Economic Analysis of Regional Trade Agreements

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Abstract. Comprehensive reviews by the WTO, World Bank and OECD suggest there are now a number of agreed stylized facts on the recent proliferation of regional trade agreements (RTAs). After reviewing these stylized facts, this chapter outlines the nature of economists' concerns with RTAs, which mainly include trade diversion and 'logistics friction'. It concludes that the economic literature on whether such agreements are in general good or bad for economic development or multilateral liberalization is essentially inconclusive. That is perhaps a good thing, since it seems unlikely that much can be done about them.

I. Introduction

The recent proliferation of regional trading arrangements (RTAs) poses a number of interesting and difficult questions for economists. The two most obvious are why it is happening and whether it is 'welfare-improving'—that is, a good thing or not in terms of its effects, via trade and investment, on people's lives. In this chapter we summarize recent economic work on these questions in hopes of deciding whether the discipline is yet able to offer reasonably conclusive answers to these questions. After a brief review of some stylized facts, we reverse what may seem a more natural order and begin with the normative question ('Is it good?'), which in theory at least may ultimately help us to answer the positive question ('Why is it happening?'). Governments do not always do what is welfare-improving, and they sometimes do what is clearly welfare-reducing, but if RTAs were in general a good thing, it might not be necessary to look much further in deciding why they are happening.

II. Stylized facts

Several very useful examinations of the rapid growth of preferential trade agreements have recently been published by agencies with the wherewithal for a comprehensive approach.[1] As a result of these investigations, several stylized facts have emerged.

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[1] See, in particular, World Bank, *Global Economic Prospects: Trade, Regionalism and Development*, (Washington: World Bank 2005); OECD, *Regional Integration Agreements*, (Paris: OECD 2001) available at http://www.oecd.org/dataoecd/39/37/1923431.pdf; and Jo-Ann Crawford/Roberto V. Fiorentino, 'The Changing Landscape of Regional Trade Agreements', Discussion Paper No. 8, World Trade Organization (2005).

Rapid growth. There has indeed been a very rapid proliferation of RTAs. As of this writing, the latest annual report of the WTO Committee on Regional Trade Agreements counts a total of 334 agreements and accessions to existing agreements as having been notified to the GATT/WTO. Of these, 183 were currently in force. The Committee was in the process of reviewing 141 agreements, many of which would already have come into effect.[2] Since the WTO's advent in 1995 it has received an average of 11 notifications per year, almost one per month.[3]

Periodic deaths. Regional agreements are not immortal. They do occasionally lapse, especially when countries that formerly had bilateral RTAs with one another enter into a plurilateral RTA. For instance, on 1 May 2004 fully 65 RTAs became defunct as 10 new members joined the European Union.[4] It is therefore important not to judge the scale of the phenomenon simply by counting the number of agreements entered into in the past.

Free trade areas mainly. The bulk of regional agreements are free trade areas (FTAs) rather than customs unions or other types of agreements. This appears to be true both on average and at the margin: Of 131 notified agreements in force in February 2005, 109 were intended to be FTAs, while only 11 were or had the goal of becoming customs unions. And of the RTAs not yet in force, not one was a customs union or intended customs union.[5] FTAs presumably are easier to negotiate than customs unions. No agreement on common external tariffs is required, though rules of origin must usually be established. The numbers cited probably should be weighted. The European Union is clearly a very important customs union with aspirations to becoming even more important. But the majority of agreements are for FTAs and are likely to remain so. Economists customarily think of FTAs and customs unions as falling along a continuum that extends from autarky to economic union and sometimes seems to assume, following the postwar European model, that there is a natural tendency to move along that continuum over time. In fact, countries evidently feel themselves under no such obligation. FTAs may be final destinations.[6]

Most agreements are bilateral. More than 75 per cent of all RTAs that had been notified to the WTO and were in force in February 2005 were bilateral agreements, as well as almost 90 per cent of agreements then under negotiation.[7] That there is only one partner presumably makes bilateral agreements easier to negotiate than plurilateral agreements. Though small countries may sometimes prefer safety in numbers bilateral FTAs are, on balance, the path of least resistance.

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[2] WTO, Report (2005) of the Committee on Regional Trade Agreements to the General Council, WT/REG/15, 3 Nov 2005, 05-5197, at 1.
[3] Crawford/Fiorentino, above n 1, at 3.
[4] Crawford/Fiorentino, above n 1, at 8, fn 21.
[5] Ibid, at 3. The 11 agreements not accounted for were 'partial scope' agreements.
[6] Repeated suggestions by business groups that NAFTA become a customs union have so far not had effect.
[7] Ibid, at 4.

The WTO is implicated. Most tracking of agreements shows a sharp increase in the 1990s. Indeed, the trendline of RTAs seems to climb a cliff in the mid-1990s.[8] This may be partly illusory—as a result of WTO membership more countries were subject to more stringent reporting standards—and partly coincidental: the break-up of the Soviet Union probably had little to do with the WTO but gave rise to a substantial number of trade agreements among what had rather suddenly become independent countries. On the other hand, there may be a more substantive WTO link, in at least two ways: first, the continuing tariff reductions negotiated in the Uruguay Round will have helped lower the economic costs of preferential trading arrangements. Second, the perceived negotiating logjam coming out of the Uruguay Round may have persuaded many countries to seek alternative means of liberalization.

Agreements are not always implemented. Or are implemented more slowly than planned. As a result, 'many RTAs have more life on paper than in reality.'[9] Is non-implementation good or bad? If the rapidly growing number of agreements is a concern, concern may need to be downgraded, while if such agreements are thought to be a spur to multilateral liberalization, the spur may in fact be duller than supposed. Why would countries negotiate deals they end up not carrying through on? Implementation is an habitual difficulty in public policy; moreover, free trade agreements may be diplomatically useful even if they have minimal real consequences. During the Cold War friendly countries negotiated defence agreements with one another. In the age of globalization it seems only polite to negotiate free-trade agreements.[10]

RTAs may not distort trade unduly. We return to this subject in greater detail below but despite the rapid growth of such agreements a declining share of world trade may be taking place on a preferential basis. One estimate of the total amount of world trade covered by such agreements is roughly 40 per cent.[11] But if account is taken of goods that face an MFN tariff of zero, so that a RTA provides no preference, the total falls to 21 per cent. And if trade where the MFN rate is less than three per cent is eliminated, the total falls to just 15 per cent. This may actually be a lower share than in the mid-1990s. There are more RTAs now but they may be less consequential.

RTAs are not evenly distributed geographically. As of this writing, only one WTO member, Mongolia, was not party to an RTA.[12] But the agreements are not uniformly distributed around the world. The European Union has many bilateral agreements, as

[8] See World Bank, above n 1, Fig. 1, at xii.
[9] Ibid, at xiv.
[10] Though as economists we are fully aware of the shortcomings of preferential agreements when compared with multilateral agreements, one of us recently found himself asking the ambassador of a G7 country why Canada and his country had not yet negotiated a free trade agreement, as if this were the default among allies. His response was that as we had taken different approaches during a recent world political crisis his country felt more comfortable pursuing an agreement with another developed country that had taken a position closer to its own.
[11] Ibid, at 27. On the other hand, at 40 it is argued that one-third of world trade takes place among RTA members. The difference appears to be from non-reciprocal preferences such as the Generalized System of Preferences.
[12] Crawford/Fiorentino, above n 1, at 1, fn 4.

does the United States. There are also concentrations of agreements in Southeast Asia and Africa. The image of a spaghetti bowl has been the dominant metaphor in discussion of RTAs since Jagdish Bhagwati first introduced it. But boiled spaghetti produces a tangle of largely random connections of relatively uniform consistency. The reality of RTAs is a certain lumpiness, with the spaghetti tangled in or around four or five discernible clumps—meatballs, perhaps, or maybe it is time to think of a different pasta entirely.[13]

RTAs exist for many different reasons. The European Union, the granddaddy of RTAs, came into being largely as a non-aggression device. Many of the RTAs Europe itself has since negotiated have helped new countries prepare for membership, while others have recognized longstanding historical and/or colonial ties. Many agreements entered into by the countries of the former Soviet Union were meant to facilitate the transition to market economics and were therefore profoundly liberalizing. Others no doubt were illiberal. In the 1980s Canada sought a free-trade agreement with the United States as insurance against contingent protection and relative economic decline. Mexico sought such a deal to buy international credibility for internal reforms. Canada then sought a tripartite deal largely for defensive reasons. It would be surprising if deals with such disparate motivations all had similar effects.[14]

III. Is the proliferation of RTAs a good thing?

If RTAs are largely free trade agreements and if free trade is good, are RTAs therefore not good almost by definition? Non-economists are likely to think 'Yes'. Economists worry about the theory of the second best.

A. Second best

At the end of trade economists' rainbow is full free trade, a world in which consumers and firms can exchange goods and services as easily across international boundaries as within countries. It would not be a pure *laisser-faire* world: governments would still intervene to try to correct market failures. But addressing such failures generally would not require discriminating against foreign sellers of goods and services.[15] As a result, the laws of comparative advantage would cause such goods and services to be provided by whomever could provide them most cheaply.

The world as it exists is clearly some distance from the end of the rainbow. Tariffs have declined substantially since 1947, non-tariff barriers may well have increased and there is some considerable way to go before all foreign suppliers will be treated in a non-discriminatory way. Non-economists probably assume that in the progress from a world

[13] The World Bank, above n 1, introduces rigatoni to the analysis in Fig. 2.2, at 39. It may be true, as the National Pasta Association claims, that 'Rigatoni's ridges and holes are perfect with any sauce, from cream or cheese to the chunkiest meat sauces' but it is not clear why ridges make it an apt metaphor for RTAs (see http://www.ilovepasta.org/shapes.html).

[14] Other things equal, those whose motivations were primarily economic presumably should show involve higher economic payback than those whose motivations were political or geo-strategic.

[15] Even though, given the imperatives of democratic politics and the fact that foreigners do not vote, that will always be a temptation.

of substantial remaining trade barriers to a perfectly non-discriminating world having more free trade areas helps. If comprehensive free trade is better than partial free trade, then any movement in that direction presumably is good. If not all countries wish to engage in reasonably complete free trade, well, better that those who want to do. Unfortunately, common sense runs up against the economic 'theory of the second best.' In general, a more-liberalized world that is not yet fully liberalized may *not* produce greater welfare than one that is less liberalized.

If the idea that what seems to be progress toward a goal may actually be retrograde seems peculiar, think of a river's ability to provide transportation. If the river is completely frozen, trucks can be driven across it. If it is completely ice-free, vessels can navigate freely. But in the intermediate range, when it is filled with ice floes, transportation may be impossible. Welfare is higher at the extremes than in the stage between them. 'Second best' is not always a concern, however. For other purposes, irrigation or quenching thirst, for example, the river's transition from frozen to breaking up to completely open may involve continuously greater convenience. In general, partial change may or may not constitute an improvement. Whether any given change does so is therefore an empirical question. Unfortunately, that does not mean it is easy to answer.

The best-known complications arising from PTAs are 'trade creation' and 'trade diversion,' terms introduced to the literature by Jacob Viner in 1950.[16] An example may help. Until the 1980s Canada had a protected wine industry in the Niagara Peninsula south of Lake Ontario. The wine, expensive but not of high quality, was competitive domestically only because of tariff and non-tariff barriers. As a result of the *Canada-U.S. Free Trade Agreement* of 1989, which liberalized the wine trade, the Canadian industry lost market share to California vintners.[17] This is an example of welfare-improving trade creation: Canadian wine prices fell; consumers were able to purchase more; Canadian vintners ceased producing goods that could be produced more cheaply in California; this freed up resources for use elsewhere (in fact, many stayed in the wine industry and converted to specialty wines, including ice wines, where they have enjoyed some success); the Canadian government lost tariff revenue; but consumers gained by virtue of lower prices on imports. In sum, domestic producers and the domestic Treasury were hurt by trade liberalization but Canadian consumers enjoyed offsetting benefits. Net gains resulted from consumers' ability to drink more and better wine and from producers' migration out of the production of grades of wine in which Canada was not competitive.

On the other hand, the *Canada-US FTA* also caused trade diversion in wine. Tariffs on non-U.S. suppliers remained in place. Where before Canadian consumers had paid the same tax on imports of California and, say, French wine, they now only paid tariffs on French wine. The introduction of preferential arrangements with the United States therefore led to the substitution of some California wine production for some French wine production. Canadian trade was diverted from France to California. If on a

[16] Jacob Viner. *The Customs Union Issue*. (NewYork: Carnegie Endowment for International Peace 1950)

[17] See Michael Hart, 'Great Wine, Better Cheese: How Canada Can Escape the Trap of Agricultural Supply Management', Backgrounder 90 (Toronto: C. D. Howe Institute April 2005)

level playing-field (or serving table) Canadians would have preferred French wine, this switch was welfare-reducing. In sum, the world moved from a situation, compared to the ideal, of too much Canadian wine to one of too much California wine. Whether on balance the increase in welfare from the trade creation outweighed the reduction in welfare from the trade diversion is an open question, one that must be asked many times over per trade agreement since such deals typically cover many hundreds if not thousands of goods.

At least one overall empirical guideline is available, however. Other things equal, the lower the level of multilateral tariffs, the less distorting will be the preference granted by a zero-tariff preference. Exemption from a 30 per cent tariff will be more valuable and create a greater distortion in trade flows than exemption from a five per cent tariff—which is why many countries that currently benefit from preferences drag their heels on further liberalization. But because multilateral tariffs have continued to decline the growth of preferential agreements may be less damaging than it would have been earlier. Economists typically examine the effects of trade deals by using two techniques: eyeballing trade data and building models, whether relatively simple 'gravity models' of overall trade flows or much more detailed 'computable general-equilibrium' models of specific trade deals.

1. Trends in trade data

The simplest measure of the degree of integration within a free trade region is the trend in the share of imports from regional partners in the total imports of a region. In fact, 'intra-trade' in major RTAs shows a substantial increase over the last 20 years. For example, the share of intra-NAFTA imports rose from less than 35 per cent of the three member countries' total imports in the late 1980s to almost 50 per cent in 1999. Over the same period, the volume of trade among MERCOSUR members doubled from 10 to 20 per cent. In Africa, intra-trade is not as common but from the 1980s to 2000 the share of internal trade in the Economic Community of West African States (ECOWAS) and the Southern African Development Community (SADC) grew approximately fourfold, from 2.5 to 11 percent.[18] This suggests at least the possibility of substantial trade diversion. On the other hand, in many cases intra-regional trade shares were growing strongly even before the agreements were effective, so the RTA may not be at fault, while in others there have been declines in intra-regional trade. And, in general, rising intra-trade has not crowded out trade with non-members. With the exception of MERCOSUR, all regions that have experienced an increasing share of intra-regional trade in total trade have also seen the ratio of their extra-regional trade to GDP increase.[19] The Association of Southeast Asian Nations (ASEAN) provides an interesting example. From the establishment of the ASEAN Free Trade Area (AFTA) in 1992 through 2000, within-area trade increased from 30 per cent to almost 45 per cent of total trade while external trade increased from seven to 14 per cent of regional GDP. In fact, the successful expansion of trade among the members of a regional trade agreement tends to be associated both with

[18] See World Bank, above n1, at 58-9.
[19] Ibid, at 59.

increasing extra-regional imports as a share of GDP and with the growth of world trade.[20] As Crawford and Laird concluded in 2001, 'the overall numbers do not point to clear evidence of diversion away from imports from nonmembers of RTAs'.[21]

The obvious difficulty with drawing inferences from simple trade flows is that causality is hard to untangle. Would intra-regional trade have increased even without a free-trade deal? What was its trend before the deal was made? What was happening to extra-regional trade? What are the principal influences on trade and did any of them change in ways that would either mask or exaggerate the effect of the RTA on trade flows? In short, were other things equal when the deal was introduced? Answering such questions is the purpose of economic models.

2. Economic models[22]

Two general types of economic model are used to analyze the welfare impacts of RTAs: *ex-ante* 'computable general-equilibrium' simulation studies and *ex-post* econometric analyses using the 'gravity model.' The *ex-ante* studies try to model the participating countries' economies explicitly and typically attempt to estimate the impact of RTAs at both the aggregate and sectoral levels. Because the effects of many non-tariff barriers are hard to quantify the characterization of RTAs is often relatively simple (though the calculations rapidly become complex!), with most studies focusing on tariff removal. The simulation exercises attempt to answer the question: 'What would be the impact of the preferential removal of tariffs against a limited set of trade partners, given the assumed model structure?'.

Ex-post econometric studies using gravity models to try to assess the actual impact of policy changes on trade flows between countries. They are 'gravity models' because they assume that, just as the gravitational attraction between planets is directly proportional to their mass and inversely proportional to their distance from each other, trade between nations is very likely directly proportional to their GDPs and inversely proportional to their distance from one another. As economists, we are unable to say whether just two variables adequately explain gravitational attraction. But the determinants of trade between countries are clearly more complicated. Thus gravity models generally also control for other potential influences on trade flows, such as common borders, past colonial relations, common languages, other measures of cultural proximity and, key here, the presence of any form of preferential economic arrangements. If when trade is 'regressed' against a collection of such variables the presence of a trade deal has a statistically significant effect, the presumption is that the deal has in fact altered trade flows.

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[20] Ibid, at 60.

[21] Jo-Ann Crawford/Sam Laird, 'Regional Trade Agreements and the WTO', 12 North American Journal of Economics and Finance 193 (2001).

[22] For a comprehensive review of economic models used in assessing impacts of regional trade agreements see Arvind Panagariya, 'Preferential Trade Liberalization: The Traditional Theory and New Developments', 38 Journal of Economic Literature 287 (2000) and James E. Anderson/Eric van Wincoop, 'Trade Costs' 42 Journal of Economic Literature 691 (2004).

What do the models say? We briefly summarize some results by region.

The *North American Free Trade Agreement* (NAFTA) came into effect in 1994. Leading up to it, several studies examined its likely effects.[23] Although quantitative economic analysis of the potential effects of NAFTA was carried out in different ways and at various levels of aggregation, ranging from industry and sectoral studies to a number of studies using single and multi-country computable general-equilibrium models, there was a remarkable degree of consensus across studies that the effects of NAFTA would be net trade-creating and would benefit all three member countries, with the largest relative gains for Mexico. On the other hand, a number of *ex-post* studies on NAFTA conclude that, despite larger gross trade flows, implementation of the agreement may not have led to a substantial increase in trade.[24] One reason is that the member countries had already achieved substantial trade liberalization before 1994. In particular, the United States and Canada had concluded their own free trade agreement in 1989, while the U.S. had previously granted Mexico important trade preferences under the Generalized System of Preferences (GSP).[25] A recent study disputes this conclusion, however.[26] Using a modified version of the gravity model, Tang finds that, after controlling for GDP, per capita income, distance, and exchange rate volatility, coefficients measuring the effects of NAFTA on bilateral trade flows change from negative in 1989-1992 to positive in 1993-2000. As previous studies focused primarily on the early and mid-1990s, it may be that the full effects of NAFTA are only now being felt.

A number of recent studies examine whether the implementation of the *ASEAN Free Trade Area* (AFTA) has contributed to any increase in trade among member countries. Although early results suggested little or no effect[27] a more recent study by Thornton and Goglio concludes that AFTA did facilitate trade, especially during the late

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[23] Surveys of the empirical work of this type include U.S. Department of Labour, *A Review of the Likely Economic Impatct of NAFTA on the United States* (Washington, D.C.: 1992); U.S. International Trade Commission, *Economy-Wide Modeling of the Economic Implications of a FTA with Mexico and a NAFTA with Canada and Mexico* (Washington, D.C.: 1992); Josheph F. Francois and Clinton R. Shiells, *Modeling Trade Policy: Applied General Equilibrium Assessments of North American Trade* (Cambridge: Cambridge University Press, 1994); and Nora Lustig, Barry P. Bosworth and Robert Z. Lawrence, *North American Free Trade: Assessing the Impact* (Washington, D.C.: Brookings Institution, 1992)

[24] See, for example, Mary E. Burfisher/Sherman Robinson/Karen Thierfelder, 'The Impact of NAFTA on the United States', 15 (1) Journal of Economic Perspectives 125 (2001).

[25] See also Isidro Soloaga/Alan Winters, 'Regionalism in the Nineties: What Effect on Trade', 12 (1) Noth American Journal of Economics and Finance 1 (2001).

[26] See Dony Tang, ' Effects of the Regional Trading Arrangements on Trade: Evidence from the NAFTA, ANZCER and ASEAN Countries, 1989-2000', 14 (2) Journal of International Trade & Economics Development 241 (2005).

[27] See Jeffrey A. Frankel/S.J Wei, 'Regionalization of World Trade and Currencies: Economics and Politics', In Jeffrey A. Frankel (ed), *The Regionalization in the World Economy* (Chicago: University of Chicago Press 1998); Subhash C. Sharma and Soo Y. Chua, ' ASEAN: Economic Integration and Intra-regional Trade', 7 (3) Applied Economics Letters 165 (2000); and Isidro Soloaga/Alan Winters, 'Regionalism in the Nineties: What Effect on Trade', 12 (1) Noth American Journal of Economics and Finance 1 (2001).

1990s.[28] Employing a modified version of the gravity model, Tang also found that the implementation of AFTA has contributed to the gradual but significant growth of trade among the member countries. The coefficient reflecting the effect of AFTA implementation on the region's intra-trade increased strongly from 1.284 in 1989-1992 to 1.826 in 1997-2000. It is interesting to note that the East Asian financial crisis apparently did not result in any appreciable decline in trade among ASEAN countries. Trade among the ASEAN countries may be expected to continue to grow as more of the AFTA provisions become effective.

A detailed simulation of the Southern Common Market (MERCOSUR), founded in 1991 by Brazil, Argentina, Uruguay and Paraguay, indicated that it would raise member countries' welfare by stimulating their investment, production, and consumption.[29] Although external trade opportunities were to increase, intra-regional trade was to grow much faster than the total trade of member countries. Moreover, lowering MERCOSUR's common external tariff would allow member countries to benefit substantially more from their trade agreement and would also, not surprisingly, benefit third countries. *Ex-post* studies are divided, however. Soloago and Winters conclude that Latin American countries do trade with each other disproportionately but when gravity variables are taken into account the formation of Latin American RTAs, including MERCOSUR, does not seem to have been accompanied by a larger than expected increase in intra-bloc trade.[30] In a 2001 paper, Cernat concludes that 'South-South' RTAs are not in general more trade-diverting than other RTAs. [31] He does find, however, that trade among MERCOSUR member countries more than doubled between 1994 and 1998, while extra-regional imports fell by more than a third, which suggests an overall trade-diverting effect. Carrillo and Li's gravity-model analysis of bilateral trade flows found that MERCOSUR's effect on intra-industrial trade was relatively small compared to the effect of other important variables.[32] Moreover, it has only affected a subset of product classifications. Indeed, after controlling for size and distance effects, the only remaining positive effect is in one capital-intensive sub-category. In sum, the consensus seems to favour a positive, but small impact of MERCOSUR on intra-regional trade.

A recent 'meta-analysis' by the World Bank looked at the impact of 19 different RTAs as illuminated by 17 separate research studies that had all used gravity-model techniques. The average impact on total trade was negative while the average impact on intra-regional trade was positive, which suggests a net trade-diverting effect. On the other

[28] See John Thornton/Alessandro Goglio, 'Regional Bias and Intra-regional Trade in Southest Asia', 9 (4) Applied Economics Letters 205 (2002).
[29] See Diao and Somwaru (2000).
[30] See Soloaga and Winters, above n 15. Similar results were confirmed by Frankel and Wei, above n 15.
[31] Cernat, Lucian. "Assessing Regional Trade Arrangements: Are South-South Rtas More Trade Diverting?" *Policy Issues in International Trade and Commodities Study Series* 16 (2001).
[32] Carrillo-Tudela, Carlos, and Carmen A. Li. "Trade Blocks and the Gravity Model: Evidence from Latin American Countries." *Journal of Economic Integration* 19, no. 4 (2004): 667-89.

hand, 'For both parameters there is a high degree of variance about the mean values'.[33] For example, although the average effect on overall trade was negative the effect was actually positive in 44 per cent of cases where results were statistically significant. Similarly, although the average effect on intra-regional trade was positive, in 18 per cent of statistically significant cases it was negative.[34] Results were not entirely random, however. 'In general, members of regional agreements that have been relatively open to imports have shown higher propensities to export to the global market than would otherwise be expected'.[35]

What of the future? What distorting effects could continued proliferation of RTAs have? The World Bank recently used the GTAP (Global Trade Analysis Project) of global trade to estimate the effects of several different possible scenarios for the global trading system over the next 10 years.[36] Compared to continuing multilateral liberalization, which produces a 0.8 per cent gain in world income, a scenario in which every country negotiates a bilateral free-trade deal with the Quad countries (the U.S., the E.U., Canada and Japan) increases world income by only 0.3 per cent, while such a scenario in which the large developing countries (such as Brazil, China and India) do not participate raises it by only 0.1 per cent. Moreover, although all regions share in the gains from multilateral liberalization, the gains from universal RTAs are mainly enjoyed by developed countries.

What is particularly intriguing is that according to the simulation results any developing country that could on its own negotiate a free-trade deal with the Quad would typically benefit—with gains varying from -0.1 per cent to 2.6 per cent of real income[37]—though only on the unrealistic assumption that it would be the only country to negotiate such an agreement. The proliferation of RTAs presumably has already shown that any such 'first-mover advantage' is fleeting. The World Bank authors conclude that multilateral liberalization is best. Few trade economists would disagree. On the other hand, the multilateral deal examined involves elimination of all 'merchandise trade distortions…domestic distortions in agriculture… [and] import quotas in the textile and clothing sectors'.[38] In view of the disappointing results of the Hong Kong ministerial in December 2005, this seems ambitious. A less ambitious deal presumably would give rise to smaller gains, which would reduce the opportunity costs of creeping bilateralism. On the other hand, bilateralism generally imposes costs compared to the status quo baseline, albeit not terribly large ones.[39] Whether recognition of the apparently perverse model results of widespread bilateralism—gains for rich countries, losses for poor—will persuade countries to re-double their Doha efforts time may tell.

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[33] World Bank, above n 1, in Box 3.2 at 62. The 19 studies examined provided a total of 254 estimates of the overall effect and 362 estimates of the internal effect.
[34] Authors' calculation based on ibid.
[35] Ibid, at 62.
[36] Ibid, 126-32.
[37] Ibid, Table 6.2, at 129.
[38] Ibid, at 128.
[39] On average, -0.1 per cent, with a maximum of -1.0 per cent to non-SACU sub-Saharan Africa. Ibid, Tables 6.1 and 6.2, at 128 and 129.

In sum, although results are mixed, the proliferation of RTAs does not yet seem to have created a world trading system dominated by trade diversion. In most agreements intra-regional trade does seem to have grown. On the other hand, it was often growing before preferential agreements were struck. And extra-regional trade has also grown, albeit possibly not as much as it would have without the proliferation of preferential deals.

B. Transactions costs

Imagine a world in which every country had a bilateral free trade agreement with every other country. Though all tariffs would be zero trade might yet be very difficult. Would-be multinational traders would have to familiarize themselves with many different sets of trading rules, including rules of origin. Such a world would be a boon to trade lawyers but seems likely to discourage trade by raising transactions costs. How much more convenient it would be if all countries had the same rules! Or, rather, to take a more scientific view, how much more convenient would it be if all countries had the same rules?

In estimating the transactions costs of the new regionalism it is important to be explicit on the point of comparison. If costs are compared to transactions costs as they would be in an end-of-the-rainbow world in which all tariffs were zero and non-tariff barriers had been eliminated, then it is true that in a multiple-RTA world costs might well be substantially higher. On the other hand, even in a perfectly liberalized world there would be national differences in habit, regulation, commercial practice and so on that exporters would have to familiarize themselves. The French presumably would continue to speak French and the Germans German for some time to come. And, despite Brussels' best efforts, in many respects they might well continue to regulate their economies in idiosyncratic ways. Such differences impose fixed costs on exporters that are part of the reason why small firms tend not to export.

In fact the end-of-the-rainbow world is not the point of departure. MFN tariffs are not generally zero. Exporters must familiarize themselves with a wide range of tariffs and non-tariff barriers as-is. The cost of doing business across borders is already substantial.[40] Would transactions costs in an RTA-riddled world be that much higher than in a world in which each nation-state established its own tariffs and ran a full set of non-tariff barriers? It may depend on the type and number of RTAs. Some RTAs—the European Union, for instance—bring several countries together under common trading rules and behind a common tariff wall. Trade within such RTAs may well involve *fewer* transactions costs than it used to. Indeed, reducing transactions costs so as to make trade easier within Europe has been a primary goal of the European Union. Moreover, in most cases RTAs accept GATT-WTO rules as their foundational law. Would-be traders into them will find themselves in familiar legal territory. If the WTO's 150 or so member-countries divided themselves up into 10 or 15 RTAs within each of which GATT-WTO rules held sway and tariffs were zero, multinational traders might well find this a more congenial

[40] The cost of a Barbie doll that retails for $US10 in the United States is just $US1 (quoted in Anderson and van Wincoop, above n 22, at 3.

arrangement than a world of 150 nation-states heading only slowly toward common rules and zero tariffs under the auspices of the WTO.

An obvious qualification to this optimistic reverie is that as things stand there are many more than 10 or 15 RTAs. Countries now commonly belong to several deals that are, by virtue of that fact, overlapping.[41] The existence of such overlap can be an important strategic consideration. Canada lobbied to join the proposed Mexico-U.S. Free Trade Area and turn it into NAFTA precisely in order to avoid a situation in which the United States had a free-trade deal with each of its immediate neighbours and thereby became the hub in a 'hub-and-spoke' arrangement. What is the effect of such overlap on transactions costs for traders? Where the Canadian tariff schedule once included only two or three columns—for MFN, General, and GSP countries—it now includes 11 different tariff rates, including the MFN rate.[42] On the other hand, although the proliferation of tariff rates clearly creates complications for academic economists wishing to know what 'the tariff' is on any particular good the difficulty facing would-be exporters into the Canadian market may not be that great. There is still just one tariff per exporting country and with the customs schedule available on the Internet it is very easy to discover. Granted, the likelihood that a given exporter will face a different tariff than competitors from other countries is now greater than when MFN trade was more dominant. But in deciding how effective competitors will be, the tariff rate is probably the easiest part of the calculation. Production costs in other countries and transportation costs to Canada are much harder to gauge. The same is true for multinational enterprises trying to decide from which country to export to Canada. There are more tariffs to choose from, yes, but the hard part of the calculation is the cost of producing the good and getting it to Canada.

Different tariff rates are not the only complication, of course. Free trade areas generally also involve rules of origin, which can be very complicated indeed, even if they, too, will often be available on the Web. Complying with the significant paper burden involved in such rules can impose substantial costs on businesses. On the other hand, in most cases the option is available to avoid the rules by paying the MFN tariff. In the late 1990s many firms trading between Canada and the U.S. chose that option.[43] Thus the damage done by the spaghetti-bowl effect may be limited. If MFN tariffs are not raised as part of any deal and if the default of paying the MFN tariff remains, then businesses may decide to suffer increases in transactions costs only if there is an offsetting commercial gain from doing so.[44]

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[41] As of 2005, the average country belonged to 5 preferential arrangements (Ibid, Table 2.1, at 30).

[42] Headed, respectively, United States Tariff, Mexico Tariff, Mexico-United States Tariff, Chile Tariff, Costa Rica Tariff, Canada-Israel Agreement Tariff, General Preferential Tariff, Least Developed Country Tariff, Commonwealth Caribbean Countries Tariff, Australia Tariff and New Zealand Tariff (see http://www.cbsa-asfc.gc.ca/general/publications/tariff2005/2005act-e.pdf, at 8).

[43] NAFTA take-up rates were as low as 55 per cent in some industries, although since U.S. MFN rates were zero on a third of industries the incentive to trade under NAFTA procedures was muted. See Danielle Goldfarb, 'The Road to a Canada-U.S. Customs Union: Step-by-Step or in a Single Bound?' *Commentary 184* (Toronto: C. D. Howe Institute June 2003), at 10. She argues that from the Canadian side the cost of NAFTA rules of origin is unlikely to be less than 0.5 per cent of the value of Canadian exports.

[44] There is also the more general qualification that, as noted above, many RTAs apparently are never fully implemented. The paperwork problem may therefore look worse than it is in fact.

Unfortunately, any conclusion on this question must be agnostic. The most comprehensive recent survey of trade costs by economists is by Anderson and Van Wincoop. A reader is impressed mainly by their account of the difficulty of making estimates. There are very serious gaps in data: "Direct measures of trade costs are remarkably sparse and inaccurate … The seemingly simple question "how high are policy barriers to trade?" cannot usually be answered with accuracy for most goods in most countries at most dates … The grossly incomplete and inaccurate information on policy barriers available to researchers is a scandal and a puzzle …'[45] Even if full information were available, the scale of the problem would be daunting. Counting countries, types of barriers and numbers of 'tariff lines' of products, 'tariffs and NTB's comprise some 10^5 lines, with large variation across the lines'.[46] Moreover, 'measuring the restrictiveness of each type of nontariff barrier requires an economic model'.[47]

Despite these difficulties, the World Bank has recently undertaken a very useful investigation of the costs of moving a typical 20-foot product container across borders.[48] A detailed questionnaire administered in 140 countries has produced data on the time and cost required for such things as 'trade document processing, approvals needed for import or export transactions, customs clearance, technical clearances, inland transport, terminal handling, and container security measures'.[49] The raw data suggest there are substantial differences across countries: 'For landlocked Zambia, for example, costs of trade-related transactions … amount to $4,616, compared with $969 in Côte d'Ivoire …' while 'Customs clearance times range from about 1 day for Hong Kong (China) and the Netherlands and 2 days for Ireland and Mauritius to 21 days for the Syrian Arab Republic and 25 days for Uzbekistan.'[50] In general, 'Institutional issues such as customs inspection and clearance, technical clearance, and document processing are among the most important factors in the cost and time of shipments, more important even than the physical condition of roads or rail.'[51]

Using the new data set, Hausman, Lee and Subramanian have constructed a summary 'logistics index' that helps explain trade flows in an otherwise standard gravity model. What would be very interesting for present purposes but has not yet been done is a study of how customs costs vary with the number of RTAs a country belongs to. If there is such a correlation, is it causal? Do the extra RTA memberships increase costs or are memberships and costs jointly determined in a process in which some other factor is key? Unfortunately, at the moment the literature has produced many more questions than answers. We evidently are some distance from being able to generalize about how much greater transaction costs may be in a spaghetti-bowl world than they are in a not-perfectly-liberalized WTO world.

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[45] Anderson and Van Wincoop, above n22, at 2, 5, and 2 fn1.
[46] Ibid, at 8.
[47] Ibid.
[48] See Warren Hausman/Hau L. Lee/Uma Subramanian, 'Global Logistics Indicators, Supply Chain Metrics, and Bilateral Trade Patterns,' World Bank Policy Research Working Paper 3773, November 2005.
[49] Ibid, at 6.
[50] Ibid, at 10.
[51] Ibid.

III. Why are there so many RTAs?

Economists' training teaches them to try to make testable hypotheses. Explaining a unique historical phenomenon such as the relatively sudden proliferation of PTAs in the 1980s and 1990s is not easy. The problem is not a paucity of possible explanations; the literature abounds with explanation. The problem is finding ways to decide among them. Anderson and Van Wincoop conclude their survey of trade costs thus: 'There is undoubtedly a rich relationship between domestic and international trade costs, market structure and political economy.'[52] Unfortunately, rich relationships are notoriously difficult to parse.

They go on: 'Some trade costs provide benefits, and it is likely that the pursuit of benefits partly explains the costs.'[53] We have no suggestions in that regard but in brief concluding comments offer one or two observations that rely on our knowledge of the Canadian case and which may or may not generalize to the multilateral context. First, although there are probably many reasons why Canada sought, negotiated and entered the *Canada-U.S. Free Trade Agreement (CUSFTA)*, including reasons having to do with particularities of the politics of the 1980s, a primary goal was anticipated economic efficiency gains from access to the larger U.S. market.[54] Canada sought the deal in the 1980s rather than the 1940s or 1950s because by then multilateral trade liberalization had reduced tariffs to a low enough level that although the gains from free trade were smaller so were the costs of adjustment.[55] By contrast, Canada entered the *North American Free Trade Agreement* largely for defensive reasons: it did not wish to become a spoke in a hub-and-spoke system centred on the United States. Its current serial negotiation of free trade areas is also largely a defensive reaction to the United States' decision to negotiate such deals. (Of the nine bilateral deals Canada has negotiated since 1991, six are with countries that also have agreements with the United States.) It certainly is true that having secured preferential access to what is by far its largest trading partner, Canada's enthusiasm for multilateral negotiations seems to have dimmed. Influential commentators can be found who argue that further multilateral liberalization, though desirable, is not urgent.[56] That probably was not true in the 1950s and 1960s, when liberalization with the U.S. was often secured through the GATT.[57]

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[52] Anderson and Van Wincooop, at 77.
[53] Ibid.
[54] See Michael Hart, *A Trading Nation: Canadian Trade Policy from Colonialism to Globalization* (Vancouver: UBC Press 2002) and G. Bruce Doern/Brian W. Tomlin, Faith & Fear: The Free Trade Story (Toronto: Stoddart 1991).
[55] Trefler argues that such gains were realized and that they amounted to a roughly six per cent increase in productivity in the Canadian manufacturing sector (see Daniel Trefler, ' …).
[56] See Michael Hart/Bill Dymond, 'The WTO Plays Hong Kong: So Little Accomplished by So Many,' Policy Options Politiques (February 2006). As they put it (at 11 and 12), 'The simple fact is that Canada's most basic economic interests are now inextricably bound up with those of the United States and can no longer be addressed multilaterally in the WTO…[T]he days are long past when the results of multilateral negotiations had a significant impact on the Canadian economy.'
[57] And it may not be a sound position now: multilateral negotiations do continue, if slowly. By contrast the NAFTA/CUSFTA is not regularly revisited.

The lack of enthusiasm for the WTO negotiations is not wholly a result of preferential arrangements with the U.S., however. Nor does it on its own explain the delays in the Doha Round. Problems in the WTO may be as much a cause as a consequence of regionalization. Although slow-moving negotiations do sometimes produce surprising and impressive results—witness the end of the Uruguay Round and the unexpected emergence of the WTO itself—they are also a spur to free-lancing. Quite apart from the growth of RTAs, there are perfectly understandable reasons why the WTO may no longer be the principal locus of liberalization. An organization with 80 contracting parties in 1986 had 149 members at the end of 2005. Moreover, these members are very disparate; those with established preferences come with a built-in resistance to liberalization; and their growing numbers have encouraged more assertive participation on their part. It is hardly surprising that an increasingly inclusive institution is an increasingly unwieldy institution. But then neither should it be surprising that the momentum for multilateral free trade should have stalled. Pushing back the extensive margin so dramatically may have calcified the intensive margin.

We close with a conundrum. Reviews of the growth of RTAs customarily conclude with recommendations for how further proliferation might be discouraged. Sometimes what is recommended is merely transparency. In other cases, there are suggestions for mechanisms that would allow for the re-writing or perhaps even over-ruling of RTAs. But if member-nations could summon the will to restrict RTAs in any meaningful way, would they not also have the political will to provide the multilateral liberalization that would make such action unnecessary?