

Firms in International Trade: Towards a New New Trade Policy

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Abstract

This paper discusses the implications of recent developments in firm-based trade theory and empirics for trade policy. We sketch the evolution of this modern theory, and review the implications of the available empirical analysis in order to demonstrate the need for a *new* new trade policy. We argue that the newest approaches to evaluating trade at the level of the firm, where trade actually takes place, imply that policies focused on overcoming the fixed costs of trade and reducing uncertainty will lead to increased trade at the extensive margin, which is where the biggest gains in productivity and welfare are found. Nevertheless non-discrimination and reciprocity still anchor the trading system and comparative advantage still has its influence, if at the level of trade in tasks. The traditional market access agenda ought now to be less important on the multilateral agenda than services, customs cooperation, standards, trade facilitation, procurement, and innovation policy. The analytic needs of the new new trade policy require new models, and more access to firm-level data to appropriately formulate and evaluate the impacts of trade policy.

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I. Introduction

When national competitiveness is invoked as a policy objective, trade experts have learned to retort that countries don't trade, firms do. This focus on the importance of the firm in international trade is consistent with the most recent developments in trade theory, but policy needs to catch up. Traditional trade theory argues that countries gain from exporting those goods and services that they are relatively good at producing while importing goods and services that other countries are relatively good at producing, but actual trade patterns do not match the theory. Recognizing the growing anomalies in observed trade patterns, the “new trade theory” of the 1980s looked at industries not countries, leading Nobel prize-winner Paul Krugman, a pioneer in this literature, to suggest the need for a new trade policy. Recent work on what some call the “new new trade theory” focuses on the trading behaviour of individual firms, making a tight link between trade, innovation, and productivity. In this firm-based approach, trade still plays an important role in a country's growth and prosperity, but the roles of trade and innovation policy in promoting these beneficial effects has changed. In this article we discuss the implications of these recent developments in trade theory and empirics for *new new trade policy*.

The next section of the paper discusses the evolution of trade theory. Section Three describes theoretical and empirical developments in the new new trade literature. In the fourth section, we present some of the general policy implications emanating from this approach. In Section Five we stress the need for improved access to, and analysis of, firm-level data for providing a more complete understanding of the formulation and impact of trade policy. Section Six concludes and discusses extensions.

II. The Evolution of Trade Theory

Traditional trade theory, rooted in the principle of comparative advantage, adopts the country as its basic unit for analysis. Countries trade because they are different in terms of technology and/or their relative supplies of the factors of production (labour, capital, land, etc.). Gains from trade are, by the same token, realized at the national level. The theory predicts that trade will be inter-industry (Portugese wine for English wool in Ricardo's famous example). The theory also predicts that increased trade will result in increased specialization, and that the greater the differences in factor supplies and/or technological development, the greater the volume of trade among countries. The general policy prediction is that economic welfare increases through the mutual specialization induced by dismantling of trade barriers.

Unfortunately, comparative advantage alone has had limited success in explaining trade patterns and the observed impact of trade liberalization measures. Actual trade turned out to be mostly intra-industry (Europeans buying Boeing jets while Americans buy Airbus) and mostly between countries that are fairly similar in their factor supplies and technological level. Liberalizing countries were observed to diversify their production and trade rather than to specialize. Even worse for theory, the gains from trade liberalization based on comparative advantage were estimated to be surprisingly small compared to the apparently powerful role that trade expansion played in the growth of the global economy in the post-World War II period. Furthermore, the rise of inequality that accompanied globalization went counter to the theory's predictions.

Some of these puzzles were explained by the “new trade theory” developed in the 1980s. In this approach, the unit of trade analysis was no longer the country but the industry. The models incorporated differentiated products, and consumers had a corresponding taste for different varieties. Monopolistic competition was the standard industry market structure with all firms using the same production technologies. The good news: the new trade theory strengthened the case for trade liberalization by pointing to new sources of gains – a rise in efficiency resulting from increased scale of production and welfare gains for consumers from access to increased variety and from lower costs of imports. The bad news: new trade theory opened the door, by at least a crack, to “strategic trade policy”—subsidies for national champions that might be able to exploit increasing returns to scale through export expansion. Unhappy theorists emphasized the possibility of “lose-lose” outcomes if rival governments subsidized the same industry to gain global market share in supposedly strategic industries (as in the case of commercial aircraft). Unfortunately, some features of trade data were still inconsistent with the predictions of new trade theory. Exporting industries did not export to all countries as implied by their theoretical cost advantage; and import-competing industries sometimes experienced productivity gains following trade liberalization, despite a smaller scale of production.

The next major development in trade theory, the “new new trade theory” introduced in the early 2000s, drew its inspiration from dynamic models of firm entry, innovation, growth, and death. The unit of trade analysis shifted from the industry to the firm. These models share many of the features of the new trade theory of the 1980s, but now incorporate differences in firms’ characteristics both within and across industries, especially with regard to productivity. This new literature identifies an important additional source of gains from trade—a rise in productivity as increased trade forces the least efficient firms out of the market and reallocates resources and production to the most efficient firms. In the next section we elaborate on this firm-based analysis of trade and discuss the impact of trade liberalization on the economy when seen through this lens.¹

III. Trade According to the New New Trade Theory and Empirics

The new new trade methodology based on firm-level analysis has been adopted in a large number of empirical studies that use firm- and plant-level data from a wide variety of countries to document a new set of stylized facts regarding the international activities of firms. Each of the observations described below emphasizes the critical role of differences among firms within and across industries. The various analyses of international trade in the presence of heterogeneous firms typically generate predictions that are consistent with these observations.

- (A) Participation in international markets is typically rare among firms, and export and import intensity among firms in larger economies that do participate in international markets is low:

¹ We have chosen not to include individual citations to the many papers that have shaped our collective and individual thinking on these issues, but a list of representative papers in the New and New New Trade Theory can be found in the references at the end of the paper. Redding (2011) provides a recent survey of theoretical developments in this rapidly developing literature with a comprehensive set of references.

- a. Relatively few firms in an industry export and/or use imported inputs, although the ratios vary widely by country.
 - b. Exporters tend to export only a small portion of their output and imported inputs tend to account for only a small share of firms' inputs.
- (B) Firms that participate in international markets are different than those that do not:
- c. Exporters, firms which use imported inputs, and firms which engage in foreign direct investment tend to be larger, more productive, relatively more capital- and skilled-labour-intensive, and pay higher wages than firms which do not participate in international markets.
 - d. Firms entering export markets tend to grow faster in terms of employment and output than non-exporters.
- (C) Trade shows considerable dynamism both in terms of changes in the size of existing trade flows (the “intensive margin”) and in terms of the appearance of new trade flows – new participants in international markets, new products introduced to export markets, or the diversification of already exported products to new markets (the “extensive margin”):
- e. There is continual firm entry into and exit from export and import markets associated with the continual change in the composition and destination of exported products.
- (D) Trade liberalization increases productivity primarily because of within-industry reallocations rather than across-industry reallocations:
- f. Trade liberalization increases average productivity by reallocating market shares and resources within industries from low-productivity firms to high-productivity firms.
- (E) Firm technology choices are linked to the decision to enter export markets:
- g. Firms entering export markets tend to adopt newer, mass production technologies that increase firm productivity relative to older, more flexible technologies suited for a smaller domestic market.

In the new new trade literature, the response of an economy to the stimulus of trade liberalization is now multi-faceted. Trade-related productivity gains in the economy emanate primarily from a change in the composition of firms within an industry, as weaker firms exit, and production is reallocated to more efficient firms that grow faster. These gains are in addition to the traditionally recognized productivity gains flowing from improved access to cheaper imported intermediate goods and services and to the exploitation of firm-level economies of scale.

This new approach also emphasizes the important role of fixed costs that firms may face for participating in international markets. In particular, some empirical studies in this area suggest that high productivity at the firm level typically *precedes* entry into international markets. This finding suggests the presence of significant firm-level fixed and sunk costs of trade that raise the productivity threshold that firms must clear to be able to profitably enter foreign markets. Examples of such costs include the expenditures that firms must undertake to obtain foreign market intelligence, identify foreign partners, address foreign regulatory and certification

requirements, set up distribution and after-sales service networks in export markets and so forth. The presence of such costs implies that firms make choices at three margins: the number of foreign markets in which they participate; the number of products they trade in each market; and the amount of resources they commit to building sales for each product in each market.

This focus in the new new trade theory on the role of fixed costs is also relevant for the decision at the firm level of whether to serve foreign markets via exports or via (horizontal) foreign direct investment (FDI). To establish abroad, firms face fixed and sunk costs of establishing an affiliate. If transport costs to a given market outweigh the fixed costs of establishing a foreign affiliate, the firm will choose to serve the foreign market via FDI. Some empirical studies support this prediction that firms tend to serve closer foreign markets through exporting and more distant markets through a foreign affiliate. Moreover, given the fixed costs of establishing affiliates abroad, the theory predicts that only the more profitable exporting firms will be able to make the leap to multinational status. Some empirical studies confirm this prediction, showing that multinational enterprises dominate exporting firms in many measures of firm performance, just as exporting firms dominate firms that serve only domestic markets.

Furthermore, if firms must commit significant resources to enter and sustain a presence in foreign markets (through exporting, importing, or FDI) then the risks and uncertainties inherent in the international arena loom large. Firms that participate in international markets face greater uncertainties about success abroad than at home. They may have less knowledge than local firms in foreign markets (“information asymmetries”) and face additional risks from fluctuations in real and nominal exchange rates or from regulatory changes abroad.

It should be noted that the original insights of the traditional and new trade theories have not been discarded in these new models. Trade theorists have integrated comparative advantage, increasing returns in production, and differentiated products features into heterogeneous firm models. In the most comprehensive models, countries export more in certain industries than in others (driven by comparative advantage); two-way trade takes place within industries (driven by product differentiation combined with increasing returns); and, within industries, some firms participate in international markets and others do not (driven by differences in firms’ productivities combined with trade costs).

We close this section by briefly describing some of the extensions of the basic models of trade with heterogeneous firms. One important extension incorporates multi-product firms into the analysis. Firms face fixed costs of introducing each product into each market they serve. These diseconomies of scope in each market allow the model to capture the observed pattern where only a small number of firms sell many products to a large number of countries while most firms sell only a few products to a few destinations.

In models that include the joint determination of export and innovation decisions, firms’ productivities are endogenous and affected by trade. For example, in some models, firms gear up for export market entry by making productivity-enhancing investments (“learning to export”). They adopt process technologies suited to larger export markets and adopt product innovations to compete in a larger arena. They also often simultaneously decide to source imported inputs to

improve the quality of their products. In those environments, liberalizing market access at home and abroad can drive a host of important productivity-enhancing decisions at the firm level.

The newest models have also been extended to incorporate technologies which require different stages of production to provide a theoretical framework for analyzing the observed rise in global value chains. These models examine firms' decisions to offshore production based on the notion of "trade in tasks" (in addition to trade in goods). Firms can perform the various tasks necessary for production either in a location near their headquarters or at an offshore location. Firms optimally choose the geographic organization of these tasks to minimize costs, leading to the endogenous rise of global value chains.

Numerous other extensions have been introduced into the basic model to examine the implications of firm heterogeneity for trade and trade liberalization measures. These extensions include, among others, country size differences to explore the role of market size, quality differentiated goods, labour market frictions for highlighting the impact of trade liberalization on unemployment and income distribution, and firm-level dynamics in the face of macroeconomic shocks and exchange rate volatility.

To summarize, the most recent theoretical and empirical work in international trade stresses the important roles of (1) firm-level differences, (2) firm-level sunk and fixed costs of participating in international markets, (3) reallocation of market shares and productive resources across firms within industries in response to changes in the trading environment, and (4) the innovation and organizational decisions of firms in producing for global markets. In the next section, we explore the policy implications of this new new trade theory.

IV. Towards a New New Trade Policy

In this section we briefly discuss some of the trade policy implications of these new developments in trade theory. We first note that "trade policy" can be interpreted as *any* government action that alters the flow of goods and services across international borders. Hence, trade policy includes both measures imposed at the border, such as tariffs and import quotas; *and* regulatory policies, such as standards, competition policy, innovation and investment policies, intellectual property rights, and banking and business licenses.

The emphasis in the new new theory on firm-level heterogeneity, the importance of fixed costs of participating in international markets, and the increasing complexity of global strategies of multinational firms, has not changed the basic message of trade theory regarding the gains from international trade, innovation, and investment. Indeed, the newest theory suggests that these gains are potentially even larger than previously thought, but the policy implications are different. Just as firms are heterogeneous, so are the impacts of trade policies, depending on the specific characteristics of the population of firms within an industry in a country and the broader economic policy context in which trade policy is implemented.

Reciprocity remains fundamental to international relations in general and especially to trade negotiations, but a mercantilist understanding of reciprocity is more than ever incoherent with the achievement of the objectives of trade policy. Countries don't trade and industries don't

trade: firms trade. Jobs come from productive firms, and typically only the most productive firms trade. Understanding and acting on this reality requires adjusting the usual conceptual models trade negotiators use in identifying their offensive and defensive interests and in evaluating the importance and impact of new agreements. All countries share an interest in productivity and all want their portion of global value chains to be high value-added. The historical focus of trade negotiators has been on the intensive margin of trade (expanding existing trade flows) but a new task for policy analysis is to identify the extensive margin and to understand how government policies can impede or facilitate expansion at the extensive margin. Trade, innovation, and investment policy must also take into account the risks facing firms in international markets and how those uncertainties affect firms' responses to policy changes.

IV.1 The Importance of Addressing Policy-Related Fixed and Sunk Costs of Trade

The presence of significant fixed and sunk costs of exporting, importing, and foreign direct investment changes the traditional market access agenda. To the extent that market entry costs deter firms from entering export and import markets, they also have negative impacts on technology choice, productivity and the dynamism of firms. When the fixed costs of entry into a foreign market are high but tariffs are low, the policy focus must shift to the often cumbersome and expensive procedures that firms face for getting products across borders. Trade facilitation, as it is known at the WTO, assumes increased importance.

Customs cooperation is increasingly important from a firm-centered global supply chain perspective. The harmonized tariff system (HS) is not harmonized enough, since every country has different classification methods. Tax authorities treat the transfer price among related parties differently from how customs authorities calculate the dutiable price. These different rules on transfer prices and the proliferating preferential rules of origin compound the difficulties firms face in global markets. When products are "made in the world," to use the current WTO term, all sorts of regulatory differences can significantly increase the costs that firms must incur to be active in international markets. To encourage firms to diversify across markets and to allow them to capitalize on the rapid rise of complex global supply chains, compatible regulation all along the production chain should be a policy objective.

Furthermore, perhaps more important than tariff issues in negotiations on trade in goods (non-agricultural market access or NAMA in the WTO context) is the achievement of reductions in costs associated with compliance with non-tariff requirements for market access. These costs include certification of conformance with product safety standards and licensing requirements concerning highly technical products or professional competencies, and so on. Firms should be encouraged to actively participate in both public and private standards' bodies that affect the development and diffusion of new products and technologies. Governments should facilitate the provision of information to firms regarding standards in different international markets.

Multilateral negotiations take on increased importance (as compared to bilateral negotiations) as those agreements tend to produce standards that are more uniform across markets, making it easier for a firm to know the applicable rules for a given new product. Also, multilateral standards are less likely to be discriminatory, a risk when firms with different home markets compete in the same export market, but where the two firms might be subject to different

bilateral agreements. Furthermore, if growth in the world economy comes increasingly from Asia, especially China, then that is the market where regulatory obstacles will have the greatest impact on firms, which further supports the importance of multilateral negotiations.

In summary, the new new trade theory highlights the positive links between aggregate productivity growth and firms' access to foreign markets through exporting, importing, foreign direct investment, and global supply chains. An objective of trade policy for governments should be to lower regulatory obstacles that limit this access for firms. In general, multilateral policy has a role in creating an enabling framework for the global strategies of firms.

IV.2 The Importance of Extensive Margin Responses

Trade negotiators typically focus on existing products imported from and exported to current markets, e.g., lists of a country's top ten exported goods and trading partners. The new new trade theory and empirical evidence indicate, however, that trade liberalization is likely to lead to a diversification of exports and imports across products and markets, as well as to an increase of existing flows. In the new new trade policy, therefore, the focus should be on new firms entering export and import markets, on incumbent exporters' introduction of new products into existing markets, and on the diversification of their exports into new markets. In more technical terms, the focus must shift from intensive margin responses to extensive margin responses.

To take one example, recent empirical studies suggest that the impact of the WTO for a newly acceded member is almost exclusively on the extensive margin of trade (trade in goods that were not previously traded and/or exports into new markets). Indeed, WTO membership may have a negligible or even a negative impact on the intensive margin (the volume of already-traded goods). The evidence also indicates that new preferential agreements tend to lead to a reduction in the extensive margin in absolute terms, which often outweighs increases in the intensive margin. This research raises questions about the value of new regional agreements. Some authors have also shown that changes at the extensive margin and the rise in imports of new varieties are responsible for important increases in productivity growth. The WTO, they suggest, by facilitating such trade, has potentially large welfare effects. It may be more important, therefore, to put negotiating resources towards markets where access is limited now, rather than aiming at marginal improvements in existing markets.

Given the importance of extensive margin responses to trade liberalization, the uncertainties that potential exporters and importers face become central. An intriguing possibility that some authors suggest is that the WTO is not really about reducing trade barriers, variable or fixed. Rather the WTO is about resolving uncertainty in the mind of *potential* exporters regarding the evolution of international trade rules. They respond by exporting newer products into newer markets—i.e. responses on the extensive margin. In multilateral trade negotiations in the WTO, it follows, squeezing water in bound tariff rates (which reduces uncertainty affecting the extensive margin) may be more important than fighting for reductions in applied rates (which may primarily affect the intensive margin).

Recent developments in trade negotiations can be seen as troubling when one recognizes the importance of the extensive margin. For example, recent negotiation efforts surrounding

investment policies have been devoted to bilateral investment agreements, which appear to focus more on the treatment of established investors in developing countries, and less on barriers to entry for new investors. The lack of business interest in the Doha Round suggests that businesses may not know where the extensive margin is.

In summary, to evaluate the gains from trade liberalization, trade negotiators must examine not just the expansion of existing trade flows but the expansion of imports and exports of products that previously were not sold internationally, the diversification of currently exported products into new markets, and the entry of firms with purely domestic operations into exporting.

IV.3 The Importance of Trade Promotion

The previous two subsections highlight the importance of the uncertainties and costs that firms face when entering (or continuing to participate in) international markets. We also discussed the roles of lowering policy-induced barriers and of multilateral trade negotiations for reducing the costs of entering and participating in international markets. But many firms that are productive enough to participate in international markets do not. Both theory and an expanding body of empirical evidence suggest that market failures may limit participation in international markets. If true, targeted trade promotion policies may also help to reduce the uncertainties and fixed costs associated with global markets by identifying local partners, establishing contacts, providing market intelligence, and so on. Government programs aimed at assisting firms in overcoming entry costs may be particularly important for small and medium enterprises where access to external finance is limited. If firms are heterogeneous, so too are the likely market failures, making generalized financial assistance inappropriate. The focus on uncertainty in the new new trade theory also has implications for the effects of volatile exchange rate fluctuations, which increase the risks firms face in participating in international markets. Of course, government failure in identifying firms that are appropriate for targeted support remains a valid concern.

In summary, the new new trade theory's emphasis on the fixed costs of trade and the high level of uncertainty facing incumbent and potential trading firms suggests a renewed discussion of the roles of trade promotion policies, which may take a wide variety of forms.

IV.4 The Importance of Linkages Between Trade, Innovation, and Productivity

The dynamic industrial models that are now at the heart of firm-based trade theory take explicit account of the ongoing need for firms to make investments in new technologies, products, and markets in the context of uncertainty about the outcomes of such investment. For firms, these outcomes can represent the difference between sustained or expanded presence in markets and exit from the markets. For countries, successful innovation (and, by the same token, failed innovation) at the firm level can change their apparent comparative advantage. But just as innovation is important to trade success, entry into export markets can drive firms to innovate, in particular in terms of process innovation aimed at achieving cost efficiency in serving larger global markets. Hence, there are strong and dynamic linkages among trade policy, investment policy, and innovation policy.

Research and development (R&D), which is critical to sustaining export performance by generating new products to introduce into world markets as old ones become obsolete, is not evenly distributed across firms; it is concentrated in firms that tend to be large and multinational. In this context, the pronounced home bias in R&D activity in multinational firms tends to concentrate innovation in the countries that are the main sources for outward FDI. For smaller countries, inward FDI may therefore be a two-edged sword—bringing the conventionally understood benefits of superior technologies and business methods (reflecting the fact that only the most productive firms in any country can overcome the costs of becoming a multinational) but also sapping the vitality of the local innovation system.

In summary, new new trade policy cannot be conducted without reference to other areas of policy such as industrial and innovation policy. Policy implications thus flow in both directions—from trade to innovation and investment policies and vice versa.

V. New New Data Issues

The latest developments in trade theory were driven in part by the increased availability of firm-level data and by advances in the computing power needed to organize and analyze the associated large data sets. But comprehensive application and tests of the ideas of the new new trade theory to real world policy problems requires more extensive micro data sets and analysis. The traditional macro-level approach to measuring the gains from past trade agreements or the potential gains from new agreements focused on quantifying expansions of existing trade flows. As emphasized above however, in the newest theory we also need to estimate the potential expansion of micro-level trade by firms in products and markets that we do not know about.

Furthermore, much of the previous micro-level data analysis of firms' trading activities exclusively uses data from relatively large manufacturing firms. Yet the trading activities of small and medium manufacturing firms as well as firms in agriculture, services, retail, etc. are economically important for formulating and assessing the impact of trade policy, particularly for some countries. A related point is that previous trade negotiating agendas tended to focus on mature industries with established firms whereas the new new trade theory and policy suggests that considerable empirical attention should be placed on emerging products, firms, and industries.

Below we also discuss the difficulties inherent in “properly” measuring trade flows when heterogeneous firms undertake complex global production strategies. In particular, global supply chains alter our measures of the value of a country's exports and the measured impact of trade liberalization policies on a country's trade volumes. We end this section with a brief discussion of the importance and difficulty of gathering data and information directly from “trade-relevant” firms through consultation when formulating trade policy.

V.1 The Importance of Firm-Level Data Analysis

Quantitative analysis is always essential for assessing the magnitude of the impact of trade liberalization, but negotiators must now examine the characteristics of individual firms, not just the average characteristics of industries. Firm-level data can provide information on the characteristics of firms that do trade and on those that might. Analysis of firm-level data is

needed to quantify the distribution of productivity by industry, relative first to the threshold of export market entry in the event of a reduction of trade barriers and second to the threshold for market exit in the event of increased import competition. Recognition of firm-level heterogeneity could be particularly helpful for dealing with sensitive sectors by enabling a realistic assessment of adjustment costs.

Firm-level data is also required to estimate fixed and sunk costs associated with participation in international markets. For example, if no firms in an export-oriented industry are close to the export threshold and the fixed costs of entering export markets are large, the gains from liberalization may be limited to existing exporters expanding their presence in established markets. In this case, the dynamic effects of liberalization on productivity and the economy may be relatively small. In a similar vein, if many import-competing firms are near an exit threshold (due to their use of dated technologies, say), trade liberalization will exact a disproportionately heavy toll on those firms as they leave the sector. The distributional impacts of trade liberalization due to accelerated industrial adjustment will loom large and will have to be weighed against the correspondingly large gains in average productivity within the industry and the positive dynamic economy-wide effects.

National statistical agencies vary in how much firm-level data they make available, thereby limiting the ability of analysts to consider optimal trade policy in a new trade policy framework. Since an improved understanding of the factors that affect firm-, industry-, and economy-level productivity matters for policy, this situation should be remedied by making these data more accessible. Indeed, increased access to and analysis of customs-based data would be particularly useful in providing a more complete picture of the trading activities of firms.

In summary, data measured at the level where trade actually takes place, the firm, must be collected and analyzed to provide information for policy makers on the characteristics of firms that do trade and on those that do not (but that are potential entrants into international markets if trade barriers are reduced). Such data are also needed to allow for a quantitative assessment of the impact of trade liberalization policies on firm-, industry-, and economy-level employment, output, and productivity. The more that we understand the impact of engaging in trade at the level of the firm—where trade actually takes place—the better we are positioned to formulate trade policy in a fully informed manner. An added benefit: with access to such data, researchers will be able to quantitatively assess the benefits of trade agreements for firms and the economy. Trade negotiators should not be negotiating in the dark.

V.2 The Importance of Identifying Value-Added in Traded Goods

The growing impact of global value chains makes the data challenge more urgent. The impact on a country's exports of its own import liberalization because of value chain linkages is widely recognized by policymakers. With many manufacturing processes today broken down into separate parts and spread across different countries before the finished product is assembled for export in one of them, attributing the full value of the product to the country from which it is exported to its final consumer destination can give an exaggerated idea of the importance of trade with that country.

A new accounting of a country's contribution to global trade is needed to take these linkages into proper account: we need a value-added concept of exports—and, indeed, of imports, recognizing that imports might embody a country's previously exported components or intellectual property, as in the case of a Blackberry device assembled in Taiwan and shipped to Canada. Such a value-added trade account would complement the current trade accounts based on gross value of trade, which are needed for purposes such as the balance of payments.

In summary, firm-level analysis of trade has highlighted the complex processes behind producing goods for exporting, including the use of imported intermediates. Policy makers should use a value-added approach to measure trade flows to provide an accurate picture of Canada's and its trading partners contributions to global trade.

V.3 The Difficulty of Firm-Level Consultations

Trade policy still begins at home: negotiators cannot know their objectives without talking to economic actors and citizens, but knowing whom to talk to is now more complicated. The usual story has been that, at the economy-wide level, overall welfare gains from trade liberalization allow winners to compensate losers at least implicitly—hence the logic of the WTO Single Undertaking. We have always understood, however, that this economic logic faces political difficulties: for example, gains for service providers do not help displaced dairy farmers. The new new trade theory implies that the differential gains *within* industries complicate the picture even further. Import-competing industries that will shrink as a result of liberalization will nonetheless likely have firms that become winners, expanding their share of domestic markets and possibly entering export markets. Consultations therefore need to include potential new exporters as well as existing exporters.

An important step here for obtaining better information is to reduce bureaucratic barriers. Negotiators need to work with trade commissioners, who are better placed to identify firms just under the export threshold, and who ought to have information on new firms and new products. They are perhaps the best placed to make connections between younger firms and trade negotiations. Of course, newer firms may not have the time to consult to negotiators and they typically do not have a government relations staff. Smaller, younger firms tend to be rule-takers who are reluctant to engage in consultation without immediate relevance. For example, small services exporters may not see the costs of doing business as something that can be changed through trade policy.

Negotiators also face obstacles finding vocal support to counter vocal opposition to new agreements. The new new theory suggests that mobilizing industry associations in support of negotiations will be difficult as they will be conflicted because they represent both winners and losers. Industry associations tend to be more cautious in supporting trade liberalization when winners and losers are likely to be found in the same industry, rather than winners being concentrated in some industries and losers in others. The traditional solution has been first to research the net benefit to consumers of bilateral/multilateral trade liberalization and then second to undertake economic studies of the impact on key industries. The new new trade approach implies that perhaps that this second step is dated. Negotiators need research on how individual

firms will be affected, not just industries. From a communications standpoint such research allows a focus on concrete entities with real plants and identifiable local jobs.

VI. Conclusions

Some might joke that the policy issues raised in this paper are really about old old trade policy. In some respects the new new trade policy agenda is indeed familiar: regulation and standards, procurement, investment, competition policy, services liberalization, export subsidies, labour mobility, regionalism and rules of origin. Even newer issues have a familiar ring—export restrictions, “green” industrial policy, and border carbon adjustments. Non-discrimination and reciprocity still anchor the trading system, and comparative advantage still has its influence, if at the level of trade in tasks. But note how little of this list concerns traditional market access concerns. The Doha Round is moribund because the biggest traders are deadlocked on a handful of issues, but that obstinacy on old issues ought not to prevent everybody else from formulating a new agenda. The new agenda does indeed look much like the old, but at each point in the list we show how new new trade policy requires an emphasis on firms, which changes how you see the agenda, and what the objectives should be. Tariffs remain an issue—but binding matters more than cutting applied rates, simplifying and coordinating border and customs procedures might matter more than tariff rates, and services negotiations might be more urgent than further attention to trade in goods. And finally, in each country the new new trade policy needs new models and new data, including value-added trade data. Trade policy as always begins at home, but identifying the importers and exporters who might benefit from trade liberalization is challenging.

We see an exciting and rich agenda for continued research in the new new trade theory and an urgent need to incorporate detailed policy analysis into the models and data analysis. Future theoretical research should focus on policy questions in environments that incorporate diverse labour markets, macroeconomic uncertainty, non-manufacturing sectors, and so on. At the same time, detailed firm-level data analysis focused on these and related issues is needed to keep the research empirically and policy relevant.

Thinking about firms not just industries will lead to exciting new opportunities for trade negotiators. It will also create challenges. The new new trade policy underlines the need to start now to develop the agenda for the next round of multilateral trade negotiations, but explaining the new agenda to traditional interlocutors in business and government will not be easy. Developing new models and data sources will also be difficult. But the payoff is the opportunity for better trade policy. Even more important, the new new theory places trade policy at the heart of any government’s productivity agenda.

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