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Bilateral and Regional Trade Agreements: Detangling the Noodle/Spaghetti Bowl

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Abstract

Following the global financial crisis, economic growth and international trade growth have been sluggish. Current projections indicate that growth may continue to be sluggish in the medium term. These continuing trends will limit income raising productivity growth needed to maintain and improve living standards with population ageing across many economies. It will also limit capacities needed to raise living standards amongst lower income regions. Gaining public acceptance of productivity improving policies and the contribution that trade openness makes, however, is getting harder due to re-emerging national protectionist sentiments. This note looks at possible ways to improve trade policy formulation at the national, regional and global levels through evidence to bolster the case for greater openness and economic reform. Growth could be revived if G20 countries act to implement deeper and wider trade and economic reforms, and avoid policies that limit productivity growth prospects.

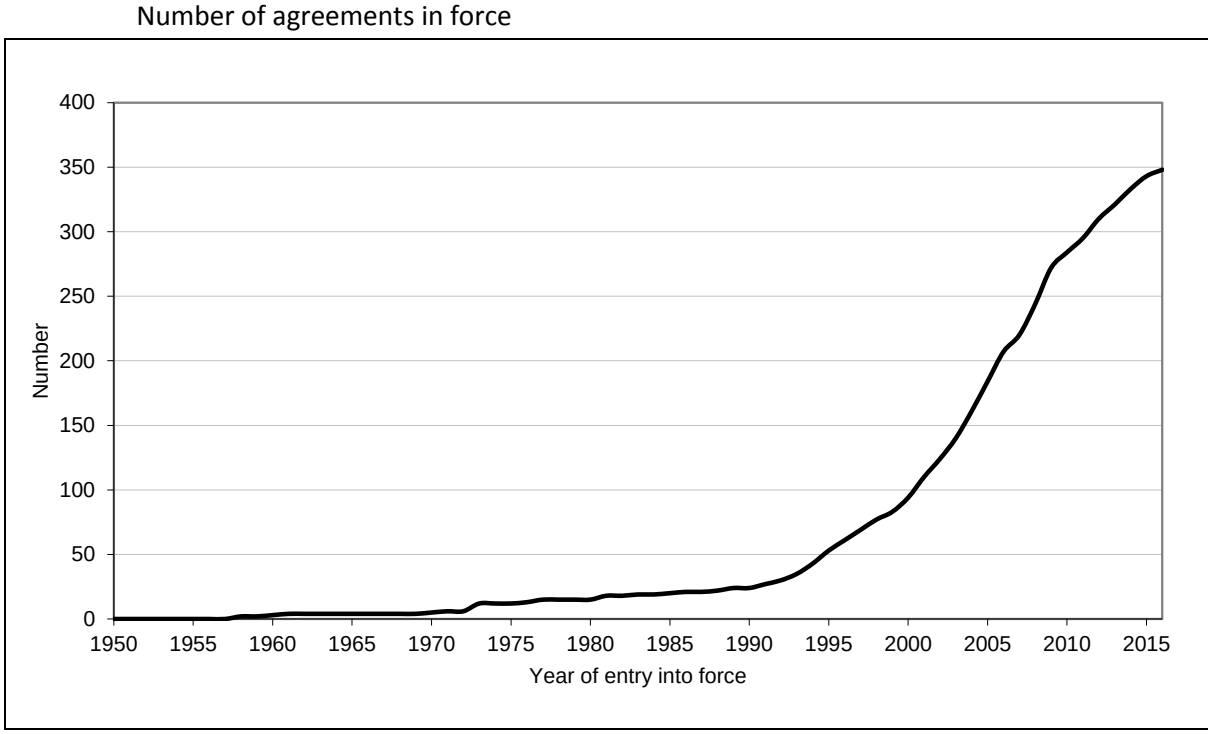
JEL: F1, F3, F4, O4, O5.

As a general principle, the benefits of trade are greatest if undertaken multilaterally without discrimination. However, as the complexity of effective multilateral trade negotiations has increased, trade policy formation has shifted towards plurilateral agreements in the WTO forum and bilateral and regional agreements (BRTAs) outside of that forum. There has been an associated marked increase in the incidence of BRTAs, particularly since the 1990s (figure 1).

The proliferation of BRTAs (variously called free trade agreements (FTAs), economic cooperation agreements or partnership agreements) has created a 'noodle/spaghetti bowl' phenomenon characterized by a complicated web of hub-and-spoke, cross-country and regional groupings. While individual agreements focus on the immediate priorities of negotiating partners, they add to regulation to enforce preferences, raising costs, diverting trade from lowest cost suppliers, suppressing the furtherance of liberalization and productivity improving economic reforms, and potentially resulting in negative overall impacts.

The drift toward preferential trading arrangements is at odds with the most favoured nation (MFN) and national treatment principles of the GATT and has led to a debate as to whether preferential agreements are building blocks or stumbling blocks on the road to MFN trade and productivity improving economic reforms. The proliferation of preferential arrangements and the formation of new trading blocs does not support the building block case.

Figure 1: Regional trade agreements over time



Source: World Trade Organisation 2017.

A number of studies investigate the potential gains of particular agreements (for example, EU 2012 and 2013, USITC 2016, World Bank 2016). These *ex ante* studies typically use global modelling methods to assess agreement provisions amenable to modelling. The agreements are normally reported in a positive light with the scale of benefits varying across the proposed arrangement. Such projections are variously made before negotiations commence as well as when draft text is available. Other studies seek to use empirical methods to assess the agreements in retrospect (PC 2010a, Armstrong 2015, Barbelet et al. 2015). The results of these *ex post* studies are sensitive to the estimation methods adopted, the time-period covered and model design. The *ex post* studies, nevertheless, highlight that the likely outcome of a trade agreement is sensitive to agreement scope and provisions, with agreements having open regional features providing larger and more assured gains, while preferential arrangements provide smaller and even negative outcomes. Armstrong (2015) for example, estimated that the Australia United States Free Trade Agreement (AUSFTA) has resulted in a likely net loss of trade due to the trade divergence element of the agreement outweighing the bilateral trade creating element.

What is less common are *ex ante* studies that look into the potential benefits of trading arrangements that avoid the noodle/spaghetti bowl of preferential arrangements and look at the leverage an agreement would actually provide toward the transition to open regionalism and global liberalisation. This paper considers alternate strategies for the liberalization of border protection between countries and services industry reform. It assesses the relative economic benefits of those strategies, globally and across countries. The paper concludes with a holistic framework for assessing liberalization proposals at the global, regional and/or national levels.

Some possibilities for disentangling the noodle/spaghetti bowl

The most direct and practical way for a country to liberalize its trade is to unilaterally remove domestic barriers. Concerted action in this vein by country coalitions would extend liberalization across regions as well as to plurilateral groups and ultimately, globally.

Agreement provisions could also be used to harmonize rules within existing and future bilateral and regional trade agreements, and provide a means of transitioning preferential arrangements to a most favoured national basis. In a full evaluation, the provisions would be subject to a net benefits test and also compared with WTO benchmarks of liberalization on an MFN/national treatment basis. Evidence on the net effect of liberalization options and the cost of new regulations would inform the negotiation process and be most effective at opening up trade and achieving associated productivity improvements.

Agreement provisions that could apply the net effects test include: dominance, accession clauses, more liberal rules of origin, routine reviews and conference of preferences (sometimes referred to by the misnomer most favoured nation (MFN) clauses in agreement texts).

Dominance requires that whenever there are conflicting and overlapping trade agreements in place the trade agreement which is the most open be the dominant agreement and supersede all other agreements. This rule has the potential to reduce the complexity in BRTAs and progressively harmonize existing and future trade agreements. However, achieving its full benefits would depend on the negotiation of progressively more liberal conditions and countries transitioning progressively to agreements with broader country coverage without gaps and overlaps.

Accession clauses provide that other parties may join an agreement by agreeing to implement the same reductions in barriers to trade and investment and abide by the same conditions and rules embodied in the accession agreement (subject to approval by the original parties). This allows an agreement to expand to cover additional countries on the same basis.

Rules of origin are non-tariff measures (NTMs) incorporated in preferential agreements to determine whether items of merchandise or services trade, and investment, entering from the partner country, qualify for the preferences conferred by the agreement. They divert trade and investment, and increase product and compliance costs. Rules of origin are most prominently associated with trade in merchandise goods. However, and less widely reported, they also apply to services and investment and are commonly referred to by the misnomer ‘denial of benefits’. Liberalizing rules of origin would involve the adoption of less restrictive formulations, greater use of deeming provisions (or waivers) as well as transitioning to consistency between agreements.

MFN clauses refer to provisions in BRTAs that seek to preserve at least equal treatment for the partner countries if one (or more) of them later negotiates more liberal preferences with other parties. In this way, the provisions seek to progressively imitate the multilateral most-favoured-nation treatment. Of course, in terms of preferential barriers to trade, the simplest way to grant MFN treatment to others would be to negotiate provisions on a non-preferential basis in the first place. Australian trade agreements with the United States and Chile which have a MFN provision, require Australia and its agreement partner to accord to each other’s service suppliers, investors and investments, treatment no less favourable than that it accords, in like circumstances, to service suppliers, investors and investments of a non–Party. This means, for

example, that if either Party signs a new, more liberalizing agreement, the benefits of that will flow automatically to the other Party. The addition of a net effects test could illuminate the most appropriate situations to apply MFN.

Drawing on such possible approaches to disentangle the noodle/spaghetti bowl of bilateral and regional trade agreements, this paper identifies the global and regional economic effects of:

- preferential versus unilateral and multilateral removal of merchandise trade barriers; and
- various scenarios where BRTAs are changed in terms of MFN status (termed 'open regionalism'), transition to more liberal rules of origin and regulations to enforce preferences (including through dominance of rules of one agreement over those of another) and accession.

The paper also reports on liberalization of non-tariff measures (NTMs) through the lens of services sector productivity.

Where trade agreements include non-economic objectives, such as strategic or environmental objectives, the economic costs of those objectives and costs should be assessed. While within scope of a full evaluation of an agreement, assessment of the economic implications of possible non-economic objectives is outside the scope of this paper.

The analytical framework

The analysis adopts an overarching global framework to ensure all areas of economic activity substantially affected by trade liberalization and economic reforms considered are evaluated. To do this, it employs a quantitative approach provided by computable general equilibrium (CGE) modelling using the Global Trade Analysis Project (GTAP) model from the family of CGE models. The analysis covers the regional effects of liberalisation scenarios along the dimensions of production potential, skill-based occupational groups, and consumption possibilities. With trade liberalization assumed not to affect population levels of countries or regions, the estimated impacts on production and consumption (measured as GDP and real household consumption) represent per capita estimates.

The GTAP model database used has 27 individual national economies and 5 multi-country regional groups with each G20 economy shown separately (see Table 1). There are 57 industry groups in each region — 14 Agriculture, forestry and fishing, 4 Mining, 24 Manufacturing and 15 Service industry groups. The policy scenarios, that is 'shocks', are applied to the model, with effects determined by the linkages between industries and regions, assumptions about the economic behaviour of firms and households, and national resource constraints.

The variant of the GTAP model used is a comparative-static model that compares the global economy with and without the changes applied, allowing for full adjustments across the economies. As the model is comparative-static, it does not seek to trace the path through time by which adjustment occurs or the length of the adjustment period.

The modelling adopts a longer-term perspective. Under this approach, it is assumed that labour is mobile between industries in each region in response to changes in the relative competitiveness of industries. Aggregate regional labour is divided into two groups: a higher skilled group and a lower skilled group. The endowment for each group is assumed fixed by

model region (that is, not affected by the policy change modelled) with real wages adjusting to clear regional labour markets. The availability of agricultural land and natural resources is also assumed not to be affected by the policy changes modelled (that is, assumed fixed).

Table 1 Country/region mapping

Regions in database	*G20*	*Code*	*Country(s) in database region*
1 Australia	G20	AUS	Australia
2 New Zealand		NZL	New Zealand
3 China	G20	CHN	China
4 Hong Kong		HKG	Hong Kong
5 Japan	G20	JPN	Japan
6 Korea	G20	KOR	Korea
7 Taiwan		TWN	Taiwan
8 Indonesia	G20	IDN	Indonesia
9 Malaysia		MYS	Malaysia
10 Philippines		PHL	Philippines
11 Singapore		SGP	Singapore
12 Thailand		THA	Thailand
13 Vietnam		VNM	Vietnam
14 India	G20	IND	India
15 Rest of Asia & Oceania		ROA	Cambodia; Iran; Kazakhstan; Kyrgyzstan; Laos; Myanmar; Pakistan; Sri Lanka; Bangladesh; Rest of East Asia; Rest of Oceania; Rest of South Asia; Rest of Southeast Asia; Rest of Western Asia
16 Canada	G20	CAN	Canada
17 United States	G20	USA	The United States
18 Mexico	G20	MEX	Mexico
19 Brazil	G20	BRA	Brazil
20 Argentina	G20	ARG	Argentina
21 Rest of America		ROM	Bolivia; Caribbean; Chile; Colombia; Costa Rica; Ecuador; Guatemala; Nicaragua; Panama; Paraguay; Peru; Uruguay; Venezuela; Rest of Central America; Rest of North America; Rest of South America

Continued next page

Table 1 Country/region mapping (continued)

Regions in database	*G20*	*Code*	*Country(s) in database region*
22 France	G20	FRA	France
23 Germany	G20	DEU	Germany
24 Italy	G20	ITA	Italy
25 United Kingdom	G20	GBR	United Kingdom
26 Rest of European Union (28)	G20	REU	Austria; Belgium; Bulgaria; Cyprus; Czech Republic; Denmark; Estonia; Finland; Greece; Hungary; Ireland; Latvia; Lithuania; Luxembourg; Malta; Netherlands; Poland; Portugal; Romania; Slovakia; Slovenia; Spain; Sweden
27 Turkey	G20	TUR	Turkey
28 Russia	G20	RUS	Russian Federation
29 Rest of Europe		ROE	Albania; Armenia; Azerbaijan; Belarus; Croatia; Georgia; Norway; Switzerland; Ukraine; Rest of EFTA; Rest of Eastern Europe; Rest of Europe; Rest of Former Soviet Union
30 Saudi Arabia	G20	SAU	Saudi Arabia
31 South Africa	G20	ZAF	South Africa
32 Rest of World		ROW	Rest of Africa and the Middle East, and other countries not separately identified.

Source: Author's GTAP data base aggregation.

Capital stocks by region and industry are assumed to adjust in order to equilibrate regional industry rates of return on capital to their long-run value. Under this assumption, a reduction in costs such as from a tariff reduction or a productivity improvement would initially raise average industry returns to capital, ultimately leading to a higher capital stock and output. Capital of a regional economy would be reallocated between regional industries according to relative competiveness.

All tax rates are held fixed with tax revenues and the ratio of tax revenues to regional income adjusting.

The modelling adopts the standard parameters provided with the GTAP data base. With land and regional labour by occupation fixed, the constant elasticity of substitution (CES) primary factor substation parameters are of importance. The standard parameter set assumes relative fixity in factor use in agricultural activities and greater flexibility in other sectors as reflected by values of: around 0.2 for agriculture and mining; 1.12 for food processing and 1.26 for other manufacturing; 1.68 for construction, trade and transport services (except air); and 1.26 for other services.

The results represent the potential changes given the theory and parameters of the model, and the industry and trade structure prevailing in the database which has 2011 as its reference year. This database post-dates the global financial crisis, although it is influenced by the price effects

of the terms of trade and investment boom (affecting G20 countries and in particular raw material suppliers such as Australia and Brazil and users such as China).

The modelling provides an indication of the direction and scale of potential impacts. Assessment of the potential impact of actual policy proposals and the time scale over which they would occur would require a detailed analysis of the actual policies, an assessment of the likely implementation period as well as the economic scale, industry and trade structures over that period.

Modelling border protection

While tariff rates have been reduced from historically high levels across economies, remaining tariffs still raise the cost of imports to producers and consumers, protect higher-cost local producers and act as a drag on economic activity. Complex rules of origin in trade agreements increase business compliance costs and provide difficult to quantify protection for import competing activities in a trading bloc. Preferential arrangements divert trade from lower-cost producers outside a trading bloc to qualifying producers within the bloc. The comprehensive recording of international trade in the GTAP model provides an appropriate basis for the modelling of these scenarios (box 1)

Box 1: Modelling of tariff reductions

The GTAP model treats tariffs levied as a tax on merchandise trade flows between economies. The tariff as a tax raises the border price of imported products above the cost price. Because trade flows are recorded on a bilateral basis, the model has the flexibility required to simulate the effects of different trade policy scenarios ranging from preferential tariff concessions between trading partners, through to non-discriminatory tariff changes leveraged to unilateral, plurilateral and multilateral trade policy arrangements.

Source: GTAP model.

GTAP ad valorem import tariff rates are based on bilateral applied rates. The border protection data included in the GTAP database is represented by the tariff revenue and includes specific and ad valorem components, net of preferences. This approach assumes that any margin of preference on qualifying imports accrues to the supplier. The tariff rates implied by the GTAP 2011 database broadly align with the latest trade weighted customs tariff rates shown in the WB Development indicators (table 2). Nevertheless, there are some differences with GTAP estimates higher than current World Bank estimates for Australia, Japan, Malaysia, Canada and Mexico, for example, but lower for the Philippines, the United States, Brazil and European Union economies. Changes in the simple customs tariff weighted estimates also suggest some changes in national tariff schedules between 2011 and 2014. For example, average rates were estimated by the World Bank to decline for Korea, Thailand, the Russian Federation and South Africa but rise for European Union economies.

While the differences should not detract from broad analyses of trade strategies, they could indicate areas for further scrutiny. An analysis of the full implications of tariff reduction scenarios and trade preferences would need to take account of changing tariff rates, bilateral and global trade patterns, the impact of rules of origin and the utilization of preferences, including the extent to which exporters' price up to the margin of tariff preferences at the expense of importers and ultimately consumers.

Table 2 **Estimated average tariffs and trade exposure**

		GTAP tariff rate 2011[a]	*Customs tariffs trade weighted*		*Customs tariffs simple weighted*		*Trade exposure GTAP 2011*[b]
GTAP region			*2011*	*2014*	*2011*	*2014*	
		%	%	%	%	%	Ratio
Australia	**AUS**	3.0	1.8	1.9	2.8	2.5	0.39
New Zealand	NZL	1.4	2.1	1.3	2.8	2.2	0.56
China	**CHN**	3.7	3.6	3.4	7.8	7.6	0.49
Hong Kong	HKG	0.0	0.0	0.0	0.0	0.0	1.50
Japan	JPN	2.0	1.3	1.4	2.5	2.4	0.32
Korea	KOR	6.5	6.5	4.8	9.6	5.2	1.01
Taiwan	TWN	1.6	na	na	na	na	1.43
Indonesia	IDN	2.9	2.5	2.3	5.0	5.0*	0.48
Malaysia	MYS	3.7	3.7	1.3	5.3	3.4*	1.59
Philippines	PHL	2.0	2.4	2.2	3.9	4.0*	0.70
Singapore	SGP	0.0	0.0	0.0	0.0	0.0	2.15
Thailand	THA	5.1	4.9	3.5	11.0	7.7	1.44
Vietnam	BGD	5.8	5.0*	3.1	7.3*	6.2	1.61
India	IND	6.0	7.3	6.3	10.1	10.1*	0.48
Rest of Asia	ROA	9.0					0.59
Canada	CAN	1.4	1.4	1.0	3.5	2.7	0.54
United States	USA	1.1	1.6	1.6	3.0	2.8	0.29
Mexico	MEX	1.7	5.4	1.0	6.5	3.0*	0.58
Brazil	BRA	6.8	7.8	8.3	13.5	13.7	0.22
Argentina		5.1	5.7	7.4	11.3	12.5	0.31
Rest of America	ROM	4.7					0.57
France		0.7	1.1	1.6	1.4	2.0	0.57
Germany		0.6	1.1	1.6	1.5	2.1	0.84
Italy		0.6	1.1	1.6	1.5	2.1	0.59
United Kingdom		0.8	1.1	1.6	1.5	2.1	0.64
Rest of the European Union	REU	0.5					1.00
Turkey	TUR	2.2	2.7	3.2	2.4	2.7	0.53
Russia	RUS	7.7	6.7	2.8	8.6	4.9	0.48
Rest of Europe	ROE	1.7					0.86

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Table 2 **(continued)**

GTAP region		GTAP tariff rate 2011[a]	Customs tariffs trade weighted		Customs tariffs simple weighted		Trade exposure GTAP 2011[b]
			2011	2014	2011	2014	
		%	%	%	%	%	Ratio
Saudi Arabia		2.8	4.2	3.4	4.8	4.0*	0.88
South Africa	ZAF	4.5	4.2	4.2	7.0	6.3*	0.58
Rest of the world	ROW	5.7					0.76
Correlation to GTAP data base		1.0	0.9	0.8	0.9	0.8	1.0

·· Data not available for 2014. *Most recent prior year reported [a] Trade weighted ad valorem equivalents, calculated by dividing estimated tariff revenue by estimated value of imports (cif) for the data base year. [b] Trade exposure measured as (Imports + Exports) / GDP).

Sources: GTAP 2011 database V9a; World Bank, 2017, *World Development Indicators*, table 6.6.

Strategies for transitioning to greater openness in merchandise trade

The most open of border protection regimes is one in which trade occurs between all economies on a MFN basis, that is, in accordance with Article I of the GATT, with tariffs and other protections set at zero. Such a regime would not require the maze of rules of origin and other regulations to enforce bilateral and regional preferences. Transition to this regime could be achieved through concerted unilateral action, and could also be leveraged to bilateral, regional and plurilateral agreements. The country coverage and trading rules of agreements would then determine the potential provided by an agreement to lead to the global benchmark of the full multilateral liberalization of tariffs and other border protection.

To illustrate the potential impacts of regional strategies for disentangling the noodle/spaghetti bowl and to achieve transition to global liberalization in border assistance, six scenarios are modelled.

The **first** and **second** scenarios focus on the impacts of strategies to remove border protection between partners of stylized regional agreements through regional trade preferences. These scenarios consider the reciprocal removal of import tariffs between the negotiating partners to the now defunct trans-Pacific partnership (TPP) agreement and the proposed Regional Comprehensive Economic Partnership (RCEP) agreement. The scenarios assume full removal of bilateral tariffs (assuming no carve outs or quantitative restrictions). Each scenario assumes partial realization of potential benefits because of negative effects of rules of origin and other regulations to enforce preferences, assumptions which are relaxed in later scenarios to illustrate the potential benefits of more liberal rules of origin regimes.

The trade preferences and origin rules of bilateral and regional scenarios would have a number of effects that would impede economic efficiency and lower productivity. They would:

- divert trade in final goods from lower-cost suppliers of competing products;

- lead some firms to adopt a more costly input mix and higher cost structure in order to obtain preferential access for finished products; and
- induce changes in the location of investment between members of a preferential agreement and between members and non-members (PC, 2004).

They could also add to the risk of doing business arising from the potential for delay in documentation and clearance and failure to meet origin requirements as well as from the complexity of doing business arising from procedures for conferring origin. While arguably the scope of mega agreements such as the TPP and RCEP would scale back these costs, they would not be eliminated.

Referring to firm survey data reported in previous research, Pangestu and Armstrong (forthcoming) reported that less than 30 per cent of trade by surveyed firms in Asia utilized preferences. The main reason given by respondents for the low utilization rates was low or no significant margins of preference. Other reasons cited included complexity of rules of origin, associated business costs of compliance and limited information. By contrast, WTO (2014) found that 80 per cent or more of preference-eligible imports of non-agricultural products (excluding fuel) into the European Union, Canada and Japan utilized least developing country (LDC) preferences. The Australian Productivity Commission (2004) found that over 90 per cent of preference eligible trans-Tasman trade conducted under the long-standing Australia-New Zealand Closer Economic Cooperation agreement utilized bilateral preferences. Crook and Gordon (2017) found that the share of preferences claimed on preference-eligible imports into Australia in 2015-16 varied substantially between agreements, ranging from less than 20 per cent of eligible imports under the Australia-Singapore agreement to over 90 per cent of eligible imports under the Australia-New Zealand agreement. For the Australia-US agreement, preferences were claimed on nearly 60 per cent of eligible imports while for the agreement with ASEAN and New Zealand, preferences were claimed on around 40 per cent of eligible imports.

While providing a measure of preference activity, measures of take-up are not good indicators of economy-wide benefit as they does not measure the economic costs incurred by firms to appropriate the margin of preference.

At this juncture, however, there is no single unified estimate of the effects of the costs bilateral and regional preferences and supporting rules of origin and regulations. Econometric studies have estimated that the trade creation impacts of an agreement can be outweighed by the trade diversion effects to yield a net loss in trade for agreement partners. For example, for the long-standing Closer Economic Relations Agreement between Australia and New Zealand, it has been estimated that the positive trade creating effects have not outweighed the trade diversion effects suggesting a net trade loss over the life of the agreement (PC 2010, Barbelet et al. 2015). Armstrong (2015) estimated that AUSFTA which came into force in 2005 is likely to have resulted in a net loss of trade for the partners. These results suggest that the efficiency drag of preferences can be sufficient to fully erode the potential benefits and could impose a net economic cost on the communities of participating economies. On the other hand, the econometric evidence indicates that agreements with open regional approaches (including the APEC Bogor Declaration and ASEAN agreement as well as customs unions such as the European Union) have been net trade creating, indicating likely economic gains.

The different rules and rule structures across agreements mean that a firm trading with multiple countries faces greater complexity and compliance costs through the need to interpret, and comply with, different rules of origin. It has been estimated that the economic cost associated with these requirements could be as high as 25 per cent of the value of goods traded within the Association of Southeast Asian Nations (ASEAN) (APEC 2009, with reference to Manchin and Pelkmans-Balaoing 2007). At this level, it would be more cost-effective to pay the tariff than seek the tariff concession for many products. Cadot and Ing (2014) estimated that ASEAN RoO (across several agreements) impose an average tariff cost equivalent of over 3 per cent (which adds to about one-quarter of the average preference available), with higher costs for products assessed as having more restrictive tests. Survey information from 11,500 companies in 23 developing economies, indicated that for manufactured products, rules of origin and the related paperwork represent the most problematic partner country measures for developing country exporters (International Trade Centre 2015). The problems of non-tariff measures (including rules of origin) were found to be greatest for small firms.

Based on an analysis of the preference take-up between Australia and the United States under the AUSFTA, the Productivity Commission (2010b, p.39) projected that partial take up could reduce GDP gains to Australia by around 25 per cent, relative to the case of full take up. It also estimated that higher administrative and compliance costs and partial price pass through of the margin of preference would further erode potential gains.

An event study of the impact of NAFTA RoO rules estimated that the rules on final goods reduced imports of intermediate business inputs from non-members by around 30 percentage points, distorting trade materially (Conconi et al. 2016). In a recent assessment of the potential impacts of the negotiated Trans-Pacific Partnership reported by the World Bank, it was conjectured that rules of origin could lead to the replacement of 40 per cent of imported inputs, on average, with higher-cost inputs from agreement partners, as members diverted trade to take advantage of preferential tariffs under such an agreement (World Bank 2016). These estimates illustrate the drag on productive efficiency introduced by preferential rules of origin.

To illustrate the potential economic cost, this study has assumed that preferential rules of origin reduce the scale of potential benefits of a preferential agreement (measured in terms of GDP) by 25 per cent of the outer envelope case, before carve outs, on account of partial utilization and administrative and compliance costs as well as the drag on productive efficiency that they impose. The structuring of origin rules, possible simplification approaches and the sensitivity of results to the assumed discount is provided below in the context of other liberalization scenarios considered.

Trade facilitation measures in train, such as those being undertaken under the WTO Trade Facilitation Agreement that has just entered into force (WTO 2017b) while not necessarily directed at the economic cost of origin rules should improve the competitiveness of adopters and affect the trading environment in which rules of origin are applied. As a general rule, early adopters would get a competitive advantage in international trade. That advantage would apply to preferential and MFN trade and not necessarily scale down (or up) the productivity drag of preferential rules of origin.

The **third** and **fourth** scenarios consider the potential benefits of an open regional (or plurilateral-style) trade liberalization strategy that might be leveraged to a regional framework agreement such as, but not limited to, the Regional Comprehensive Economic Partnership (RCEP) under negotiation or a new coalition of TPP negotiating partners.

Open regional or plurilateral approaches to liberalizing trade, although less common than preferential agreements, include the APEC Bogor Declaration of 1994 and the Information Technology Agreement (ITA) reached in 1996 and the proposed Environmental Goods Agreement (EGA) under negotiation. Under the Bogor declaration, participating countries, amongst other things agreed to complete the achievement of the goal of free and open trade and investment in the Asia-Pacific no later than the year 2020, with industrialized countries intending to reach this goal by no later than 2010 and developing economies no later than 2020.[1] Although not binding, the Bogor Declaration, provided high-level goals which, if fulfilled, would lead to the elimination of border protection by tariffs and other means on a non-discriminatory basis over the commitment period ending 2020. The goals also said that members '…are determined to pursue free and open trade and investment in the Asia-Pacific in a manner that will encourage and strengthen trade and investment liberalization in the world as a whole'.

The ITA provided for the elimination and binding of customs duties at zero for all products specified in the Agreement, including computers, telecommunication equipment, semiconductors, semiconductor manufacturing and testing equipment, software, scientific instruments, as well as most of the parts and accessories of these products. From an initial membership of 29 members, participation has expanded with membership now reaching over 81 WTO members, accounting for nearly all of world trade in information technology products. Because the ITA concessions are included in the participants' WTO schedules of concessions, the tariff elimination is implemented on a most-favoured nation (MFN) basis.

The goal of the proposed EGA is to liberalize trade on nominated environment-related products (WTO 2016). There are currently 46 WTO members represented in the negotiations. These member account for most of the global trade in environmental goods.

The benchmark of full MFN global tariff reductions across all economies is modelled in a **fifth** scenario while the case of unilateral liberalization (what countries can achieve by their own actions) is introduced as a **sixth** scenario for G20 economies.

How do the effects of strategies for trade openness compare?

A global perspective

If full preferential merchandise trade liberalisation were achieved under the TPP or RECP negotiating framework, the simulations suggest that modest output gains could be available to the global economy, of around 0.04 per cent and 0.15 per cent, respectively in the longer run, all else remaining equal (figure 2). This presumes that the participating countries would move to 100 per cent bilateral liberalisation of their merchandise trade, full pass-through of bilateral tariff reductions to industry and consumers but that there are negative productivity effects imposed by rules of origin or other regulations to enforce preferences. The measure can be regarded as an upper bound of gains that are potentially available from preferential merchandise trade liberalisation between parties covered by such an agreement.

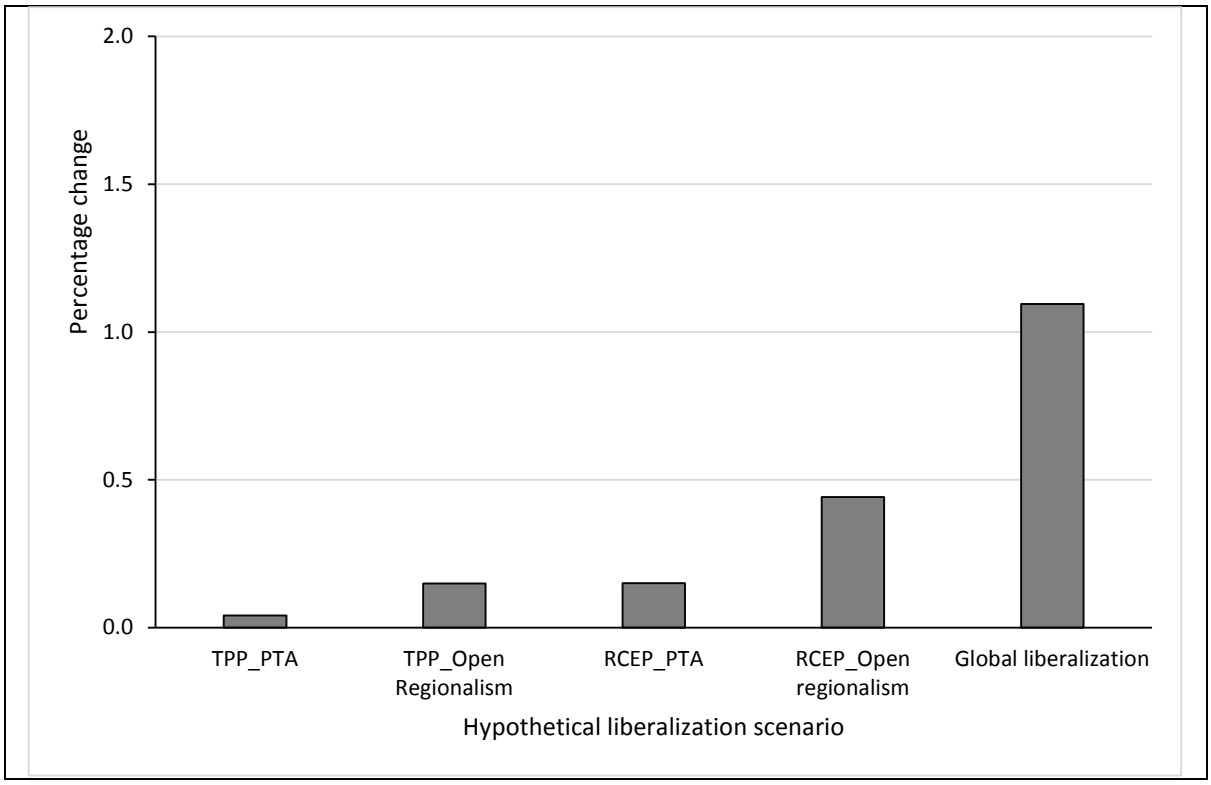
[1] The 18 APEC member countries represented in the economic leaders group at the Bogor Declaration are: Australia, Brunei Darussalam, Canada, Chile, the People's Republic of China, Hong Kong, Indonesia, Japan, the Republic of Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, the Republic of the Philippines, Singapore, Chinese Taipei, Thailand, and the United States of America.

By way of comparison, if TPP or RCEP negotiating parties transitioned to comprehensive merchandise trade liberalization based on open regionalism, global GDP could be increased further by a factor of over three from the preferential case to about 0.15 and 0.44 per cent, respectively, above levels that would otherwise be attained. These projected gains would make worthwhile strides in the transition to the benefits of global liberalization, which if achieved could raise global production and incomes by over 1 per cent.

These scenarios illustrate the different magnitudes of potential gains under alternative trade policy strategies. The simulation results emphasise the economic strength of non-discriminatory, MFN, action that would accrue from concerted action towards global liberalization through a regional framework agreement. They also emphasise the drag on growth potential afforded by preferential arrangements and the associated rules of origin and regulations instituted to enforce those preferences. The actual gains that may be realized would depend on industry and trade structures across regions as well as other factors affecting the responsiveness of economies to policy changes, at the time of full implementation of the liberalization measure. The global gains would also depend on the coverage of any framework agreement through which change is leveraged.

Figure 2: Estimated global impact of hypothetical regional and global trade liberalisation scenarios

Real world gross product per capita, Percentage change



Source: Author model simulations.

A regional perspective

The regional effects will be influenced by the level of border protection in each country, the trading relations between countries in the group and countries outside the group, as well as the industry structure of economies.

The projections indicate that those countries that are relatively more trade exposed and with higher border protection would have the most to gain from non-discriminatory trade liberalization (figure 3). The modelling highlights the potential for substantive gains for Thailand, Vietnam, Republic of Korea, Malaysia, and India in the Asia region as well as South Africa and other economies of Africa and the Middle East (labelled Rest of the World). In addition the projections indicate entrepot economies with strong links to faster going economies, such as Singapore, would receive commensurate flow on benefits. Countries and regions that are relatively less trade exposed to other economies (or economies outside the region), and/or with low prevailing levels of tariffs, such as the United States and the European Union are projected to benefit only modestly from global merchandise trade liberalization. The prospects of an entrepot economy such as Hong Kong which has amongst its strongest trading links the United States and the European Union are projected to be mediated most strongly to changes in those economies.

Affording preferential market access to partners in a trading bloc is projected to provide some, albeit variable, economic benefits to participating regions. These benefits are projected to be largest for participants that do not have preferential access to the main economy(s) (hub) in the bloc. For example, Vietnam, Malaysia and New Zealand, as well as Japan, are projected to gain proportionately more from a bloc comprised of trans-Pacific partnership negotiating parties, as these countries do not, to date, have preferential access to the US market. On the other hand, Mexico and Canada, both members of NAFTA, and Australia through its partnership in the AUSFTA, would gain more from a transition to open regionalism, via access to least cost imported supplies from all trading nations, in addition to the expansionary effect of the open regional configuration. Vietnam, Malaysia and Mexico with relatively high MFN tariffs are projected to gain most from a transition to an open regional approach.

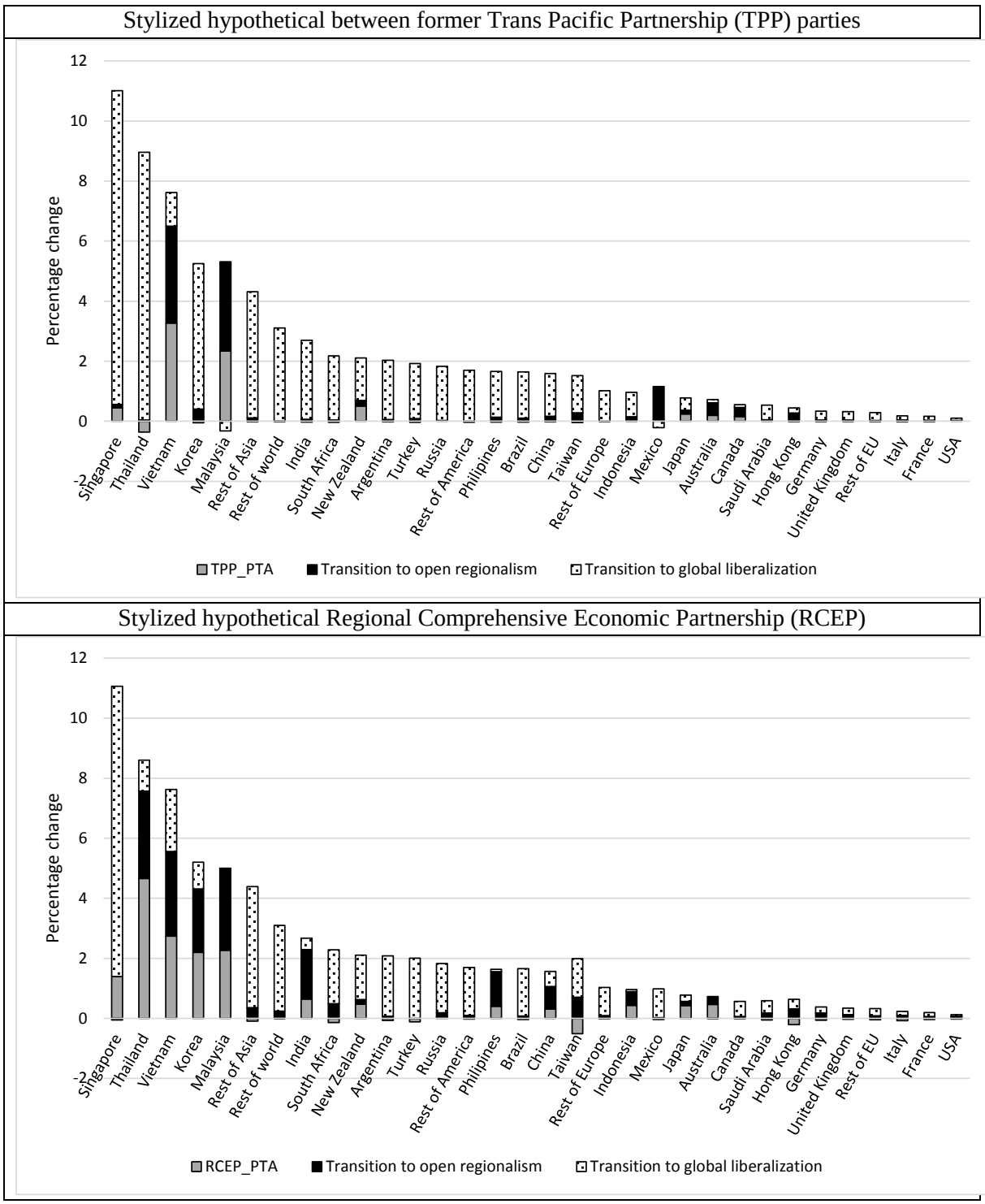
A similar picture is projected for the RCEP group of negotiating parties, with countries with relatively high tariffs gaining most from new preferential access to the main countries in the trading bloc – China and India. In the main, those countries would gain even more through a transition to open regionalism and more again, from a transition to a globally liberalized trading regime.

These projections indicate that there would be substantial additional benefits from leveraging open regional trade liberalization to trade negotiations between country groups. Such leveraging could be guided by the precedents provided by regional and plurilateral coalitions of countries to liberalize trade.

The greatest benefits would likely accrue to the countries with the highest levels of border protection and the more trade exposure. An important part of any benefits could be gained through unilateral action. The potential contribution of unilateral approaches to trade liberalization is discussed below for G20 economies. Before this, the potential benefits of partial liberalization measures that can be implemented within preferential frameworks, such as liberalizing rules of origin and accession, are considered.

Figure 3 Estimated regional impact of hypothetical regional and global trade liberalisation scenarios, regions ranked by the impact of global liberalization on GDP

Real regional gross domestic product (GDP) per capita, Percentage change



Note: Economies in the regions rest of: Asia, America, the EU, Europe, and the world are listed in table 1.

Source: Author model simulations.

What are the likely incremental benefits of liberalizing rules of origin?

The illustrative projected potential benefits of regional preferential trade agreements reported in the previous section assumed that rules of origin and regulation to enforce preferences reduce the scale of potential benefits of a preferential agreement (measured in terms of GDP) by 25 per cent of the outer envelope case, before carve outs.

This conjecture is set against the understanding that many import tariffs are at historically low levels and suggestions that tariff protection is less important than in the past. Despite this, the formation of modern preferential bilateral and regional trade agreements has been accompanied by the negotiation of a complex array of product-specific rules of origin to establish eligibility for trade preferences under an agreement. The requirement for negotiated product and agreement-specific origin rules, combined with carve outs and phasing arrangements, suggests that remaining tariffs do bite and that the tariff preferences are material.

Origin rules in the noodle/spaghetti bowl of agreements

Compliance with origin rule requirements confers the benefits (the margin of preference) of the importing partner's tariff on the supplier of the exporting partner. The margin of preference and associated tariff income would accrue to the partner exporter inducing a transfer of the national taxation base in favour of the partner country. There could also be wider implications to the extent that taxation regimes and systems differ between partners. The preferences would also tend to favour vertically integrated production changes within the boundaries of the agreement, discriminating against value adding and production chains extending beyond the jurisdiction of the trading bloc.

Compliance costs of origin rules would be incurred to meet documentation and application procedure requirements. These costs would be additional to other trade costs, such as those relating to product standards as well as sanitary and phytosanitary requirements. They would also be incurred when production systems need to be tailored to satisfy the product-specific origin requirements specified in the relevant rules. These compliance costs would likely discriminate against small to medium sized firms in favour of larger, more resourced firms with greater access to accounting, legal and technical services relevant to undertaking origin certification processes.

The range of approaches for conferring origin that businesses must consider when sourcing inputs to obtain concessional tariff rates for merchandise trade commonly centre around change of tariff classification, specified process or regional value content tests. Some products, typically agricultural or mining, can also be prescribed as being 'wholly obtained' or 'produced entirely locally'.

With the increasing number of preferential trade agreements, there are now many countries that have separate, differently specified origin rules across their agreements. In the case of agreements entered into by Australia to date, the application of the approaches varies between products within agreements and, for individual products, between agreements — for example, from a single three-tiered rule in a relatively long standing bilateral agreement with Singapore based on a regional value content approach to more than 5,200 individual rules in the agreement

with the Republic of Korea based on product-specific rules for each Harmonized System (HS) item (Table 3).

Table 3 Count of listed rules of origin by agreement to which Australia is a party

Number of rules listed in agreements

	Sing-apore (2003)	*Thailand* (2005)	*USA* (2005)	*New Zealand* (2007)[a]	*Chile* (2009)	*ASEAN & New Zealand* (2010)[b]	*Malay-sia* (2013)	*Republic of Korea* (2014)	*Japan* (2015)	*China* (2015)
No.	1	2907	980	2813	2803	3102	2677	5205	2171	1784

Year of entry into force shown in brackets. [a] The current rules of origin came into effect in 2007. From 1984 when the agreement came into force to 2007, a single rule based on regional value content applied. [b] The countries of ASEAN are: Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

Sources: DFAT webpage; Productivity Commission (2015), Author estimates.

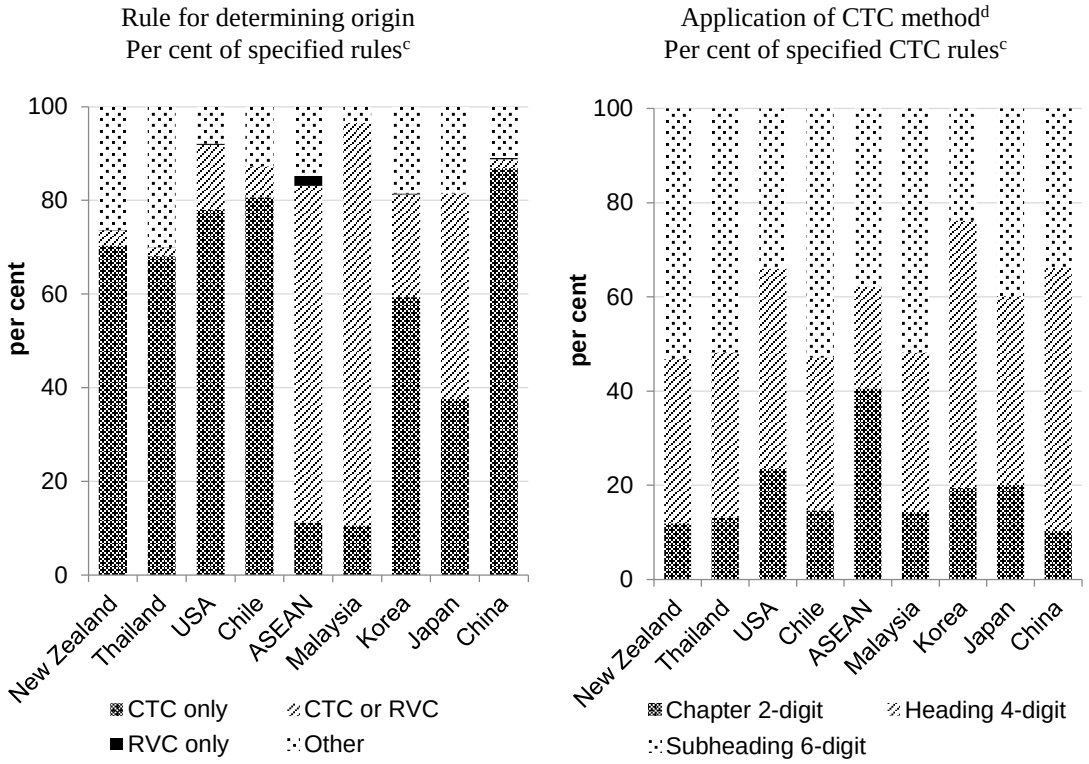
In addition to differences in the number of origin rules listed in schedules, there can also be a diversity of approaches used for conferring origin contributing further to complexity. For agreements entered into by Australia, the most common rule is the change in tariff classification (CTC) test, but there is considerable variation in how CTC rules are combined with other rules (Figure 4, left hand panel) and how they are applied across agreements (Figure 4, right hand panel).

Possible ways of simplifying origin rules

One possible way to simplify rules of origin would be to adopt a 'waiver' of the rules, or deeming provisions, between agreement partners when tariff rates in partner countries are similar or low — that is, when the risk of trans-shipment of non-partner exports is low (for example, see PC, 2004, 2010c). While certification processes are well defined but where the robustness of actual treatment is uncertain origin claims could be abandoned altogether (ACCI 2016). With low average tariff rates now in many economies, such approaches may be considered a practical way to transition to more liberal trading regimes that could be leveraged to existing frameworks. Other practical ways within this mould to transition to more liberal rules of origin could include the adoption of a single more liberal rule, such as a single low-threshold value added rule or single 4 or 6 -digit HS based rule. Under this approach, compound rules and rules based on technical tests to enforce a degree of vertical integration (such as the 'yarn forward' rule) would be phased out.

Another option would be to adopt a 'dominance' principle requiring that whenever there are conflicting and overlapping trade agreements in place that the trade agreement which is the most open be the dominant agreement and supersede all other agreements. This would require concurrence between partners of successive agreements and a workable approach to determine 'dominance'. As rules of origin are negotiated, achieving such concurrence is likely to be difficult in practice.

Figure 4 Methods used to determine origin of merchandise trade in Australian preferential trade agreements[a,b,c,d]



a) CTC refers to a change in tariff classification test. RVC refers to a regional or qualifying value content rule. 'Other' includes combined CTC and RVC rules, CTC rules with exceptions and specified process tests requiring particular production methods to be applied. b) The agreement with Singapore is not included as it applies a single three-tiered test of origin. c) Individual rules can be expressed at the 4-digit heading level, 6-digit subheading level or groupings of tariff line items. d) When the Australia–New Zealand Closer Economic Relations (CER) agreement entered into force in 1983, an RVC rule with a simple technical test was the main rule applied. The revised rules reported replaced that rule and have been in effect since 1 January 2007.

Source: Productivity Commission, (2015); Author estimates.

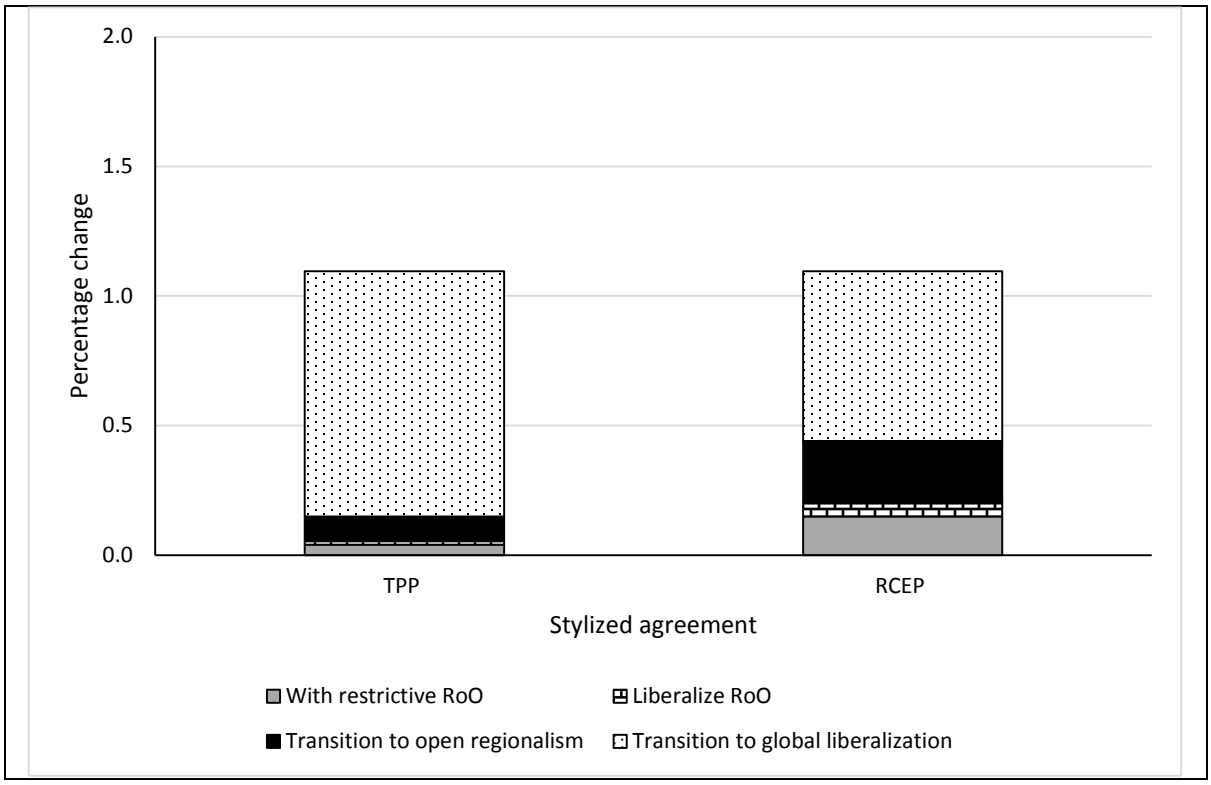
Potential economic benefit of origin rules simplification

Recognising the uncertainty as to the economic cost of rules of origin, just the removal of the efficiency discount adopted in previous simulations would yield some global economic benefits (figure 5). These benefits would be concentrated in countries participating in agreements, particularly those more trade exposed with higher tariff protection (figure 6).

Pursuing more liberal origin rules through measures such as simplified rules schedules and dominance provisions, however, would not address the noodle/spaghetti bowl of preferences nor the risk that agreement preferences reduce productive potential. Moreover, simplification would only be fully effective if a common transparent and simple set of rules could be negotiated and brought into effect across agreements. Such partial rules liberalization would not be expected to close the gap between actual and potential benefits.

Figure 5: Estimated global impact of liberalizing rules of origin in hypothetical regional trade liberalisation scenarios

Real gross world product, Percentage change



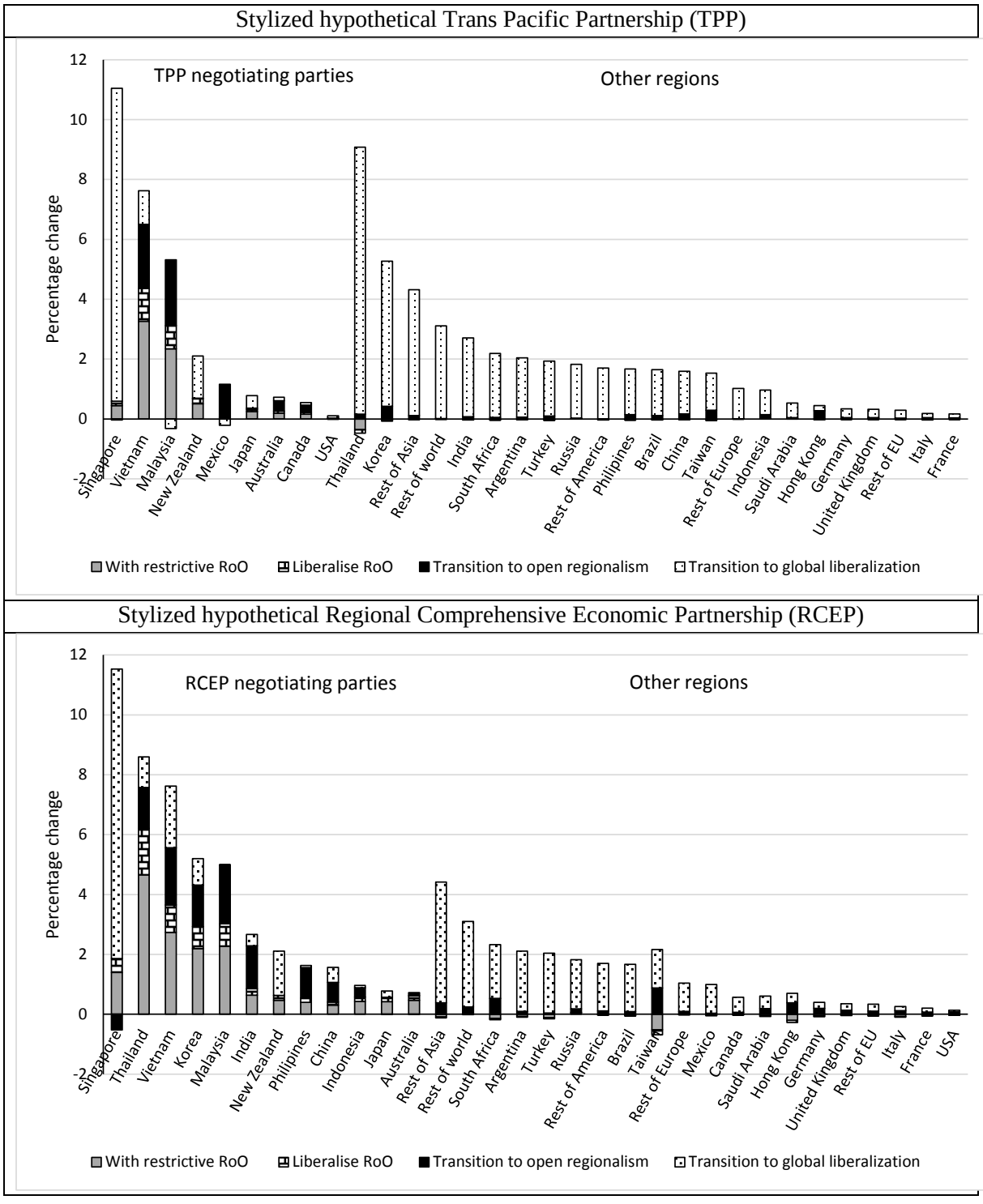
Source: Author model simulations.

Even the more radical steps of a waiver or abandoning origin rules, steps most compatible with the modelling of the full potential of preferential deals reported in figures 5 and 6 would leave the preferential schedules in place.

A more worthwhile priority would be to leverage an open regional approach to regional groupings of countries with a common interest in liberalizing trade. Such an approach would bypass the need for preferential origin rules and would also be the most direct means of closing the gap between preferential-regional and global liberalization potential.

Figure 6: Estimated regional impacts of liberalizing RoO in hypothetical regional trade liberalisation scenarios, ranked by the impact of global liberalization on GDP

Real regional gross domestic product (GDP), Percentage change



Note: Economies in the regions rest of: Asia, America, the EU, Europe, and the world are listed in table 1.

Source: Author model simulations.

What are the likely incremental benefits of accession to regional agreements?

An increase in the number of agreements has characterised recent bilateral and regional trade agreement activity. This increase has added to the noodle/spaghetti bowl of overlapping agreements. Less common is accession to existing agreements. Of the accession agreements, some of the most notable include the European Economic Commission (EEC), European Free Trade Association (EFTA) and the Central European Free Trade Agreement (CEFTA), with a number of economies transitioning from the CEFTA to the EEC. There have also been agreements that have expanded by accession of a single economy such as ASEAN-Common Effective Preferential Tariff (CEPT) with the accession of Vietnam, the Andean agreement with the accession of Peru and the Latin American Integration Association (LAIA) with the accession of Cuba. The Asia-Pacific Economic Cooperation group has also expanded in membership since inception in 1989 and there are suggestions that a preferential regional trade area be leveraged to this grouping.

The accession by non-members to form enlarged regional trading blocs provides a means of disentangling the noodle/spaghetti bowl of agreements. The formation of regional agreements across economies formerly joined by bilateral or sub-regional agreement, also provides scope to rationalize agreements. For example, the Australian and New Zealand-ASEAN agreement partly subsumed economies with pre-existing bilateral agreements and included new economies, while the proposed RCEP agreement under negotiation would subsume these economies and include even more economies in the Pacific-Indian Ocean region.

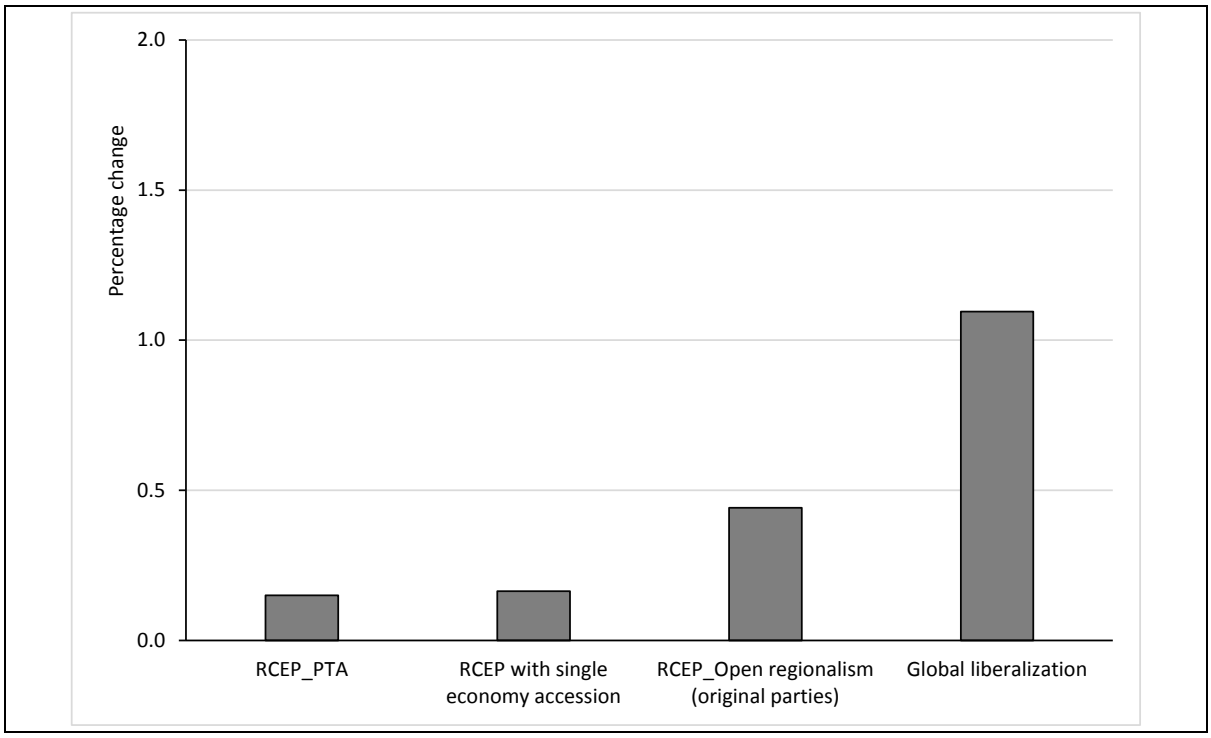
The formation of the proposed RCEP agreement, for example, could provide leverage to transition to more liberal rules of origin affording benefits and open regionalism, discussed above. The access of a new member could also provide additional separate benefits to the accession economy and other economies of the trading bloc. It would rationalize the noodle/spaghetti bowl to the extent that the accession avoided further new and overlapping arrangements.

To illustrate the potential benefits of an accession, the hypothetical accession of a medium sized G20 economy — South Africa — to the proposed RCEP agreement has been modelled. This economy has trade and investment links with Pacific and Indian Ocean RCEP negotiating partners and moderate tariff assistance, relative to other economies in the RCEP negotiating area. In terms of its economic impact, such an accession would only have a marginal effect on potential benefits available from a preferential deal, at the global level (figure 7). While, at the regional level, the main benefits would accrue to the accession economy with only modest flow-on impacts on other negotiating parties (figure 8).

As in other strategies addressing the phenomenon of overlapping preferential arrangements, there is likely to be greater benefit for incumbent partners from leveraging an agreement to a more open regional approach, rather than inducting new countries into a preferential framework. The scale of benefits of either approach though, as noted, would depend on the prevailing levels of border protection in regional partners as well as the nature and prospects of the trading relations between partners and non-partners.

Figure 7: Estimated global impact of access of a medium-sized G20 economy to the stylized RCEP agreement

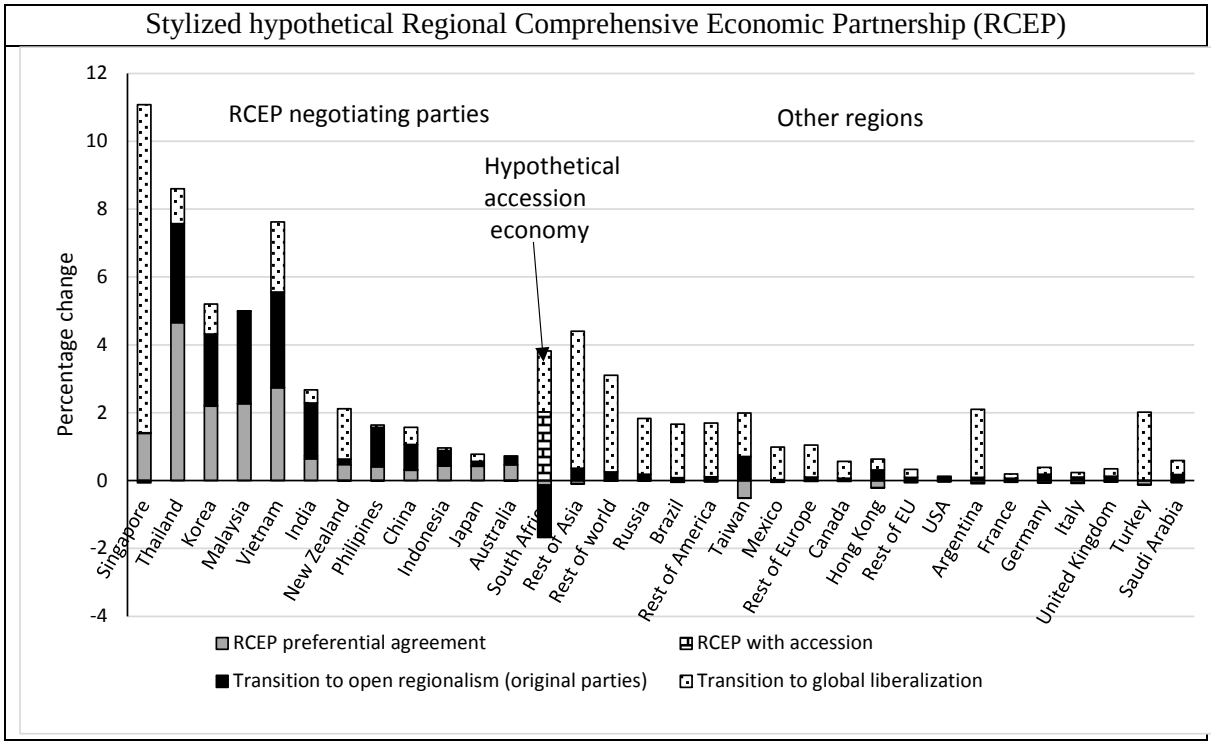
Real world gross product, Percentage change



Source: Author model simulations.

Figure 8: Estimated regional impacts of access of a medium-sized G20 economy to RCEP, RCEP and other regions ranked by impact of global liberalization on GDP

Real regional gross domestic product (GDP), Percentage change



Note: Economies in the regions rest of: Asia, America, the EU, Europe, and the world are listed in table 1.

Source: Author model simulations.

What could unilateral tariff liberalization achieve?

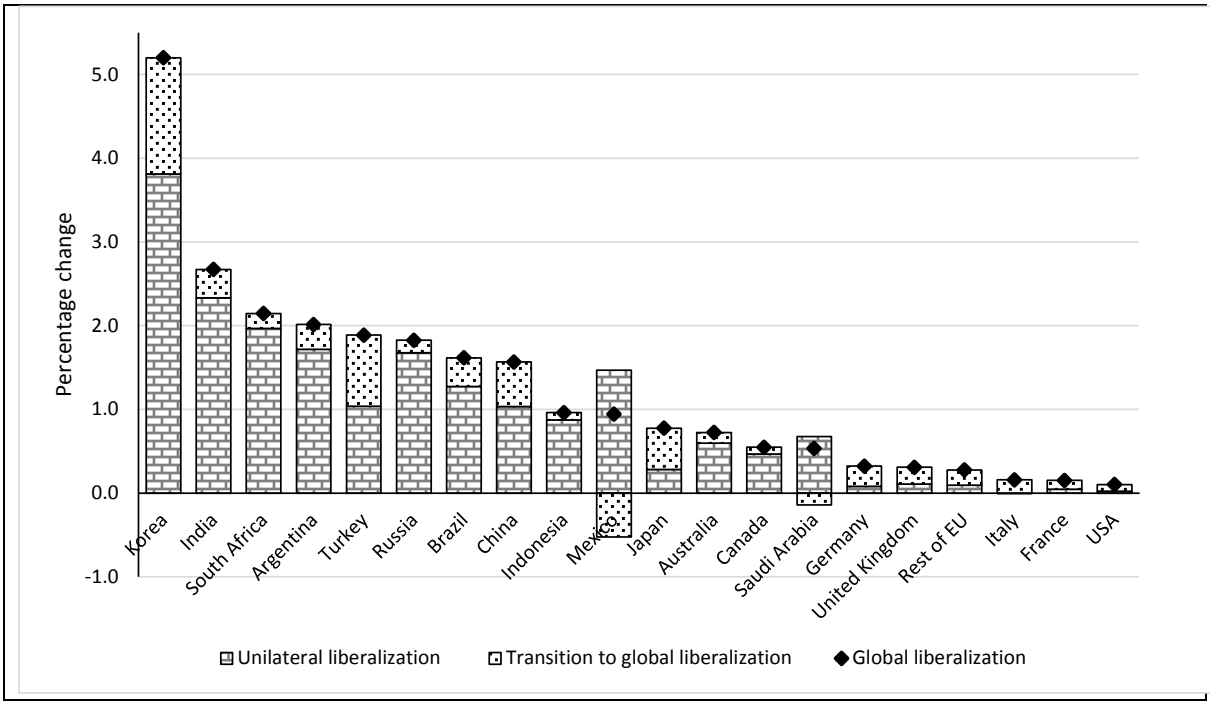
The noodle/spaghetti bowl of overlapping preferential trade agreements stems from the presence of barriers to trade and investment, and the scope, in principle, to achieve some economic benefits from negotiating the removal of those barriers, even on a preferential basis. The existence of those barriers, however, is a reflection of past domestic policy, including the fostering of domestic industry. As it was within the power of national government to impose often high levels of border and other protection, it is also within the power of governments to re-assess the levels of protection afforded and transition to lower assistance levels if that were considered in the national interest. Some such changes have occurred under WTO multilateral trade negotiation rounds, such as the Uruguay Round, while others have occurred through open regional and plurilateral arrangements such as the APEC Bogor Declaration and the ITA, noted above. Yet other liberalizing changes have occurred unilaterally, such as in the case of Australia which commenced a program of substantial liberalization before the conclusion of the Uruguay Round and the Bogor Declaration, and China which undertook substantial market oriented liberalization leading to its accession to the WTO in 2001.

While bilateral, regional and plurilateral agreements will continue to have a core role in leveraging worthwhile reforms, and particularly those requiring cooperation across sovereign national boundaries, national governments can undertake reforms deemed beneficial to the national economies on a unilateral basis. For G20 countries with higher levels of remaining border protection, such as the Republic of Korea, India, South Africa, Argentina, Brazil, Russia, China and Indonesia, as well as the more trade exposed countries with remaining heritage protection, such as Turkey, Mexico, Australia, Canada and Saudi Arabia unilateral trade liberalization would deliver a substantial proportion of the gains available from global liberalization (figure 9). Measures in this direction would side-step preferential deal making and provide an effective means of disentangling the noodle/spaghetti bowl.

For large integrated trading regions with low external tariffs, such as the European Union and the United States, and Japan, the main benefits from reductions in border protection are projected to be derived from the trade liberalizing actions of other countries and regions.

Figure 9: Estimated regional impacts of unilateral liberalization, G20 economies ranked by impact of global liberalization on GDP[a]

Real regional gross domestic product (GDP), Percentage change



Note: Economies in the region the rest of the EU are listed in table 1.

a Unilateral liberalization for the European Union is modelled as the concurrent removal of the common external tariff by member countries. For other economies, unilateral is modelled as the full removal of national applied tariffs.

Source: Author model simulations.

A perspective on the labour market and household effects of trade liberalization

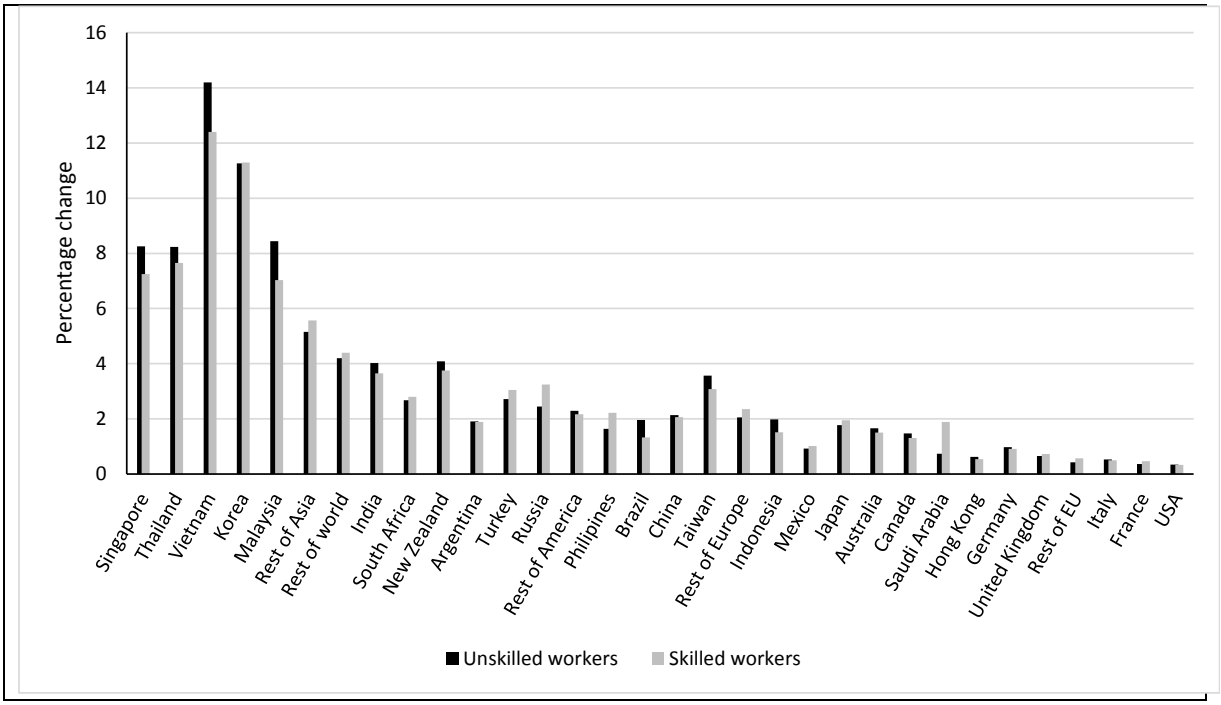
Some labour market implications

Higher output would tend to raise the demand for labour. For regional workforces in the higher and the lower skilled occupational groups modelled, the increase in labour demand is projected to be accompanied by higher real wages across the countries and regions for each of the occupational groups (figure 10). Under the longer run modelling assumptions of flexible labour and capital markets in each region and variable regional capital stocks, real wages for each occupational group are projected to move broadly in line at the national level.

Labour market adjustment pressures experienced by workers in each of the occupational groups for each region would depend on the mix of activities expanding and possibly contracting in response to a policy change. It would also depend on the rate of substitution between labour and capital value adding inputs under prevailing technologies within those activities.

Figure 10: Estimated regional labour market impacts of global liberalization, regions ranked by impact of global tariff liberalization on GDP

Real wages by occupational group, Percentage change



Note: Economies in the regions rest of: Asia, America, the EU, Europe, and the world are listed in table 1.

Source: Author model simulations.

The projected real wage changes, however, do not align fully with the pattern of output changes, with the results for the Asian economies of Singapore, Thailand, Vietnam, the Republic of Korea, Malaysia and Taiwan standing out. Of these countries, in the GTAP database, the Vietnam and the Republic of Korea are recorded as having the highest level of applied tariffs compared to Singapore, Thailand and Malaysia, and hence greater trade liberalization potential. This raises reform potential, generating higher output and additional demands on the labour force upon liberalization, relative to the other economies in the group. The upward pressure on real wages in Singapore is derived from the flow-on effects of liberalization in trading-partner economies. The relatively high projected increase in real wages for the Taiwanese workforce flows from a relative high level of trade exposure and a large labour share in value added costs. In this case, increases in demand are evidenced in more than proportional increases in the real cost of labour.

The projections are conditioned by model parameters and in particular the primary factor substitution parameter between labour by occupation and capital which assumes that there would be substantial substitution possibilities between factor inputs for non-rural activities, in the longer run. The projections are also conditioned by the assumption of fixed supply of labour by occupational group and the limitations this imposed on longer-run labour market adjustment modelled.

The potential final 'real world' outcome of any trade liberalization on real wages would depend on the actual scope of liberalization as well as trade and labour market conditions applying at the time liberalization policies took effect.

- A narrower scope, say to RCEP or TPP negotiating parties, would concentrate any benefits to workers in the trading bloc and could penalise workers in other regions. Avoiding the noodle/spaghetti bowl of preferential arrangements leveraged to open regionalism or concerted unilateral action across countries would provide the most secure means of achieving the potential labour market gains. The changes in relative competitiveness between countries would be accompanied by changes real wage relativities across countries and adjustment pressures in national labour markets. Importantly, delays in trade liberalization or productivity enhancing reforms would penalize countries experiencing the delays and their workforces, relative to reforming economies.
- Liberalization leveraged to labour market policies that support the transition of labour between activities and occupations would tend to provide greater economic gains, in the longer run. Labour market policies that restricted, or did not facilitate, the movement of labour between activities and between occupations in individual activities, would erode potential economic benefits. Such policies could also drive a wedge between the returns to occupational groups and having flow-on distributional effects.

The modelling depicts labour market gains as flowing to the workforce through higher real wages. To the extent that there is a pool of suitably qualified workers available for new employment, the gains could be appropriated though higher employment. Projecting this division is beyond the scope of these illustrative projections of the potential labour market implications of trade liberalization.

Some national household income and private household consumption implications

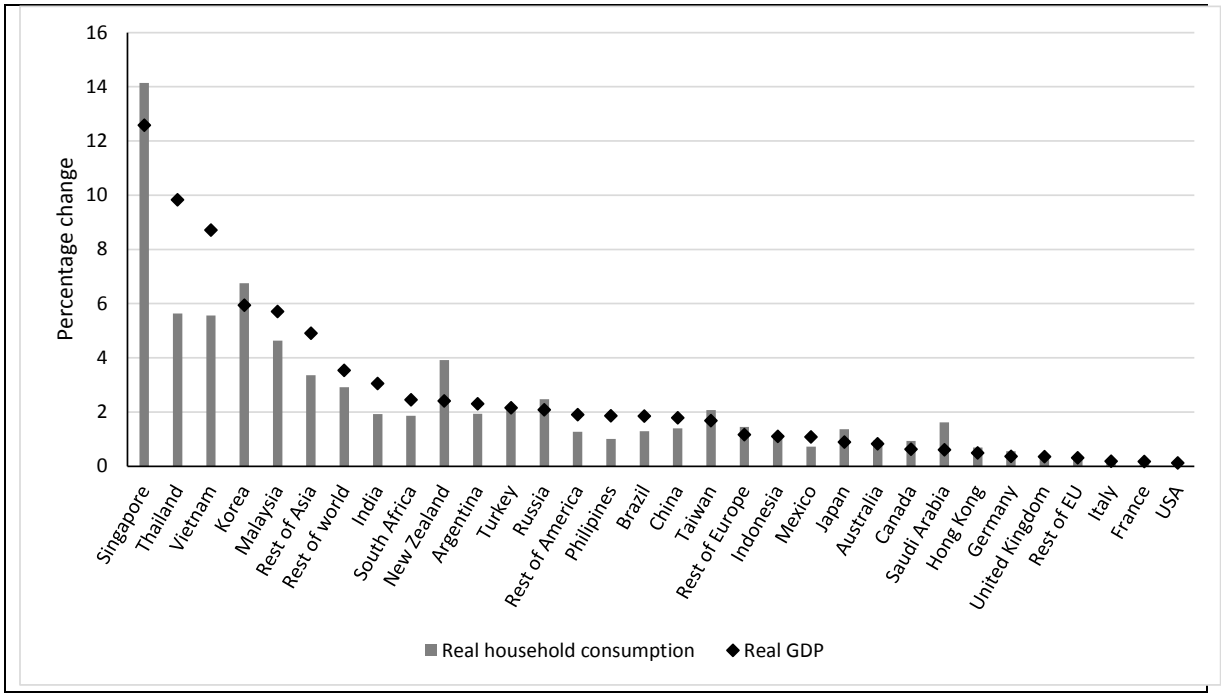
Ultimately, the economic benefits of trade liberalization are expected to accrue to households in the form of increased private household consumption possibilities (or equivalent increases in leisure taken). The modelling assumes a Cobb-Douglas utility function with the value shares of private household consumption, government consumption and saving are assumed fixed. Relative prices vary to clear product and factor markets while in GTAP 'savings' are net of cross-border remittances on the current and capital account. With global saving modelled as being equal to global investment, national trade balances (net lending) are projected to adjust to bridge any gap between domestic saving and investment.

Under these modelling assumptions, aggregated private household consumption in countries and regions is projected to be higher than otherwise with the transition to global liberalization and to change broadly in line with national production growth potential (figure 11). Private household consumption is projected to change in line with real household income (deflated by consumer prices). Nevertheless, real private consumption potential, under the modelling assumptions, can deviate from this broad pattern as illustrated by the projections for Thailand and Vietnam. In both cases, with tariff reform, the price of investment goods was projected to decline more than the average decline in the price of consumption goods. Under the Cobb-Douglas assumption, this leads to higher projected price-adjusted savings and new investment to adjust returns on capital to the model equilibrium rate. The higher projected investment contributed to the projected higher output growth relative to household consumption, in the longer run, Government consumption across countries is typically oriented to more labour intensive services. Under the Cobb-Douglas assumption, projected increases in government

consumption possibilities is projected to be lower than projected increases for household consumption.

Figure 11: Estimated real household consumption impacts of tariff liberalization, regions ranked by impact of global tariff liberalization on GDP

Real household consumption, Percentage change



Note: Economies in the regions rest of: Asia, America, the EU, Europe, and the world are listed in table 1.

Source: Author model simulations.

The noodle/spaghetti bowl of preferential arrangements would both constrain output growth across countries and regions (as illustrated above) and with it, would generally lower household consumption possibilities across countries. Preferential arrangements would also contribute to price differences between participating and non-participating regions affecting the consumption and investment mix across economies, relative to the open regional and global liberalization cases. A shift towards open regionalism and MFN arrangements should ameliorate such distorting effects of trade preferences on consumers and also investors.

Broadening the scope of the analysis

In addition to core provisions governing merchandise trade, modern trade agreements contain provisions relating to trade in services, electronic commerce, government procurement, competition policy, investment and intellectual property. Labour market and environmental matters have also been introduced as topics in some agreements (see table 4 for recent agreements involving Australia). In addition to rules of origin discussed above, many of these matters relate to regulations conventionally referred to as non-tariff measures (NTMs) as catalogued in the UNCTAD international classification of such as measures (UNCTAD 2015). Some matters that can be included in trade agreements such labour market operation, the movement of people, and cooperation and development are not within the scope of NTMs, conventionally defined. Yet other headings catalogued as NTMs in the UNCTAD classification may overlap with other topics covered in a bilateral and regional trade agreement.

Table 4 Coverage of bilateral and regional agreement, Australia's recent PTAs[a]

Topic	*SAFTA*	*AUSFTA*	*TAFTA*	*ACI-FTA*	*AANZ-FTA*	*TPP text pro-posed*[a]	*RCEP negotiate -ing topics*[b]
Goods	●	●	●	●	●	ch2	#
Agriculture		●					
Textiles and apparel						ch 4	
Rules of Origin	●	●	●	●	●	ch3	#
Customs administration	●	●	●	●	●	ch 5	#
Sanitary and phytosanitary measures	●	●	●	●	●	ch 7	#
Technical barriers to trade	●	●	●	●	●	Ch 8	#
Trade remedies		●	●	●	●	Ch 6	#
Services	●	●	●	●	●	Ch 10	#
Investment	●	●	●	●	●	Ch 9	#
Telecommunications	●	●		●	*	Ch 13	#
Financial services	●	●		●	*	Ch 11	#
Movement of natural persons/temporary entry for bus.	●		●	●	●	Ch 12	#
Competition	●	●	●	●	●	Ch 16	#
State owned enterprises						Ch 17	
Government procurement	●	●		●		Ch 15	
E-commerce	●	●	●	●	●	Ch 14	#
Intellectual property	●	●	●	●	●	Ch 18	#
Education	●						
Labour		●				Ch 19	
Environment		●				Ch 20	
Competitiveness & business fac.						Ch 22	
Small & medium-sized enterprises						Ch 24	
Regulatory coherence						Ch 25	
Transparency		●	●	●		Ch 26	
Economic cooperation & development					●	Ch 23	#
Cooperation and capacity blg				●		Ch 21	
Institutional arrangements	●	●	●	●	●	Ch 27	#
Dispute settlement	●	●	●	●	●	Ch 28	#

Dots represent chapter coverage of topic in agreement text. Asterisks indicate topic is covered in an annex to a chapter. Hashes indicate negotiating topic in a proposed agreement. [a] The TPP text also includes chapters on Exceptions (ch 29) and Final provisions (ch 30). [b] Topic coverage based on the Guiding Principles and Objectives for Negotiating the Regional Comprehensive Economic Partnership.

Sources: PC (2010, table 5.1), USITC 2016, RCEP Leaders as reported on DFAT webpage (2017),

For example, while the UNCTAD classification includes intellectual property (IP) rights as a chapter heading and refers to unauthorized use of trade marks as an example, it does not refer explicitly to broader issues relating to length and stringency of IP protection.

Liberalization of NTMs, conventionally measured, can reduce the cost of doing business for firms and improve market access. In cases where this is achieved, the cost of goods and services to consumers can be lowered and there can be associated distributional effects. Not all NTMs, however, are actionable, with some maintained to meet national domestic objectives like product safety and environmental protection standards, while others may reflect differences in geography, language, preferences, culture, and history. Regulatory requirements and associated NTMs are also likely to vary over time and between nations with changes in global production and trade networks, population dynamics, and changes in the physical environment. By the nature of NTMs, access to liberalizing changes is not necessarily extended on a preferential basis with benefits spilling over to non-members.

The extent of potential spill-over benefits has been assessed for a number of agreements In an assessment of the potential economic benefits of a prospective EU-Japan bilateral trade agreement, the European Commission considered the potential for reductions in cost imposts of NTMs. It considered two scenarios: a lower level scenario assumed a 20 per cent reduction in the cost of NTMs would be possible and an upper level scenario assuming a 50 per cent reduction in the cost of NTMs would be possible. As many of the NTMs were considered to relate to regulatory and procedural differences affecting all trade, NTM cost reductions achieved were assessed as likely to operate on an MFN basis and provide spill-over effects to non-members (European Commission 2013, p. 35). Because of the high leverage of NTM spill-over effects in Japan-European Union trade, as much as 90 per cent of the total potential economic impact was attributable to NTM spill-over effects with the remainder attributable to preferential bilateral tariff and NTM cost reductions.

The European Commission also considered the potential for a reduction in the cost imposts of NTMs in the context of a prospective trans-Atlantic trade agreement with the United States (European Commission 2013, p. 27). In that study, it was judged that half the NTMs identified were actionable and that for these, about half of the bilateral cost impost could be removed. It was also considered that bilateral streamlining would *directly* benefit non-partner exporters to the European Union and the United States to an amount equivalent to 20 per cent of the bilateral benefit. A further positive *indirect* effect was considered possible to the extent that non-partners unilaterally adopted common EU-US standards giving EU and US firms' market access to third countries. These indirect spill over benefits could augment overall benefits by an amount equivalent to 10 per cent of the bilateral benefit.

In its assessment of the impact of provisions in the published TPP text, the Word Bank assumed in aggregate that 20 percent of NTM liberalization included in the text consists of non-discriminatory provisions (World Bank 2016). Noting that the precise scale of benefits is uncertain, the World Bank considered that 20 per cent would be at the lower end of plausible scales.

These analyses made the broad assumption that gains from NTM provisions in a trade agreement would be cost and price reducing. However, to the extent that agreements contain provisions that increase the stringency of regulations or confer rights above socially desirable levels, the provisions could *raise* costs and prices, and lower growth potential. For example,

some recent agreements have promulgated more stringent intellectual property rights, such as an increase in copyright protection from life of the originator plus 50 years (the TRIPS standard promulgated in 1995) to life plus 70 years (the negotiating threshold adopted in the AUSFTA and other agreements and included in the proposed TPP text). In its recent report on intellectual property the Australian Productivity Commission questioned whether the current levels of IP protection are excessive, raising costs and lowering growth potential, and redistributing income and wealth to the IP owners at a rate above socially optimum levels (Productivity Commission 2016). Amongst other things, the Commission recommended Australia play an active role in international fora including calling for a review of TRIPS (recommendation 18.2). Because of concerns that the cost of IP provisions could outweigh benefits, in an earlier report on bilateral and regional trade agreements, the Commission recommended that the Australian Government should '…avoid the inclusion of IP matters as an ordinary matter of course in future BRTAs (PC 2010c, recommendation 4). It further recommended that IP provisions should only be included when a rigorous economic analysis shows that the provisions would likely generate net benefits for agreement partners.

Because of the large number of government policies and regulations involved, disentangling the noodle/spaghetti bowl of overlapping trade agreements with respect to NTMs may be considered inherently more complicated and difficult than tariff liberalization. However, for individual measures a hierarchy of priorities could apply.

- Matters that can be addressed domestically should not be delayed and benefits forgone to retain bargaining coin for future bilateral, regional and plurilateral negotiations. Such matters may relate to the removal of impediments to efficient investment and the operation of credit markets, the provision of utility and transport infrastructure and services. The achievement of economic benefits should not be held over while possibly lengthy trade agreement negotiations take place. Domestic reform leveraged to cooperative liberalization agendas between countries with common interests potentially could support domestic efforts.
- Where matters do require cooperation between trading partners, as far as practicable discriminatory terms and conditions should be avoided in favour of arrangements based on non-discriminatory (most favoured nation and national treatment) provisions. Invocation of rules of origin on services and investment transactions (commonly referred to in 'denial of benefits' clauses) should be avoided.
- Where multiple liberalization possibilities are available to a country, as far as practicable, priority should be given to policies that afford the greatest economic benefits.

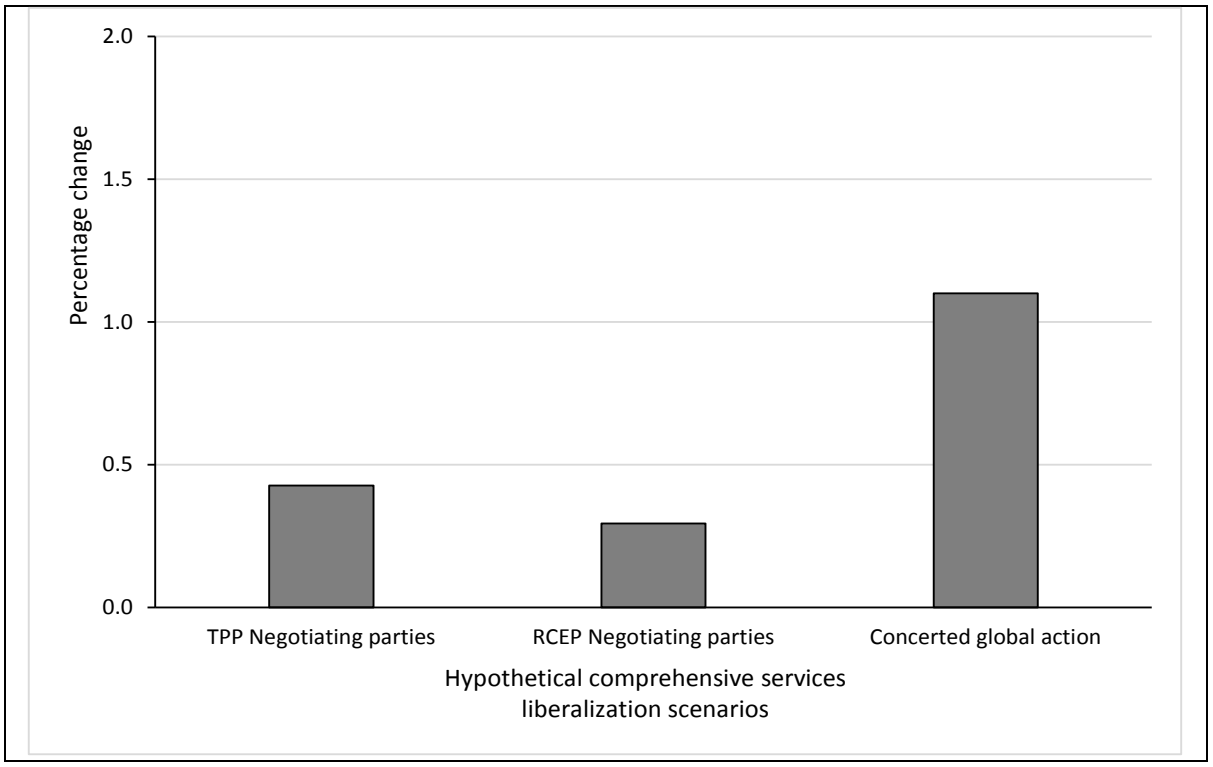
Illustrating the impact of NTM liberalization approaches – the case of services

Recognizing that many measures to liberalize NTMs beyond merchandise trade would be 'behind-the-border' and intended to improve the efficiency of service provision, a generic scenario is adopted in this paper to illustrate aspects of the likely economic effects of NTM liberalization. The scenario looks at the impacts of productivity improvements across services activities — utilities, finance, government, business and personal services. It assumes that any underlying regulatory changes are undertaken in a non-discriminatory manner.

The modelling suggests that for every 1 per cent improvement in the productivity of service provision across all countries, global output would be raised by around 1 per cent. If such a simultaneous improvement was achieved only by RCEP or TPP negotiating parties, a 0.3 and 0.4 per cent increase in global output is projected, respectively (figure 12). The higher projected increase for TPP partners reflects the higher service industry intensity on average for the partner group, relative to the RCEP group.

Figure 12: Estimated global impact of services liberalization, modelled as uniform 1 per cent improvement in the productivity of value adding factors

Real world gross product, Percentage change



Source: Author model simulations.

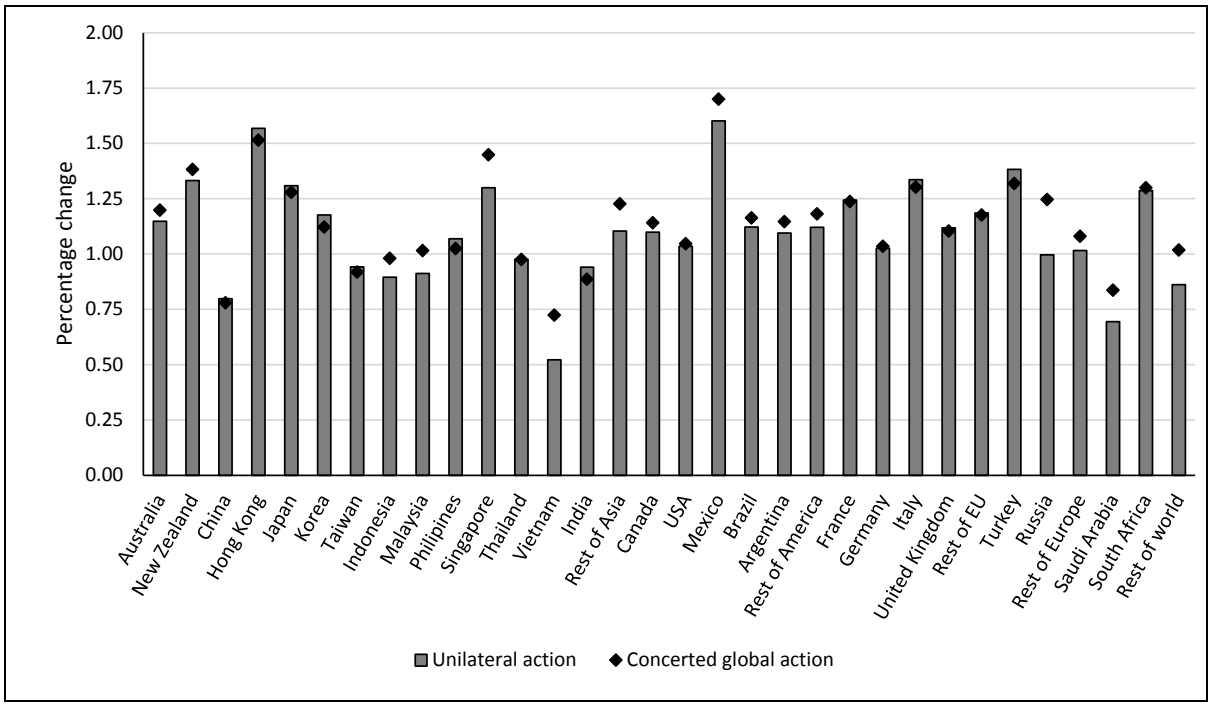
Services industry liberalization may be undertaken by countries individually or sequenced with the liberalization of other countries. If a 1 per cent services industry productivity improvement were achieved by a country individually, the modelling indicated that the projected national economic benefits would come close to the outcome if all countries acted together (figure 13).

The projected results (not charted) for countries in the RCEP and TPP negotiating groups also fall around the unilateral and global cases. The introduction of preferential provisions or provision that involved economic costs (such as increased stringency of IP), would erode outcomes relative to the unilateral, open regional and global cases.

As indicated above, the most effective means of avoiding the noodle/spaghetti bowl of preferential trading arrangements and associated economic costs is to pursue national liberalization on a non-discriminatory basis. If services or NTM liberalization requires cross border cooperation to achieve the productive potential of the arrangements, as far as practicable, they should be formed on a non-exclusive or non-preferential basis.

Figure 13: Estimated regional impacts of unilateral services liberalization, modelled as a 1 per cent in-country improvement in the productivity of value adding factors

Real regional gross domestic product (GDP), Percentage change



Note: Economies in the regions rest of: Asia, America, the EU, Europe, and the world are listed in table 1.

Source: Author model simulations.

Concluding comments and a framework for assessing liberalization options

This paper uses quantitative analysis to illustrate the case for greater trade openness and strategies to transition from the noodle/spaghetti bowl of preferential bilateral and regional trade agreements to a more open global trading system. One strategy would be to leverage liberalization according to WTO most favoured nation/national treatment principles to existing agreements and negotiating frameworks. Recognizing that such strategies can be slow to negotiate and implement, a more effective strategy could be for countries to undertake concerted unilateral action to reduce border protection and improve the productive efficiency of the supply and use of goods and services.

Such a strategy would produce the major part of the gains available both in merchandise trade and services liberalization. It would leave matters that require genuine cross-border cooperation and coordination to be the subject of bilateral, regional, plurilateral and multilateral negotiation, as appropriate. Matters that could fall into this area include: recognition of qualifications and product standards, the movement of people for business, cross border transport and communication, international finance and currency exchange, intellectual property as well as dispute settlement.

Quantitative and qualitative evaluations can play an important role in making the case for change and the resource reallocation pressures likely to occur in ensuring adjustment. Although there could be debate about the details of the most appropriate liberalization strategy for any

one country, one framework approach for assessing the impacts and benefits of strategies and options for national economic reforms would be to leverage to the analysis in this paper and adopt a comprehensive national interest methodology. Such a comprehensive methodology would identify the scope for change, the likely economy-wide (or country) effects in a series of steps beginning with the identification of liberalization and reform potential, intended incremental changes needed to achieve that potential, the economic effects of change, and distributional effects. The comparative-static framework adopted in this paper could be augmented to illustrate the time scale over which change could occur, including adjustment costs.

The framework fully implemented would lead to an overall assessment of what can practically be achieved in a liberalization cycle and also the scope for further improvement (Figure 14). This framework approach would go beyond the coverage of many evaluations of the potential impacts of preferential agreements which typically focus on the quantifiable effects of the trade and investment relationship between agreement partners of a preferential agreement in prospect. It would give greater weight to assessments of overall national liberalization and reform potential and the most effective avenues to achieve that potential.

The application of such a framework would seek to effectively counter at a national level national protectionist sentiments. It would also seek to improve trade policy formulation at the national, regional and global levels through evidence to bolster the case for greater openness above levels that could be otherwise attained. It would help revive deeper and wider economic and trade reforms that foster productivity and income growth and avoid policies that limit productivity prospects and growth.

Figure 14: Stages of a comprehensive evaluation and possible evaluation indicators

Comprehensive evaluation	Some potential evaluation indicators
Identify scope for liberalization and economic reform, linked to policy settings & regulations affected, & jurisdiction(s)	Requirements for new or revised domestic legislation or international agreements affecting trade, investment & the movement of people
Identify scale of activities affected	Trade & investment & local activity affected. People affected. Broader social & environmental effects
Estimate likely direct effects	Import price changes Take-up of preferences Productivity effects Movement of people, social & environmental effects
Identify/estimate timescale, & compliance & administrative costs	Phasing arrangements Negotiation costs, RoO & market access tests and costs
Project likely economy-wide impacts	Quantitative modelling of trade, investment productivity, population effects, & social & environmental effects (if practicable)
Assess potential risks	Such as, regulatory chill (arising from cross-border treaty obligations) Contingent liabilities (such as from ISDS)
Identify alternative liberalization or reform approaches	Assess and compare gains from pursuing unilateral, bilateral, regional, plurilateral and multilateral alternatives
Detail opportunity costs of any delayed liberalization or reform	Quantify loss of benefits from foregoing unilateral tariff reductions & services reform to pursue preferential targets
Provide overall assessment and scope for improvement	Measures of net benefit from a proposed approach and the deficit/premium to alternative approaches

Source: Based on PC, (2015), figure 4.3.

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