The Evolution of Canada's Global Export Market Share

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Acknowledgements

Abstract

Following gains during the 1990s, Canada's global market share of goods exports has declined markedly in recent years. In this regard, the constant market share analysis framework is used to decompose changes in Canada's global market share into competitiveness and structural effects over the 1990-2010 period, as well as to draw some comparisons to a number of other countries. While Canadian firms have been facing competitiveness challenges in recent years resulting from the persistent strength of the Canadian dollar and poor productivity performance relative to major trade competitors, other factors such as to whom Canada sells its products and the product it sells, have also significantly affected the performance of Canadian exports. Over the past decade, the structure of the geographic market to which Canada exports, with a large weight on the relatively slow-growing U.S. market, and a small weight on other economies, particularly the relatively fast-growing emerging market economies, has exerted the majority of the overall net negative impact on Canadian exports.

Résumé

Après avoir enregistré des gains dans les années 1990, la part du Canada dans le marché mondial des exportations de biens a fortement diminué au cours des dernières années. Au regard de cette évolution, les auteurs procèdent à une analyse à parts de marché constantes afin de dégager la contribution respective des effets de compétitivité et des effets de structure sur les variations de la part du Canada dans le marché mondial durant la période 1990-2010. Ils emploient également cette méthode pour réaliser des comparaisons avec d'autres pays. Bien que, ces dernières années, les entreprises canadiennes se soient heurté à des problèmes de compétitivité liés à la vigueur persistante du dollar canadien et au piètre bilan du pays au chapitre de la productivité par rapport à ses principaux concurrents commerciaux, d'autres facteurs, notamment la gamme des produits vendus par le Canada et leur destination, ont aussi pesé de manière prononcée sur la tenue des exportations canadiennes. Durant la dernière décennie, la structure géographique des marchés d'exportation du Canada – caractérisée par

la place importante d'un marché américain dont la croissance est relativement lente et la place modeste qu'occupent les autres économies, en particulier les économies émergentes qui connaissent une expansion plutôt rapide – est le principal facteur du recul global net des exportations canadiennes.

Classification JEL : F10, F14, F43
Classification de la Banque : Balance des paiements et composantes; Taux de change; Questions internationales

1.0 Introduction: What determines changes in a country's global export performance?

Changes in a country's world export market share depend on its competitiveness as well as its product and geographical structure. Understanding how these factors have affected Canadian trade performance is of particular interest given ongoing concerns about Canadian competitiveness over the past 10 years or so (i.e., the sizeable appreciation of the Canadian dollar and Canada's relatively poor productivity performance), as well as the concentration of Canadian exports going to the United States as opposed to fast-growing emerging and developing countries. In this regard, the commonly used "constant market share analysis" (CMSA) is conducted to gain insights into the evolution of Canada's world market share over the last two decades.

The CMSA approach is based on the idea that the product and geographical structure of a country's exports can affect its export growth (e.g., if Canada is more (less) specialised in export products and destination markets where demand is weak (strong) in comparison to other products and markets, then Canada's aggregate export market share will tend to decline). In this context, the structural effect is the change in the world export market share that would have occurred if Canada's share in world markets had remained constant in each product/destination market. The competitiveness effect is the difference between the actual change in the aggregate market share and the structural effect. Further, the competitiveness effect is a "pure" market share effect, as it gives the aggregated impact of changes in market shares of each product/destination market.

The CMSA approach, which dates back to Tyszynski (1951), has been a common method of analysis in international trade. Recently, a European Central Bank (ECB) task force (2005), Amador and Cabrial (2008), and Jiminez and Martin (2010) have used the CMSA to assess how competitiveness and structural effects have contributed to market share shifts in a number of European countries. However, to our knowledge, such an analysis has not been performed for Canada. Using the United Nation's Comtrade comprehensive world trade database, this paper presents a "constant market share analysis" for Canada from 1990 to 2010. To bring the Canadian experience into perspective, highlights from a similar analysis conducted for a number of other key countries (including Australia, China, Germany, Mexico, and the United States) are also presented.

Our analysis shows that Canada's global market share has gone through three main distinct periods. From 1990 to 2000, Canadian exports outpaced world export growth to gain some world market share (+0.5 percentage points, on balance). This essentially

resulted from the relatively strong U.S. growth compared to that of the rest of the world and the dominant position occupied by the United States among Canada's trading partners. Between 2001 and 2007, however, Canada's export growth lagged world export growth by about 5 percentage points on average per year. As a result, Canada's world market share declined from 4.5 per cent in 2000 to 3.2 per cent in 2007. Competitiveness effects accounted for half of this adverse performance. In addition, the composition of Canada's trading partners, with a large weight on the U.S. economy and a small weight on other economies, particularly emerging market economies, was then depressing Canada's exports performance because of the relatively slower growth of the U.S. market. More recently, since the Great Recession, Canada's world market share of exports has continued to deteriorate, standing at 2.7 per cent in 2010. However, in contrast to the previous period, the constant market share analysis indicates that overall competitiveness effects did not contribute to the deterioration in the 2008-2010 period.

Nevertheless, negative competitiveness effects were registered in most product categories of Canadian exports, particularly machinery and equipment, automotive products, and non-energy commodities, but were offset by strong positive competitiveness effects in energy commodities. The overall deterioration in market share over the 2008-2010 period stemmed from Canada's strong reliance on the United States whose economy experienced a particularly sharp downturn.

On balance, Canada's decline in its share of world exports, over the 1990-2010 period, resulted as much from its lack of diversification across trading partners as from adverse competitiveness effects.

Like Canada, other advanced economies, such as the United States, Germany and Australia, have also experienced competitive pressures from China, Mexico and other emerging market economies, notably as those economies have become more fully integrated into the world economy with a reduction in trade barriers. At the same time, robust world demand for commodities, sustained by the relatively strong growth in emerging market economies, has benefitted not only Canada but also other significant commodity exporters such as Australia. In addition, the geographical market structure of exports has also played an important role in the overall export performance of many economies. Like Canada, Mexico's combination of over-exposure to the U.S. market and under-exposure to the fast-growing emerging market economies has held back its exports in recent years. In contrast, Australia gained substantially from the concentration of its exports to China and other developing Asian economies.

The rest of the paper is organized as follows: the CMSA methodology is presented in Section 2, data is described in Section 3, results are discussed in Section 4, and a conclusion is offered in Section 5.

2.0 Methodology

2.1 *The constant market share analysis (CMSA) framework*

The difference between a country's and the world's export growth underpins the evolution of that country's world market share over time. So, when a country's export growth is higher (lower) than world export growth, that country is gaining (losing) world market share. Following the ECB (2005), and Jiminez and Martin (2010) the CMSA approach is used here to decompose the difference over time between Canada's and the world's export growth into structural and competitiveness effects:

$$g - g^* = \left[\sum_i \sum_j \theta_{ij}\left(g_{ij} - g_{ij}^*\right)\right] + \left[\sum_i \sum_j (\theta_{ij} - \theta_{ij}^*)g_{ij}^*\right] \quad (1)$$

Difference between the growth in Canadian and world exports =
competitiveness effect   +   structural effect

where,
$$g = \frac{X_t - X_{t-1}}{X_{t-1}}, \left(g^* = \frac{X_t^* - X_{t-1}^*}{X_{t-1}^*}\right) \quad (2)$$

is the percentage change in Canada's (or world, denoted by *) total exports in period *t*, or,

$$g = \sum_i \sum_j \theta_{ij} g_{ij}, \ \left(g^* = \sum_i \sum_j \theta_{ij}^* g_{ij}^*\right) (3)$$

and where,
$$\theta_{ij} = \frac{X_{ij_{t-1}}}{X_{t-1}}, \left(\theta_{ij}^* = \frac{X_{ij_{t-1}}^*}{X_{t-1}^*}\right) \quad (4)$$

is the share of product "*i*" in destination market "*j*" of Canada's (world) exports in period *t-1*, and *g* (*g**) is the percentage change in Canada's (world) exports of product "*i*" to destination market "*j*" in period *t*.

As discussed by Mandel (2012), the CMSA decomposition into competitiveness and structural effects is analogous to measuring contributions along "intensive" and

"extensive" margins, respectively. In this regard, the aggregate change in Canada's world export share reflects a combination of both changes in market shares within each product/geographical markets (the intensive margin) and those stemming from changes in the size of each product/geographical market in the world (the extensive margin).

The *competitiveness effect* (the first part of equation 1 in square brackets) measures the portion of the aggregate change in world market share that is attributable to changes in the Canadian market share within each product/geographical market (i.e., we measure the effect of holding the "size of the world pie" constant and changing only the "size of the Canadian slice"). The analysis of competitiveness effects can also be refined by isolating the effect from a geographical market perspective (equation 5) or from a product perspective (equation 6).

$$\left[\sum_j \theta_j (g_j - g_j^*)\right] \quad (5)$$

$$\left[\sum_i \theta_i (g_i - g_i^*)\right] \quad (6)$$

The *structural effect* (the second part of equation 1 in square brackets) measures the role of the composition of Canada's product and geographical export markets in the change in its aggregate world export share. This is done by weighting the change in the size of each product/geographical market by the difference in Canada's export structure relative to that of the world (i.e., we measure what would have occurred to the overall export share if Canada's "slice of the world pie" had remained constant in each product and geographical markets and only the "size of the world pie" had changed). This effect will be positive (negative) if Canada's exports are more (less) concentrated in relatively high-growth products or geographical markets than the world structure.

The structural effect can be further decomposed into three parts. The *product effect* (7) measures the contribution of Canada's product composition to changes in its global market share (i.e., whether the relative specialization of Canada is in dynamic products in world demand or not). This is obtained by summing the differences between Canada's and the world's *i*th product export share in period *t-1*, weighted by world growth of the *i*th product. This will be positive (negative) if Canada's composition of exports is more (less) concentrated in product growing above the world average.

$$\sum_i (\theta_i - \theta_i^*) g_i^* \quad (7)$$

The *market effect* (8) measures the contribution of Canada's geographical export market composition to changes in its global market share (i.e., whether the relative specialization of Canada in terms of destination markets is directed towards dynamic export market destinations or not). This is done by aggregating the differences between Canada's and the world's *j*th market export share in period *t-1*, weighted by world growth of the *j*th market. This will be positive (negative) if Canada's composition of exports is more (less) concentrated in geographical areas growing above the world average.

$$\sum_j (\theta_j - \theta_j^*) g_j^* \quad (8)$$

Finally, the *residual effect* or the *mixed structure effect (9)* consists of second-order factors, which comprises the interaction between the product and geographical structures effects. As a result, the interpretation of this residual effect is not completely straightforward.

$$\sum_i \sum_j \left[(\theta_{ij} - \theta_{ij}^*) - (\theta_i - \theta_i^*) \frac{\theta_{ij}^*}{\theta_i^*} - (\theta_j - \theta_j^*) \frac{\theta_{ij}^*}{\theta_j^*} \right] g_{ij}^* \quad (9)$$

Following the ECB (2005), this analysis incorporates a number of improvements over the traditional implementation of the CMSA to address some of the limitations that have been raised in earlier studies (e.g., Richardson (1971a, 1971b)). Firstly, we performed calculations annually (and summed the annual changes to obtain estimates over multi-year horizons as advocated by Barff and Knight (1988)) in order to limit the impact of intra-period structural change on the estimate of the competitiveness effect. In this regard, earlier studies have typically used the structure of the initial year in the calculations of the structural effect over the whole time horizon under consideration. As a result, estimates of the competitiveness effect in earlier studies were affected by changes in structure that occurred between the initial and final year under analysis. Secondly, this study calculates the mixed-structural effect explicitly, so that it is excluded from the estimates of both the product and market effects. Earlier studies, did not account for the mixed-structural effect independently, leaving it in the estimate of either the product or market effects, thereby creating biased estimates.[1]

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[1] Despite these improvements, some limitations remain. For instance, the CMSA results are sensitive to the degree of product and geographical disaggregation. At finer levels of disaggregation, the structural effect accounts for a larger proportion of export growth, which tends to reduce the competitiveness effect (see Loveridge and Selting (1998)).

3.0 Data: The United Nations Comtrade Database

The data used for this study comes from the United Nations Comtrade database, which compiles detailed monthly bilateral trade flows reported to the United Nations by its member countries (in value terms and expressed in US dollars).[2] The CMSA computations have been performed with data converted to an annual frequency to avoid the volatility in monthly data and to focus on longer-term trends, which are more meaningful for economic policy. The data is based on the SITC Revision 2 product classification at the 2-digit level, which corresponds to 68 different products. This analysis also covers the trade flows from 73 countries (the maximum number of countries that report exports data continuously from 1989 to 2009, see Appendix A).[3] For 2010, we used a subset of 53 reporting countries because data is not yet available for all countries.

For analytical purposes, disaggregated products have been mapped into 7 broad sectors (see Appendix B):

- Agricultural products
- Energy commodities
- Non-energy commodities
- Automotive products
- Machinery and equipment
- Consumer goods
- Others

Similarly, to facilitate the analysis, country results are presented on an individual basis for key Canadian trading partners (United States, Japan, China, the United Kingdom, the Euro area, and Mexico) and aggregated by main regions or stage of economic development (Newly Industrialized economies (NIEs), other advanced economies, Central Eastern European states and Commonwealth Independent States (CEE and CIS), Latin America and the Caribbean, Developing Asia, and the Middle East and Africa).

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[2] As noted in recent studies (e.g., ECB (2005) and Amador and Cabral (2008)), because exports are valued in US dollars, developments in market shares can be influenced mechanically by changes in the US dollar exchange rate. For instance, if the share of trade denominated in US dollars is larger in Canadian exports compared to world exports, a depreciation of the US dollar would result, ceteris paribus, in a decline in the Canadian market share.

[3] As an alternative, we could have used a larger set of countries (106) but the availability of the data would have reduced the sample period by 8 years. The 73-country sample used in this study represents roughly 75% of the value reported by the 106 country sample. World growth is very similar in the two respective samples.

4.0 Results

4.1 Decomposing the evolution of Canada's World Market Share

While the profiles for the nominal growth of Canadian and world exports are showing broadly similar trends over the 1990-2010 period (Chart 1), two distinct periods of relative growth are noticeable: Canadian export growth was somewhat above world growth, on balance, over the 1990s, but well below world growth during the post-2000 period. The cumulative percentage point difference between the two series underpins the evolution of the world market share of Canadian exports. The initial decline in the cumulative export growth difference indicates that Canadian world market share fell from 1990 to 1992, followed by a recovery throughout the rest of the decade. On balance, Canadian exports gained 0.5 percentage points in world market share over the decade (Table 1). These gains, however, were quickly reversed early in the post-2000 period, as Canada's market share declined by 1.8 percentage points between 2000 and 2010.

In the next sub-sections, the changes in Canada's market share are analysed by sub-periods and decomposed into their main sources (competitiveness, and product and geographical structure effects).

4.1.1 A period of world market share gains: 1990 to 2000

Between 1990 and 2000, growth in Canadian shipments abroad has cumulatively outpaced world export growth by more than 7 percentage points. As can be seen from Table 2 and Chart 2, this favourable outcome resulted essentially from a positive geographical market effect, which contributed to raise overall Canadian export growth by 1.4 percentage points, on average, annually. This positive effect was associated with the US market, which more than offset negative effects in other geographical markets (Table 3). This is because the more rapid growth of the U.S. market relative to that of the world (9.6 versus 7.7 per cent, on average, Table 4) was advantageous to Canada given the high concentration of its exports going to the United States. In this regard, the share of Canada's exports going to the United States increased from 75.0 per cent in 1990 to 87.2 per cent in 2000, averaging 80.8 per cent over the period (Table 5).

Over the 1990-2000 period, the structure of Canadian exports in terms of products, was somewhat detrimental to the evolution of Canada's global market share. In particular, the low concentration of machinery and equipment (17.8 versus 35.0 per cent) and

consumer goods (4.4 versus 11.5 per cent) in Canada's export structure compared to that of the world average (Table 7), coupled with the above average rate of growth of the world market for those components (Table 8), contributed to a slight negative effect on Canada's total export growth.

The competitiveness effect was slightly negative, on balance, over the decade, with negative effects registered in the early and late parts of the period, and positive effects over several years in the mid-1990s. The decomposition by geographical markets shows that Canada's competitiveness effect was modestly positive vis-à-vis the United States, but was more than offset by negative effects vis-à-vis all of the other major export destinations (Table 9). In terms of products, negative competitiveness effects were concentrated in non-energy commodities, which were partially offset by positive effects related to consumer goods. [4]

While the CMSA does not provide direct insights into the fundamental causes of competitiveness effects on Canadian exports, the substantial real effective appreciation of the Canadian dollar, along with the opening of North American and global trade markets to emerging and developing economies, which intensified global competitive pressures on Canadian firms, appear as key determinants.[5] In this regard, the sizeable rise of Canadian unit labour costs relative to that of major trade competitors (adjusted for exchange rates) between 1986 and 1991 (by over 25 per cent) contributed to reduce competitiveness and dampen Canadian exports in the early part of the 1990-2000 period (Chart 3)[6]. Subsequently, Canadian competitiveness improved with the full reversal by 1994 of the earlier real effective appreciation. Moreover, the competitiveness of Canadian firms was reinforced by the gradual reduction of trade barriers in the United States and Mexico. In this regard, the Canada-US Free Trade Agreement signed in late 1988, which called for a gradual removal of trade restrictions over a 10-year period, and the adoption of NAFTA in 1994, which broadened the agreement to include Mexico, lowered tariffs on a wide range of goods and facilitated access to U.S. and Mexican markets for Canadian exports. Both the real depreciation of the Canadian dollar, driven largely by movements in the bilateral Canada/U.S. nominal exchange rate (Chart 4), and the reduction in barriers to trade in the North American market stimulated Canadian

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[4] In this work, non-energy commodities are defined broadly to include manufactured goods of primary resources, such as pulp and fabricated metals, but excluding agricultural products. For a complete list, please see Appendix B.

[5] Of course, a number of items will be embedded in the competitiveness effect. For example, any meaningful reductions in trade barriers that does not involve Canada will trend to increase international trade and lower Canadian export market share.

[6] This assumes that there are some lags between changes in competitiveness and their impact on real exports.

exports to the United States, contributing to the overall positive competitiveness effect estimated by the CMSA over the 1993-1996 period.[7]

Although overall relative unit labour costs remained broadly unchanged over the 1994-2000 period and trade barriers faced by Canadian firms continued to diminish, Canada's exports registered negative competitiveness effects after 1996. This would appear related to the increased openness to international trade of emerging economies, notably China and Mexico, becoming more important competitors to Canadian firms. In this regard, Table 11 shows that both China and Mexico benefitted from sizeable competitiveness effects (for both, competitiveness contributed 8 percentage points on export growth on average between 1990 and 2000) to gain world market shares (Chart 5). While the competitiveness gains for Mexican exports were essentially concentrated in the U.S. market, in line with the NAFTA, China's gains were widespread across markets, consistent with its export-led growth strategy that led to the removal or elimination of many obstacles to trade.[8]

4.1.2 Two periods of significant world market share losses: 2001-2007 and 2008-2010

After 2000, Canada has been losing world market share on a relatively sustained basis. Canada's share of global exports fell from 4.5 per cent in 2000 to 2.7 per cent in 2010 (Chart 3). Below, this period is analysed in two parts: 2001-2007 and 2008-2010, as the relative importance of underlying factors that accounted for Canada's world market share decline are somewhat different between two periods, especially with the unique features associated with the recent Great Recession.

2001-2007: Chinese competiveness and U.S. market over-exposure

Between 2000 and 2007, Canada's global market share declined from 4.5 to 3.2 per cent, more than erasing Canada's gains in the previous decade. As shown in Chart 2 and Table 2, both negative geographical market and competitiveness effects led to these losses.

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[7] While it is difficult to isolate and assess precisely the impact of trade agreements, a review conducted by Foreign Affairs and International Trade Canada concluded that, on the whole, the effect of the NAFTA on the North American economy has been positive (http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/nafta-alena/index.aspx?view=d). For instance, a study by the C.D. Howe Institute ("Trading up: The impact of increased continental integration on trade, investment and jobs in Canada-United States trade", March 1997) highlighted that the FTA/NAFTA contributed to a sharp increase in Canada-United States trade.

[8] Detailed analyses on the impact of the emergence of China can be found in Francis, M., F. Painchaud, and S. Morin (2005) « Understanding China's Long-Run Growth Process and Its Implications for Canada » Bank of Canada Review (Spring) and Francis, M. (2007) « The Effect of China on Global Prices » Bank of Canada Review (Autumn).

Over the 2001-2007 period, Canada's negative geographical market effects from non-U.S. trade partners more than offset Canada's positive effect from the United States (Table 3). The relatively high concentration of Canadian exports going to the United States (84.1 per cent, on average) was disadvantageous for Canada's export performance because growth of the US import market was significantly weaker relative to the world market average (7.1 versus 11.1 per cent on average, Tables 4 and 5). In contrast, Canada's export structure was markedly underweight (compared to the world export structure) in fast growing economies such as China (growing at 20.6 per cent, on average) and the CEE and CIS (21.8 per cent, Table 4). Overall, given its geographical market structure, Canada's export growth was reduced by 3.3 percentage points, on average, annually compared to the pace of global export expansion (Table 2).

Competitiveness effects also contributed to relatively slower Canadian export growth, accounting for a reduction of 2.4 percentage points, on average, annually (Table 2). The decomposition of the competiveness effect by geographical markets suggests that Canada's market share loss in the United States was responsible for the total negative competiveness effect over the 2001-2007 period (Table 9). At the same time, the negative competitiveness effect was widespread across product categories, although somewhat more pronounced for automotive products, machinery and equipment, and non-energy commodities.

Canadian firms' competitiveness was eroded by a substantial deterioration in their relative unit labour costs (adjusted for exchange rates), amounting to roughly 80 per cent between 2000 and 2007 (Chart 3). Vis-à-vis the United States only, Canadian labour costs increased by over 45 per cent over the same period, mostly reflecting the sharp nominal bilateral appreciation of the Canadian dollar versus the US dollar, but also owing to weaker productivity growth(Chart 4). In addition, the further opening of world trade to emerging and developing economies intensified global competitive pressures, contributing to the adverse competitiveness effect registered in Canadian exports over the 2001-2007 period. In particular, China became a much more prominent world competitor in the 2000s, following the signing of the U.S.-China Relations Act in 2000, and joining the World Trade Organization in December 2001.[9] The elimination of other long standing trade barriers, such as the Multifibre Arrangement at the end of 2004, which had imposed quotas on developing countries' exports of products like yarn,

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[9] For more details, see Rumbaugh and Blancher (2004) "China: International Trade and WTO Accession". IMF Working Paper (WP/04/36) http://www.imf.org/external/pubs/ft/wp/2004/wp0436.pdf

fabrics and clothing, allowed newly industrialized countries to compete directly in North American markets.[10] In that context, and with a relatively stable real effective exchange rate, China's share of the world export market increased sharply from 4.1 per cent in 2000 to 9.2 per cent in 2007. China's competitiveness gains were widespread across geographical markets, but largest in the United States, and concentrated in machinery and equipment, non-energy commodities, and consumer goods categories.

Finally, over the 2001-2007 period, Canada's structure of exports in terms of products was favourable (Table 6), resulting in some world market share gains that partly offset the losses associated with competitiveness and geographical structure effects. This product structure effect added 0.9 percentage points, on average, to Canada's annual export growth over the period. In particular, the combination of a higher concentration than world average in energy and non-energy commodities and automotive products (Table 7), along with relatively strong increases in world export markets for those products (Table 8), more than compensated for the drag associated with Canada's relatively low concentration in machinery and equipment and consumer goods.

2008-2010: More pronounced losses from U.S. market over-exposure

Amidst the Great Recession, Canada's market share of world exports declined by an additional half a percentage points, from 3.2 per cent in 2007 to 2.7 per cent in 2010 (Table 1). This decline can be almost entirely accounted by Canada's geographical market structure, as competitiveness effects were negative but negligible, on balance, and the product structure of Canadian exports resulted in positive effects.[11]

Although the share of U.S. exports (75.8 per cent, on average) was lower over the 2008-2010 period compared to the earlier period, it remains substantially above that of the world export structure (16.3 per cent, Table 5). Coupled with a much weaker growth performance in the U.S. market (-0.5 per cent) relative to that of the world market (+5.0 per cent, Table 4), Canada's exposure to the U.S. market resulted in a substantial drag. With respect to the United States only, the annual growth rate of Canadian exports was reduced on average by 0.4 percentage points over the 2008-2010 period, compared to a

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[10] For more discussion, see Wyman (2005). The United States continued to liberalize its trade relations with the developing world by signing free trade agreements in 2000 and 2004 that open the American market to more than a dozen Central American and Caribbean countries.

[11] The "mixed structure effect", which is a residual that reflects combined product and market effects, is negative and relatively large, on average, over the 2008-2010 period. This suggests that geographical market effects could be more negative or product effects could be less positive than reported (or a combination of both).

positive contribution of roughly 5 percentage points, on average, between 1990 and 2007 (Table 3). Moreover, Canada's underexposure to fast growing economies, such as those of China, other developing Asian countries, NIEs, and Latin American and Caribbean countries, has reduced Canadian export growth by an average of almost 3 percentage points over the 2008-2010 period. Overall, geographical market structure effects have reduced Canada's export growth by an average of -4.6 percentage points.

While competitiveness effects are essentially neutral, on balance, over the 2008-2010 period, there are significant offsetting affects across products (Table 9). Positive effects associated with energy commodities, adding an average of 2.8 percentage points to Canadian export growth, have offset most of the negative competitiveness effects related to the other major product categories, particularly machinery and equipment, non-energy commodities, and automotive products. These gains in exports of energy commodities reflect the substantial increase in Canadian crude oil production along with the expanded pipeline capacity to U.S. markets. In this regard, it is not surprising to observe negative competitiveness effects in most large categories of Canadian export of non-energy products, given the lagged effects of the substantial (80 per cent) real appreciation of the Canadian dollar over the 2000-2007 period.[12] At the same time, the Chinese market share of world exports continued to rise sharply, reaching 10.8 per cent in 2010 (from 9.2 per cent in 2007), as Chinese competitiveness gains mainly took place in the same product categories where Canadian firms registered their losses, particularly in machinery and equipment. While Mexican gains in world markets were less pronounced than those of China, they nevertheless occurred mainly in strategic markets and products for Canada (i.e., in the United States, and in machinery and equipment and automotive products).

In contrast to geographical market structure and competitiveness effects, Canada's export product structure continued to provide support to its exports, contributing 1.4 percentage points to the average annual growth rate over the 2008-2010 period (Table 6). This positive effect largely stems from energy commodities, with the world export market for energy commodities growing much faster than the average goods (10.8 per cent versus 5.0 per cent, Table 8) and the share of energy commodities in Canadian exports being much larger than in the world export structure (24.7 compared to 10.6 per

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[12] Over the 2008-2010 period, the overall real effective exchange rate measure has remained little changed, on balance (Chart 4). However, there was some further deterioration in competitiveness vis-à-vis the United States, mainly reflecting further losses in relative productivity (Chart 5).

cent, Table 7). To a lesser extent, the relatively high concentration of agricultural and non-energy commodities, as well as automotive products in Canadian exports also contributed to higher exports. However, the relatively small share of machinery and equipment and consumer goods in Canadian exports reduced Canadian export growth by 1.1 percentage points on average over the 2008-2010 period.

4.2 A Comparison of export developments with selected economies

Canada's export experience can be put into perspective by examining that of selected other economies. While the share of Canadian exports in world exports has risen between 1990 and 2000, it has been steadily declining since then, for a net loss of 1.3 percentage points of world market share. Over the same period, the United States and Germany have registered an underperformance in export growth relative to the world average that is similar to the Canadian experience (Charts 5 and 6), although this underperformance translated into larger declines in world market shares (amounting to roughly 4 percentage points each). Mexico has registered a relatively modest decline since 2000, which has partially reversed the significant gains obtained during the 1990s (Chart 8-10). In contrast, Australia maintained a relatively stable share of world exports. Meanwhile, China's world market share of exports surged by roughly 9 percentage points, including almost 7 percentage points since 2000.

China's surging prominence in world exports essentially reflected competitiveness effects (Chart 8), promoted by reductions in trade barriers and a relatively stable real effective exchange rate (Chart 7). Competitiveness effects have contributed about 10 percentage points, on average, to total annual Chinese export growth between 1990 and 2010. These effects have been concentrated in the categories of machinery and equipment and consumer goods (which represent roughly 70 per cent of Chinese exports and accounted, on average, for about 8 percentage points of annual export growth, Chart 12). These competitiveness effects have also been widespread across geographical markets, raising competitive pressures globally (Chart 16). Mexican exports also contributed to raise global competitive pressures, particularly for Canada. Favourable competitiveness effects accrued to Mexican exports during the 1990s, supported by the signing of NAFTA, and in spite of some appreciation of the peso's real effective exchange rate. More recently, over the 2008-2010 period, Mexican exports registered further competitiveness gains (Chart 11), supported by a sharp improvement in relative unit labour costs (adjusted for the exchange rate, Chart 7). Mexican competitiveness gains have related mainly to machinery and equipment and

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automotive products and have been concentrated in the United States (Charts 15 and 19).

Canada's experience with adverse competitiveness effects has been shared by a number of other advanced economies. Canada's competitiveness effects turned negative in the mid-1990s and were particularly evident in markets and sectors where emerging economies have been gaining competitiveness, such as the U.S. market, machinery and equipment, and automotive products. In this regard, the Australian experience has been similar to that of Canada in several respects. While Australian exports have registered marked negative competitiveness effects between the early 1990s and 2007 (reducing the average annual export growth rate by roughly 2 percentage points), they have benefited from positive competitiveness effects in more recent years despite a marked real effective appreciation of the Australian dollar (by over 70 per cent since 2001, Chart 7). These favourable competitiveness effects relate to energy and non-energy commodities (Chart 15), and are mainly linked to markets in China, Japan and the NIEs (Chart 19). For its part, the United States registered adverse competitiveness effects throughout the past 20 years or so, reducing the average annual growth rate of total exports by about 2 percentage points (Chart 8). Those negative effects, which account for most of the U.S. loss of global market share, have been concentrated in machinery and equipment, and have been relatively widespread across geographical markets (Charts 15 and 19). Moreover, a sizeable real effective depreciation of the U.S. dollar since 2001 (by almost 40 per cent) has not prevented significant negative competitiveness effects, which are apparently stemming from increased emerging market competition. Similarly, Germany, whose real effective exchange rate has been fairly stable over time (Chart 7), has also registered negative competitiveness effects (subtracting over 1 percentage points, on average, to annual export growth over the 1992-2010 period, Chart 8), which have been concentrated in machinery and equipment, as well as in non-energy commodities (Chart 15).

While competitiveness has been a key factor behind shifts in world export market shares, the geographical market structure has also played a noticeable role in a number of countries. Similarly to Canada, Mexico's overexposure to the U.S. economy (accounting for over 80 per cent of Mexico's total exports) helped to gain world market share in the 1990s when the U.S. economy grew relatively rapidly (Chart 21). Subsequently, however, such an export market structure proved detrimental as the United States grew less rapidly than many of the other economies in the world. By itself, that export structure reduced the overall Mexican export growth rate by about

three and a half percentage points per year over the 2008-2010 period. On balance, over the past 20 years or so, the German export market structure also resulted in a modest drag on overall export growth, owing to an overexposure to the euro area economy, which grew relatively modestly (Chart 20). The adverse impact has been particularly pronounced over the 2008-2010 period, with the German export structure reducing the overall export growth rate by about 2 percentage points per year (Chart 23). In contrast, the overexposure of Australian exports to Asia (Japan, NIEs, China, and other developing Asian economies), provided a significant support to overall exports since the Great Recession started in 2008, boosting the average overall annual Australian export growth rate by about one and a half percentage points (Chart 18). However, Australia's marked underexposure to some other economies, particularly the United States and the euro area, has resulted in a net drag in earlier years. U.S. exports, on the other hand, have benefited throughout the 1990-2010 period from a structure that is concentrated in the Canadian, Mexican, Latin American, and the Caribbean markets (Chart 14). Over that period, the U.S. export structure raised the average overall annual U.S. export growth rate by over 1 percentage points (Chart 20). Chinese exports also benefitted from their geographical market structure, with an emphasis on the NIEs, Japan, and developing Asian economies. Such a structure contributed roughly three-quarter of a percentage points, on average, to the overall annual Chinese export growth rate over the 1990-2010 period.

Finally, as was the case for Canada, product specialization exerted a modest but still noticeable role in determining the evolution of world export market shares across countries. In this regard, since 2001, Australia's experience has been similar to that of Canada, with the relatively high concentration of its exports into commodities (energy, and to a lesser extent, non-energy and agricultural products) more than offsetting the adverse impact coming from the low concentration of its exports into machinery and equipment, automotive products, and consumer goods (Charts 26-27). This export product structure has been particularly beneficial to Australia over the 2008-2010 period, providing an additional roughly two and a half percentage points to the average annual overall export growth rate. In comparison, the contribution of Canada's export product structure was roughly 1.5 percentage points. The product structure of exports for other economies with somewhat less concentration into commodities resulted in less favourable contributions on overall export growth in recent years. For instance, in Mexico, the benefits associated with its relative concentration in energy, machinery and equipment, and automotive products were essentially offset by the drag stemming from

the low concentration in non-energy commodities. For the United States, Germany, and China, the relatively low concentration of their exports into energy commodities resulted, to a varying degree, into a net drag on overall export growth.

5.0 Conclusion and some policy implications

Canada's export structure, in terms of geographical and product markets, has been heavily tied to the United States and commodities. While Canada's exposure to the United States as an export market has been declining, it still remains almost 3.5 times larger than the world average. This means that Canada's world market share will continue to be largely determined, at least over the near term, by the relative strength of U.S. and world commodity markets. Given substantially more favourable medium-term growth prospects for emerging and developing economies (IMF (2012)), that are also typically more commodity-intensive than advanced economies, it would be beneficial for Canadian firms to refocus and develop these export markets.

At the same time, the competitiveness of Canadian exports remains a key issue. In recent years, energy exports have been sufficiently robust to offset negative competitiveness effects from other product categories. However, if increases in Canadian energy exports cannot continue to outpace world demand then net negative overall competitiveness effects might re-emerge going forward. In that context, it appears crucial to improve the productivity of Canadian firms to raise competitiveness and to help support Canadian exports on a sustained basis.

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Chart 1: **Canadian and world export growth**

Annual percentage change, in values (U.S. dollars)

%

Cumulative difference in Canadian and world export growth (percentage points, relative to 1989)
Canadian export growth
World export growth
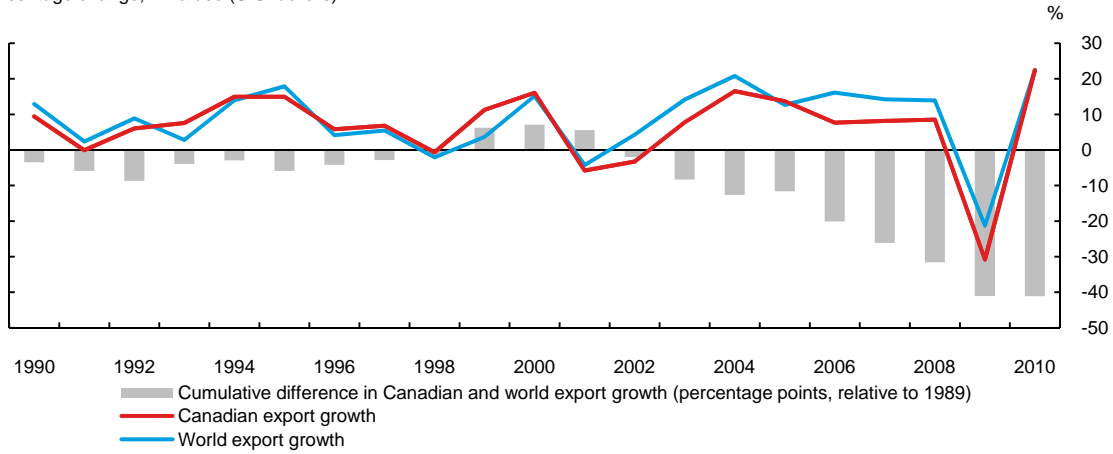
Source: Comtrade and authors calculations

Chart 2: **Cumulative difference in Canadian and world export growth, and contributing factors**

Percentage points

Cumulative difference in Canadian and world export growth
Competitiveness effects
Product structure effects
Geographical structure effects
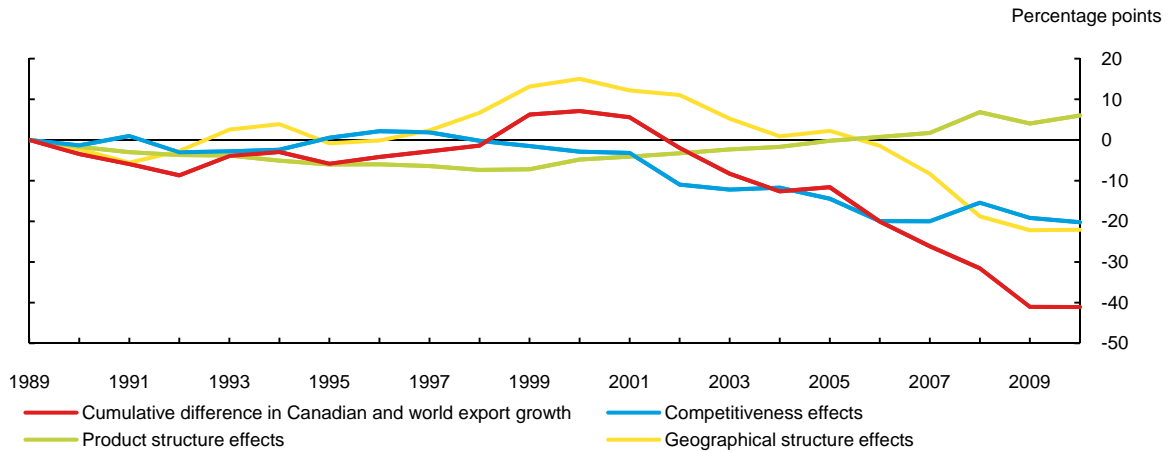
Sources: Comtrade and authors calculations

Chart 3: **Canadian real effective exchange rate and cumulative competitiveness effect**

Index

Percentage points

Real effective exchange rate based on unit labour costs (index: 1989=100, left scale)
Cumulative competitiveness effect (right scale)
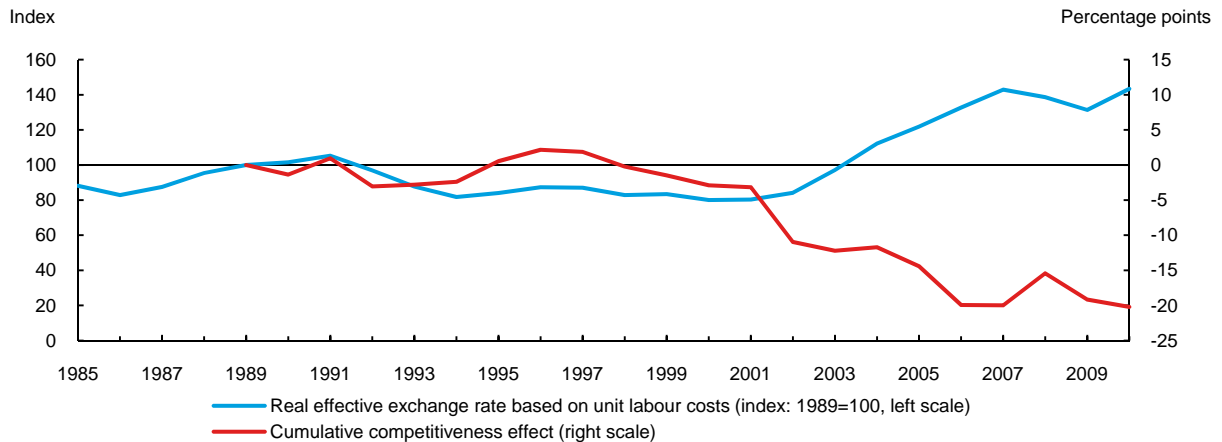
Sources: Organisation for Economic Co-operation and Development, Comtrade, and authors calculations

20

Chart 4: Canadian firms are losing competitiveness

Contribution of various factors to the change in Canada's relative unit labour costs vis-à-vis those in the United States, quarterly data

- Canadian dollar vis-à-vis the U.S. dollar
- Relative wages
- Relative productivity
- Percentage change in relative unit labour costs vis-a-vis the United States
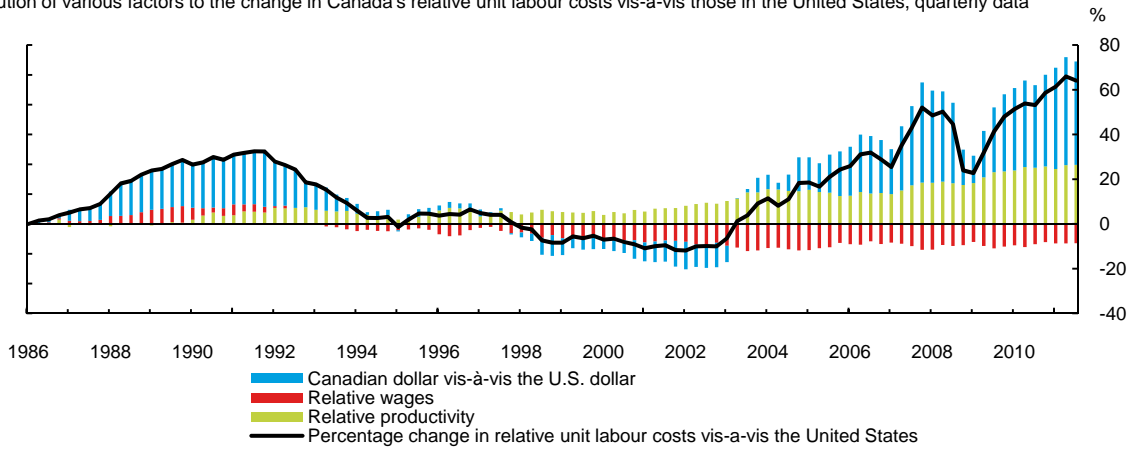
Sources: Statistics Canada, U.S. Bureau of Economic Analysis and Bank of Canada calculations

Last observation: 2011Q3

Chart 5: Evolution of world export market shares by country

Annual data

- Canada
- Australia
- China
- Germany
- Mexico
- United States
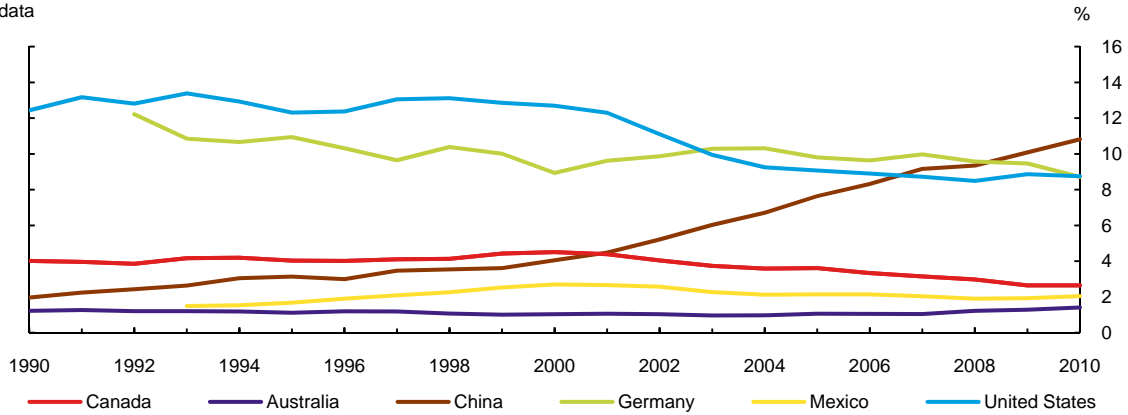
Note: Data prior to 1992 is not available for Germany; data prior to 1993 has been excluded due to inconsistencies in the reporting of Mexican exports. 2010 shares are estimates based on the relative growth rate from sample of countries reporting data for 2010.
Sources: Comtrade and authors calculations

Last observation: 2010

Chart 6: Cummulative changes in world market share over time (changes in the total effect)

- Canada
- Australia
- China
- Germany
- Mexico
- United States
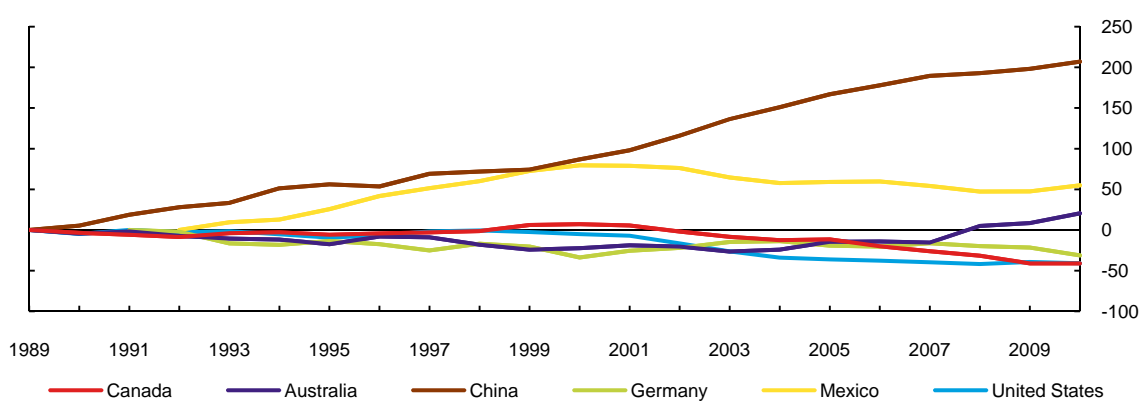
Sources: Comtrade and authors calculations

Chart 7:   Real effective exchange rates based on unit labour costs in the manufacturing sector

Index: 1985 = 100, annual data

Index

Canada   Australia   China*   Germany   Mexico   United States
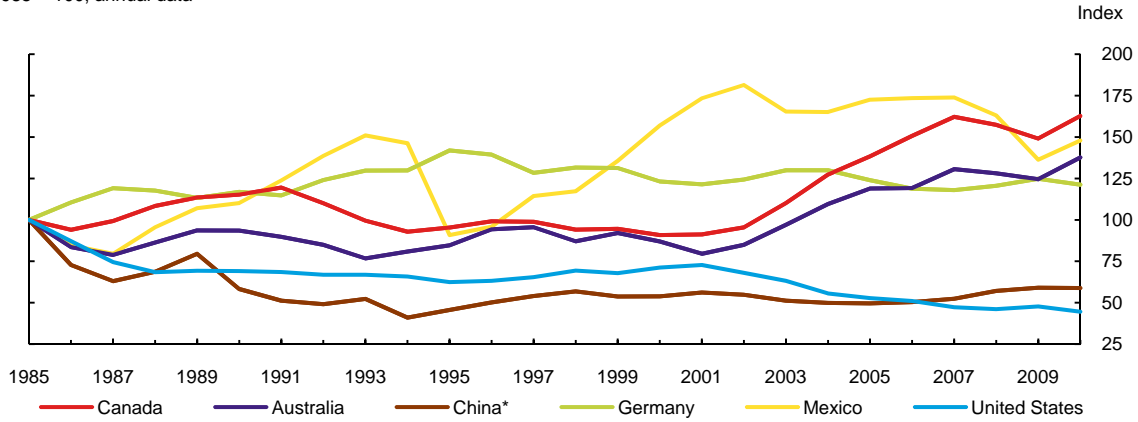
* Real effective exchange rate based on price index
Sources: OECD and World Bank

Chart 8: Decomposition of the difference between country and world export growth

Period average, 1990 to 2010

Percentage points

Total effects   Competitiveness effects   Geographical market effects   Product effects

■ Canada   ■ Australia   ■ China   ■ Germany   ■ Mexico   ■ United States
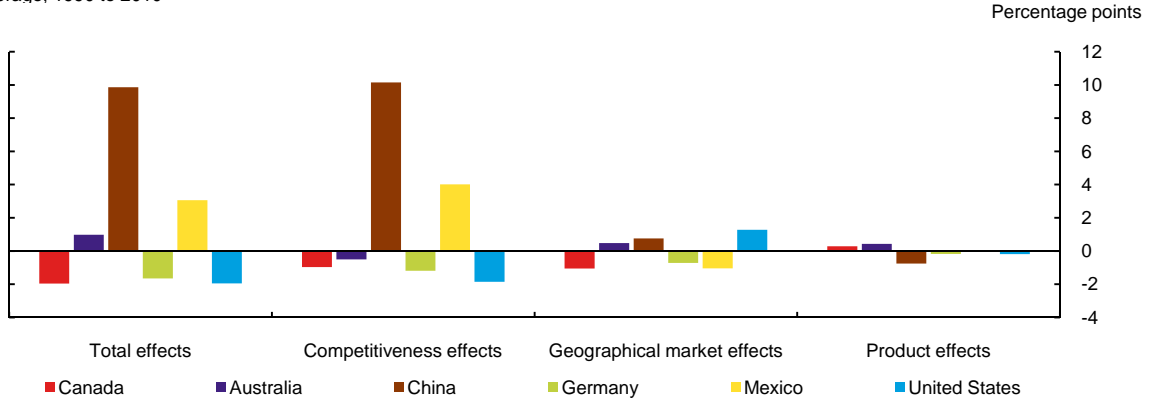
Sources: Comtrade and authors calculations

Last observation: 2010

Chart 9: Decomposition of the difference between country and world export growth

Period average, 1990 to 2000

Percentage points

Total effects   Competitiveness effects   Geographical market effects   Product effects

■ Canada   ■ Australia   ■ China   ■ Germany   ■ Mexico   ■ United States

Sources: Comtrade and authors calculations

Last observation: 2010

22
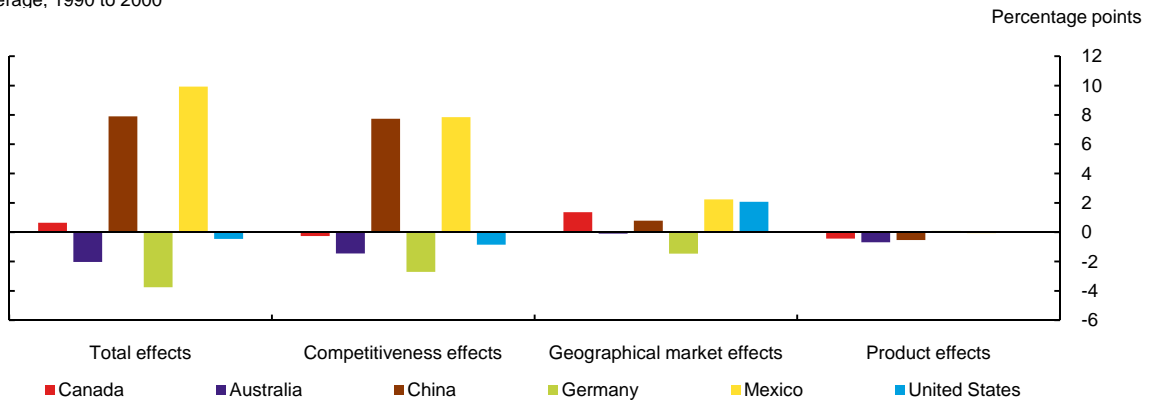
Chart 10: **Decomposition of the difference between country and world export growth**

Period average, 2001-2007

Percentage points
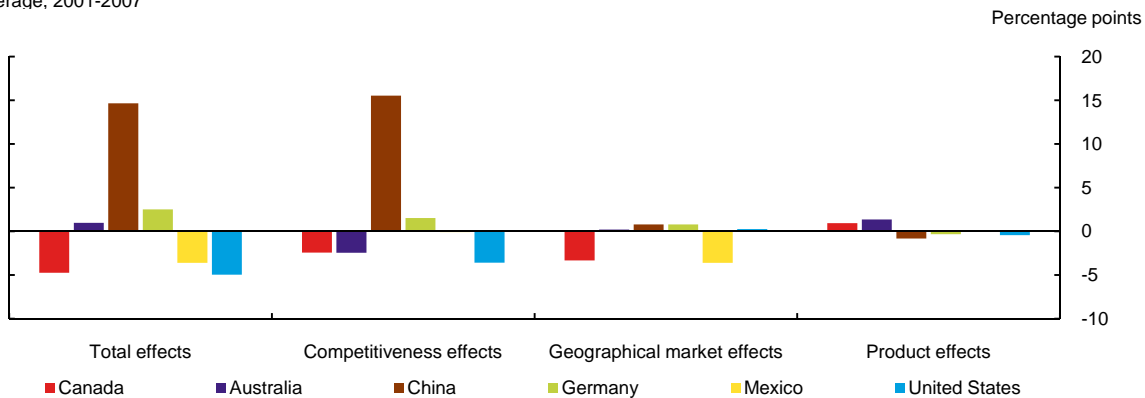
Sources: Comtrade and authors calculations

Last observation: 2010

Chart 11: **Decomposition of the difference between country and world export growth**

Period average, 2008 to 2010

Percentage points
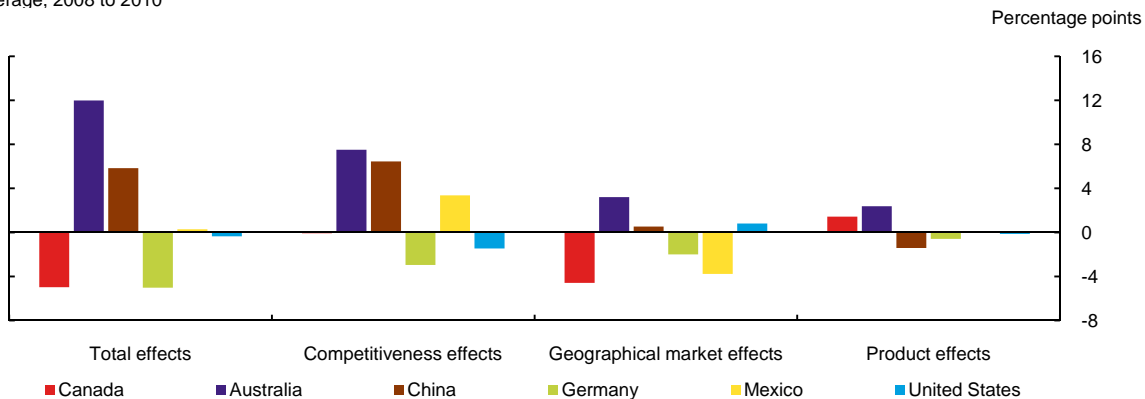
Sources: Comtrade and authors calculations

Last observation: 2010

Chart 12: **Contribution of sectors to the competitiveness effect in explaining the difference between country and world export growth**

Period average, 1990 to 2010

Percentage points

Sources: Comtrade and authors calculations

Last observation: 2010

23
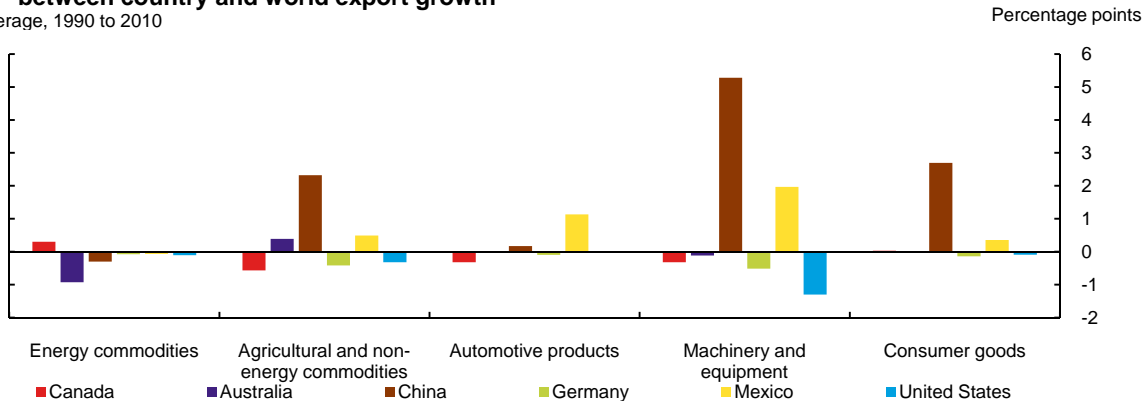
Chart 13: Contribution of sectors to the competitiveness effect in explaining the difference between country and world export growth

Period average, 1990 to 2000

Percentage points

Energy commodities · Agricultural and non-energy commodities · Automotive products · Machinery and equipment · Consumer goods

■ Canada ■ Australia ■ China ■ Germany ■ Mexico ■ United States

Last observation: 2010

Chart 14: Contribution of sectors to the competitiveness effect in explaining the difference between country and world export growth

Period average, 2001 to 2007

Percentage points

Energy commodities · Agricultural and non-energy commodities · Automotive products · Machinery and equipment · Consumer goods

■ Canada ■ Australia ■ China ■ Germany ■ Mexico ■ United States

Last observation: 2010

Chart 15: Contribution of sectors to the competitiveness effect in explaining the difference

Period average, 2008 to 2010

Percentage points

Energy commodities · Agricultural and non-energy commodities · Automotive products · Machinery and equipment · Consumer goods

■ Canada ■ Australia ■ China ■ Germany ■ Mexico ■ United States

Last observation: 2010

24

Chart 16: **Contribution of geographical markets to the competitiveness effect in explaining the difference between country and world export growth**

Period average, 1990 to 2010

Percentage points

United States · China, NIEs, and developing Asia · Mexico, Latin America, and the Caribbean · Other advanced economies · Others

■ Canada   ■ Australia   ■ China   ■ Germany   ■ Mexico   ■ United States

Last observation: 2010

Chart 17 **Contribution of geographical markets to the competitiveness effect in explaining the difference between country and world export growth**

Period average, 1990 to 2000

Percentage points

United States · China, NIEs, and developing Asia · Mexico, Latin America, and the Caribbean · Other advanced economies · Others

■ Canada   ■ Australia   ■ China   ■ Germany   ■ Mexico   ■ United States

Last observation: 2010

Chart 18: **Contribution of geographical markets to the competitiveness effect in explaining the difference between country and world export growth**

Period average, 2001 to 2007

Percentage points

United States · China, NIEs, and developing Asia · Mexico, Latin America, and the Caribbean · Other advanced economies · Others

■ Canada   ■ Australia   ■ China   ■ Germany   ■ Mexico   ■ United States
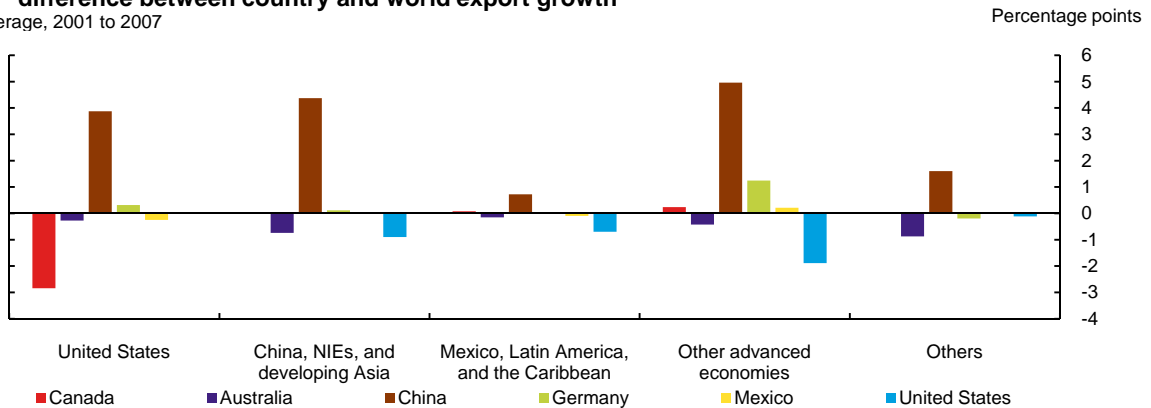
Last observation: 2010

Chart 19: **Contribution of geographical markets to the competitiveness effect in explaining the difference between country and world export growth**

Period average, 2008 to 2010

Percentage points
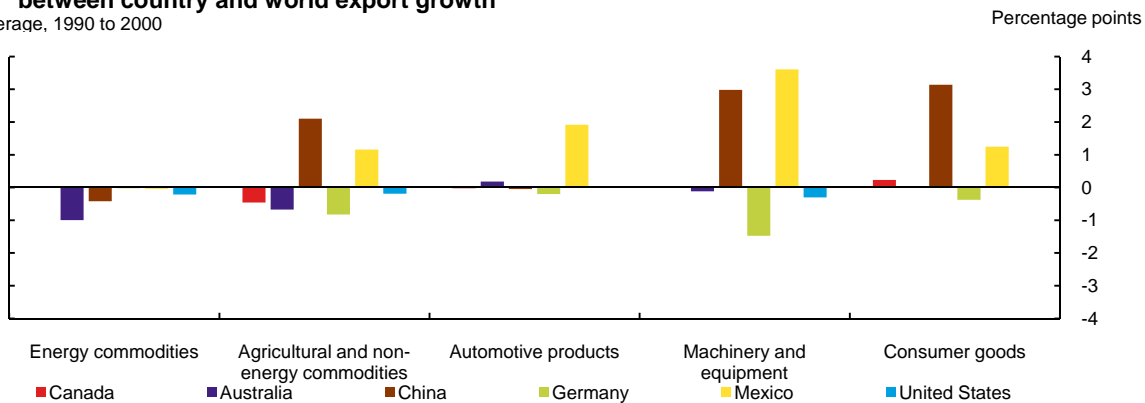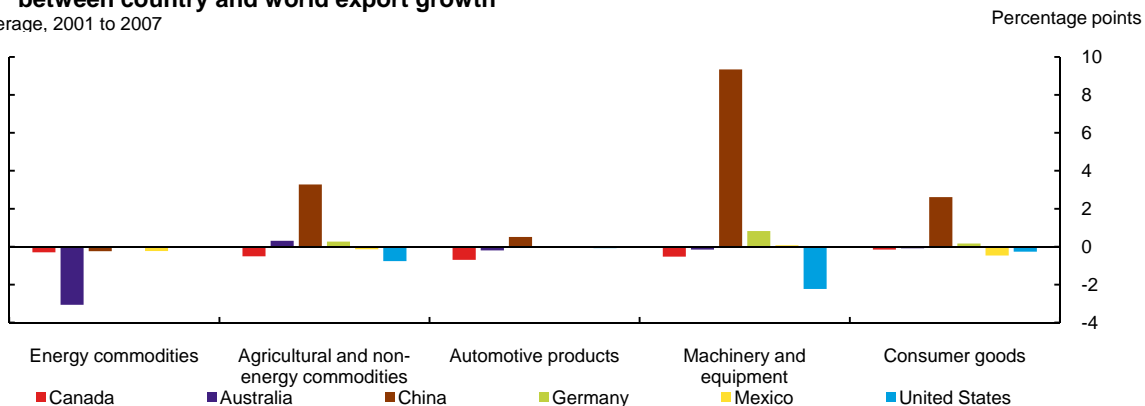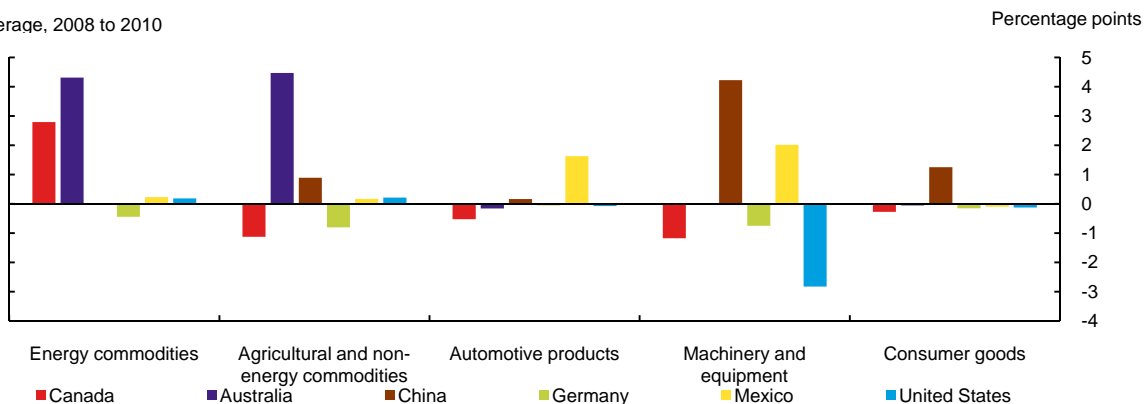

United States | China, NIEs, and developing Asia | Mexico, Latin America, and the Caribbean | Other advanced economies | Others

■ Canada   ■ Australia   ■ China   ■ Germany   ■ Mexico   ■ United States
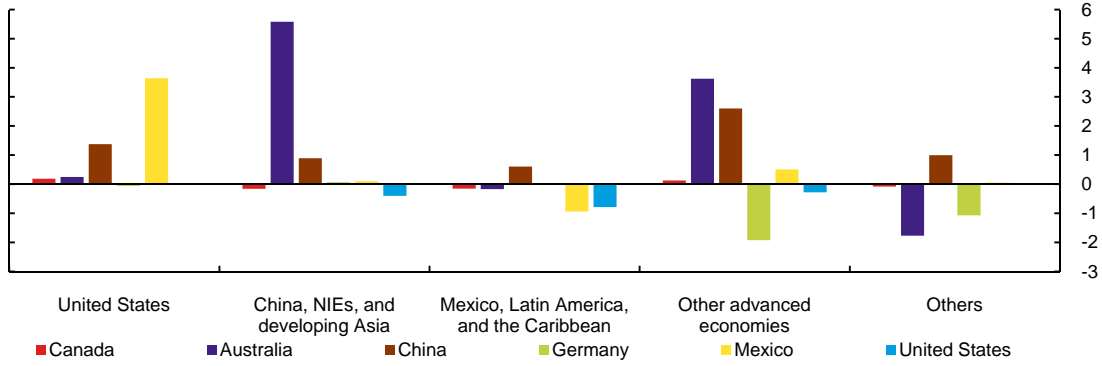
Sources: Comtrade and authors calculations

Last observation: 2010

Chart 20: **Contribution of the geographical market structure in explaining the difference between country and world export growth**

Period average, 1990 to 2010

Percentage points

United States | China, NIEs, and developing Asia | Mexico, Latin America, and the Caribbean | Other advanced economies | Others

■ Canada   ■ Australia   ■ China   ■ Germany   ■ Mexico   ■ United States

Sources: Comtrade and authors calculations

Last observation: 2010

Chart 21: **Contribution of the geographical market structure in explaining the difference between country and world export growth**

Period average, 1990 to 2000

Percentage points

United States | China, NIEs, and developing Asia | Mexico, Latin America, and the Caribbean | Other advanced economies | Others

■ Canada   ■ Australia   ■ China   ■ Germany   ■ Mexico   ■ United States

Sources: Comtrade and authors calculations

Last observation: 2010

Chart 22: Contribution of the geographical market structure in explaining the difference between country and world export growth

Period average, 2001 to 2007
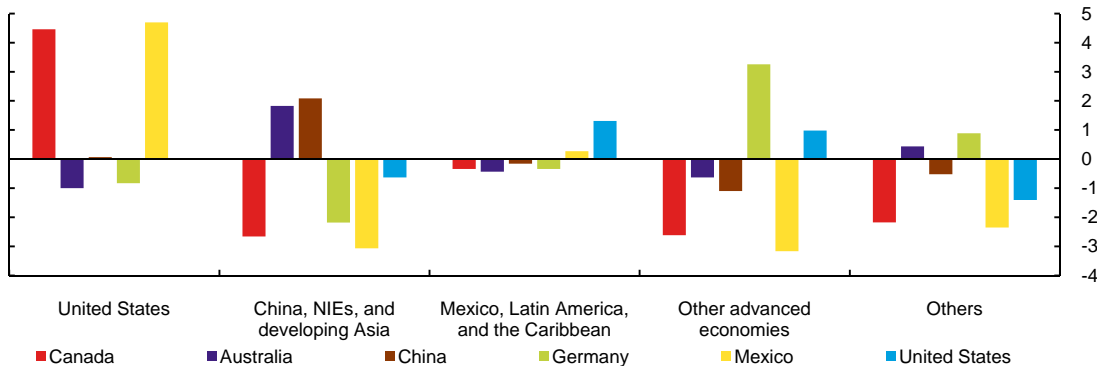
Percentage points
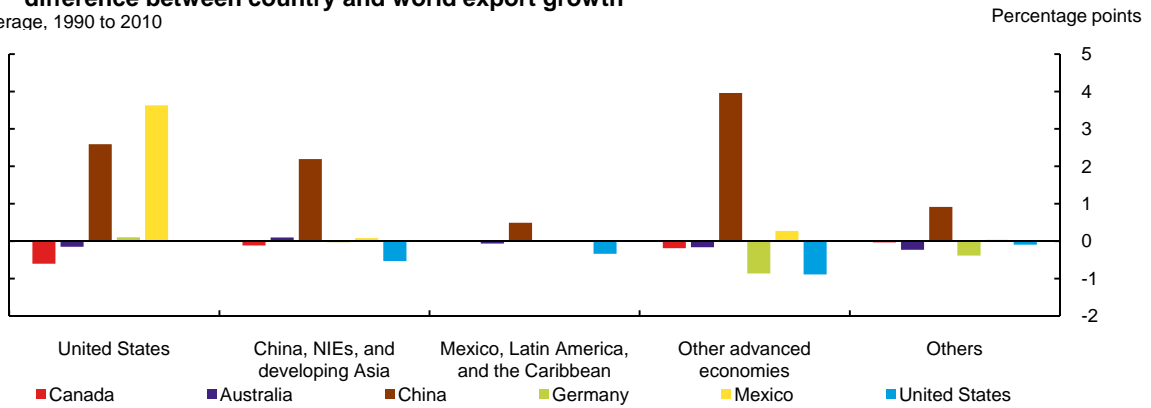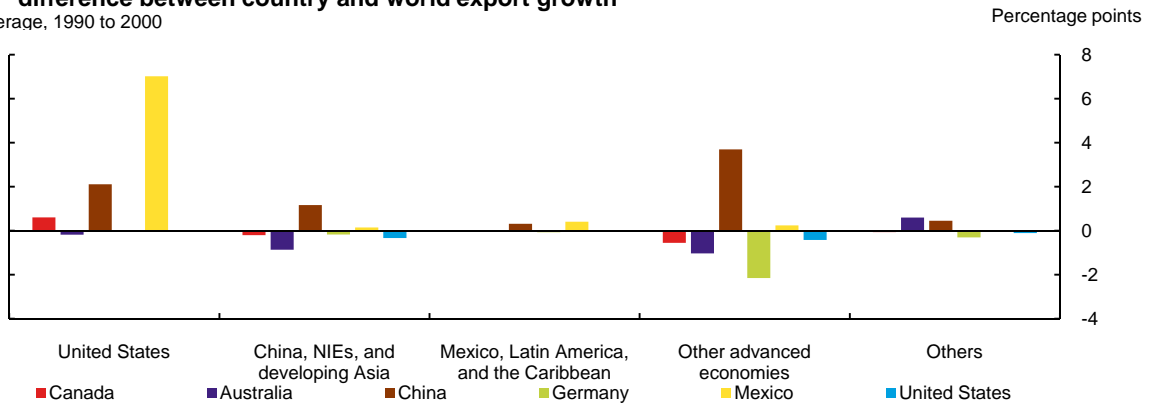

Sources: Comtrade and authors calculations

Last observation: 2010

Chart 23 Contribution of the geographical market structure in explaining the difference between country and world export growth

Period average, 2008 to 2010
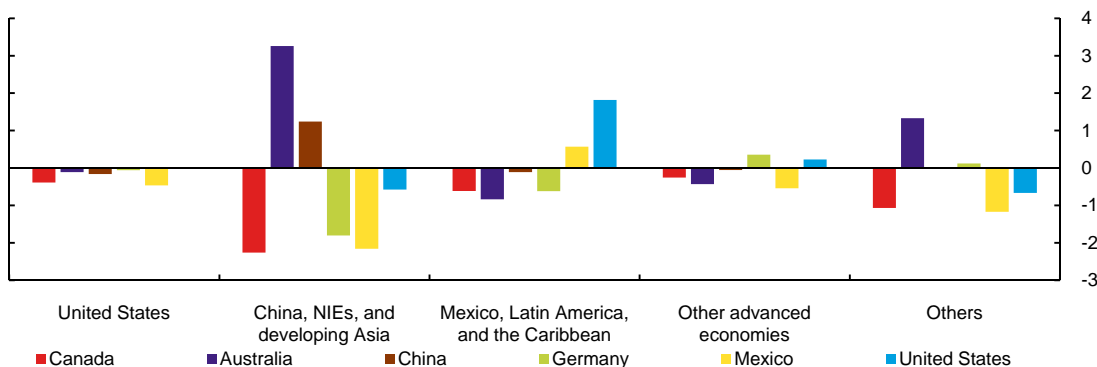
Percentage points

Sources: Comtrade and authors calculations

Last observation: 2010

Chart 24: Contribution of the product structure effect in explaining the difference between country and world export growth

Period average, 1990 to 2010

Percentage points
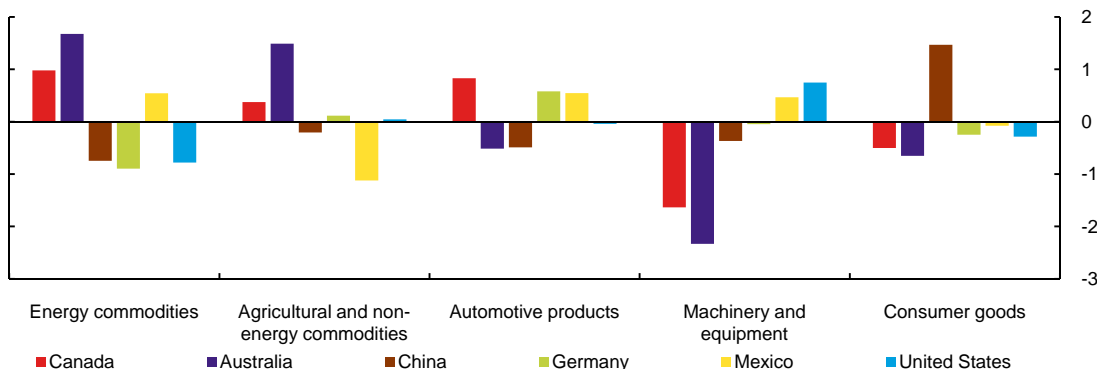
Sources: Comtrade and authors calculations

Last observation: 2010

Chart 25: Contribution of the product structure effect in explaining the difference between country and world export growth

Period average, 1990 to 2000

Percentage points
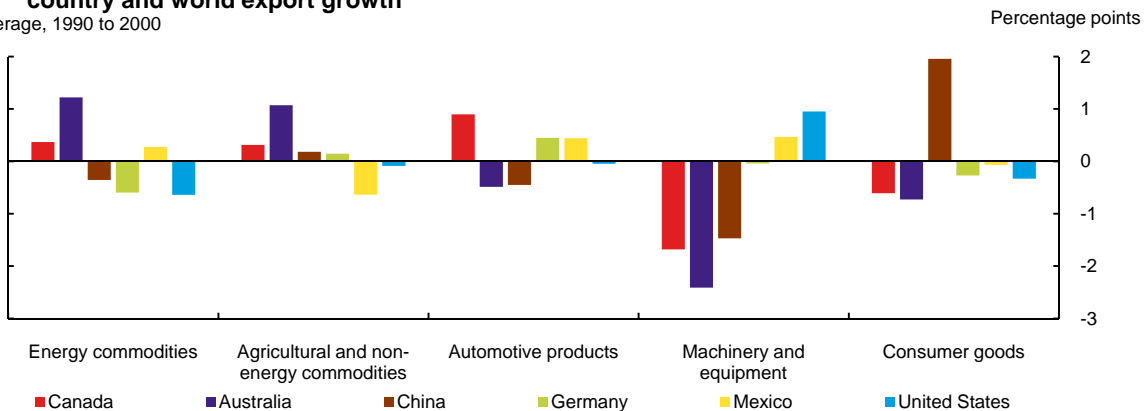
Sources: Comtrade and authors calculations

Last observation: 2010

Chart 26: Contribution of the product structure effect in explaining the difference between country and world export growth

Period average, 2001 to 2007

Percentage points
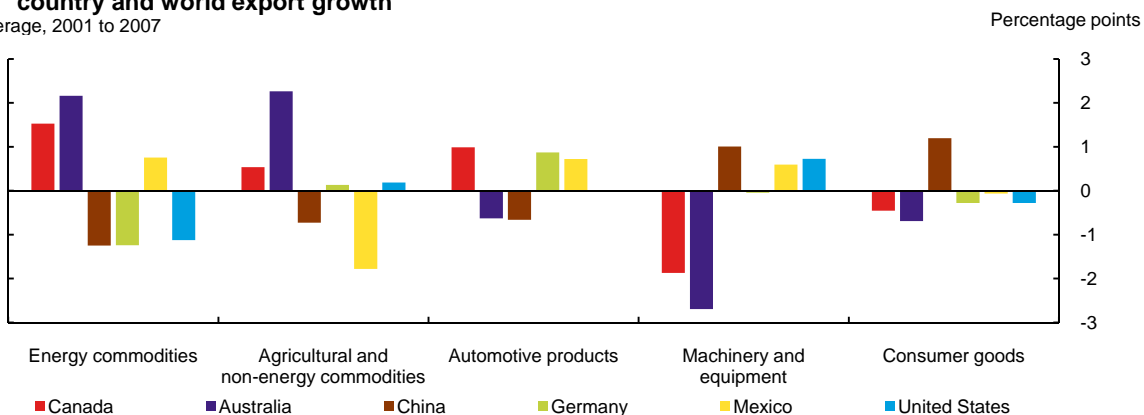
Sources: Comtrade and authors calculations

Last observation: 2010

Chart 27: Contribution of the product structure effect in explaining the difference between country and world export growth

Period average, 2008 to 2010

Percentage points

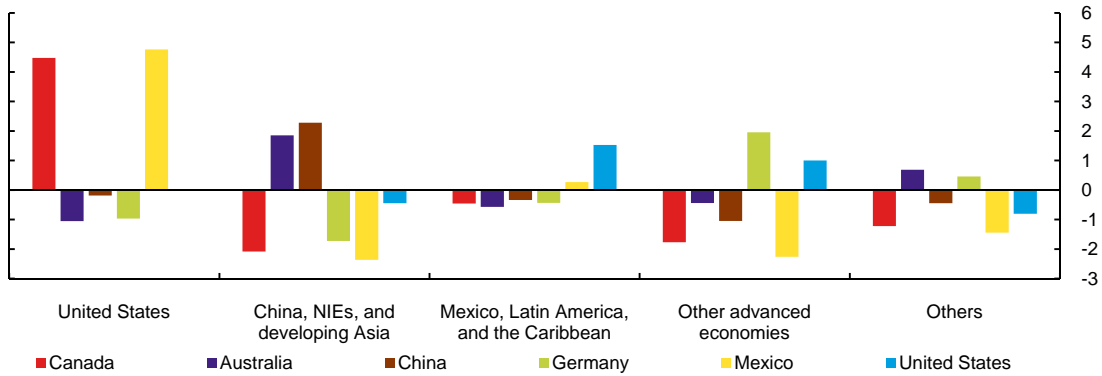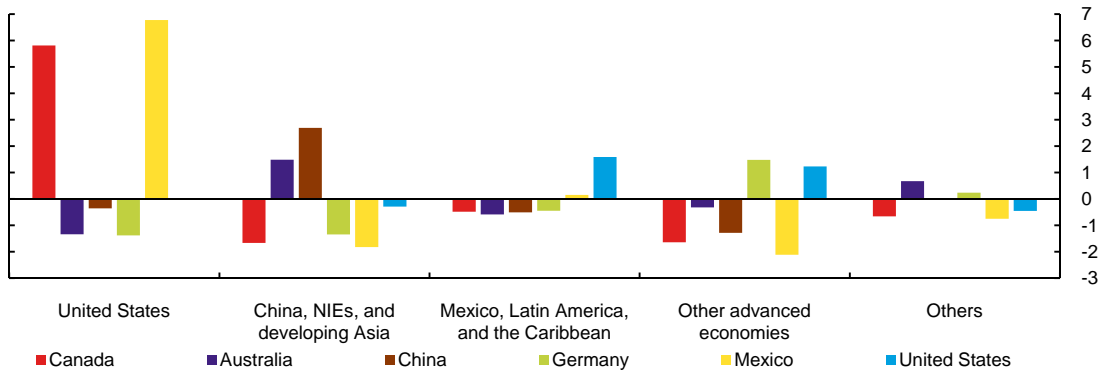Sources: Comtrade and authors calculations

Last observation: 2010

	Share of Canadian exports in world exports *(per cent)*	Growth of Canadian exports *(per cent)*	Growth of world exports *(per cent)*	Difference in relative growth rates *(percentage points)*
1990	4.0	9.4	12.9	-3.5
1991	4.0	-0.1	2.3	-2.4
1992	3.9	6.1	8.9	-2.8
1993	4.2	7.6	2.8	4.8
1994	4.2	15.0	14.0	1.0
1995	4.0	14.9	17.9	-2.9
1996	4.0	5.8	4.1	1.7
1997	4.1	6.8	5.4	1.4
1998	4.1	-0.7	-2.1	1.4
1999	4.4	11.3	3.7	7.6
2000	4.5	16.1	15.2	0.9
2001	4.4	-5.8	-4.3	-1.5
2002	4.0	-3.2	4.3	-7.5
2003	3.7	7.8	14.1	-6.4
2004	3.6	16.5	20.8	-4.3
2005	3.6	13.7	12.7	1.0
2006	3.3	7.7	16.1	-8.5
2007	3.2	8.2	14.2	-6.1
2008	3.0	8.5	13.9	-5.4
2009	2.6	-30.8	-21.3	-9.5
2010	2.7*	22.4	22.4	0.0
Average				
1990-2000	4.1	8.4	7.7	0.6
2001-2007	3.7	6.4	11.1	-4.8
2008-2010	2.8	0.0	5.0	-5.0

Table 1 - Canadian exports of goods in the world context

* Estimate based on relative growth rate from sample of countries reporting data for 2010.

			Combined	Structure effect		
	Total effect	**Competitivenes s effect**	**structure effect**	**Product effect**	**Geographical market effect**	**Mixed structure effect**

**Table 2 - Canadian exports of goods:
decomposition of the difference between the growth of Canadian and world exports
(in percentage points)**

	Total effect	Competitiveness effect	Combined structure effect	Product effect	Geographical market effect	Mixed structure effect
1990	-3.5	-1.4	-2.1	-1.7	-2.3	1.9
1991	-2.4	2.3	-4.8	-1.3	-3.3	-0.2
1992	-2.8	-4.0	1.2	-0.7	2.9	-1.0
1993	4.8	0.2	4.5	-0.1	5.3	-0.6
1994	1.0	0.4	0.6	-1.3	1.3	0.5
1995	-2.9	2.9	-5.9	-0.9	-4.7	-0.2
1996	1.7	1.6	0.1	0.0	0.7	-0.6
1997	1.4	-0.3	1.7	-0.4	2.5	-0.4
1998	1.4	-2.1	3.5	-1.0	4.3	0.2
1999	7.6	-1.3	8.9	0.1	6.5	2.3
2000	0.9	-1.4	2.3	2.4	1.9	-2.0
2001	-1.5	-0.3	-1.2	0.7	-2.8	0.9
2002	-7.5	-7.8	0.2	0.8	-1.1	0.5
2003	-6.4	-1.2	-5.1	0.9	-5.8	-0.2
2004	-4.3	0.5	-4.8	0.7	-4.4	-1.1
2005	1.0	-2.7	3.7	1.5	1.4	0.9
2006	-8.5	-5.5	-3.0	0.9	-3.7	-0.2
2007	-6.1	0.0	-6.0	1.0	-6.8	-0.2
2008	-5.4	4.6	-10.0	5.1	-10.5	-4.6
2009	-9.5	-3.7	-5.8	-2.8	-3.4	0.4
2010	0.0	-1.1	1.0	2.0	0.1	-1.0
Average						
1990-2000	0.6	-0.3	0.9	-0.4	1.4	0.0
2001-2007	-4.8	-2.4	-2.3	0.9	-3.3	0.1
2008-2010	-5.0	-0.1	-4.9	1.4	-4.6	-1.8
1990-2010	**-2.0**	**-1.0**	**-1.0**	**0.3**	**-1.1**	**-0.2**

Table 3 - Contribution of the geographical structure effect in explaining the difference between the growth in Canadian and world exports (percentage points, period average)	1990-2010	1990-2000	2001-2007	2008-2010
United States	4.48	5.82	4.46	-0.39
Japan	-0.18	-0.18	-0.25	-0.01
China	-0.62	-0.33	-1.00	-0.77
United Kingdom	-0.28	-0.30	-0.40	0.06
Mexico	-0.20	-0.29	-0.10	-0.12
Euro area	-0.97	-0.89	-1.44	-0.19
NIEs*	-0.65	-0.59	-0.80	-0.56
Other advanced economies	-0.34	-0.27	-0.53	-0.12
CEE and CIS*	-0.53	-0.24	-1.09	-0.26
Latin America and the Caribbean	-0.26	-0.20	-0.24	-0.50
Developing Asia	-0.81	-0.75	-0.86	-0.93
Middle East and Africa	-0.42	-0.18	-0.80	-0.44
Other non-specified countries	-0.28	-0.25	-0.29	-0.37
Total	-1.05	1.36	-3.33	-4.59

* Newly Industrialized Economies (NIES) and ** Central Eastern European states and Commonwealth of Independent States (CEE and CIS)

Table 4 - Growth of Canadian exports and external markets (average annual growth rate)	1990-2010		1990-2000		2001-2007		2008-2010	
	Canada	*World*	*Canada*	*World*	*Canada*	*World*	*Canada*	*World*
Canada	-	6.3	-	7.2	-	6.8	-	2.0
United States	6.7	7.3	10.0	9.6	4.9	7.1	-1.4	-0.5
Japan	2.0	6.0	-1.0	6.3	5.5	8.3	4.6	-0.3
China	15.4	16.0	12.2	13.7	21.0	20.6	13.9	13.8
United Kingdom	13.5	5.8	9.4	5.6	20.2	9.3	12.6	-1.8
Mexico	13.1	10.9	10.8	14.8	20.7	6.5	3.7	6.8
Euro area	5.0	7.7	2.3	7.1	13.0	11.3	-3.5	1.7
NIEs*	6.1	9.9	2.6	9.3	10.7	12.1	7.9	6.8
Other advanced economies	6.2	6.7	0.5	4.7	18.2	11.3	-1.1	3.2
CEE and CIS**	12.0	11.3	2.5	6.8	27.2	21.8	11.8	3.4
Latin America and the Caribbean	9.1	11.6	6.2	9.3	13.0	12.3	10.9	18.5
Developing Asia	8.4	11.8	3.7	10.9	15.9	12.0	8.0	14.5
Middle East and Africa	7.5	9.3	2.0	4.0	17.6	17.7	4.2	8.7
Total world	6.5	8.5	8.4	7.7	6.4	11.1	0.0	5.0

* Newly Industrialized Economies (NIES) and ** Central Eastern European states and Commonwealth of Independent States (CEE and CIS)

Table 5 - Canada's and world's export structure (average percentage of total exports)								
Markets	**1990-2010**		**1990-2000**		**2001-2007**		**2008-2010**	
	Canada	*World*	*Canada*	*World*	*Canada*	*World*	*Canada*	*World*
Canada	-	4.5	-	4.8	-	4.2	-	3.7
United States	81.2	20.0	80.8	20.4	84.1	21.0	75.8	16.3
Japan	3.1	5.8	4.0	6.5	2.1	5.3	2.3	4.4
China	1.5	5.1	1.0	3.5	1.5	6.2	2.9	8.3
United Kingdom	2.0	6.7	1.8	7.2	1.8	6.5	3.4	5.4
Mexico	0.7	2.4	0.4	2.3	0.8	2.6	1.3	2.4
Euro area	4.1	16.6	4.4	17.0	3.6	16.4	4.4	15.6
NIEs	1.4	7.7	1.6	7.6	1.1	7.5	1.6	8.3
Other advanced economies	1.4	6.6	1.4	7.0	1.3	6.1	1.8	6.1
CEE and CIS	0.5	4.6	0.5	3.7	0.4	5.2	0.9	6.5
Latin America and the Caribbean	1.4	3.6	1.5	3.7	1.1	3.1	1.8	4.4
Developing Asia	1.5	8.3	1.5	8.2	1.2	8.1	2.1	9.3
Middle East and Africa	1.1	5.6	1.1	5.3	0.9	5.3	1.8	7.1
Other non-specified countries	0.0	2.6	0.0	2.7	0.0	2.4	0.0	2.3
Total world	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Newly Industrialized Economies (NIES) and ** Central Eastern European states and Commonwealth of Independent States (CEE and CIS)

Table 6 - Contribution of the product structure effect in explaining the difference between the growth in Canadian and world exports				
	1990-2010	**1990-2000**	**2001-2007**	**2008-2010**
Agricultural products	0.04	-0.01	0.10	0.10
Energy commodities	0.98	0.37	1.53	1.94
Non-energy commodities	0.33	0.33	0.43	0.13
Automotive products	0.83	0.90	0.99	0.20
Machinery and equipment	-1.64	-1.68	-1.87	-0.92
Consumer goods	-0.50	-0.61	-0.46	-0.22
Others	0.24	0.28	0.20	0.20
Total	0.29	-0.44	0.93	1.43

Table 7 - Canada's and world's export structure (average percentage of total exports)								
Sectors	1990-2010		1990-2000		2001-2007		2008-2010	
	Canada	*World*	*Canada*	*World*	*Canada*	*World*	*Canada*	*World*
Agricultural products	7.0	6.4	7.1	7.2	6.5	5.5	7.7	5.8
Energy commodities	14.6	8.2	10.1	7.0	17.2	9.0	24.7	10.6
Non-energy commodities	31.1	27.0	32.4	27.2	29.6	26.4	30.3	27.7
Automotive products	19.4	8.8	22.1	9.1	18.6	9.0	11.2	7.4
Machinery and equipment	17.2	35.1	17.8	35.0	16.8	35.7	15.9	34.0
Consumer goods	4.5	10.9	4.4	11.5	5.1	10.4	3.7	9.7
Others	6.2	3.6	6.1	3.1	6.2	4.0	6.5	4.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 8 - Growth by product sector (average annual growth rate)								
	1990-2010		1990-200		2001-2007		2008-2010	
	Canada	*World*	*Canada*	*World*	*Canada*	*World*	*Canada*	*World*
Agricultural products	6.6	6.4	6.5	3.8	8.0	10.2	3.6	7.3
Energy commodities	13.5	12.7	13.8	10.8	14.7	16.6	9.5	10.8
Non-energy commodities	5.6	8.1	5.5	5.7	8.5	13.0	-0.7	5.4
Automotive products	4.0	7.6	7.6	6.8	1.4	10.7	-3.1	3.1
Machinery and equipment	6.1	8.9	10.8	9.8	3.3	9.7	-4.9	3.8
Consumer goods	7.8	7.7	15.2	8.2	2.2	8.8	-6.5	3.2
Others	10.3	11.1	15.6	11.2	3.5	10.6	6.5	11.8
Total	6.5	8.5	8.4	7.7	6.4	11.1	0.0	5.0

Table 9 - Contribution of sectors/markets to the competitiveness effect in explaining difference between the growth in Canadian and world exports (percentage points, average over the period)				
Sectors	**1990-2010**	**1990-2000**	**2001-2007**	**2008-2010**
Agricultural products	0.00	0.08	-0.05	-0.21
Energy commodities	0.30	0.00	-0.29	2.79
Non-energy commodities	-0.57	-0.54	-0.45	-0.91
Automotive products	-0.32	-0.02	-0.69	-0.52
Machinery and equipment	-0.32	0.04	-0.53	-1.18
Consumer goods	0.03	0.23	-0.15	-0.28
Others	-0.08	-0.05	-0.27	0.23
Total	-0.96	-0.26	-2.44	-0.08
Markets	**1990-2010**	**1990-2000**	**2001-2007**	**2008-2010**
United States	-0.61	0.60	-2.84	0.19
Japan	-0.11	-0.18	-0.06	0.04
China	0.00	-0.01	0.02	-0.02
United Kingdom	0.07	-0.05	0.15	0.36
Mexico	0.01	-0.02	0.08	-0.03
Euro area	-0.12	-0.21	0.06	-0.21
NIEs	-0.06	-0.09	-0.02	0.00
Other advanced economies	-0.03	-0.10	0.09	-0.07
CEE and CIS	-0.01	-0.04	0.02	0.04
Latin America and the Caribbean	-0.03	-0.03	0.00	-0.12
Developing Asia	-0.06	-0.10	0.04	-0.13
Middle East and Africa	-0.03	-0.03	0.02	-0.12
Other non-specified countries	0.00	0.00	0.00	0.00
Total	-0.96	-0.26	-2.44	-0.08

* Newly Industrialized Economies (NIES) and ** Central Eastern European states and Commonwealth of Independent States (CEE and CIS)

Table 10 - Share of global exports (average of period, in per cent)			
	1990-2000	**2001-2007**	**2008-2010**
Australia	1.2	1.0	1.3
Canada	4.1	3.7	2.8
China	3.0	6.8	10.1
Germany*	10.4	9.9	9.3
Mexico**	2.6	2.3	2.0
United States	12.8	9.9	8.7

* Data prior to 1992 is not available for Germany.
** Data prior to 1993 has been excluded due to inconsistencies in the reporting of Mexican exports.

Table 11 - Country comparison: 1990 to 2010							
Period	Country	Change in world market share	Total effect	Competitiveness effect	Structure effect		
					Product effect	Market effect	Mixed structure effect
1990 to 2000	Australia	-0.2	-2.0	-1.5	-0.7	-0.1	0.2
	Canada	+0.5	0.6	-0.3	-0.4	1.4	0.0
	China	+2.1	7.9	7.7	-0.5	0.8	-0.1
	Germany*	-3.3	-3.8	-2.7	0.1	-1.5	0.3
	Mexico**	+1.2	9.9	7.8	-0.1	2.2	-0.1
	United States	+0.3	-0.5	-0.8	0.0	2.1	-1.7
2001 to 2007	Australia	0.0	1.0	-2.5	1.4	0.2	1.9
	Canada	-1.2	-4.8	-2.4	0.9	-3.3	0.1
	China	+4.7	14.7	-0.9	-0.8	0.8	-0.8
	Germany	+0.4	2.5	1.5	-0.3	0.8	0.5
	Mexico	-0.6	-3.6	-0.1	0.0	-3.6	0.1
	United States	-3.6	-5.0	-3.6	-0.4	0.2	-1.2
2008 to 2010***	Australia	+0.2	12.0	7.5	2.4	3.2	-1.1
	Canada	-0.3	-5.0	-0.1	1.4	-4.6	-1.8
	China	+1.5	5.8	-0.6	-1.4	0.5	0.3
	Germany	-0.9	-5.0	-3.0	-0.6	-2.0	0.5
	Mexico	+0.1	0.3	3.4	0.0	-3.8	0.7
	United States	+0.3	-0.4	-1.5	-0.1	0.8	0.4

* Data prior to 1992 is not available for Germany.
** Data prior to 1993 has been excluded due to inconsistencies in the reporting of Mexican exports.
*** Shares in 2010 are estimates based on relative growth rates from sample of countries reporting data for 2010.

Appendix A: Regional classification and sample breakdown					
	1989-2009	2010		1989-2009	2010
Canada	•	•	**Latin America and the Caribbean**		
United States	•	•	Argentina	•	
Japan	•	•	Barbados	•	•
China	•	•	Bolivia	•	•
United Kingdom	•	•	Brazil	•	•
Mexico	•	•	Chile	•	
			Columbia	•	•
Euro area			Costa Rica	•	•
Austria	•		Ecuador	•	•
Belgium	•	•	El Salvador	•	•
Belgium-Luxembourg	•	•	Guatemala	•	•
Cyprus	•	•	Jamaica	•	
Finland	•	•	Nicaragua	•	
France	•	•	Panama	•	•
Germany	•	•	Paraguay	•	•
Fmr Dem. Rep. of Ger.	•	•	Peru	•	•
Fmr. Fed. Rep. of Ger.	•	•	Trinidad and Tobago	•	
Greece	•	•	Uruguay	•	•
Ireland	•	•	Venezuela	•	
Italy	•	•			
Luxembourg	•	•	**Developing Asia**		
Netherlands	•		Bangladesh	•	
Portugal	•	•	China, Macao SAR	•	•
Spain	•		India	•	
			Indonesia	•	•
Newly industrialized economies			Malaysia	•	•
China, Hong Kong SAR	•	•	Pakistan	•	•
Republic of Korea	•		Philippines	•	
Singapore	•		Thailand	•	•
Other advanced economies			**Middle East and Africa**		
Australia	•	•	Algeria	•	
Denmark	•	•	Egypt	•	•
Iceland	•	•	Jordan	•	•
Israel	•	•	Kuwait	•	
New Zealand	•	•	Mauritius	•	
Norway	•	•	Morocco	•	•
Sweden	•	•	Oman	•	•
Switzerland	•	•	Saudi Arabia	•	
			Senegal	•	•
Central Eastern European States			Tunisia	•	
Hungary	•	•			
Poland	•				
Romania	•	•			
Turkey	•	•	**Total**	73	53

Appendix B:
Commodity classifications

Agricultural products
- Live animals chiefly for food
- Meat and preparations
- Dairy products and birds' eggs
- Fish, crustacean and molluscs, and preparations thereof
- Cereals and cereal preparations
- Vegetables and fruit
- Sugar, sugar preparations and honey
- Coffee, tea, cocoa, spices, and manufactures thereof
- Feeding stuff for animals (not including unmilled cereals)
- Miscellaneous edible products and preparations
- Beverages
- Tobacco and tobacco manufactures

Non-energy commodities
- Cork and wood, cork manufactures
- Paper, paperboard, and articles of pulp, of paper or of paperboard
- Cork and wood
- Pulp and waste paper
- Oils and perfume materials; toilet and cleansing preparations
- Rubber manufactures, nes
- Crude rubber (including synthetic and reclaimed)
- Crude animal and vegetable materials, nes
- Organic chemicals
- Hides, skins and furskins, raw
- Oil seeds and oleaginous fruit
- Textile fibres (not wool tops) and their wastes (not in yarn)
- Crude fertilizer and crude minerals
- Metalliferous ores and metal scraps
- Animal oils and fats
- Fixed vegetable oils and fats
- Animal and vegetable oils and fats, processed, and waxes
- Inorganic chemicals
- Dyeing, tanning, and colouring materials
- Medicinal and pharmaceutical products
- Fertilizers, manufactured
- Explosives and pyrotechnic products
- Artificial resins and plastic materials, and cellulose esters etc
- Chemical materials and products, nes
- Leather, leather manufactures, nes, and dressed furskins
- Textile yarn, fabrics, made-up articles, nes, and related products
- Non-metallic mineral manufactures, nes
- Iron and steel
- Non-ferrous metals
- Manufactures of metals, nes

Energy commodities
- Coal, coke and briquettes
- Petroleum, petroleum products and related minerals
- Gas, natural and manufactured
- Electric current

Automotive products
- Road vehicles

Machinery and equipment
- Power generating machinery and equipment
- Machinery specialized for particular industries
- Metalworking machinery
- Office machines and automatic data processing equipment
- Telecommunications, sound recording and reproducing equipment
- Electric machinery, apparatus and appliances, nes, and parts, nes
- Other transport equipment
- Professional, scientific, controlling instruments, apparatus, nes
- General Industrial machinery and equipment, nes, and parts of, nes

Consumer goods
- Furniture and parts thereof
- Travel goods, handbags and similar containers
- Articles of apparel and clothing accessories
- Footwear
- Sanitary, plumbing, heating, lighting fixtures and fittings, nes
- Photographic equipment and supplies, optical goods; watches, etc
- Miscellaneous manufactures articles, nes

Others
- Special transactions, commodity not classified according to class
- Animals, live, nes, (including zoo animals, pets, insects, etc)
- Armoured fighting vehicles, war firearms, ammunition, parts, nes
- Coin (other than gold coin), not being legal tender
- Gold, non-monetary (excluding gold ores and concentrates)
- Postal packages not classified according to kind