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Trade and the Crisis: Protect or Recover

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EXECUTIVE SUMMARY

The pace of trade reforms waned from the mid-2000s as protectionist sentiment began to increase. With the onset of the global financial crisis, reform progress not only halted but began to reverse. As we show in this note, new trade restrictions have had—in the limited products they targeted—a strong negative impact on trade. The aggregate impact of new restrictions is modest, at about 0.25 percent of global trade, as most countries have resisted a widespread resort to protectionism. Looking ahead, however, in 2010 sustained high unemployment, uneven growth, and an unwinding of government stimulus measures suggest that protectionist pressures may rise.

Gaps in World Trade Organization (WTO) commitments leave ample scope to further restrict trade, so unless all countries vigorously resist protectionism this could threaten the economic recovery and drag down future growth. Continuing and further enhancing the monitoring of all protectionist measures and maintaining the high-level political awareness of the associated macroeconomic risks will help. But the surest way to avoid such a downside scenario is to tighten multilateral trade commitments by completing the WTO Doha Round. This can be viewed as a key part of the exit strategy from the global economic crisis.

I. INTRODUCTION AND THE "GREAT TRADE COLLAPSE"

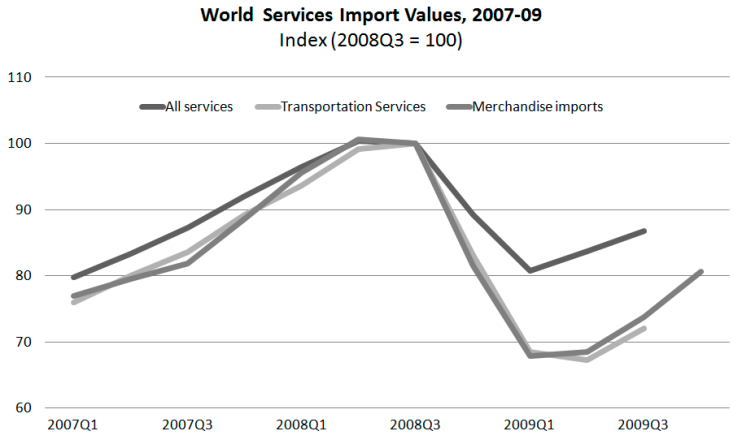
1. **The trade contraction that followed the deepening financial crisis in 2008 was sudden and sharp, but by mid-2009 trade had started to recover.** Countries publicly undertook to resist widespread protectionist measures, which alongside supportive macroeconomic policies and the existence of multilateral trade rules helped to restrain protectionist sentiment in the crisis period. However, where new restrictive measures were put in place they did heavily impact trade in targeted product categories, a finding with important consequences for policy makers.

2. **The crisis-induced collapse of trade caught the attention of top-level policymakers.** On the heels of the Lehman Brothers collapse and its consequences for capital markets, the contraction in global trade was sharp and sudden. Global trade volumes fell 17.5 percent between September 2008 and January 2009 in an episode now termed the "Great Trade Collapse" (Figure 1).[1] In downturns, trade normally falls more sharply than industrial production or overall economic activity, but the extent of the Great Trade Collapse was surprising initially. It has been largely explained by three factors: compositional effects, global supply chains, and reduced availability of trade finance (Box 1). Not only was the collapse abrupt, it was also highly synchronized. In the months preceding September 2008 fewer than 5 percent of OECD countries had negative export growth, while in the subsequent months nearly all experienced an export fall of more than 10 percent (Araújo and Martins, 2009).

[1] CPB Netherlands Bureau of Economic Policy Analysis (2010).

Box 1. Explaining the Great Trade Collapse

The extent of the sharp contraction in global trade in 2008–09 is mainly attributable to compositional effects, global supply chains, and reduced availability of trade finance and credit. *Compositional effects* were likely most important. Demand for investment goods and consumer durables was hardest hit by the crisis as consumers delayed purchases and firms shelved investment plans. As these "postponable" goods comprise a much larger share of trade than GDP or industrial production, trade fell much more (Baldwin, 2009; Levchenko and others, 2009). In comparison, the decline in GDP—comprised largely of services—was contained. Analogously, trade in services fell by less than trade in goods.



Source: IFS, OECD, IMF staff calculations.
Notes: Not all countries have reported for 2009Q1-Q3; data series for this period are based on reporting countries only. Figures include trade between individual Euro Area countries. Figures include China only for overall services, with semiannual source data intrapolated quarterly.

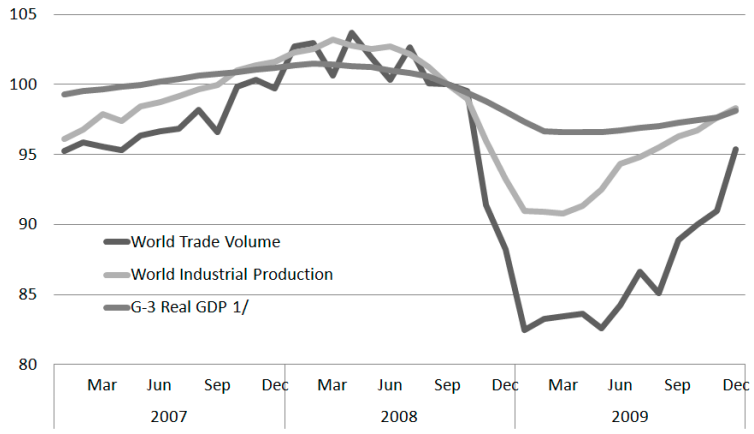
With *extensive supply chains*, components are traded several times in producing a final product. Postponable goods have longer supply chains, and firms curtailed intermediate input orders not only to cut output but also to reduce inventories (Freund, 2009a and b). "Just-in-time" production techniques that allow firms to hold lower inventories also propagate demand shocks more rapidly, adding to the abruptness of the trade collapse.

Finally, increased reliance on *trade finance and credit* may have contributed to the trade contraction. With global supply chains requiring longer-term working capital, trade finance was more important. The higher costs and declining availability of trade finance appear to have had a negative impact, especially in emerging market economies and in the early stages of the crisis:

- Evidence from past banking crises establishes a causal link between reduced credit availability to export sectors and declining trade. Examining sectoral performance in 23 historical banking crises, Iacovone and Zavacka (2009) conclude that banking problems amplify the impact of negative demand shocks on exports, with growth slower in export-oriented sectors reliant on external finance. Amiti and Weinstein (2009) focus on the health of an exporter's bank during the 1992–93 Japanese banking crisis and find that even within a sector, firms whose main bank was more affected by the crisis had weaker export performance. Up to a third of the Japanese export decline in 1992–93 may have been caused by the impact of the banking crisis.

- Surveys corroborate a tightening in trade finance during the recent crisis. Banks responding to the IMF/Bankers' Association for Finance and Trade (BAFT) surveys report that they raised margins on trade finance transactions but maintained availability (IMF, 2009). Firms responding to a World Bank survey report that trade finance has been constrained, particularly in some developing regions and for smaller firms (Malouche, 2009).

Figure 1. World Trade, Industrial Production, and GDP: 2007-09
(Seasonally adjusted, September 2008=100)



Source: CPB Netherlands Bureau for Economic Policy Analysis, and IMF WEO.
1/ GDP weighed average of US, Euro area and Japan.

3. **Following its initial contraction at the onset of the crisis, global trade quickly leveled off and by mid-2009 began to recover.** Trade rose 25 percent between May and December 2009, returning to some 90 percent of September 2008 levels.[2]

4. **The onset of the crisis and the sharp contraction of trade raised high-level awareness of the prospect of resurgent protectionism.** The 1930s experience illustrated how increased protectionism could exacerbate a crisis and delay recovery (Box 2). Moreover, recent research has enhanced our understanding of how open trade policies not only bring higher economic welfare through the conventional and well-known microeconomic effects, but also further the macroeconomic objectives of economic growth and stability (Box 3).

II. Slowing Momentum of Trade Liberalization Holds Risks

5. **Much progress had been made in freeing trade over time.** Among major western European and North American countries, average tariffs fell from 15 to 4 percent during 1952–2005.[3] In many major developing economies, tariffs increased or remained very high until the 1980s but have since come down sharply. Brazil's average rate declined from 51 percent in 1987 to 12 percent today; India's average tariff fell from 71 percent in 1994 to 32 percent in 2002 and 13 percent today (Figure 2).[4] Even in sectors where tariffs remain relatively high, there has been progress toward removing non-tariff barriers (NTBs). Important examples include textiles, clothing, and footwear (TCF), with the elimination (in the World Trade Organization Uruguay Round) of long-standing quota arrangements under the Multi-Fiber Agreement. In agriculture, the use of export subsidies and NTBs has been curtailed. Still, tariffs in these areas remain well above those in most other sectors (Figure 3).

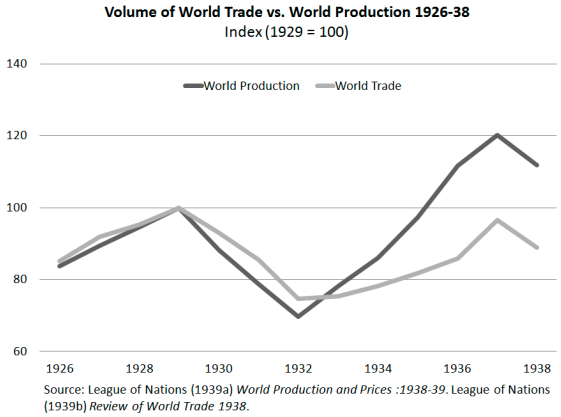
[2] CPB Netherlands Bureau of Economic Policy Analysis (2010).

[3] WTO (2007).

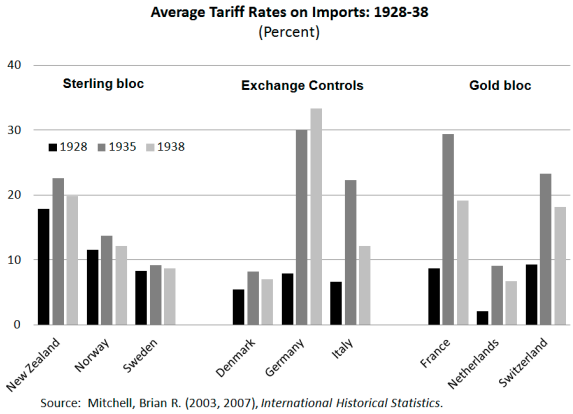
[4] GATT (1992), WTO (1994), and WTO (2009).

Box 2. Lessons from the 1930s

Protectionist policies in the 1930s intensified the Great Depression and delayed economic recovery. Global trade volumes fell by 25 percent during 1929–33, with about a third of this attributable to higher trade barriers (Eichengreen and Irwin, 2009). As importantly, the new protectionism often remained in place for many years, blocking the expansion of trade and dragging down growth. The result of these measures was that, despite economic recovery in most countries after 1933, trade volumes failed to reach their 1929 peak by the end of the 1930s (see figure below).



Source: League of Nations (1939a) *World Production and Prices :1938-39*. League of Nations (1939b) *Review of World Trade 1938*.



Source: Mitchell, Brian R. (2003, 2007), *International Historical Statistics*.

Those countries that resorted to protectionism were not blind to the consequences. As in the recent crisis, the initial response then was to publicly reject protectionism**.** A conference convened in 1930 to arrange a tariff truce, as proposed in September 1929 by the League of Nations, soon broke down.

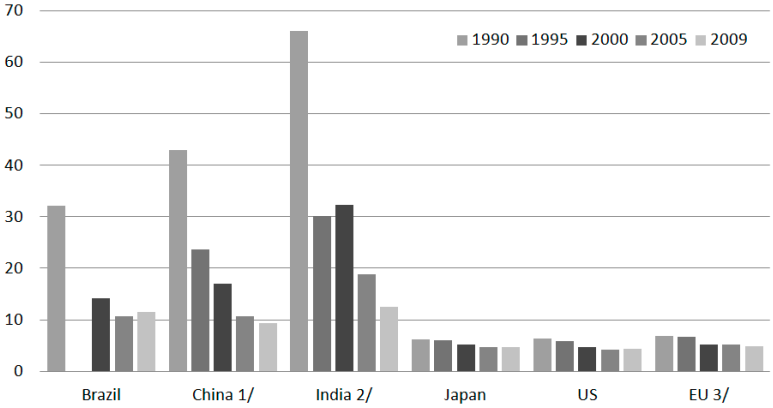
The macroeconomic policy response undertaken by countries in the early 1930s differed based on their continued use of the gold standard—which constrained monetary policy. One group of countries followed the United Kingdom by devaluing their currencies against gold in 1931 and pursuing an expansionary monetary policy that promoted economic recovery—these countries did not impose many trade restrictions (although the United Kingdom itself was an exception). Another group stayed on the gold standard and instead imposed high import tariffs and quotas to improve their balance of payments and reduce gold outflows. A final group implemented strict exchange controls on all trade and capital transactions.

The macroeconomic policy response was also constrained by the balanced budget orthodoxy that prevailed at that time (Germany, Japan, Sweden, and later the United States, were exceptions). There was also no WTO to constrain the direct trade response. Combined, these factors suggest that in the 1930s many countries decided to forego macroeconomic policy flexibility and turned instead to restrictive trade policies, but with little regard for their large, adverse spillover and systemic effects.

6. **This progress implies, however, that many countries now have ample scope to raise tariffs without exceeding their WTO tariff bindings.** In undertaking the substantial liberalization mentioned above, many major developing economies have reduced tariffs to well below the WTO-bound tariff rate ceilings agreed in the Uruguay Round concluded 16 years ago. Average most-favored-nation (MFN) tariffs are far below the average WTO-bound rate in such countries as Brazil (18 percentage points), Argentina (20 p.p.), and India (36 p.p.). These countries have considerable scope to increase import tariffs without violating their WTO tariff commitments (Figure 4).[5]

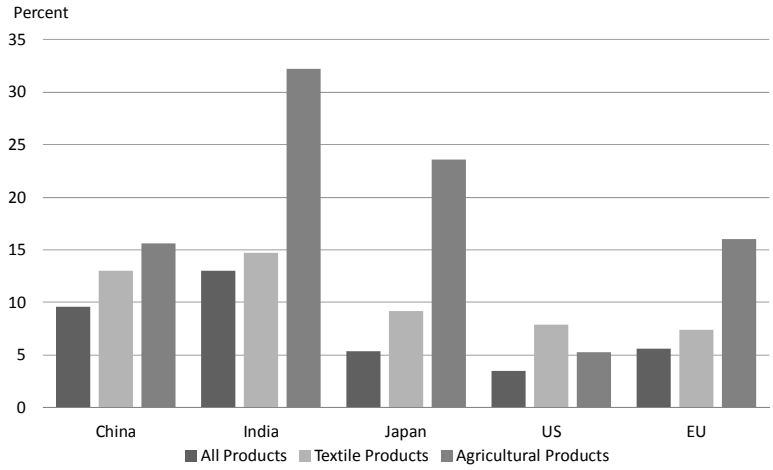
[5] About a quarter of India's tariff lines remain unbound. Russia is negotiating WTO accession and is not yet subject to formal WTO tariff bindings.

Figure 2. Simple Average MFN Rates: 1990-2009



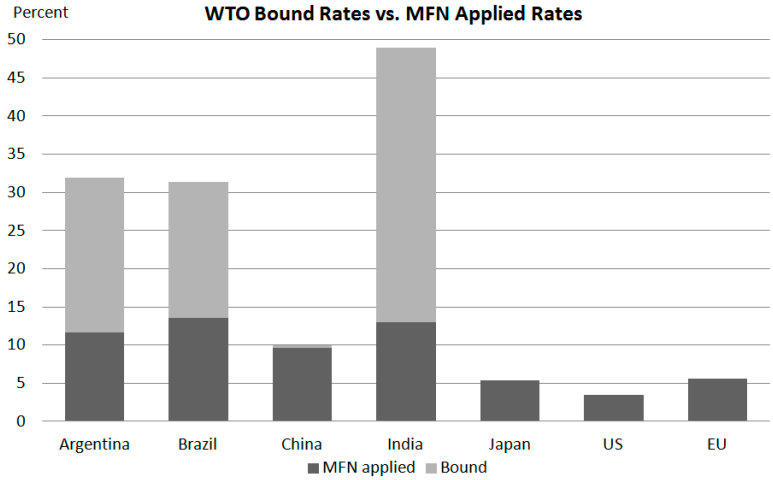
Source: World Intergrated Trade Solution (WITS).
1/ Tariff rates for 1992, 1996, and 2008 are used instead of 1990, 1995, and 2009, respectively.
2/ Tariff rates for 1997 and 2001 are used instead of 1995 and 2000, respectively.
3/ Conventional instead of MFN rates are used for 1990. Rates for 1996 are used instead of 1995.

Figure 3. Simple Average Applied MFN Rates: 2008



Source: WTO, World Tariff Profiles 2009.

Figure 4. Simple Average Tariff Rates: 2008
WTO Bound Rates vs. MFN Applied Rates



Source: WTO, World Tariff Profiles 2009.

Box 3. Trade Policy's Macro and Financial Linkages

A positive link between open trade policies and higher levels of income or welfare is long established. Theory and empirical analysis together provide strong evidence that openness also generates *sustained higher rates of growth*. Economists continue to actively research this relationship to understand better how it works (see, for example, Romalis, 2007).

In addition to likely benefits for sustained economic growth, trade policy also has a role in enhancing exchange rate stability and resolving global imbalances. Although they have narrowed since the onset of the crisis, underlying imbalances remain and may widen in the absence of policy adjustments. Real exchange rate adjustment almost certainly will play an integral role in achieving better balanced and sustainable growth in global demand. Analysis in the IMF's spring 2007 *World Economic Outlook* (WEO) demonstrated that trade restrictions and other product market rigidities require larger changes in real exchange rates to effect the resolution of current account imbalances.

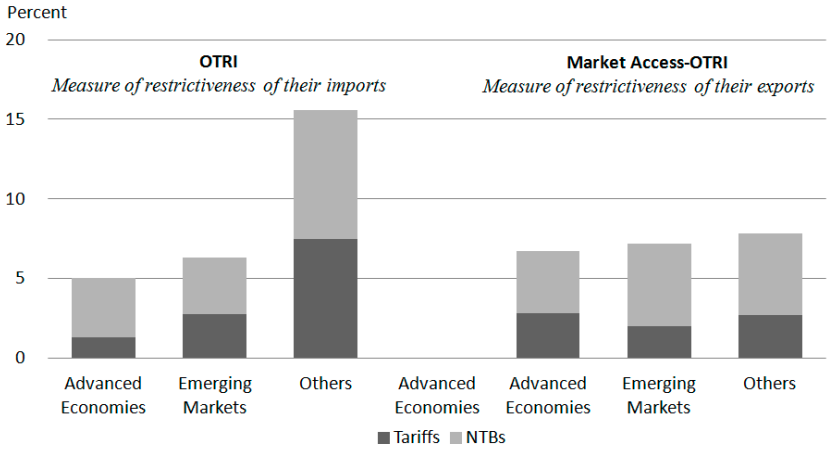
Trade openness has also been shown to reduce the probability of crises associated with financial openness, and to mitigate the cost of such crises if they do occur (Cavallo, 2005). It appears that interactions between trade and financial integration affect macroeconomic outcomes because trade integration reduces the likelihood of financial crises due to sudden stops or current account reversals. The implication is that liberal trade policies help to set the stage for beneficial financial integration.

7. **The pace of trade liberalization seemed to slow beginning from the early to the mid-2000s, leaving substantial trade restrictions in place prior to the crisis.**[6] As Figure 5 shows, overall import restrictiveness is about 5 percent for advanced economies, compared to about 15 percent for non-advanced, non-emerging market economies (Figure 5).[7] Despite various preferences, exports from developing economies also face slightly higher restrictions in their export markets, as shown in the right side of the figure.

[6] Bussiere and others (2009) describe how protectionist pressures were increasing even before the crisis, which they attribute in part to the widening of global imbalances.

[7] The World Bank Overall Trade Restrictiveness Index (OTRI) accounts for the effects of a broad range of policies, including some not picked up by common indicators (and some not intended as protectionist measures). It reports the *ad valorem* uniform tariff equivalent of this broad range of trade restrictions. See Kee and others for a further explanation.

Figure 5. Overall Trade Restrictiveness Index (OTRI): 2005-06



Source: Kee, Nicita, and Olarreaga (2009) and Global Monitoring Report 2008.
Note: Indices shown here are the weighted average of original indices reported in GMR 2008.
Advanced Economies refer to Members of Advanced Economies (WEO classification 110) excluding Czech Republic and Slovak Republic. Emerging Markets refer to Members of Emerging Europe (WEO classification 903) and Members of ASEAN-5 (WEO classification 511).

III. Awareness and Monitoring Have Limited Protectionism So Far

8. **Thus far, political leaders have shown a heightened awareness of the risks of protectionism.** Mindful of the 1930s experience and trade's contribution to macroeconomic performance, leaders of the Group of 20 (G-20) economies pledged in November 2008 to "refrain from raising new barriers to investment or to trade in goods and services, imposing new export restrictions, or implementing WTO inconsistent measures to stimulate exports."[8] In April 2009, G-20 leaders extended this pledge through 2010 and asked the WTO and other institutions to monitor their countries' adherence to this pledge.

9. **This provided further impetus for monitoring activities.** WTO monitoring reports cover trade measures for all countries[9] and reports prepared jointly by the WTO, OECD, and United Nations Conference on Trade and Development (UNCTAD)[10] cover the trade and investment measures of G-20 countries, the latter specifically in response to a G-20 request. Other institutions and unofficial entities supplement this with their own monitoring, perhaps the most ambitious of which is Global Trade Alert (GTA), associated with the (London-based) Centre for Economic Policy Research and supported by the World Bank and others.

[8] Some commentators considered the G-20 pledges insufficient and have suggested a code of conduct be developed to rule out specific types of policies (Pisani-Ferry and Santos, 2009).

[9] As of mid-March 2010, the most recent is WTO, "Overview of Developments in the International Trading Environment," November 2009.

[10] OECD, WTO, and UNCTAD, "Report on G-20 Trade and Investment Measures: September 2009—February 2010," March 2010.

10. **In addition to the heightened awareness of the risks of protectionism, several other factors have worked to limit the protectionist response:**[11]

a. Multilateral rules and institutions have clarified the types of policy actions considered responsible. The strong WTO-based trade system has been central. There appears to have been very little resort to new WTO-inconsistent measures, and even where rules exist but leave scope for policy reversal, such as with tariff ceilings, this scope has not been widely used.

b. As we observed above, trade declined much more rapidly than did overall economic activity. The ratio of imports to GDP declined as well. Although job losses mounted, they were not by and large blamed on trade.

c. Macroeconomic and financial sector policies were supportive of trade. Monetary policy has been highly expansionary, with interest rates down to record lows in most advanced and many emerging economies, while central bank balance sheets expanded to unprecedented levels in key advanced economies, including in support of the financial sector.[12] Many governments injected additional fiscal stimulus, beyond "automatic stabilizers." The coordination of the fiscal stimulus across countries—reflecting IMF advice—helped to sustain demand. And McKibbin and Stoeckel (2009) argue that a *coordinated* fiscal stimulus reduces protectionist sentiment by more than individual packages could do alone.[13]

11. **There is a risk now that protectionism may increase.** Unemployment has risen and may remain high, and more countries now face limited fiscal space. This may help to explain the increased frequency of industry's requests for trade remedy measures (Figure 6).[14] Also, unconventional measures, which are harder to quantify, may already have had a considerable impact. Analysis such as that by GTA has focused attention on the extent of this "murky" protectionism effected through more subtle, often "behind-the-border," measures.

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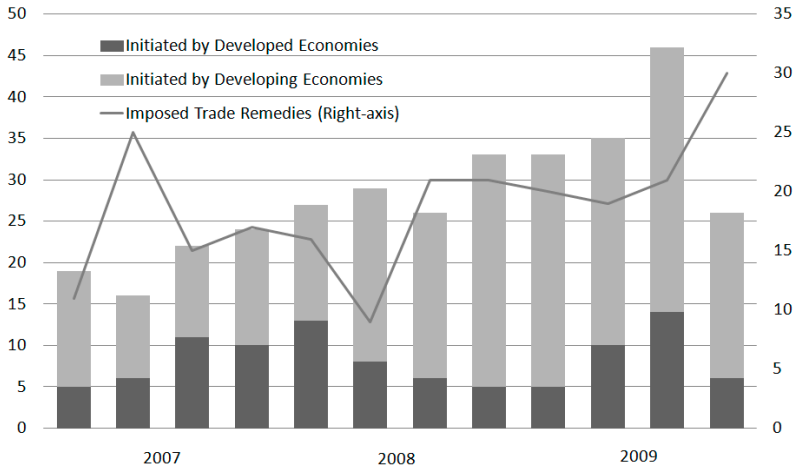
[11] Beyond those mentioned below, other factors may have also helped. From a political economy perspective, the extensive supply chains mentioned earlier have increased reliance on trade for many businesses and contribute to a "pro-trade" sentiment. Separately, in contrast to the widespread use in the 1930s of *specific* tariffs (so that when import prices declined the tariff as a percentage of value rose), some 99 percent of tariffs today are calculated as *ad valorem* rates.

[12] Chor and Manova (2009) examine how various countries' inter-bank rates affected their exports to the United States and conclude that aggressive monetary policies helped to avoid an even greater trade contraction.

[13] Large fiscal stimulus packages spill over to imports, and a perception that others will "free ride" on this may be met with discriminatory trade measures (either in procurement policies or other area). Global coordination of proportionally similar stimulus packages in response to the crisis helped to reduce this problem.

[14] The so-called "trade remedy" measures typically refer to antidumping duties, countervailing measures, and safeguard measures. These measures are also referred to as "trade defense" measures.

Figure 6. Newly-Initiated and Imposed Trade Remedy Investigations: Quarterly, 2007-09



Source: Bown (2010).

IV. New Trade Restrictions Have Visibly Reduced Trade

12. **With monitoring activities coming to quite different conclusions, the extent of harm caused by trade restrictions has been unclear.** None of the watchdogs suggests that we have—or likely will—see an extreme protectionist surge as witnessed in the 1930s. But characterizations differ markedly. The March 2010 joint OECD-WTO-UNCTAD report indicates that protectionism has not escalated meaningfully, and suggests that new instances of measures have declined: "Although some G-20 members continued to implement new trade restrictive policies, in apparent contradiction to their pledges at London and Pittsburgh, the overall extent of these restrictions has been limited and an escalation of protectionism has continued to be avoided. There have been fewer instances than in earlier [recent] periods of G-20 members taking potentially trade restrictive measures, and more cases of trade opening measures…." In contrast, GTA's 4th Report,[15] released a few weeks earlier, argues that as reporting and investigative lags are being overcome, "the extent of anti-foreigner discrimination is much higher than originally reported" and that despite improved macroeconomic conditions the frequency of new measures taken in the fourth quarter of 2009 continued at pace with those taken at the height of the crisis, earlier in 2009.

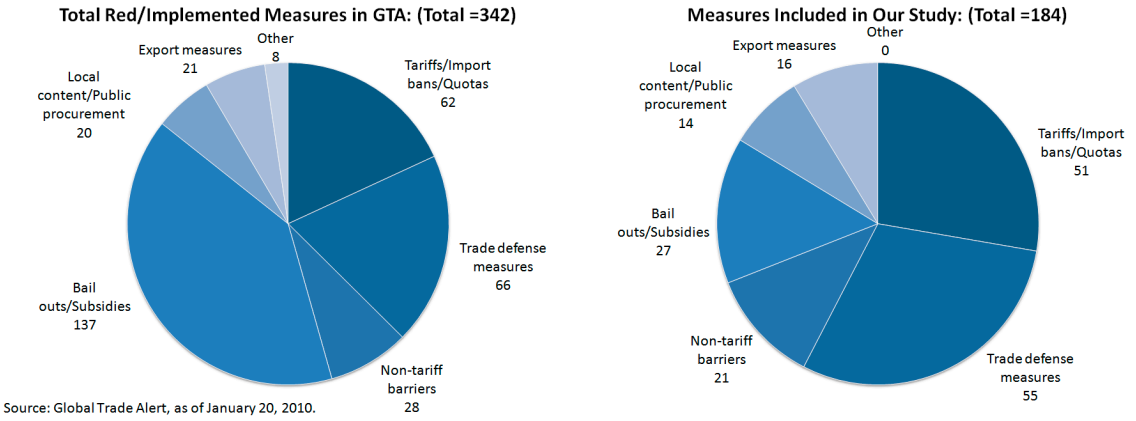
13. **Our analysis finds that newly implemented trade restrictions have already had a strong negative impact; fortunately, they have covered only a small share of trade.** There is strong statistical evidence that trade in products targeted by protectionist measures indeed declined significantly. And if protectionist measures become widespread or are allowed to balloon, this would cause significant harm to global trade and stifle the broader economic recovery. The impact on targeted products is apparent from the raw data, as shown below, but we also use econometric methods to confirm this rigorously and to estimate the quantitative effect on aggregate trade.

[15] Simon Evenett, "Will Stabilisation Limit Protectionism? The 4th GTA Report," February 2010, available at www.globaltradealert.org.

A look at the data

14. **We match data on measures from the monitoring activities with detailed data on actual trade flows.** For an intuitive sense of whether new measures have affected aggregate trade, we examine how (within the same product category) bilateral trade targeted by new measures has evolved as compared to bilateral trade that has not been targeted by new measures. More specifically, we use monthly bilateral (import and export) trade values at the 4-digit (HS) product level, as reported by the largest trading countries through late 2009.[16] To identify those trade flows targeted by new measures, we then use information from the GTA database on the 4-digit product category (or categories) and bilateral trade partners targeted by a new measure and the month in which the measure was implemented. A wide array of measures is considered (Figure 7), some of which restrict imports and others that restrict or support exports. In total, we incorporate information on 184 measures identified by GTA as highly likely to be discriminatory (the so-called "red measures").[17]

Figure 7. Types of Distortionary Trade Measures Implemented, Nov. 2008–Nov. 2009 1/



Source: Global Trade Alert, as of January 20, 2010.

1/ Number of measures is lower because of missing information on implementing/targeted country or tariff line.

15. **The negative impact of import restrictions is apparent in the raw data.** To assess the trade impact of new measures we must account for the uneven effect of the demand shock caused by the global crisis. For example, the crisis affected trade in some products (such as durables) more than others. To separate the effects of the demand shock from those of the trade restrictions, we examine products in every time period separately and compare how trade performed in bilateral trading relationships ("country-pairs") targeted by new measures, relative to those not targeted by new measures. Figure 8 illustrates the results of this comparison for products on which new import-restrictive measures were introduced in a particular month, November 2008. It shows that, indeed, imports targeted by new restrictions

[16] The trade data include the external imports and exports reported by the EU and 14 other major G-20 traders and were obtained from Global Trade Information Services. Because both imports and exports of these reporters are included, we observe some 80 percent of global merchandise trade, with only trade among smaller countries excluded. We use data beginning in July 2008 and ending, for most reporters, with November 2009.

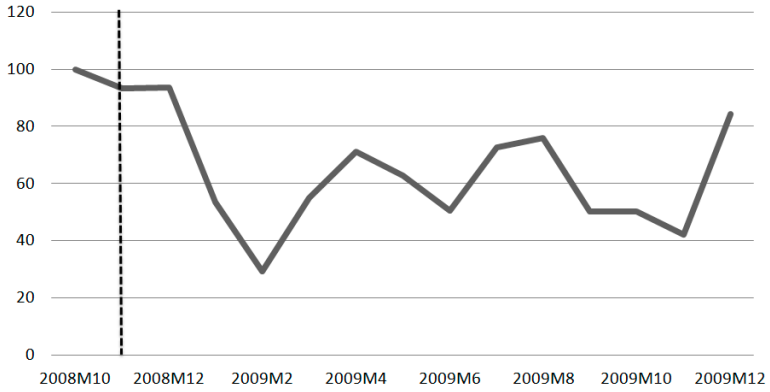
[17] A similar number of measures for which GTA does not provide tariff classifications or information on the targeted partners had to be excluded from the analysis.

declined more than did world trade in the same products. Replicating Figure 8 for import-restricting measures imposed in other months demonstrates that they also generally had a negative impact (Figure 9).

16. **Export subsidies and restrictions distorted trade as well.** Analogous graphs for export subsidies and export restrictions are also presented in Figure 9. As expected, export subsidies seemingly increased targeted exports relative to world trade of the same products. Export restrictions also seem to have led to increased trade. This (initially puzzling) result is largely because the category includes measures that reduce (as well as intensify) export restrictions.[18]

Figure 8. Bilateral Trade Flows subject to Measures Implemented in November 2008 1/

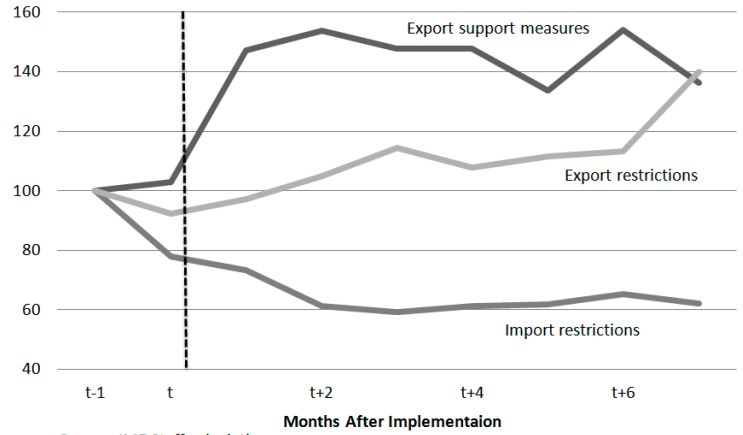
Index (2008M10 = 100)



Source: IMF Staff calculations.
1/ Bilateral trade flows subject to measures implemented in 2008M11 are divided by total bilateral trade flows of the same products. The ratio is normalized to equal 100 for 2008M10.

Figure 9. Performance of Protected Trade Relative to Total Trade 1/

Index (t-1 = 100)



Source: IMF Staff calculations.
1/ The index shows the simple average of bilateral trade flows subject to measures implemented at various months (relative to total bilateral trade flows of the same products).

[18] Particularly influential is China's value added tax reform and moves to zero-rate exports. This is of course the norm, and was a step supported by IMF policy advice.

17. **Econometric analysis serves to quantify the impact of new trade restrictions on actual trade** (see Annex for more detail). Henn and McDonald (2010) analyze how new trade restrictive measures have impacted detailed (4-digit) bilateral monthly trade flows, after accounting, via different fixed effects, for changes in trade flows due to other determinants than new trade restrictions. These determinants account for the facts that: (i) the crisis induced more severe changes in demand for some types of products than for others; (ii) as the crisis progressed, some countries faced more severe declines in income than did other countries; and finally (iii) bilateral exchange rates, inflation differentials, and the costs of transport between any two countries may have varied as the crisis developed.

18. **The statistical results confirm the distortionary effect of new trade restrictions** suggested in Figures 8 and 9. Across various econometric specifications, new measures are found—with a high degree of statistical confidence—to discriminate against targeted trade flows. Our basic specification represents a close statistical analogue to the figures. The statistical estimates emerging from this basic specification suggest that a new restriction is associated with about an 8.5 percent distortion to trade (Annex, Table 1). A refined specification finds that a part of this 8.5 percent impact is attributable to other trade determinants. After accounting for these determinants, a new restriction is still responsible for a 3 percent distortion to trade. The magnitude of this effect is striking, as it applies to entire 4-digit product categories—although most trade measures only cover a portion of these categories. This suggests that the impact on the products specifically affected may be considerably larger. Detailed analysis in the Annex separately quantifies the impact of different types of measures: import restrictions, export restrictions, and export support measures.

19. **Measures distorted aggregate world trade by about 0.25 percent.**[19] We obtain this result by multiplying the refined product-level estimates (Annex, Table 2) by the amount of trade subject to measures of each type. The estimates of various specifications imply that measures distorted aggregate global trade by between 0.2 and 0.7 percent.

V. After the Crisis: Continued Protectionist Pressures

20. **Whether this qualifies as a success will depend on how countries deal with protectionist pressures in the post-crisis period.** When League of Nations members meeting in 1930 could not resist the allure of new restrictions, the ensuing downward spiral of protectionism—some of the most egregious measures came two years later—exacerbated and extended the Great Depression. This time, good intentions were formalized as pledges in the G-20 communiqué and, despite a range of individual violations, countries have resisted widespread protectionist measures—although some doubt remains in certain "murky" areas. We consider this a qualified success that can be ascribed to solid rules, strong institutions, and enhanced monitoring; and to the wisdom gained from hard-learned lessons—including the macroeconomic benefits of liberal trade policies and the need for macroeconomic policies to respond flexibly to sudden changes in conditions.

[19] Recall that these results are based only on the 184 measures for which GTA provided the necessary information on product coverage and country coverage (see Figure 7).

21. **We stress that where measures have been taken they have had large negative effects.** The apparently modest aggregate impact of new protectionism reflects the restraint that has been demonstrated. As our results show, it does *not* indicate that new protectionism has been harmless. Moreover, the experience of the 1930s, the benefits of liberal trade policy for economic growth and stability described in Box 3, and the adverse effects of trade restrictions in macro simulation models, all suggest that expanding protectionist measures would jeopardize global recovery without addressing the factors that trigger the protectionist pressures.[20]

22. **There are several key reasons why protectionist pressures may intensify:**

- *Unemployment* is likely to remain high for some time and is associated with such pressures (Box 4). Even with growth rebounding, a recovery in employment may occur only after many months. As leaders face political pressures to address employment concerns, protectionist pressures associated with unemployment may be felt with some lag.

- In contrast to the crisis period, high unemployment would be sustained against a backdrop of *rising import growth* and higher market shares of imports. This affects the success rate—and thus appeal—of anti-dumping petitions, which evidence shows were filed at higher rates in the second half of 2009 (Figure 6). More broadly, if public opinion blames unemployment on imports, poor policy choices may follow.

- As macroeconomic policy space narrows and the political consensus for sustaining monetary, financial sector, and fiscal stimulus packages erodes, a *withdrawal of the stimulus* before a sustainable recovery in private demand is in train would remove the support that has helped to dampen protectionist pressures.

Specific developments in some countries may generate additional demands:

- *Higher commodity prices* bring a risk that some countries will tax or restrict commodity exports—as demonstrated during the 2007–08 food price crisis.

- Where a surge in capital inflows leads to *rapid currency appreciation*, as in some emerging markets, the resulting pressure on export- and import-competing industries sectors may generate calls for trade actions.

- Another *widening of global imbalances* may trigger a rise in protectionism as countries seek to remedy protracted current account deficits. As Faruqee and others (2006) argue, however, a protectionist surge would reduce global growth while leaving these imbalances unresolved.

[20] For example, in the macro model of Bussiere and others (2009) trade restrictions generate sustained negative effects on growth but are an ineffective policy for reducing external imbalances.

- Perhaps most dangerously, giving in to these pressures may itself bring a response. Although uncommon to date, *retaliation* could become widespread if the factors just described were acted on.

A stigma accompanies any reversal of the reduction of trade barriers achieved in recent decades. Widespread use of new measures—even if initially by only a few countries—would eliminate that stigma. In that event, the ability to resist widespread protectionism would depend on countries' ability to increase trade restrictions while remaining within their WTO legal obligations—a point to which we return shortly.

Box 4. Macroeconomic Determinants of Protectionism

Econometric studies have shown that the demand for trade protection can be seen to depend positively on the appreciation of the real exchange rate and on the rate of unemployment (or negatively on the level of production). For example, a detailed study of U.S. data from 1980 to 1995 showed that a one percentage point increase in the U.S. unemployment rate results in an expected 54 additional anti-dumping or countervailing duty petitions. A 2003 study extends this country coverage to include Australia, Canada and the European Union, and it also finds that a decline in domestic GDP leads to an increase in anti-dumping filings (Knetter and Prusa, 2003).

History suggests that rising unemployment presents a major challenge in many advanced economies in terms of the potential demands for a protectionist response. As the Autumn 2009 WEO highlighted, unemployment rates tend to rise significantly and for many years after financial shocks, and this time will be no exception—unemployment rates for advanced countries are projected to increase through 2010. The hopes that the protectionist response will disappear with the resumption of growth are not borne out by history—they will subside only when unemployment begins to decline (Leidy, 1997).

VI. How to Avoid a Return to Widespread Protectionism

23. **Leaders and senior policymakers must remain on heightened alert.** With the risk that protectionist sentiment may now intensify rather than subside, continuing and further enhancing the monitoring of protectionist measures and maintaining the high-level political awareness of the macroeconomic risks of protectionism will help to resist these pressures.

24. **The surest way to avoid a widespread resort to protectionism with adverse macroeconomic consequences is to conclude the WTO Doha Round.** The Doha Round would bring important actual policy changes in many areas, including substantial benefits for low-income countries. Underappreciated, however, is the benefit that it would bring in enhanced predictability and security of trade policies.[21] Because substantial past liberalization episodes have not been "locked in," the binding gaps mentioned above leave considerable scope to reverse that liberalization. Industrial product tariffs of several key emerging market countries could be raised on average by some 10 to 30 percentage points and yet remain

[21] For details, see Hoekman and others (2009). Francois and Martin (2004) emphasize the economic costs of variability of tariffs and other commercial policies, and thus the benefits of tariff bindings. For example, the security of market access is important to firms' investment decisions.

within WTO commitments. In agriculture, present commitments allow countries such as the United States to sharply raise domestic subsidies, distorting global agricultural commodity prices. These are areas in which the role of WTO commitments is the easiest to grasp. But a Doha agreement could tighten or clarify commitments and rules across a broad range of topics, including anti-dumping, food aid, services, subsidies, and trade facilitation.

25. **Senior macroeconomic policy makers should see concluding the Doha Round as part of their exit policy from the global financial crisis.** New restrictions have had—in those products they have covered—a strong negative effect on trade. With unemployment remaining high and imports rebounding, and as monetary and fiscal stimulus begin to be withdrawn, protectionist pressure may intensify rather than abate. Succumbing to those pressures on a widespread scale would jeopardize the pace, strength, and durability of economic recovery.

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ANNEX I. ECONOMETRIC SPECIFICATION AND RESULTS

26. **Econometric analysis serves to quantify the impact of new trade restrictions on trade.** The existence of an impact of new trade restrictions on trade flows is confirmed with detailed statistical analysis. Henn and McDonald (2010) estimate the following equation:

$$\Delta \ln(Imports_{ijpt}) = TVFE + \Delta(ProtDummy_{ijpt}) + \varepsilon_{ijpt},$$

where $\Delta \ln(Imports_{ijpt})$ is the 12-month change in the log of imports; *TVFE* stands for one or more sets of time-varying fixed effects; $\Delta(ProtDummy_{ijpt})$ is the change in our 0–1 indicator variable for observations subject to a protectionist measure;[22] ε_{ijpt} is the error term; and i, j, p,and t are indices for exporters, importers, 4-digit products, and time. The time-varying (TV) fixed effects restrict our comparison of trade flows to those within a period and can therefore account for the crisis-induced demand shock and any other changes in trade flows not related to discriminatory measures. The TV product fixed effects in Specification 1 represent the econometric analogue to our previous graphic analysis; they account for product-specific seasonality and worldwide price and demand shocks (Tables 1 and 2). The TV importer fixed effects added in Specification 2 account for income and demand variability by an importing country. Finally, Specification 3 includes TV country-pair fixed effects, that is, an interaction of the previous TV importer effects with TV exporter effects. Thus, Specification 3 also accounts for exporter-specific supply shocks and changes in any bilateral trade determinants, such as transport connections or the exchange rate.[23]

27. **The significant distortionary effects of new trade restrictions are confirmed by the statistical results.** Throughout our specifications, the implementation of new measures is found to discriminate against targeted trade flows, with the effect underpinned by a high degree of statistical confidence (at the 0.1 percent level; see Table 1). Under Specification 1, which incorporates TV product-specific fixed effects in a manner analogous to the figures presented above, the estimated coefficient of 0.089 implies that a new trade restriction is associated with about an 8.5 percent distortion to trade. Additional inclusion of TV importer or TV exporter country-pair fixed effects in Specifications 2 and 3 helps to better explain changes in trade. These estimates imply that new measures (which often cover only a portion of a 4-digit category) distorted trade in the targeted 4-digit product categories by about 3 percent.

28. **The results can be used to estimate how much aggregate world trade has been distorted by new restrictions.** But first the estimates have to be refined by disaggregating the protectionist dummy into import restrictions, export support, and export restrictions (see Table 2). The disaggregate results suggest (Specification 2) that import restrictions on average lead to a 2.5 percent import decline, while export support measures increase exports

[22] The dummy takes the value of –1 for discriminatory measures that support trade, such as export subsidies.

[23] Henn and McDonald (2010) also explores further generalizations of the fixed effect specifications. The more generalized fixed effects do not sufficiently help to explain the trade flow variations to warrant inclusion here.

by 9.5 percent and export restrictions are associated (albeit at a lower level of statistical confidence) with 2.5 percent decrease in exports.

Table 1: Baseline Results

Regression	1a	2a	3a
Fixed Effects (FE)	TV Product	TV Product & TV Importer	TV Product & TV Cty-pair
Number of FE	20,569	24,436	96,082
Protectionist Dummy	−0.089*** (−17.2)	−0.033*** (−4.6)	−0.032*** (−4.8)
R-squared (percent)	1.5	2.0	3.3
Number of Observations	8,806,027	8,806,027	8,806,027
F-Statistic: Rejection Prob. Compared to Regression	0.000	0.000 1	0.000 2

T-Statistics in parentheses. ***, **, * denote significance at the 0.1, 1, and 5 percent levels, respectively.
TV stands for Time-Varying.

Table 2: Results by Type of Measure

Regression	1b	2b	3b
Fixed Effects (FE)	TV Product	TV Product & TV Importer	TV Product & TV Cty-pair
Number of FE	20,569	24,436	96,082
Protectionist…			
… Import Restrictions	−0.127*** (−18.5)	−0.026*** (−2.8)	−0.028*** (−3.2)
… Export Support	0.096*** (6.2)	0.092*** (4.0)	0.004 (0.2)
… Export Restrictions	−0.018* (−2.0)	−0.025* (−2.0)	−0.066*** (−5.1)
R-squared (percent)	1.5	2.0	3.3
Number of Observations	8,806,027	8,806,027	8,806,027
F-Statistic: Rejection Prob. Compared to Regression	0.000	0.000 1	0.000 2

T-Statistics in parentheses. ***, **, * denote significance at the 0.1, 1, and 5 percent levels, respectively.
TV stands for Time-Varying.

29. **Measures distorted aggregate world trade by about ¼ percent.** We obtain this result by multiplying the refined product-level estimates by the amount of trade subject to measures of each type. The estimates of Specification 2 then imply that measures distorted aggregate global trade by 0.22 percent,[24] with restrictions lowering world trade by 0.18 percent and export support measures increasing world exports by 0.04 percent. Using the coefficients from Specification 3 yields a similar aggregate distortion of 0.28 percent, while Specification 1 yields an aggregate distortion of 0.71 percent.

[24] The calculation is $0.05 \times (\exp(-0.026) - 1) + 0.004 \times (\exp(0.092) - 1) + (0.022 \times (\exp(0.025) - 1) = 0.22\%$.