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Lessons from the European Spaghetti Bowl

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Abstract

European economic integration fascinates and inspires for the way it brought peace to a continent torn by violent and long-standing rivalries. The lessons from Europe, however, cannot be applied directly as the degree of the European Union's supranationality is unthinkable elsewhere. This paper discusses how Europe overcame the specific problem of overlapping free trade agreements (FTAs) with the Pan-European Cumulation System which instituted common rules of origin, regional cumulation of value, and completed the full matrix of bilateral FTAs. After this, Europe had what can be thought of as a "customs union" for rules of origin.

JEL Classification: F15, F2

Contents

1. INTRODUCTION

European economic integration fascinates and inspires. It brought peace and prosperity to a Continent that had, until sixty years ago, engaged in almost continuous warfare for a millennium and a half.

The lessons from Europe, however, must be carefully handled. The centrepiece—the European Union (EU)—involves a degree of supranationality that few nations in the world would contemplate today. EU parliaments routinely have to pass laws their governments opposed since they were outvoted in the EU Council of Ministers. Every national court can be overruled by the EU Court as the EU law and the EU Court are supreme to national laws and courts in most areas of economic integration.

The lessons that this paper focuses on concern trade relations outside the EU27's border—the European but non-EU nations' ties with each other and with the EU. Here the EU's highly unusual supranationality plays only a supporting role, so the lessons drawn may be reasonable thought of as applying to Asia. There are valuable lessons to be learned. Regionalism in Europe today is governed by a remarkably coherent set of rules. But it has not always been that way.

Several times in the post-war period, shocks fragmented the European trade system. Each time, Europe tamed the tangle and restored consistency. The driving force behind this effort to multilateralize European free trade agreements (FTAs) had nothing to do with the blaze of idealism that accompanied the EU's birth in the 1950s. The force that has driven the region to maintain coherence in its trade relations is the cold, hard logic of international business. Europe's markets are too tightly integrated to allow fragmented trade agreements to persist. European business cannot tolerate such disorder for long and their governments react accordingly.

I have written elsewhere about early episodes where intra-European trade relations were tangled by shocks and then evolved to coherence (Baldwin and Wyplosz 2003, Chapter 1). In this paper, I focus on the most recent—the implementation of the Pan European Cumulation System (PECS), which was implemented in 1997.

The rest of the paper is organized in three sections after the introduction. The next, Section 2, provides the background on European regionalism before PECS and presents the main facts on PECS. Section 3 covers the basic economics of how changing rules of cumulation multilateralized Europe's tangle of FTAs and looks at the evidence the PECS actually worked. Section 4 considers the lessons for Asia.

2. How the European Spaghetti Bowl Developed and Was Multilateralized

Trade arrangements in Europe, which had been simple and effective from the mid-1970s, fell into disorder in the 1990s; a "spaghetti bowl" of FTAs arose. In explaining this tangle of agreements, it is useful to think of them as three bundles. West-West, East-West, and East-East arrangements (Figure 1).

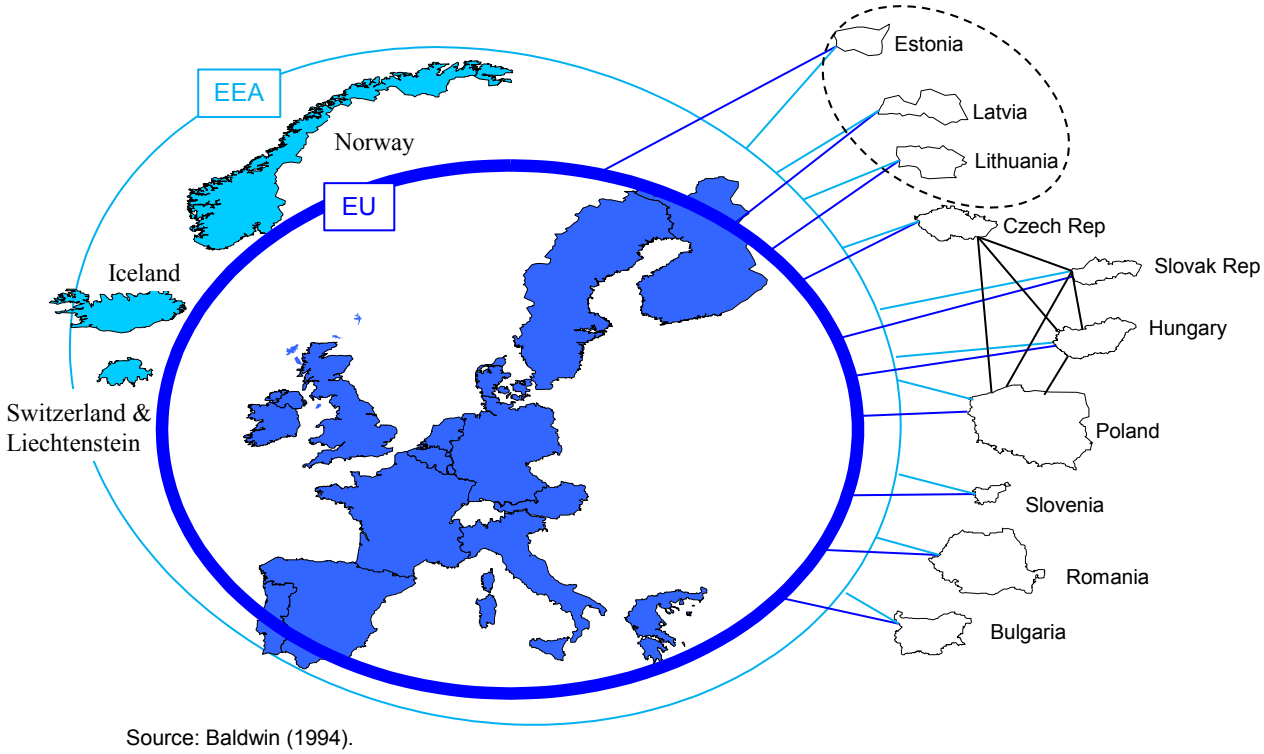
2.1 Creating the European Spaghetti Bowl

The harmonious West-West arrangements in the late 1980s could be thought of as "concentric circles". The inner circle was the EU. The outer circle included the European Free Trade Association (EFTA) nations—Switzerland, Norway, Liechtenstein, and Iceland—and the three EFTA countries that joined the EU in 1994—Austria, Finland, and Sweden. The inner circle was governed by the Treaties of Rome, which created very deep integration

among EU members—a depth that had been greatly augmented by the completion of the Single Market between 1986 and 1992. Trade among EFTA members was duty free due to EFTA's founding document, the Stockholm Convention. Trade between the EU and each EFTA country was duty free thanks to bilateral FTAs that the EU and each EFTA signed in the mid-1970s.

This concentric-circle integration was radically deepened with the European Economic Area agreement signed in 1994.[1] Outer-circle integration deepened to the Single Market level—i.e., the free movement (in principle) of goods, services, capital, and labor, and the inner-circle was, in 1992, deepened to include monetary union. As a result, workers in any nation located in the inner or outer circles had the right to work in any other nation in the system.

Figure 1: European Spaghetti Bowl, 1995



Source: Baldwin (1994).

The break-up of the Soviet Union and dissolution of its control over Central and Eastern European countries (CEECs) in the late 1980s is what triggered the spaghetti bowl. The EU reacted swiftly to the geopolitical events by providing emergency aid and loans to the fledgling democracies. The CEECs, however, wanted much more. They all announced that they wanted to join the EU as soon as possible. The EU, by contrast, was initially reluctant.

Instead of acknowledging the CEECs' interest in membership, the EU signed Association Agreements, commonly known as Europe Agreements, with Poland, Hungary, and Czechoslovakia in 1991. Europe Agreements for other CEECs followed, and by 1994, the EU had such deals with Romania, Bulgaria, Albania, Estonia, Latvia, and Lithuania. Due to the profound ambivalence that many EU members had concerning membership for the CEECs, the entry into force of the Europe Agreements was substantially delayed. For example, the Europe Agreements signed with Hungary and Poland in December 1991 entered into force only in February 1994.

[1] Swiss participation in the Single Market was arranged separately via the Bilateral Accords.

EFTA at the time paralleled the EU's moves—to avoid discrimination for their exporters. That is, the EFTA members signed their own bilateral agreements with each of the CEECs soon after the EU's bilateral agreements were completed. These agreements were fairly similar to the Europe Agreements in terms of economic integration.

The third aspect of the 1990s spaghetti bowl was the East-East deals. Some CEECs signed trade arrangements among themselves with the most important being the 1991 Central European Free Trade Agreement.

2.1.1 Political economy of ROOs and ROCs

The EU's hegemonic position meant the EU-CEEC bilaterals all had the same rules of origin and all imposed bilateral cumulation. The EFTA agreements also each had their own rules of origin and bilateral cumulation which were similar to, but not identical to, the EU rules of origin (ROOs). The ROOs for the East-East agreements were also different. Thus the distortions created by the preferences were exaggerated by ROOs and bilateral rules of cumulation (ROCs). This spaghetti bowl pattern did not emerge by mistake.

Rules of origin and/or exclusions and cumulation rules affect the fortunes of organized lobbies and so are influenced by the usual political economy considerations. The politically optimal structure of a given bilateral FTA depends upon the comparative advantages of the two nations and the particular political strengths of various interest groups at the time the deal is signed.

For example, EU producers in a given sector may be worried about competition from Czech producers, but not Polish producers. To protect themselves from this competition after the FTA, they can lobby the EU for restrictive ROOs that effectively exclude the product causing concern. Since such lobbying is expensive, EU producers focused on the most threatening products. Since the special interests driving this sort of protection vary across bilateral trade relationships, it is natural the ROOs will differ across bilateral trade agreements.

The political economy of bilateral cumulation is different. Take the example of the hub-and-spoke bilaterals that the EU signed with Hungary and Poland in the 1990s. Suppose the EU cloth industry competes directly with Polish cloth firms, and suppose the EU industry wins protectionist ROOs on cloth that forces all shirts imported duty-free into the EU market to be made either of EU cloth or of locally-produced cloth. When cumulation is bilateral, the ROO will force Hungarian shirt producers to switch from buying Polish cloth to buying EU cloth in order to get duty-free status for their shirts in the EU.

In this way, when protectionist ROOs are combined with bilateral cumulation, the result is higher profit for EU-based intermediate good producers (cloth makers in this case). The bilateral cumulation plus ROO acts like a Hungarian tariff on Polish cloth—a tariff that provides EU producers with an advantage in the Hungarian market. By contrast, diagonal cumulation—which would allow the Hungarian shirt-makers to use Polish cloth in meeting the ROOs—would not shift sales to EU cloth makers. The main point is that the same ROO can boost EU cloth-producers' profits much more when it is combined with bilateral cumulation. Of course, the bilateral cumulation harms the Polish cloth-makers, but they have little political economy leverage in the EU-Hungary FTA negotiations. In a nutshell, supply switching is the driving force behind bilateral-cumulation aspects of the spaghetti bowl.

2.1.2 How preferential?

The conclusions of the Uruguay Round led to progressive cuts in the EU's external tariffs, taking the average down from 8% to 5%. Even in 1995, however, the tariffs were quite low for the most heavily-traded goods. Nevertheless as Table 1 shows, the most-favored nations (MFN) tariffs were substantial in some sectors—the so-called sensitive sectors. In particular, the tariffs are high enough to make duty free trade worthwhile as the averages presented in the table hide substantial variations among tariff lines.

Table 1: EU Tariffs in 1995 (trade weighted by sector)

Sector	Mean	Sector	Mean
Food products	16%	Miscellaneous petroleum and coal products	4%
Beverages	11%	Rubber products	5%
Tobacco	42%	Plastic products	5%
Textiles	10%	Pottery china earthenware	11%
Wearing apparel except footwear	13%	Glass and products	7%
Leather products	5%	Other non-metallic mineral products	5%
Footwear except rubber or plastic	10%	Iron and steel	6%
Wood products except furniture	6%	Non-ferrous metals	6%
Furniture except metal	6%	Fabricated metal products	6%
Paper and products	9%	Machinery except electrical	5%
Printing and publishing	9%	Machinery electric	6%
Industrial chemicals	8%	Transport equipment	8%
Other chemicals	7%	Professional and scientific equipment	6%
Petroleum refineries	5%	Other manufactured products	6%
All goods (trade weighted)	8%		

Note: Tariff lines with zero tariffs are excluded from the sector averages.

Source: Adapted from Karacaovali and Limao (2007).

2.2 Taming the Tangle: PECS

The unsatisfactory state of trade relations in Europe lead policymakers to implement changes that multilateralized the spaghetti bowl. The Pan-European Cumulation System (PECS) was created in 1997 to multilateralize trade in Europe, specifically among EU, EFTA, and CEECs. PECS completed all three elements of multilateralization:

- Fill-in FTAs;

FTAs already existed between the EU and all the CEECs, and between the EFTA countries and the all the CEECs, so the main task here was filling in the missing FTAs among the CEECs themselves.

- Harmonize ROOs;

The rules of origin protocols of all the underlying FTAs were modified to have identical rules—a set of rules that is often called the EU's "Single List".

- Regionalize ROCs.

Under PECS, nations can source parts and components from within PECS without fear of the resulting product losing its origin status (and thus its right to duty-free treatment). This is known as diagonal cumulation and it is best thought of as a customs union of ROOs. Specifically, products which have obtained originating status in any PECS member can be counted as locally-produced when meeting subsequent rules of origin criteria.

Enlargement

PECS was extended to Turkey in 1999, and the EU promised in 2003 to extend it to nations with the Euro-Med bilaterals by 2010. Progress on extending PECS to Mediterranean nations has been very uneven to date (European Commission 2013).

Politics of PECS

To see what lessons PECS has for Asia, it is important to understand the political economy forces that brought PECS to life. The basic political economy logic is simple.

As the 1990s progressed, competition from low-wage nations mounted just as the cost of trading goods and ideas fell rapidly. In Europe, as had happened in East Asia since the mid-1980s, staying competitive required firms to scour the world for the cheapest inputs and often this entailed the establishment of complex supply networks in which components were shipped among many nations at various stages of processing. As part of this, EU firms often found it profitable to unbundle their manufacturing process and off-shore the production of some components to low-wage-low-productivity nations, such as those in Central Europe. The spaghetti bowl syndrome made it difficult to optimize manufacturing. Some final good have hundreds of intermediate inputs, some of which pass through several nations during their production. This made the spaghetti bowl syndrome a nightmare for many European businesses.

In short, the spaghetti-bowl syndrome teamed with the unbundling of the manufacturing process altered the array of political economy forces in Europe. Unbundling (also called fragmentation, or production sharing) and off-shoring from the EU meant that many EU firms that were previously protected by, or indifferent to, Europe's spaghetti bowl now became victims of the spaghetti-bowl rules. This political economy re-alignment ultimately led to a policy that reversed the spaghetti bowl.

Unbundling undermined political support for the spaghetti bowl in two distinct ways:

1. It weakened the demand for ROOs/cumulation protection since it reduced the size of the import-competing industry that was initially protected (typically low-wage-labor intensive sectors).

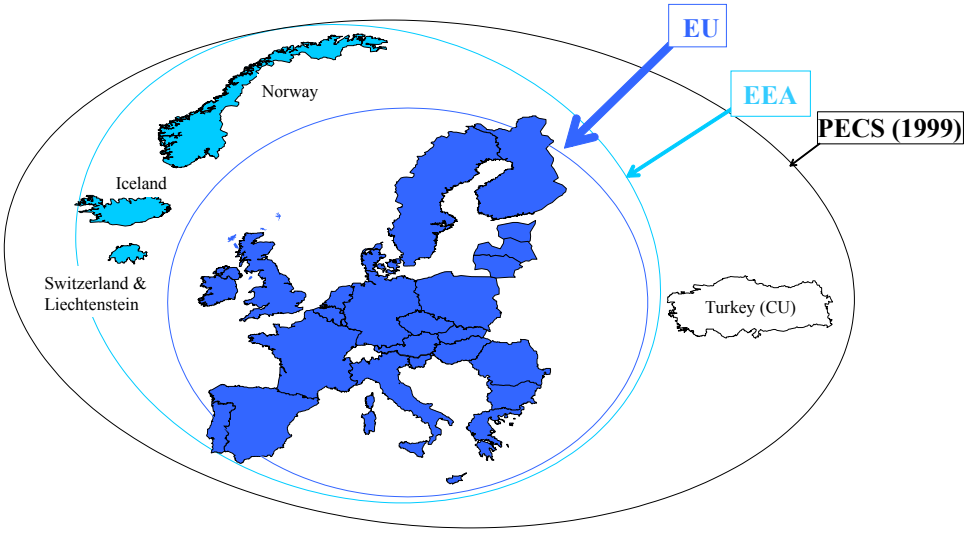
Some of the EU-based production that was protected by the rules of origin and bilateral cumulation shut down or moved off-shore in response to new opportunities (the opening of the CEECs and market reforms in Mediterranean economies, for example) and new competitive pressures (the emergence of the People's Republic of China, for example).

2. It raised the cost of supplying ROOs/cumulation protection since some of the EU firms that unbundled their manufacturing processes now had plants on the other side of the trade barriers.

In essence, unbundling meant that "us" became "them." Some of the EU firms that had lobbied for protectionist ROOs/cumulation in the early 1990s now became victims of those same policies.

Taking up the last point for closer inspection, it is useful to note that the spaghetti bowl harms the de-located EU firms in two ways. First, the bilateral cumulation in the EU's hub-and-spoke FTAs with the CEECs hindered the EU firms now based in the "spoke" economies from sourcing their inputs most efficiently. Taking up the example from above, recall that the EU shirt-maker had previously been unaffected by the EU's bilateral cumulation and ROOs on cloth (when the EU shirt-maker was located in the EU, the ROOs and bilateral cumulation had little impact). But when it moved some production to Hungary, the ROOs/cumulation "forced" it to buy from the EU even if Polish cloth was cheaper. Second, when the EU firm was located in Hungary, its shirts were subject to multiple ROOs. The EU-Hungary rules apply for the shirts it ships to the EU on one hand and the Hungary-Poland ROOs for its shipments to Poland on the other hand. Arranging production structures to satisfy two sets of ROOs is costly as is maintaining two sets of documentation necessary to obtain the two origin certificates.

Figure 2: PECS and European Multilateralization Circa 1999



CEFTA = Central European Free Trade Agreement; EFTA = European Free Trade Association; EU = European Union; PECS = Pan European Cumulation System; RoW = Rest of the World.

Source: Based on Baldwin and Wyplosz (2003).

3. Did PECS Tame the Tangle?

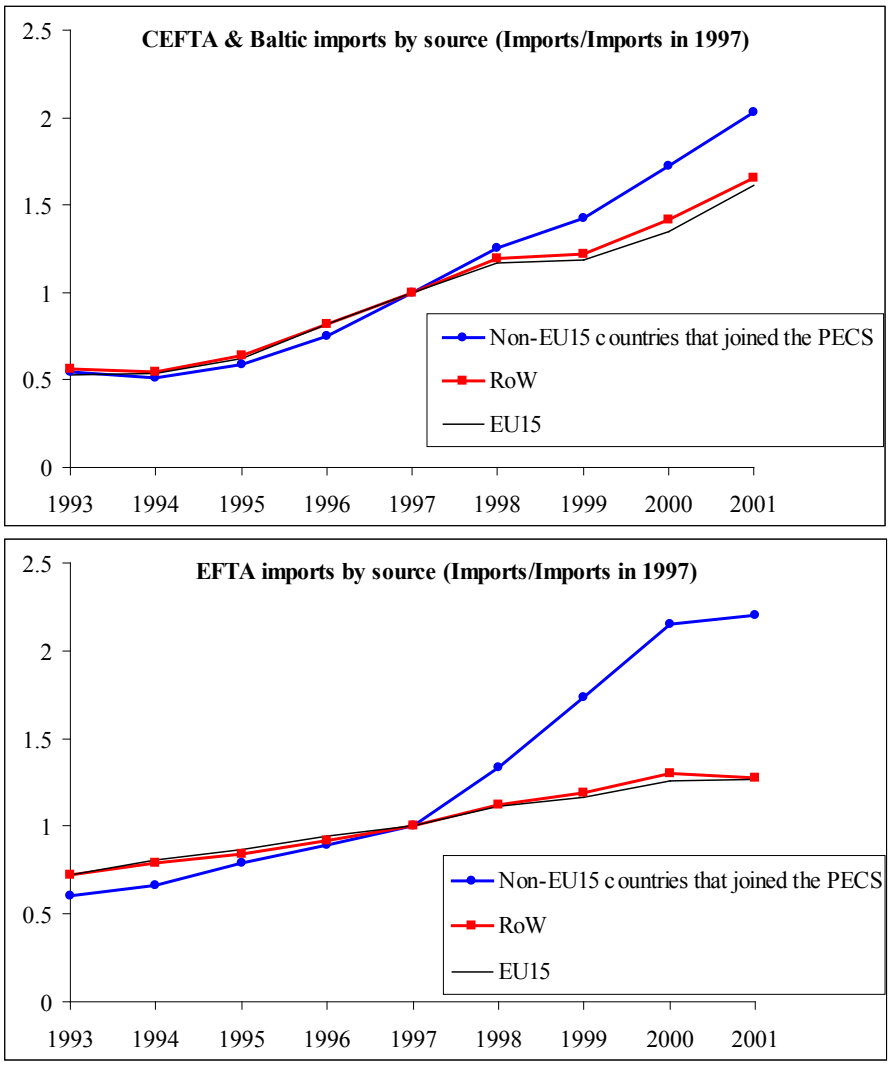
In a hub-and-spoke system like Europe's before PECS, a main economic impact of ROOs is to suppress trade among the spoke economies—in this case the Central and Eastern European nations and the EFTA countries. After all, the political economy motive for imposing strict ROOs is to either mitigate the liberalizing effect in the goods concerned (e.g., men's shirts) or to create new business for EU producers of intermediates (e.g., cloth for men's shirts). If PECS worked, the first order impact should be to encourage trade between the spokes.

This is indeed what happened, as Figure 3 shows. The charts show total imports relative to 1997 imports from three sources:

- the EU,
- the non-EU countries that joined the PECS, and
- the Rest of the World (RoW).

These ratios were calculated for each country separately and then averaged. The numbers show that joining PECS had a big impact. It is important to recall that all PECS members had duty-free trade with each other before 1997. What PECS changed was the ROCs, not the *de jure* tariffs. Both the CEECs and EFTA members had similar evolutions prior to 1997 for all three sources. After 1997, however, imports from non-EU PECS members shot up compared to the other sources. Plainly, there are many other factors, but the sharp change in 1997—the year in which PECS was introduced—establishes a clear prima facie case that PECS helped tame the tangle by reducing the distortion of trade in intermediate goods.

Figure 2: Prima Facie Evidence that PECS Worked



Source: Author's modification of data from Augier, Gasiorek, and Lai-Tong (2005).

Utilization rates

Another indicator of PECS's success is the relatively high utilization rates for Europe's free trade deals. The utilization rate most widely cited for intra-ASEAN trade is 5%, although there are indications that it has been up to 35% for Thailand in recent years. By contrast, European utilization rates are far higher as Table 2 shows. For the CEECs, more than 70% to 75% of the HS2 (Harmonised System at the two-digit level) digit groups have utilization rates at or above 50%. For the Mediterranean nations , who were not full members of PECS in 2001, the numbers are lower, but still quite high. This is particularly striking since the margins of preference in Europe are quite low in most goods due to the EU's low MFN tariffs on most goods.

Table 2: Distribution of Utilization Rates in Pan-Euro-Med Area, 2001

	% of the 96 two-digit sectors with utilization rates that are:		
	Above 25%	Above 50%	Above 75%
Czech Republic	81	70	38
Poland	86	70	46
Hungary	90	75	52
Egypt	73	58	43
Jordan	67	52	42
Morocco	81	67	46
Tunisia	78	64	48

Notes: The figures are based on tariff-line data; to summarize, products are grouped into HS2 groups and the utilization rates are calculated for each group that figures show the two-digit groups with utilization rates that are at or above the listed thresholds. For example, 86% of Poland's HS2 export groups have utilization rates above 25%.

Source: Augier, Gasiorek, and Lai-Tong (2005).

Econometric Evidence

The path-breaking paper in the empirical analysis of PECs is Augier, Gasiorek, and Lai-Tong (2005).[2] The conclusions of that paper are clear.

- The lack of cumulation before PECS impeded trade by between 10% and 50%, depending on the time period and group of countries concerned.
- In aggregate, PECS directly increased trade between the EU's spokes on the order of 19%.
- The lack of cumulation is more important with regard to intermediate trade than manufacturing trade.
- Higher MFN tariffs are associated with bigger effects of relaxing cumulation rules.

This analysis was path-breaking, but it had its limitations. For example, a key limitation was the aggregate nature of the analysis. To the extent that rules of origin and their cumulation matter, then this is likely to be at the individual industry or product level and is likely to affect countries differently.

A very recent paper, Bombarda and Gamberoni (2008), makes two substantial advances on the Augier, Gasiorek, and Lai-Tong (2005) paper. First, they work with data at the HS6 level (Harmonised System at the six-digit level, which has about 5,000 product categories). Second, they use the most recent advance in gravity model estimation, that of Helpman, Melitz, and Rubinstein (2008). This allows for trade policy changes to alter both the extensive and intensive margins, i.e., to allow a reform to change the number of HS6 categories that are traded as well as allowing variation in the amount of trade within each trade HS6 category. The also consider a number of interactions such as the stringency of ROOs and the tariff level.

They work with three panels of data: export from the hub (EU15) to the spokes, exports from the spokes to the hub, and exports among the spokes.

Hub-to-spoke exports. When it comes to hub-to-spoke exports, they confirm the expected result that stringent ROOs reduce trade, but have different effects on final and intermediate goods. An increase in the stringency of ROOs (as measured by a well-known index of ROO

[2] Full disclosure: I was the *Economic Policy* Managing Editor who handled this paper.

restrictiveness) leads to a 0.4% decrease in intermediate trade, while it increases by 1% the probability of exporting the final good. PECS reduced the probability of exporting a intermediate good but had the opposite effect on a final good, as expected.

Spoke-to-hub exports. As stringent ROOs with bilateral cumulation is expected to divert intermediate trade along bilateral lines, they find as expected, that stricter ROOs increase the probability that the spokes export to the EU15, by 1%. PECS, by contrast with the hub-to-spoke case, increases the probability of exporting both final and the intermediate goods as ROOs become stricter.

Looking more closely, they find evidence stringent ROOs distorted international supply chains. For the EU15, restrictive ROOs increased trade in final goods, while for spokes restrictive ROOs had a stronger impact on intermediate goods.

Comparing the hub-to-spoke and spoke-to-hub results on PECS's impact, they find that PECS resulted in a reorganization of intermediate supply sourcing. The total probability of the spokes exporting intermediate goods to the EU15 increased by 2%; the corresponding number for the EU15 fell.

This pattern is confirmed by looking at the spoke-spoke exports. PECS increased in both final and intermediate trade among spokes. Presumably, the impact on final exports came as the decrease in the price of the intermediate good made spoke producers more competitive in the EU market.

4. LESSONS FOR ASIA

What does all this mean for multilateralizing Asian regionalism?

The first point is that problems with ROOs can be overcome. In Europe, the problem was tackled by adopting common ROOs and allowing regional cumulation. The Association of Southeast Asian Nations (ASEAN) has adopted a similar plan with its ASEAN-wide ROOs and regional cumulation. The clear lesson from Europe's success is that the ASEAN practice should be spread to the whole region.

Given the lack of a regional hegemon and the rather modest leverage that ASEAN has over the trade giants in the region, this "do as ASEAN does" recommendation is probably impractical—although it is certainly a goal worth striving for.

The second lesson from Europe is that business is the main *demandeur* for taming the tangle—especially businesses involved in international production sharing. Since this is a hallmark of East Asian manufacturing, one might think that the need for coherence in the region would have already led to multilateralization along the lines of PECS. In fact, in the absence of a regional hegemon that could encourage/cajole nations into adopting a single list of ROOs, nations have unilaterally tamed the tangle of ROOs by making them irrelevant in the most heavily traded goods—mechanical and electrical machinery. They have done this by setting their applied MFN tariffs to zero or at least lowering them in line with preferential tariffs so as to avoid the emergence of significant margins of preference. This makes the tangle of ROOs irrelevant since it is not worth applying for preferential tariff treatment.

Of course, an alternative to harmonizing the ROOs and regionalizing ROCs is to eliminate preferences by cutting MFN tariffs to zero, or very low levels. From an economic efficiency perspective, this is an attractive option since it avoids artificially disfavoring suppliers from excluded nations. Moreover, this sort of solution can be implemented without strong coordination among nations, so it may also be the only politically-feasible solution. Finally, note that nations are free to cut their MFN-applied rates unilaterally, so there is no necessity for regional cooperation.

One idea would be for ASEAN to convene talks on an East Asian duty-free zone for all industrial goods—something like the Information Technology Agreement of 1997 but covering all industrial goods (with as few exceptions as politically possible). Given the importance of East Asia in global manufacturing, such an initiative might well trigger a worldwide free trade area in industrial goods. After all, if an East Asian industrial free trade zone looked likely to succeed, the United States and the EU would have to choose between joining or facing tariff discrimination.

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