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Chapter V: Rules of Origin: The Emerging Gatekeeper of Global Commerce

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Chapter V

RULES OF ORIGIN: THE EMERGING GATEKEEPER OF GLOBAL COMMERCE

Antoni Estevadeordal and Kati Suominen

Introduction

Preferential trading agreements (PTAs) have proliferated spectacularly around the world over the past decade.[44] The wave of PTA formation has carried with it a colourful mosaic of trade disciplines—such as provisions on market access for goods and services, standards, safeguards, government procurement, and investment—to govern economic relations between the PTA partners. Another central market access discipline embedded in virtually all PTAs is rules of origin (RoO). RoO are a powerful trade policy instrument arbitrating the market access of goods and reverberating to firms' export, outsourcing, and investment decisions around the world. Much like the several other commercial disciplines, they are hardly inconsequential given that more than a third of global commerce takes place within PTAs—and that RoO are still place even after the phasing out of preferential tariffs.[45]

RoO are also a central issue in many ongoing PTA negotiations, such as the 34-country talks to establish the Free Trade Area of the Americas (FTAA), and the European Union-Southern Common Market (Mercosur) negotiations to connect the world's two largest customs unions. The growing relevance of RoO in the global trading system is gaining attention at the multilateral level. In the context of the Doha Trade Round, the Committee on Regional Trade Agreements (CRTA) of the World Trade Organization (WTO) is for the first time raising preferential RoO to a systemic issue in the global trade negotiation agenda; meanwhile, the WTO Committee on Rules of Origin is making headway in its efforts to finalize the process of multilateral harmonization of non-preferential RoO.

The purpose of this paper is three-fold: (1) to enhance the understanding of the different types of RoO regimes currently employed in PTAs around the world; (2) to discuss the latest empirical evidence of the economic effects of RoO; and (3) to provide recommendations as to which RoO are most conducive to unfettered global trade and investment flows. The first section discusses the purposes of RoO. The second section lays out the different types of product-specific and regime-wide RoO, while the third section presents recent findings on the effects of RoO. Section four explores the broader policy implications of these findings. The fifth section analyses the different RoO regimes around the world. The final section puts forth policy recommendations.

[44] PTAs include free trade agreements, customs unions, common markets, and single markets. Some 250 PTAs had been notified to the World Trade Organization (WTO) by the end of 2002; of these, 130 were notified after January 1995 (WTO, 2003). The number of PTAs is expected to soar to nearly 300 by the end of 2005.

[45] When unilateral preferential schemes such as the Generalized System of Preferences (GSP) are accounted for, no less than 60 per cent of world trade is estimated to be conducted on a preferential basis. Importantly, the unilateral preferential programmes carry many of the same disciplines as PTAs.

I. Why Are RoO Needed?

There are two types of rules of origin: non-preferential and preferential RoO. Non-preferential RoO are used to distinguish foreign from domestic products for the purpose of applying several other trade policy instruments, such as anti-dumping and countervailing duties, safeguard measures, origin marking requirements, discriminatory quantitative restrictions or tariff quotas, and/or rules on government procurement.

Preferential RoO are employed in PTAs and in the context of generalized systems of preferences (GSP) to define the conditions under which the importing country will regard a product as originating in an exporting country that receives preferential treatment from the importing country. The economic justification for preferential RoO is to curb trade deflection—to avoid products from non-preference receiving countries from being transshipped through a low-tariff PTA or GSP partner to a high-tariff one. RoO are an inherent feature of free trade agreements (FTAs) where the member states' external tariffs diverge and/or where the members wish to retain their individual tariff policies vis-à-vis the rest of the world (ROW).[46] RoO would be unnecessary in a customs union (CU) with a common external tariff (CET) that covered the whole tariff universe. However, in practice, RoO are widely used in CUs, either as a transitory tool when moving toward the CET, or in those instances when a more permanent means of covering product categories where reaching agreement on a CET is proving to be difficult, for instance due to large tariff differentials between the member countries.

Given that preferential RoO can be an effective means to deter transshipment, they are sometimes used in efforts, which go beyond a desire to avert trade deflection. Often negotiated at up to 8- or 10-digit level of disaggregation, RoO, like the tariff, make a superbly targetable instrument. Moreover, the fact that RoO are generally defined in highly technical terms rather than assigned a numerical value means that they are not nearly as immediately quantifiable and comparable across products as the tariff is. Indeed, RoO are widely considered a trade policy instrument that can work to offset the benefits of tariff liberalization.[47] Most prominently, RoO can be employed to favour intra-PTA industry linkages over those between the PTA and the ROW, and, as such, to indirectly protect PTA-based input producers vis-à-vis their extra-PTA rivals (Krueger 1993; Krishna and Krueger 1995). As such, RoO can be akin to a tariff on the intermediate product levied by the importing country (Falvey and Reed 2000; Lloyd 2001), and used by one PTA member to secure its PTA partners' input markets for the exports of its own intermediate products (Krueger 1993; Krishna and Krueger 1995). In an en econometric study of the determinants of the restrictiveness of the RoO in the North American Free Trade Agreement (NAFTA), Estevadeordal (2000) shows that the same political economy factors that drive tariff protection also drive RoO; Suominen (2004) encounters similar evidence in the European Union's RoO regime.

[46] The Asia-Pacific Cooperation (APEC) forum is a prominent exception, with its members employing their respective domestic RoO (OECD, 2002). APEC is based on a principle of open regionalism—extending tariff preferences on an MFN basis—which renders the need for preferential RoO obsolete.

[47] Analysts' interest in RoO has surged over the past few years. See Krueger (1993); Krishna and Krueger (1995); Jensen-Moran (1996); Garay and Estevadeordal (1996); Stephenson (1997); Scollay (1997); Ju and Krishna (1998); Appiah (1999); Falvey and Reed (2000); Estevadeordal (2000); Duttagupta (2000); Duttagupta and Panagariya (2001); Lloyd (1997, 2001ab); Rodriguez (2001); Augier and Gasiorek (2002); Brenton and Manchin (2002); Cadot et al. (2002); Flatters (2002); Garay and Cornejo (2002); Hirsch (2002); Krishna (2002); Estevadeordal and Miller (2002); Estevadeordal and Suominen (2003, 2005ab); Suominen (2004); and contributions in Cadot et al. (2004).

What is more, stringent RoO can also be used to meet the political economy goal of extending protection to intra-PTA final goods producers that are not globally the most competitive ones yet intent on exporting to the PTA partner's market. Should the linkages between the different stages of production in the industry be tight, extra-PTA final goods producers would likely be hard-pressed to locate the approriate, RoO-prescribed components within the PTA and remain competitive vis-à-vis the intra-PTA producers in the PTA market. And even if extra-PTA firms were to locate in the PTA market via tariff-jumping "RoO-jumping", those producers with existing intra-PTA supply links would still have a "lead" until the new entrants' regional sourcing met the RoO (Graham and Wilkie, 1998). This also means that RoO can play a potent role in influencing the location decisions of prospective investors.[48]

II. Types of RoO

There are two types of rules of origin, non-preferential and preferential RoO. Non-preferential RoO are used to distinguish foreign from domestic products in establishing anti-dumping and countervailing duties, safeguard measures, origin marking requirements, and/or discriminatory quantitative restrictions or tariff quotas, as well as in the context of government procurement. Preferential RoO, meanwhile, define the conditions under which the importing country will regard a product as originating in an exporting country that receives preferential treatment from the importing country. PTAs, in effect, employ RoO to determine whether a good qualifies for preferential treatment when exported from one member state to another.

Both non-preferential and preferential RoO regimes have two dimensions: sectoral, product-specific RoO, and general, regime-wide RoO.

A. Product-specific RoO

The Kyoto Convention recognizes two basic criteria to determine origin: wholly obtained or produced, and substantial transformation.[49] The wholly obtained or produced-category applies only to one PTA member, and asks whether the commodities and related products have been entirely grown, harvested, or extracted from the soil in the territory of that member, or has been manufactured from any of these products. The RoO is met through not using any second-country components or materials. Most countries apply this strict and precise definition.

The substantial transformation-criterion is more complex, and involves four main components that can be used on a stand-alone basis or in combination with each other:

1. Change in tariff classification (CTC) between the manufactured good and the inputs from extra-PTA parties used in the productive process. The CTC may require the product to alter its chapter (2 digits under the Harmonized System), heading (4 digits), sub-heading (6 digits) or item (8-10 digits) in the exporting PTA member.
2. Exception attached to a particular CTC (ECTC). ECTC generally prohibits the use of non-originating materials from a certain subheading, heading, or chapter.
3. Value content (VC), which requires the product to acquire a certain minimum local value in the exporting country. The value content can be expressed in three main ways:

[48] Given that RoO hold the potential for increasing local sourcing, governments can use them to encourage investment in sectors that provide high value added and/or jobs (Jensen-Moran 1996; Hirsch 2002).
[49] The Revised Kyoto Convention is an international instrument adopted by the World Customs Organization (WCO) to standardize and harmonize customs policies and procedures around the world. The WCO adopted the original Convention in 1974. The revised version was adopted in June 1999.

as the minimum percentage of value that must have been added in the exporting country (domestic or regional value content, RVC); as the difference between the value of the final good and the costs of the imported inputs (import content, MC); or as the value of parts (VP), whereby originating status is granted to products meeting a minimum percentage of originating parts out of the total.

4. Technical requirement (TECH). TECH prescribes or prohibits the use certain input(s) and/or the realization of certain process(es) in the production of the good. It is a particularly prominent feature in RoO governing apparel products.

B. Regime-wide RoO

Besides product-specific RoO, RoO regimes vary by the types of general RoO—including in the degree of *de minimis*, the roll-up principle, and the type of cumulation:

1. *De minimis* allows a specified maximum percentage of non-originating materials to be used without affecting origin. The *de minimis* rule inserts leniency in the CTC and TECH criteria by making it easier for products with non-originating inputs to qualify.
2. The roll-up or absorption principle allows initially non-originating materials that have acquired origin by meeting specific processing requirements to be considered originating when they are used as inputs in a subsequent transformation.
3. Cumulation allows producers of one PTA member to use materials from another PTA member (or other members) without losing the preferential status of the final product. Bilateral cumulation operates between the two PTA partners and allows them to use products that originate in the other PTA partner as if they were their own when seeking to qualify for the PTA-conferred preferential treatment in that partner. Under diagonal cumulation, countries tied by the same set of preferential origin rules can use products that originate in any part of the common RoO zone as if they originated in the exporting country. Full cumulation extends diagonal cumulation. It provides that countries tied by the same RoO regime can use goods produced in any part of the common RoO zone even if these were not originating products: any or all of the processing carried out in the zone is calculated as if it had taken place in the final country of manufacture.

Whereas *de minimis*, roll-up and cumulation allow for leniency in the application of RoO, there are three provisions that may have the opposite effect and effectively increase the stringency of RoO, these are:[50]

1. A separate list indicating the operations which are considered insufficient to confer origin, such as preservation during transport and storage, as well as simple operations of cleaning, sorting, painting, packaging, assembling, and marking and labeling.
2. Prohibition on duty drawback — precluding the refunding of tariffs on non-originating inputs that are subsequently included in a final product that is exported to a PTA partner. Many developing countries employ drawback in order to attract investment and to encourage exports; however, drawback in the context of a PTA is viewed as providing a cost advantage to the PTA-based producers who gear their final goods to export over producers selling their final goods in the domestic market.[51] The end of

[50] To be sure, non-members to a cumulation area may view the cumulation system as introducing another layer of discrimination by virtue of its providing incentives to the member countries to outsource from within the cumulation zone at the expense of extra-zone suppliers.

[51] Cadot, de Melo and Olarreaga (2001) show that duty drawback may have a protectionist bias due to reducing the interest of producers to lobby against protection of intermediate products.

duty drawback entails an increase in the cost of non-originating components for PTA-based final goods producers. As such, the end of drawback in the presence of cumulation may encourage intra-PTA producers to shift to suppliers in the cumulation area (WTO, 2002).

3. A complex method of certifying the origin of goods can impose high administrative costs on exporters. The main certification methods are self-certification by exporters, certification by the exporting country government or an industry umbrella group to which the government has delegated the task of issuing the certificate, and a combination of the "private" self-certification and the "public" governmental certification. The more numerous the bureaucratic hurdles and the higher the costs for an exporter to obtain an origin certificate, the lower the incentives to seek PTA-conferred preferential treatment.

III. Effects of RoO: The latest empirical evidence

What, then, can the complex instrument of RoO do? The fact that RoO can be employed for distributive, political economy purposes does not automatically mean they divert resources from their most efficient uses. However, analysts of the potential trade effects of RoO have produced resounding evidence that RoO impose important administrative costs and increase production costs to parties applying them. Both types of costs introduce protectionist biases that undercut the unfettered flow of commerce. We consider each in turn.

A. Administrative costs

The administrative costs of RoO stem from the procedures required for ascertaining compliance with the requirements of the RoO regime. These are essentially book-keeping costs—first and foremost the costs for the exporter of certifying the origin of a good prior to its export to the territory of another PTA member—and the costs to the partner country customs of verifying the origin of goods. The different certification mechanisms impose divergent costs on firms; moreover, while in some countries certification is free of charge, in many the costs are hardly trivial. In Brazil, for instance, the cost of obtaining certification for a single shipment from a certifying agency is estimated to range between 6 and $ 20; in Chile, the cost is $ 7. Koskinen (1983) estimates the administrative costs for Finnish exporters under the European Community-European Free Trade Association (EFTA) FTA at 1.4 to 5.7 per cent of the value of export transactions.[52] Holmes and Shephard (1983) find the average export transaction from EFTA to the EC requires 35 documents and 360 copies.[53] Administrative costs are important even in regimes operating on self-certification: in a recent study, Cadot et al. (2002) disentangle NAFTA's non-RoO and RoO-related administrative costs, finding the latter to approximate two per cent of the value of Mexican exports to the US market. The verification costs of RoO to member governments have yet to receive empirical scrutiny; however, such costs could be expected to rise particularly for countries party to several complex and divergent RoO regimes.

[52] In another pioneering study, Herin (1986) puts the cost of obtaining the appropriate documentation to meet the RoO at three to five per cent of the FOB value of the good in the context of EFTA.
[53] Quoted in Herin (1986).

B. Production costs

The production costs of RoO arise from the various technical criteria imposed by the RoO regime. They start playing a role in trade flows when they encourage the use of intra-PTA inputs at the expense of extra-PTA ones even if the latter were cheaper—that is, when they increase the costs of intermediate goods for final goods producers from the pre-PTA levels. Should this occur, RoO could be expected: (1) to result in trade diversion in intermediates to the PTA area; and (2) to moderate the potential for a PTA to boost aggregate trade between the members due to raising the costs for final goods producers.

The pioneering empirical evidence supports these hypotheses. Estevadeordal and Suominen (2005b) and Suominen (2004) employ a 155-country gravity model spanning 21 years, and reached four conclusions. First, regimes with restrictive RoO and regimes with high degrees of sectoral selectivity discourage aggregate trade flows both around the world and among PTA partners. Second, restrictive RoO in final goods in the five examined sectors—chemicals, machinery, textiles, TV and radio transmitters, and vehicles—encourage trade in intermediate goods between the PTA partners. This implies that RoO can engender trade diversion in inputs to the PTA area from the rest of the world (ROW). Third, regime-wide RoO that allow for flexibility in the application of the product-specific RoO—such as cumulation, drawback, and self-certification—facilitate aggregate trade flows. As such, various regime-wide RoO provisions can counteract restrictive product-specific RoO's negative effects on trade, and thus help PTAs to live up to their promise of increased trade flows. Fourth, RoO are complex technical and complex instruments and require learning and adjustment. The ability of exporters to comply with stringent product-specific RoO and to take greater advantage of permissive regime-wide RoO improves over time.

Other, single-regime studies have reached similar results. Cadot et al. (2002), focusing on NAFTA, show that stringent RoO have undermined Mexico's aggregate exports to the United States.[54] Appiah (1999), also examining NAFTA but in a three-country, multi-sector Computable General Equilibrium (CGE) model, finds that RoO distort trade flows, diverting resources from their most efficient uses and undercutting global welfare. Augier, Gasiorek and Lai-Tong (2003) examined two different types of PTAs—one with RoO only and the other where the RoO regime permits diagonal cumulation—and found preliminary evidence that when there was no cumulation between countries, trade was up to 52 per cent lower than expected level of total trade. The impact was particularly notable in trade in intermediate goods.

IV. Policy implications of RoO's effects

The findings on the effects of RoO have five immediate policy implications. First, RoO can reduce the utilization rates of the PTA- or GSP-provided preferences. Estevadeordal and Miller (2002) documented "missed preferences"—i.e., utilization rates below 100 per cent—between the United States and Canada, which they attributed to the tightening of the pre-FTA RoO under NAFTA launched in 1994. Cadot et al. (2002) linked the 64 per cent utilization rate of NAFTA preferences to stringent RoO. Indeed, already in the context of the NAFTA predecessor, the US-Canada FTA, Canadian producers were reported to have opted to pay the tariff rather than going through the administrative hurdles to meet the RoO (Krueger 1995). In

[54] In January 1995, the US found a high compliance rate among the Mexican and Canadian exporters and producers on RoOs, or at 90 and 80 per cent, respectively (Reyna 1995: 37-38). In NAFTA, the United States played a key role in establishing the agreement's Uniform Regulations and RoO enforcement mechanisms.

recent studies, Brenton (2004) and Inama (2004) show that GSP RoO do play an important role in arbitrating the odds for developing countries to qualify for GSP treatment.

Second, from a legal standpoint, preferential RoO may breach Article XXIV of the General Agreements on Tariffs and Trade (GATT), which in paragraph 8(b) defines a free trade area as "a group of two or more customs territories in which the duties and *other restrictive regulations of commerce*...are eliminated on *substantially all* the trade between the constituent territories in products originating in such territories." [55] Indeed, the WTO has recently recognized RoO to be part of "other regulations of commerce" (ORCs); ambiguities remain as to the meaning of "substantially all the trade".[56] Since RoO have implications on the access of extra-PTA parties to the PTA market, they also risk violating paragraph 5 of Article XXIV, which prohibits PTAs from raising barriers toward the rest of the world from pre-PTA levels. The WTO Negotiation Group on Rules is in effect advocating a case-by-case analysis of the potentially restrictive effects of preferential RoO on extra-PTA parties (WTO 2002b).

Third, besides the short-run trade effects, RoO may in the longer run cause investment diversion. This occurs when extra-PTA final goods producers "jump" the RoO by locating plants within a PTA region in order to satisfy the RoO even if the PTA region was not the most optimal location for investment. RoO can also produce investment diversion within the PTA area.

This raises the question: should final goods producers be hard-pressed to locate appropriate components in the PTA area and remain competitive, they may simply choose to locate to the territory of the largest PTA market and the one with the lowest external tariffs—such as the United States in the context of NAFTA—and continue importing third-country inputs required for the final product.[57]

A second point is that producers located in the PTA member with the lowest production costs can be placed at a disadvantage when the RoO are based on RVC, which is easier to meet in PTA members with higher production costs. As such, RoO may encourage investment to a large hub country that may well be an inefficient producer, and perpetuate the hub given the agglomeration effects of foreign direct investment. Rodriguez (2001) shows formally that RoO can lead to distortions in production structures within the PTA area. To be sure, RoO-induced investment can also help counteract RoO's effects: should extra-PTA input producers locate to the PTA area to take advantage of higher rents, they could crowd the market, increase supply, and thus drive the price of inputs down. Estevadeordal, López-Córdova and Suominen (2004) strive to empirically capture RoO's investment effects, finding preliminary evidence that flexible RoO may indeed be conducive to FDI.

Fourth, besides restrictiveness of RoO, diversity among the great many RoO regimes populating the global trading system can place an additional brake on trade—and particularly so for small, less developed countries that are spokes to many different RoO systems. For such countries, the full benefits of their PTAs will materialize only when they both: (1) have customs that are well-equipped to verify the different RoO governing all of the RoO regimes;

[55] Italics added.
[56] See, for instance, WTO, 2002b.
[57] For example, a Mexican and a US firm selling at the US market and purchasing their inputs from outside the NAFTA region would be unequally treated under NAFTA, as the Mexican firm would be disadvantaged vis-à-vis the US firm by the former's failure to meet the RoO required to export to the US market (Graham and Wilkie 1998: 110).

and (2) tailor their production structures differently for each PTA market—which, however, can be highly problematic for small producers in small countries with narrow domestic outsourcing base.

Fifth, the relevance of RoO *per se* and their importance as a constraint on global commerce and investment thereby decreases with the lowering of MFN tariff barriers by PTA members. With the production and administrative costs imposed by RoO rising to unsustainably high levels, final goods producers would rather import their inputs from the ROW and sell their output at their home market than produce to the PTA partner's market at high input costs. However, the higher a PTA member's MFN tariff, the greater the preferential margin offered to its PTA (or GSP) partners, and thus the greater the willingness of firms in the partner countries to comply with the RoO, including to shift to intra-PTA inputs and furnish the certifying documentation—and for firms in non-PTA countries to engage in RoO-jumping foreign direct investment. Some analysts have suggested that the current overlapping of PTAs and RoO regimes should be accompanied by the principle of open regionalism, and/or replaced by customs unions or a hybrid arrangement between CU and FTA altogether, lest the benefits of preferential trade liberalization be lost.[58]

V. Rules of origin around the world

This section examines the wide variety of combinations of product-specific and regime-wide RoO used in selected PTAs in Europe, the Americas, the Asia-Pacific region, Africa, and the Middle East, as well as PTAs between these regions and continents. We subsequently discuss the structure of non-preferential RoO. Appendix I provides a detailed comparative mapping of the different RoO regimes.

A. Comparing the structure of RoO regimes in five regions

i. Expansion of the PANEURO system in Europe

In contrast to RoO regimes in Asia and, in particular, the Americas, RoO regimes employed across the EU's FTAs are highly consistent with one another. This is largely due to the European Commission's recent drive to harmonize the EU's existing and future preferential RoO regimes. Harmonization efforts have extended to the EU's RoO protocols dating back to 1972-1973 with the European Free Trade Association (EFTA) countries, as well as across the EU's FTAs forged in the early 1990s in the context of the Europe Agreements with Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Romania.[59] The work culminated in 1997 in the launch of the Pan-European (PANEURO) system, which established identical RoO protocols and product-specific RoO across the EU's existing FTAs, thereby providing for diagonal cumulation among the participating countries.[60] Overall, the PANEURO RoO are highly complex, combining CTC mainly at the heading level with exceptions, VC, and TECH, and varying markedly across products.

Since 1997, the PANEURO model has become incorporated in the EU's newer FTAs, including the Euro-Mediterranean Association Agreements, the Stabilization and Association Agreements with Croatia and the Former Yugoslav Republic of Macedonia, the EU-Slovenia

[58] See Bergsten (1997); Wonnacott (1996).
[59] See Driessen and Graafsma (1999) for review.
[60] The Commission's regulation 46 of January 1999 reiterates the harmonized protocols, outlining the so-call single list RoO.

FTA, as well as the extra-regional FTAs with South Africa, Mexico, and Chile. [61] Importantly, the EU's eastward enlargement on 1 May 2004 terminated the FTAs forged among the ten new member states and also between them and the EU. When these new EU member countries became incorporated in the EU customs union, they began to apply the EU's CET, with their overall external tariffs dropping from nine to four per cent, and also assumed the rights and obligations of the FTAs the EU had in place with non-member countries.

The RoO of the EU's generalized system of preferences (GSP) and the 2000 Cotonou Agreement with the African Caribbean, and Pacific (ACP) developing countries are similar to the PANEURO model. EFTA's recently concluded FTAs with Mexico and Singapore also follow the PANEURO model; however, the EFTA-Singapore RoO provide in many sectors—such as plastics, rubber, textiles, iron and steel products, and some machinery products—an alternative, 50 per cent VC RoO that either does not exist for a given product in the PANEURO model, or is in the PANEURO system set at lower and thus more demanding levels.

ii. The four RoO families in the Americas

There is much more variation across RoO regimes in the Americas. Nevertheless, distinct RoO families can be identified (Garay and Cornejo 2002). At one end of the scale, there are traditional trade agreements such as the Latin American Integration Agreement (LAIA), which, like the older Asian FTAs, use a general rule applicable across the board for all tariff items (change of heading level or, alternatively, RVC of 50 per cent). The LAIA model is the point of reference for RoO of the Andean Community (ANCOM) and Caribbean Community (CARICOM). At the other end of the scale are the so-called new generation PTAs such as NAFTA, which are used as a reference point for the recently signed US-Central America FTA (CAFTA), as well as for the US-Chile, Mexico-Costa Rica, Mexico-Chile, Mexico-Bolivia, Mexico-Nicaragua, Mexico-Northern Triangle (El Salvador, Guatemala, and Honduras), Chile-Canada, and Mexico-Colombia-Venezuela (or G-3) FTAs. The RoO regimes in these agreements may require a change of chapters, headings, subheadings or items, depending on the product in question. In addition, many products combine the change of tariff classification with an exception, regional value content (RVC), or other technical requirements. The NAFTA model, particularly the versions employed in the US-Chile FTA and CAFTA, is also widely viewed as the likeliest blueprint for the RoO of the Free Trade Area of the Americas (FTAA).

Mercosur RoO, as well as RoO in the Mercosur-Bolivia and Mercosur-Chile FTAs, fall between the LAIA-NAFTA 'extremes'. They are mainly based on change of heading and different combinations of RVC and technical requirements. The Central American Common Market's (CACM) RoO regime is placed between the two Mercosur and NAFTA models: it mainly uses changes in tariff classification only, but in more precise and diverse ways than Mercosur because of the changes that can take place at the chapter, heading, or subheading

61 Overall, however, the harmonized RoO do not represent a dramatic break with those which existed in the period before 1997. For example, the RoO in nearly 75 per cent of the products (in terms of tariff subheadings) in PANEURO and the original EU-Poland RoO protocol published in 1993 are identical. Both the new and the old versions combine CTC with VC and/or TECH. Indeed, EU RoO feature remarkable continuity: the RoO of the European Community-Cyprus FTA formed in 1973 are strikingly similar to those used today. One notable difference between the older and newer protocols is that the latter allow for an optional way of meeting the RoO for about 25 per cent of the products, whereas the former mainly only considers one way of meeting the RoO. The second option, alternative RoO, which is similar to the first option RoO, combine different RoO criteria; however, the most frequently used alternative RoO is a stand-alone import content criterion.

levels, depending on the product in question. In some products, CACM introduces exceptions; a handful of products are also governed by RVC or technical requirements.

Notably, unlike the EU's extra-European FTAs that follow the PANEURO system, US bilateral FTAs with extra-Hemispheric partners — Jordan and Israel — diverge markedly from the NAFTA model, operating on VC alone. However, the RoO of the US-Singapore FTA are again more complex, resembling the NAFTA RoO. Similarly, the RoO of the recently forged Chile-South Korea FTA also feature a high degree of sectoral selectivity in the same manner as NAFTA, and, indeed, resembles the US-Chile FTA RoO. Nonetheless, the RoO of the Chile-Korea regime are overall less complex than either NAFTA or US-Chile RoO, and also more reliant on the change in heading criterion than NAFTA, which has an important change in chapter-component, and the US-Chile FTA, which features an important change in subheading-component.

iii. Toward sectoral selectivity in Africa, Asia, Middle East?

The relative complexity of RoO in Europe and the Americas stands in contrast to the generality of RoO in many Asian, African, and Middle Eastern PTAs. Some of the main integration schemes in these regions — the ASEAN Free Trade Area (AFTA), Australia-New Zealand Closer Economic Relations Trade Agreement (ANZCERTA), Singapore-Australia Free Trade Agreement (SAFTA), and South Pacific Regional Trade and Economic Cooperation (SPARTECA) in the Asia-Pacific; the Economic Community of West African States (ECOWAS), Common Market for Eastern and Southern Africa (COMESA), and Namibia-Zimbabwe FTA in Africa; and the Gulf Cooperation Council (GCC) in the Middle East — are based on an across-the-board VC rule that, when defined as RVC, ranges from 25 per cent (in the case of the Namibia-Zimbabwe FTA) to 50 per cent for ANZCERTA. Some of the agreements allow, or, indeed, require, RoO to be calculated on the basis of import content. Most of these regimes also specify an alternative RoO based on the CTC criterion; most often the alternative involves a change in heading or, in the case of ECOWAS that has a relatively low RVC requirement of 30 per cent, a change in subheading.

Recent RoO regimes in both Africa and Asia-Pacific have RoO with high degrees of sectoral selectivity. The Southern African Development Community (SADC) RoO is similar to the PANEURO model both in the *types* of sectoral RoO and in the degree of selectivity. In Asia, the RoO of the Japan-Singapore Economic Partnership Agreement (JSEPA) are also complex, as demonstrated by the more than 200-page RoO protocol. However, much like in the Chile-Korea FTA, nearly half of JSEPA RoO are based on a simple change in heading-criterion, which makes the regime much less complex when compared with the PANEURO and NAFTA models. Furthermore, JSEPA introduces an alternative, usually PANEURO-type, free-standing VC rule for many products and thereby instills generality and flexibility to the agreement.

The intercontinental RoO regimes of the US-Singapore and Chile-Korea FTAs have created an additional layer of complexity with Asia-Pacific RoO; this is because these agreements tend to follow the NAFTA model but are less complex and feature a strong change of heading component. The future Mexico-Singapore, Canada-Singapore, Mexico-Korea, Mexico-Japan, and US-Australia FTAs, among others, will likely compound this trend. Meanwhile, further European overtures to the Asian front will likely bring the PANEURO model to accompany the NAFTA model in the region. The EFTA-Singapore FTA attests to that; however, importantly and much like in JSEPA, the standard PANEURO package in the FTA is accompanied by the flexible, alternative import content RoO. Further intra-regional FTAs in

the Asia-Pacific—such as between Japan and Korea, Japan and the Philippines, Korea and Singapore, and between ASEAN on the one hand, and China, Japan, and/or Korea, on the other — will allow to determine whether a genuinely Asian RoO model is emerging. Judging by JSEPA, the model may carry notable sectoral selectivity, but will most probably be simpler and more general than either the EU or the NAFTA RoO regime. The future FTA between India and Singapore could bring further novel features to Asian RoO.

B. Non-preferential RoO

Non-preferential RoO are used for purposes distinct from those of preferential rules. Even if a country does not use preferential RoO, it would still apply to some types of non-preferential RoO. Unlike preferential RoO which have thus far escaped multilateral regulation, non-preferential RoO have been undergoing a process of harmonization since 1995 in line with the mandate provided by the Uruguay Round's Agreement on Rules of Origin (ARO). The harmonization work, launched following growing concerns about the effects divergent national RoO's on unfettered trade flows, has been carried out under the auspices of the Committee on Rules of Origin (CRO) of the World Trade Organization (WTO) and the Technical Committee on Rules of Origin (TCRO) of the Brussels-based World Customs Organization. The latter has been responsible for the technical part of the work, including discussions on the RoO options for each product.

The harmonization drive was initially scheduled for completion by July 1998. However, the deadline has been extended several times since then. The Technical Committee's work was concluded in 1999, with about 500 pending issues that could not be solved at the technical level being sent to the CRO in Geneva. As of July 2003, a solution to 94 core policy issues had not been found at the WTO; these affect an estimated fifth of the tariff subheadings of the entire tariff universe. The General Council at the time extended the deadline for completion of the issues to July 2004, and agreed that following resolution of these core policy issues, the CRO would complete its remaining work by the end of 2004. As they are currently structured, non-preferential RoO are similar to the PANEURO and NAFTA models in sectoral specificity, yet are less demanding than either of these two main RoO regimes. However, as several issues are still being contested at the WTO, the final degree of complexity and restrictiveness of the non-preferential RoO remains to be gauged. What is already clear, however, is that the definition of the non-preferential RoO is driven by similar political economy considerations such as the crafting of preferential RoO; indeed, the harmonization work can, in part, be considered endogenous to the RoO regimes that already exist in the numerous PTAs around the world.

VI. Conclusion: policy recommendations

While RoO are not necessarily bad for sound economic decisions, demanding and inflexible RoO can be. Furthermore, the existing differences in the product-specific and regime-wide RoO *across* the different RoO regimes can even in a simplified bi- or tripolar RoO world make a difference in economic decisions and limit the opportunities for exporters to expand into new markets.

How can the potential frictions created by stringent RoO and cross-regime differences in RoO be reduced? How can entrepreneurs import inputs from the cheapest sources, firms exploit cross-border economies of scale at lowest costs, and multinational companies make sweeping investment decisions based on economic efficiency rather than distortionary policies? What

are the best ways to counter the development of trade- and investment diverting hubs in favour of globally free flow of goods, services, and investment?

Abolishing RoO altogether represents the best and simplest means to counteract the impact of RoO. Another way to relegate RoO to irrelevance is by bringing MFN tariffs to zero globally. However, since these options are hardly politically palatable in the near future, a third possibility is to harmonize preferential RoO at the global level. This, at least, has the merit that required production methods in a given sector would remain similar across export markets. Measures to accompany the harmonization work could involve: (1) the incorporation of the various mechanisms of flexibility to RoO regimes during the transition to a global RoO regime;[62] and (2) the establishment of a multilateral mechanism to monitor the implementation by member states' of preferential and non-preferential RoO in order to pre-empt politicization of, and/or a lack of transparency in, the application of RoO, particularly in the importing countries customs.

What are the prospects for harmonization of preferential RoO? [63] To be sure, it is not a simple task given the differences in the types of RoO around the world. Even slight differences can be difficult to overcome because of the political resistance by sectors benefiting from the *status quo*. It is likewise not clear whether a strong global exporter lobby would materialize to voice demands for harmonization. Perhaps most importantly, both the EU and the US are, in principle, reluctant to adopt each other's RoO. Both parties are concerned about the prospect of their counterpart striving for a RoO regime which would allow it to transship via the parties' common PTA partners, such as Mexico, to the other party's market.
However, adopting a globally uniform preferential RoO regime is not necessarily all that daunting. There are three reasons for optimism.

First, WTO members have already been able to sit down and compromise on harmonized non-preferential RoO; this not only evinces a reservoir of political will to tackle RoO, but also provides an immediately available blueprint for harmonizing preferential RoO. And not only are non-preferential RoO negotiated and readily available as a model, but they make a good model: overall, they are less restrictive and complex than either the NAFTA- or PANEURO-type RoO.

Second, preferential RoO would likely prove easier to negotiate than non-preferential RoO. Non-preferential RoO involve tracking the production process all the way to the country in which the goods originate, while preferential RoO simply require that the final exporter country is also the country of origin: the goods either originate — or not — in the PTA area, with the "true" and very initial origin being immaterial. As such, non-preferential RoO talks likely engage a greater number of interested parties to contest a given rule than would be the case in preferential RoO.

Third, the WTO's growing attention on PTAs in general and preferential RoO in particular, should generate constructive proposals as to the types of RoO that are most conducive to the unfettered global flow of commerce. The concomitant growing interest by policy analysts and academia in RoO only adds to our understanding of the operation and effects of the different types of RoO and RoO regimes.

[62] See Suominen (2004a) and Estevadeordal and Suominen (2004c) for details.
[63] See Suominen (2004a) for details on the prospects of concluding the harmonization of non-preferential RoO.

Harmonization of preferential RoO and efforts to formulate a flexible regime model currently provides the most attainable means to counteract RoO's potential negative effects on global trade and investment. Doha Trade Round negotiators should decisively tackle RoO as a distortionary trade and investment policy instrument by:

- Providing a forceful push for the completion of the task of harmonizing non-preferential RoO. Completing the harmonization process is all the more compelling in the face of the growth of global commerce and the increased fragmentation of global production, both of which would thrive under a clear and uniform set of rules.
- Launching a process of de jure harmonization of preferential rules of origin. The relatively demanding RoO of the main RoO regimes and the differences between regimes place unnecessary policy hurdles to rational economic decisions, thereby limiting the opportunities for exporters to operate on multiple trade fronts simultaneously, as well as hampering consumers' access to the best goods at the lowest prices.
- Constructing a multilateral mechanism to monitor and enforce the transparent application of both preferential and non-preferential RoO.

To be sure, preferential RoO matter only as long as there are MFN tariffs. Thus, the ultimate key to counteracting the negative effects of preferential RoO's lies in the success of multilateral liberalization. If multilateral trade rounds result in a substantial decrease in MFN tariffs and the proliferation of PTAs help to engender competitive liberalization worldwide, there would be no further need for preferential RoO as "gatekeepers" of global commerce.

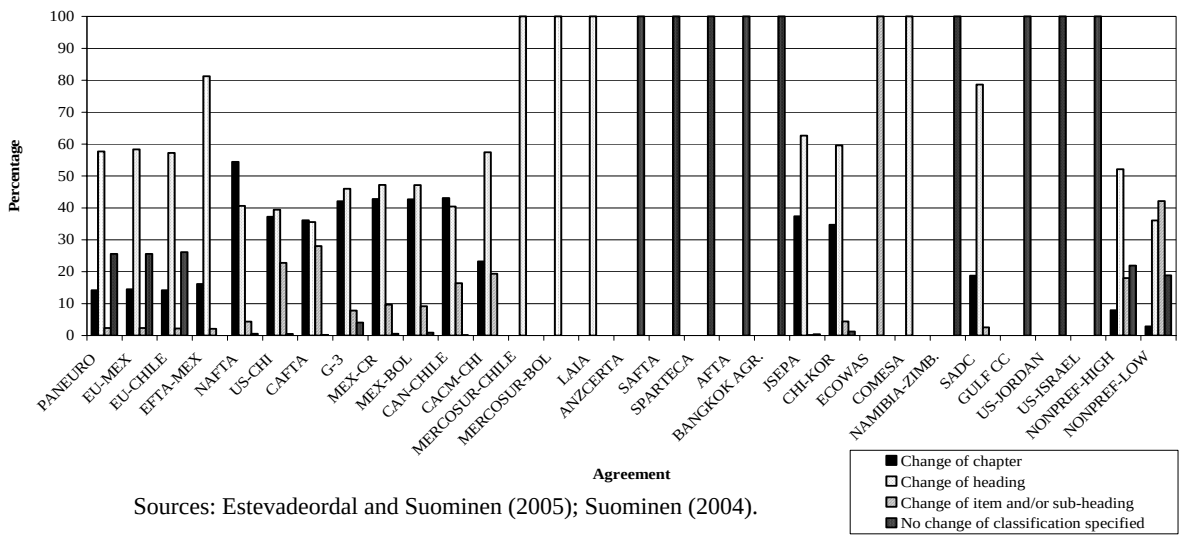
APPENDIX I

Depicting RoO around the World

A. Product-specific RoO

Figure 1 focuses on the first RoO component, the CTC criterion, in the RoO regimes of 28 PTAs around the world. These are three of EU's PTAs (PANEURO — where the RoO are basically fully identical to those of the EU-South Africa FTA — and the EU-Mexico and EU-Chile FTAs); EFTA-Mexico FTA where RoO approximate the EU-Mexico RoO model; seven FTAs drawing on the NAFTA RoO model that is gaining prominence in the Western Hemisphere (NAFTA, US-Chile, US-Central America, Group of Three, and Mexico-Costa Rica, Mexico-Bolivia, and Canada-Chile FTAs); CACM-Chile FTA; Mercosur-Chile and Mercosur-Bolivia FTAs; LAIA; seven PTAs in Asia-Pacific (ANZCERTA, SAFTA, SPARTECA, AFTA, Bangkok Agreement, JSEPA, and Chile-Korea FTA); four PTAs in Africa (ECOWAS, COMESA, Namibia-Zimbabwe FTA, and SADC); the Gulf Cooperation Council in the Middle East; and US extra-hemispheric FTAs with Jordan and Israel. The two final sets of bars depict two potential outcomes of the harmonization process of the non-preferential RoO (as set to their "lowest" and "highest" levels of stringency, which will be discussed in the next section).[64]

Figure 1
Distribution of CTC Criteria by Agreement



Sources: Estevadeordal and Suominen (2005); Suominen (2004).

The change of heading-criterion dominates EU RoO, whereas RoO modeled along the lines of the NAFTA RoO regime are based on the change of heading and change of chapter criteria at relatively even quantities. The US-Chile FTA and CAFTA stand somewhat apart from the NAFTA format as they only requiring change in the subheading of a substantial number of tariff lines. Meanwhile, the Chile-CACM FTA diverges from the NAFTA model due to its marked change in heading-component, as do the Japan-Singapore and Chile-Korea FTAs. The other Asian PTAs which are considered also stand out as they use an across-the-board VC preferential requirement exclusively. With the exception of the SADC, African RoO regimes are also characterized by a general, across-the-board CTC RoO, as are LAIA and Mercosur's

[64] The figure is based on the first RoO only when two or more possible RoO are provided for a tariff subheading.

FTAs with Chile and Bolivia that employ the change of heading-criteria across the RoO universe. In contrast to the PANEURO and NAFTA models, non-preferential RoO feature also a prominent change of subheading-component.

Another notable difference between the various PTAs is that some, such as ANZCERTA, employ the VC criterion across sectors, completely foregoing the use of the CTC-criterion. The EU does this in about a quarter of its RoO; the bulk (more than 80 per cent) of them are based on the wholly-obtained criterion used particularly in agricultural products, or on the import content-rule that imposes a ceiling of 40-50 per cent to non-originating components of the ex-works price of the final product. The stand-alone import content RoO are used particularly frequently for optics, transportation equipment, and machinery and electrical equipment. Another idiosyncrasy of the EU RoO, but not included in the figure, is the use of the so-called "soft RoO" in more than a quarter of the RoO requiring a change of heading and about a sixth of the RoO requiring a change of chapter. Soft RoO allows the use of inputs from the same heading (or chapter) up to a certain share of the price of the final product even when the RoO requires a change of heading (or change of chapter). The share is generally between five and 20 per cent.

Table 1 presents on the tariff subheadings governed by VC (including combinations of VC with CTC, and VC when employed as an alternative to a CTC criterion) in various RoO regimes, and, in particular, on the level of the VC criterion. The VC level usually stands at between 40-50 per cent, whether defined as MC or RVC. However, in the US-Chile FTA, CAFTA, and Chile-CACM FTA, RVC is generally set at the lower levels of 30-35 per cent; conversely, for some products in the PANEURO and SADC regimes, the permitted value of non-originating inputs of the price of the final product is as low as 15-30 per cent. Table 1 also displays the various bases for calculation of the VC. Differences in the method of calculation can have crucial implications to the exporters' capacity to meet the RoO. The PE model that is separated here for analytical purposes essentially involves the same product-specific RoO as PANEURO, while diverging somewhat from the PANEURO in the regime-wide RoO. It also applies to a handful of European FTAs, particularly those arranged by the EU and East European countries with Israel (WTO 2002a).

Capturing the full scale of variation in the RoO regimes requires a look at the various combinations of RoO components. Table 2 displays the RoO combinations in selected FTAs around the world. It considers the entire tariff universe in each RoO regime, and shows the percentage shares of all possible RoO types and combinations thereof in each regime. Particularly notable is the high degree of selectivity of PANEURO, NAFTA, and non-preferential RoO.

Table 1
VC Criteria by Agreement

PTA	Value Content Criterion (%)		Basis for Calculation
	MC	RVC	
PANEURO	50-30		Ex-works price[i]
PE	50-30		Ex-works price
EU-South Africa	50-30		Ex-works price
EU-Mexico	50-30		Ex-works price
EU-Chile	50-30		Ex-works price
EFTA-Mexico	50-30		Ex-works price
NAFTA		50-60	50 net cost; 60 transaction value[ii]
US-Chile		35-45	35 build-up; 45 build-down[iii]
CAFTA		35-45	35 build-up; 45 build-down
Canada-Chile		50-60	50 net cost; 60 transaction value
G-3		50-55[iv]	Transaction value
Mexico-Costa Rica		41.66-50	41.66 net cost; 50 transaction value
Mexico-Bolivia		41.66-50	41.66 net cost; 50 transaction value
Mexico-Chile		40-50	40 net cost; 50 transaction value
CACM		N/A	Transaction value
CACM-Chile		30	Transaction value
Mercosur	40	60	Fob export value[v]
Mercosur-Chile	40		Fob export value[vi]
Mercosur-Bolivia	40		Fob export value
Andean Community	50[vii]		Fob export value
Caricom-Dom. Rep.		N/A	Transaction value
LAIA	50		Fob export value
ANZCERTA		50	Factory cost[viii]
SAFTA		30-50	Factory cost
SPARTECA		50	Factory cost
AFTA		40	Value of content
Bangkok Agreement		40	Ex-works[ix]
Japan-Singapore	40	60	Export value[x]
US-Singapore		30-65	30-35 build-up; 45-65 build-down
Chile-Korea		30-45	30 build-up; 45 build-down
COMESA	60	35	60 value of materials; 35 ex-factory cost[xi]
ECOWAS		30	Factory cost
Namibia-Zimbabwe		25	N/A
SADC	70-35		Ex-works price
Gulf Coop. Council		40[xii]	Ex-works price
US-Jordan		35	Value of materials/processes[xiii]
US-Israel		35	Value of materials/processes
Mexico-Israel		35-45	35 net cost; 45 transaction value
Non-preferential RoO	60-40		Ex-works price

Sources: Estevadeordal and Suominen (2005); Suominen (2004).

[i] Ex-works price means the price paid for the product ex works to the manufacturer in the Member States in whose undertaking the last working or processing is carried out, provided the price includes the value of all the materials (the customs value at the time of importation of the non-originating materials used, or the first ascertainable price paid for the materials in the member state concerned) used, minus any internal taxes which are, or may be, repaid when the product obtained is exported.

[ii] The transaction method is:
RVC = (TV - VNM/TV) x 100, where
RVC is the regional value content, expressed as a percentage;
TV is the transaction value of the good adjusted to a FOB basis; and
VNM is the value of non-originating materials used by the producer in the production of the good.
The net cost method is
RVC = [(NC – VNM)/NC] x 100, where
RVC is the regional value content, expressed as a percentage;
NC is the net cost of the good; and
VNM is the value of non-originating materials used by the producer in the production of the good.

[iii] The build-down method is
RVC = [(AV - VNM)/AV] x 100;
the build-up method is:
RVC = (VOM/AV) x 100,
where RVC is the regional value content, expressed as a percentage;
AV is the adjusted value;
VNM is the value of non-originating materials used by the producer in the production of the good; and
VOM is the value of originating materials used by the producer in the production of the good.

[iv] The initial VC for chs. 28-40 is 40 per cent for the first three years, 45 per cent during the fourth and fifth years, and 50 per cent starting in year six. For chs. 72-85 and 90, VC is 50 per cent for the first five years, and 55 per cent starting year six.

[v] The MERCOSUR RoO is 60 per cent RVC, and, additionally, change in tariff heading (Garay and Cornejo 2002). When it cannot be determined that a change in heading has taken place, the CIF value of the non-originating components cannot exceed 40 per cent of the FOB value of the final good. Special RoO apply to selected sensitive sectors, including chemical, some information technology, and certain metal products.

[vi] The requirement is that the CIF value of the non-originating materials does not exceed 40 percent of the of the FOB export value of the final good.

[vii] A 50 percent MC rule applies to Colombia, Peru and Venezuela; products from Bolivia and Ecuador are governed by a 60 per cent MC rule.

[viii] The value added test and is based on the formula: Qualifying Expenditure (Q/E) / Factory Cost (F/C), where
Q/E = Qualifying expenditure on materials + qualifying labour and overheads (includes inner containers); and
F/C = Total expenditure on materials + qualifying labour and overheads (includes inner containers).
The factory or works cost are essentially the sum of costs of materials (excluding customs, excise or other duties), labor, factory overheads, and inner containers.

[ix] The agreement requires the value added ensuing from their production in member states be not less than 40 per cent of their final value “at the termination of the production phase”. In addition, the share owned by the citizens of the member states of the producing plant cannot be less than 51 per cent.

[x] The MC criterion is calculated from CIF and FOB as follows:
NOM = MCIF/FOB*100,
where NOM is the value content of non-originating materials, MCIF is the CIF value on non-originating materials, and FOB is the free on board value payable by the buyer to the seller.

[xi] The origin protocol requires that either the CIF value of non-originating materials does not exceed 60 per cent of the total cost of the materials used in the production of the goods; or that the value added (the difference between the ex-factory cost of the finished product and the CIF value of the materials imported from outside the member states and used in the production) resulting from the process of production accounts for at least 35 per cent of the ex-factory cost (the value of the total inputs required to produce a given product) of the goods.
[xii] Besides the 40 per cent RVC rule, the share of member states' citizens of the plant that produced the product must be at least 51 per cent.
[xiii] The RVC is calculated as the sum of: (i) the cost or value of the materials produced in the exporting Party, plus (ii) the direct costs of processing operations performed in the exporting party. It cannot be less than 35 per cent of the appraised value of the article at the time it is entered into the other party.

The cost or value of materials produced in a party includes: (i) the manufacturer's actual cost for the materials, (ii) when not included in the manufacturer's actual cost for the materials, the freight, insurance, packing, and all other costs incurred in transporting the materials to the manufacturer's plant, (iii) the actual cost of waste or spoilage (material list), less the value of recoverable scrap, and (iv) taxes and/or duties imposed on the materials by a party, provided they are not remitted upon exportation. When a material is provided to the manufacturer without charge, or at less than fair market value, its cost or value shall be determined by computing the sum of: (i) all expenses incurred in the growth, production, or manufacture of the material, including general expenses, (ii) an amount for profit, and (iii) freight, insurance, packing, and all other costs incurred in transporting the material to the manufacturer's plant.

Direct costs of processing operations mean those costs either directly incurred in, or which can be reasonably allocated to, the growth, production, manufacture, or assembly, of the specific article under consideration. Such costs include, for example, (i) all actual labor costs involved in the growth, production, manufacture, or assembly, of the specific article, including fringe benefits, on-the-job training, and the cost of engineering, supervisory, quality control, and similar personnel, (ii) dies, molds, tooling and depreciation on machinery and equipment which are allocable to the specific article, (iii) research, development, design, engineering, and blueprint costs insofar as they are allocable to the specific article; and (iv) costs of inspecting and testing the specific article.

Table 2

Distribution of RoO Combinations, Selected PTAs (1st RoO only)

	EUROPE				AMERICAS										ASIA/PACIFIC							AFRICA				MIDDLE EAST			NON-PREF		
Requirement	PANEURO	EU-MEX	EU-CHI	EU PRE-97	EFTA-MEX	NAFTA	US-CHI	G3	MEX-CR	MEX-BOL	CAN-CHI	CACM-CHI	MERC-CHI	LAIA	ANZCERTA	SAFTA	SPARTECA	AFTA	BANGKOK	JSEPA	CHI-KOR	ECOWAS	COMESA	NAM-ZIMB	SADC	GULF CC	US-JORDAN	US-ISRAEL	HIGHEST	LOWEST	**Requirement**
NC	0.39	0.39	0.39	0.20		0.54	0.51	4.05	0.55	0.95	0.04										0.51										NC
NC+ECTC	2.39	2.04	2.39	2.36																											NC+ECTC
NC+TECH	1.39	1.39	1.39	0.72			0.02																						0.72	9.62	NC+TECH
NC+ECTC+TECH																															NC+ECTC+TECH
NC+VC	11.46	10.91	11.90	11.08					0.02						100	100	100	100	100		0.78			100		100	83.94	100	11.48	0.06	NC+VC
NC+ECTC+VC	1.57	1.57	1.57	1.61																											NC+ECTC+VC
NC+VC+TECH	0.08	0.20	0.20																										0.34	0.5	NC+VC+TECH
NC+WHOLLY OBTAINED CHAPTER	7.62	7.62	7.62	3.24																							16.06		9.39	8.7	NC+WHOLLY OBTAINED CHAPTER
NC+WHOLLY OBTAINED HEADING	0.70	0.70	0.70	0.70																0.42											NC+WHOLLY OBTAINED HEADING
SUBTOTAL	*25.60*	*24.82*	*26.16*	*19.91*	*0.00*	*0.54*	*0.53*	*4.05*	*0.57*	*0.95*	*0.04*	*0.00*	*0.00*	*0.00*	*100.00*	*100.00*	*100.00*	*100.00*	*100.00*	*0.42*	*1.29*	*0.00*	*0.00*	*100.00*	*0.00*	*100.00*	*100.00*	*100.00*	*21.93*	*18.88*	**SUBTOTAL**
CI											0.99																		3.64	6.18	CI
CI+ECTC						0.02			0.04		0.23																		0.12	0.12	CI+ECTC
CI+TECH					2.17						0.02														1.39				0.08	3.09	CI+TECH
CI+ECTC+TECH																															CI+ECTC+TECH
CI+VC																															CI+VC
CI+ECTC+VC						0.02																									CI+ECTC+VC
CI+VC+TECH																															CI+VC+TECH
SUBTOTAL	*0.00*	*0.00*	*0.00*	*0.00*	*2.17*	*0.04*	*0.00*	*0.00*	*0.04*	*0.00*	*1.24*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*1.39*	*0.00*	*0.00*	*0.00*	*3.84*	*9.39*	**SUBTOTAL**
CS	0.20	0.20	0.20	0.12		1.29	16.56	1.54	2.99	2.94	10.52	19.16									1.68	100			1.16				13.53	30.42	CS
CS+ECTC						2.52	5.57	0.73	2.14	1.32	4.13	0.20								0.05	0.47								0.64	0.92	CS+ECTC
CS+TECH	1.90	1.90	1.78	1.89		0.04	0.14	0.10		0.02	0.11																			1.41	CS+TECH
CS+ECTC+TECH						0.40	0.04	0.04	0.28	0.43	0.26																				CS+ECTC+TECH
CS+VC	0.27	0.27	0.27	0.37			0.42	4.60	4.25	4.24	0.06	0.03									2.11										CS+VC
CS+ECTC+VC						0.10	0.04				0.10										0.16										CS+ECTC+VC
CS+VC+TECH								0.04		0.26																					CS+VC+TECH
CS+ECTC+VC+TECH								0.83																							CS+ECTC+VC+TECH
SUBTOTAL	*2.37*	*2.37*	*2.25*	*2.38*	*0.00*	*4.35*	*22.77*	*7.88*	*9.66*	*9.21*	*15.18*	*19.39*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.05*	*4.42*	*100.00*	*0.00*	*0.00*	*1.16*	*0.00*	*0.00*	*0.00*	*14.17*	*32.75*	***SUBTOTAL***
CH	32.99	32.99	32.86	30.00	58.79	17.09	23.70	16.45	24.32	17.00	17.42	57.15	46.00	100.00						45.81	46.87		100		68.65				40.13	33.88	CH
CH+ECTC	4.60	5.13	4.56	4.10	7.22	19.18	11.19	13.45	19.66	14.27	18.72	0.26								14.46	9.12				3.35				11.64	2.22	CH+ECTC
CH+TECH				0.86		0.02	0.34	0.97		0.22	0.17		20.04							0.58	0.14								0.36		CH+TECH
CH+ECTC+TECH	6.66	6.66	6.66	6.66	9.04	0.14	0.44	0.26		1.74	0.09														6.52						CH+ECTC+TECH
CH+VC	13.01	12.68	12.78	13.56	6.1	3.54	3.25	2.81	2.67	2.17	3.52		9.99							1.66	2.95				0.13						CH+VC
CH+ECTC+VC	0.37	0.86	0.37	0.42	0.08	0.58	0.48		0.52	0.85	0.52									0.10	0.49										CH+ECTC+VC
CH+VC+TECH						0.10		8.06	0.02	10.01			23.97																		CH+VC+TECH
CH+ECTC+VC+TECH	0.02	0.02	0.02	0.02	0.03			4.82		0.89															0.03						CH+ECTC+VC+TECH
SUBTOTAL	*57.65*	*58.34*	*57.25*	*63.62*	*81.26*	*40.65*	*39.40*	*46.02*	*47.19*	*47.15*	*40.44*	*57.41*	*100.00*	*100.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*62.61*	*59.57*	*0.00*	*100.00*	*0.00*	*78.65*	*0.00*	*0.00*	*0.00*	*52.13*	*36.10*	***SUBTOTAL***
CC	2.16	2.16	2.16	2.28		30.95	23.18	21.09	31.05	21.80	29.20	22.94									22.49				0.68				7.86	2.78	CC
CC+ECTC	1.02	1.02	1.02	0.74	0.7	17.71	5.83	5.90	5.65	6.67	8.08	0.26								37.35	4.71								0.1	0.1	CC+ECTC
CC+TECH	0.04	0.04	0.04	0.04	0.05	0.02	0.06	5.43		6.30	0.04										0.08										CC+TECH
CC+ECTC+TECH	11.02	11.25	11.02	11.02	15.41	5.76	8.08	6.65	5.81	6.24	5.74										5.67				18.09						CC+ECTC+TECH
CC+VC							0.06	0.14	0.26	0.43											1.80										CC+VC
CC+ECTC+VC																															CC+ECTC+VC
CC+VC+TECH								2.67		1.24																					CC+VC+TECH
CC+ECTC+VC+TECH								0.20																							CC+ECTC+VC+TECH
SUBTOTAL	*14.24*	*14.47*	*14.24*	*14.08*	*16.16*	*54.44*	*37.21*	*42.08*	*42.77*	*42.68*	*43.06*	*23.20*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*37.35*	*34.75*	*0.00*	*0.00*	*0.00*	*18.77*	*0.00*	*0.00*	*0.00*	*7.96*	*2.88*	***SUBTOTAL***
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	**TOTAL**

NC = No change in tariff classification required
CI = Change in tariff item
CS = Change in tariff subheading
CH = Change in tariff heading
CC = Change in tariff chapter
ECTC = Exception to change in tariff classification
VC = Value content
TECH = Technical requirement
Calculations at six-digit level of the Harmonized System.
Sources: Estevadeordal and Suominen (2005); Suominen (2004).

Table 3
Regime-Wide RoO in Selected PTAs

PTA	*De minimis* (percentage)	Roll-Up	Cumulation		Drawback Allowed?[vi]
			Bilateral	Diagonal	
PANEURO (50)	10	Yes	Yes	Yes (full in EEA)	No
PE (15)	10	Yes	Yes	Yes	No[xiv]
EU-South Africa	15	Yes	Yes	Yes with ACP (full with SACU)	Not mentioned
EU-Mexico	10	Yes	Yes	No	No after 2 years
EU-Chile	10	Yes	Yes	No	No after 4 years
EFTA-Mexico	10 (not chs. 50-63)	Yes	Yes	No	No after 3 years
NAFTA	7 (exceptions in agric. and ind. products; 7% of weight in chs. 50-63)	Yes except automotive	Yes	No	No after 7 years
US-Chile	10 (excep. in agric. and processed agr. products)	Yes	Yes	No	Not mentioned
CAFTA	10 (exceptions in agric. and ind. products; 7% of weight in chs. 50-63)	Yes	Yes	Yes (in ch 62 w/ Mexico & Canada)	Not mentioned
G3	7 (7% of weight in chs. 50-63)	Yes	Yes	No	Not mentioned
Mexico-Costa Rica	7 (excep. in chs. 4-15 and headings 0901, 1701, 2105, 2202)	Yes	Yes	No	No after 7 years
Mexico-Chile	8 (excep. in agric. and ind. products; 9% of weight in chs. 50-63)	Yes	Yes	No	Not mentioned
Mexico-Bolivia	7 (not chs. 1-27 unless CS; not chs. 50-63)	Yes	Yes	No	No after 8 years
Canada-Chile	9 (excep. in agric. and ind. products; 9% of weight in chs. 50-63)	Yes	Yes	No	Not mentioned
CACM-Chile	8 (not chs. 1-27 unless CS)	Yes	Yes	No	Not mentioned
CACM	10 until 2000; 7 from 2001 on (7% of weight in chs. 50-63)	N/A	Yes	No	Yes
MERCOSUR	Not mentioned	Yes except automotive	Yes	No	Yes (except automotive imports from Arg. and Braz.)
Mercosur-Chile	Not mentioned	Yes	Yes	No	Yes
Mercosur-Bolivia	Not mentioned	Yes	Yes	No	No after 5 years
Caricom	Not mentioned	Not mentioned	Yes	No	Possibly[xv]
Caricom-DR	7	Not mentioned	Yes	No	Not mentioned
ANZCERTA	2	Yes	Yes	Yes (full)	Yes
SAFTA	2	Yes	Yes	No	Not mentioned
SPARTECA	2	Yes	Yes[xvi]	Yes (full)	Yes
AFTA	Not mentioned	Not mentioned	Yes	No	Yes
BANGKOK	Not mentioned	Yes	Yes[xvii]	No	Possibly[xviii]
Japan-Singapore	No	Yes	Yes	No (OP allowed)	Not mentioned
US-Singapore	10 (excep. in various agric. products; 7% of weight in chs. 50-63)	Yes	Yes	No (OP and ISI allowed)	Not mentioned
Chile-Korea	8 (not chs. 1-24 unless CS; 8% of weight in chs. 50-63	Yes	Yes	No	Not mentioned
COMESA	2[xix]	Yes	Yes	No	Not after 10 years
ECOWAS	Not mentioned	Not mentioned	Yes	No	Not mentioned
SADC	10 (not chs. 50-63, 87, 98)	Yes	Yes	No	Not mentioned
Gulf CC	Not mentioned	Not mentioned	Yes	No	Not mentioned
US-Jordan	Not mentioned	Not mentioned	Yes	No	Not mentioned
US-Israel	Not mentioned	Yes	Yes	No	Yes
Canada-Israel	10 (excep. in agric. and industrial products; 7% of weight in chs. 50-63)	Yes	Yes	Yes (w/ any 3rd party with which both have an FTA)[xx]	Not mentioned
Mexico-Israel	10 (excep. in agric. and industrial products; 7% of weight in chs. 50-63)	Yes	Yes	No	Not mentioned

Sources: Estevadeordal and Suominen (2005); Suominen (2004).

[xiv] Drawback is not mentioned in Hungary-Israel, Poland-Israel, Slovenia-Croatia, Slovenia-FYROM FTAs. Drawback allowed for the first two years in EU-Palestinian Authority, two and one half years in EFTA-

Palestinian Authority, three years in EFTA-FYROM, one year in Bulgaria-FYROM, three months in Turkey-FYROM, and two years in Israel-Slovenia.

[xv] The Revised Treaty of Chaguaramas Establishing the Caribbean Community, including the CARCIOM Single Market and Economy stipulates that any member state needs to justify the need to apply an export drawback Council for Trade and Economic Development (COTED). COTED is mandated to review the use of drawback by members on an annual basis.

[xvi] When products from the South Pacific Islands that are exported to New Zealand are cumulated with Australian inputs, a minimum of 25 per cent of "qualifying expenditure" from South Pacific Islands is required.

[xvii] Requires the expenditure on goods produced and labor performed *within the territory of the exporting* member state in the manufacture of the goods to not less than 50 per cent of the ex-factory or ex-works cost of the goods in their finished state.

[xviii] The agreement stipulates that "With respect to drawbacks within one year from the date of entry into force of this Agreement, the Standing Committee shall consider whether drawbacks on goods imported from third countries should be permitted in relation to products used in the manufacture of finished products for which concessions have been exchanged by the Participating States."

[xix] Mentioned in the section on trade remedies. One of the criteria for imposing a countervailing duty is that the targeted subsidy is not less than the 2 per cent *de minimis*.

[xx] The FTA stipulates that "Where each Party has entered separately into a free trade agreement under Article XXIV of the GATT 1994 with the same non-Party before this Agreement enters into force, a good, which, if imported into the territory of one of the Parties under such free trade agreement with that non-Party, would qualify for tariff preferences under that agreement, shall be considered to be an originating good under this Chapter when imported into the territory of the other Party and used as a material in the production of another good in the territory of that other Party."

B. Regime-Wide RoO

Besides sectoral RoO, the different RoO regimes can be compared by their regime-wide RoO. Table 3 contrasts the various RoO regimes by their general, regime-wide RoO—*de minimis*, roll-up, cumulation, and drawback.

First, EU RoO regimes feature a higher *de minimis* (at 10 per cent) than NAFTA and many other FTAs in the Americas; the exceptions are the US-Chile FTA and CAFTA, where *de minimis* is the same as in PANEURO. Meanwhile, there is no *de minimis* rule in Mercosur's FTAs and in various FTAs in Asia and Africa. However, most regimes have exceptions to this regime: for example, the EU's *de minimis* does not apply to textiles and apparel, except for allowing an 8 per cent *de minimis* of the total weight of textile materials in mixed textiles products. In the EU-South Africa FTA, *de minimis* is set at 15 per cent but excludes fish and crustaceans, tobacco products, as well as certain meat products and alcoholic beverages. NAFTA *de minimis* does not extend to the production of dairy produce; edible products of animal origin; citrus fruit and juice; instant coffee; cocoa products, and some machinery and mechanical appliances, such as air conditioners and refrigerators (Reyna 1995: 115-117). The Chile-Korea FTA places *de minimis* at 8 per cent, but requires the non-originating materials in chapters 1-24 of the Harmonized System to undergo a change in subheading prior to re-exportation. JSEPA does not permit *de minimis* below levels defined in the chapters on product-specific RoO. CAFTA *de minimis* excludes selected dairy products, edible products of animal origin, citrus fruit and juice, instant coffee, cocoa products, and some machinery and mechanical appliances, such as air conditioners and refrigerators.

Second, the roll-up principle is widely used around the world. For example, in NAFTA, a product may acquire originating status if it is produced in a NAFTA country from materials considered as originating (whether such materials are wholly obtained or having satisfied a CTC or RVC criterion) even if no change in tariff classification takes place between the intermediate material and the final product.

Third, the EU's Pan-European system of cumulation applied since 1997 draws a clear distinction between the EU RoO regimes on the one hand, and most RoO regimes elsewhere in the world, on the other. The foremost diagonal cumulation regime in the world, the pre-enlargement pan-European system incorporated as many as 16 partners and covered no fewer than 50 FTAs.[65] These include FTAs between EU and third parties, such as the members of EFTA, the central and eastern European countries, the Baltic states, Slovenia, and Turkey, and also FTAs forged between EU partner countries such as Slovenia and Estonia. In concrete terms, the Pan-European system enables producers to use components originating in any of the participating countries without losing the preferential status of the final product.

The European Economic Association (EEA) agreement between EU and EFTA permits full cumulation. The EU-South Africa FTA allows both parties to cumulate diagonally with the ACP states. In addition, it incorporates the "single territory" concept, whereby South Africa can calculate working or processing carried out within the Southern Africa Customs Union (SACU) area as if these had been performed in South Africa (but not in the EU). Notably, AFTA and ANZCERTA models provide for full cumulation, while the Canada-Israel FTA

[65] The participants in the PANEURO cumulation system prior to the eastward enlargement were the EU, Bulgaria, Czech Republic, Estonia, Hungary, Iceland, Latvia, Liechtenstein, Lithuania, Norway, Poland, Romania, Slovak Republic, Slovenia, Switzerland, and Turkey. Eight of these countries — Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, and Slovenia — entered the EU in May 2004.

permits cumulation with the two countries' common FTA partners, such as the United States. Singapore's FTAs incorporate the outward processing (OP) concept tailored to accommodate Singapore's unique economic features and its access to low-cost processing in neighboring countries. The US-Singapore FTA also incorporates the integrated sourcing initiative (ISI), which provides further flexibility to outsourcing. OP and ISI will be detailed in Section IV of this chapter. CAFTA stands out in the Americas for providing for diagonal cumulation with Canada and Mexico. However, the clause covers only materials used for producing goods in Chapter 62, and so only up to a limited amount of imports to the US market and only after Canada and Mexico agree on the CAFTA cumulation clause.

Fourth, EU's FTAs and FTAs in the Americas tend to explicitly preclude drawback. Nonetheless, both have allowed for a phase-out periods during which drawback is permitted. For instance, the EU-Mexico FTA permitted drawback for the first two years, while the EU-Chile FTA allows drawback through 2007, the fourth year of the FTA. NAFTA allowed for drawback for the first seven years; however, drawback in the bilateral trade between Canada and the United States under the agreement was valid for only two years. Importantly, NAFTA does provide leniency in the application of the no-drawback rule by putting in place a refund system, whereby the producer will be refunded the lesser of the amount of duties paid on imported goods and amount paid on the exports of the good (or any other product manufactured from that good) upon its introduction to another NAFTA member. AFTA, ANZCERTA, SPARTECA, the US-Israel FTA, CACM, and Mercosur's FTAs stand out for not prohibiting drawback. However, in Mercosur *per se*, there is a no-drawback rule governing Argentine and Brazilian imports of intermediate automotive products when the final product is exported to a Mercosur partner.

The various RoO regimes diverge in their administrative requirements, particularly in the method of certification (Table 4).

The EU RoO regimes require the use of a movement certificate, EUR.1, that is to be issued in two steps — by the exporting country government once application has been made by exporter or the exporter's competent agency, such as a sectoral umbrella organization. However, the EU regimes provide for an alternative certification method, the invoice declaration, for "approved exporters" who make frequent shipments and are authorized by the customs authorities of the exporting country to make invoice declarations.

Table 4
Certification Methods in Selected PTAs

PTA	Certification method
PANEURO	Two-step private and public; limited self-certification
PE	Two-step private and public; limited self-certification
EU-South Africa	Two-step private and public; limited self-certification
EU-Mexico	Two-step private and public; limited self-certification
EU-Chile	Two-step private and public; limited self-certification
NAFTA	Self-certification
US-Chile	Self-certification
CAFTA	Self-Certification
G3	Two-step private and public
Mexico-Costa Rica	Self-certification
Mexico-Bolivia	Self-certification (two-step private and public during first 4 years)
Canada-Chile	Self-certification
CACM-Chile	Self-certification
CACM	Self-certification
Mercosur	Public (or delegated to a private entity)
Mercosur-Chile	Public (or delegated to a private entity)
Mercosur-Bolivia	Public (or delegated to a private entity)
Andean Community	Public (or delegated to a private entity)
Caricom	Public (or delegated to a private entity)
Caricom-DR	Public (or delegated to a private entity)
LAIA	Two-step private and public
ANZCERTA	Public (or delegated to a private entity)
SAFTA	Public (or delegated to a private entity)
SPARTECA	Not mentioned
AFTA	Public (or delegated to a private entity)
Bangkok Agreement	Public (or delegated to a private entity)
Japan-Singapore	Public (or delegated to a private entity)
US-Singapore	Self-certification
Chile-Korea	Self-certification
COMESA	Two-step private and public
ECOWAS	Public (or delegated to a private entity)
SADC	Two-step private and public
US-Jordan	Self-certification

Sources: Estevadeordal and Suominen (2005); Suominen (2004).

Meanwhile, NAFTA and a number of other FTAs in the Americas, as well as the Chile-Korea FTA rely on self-certification, which entails that the exporter's signing the certificate suffices as an affirmation that the items covered by it qualify as originating. In CAFTA, the importer rather than the exporter claiming preferential tariff treatment is the party ultimately responsible for ensuring that the good is originating.[66] In Mercosur, Andean Community, Caricom, AFTA, ANZCERTA, SAFTA, the Bangkok Agreement, JSEPA, and ECOWAS require certification by a public body or a private umbrella entity approved as a certifying agency by the government. However, unlike in the two-step model, the exporter is not required to take the first cut at filling out the movement certificate, but, rather, to furnish the certifying agency with a legal declaration of the origin of the product.[67]

The self-certification model can be seen as placing a burden of proof on the importing country producers; as such, it arguably minimizes the role of the government in the certifying process, entailing rather low administrative costs to exporters and governments alike. In contrast, the two-step system requires heavier involvement by the exporting country government and increases the steps — and likely also the costs — that an exporter is to bear when seeking certification. To be sure, the invoice declaration system implemented by the EU facilitates exporting among frequent traders.

[66] The CAFTA certification of origin can be prepared by the importer, exporter, or the producer of the good; alternatively, importer can claim origin through his/her "knowledge that the good is an originating good". Verification of origin can be made via written requests or questionnaires to the importer, exporter, or producer, or by visits by importing country authority to the exporting party territory. Similarly, in the US-Chile FTA, importer is to declare the good as originating and can also certify origin; however, verification can be made by the customs of the importing member "in accordance with its customs laws and regulations." In contrast, in NAFTA, the exporter or producer are parties in charge of certifying origin, and verification of origin is conducted through written requests or visits by one NAFTA member to the premises of an exporter or a producer in the territory of another member.

[67] The certificate in NAFTA, G3, and CACM-Chile FTA will be valid for a single shipment or multiple shipments for a period of a year; in ANZCERTA and SAFTA, the certificate will be valid for multiple shipments for two years. In ECOWAS, the certificate is not required for agricultural, livestock products and handmade articles produced without the use of tools directly operated by the manufacturer. In ANZCERTA, SAFTA, and Mercosur-Chile, Mercosur-Bolivia, and CARICOM-DR FTAs, the certificate requires to be accompanied by a legal declaration by the final producer or exporter of compliance with the RoO. In CAN and CARICOM, declaration by the producer is required. In CARICOM, the declaration can be completed by the exporter if it is not possible for the producer to fill it.

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