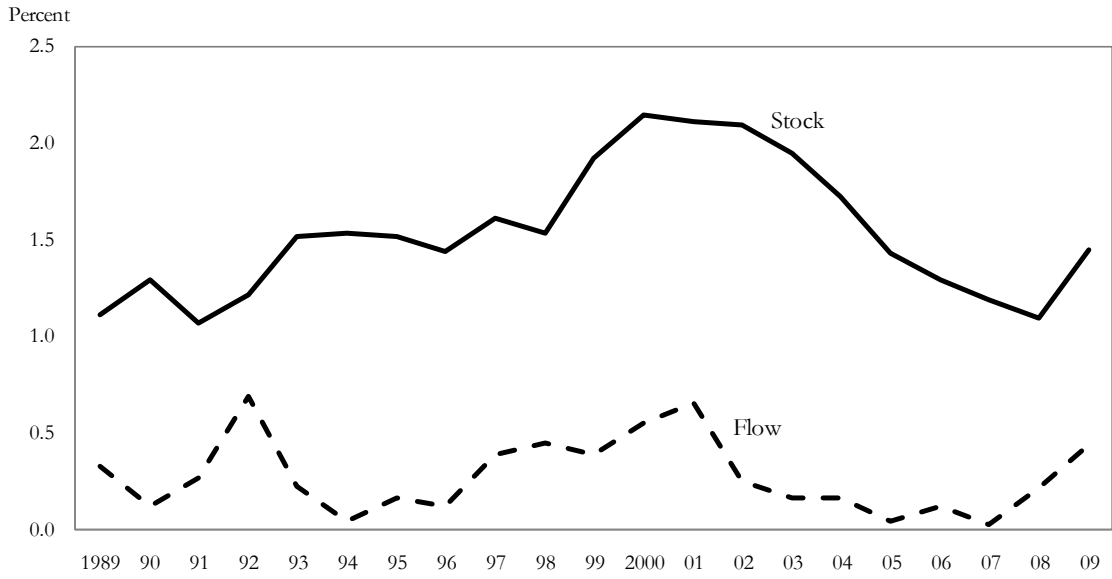
Year	Count Measure	
	Stock	Flow
1989	1.11	0.32
1990	1.30	0.12
1991	1.07	0.26
1992	1.22	0.69
1993	1.52	0.22
1994	1.53	0.04
1995	1.52	0.16
1996	1.44	0.12
1997	1.62	0.39
1998	1.53	0.45
1999	1.92	0.39
2000	2.15	0.55
2001	2.11	0.66
2002	2.09	0.25
2003	1.95	0.17
2004	1.72	0.17
2005	1.43	0.04
2006	1.29	0.12
2007	1.18	0.02
2008	1.10	0.22
2009	1.45	0.44

Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010) and COMTRADE.

Table 2: Canada's Value Measure by Year (AD only)

Year	Value Measure	
	Stock	Flow
1989	0.20	0.08
1990	0.27	0.05
1991	0.36	0.12
1992	0.46	0.19
1993	0.48	0.11
1994	0.51	0.04
1995	0.52	0.09
1996	0.53	0.01
1997	0.65	0.22
1998	0.58	0.05
1999	0.62	0.09
2000	0.76	0.10
2001	0.82	0.10
2002	0.78	0.01
2003	0.67	0.02
2004	0.49	0.09
2005	0.39	0.02
2006	0.31	0.04
2007	0.29	0.03
2008	0.28	0.05
2009	0.35	0.12

Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010) and COMTRADE.



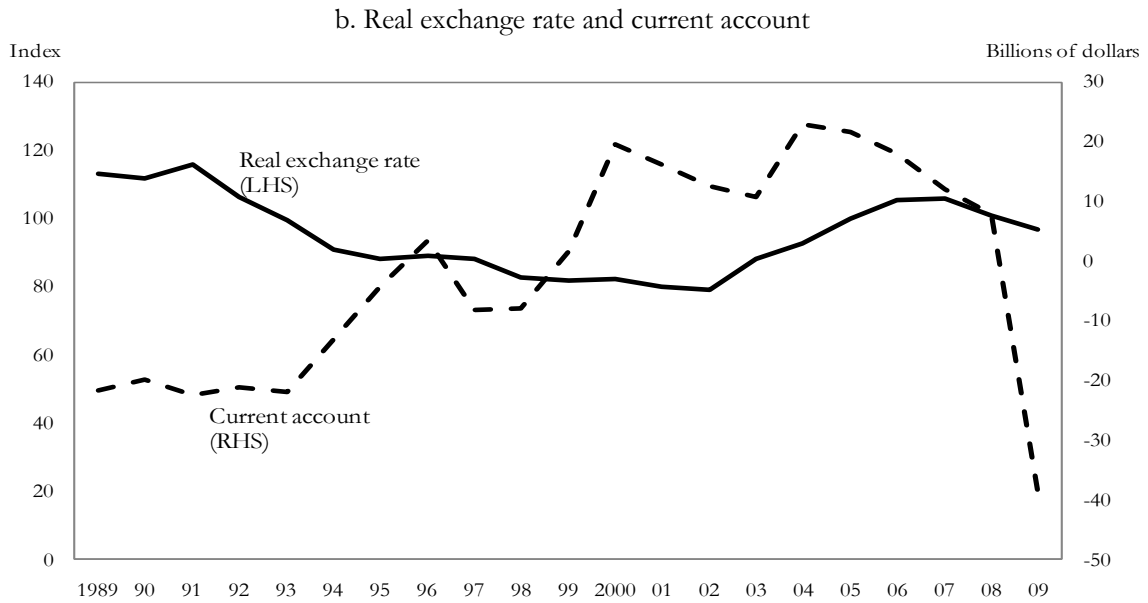
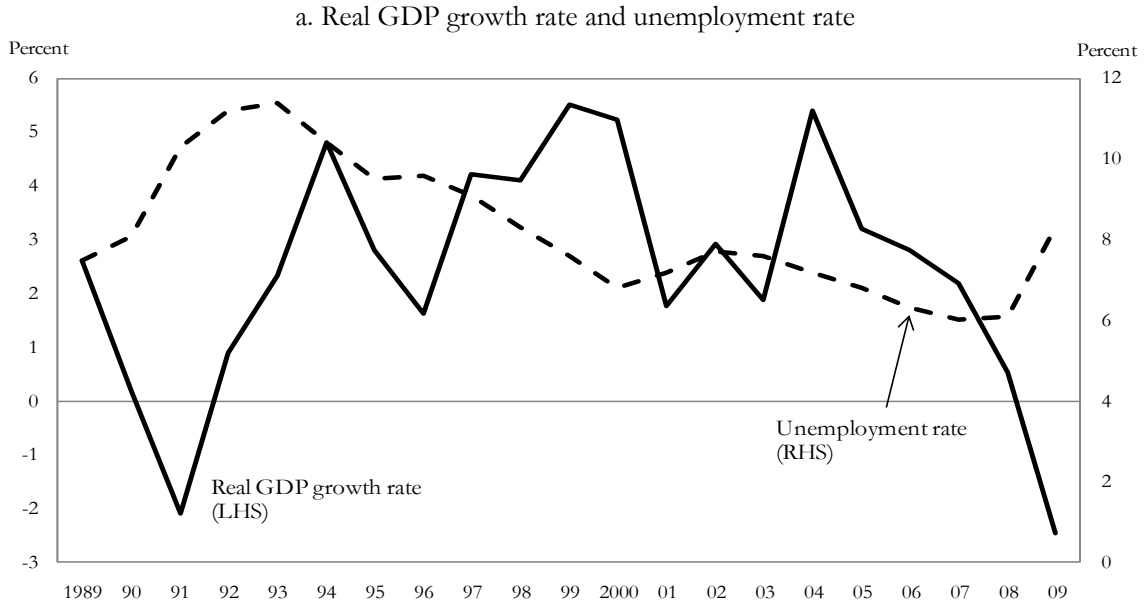
Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010) and COMTRADE.

Figure 1: Canada's Count Measure by Year (AD only)



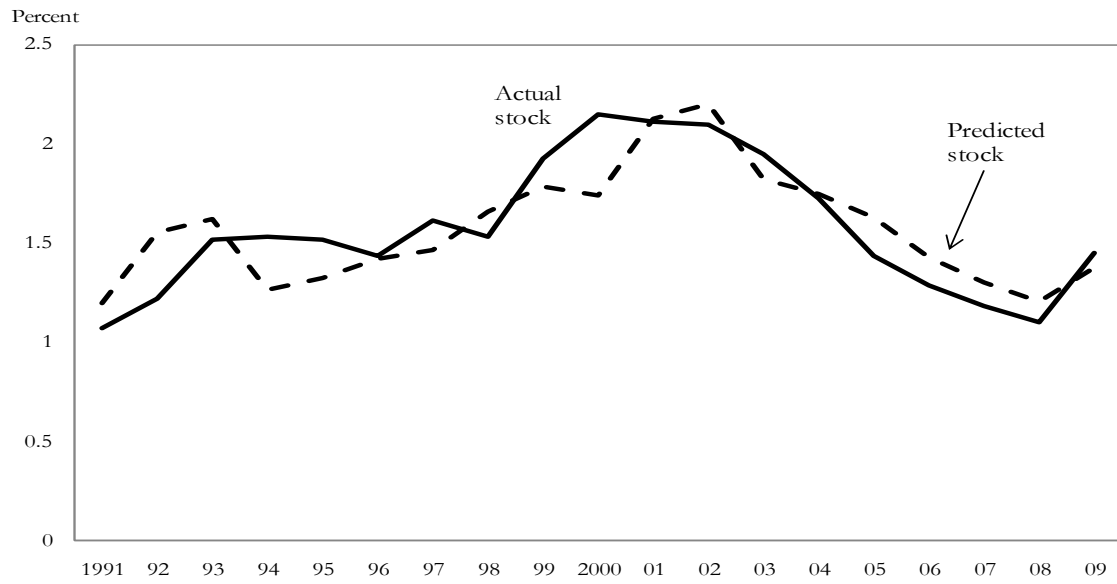
Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010) and COMTRADE.

Figure 2: Canada's Value Measure by Year (AD only)



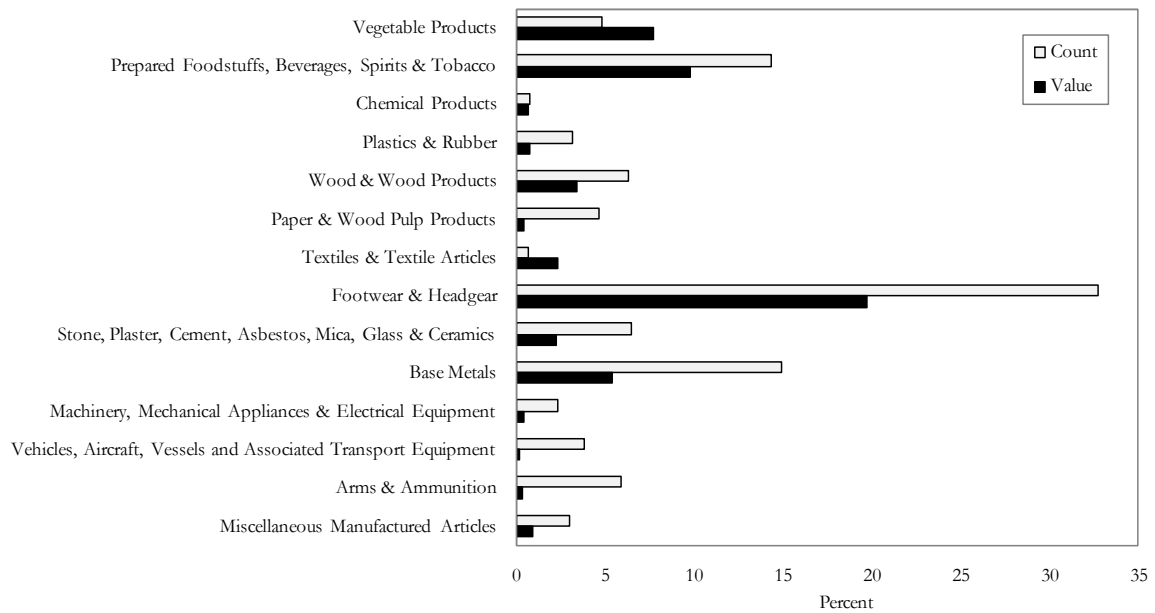
Source: Authors' calculations using World Development Indicators (2010).

Figure 3: Canada's Macroeconomic Indicators, 1989-2009



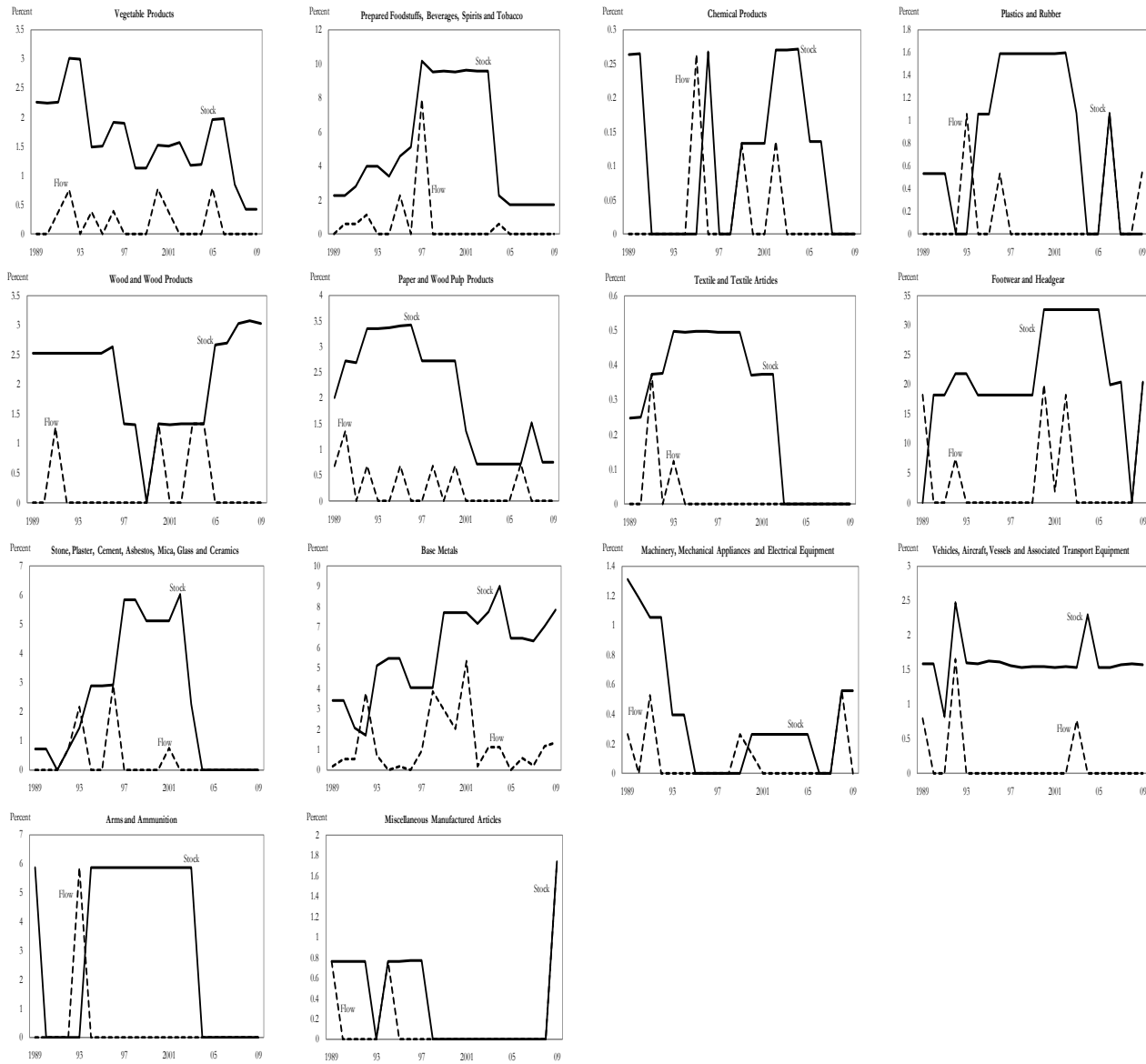
Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010) and COMTRADE.

Figure 4: Canada's Predicted versus Actual Stock (Count) Measure (AD only)



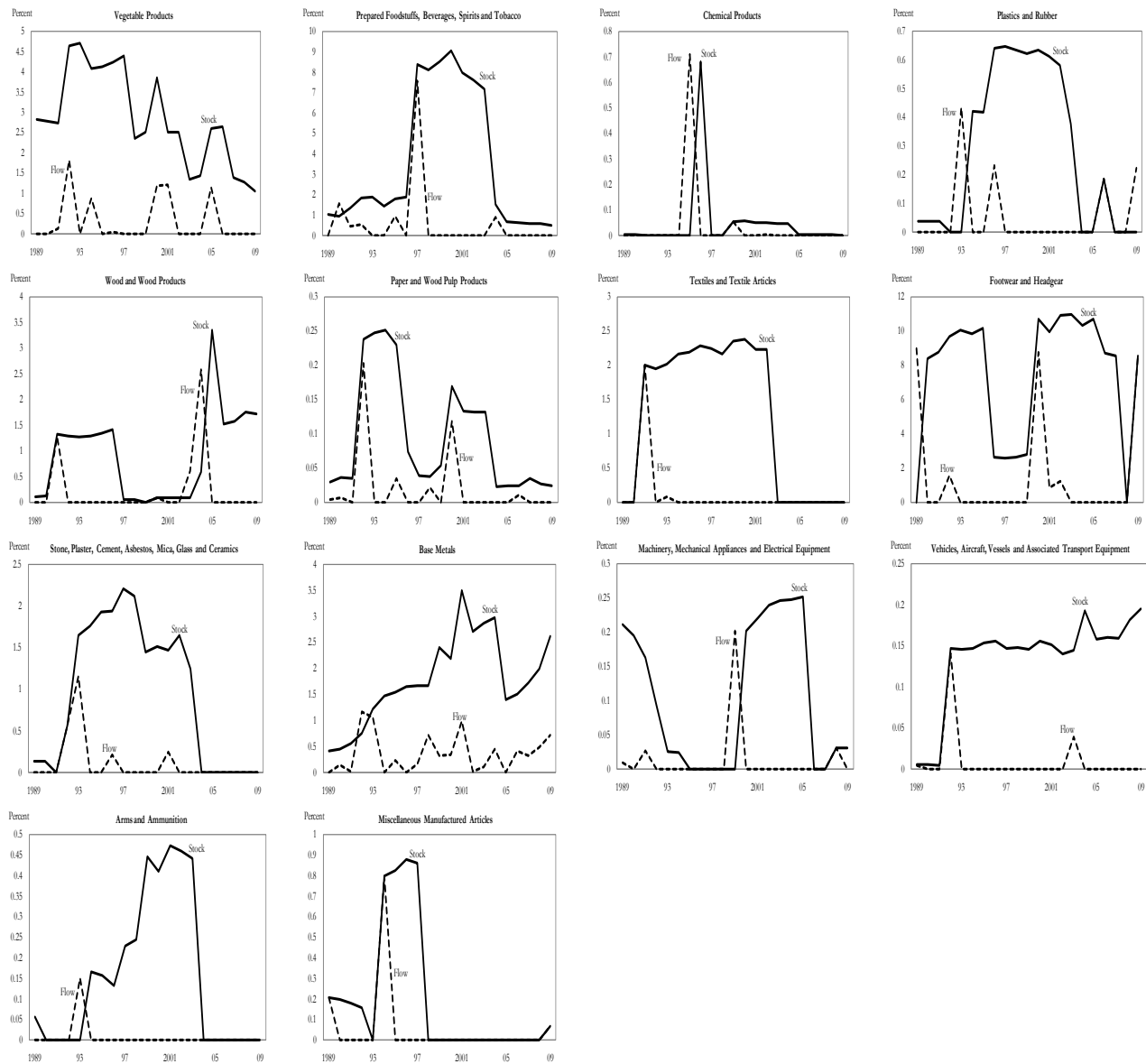
Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010) and COMTRADE.

Figure 5: Canada's Count and Value (Stock) Measures by HS Section (AD only)



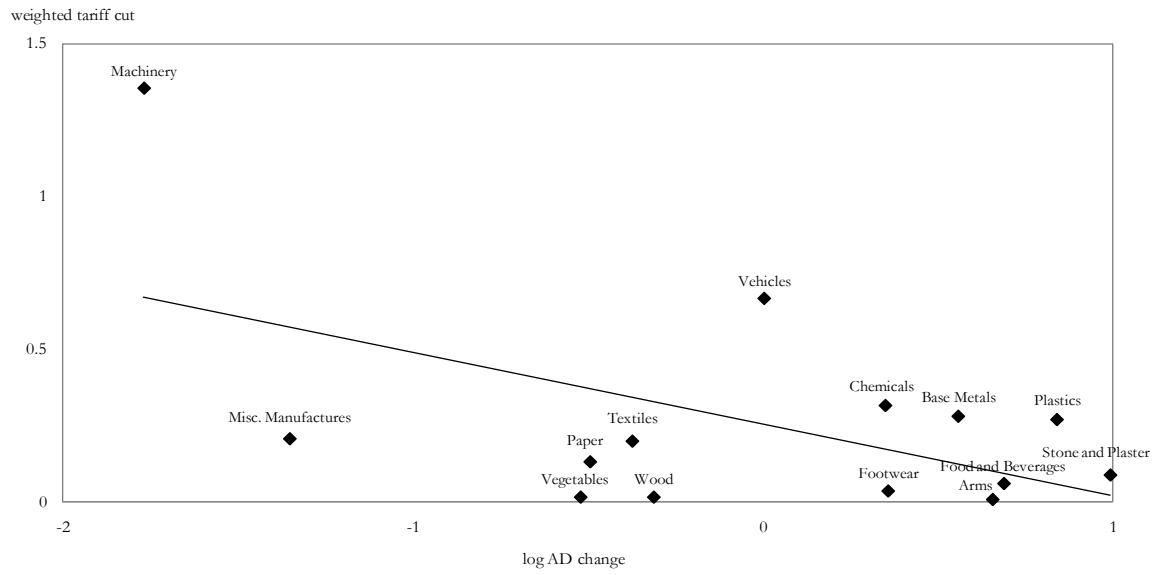
Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010) and COMTRADE.

Figure 6: Canada's Count Measure (Stock and Flow) by HS Section and Year (AD only)



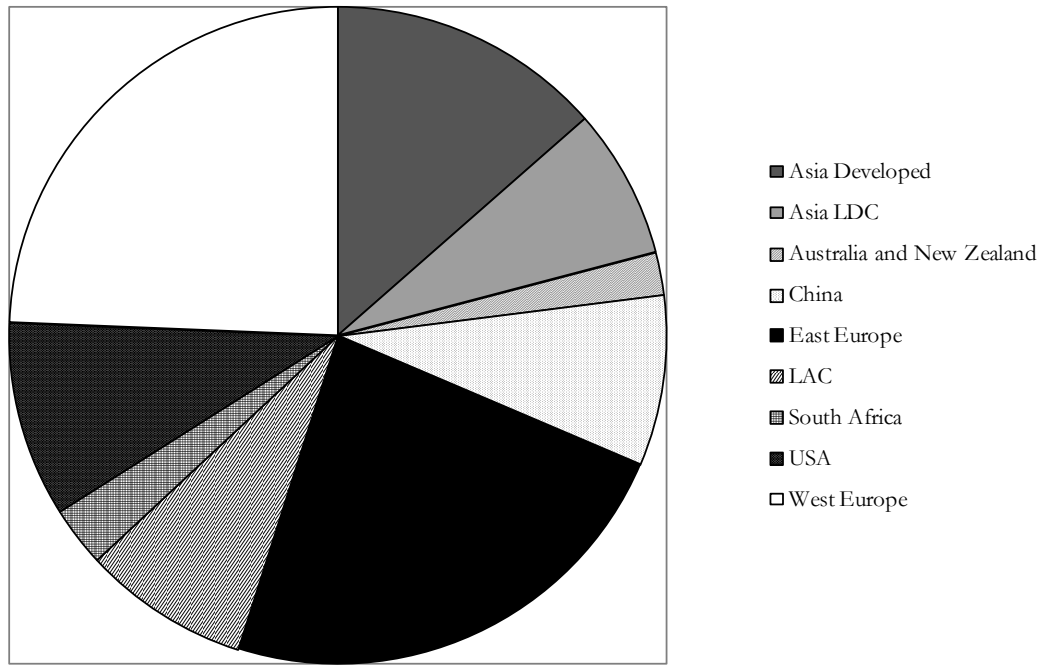
Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010) and COMTRADE.

Figure 7: Canada's Value Measure (Stock and Flow) by HS Section and Year (AD only)



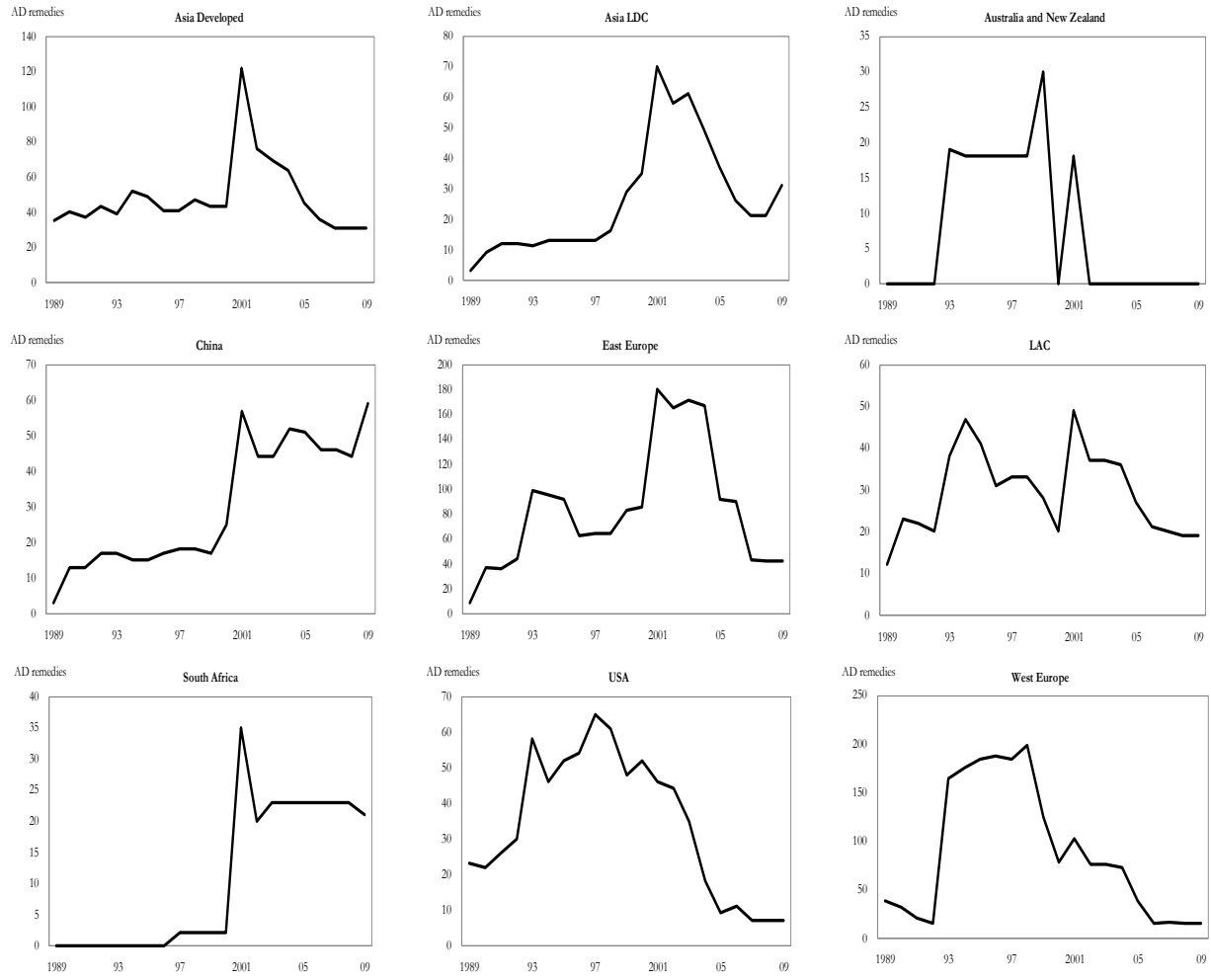
Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010), COMTRADE and TRAINS.

Figure 8: Canada's Tariff Cuts versus Growth in AD Stocks by Sector, 1989-2009



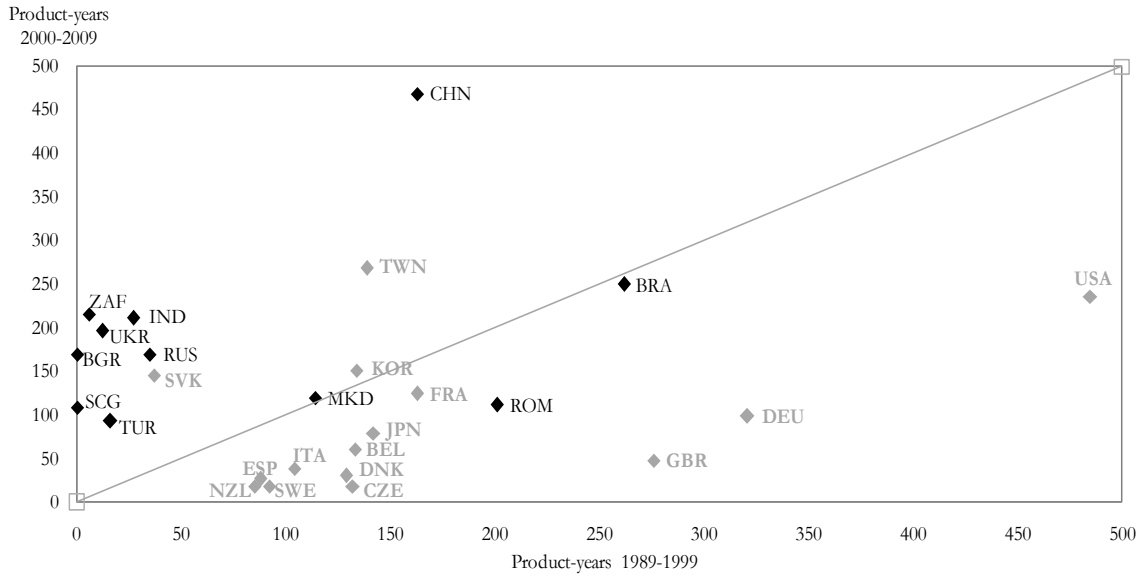
Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010).

**Figure 9: Distribution of Canadian AD Remedies by Target Exporter, 1989-2009
(percent of product-target-country-year combinations)**



Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010).

**Figure 10: Evolution of Canadian AD Remedies by Target Exporter, 1989-2009
(number of product-target-country combinations)**



Note: Developing countries are in black while developed countries are in gray.
 Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010).

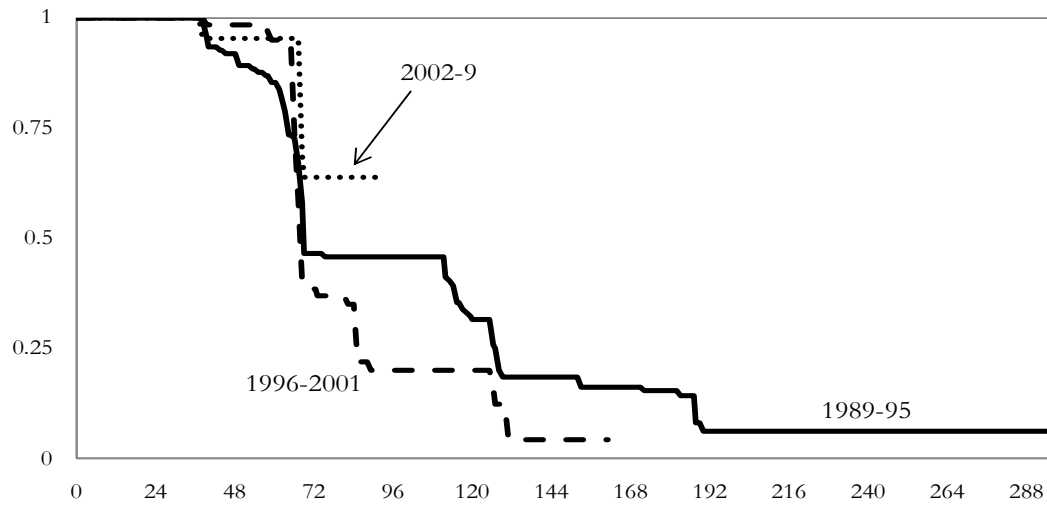
Figure 11: The Shift in Canadian Targets of AD Remedies



Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010).

Figure 12: Concentration of Canadian AD Remedies across Exporters

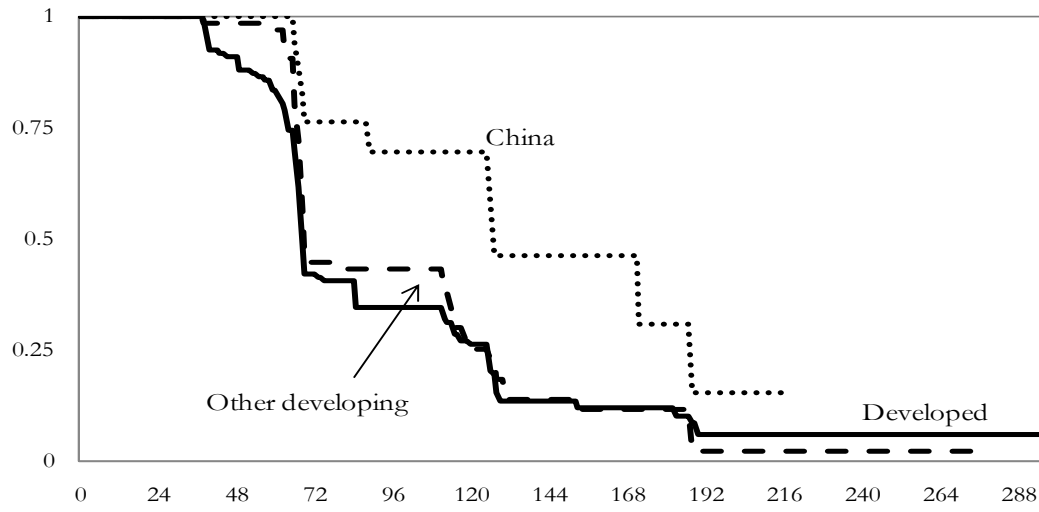
Kaplan-Meier
survival estimates



Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010).

Figure 13: Duration of Canadian AD Remedies in Three Waves (in months)

Kaplan-Meier
survival estimates



Source: Authors' calculations using the Temporary Trade Barriers Database (Bown, 2010).

Figure 14: Duration of Canadian AD Remedies by Target (in months)