PANEL SESSION 1

Attaining the Bogor Goals (Part 1)

Chair: Manfred Wilhelmy (Chile)

1.1. Prof Ippei Yamazawa, Toshihiro Atsumi, and Hikari Ishido

APEC Study Center, Japan

"APEC's New IAP Process: How Can We Strengthen It Toward the Bogor Goals in 2020"

1.2. Chen-Sheng Ho

Associate Research Fellow, Chinese Taipei APEC Study Center, Taiwan Institute of Economic Research

"Advancing the Attainment of the Bogor Goals: The APEC Way"

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Philippine Institute for Development Studies, The Philippines

"Case Study: Innovation in Philippine Transnational Corporations"

1.4. Romauli Panggabean & Robertus B. Herdiyanto

Respectively: Regional Analyst, PT Bank Mandiri, Indonesia & Economic Research Institute for ASEAN and East Asia (ERIA)

"*Factors that Affect Net Trade Creation: APEC Economies Case Study*

Special Discussant: T.M Zakir Machmud (Indonesia)

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PANEL SESSION/CODE: *Attaining the Bogor Goals/1.1*

PAPER TITLE: *APEC's New IAP Process: How Can We Strengthen It Toward the Bogor Goals in 2020*

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APEC's New IAP Process: How Can We Strengthen It Toward the Bogor Goals in 2020

By

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1. Aims of Our Academic Review

Thank you very much for having invited me to speak today. I am glad to see Indonesia has organized this workshop in order to highlight the Bogor Goals at her second hosting of APEC this year. In 1994, the year of her first hosting of APEC, on one August morning, Chair Dr. Bergsten, Professor Suhadi and I visited President Suhart at his house and presented our Eminent Persons Group report recommending 'to achieve free and open trade in the Asia Pacific'. The Bogor Declaration was issued along our suggestion in October and the IAP process has started to implement it since 1997.

During the 1990s, APEC's TILF was the core of regional economic integration (REI) in the Asia Pacific. However, REI's paradigm has shifted to TPP and ASEAN+3 and 6 (now RCEP) and, to our regret, APEC has been marginalized. In 2010 Yokohama, APEC Leaders suggested that TPP and ASEAN+3 and 6 proceed in parallel to FTA in the Asia Pacific and APEC serves as its 'incubator'. However, more than providing intellectual input into the process, APEC build a ground-base for FTAAP through achieving the Bogor Goals as much as possible. I wish this workshop clarifies this direction.[i]

Leaders stressed that their REI efforts contributed to the continued rapid growth of the Asia Pacific but that trade and investment barriers still remained in sensitive sectors. Leaders committed that all economies, including remaining eight, continue to proceed toward the Bogor Goals. APEC is constrained by its non-binding modality to achieve liberalization in sensitive sectors while WTO's DDA negotiation stumbled, APEC can achieve many in facilitation areas as well as NTB and services by means of its unique capacity building. In order to promote the IAP process, it is important for business, academics and all other APEC

[i] This report was presented by Yamazawa at the APEC/CTI Workshop on 'the Bogor Goals' held in Medan on June 30th 2013. Similar versions were also presented by Yamazawa at the ABAC meeting in Kyoto on July 9th and by Ishido at APEC Study Center Consortium meeting in Jakarta on July 26, thus enabling us to deliver our emphasis on the new IAP to the tripartite stakeholders of APEC, officials, business, and academics.

stakeholders to monitor the IAP process and encourage officials to strengthen their efforts toward the Bogor Goals.

In order to fulfill the Leaders' commitment 2010, all APEC economies have renewed their IAP process under new guideline (let us call 'New IAP process'). We have undertaken a careful review of the new IAPs and attempted an independent academic assessment of their efforts for achieving the Bogor Goals in 2020. How have they implemented in their IAPs the *Bogor Goals Progress Report Guidelines* adopted last year? How much have they achieved toward the Bogor Goals at the current stage? In which areas do they need to strengthen their implementation? Although the mid-term assessment of 2010 adopted a group assessment of the thirteen economies, we attempt an objective assessment of individual economies by individual areas so that their remaining tasks will be clarified. We will conclude with our overall assessment and recommendations to the APEC SOM (Senior Officials Meeting) regarding how to strengthen the new IAP process.

2. Mid-term Assessment and Continued Efforts toward 2020

Throughout 2010, APEC/SOM undertook a detailed examination of individual economies' achievement toward the Bogor Goals (APEC/SOM 2010). Only the group assessment was published of its thirteen economies, i.e., five industrialized economies designated to achieve the free and open trade by 2010 plus eight volunteer economies (Chile; Hong Kong, China; Korea; Malaysia; Mexico; Peru; Singapore; and Chinese Taipei). APEC leaders endorsed the report and concluded that APEC economies had achieved a high growth for the past fifteen years and boost the world economy owing to the members' efforts to achieve the Bogor Goals. (APEC/LM 2010a)

However, they also indicated that impediments still remained in six sectors as follows;

- Higher tariffs in agricultural products and textile and clothing,
- Remaining restrictions in financial, telecommunications, transportation, and audiovisual services, and the movement of people least liberalized,
- Sectoral investment restrictions in the form of prohibitions or capital ceiling and continuing general screening system.
- Non-tariff measures need further liberalization
- Further works need to be done in standard and conformance, customs procedures, intellectual property rights, and government procurement,
- Behind-the-border issues need to be addressed by facilitating structural reform;

and they stressed that all APEC economies should continue their efforts of eliminating them for the remaining ten years until 2020 (APEC/LM 2010a).

This was a fair assessment of APEC's achievement, considering the severe constraints that the WTO/DDA negotiation has now got stumbled and the Bogor process has

been implemented under the modality of non-binding liberalization. APEC's TILF process will continue for all APEC economies, including the 13 economies mentioned above.

On the other hand, APEC Leaders had set Free Trade Area of the Asia-Pacific (FTAAP) as a long-term goal beyond the Bogor Goals since 2006 and suggested that

'It should be pursued as a comprehensive FTA by developing and building on ongoing regional undertakings such as ASEAN+3, ASEAN+6, and TPP. To this end APEC will make an important meaningful contribution as an incubator of an FTAAP by providing leadership and intellectual input into the process'. (APEC/LM 2010b).

It is not clear how APEC's continued efforts toward the Bogor Goals serve for FTAAP but many working for APEC will share that the APEC-wide TILF will build a ground base of FTAAP. (Yamazawa 2011, Chapter 7 and APEC/PSU 2010)

3. Start of the New IAP Process

In November 2011 Honolulu, APEC Ministers reported on progress toward achievement for the Bogor Goals, as follows:

"We reaffirmed our commitment to achieving the Bogor Goals of free and open trade and investment, endorsed the *Bogor Goals Progress Report Guidelines* to give direction to the process of reviewing APEC economies' progress toward achievement of the Bogor Goals by 2020. As part of this, we encourage economies to provide in their 2012 Individual Action Plans complete information , including related to transparency about their progress toward achieving the Bogor Goals. To better inform the business community and other stakeholders of this work, we instructed officials to continue developing a "dashboard" of easy-to-understand figures to summarize advances in areas critical to promoting greater regional economic integration."(APEC/MM 2011)

The Guideline had been adopted by SOM2 in Montana and detailed the new IAP process as follows:

- New IAP should cover all 14 areas of Osaka Action Agenda plus those added afterwards (transparency, RTAs/FTAs, and other voluntary reporting areas). 2010 economies (13 economies which were assessed in 2010) might give emphasis to those areas where shortcomings were highlighted by Leaders, cited above).
- Economies should describe, in brief points, only significant new developments under each chapter heading.
- Economies would report in 2012, 2014, 2016, and 2018. The final assessment would be undertaken in 2020.
- Policy Support Unit (PSU) support SOM in this new IAP peer review process. It will prepare a short one-two page report with key highlights on members' main achievements and remaining areas for improvements in the year of review. PSU reports will be

discussed at SOMs and finally made public.

These responded to often-heard criticism of the previous IAP peer review process and, if implemented faithfully, the new IAP process will be much strengthened. The concise and pinpointing ways of addressing achievements will help the new IAPs be accessible by more readers both among APEC officials and outside watchers.

To SOM1 in February 2012, all the 21 economies submitted their *IAP Update 2012* according to the *Guideline.* They set "Highlihgts" of 7~8 items in the first half page, followed by a big table of 18 areas X (updates since 2010 and future plan). They have been put on the APEC's website for public access. Following the Ministers' instruction, PSU produced *Bogor Goals Progress Reports* summarizing individual IAPs in a common format in 3~5 pages.[ii] The PSU report also cited a few critical comments on the economy from the WTO's Trade Policy Review Reports. PSU also added one-page *Dashboard – Bogor Goals* for each economy, listing up key indicators of tariffs, services, and investment, measuring individual economies' progress toward the Bogor Goals.

2012 APEC Ministerial Joint Statement (paragraph 8) acknowledged the PSU's efforts and supported the Senior Officials' decision to extend the mandate of the PSU for an additional seven years from 2014 to 2020 with a mid-term review to examine its strategic direction (paragraph 57). Thus "the new IAP process" mentioned above will continue until 2020.

4. Academic Review of the New IAPs and PSU Reports

We have undertaken a careful study of all *IAP Update 2012* as well as *PSU Reports* and *Dashboard.* and attempted to assess individual economies' efforts toward the Bogor Goals.

Diversity in reporting the new IAPs

A wide diversity is witnessed among the 21 economies in drafting the new IAPs. They are divided into three groups of seven economies in terms of page numbers;

(A) Brunei(5 pages); Chile(11); Canada(10); Korea(16); Peru(19); Russia(18); and Singapore(14)
(B) Australia(32); China(36); Japan(26); Malaysia(24); PNG(33); Philippines(26); and Chinese Taipei(35)
(C) Hong Kong, China(50); Indonesia(56); Mexico(83); New Zealand(51); Thailand(131); USA(79); and Vietnam(54).

[ii] New IAPs as well as PSU Reports and Dashboards are available on line: www.APEC.org>Home>About us>About APEC>Achievements and benefits>Assessment of Achievements of the Bogor Goals in2012.

They apparently reflect different stance of drafting. Economies under (A) try to be as concise as possible, focusing only on updates and repeating "no change since 2010" in many areas. Except for Brunei and Russia, they were assessed in 2010 and may claim to have followed the *Guidelines*. However, they are unkind in helping readers to get an overall picture of individual economies' progress toward the Bogor Goals. Few readers will refer to previous reports for these vacancies. Those economies under (B) give a concise report to every area, which were mostly adopted by the PSU report. On the other hand, those under (C) have either followed the previous way of drafting voluminous IAPs or spending many pages on specific areas or subjects, such as Hong Kong, China on FTAs, USA on transparency, Indonesia on domestic regulation of services, New Zealand on technical assistance, and Thailand on energy services. Furthermore, the new IAPs follow the conventional matrix form of areas X (Improvements made since 2010 IAPs / Further Improvements planned) and contain lot of many empty cells and lists of address for further information and not a readable documents even if their sizes are shortened.

On the other hand, PSU's Progress Report summarizes the required information by the *Guidelines* in a readable format in 3-4 pages, including all the main information reported in the new IAPs and referring to the previous IAPs for the vacancies mentioned above. A 3-4 page PSU report conveys individual economy's efforts for achieving the Bogor Goals in individual areas. *APEC's Bogor Goals Progress Report – APEC* of six pages conveys the PSU's assessment of all APEC economies' progress by areas and provides the best concise overview of the APEC's IAP process.

Negative list and Accumulated Achievement

New IAPs have been made concise by focusing on updates in individual areas, which, however, tend to blur remaining barriers to be removed hereafter. Few concrete remarks are made in the column for Future Implementation. Listing up all liberalizations in the past takes us back to the previous voluminous IAPs. Negative lists of remaining impediments would help when we encourage individual economies to achieve toward the Bogor Goals. Some economies reported their accumulated achievement in major facilitation areas, such as full adoption of international agreements or participation in international standards, which other economies may better be encouraged to follow. PSU's *Dashboard* serves for it partly by listing tariffs and other measures in numerical index. Dashboard may well be extended to include these achievements in facilitation. The 2010 Mid-term Assessment reported on remaining barriers and the 2016 and 2020 assessment will focus on it more than their past achievements. If negative list cannot be provided by IAPs, PSU reports may be able to provide them instead.

Need for incorporating the FTA effects

All the economies mentioned their participation in FTAs. Some IAPs, after reporting "not much progress in MFN tariff reduction", added tariff reduction on FTA basis. This is a clear departure of the new IAPs from those before 2010. We welcome this because we need to incorporate the analyses of the effects of various FTAs mushroomed among the APEC economies into our review process. FTA with its trade-diverting effects is never the best policy measures for economic integration. Nevertheless, its vast spread for the last decade has made it impossible for us to ignore dynamic impacts in promoting regional integration. The new IAP formula instruct all economies to report on FTAs both concluded and still in negotiation, yet we need to include its impacts on the liberalization and facilitation practice of member economies. However, a diversity exists among economies in reporting on FTAs; Some economies report their FTAs in detail but many report only on the existing FTAs or FTAs under negotiation. Nevertheless, all economies give reference address for further details of their FTAs, thus making the new IAPs a comprehensive information source of FTAs by APEC economies.

Further analysis is needed on preferential treatment introduced by these FTAs. For example, each economy reports simple average tariffs for all and by sectors in its IAP as the measure of liberalization in commodity trade. Some add weighted average tariffs calculated all or sector import values as weights. It has been the common practice within APEC of non-binding unilateral liberalization to show only tariffs applied on MFN basis. Few economies report average tariffs weighted by import values of commodities by country of origins, which is called "average effective tariff" in the SOM Report (2010, pp.29-31). It is estimated by dividing total import tariff revenue by total import values, which equals average tariffs weighted by import values including tariffs applied both on MFN and FTA bases. The simple average MFN applied tariffs and average effective tariff were 7.0% and 2.8% for "APEC5" (five industrialized economies, i.e., Australia, Canada, Japan, New Zealand and the United States), 8.9% and 5.5% for "APEC8" (developing member economies which volunteered to be part of the 2010 assessment, namely, Chile; Hong Kong, China; Korea; Malaysia; Mexico; Peru; Singapore and Chinese Taipei) in 1996. In 2009, although simple average MFN tariffs did not change, average effective tariffs declined to 1.4% for APEC5 and 1.1% for APEC8. Of course we should encourage all APEC economies to report their MFN tariffs and reduce them toward the FTAAP. However, we should depart from our conventional practice of reporting MFN tariffs only.

The same argument can be applied to other areas than tariffs. Nowadays APEC economies apply to their FTA partners preferential treatment in other liberalization and facilitation areas as well. We cannot neglect these preferential treatments even under the APEC's nonbinding unilateral modality. We need to take into account their impacts in our review process of the new IAPs. Furthermore, it is probable that an economy conclude an FTA with selected other economies and then apply voluntarily the FTA treatment on MFN

basis in order to avoid the complication of different treatment. Neither IAPs nor PSU reports provide such information but it is more probable in facilitation areas than in liberalization.

APEC has already adopted "Best Practice for FTAs" (2006) and 'FTA/RTA Model Measures" (2009) in order to guide these FTAs so that their detailed rules be consistent and help avoiding the Spaghetti Bowl effects. However, sub-regional FTAs such as TPP and ASEAN++ cannot be converged smoothly only by these technical regulations but require direct appeal to their promoters. APEC's own REI process should be utilized as the ground base for the converging efforts and its new IAP process should be strengthened along this line.

5. Assessment of Achieving the Bogor Goals in 2000 by Areas

The PSU report on APEC conveys how far APEC as a whole has made progress toward the Bogor Goals. It also pointed out that the progress is still limited in such areas as liberalization. However, there still remains big differences in the degree of achievement among economies and it will help to encourage the lagged economies to catch up if they are "warned" individually. We assessed individual economies' achievement quantitatively by area.[iii] Our quantitative assessment is made based on the new IAPs, PSU's *Progress Reports* and *Dashboard*, SOM's mid-term assessment (APEC/SOM 2010) and other APEC documents.

In order to quantify our assessment, we have introduced a five grade score as follows:

5: Almost achieved

4: Achieved with major exceptions

3: Achieved more than half

2: Implemented partly

1: Not started yet.

These may sound too broad a base for assessment but are the maximum we can claim as an objective assessment based on the new IAPs and others. Precise criteria for each grade are set for concrete stage of achievement in individual areas, as follows.

[iii] Academics have so far undertaken critical reviews of the IAP process (Yamazawa 1998, Feinberg and Zhang 2003, PECC 2006, Yamazawa 2009). Our current attempt follows the same line attempting an independent assessment of the new IAP process.

Achievements by area

Tariff: The OAA did not set the Bogor Goal at "zero tariffs for all commodities" but suggested the reduction of average tariffs as well as reducing the high tariff peaks. APEC economies have reduced their tariffs due to the URA as well as unilateral reduction, but high tariffs have remained in sensitive sectors under the protracted DDA negotiations. Zero tariffs have been achieved within FTAs, yet not on the MFN basis. Thus we set the reduction of simple average applied (SAA) MFN tariffs less than 5% as the realistic Bogor target together with reduction of tariff peaks.

Seven economies have reduced their SSA tariffs down to less than 5%, and most of other economies to less than 10 %. However, many economies still keep big dispersion of tariffs on farm products or other sensitive areas, which are measured by average agricultural tariffs and the percentage of product lines with more than 10 % tariffs, taken from PSU's *Dashboard*. It can only be hoped that the Agricultural and Non-Agricultural Market Access negotiation be concluded in the DDA, so that remaining high peak tariffs in sensitive sectors and high bound tariffs would be reduced.

Score 5 is given to economies with SSA tariffs less than 5% with moderate tariff dispersion. Score 4 to SAA tariffs 6-10% and 10-20% tariff dispersion and Score 3 to SAA tariffs over 10% with more than 20% dispersion. (Appendix Table 1). We give 5 to Chile, which have adopted uniform tariffs of 6% for all product lines.

Grade 5: Australia; Brunei; Canada; Chile; Hong Kong, China; Japan; New Zealand; Singapore; US

Grade 4: Indonesia; Peru; Philippines; Chinese Taipei

Grade 3: China; Korea; Malaysia; Mexico; PNG; Russia; Thailand; Vietnam;[iv]

Incidentally, although on non-binding basis, APEC2012 decided to reduce tariffs on environmental goods by 5%.

[iv] An expert commented on my five grade scoring missing 'grade 1 or 2' in some areas. However, my grading is not a relative grading in which all economies are classified into 10-20-40-20-10% for 1 ~ 5 but absolute grading listed in Table 4-1. While having implemented IAPs for 15 years after the Bogor Declaration, it is natural that few economies remain at 2 or 1 in many areas..

Non-Tariff Measures: WTO admits NTM for the reasons of health, public moral, and security, and many economies have reported that they impose no NTM inconsistent with WTO rules. The OAA listed six non-tariff measures are: import quotas, surcharge, minimum import price, discretionary export/import licenses, voluntary export restriction, and export subsidies and instructed each economy to enhance the transparency of its respective laws, regulations and administrative procedures in relation to the flow of goods, services and capital among APEC economies and their gradual reduction. In the meantime, the import quota on agricultural products was tarifficated under the Uruguay Round Agriculture Agreement by 2000 and bilateral quota restriction on textiles and clothing items under Multi-Fibre Arrangement were abolished by 2005.

In the new IAPs, many economies reported that they do not impose any NTM inconsistent with the WTO rules. Nevertheless, some economies report on licensing requirement on used products (Chile; China; Indonesia; and Peru), while others reducing or reshuffling NTMs (Hong Kong, China; Mexico; Philippines; Russia; Chinese Taipei; and Vietnam)

UNCTAD/TRAINS database used to give the frequency (proportion of total tariff lines 5224) of NTMs for many economies and has been used for cross-economies comparison. However, its comparability is now seriously impeded because of different reporting years (1994~2008), sector classification (H0,H1,H2,H3), and types of measures between APEC economies, all based on own reporting system. Thus we have given up our quantitative assessment of NTM.

NTMs are still criticized in WTO's Trade Policy Review and constitute a sensitive area in many FTA negotiations. NTM remains to be a big hole in APEC's road toward the Bogor Goals. SOM should device a strict definition for trade-impeding NTMs, let them be reported in the IAPs, and implement their removal on schedule.

Services：The liberalization of services trade was only included in the Uruguay Round and much less has been achieved than that of commodity trade. Various regulations are imposed on services in domestic transactions for consumer protection and other policy objectives but some to the extent of discriminating foreign suppliers. Uruguay Round adopted General Agreement on Trade in Services (GATS) which set a framework for working out services trade liberalization: standard sector classification for services trade was set and four modes of supply (cross-border supply, consumption abroad, commercial presence and presence of natural persons) and two aspects (market access and national treatment) were identified. Individual economies report on the existence of restrictions on individual sector, mode, and

aspect, and commit not to increase restrictions ("bound" in GATS Commitment Table). However even industrialized economies keep restriction on many service sectors, while developing economies liberalize much fewer sectors.

Reflecting the delayed liberalization in services trade in the UR negotiations, the OAA set much lower liberalization target on services than on commodities. It only identified four sectors: telecommunications, transportation, energy, and tourism as priority service sectors for liberalization. Individual members' IAPs express reporting economies' intention of services liberalization and list sectors to be liberalized (positive list formula). It is therefore hard to identify from the IAPs how many sectors still remain to be liberalized.

The service trade negotiation started in 2000 as a built-in-agenda ahead of the DDA and two rounds of requests and offers were conducted by 2008. Its final conclusion has to await the conclusion of Agricultural and Non-Agricultural Market Access negotiation.

In the new IAPs, many economies reported on their efforts in services area. Such economies as China, Malaysia, Mexico, New Zealand, Russia, Thailand, and Vietnam tackled many services beyond priority sectors by OAA, while others reported on specific services such as tourism, mobile phone, accounting and legal services, banking, and air transport. Korea; Hong Kong, China; and the United States reported that they have made deeper commitment than GATS in their RTAs with other APEC economies. However, it is difficult to obtain a comprehensive picture of services liberalization with the new IAPs alone.

GATS's Commitment Tables give us only internationally comparable data of services liberalization. We counted the number of sectors for which individual economies committed to liberalize (not bound in commitment table, full or with limitation) either MA or NT or both in Mode 1 and Mode 3. Out of 55 sectors, industrialized economies committed 15-25 but developing economies less than 15. Developing economies tend neither to commit nor bound to many sectors, which are counted as unbound (not liberalized). Such economies as Chile; Hong Kong, China; and Singapore have achieved high liberalization in commodity trade but are delayed in service liberalization commitment, while such new entrants as China and Vietnam commit to higher liberalization in services.

SOM Report (2010) gave a detailed report in twenty pages of services trade liberalization by the 13 economies subjected to the Mid-term review. It gave the parallel information to ours mentioned above on their GTAS commitments. Most of them have made deeper commitment than GATS in their RTAs. The last six pages of SOM Report detailed individual economies' domestic regulations in services, which are more informative than those on commitments. They, including 5 industrialized economies, have reshuffled services regulations since the 2000s. It refers to an economy committed 'unbound' in GATS in an area but 'none (liberalized)' in a FTA, while it does not set any domestic regulation in either case. That is, we cannot be assured whether the deeper commitment under RTAs actually reduce

restrictions to foreign suppliers than "Unbound" in GATS.[v] Nevertheless, most economies still keep national monopoly of basic telecommunication, various restrictions to national treatment of foreign banks, cabotage in marine and air transport, as well as strict restrictions on the movement of natural persons. Furthermore, services industry is still developing so that new types of services are emerging for which new regulations including restriction to foreign suppliers may become necessary in future, Developing economies tend to keep them "unbound" even if they have not set domestic regulation yet.

We do not give Grade 5 to any economy. Services liberalization has not reached the level comparable to Tariffs and Investment. Nevertheless some economies have achieved more than others. Although GATS commitment indexes (listed in Appendix tables) give us only comparable figures, we rely much less on them than PSU assessment mentioned above.[vi] Their past and current efforts for regulation will also be taken into account. Grade 4 is given to economies which have already established services regulation. Grade 3 to those which are now tackling this task, while Grade 2 to those having started partial attempt as well as Russia which has not made GATS Commitment yet.

Grade 4: Australia; Canada; Chile; Hong Kong, China; Japan; Korea; New Zealand; Singapore; Chinese Taipei; US

Grade 3: China; Indonesia; Malaysia; Mexico; Peru; Philippines; Thailand; Vietnam

Grade 2: Brunei; PNG; Russia

Services sector was identified by the Leaders as one of six remaining areas and require more strengthened efforts in their liberalization. SOM should go beyond the GATS commitments and more comprehensive on domestic regulations. It helps developing economies if a model measure of domestic regulation least discriminating foreign suppliers is provided. APEC should develop such model measures for major services sectors, encourage to follow them, and report in their IAPs how their actual implementation is consistent with the model measures. It will certainly promote the services liberalization within APEC more than GATS commitment formula.

[v] One of the authors' recent study on services liberalization clarified a large divergence between GATS commitments and actual service regulation in many APEC economies. (Yamazawa, 2013)
[vi] Please refer to Yamazawa(2013). Some academic experts make strict assessment of the current state of services liberalization. (Stephenson 2006).

Investment: The OAA expects that the APEC economies will achieve free and open investment in the Asia-Pacific region by liberalizing their respective investment regimes and the overall APEC investment environment by, inter alia, progressively providing for MFN treatment and national treatment and ensuring transparency and facilitating investment activities through, inter-alia, technical assistance and cooperation.

According to the 2010 Guide to Investment Regimes of APEC Member Economies (2nd Revision), every APEC member considers attracting foreign investment is important. Yet, most economies do not allow totally free and open international investment. The APEC Guideline for Investment Regimes (2007) identified the following three stages A, B, and C, regarding foreign investment regimes of APEC economies.

(A) No (pre-)restriction to investments by foreign firms and gives them national treatment and MFN

(B) No regulation of foreign firms after their investment, including minimum performance requirements

(C) Protection of foreign investors against expropriation, and free redemption of profits.

While examining the new IAPs, we have found no significant developments by the economies in grade B and C. As such, economies in stages A, B, C are given Grade 5, 4, and 3 respectively. Economies in transition from socialist planned regime are mostly included at Stage C and are found to keep governmental protection of sensitive sectors.

The following two indexes are also taken into consideration in scoring the foreign investment regimes. The 2011 World Bank index for Ease of Doing Business (EODB) index ranks economies from 1 to 183. For each economy the ranking is calculated as the simple average of the percentile rankings on each of the 10 topics: starting a business, dealing with construction permits, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency and, newly in 2011, getting electricity. Among members, Singapore; Hong Kong, China; New Zealand; the United States and Korea are the top-ten economies of the index. Ten APEC economies are in the top half the world. Another related indicator in the *Global Competitiveness Report* is the Business Rules Impact on foreign Direct Investment, which measures the extent that rules governing foreign direct investment encourage foreign investments in each economy. The indicator is on the 1-to-7 scale, and 7 indicates having the most positive impact of rules on foreign direct investment. The highest scoring members are Singapore; Hong Kong, China; Canada; Australia; and Chile.[vii] A clear correspondence is witnessed between A-B-C grouping and EODB/GCR indexes.

[vii] Both EODB and GCR indexes are taken from PSU's Dashboard. Prevalence of Foreign Ownership is also adopted there but it tends to give higher values for small economies as well as open policy.

Grade 5: Australia; Canada; Chile; Hong Kong, China; Japan; Korea; New Zealand; Singapore; the United States

Grade 4: Malaysia; Mexico; Peru; Chinese Taipei; Thailand

Grade 3: Brunei; China; Indonesia; PNG; the Philippines; Russia; Vietnam

Standard and Conformance (S&C): APEC issued 'APEC's S&C Framework Declaration' in 1994 and established Sub-Committee for S&C (SCSC) for joint efforts in alignment to international standards and mutual recognition of conformance assessment. Individual economies' achievement, however, are constrained by their development stages. First, an economy has to build its technical infrastructure for own standards, then participate in the International Organization for Standardization (ISO), International Electro-technical Commission (IEC), and the Treaty of the Metre, etc. in order to align domestic standard to international ones, and start mutual recognition of conformance assessment with other economies.

Trade Facilitation Action Plan II (TFAPII, 2008) reported that 17 APEC economies have adopted ISO, 16 economies IEC, 17 economies VAP, and 20 economies except Chinese Taipei have participated PASC regional forum promoting S&C (Chapter 5, Section 1). In 20 economies except Hong Kong, China, industries participated in this move. 15~18 economies participate in MRA of electric and electronics, foods and labor accreditation. Such a small economy as Brunei has adopted international standard instead of setting its own standard. Thus all APEC economies are eager to make an international alignment and come closer to achieving the Bogor Goals.

Grade 5 is given to economies achieved high level of international alignment and expanding MRA, Grade 4 to those with ISO and IEO but starting MRA, Grade 3 to those achieved only a half international alignment.

Grade 5: Australia; Canada; Japan; Korea; New Zealand; Philippines; Singapore; US

Grade 4: Brunei; Chile; China; Hong Kong, China; Indonesia; Malaysia; Mexico; Peru; Russia; Chinese Taipei; Thailand; Vietnam

Grade 3: PNG;

Customs Procedure: The OAA asks the APEC economies to facilitate trade in the Asia-Pacific region by simplifying and harmonizing customs procedures. Concrete objectives for collective action were set including the harmonization of tariff structures with the Harmonized System Convention (HSC), adoption of the principles of the WTO valuation agreement, simplification and harmonization on the basis of the Kyoto Convention, transparency of customs procedures, customs laws, regulations, administrative guidelines, procedures, and rulings, and adoption of the UN/EDIFACT, etc.

Most members have adopted the first two objectives. The UN/EDIFACT is implemented by many members and the average length of time required for customs clearance has been significantly shortened. The revised Kyoto Convention has been in force since February 2006 and eleven economies have adopted it. The Single Window has been introduced since 2006. According to the Single Window Report 2010, fourteen economies have established the Single Window, while it is under development in four economies.

While revised Kyoto Convention and Single Window represent effective procedures, actual logistics "friendliness" of these procedures is captured by the Logistics Performance Index (LPI) of the World Bank, which ranks 155 countries. Twelve members from APEC are listed in the top-forty economies of the LPI index. The top-ranking APEC economies are Singapore (2nd in the world); Japan (7th); Hong Kong, China (13th); Canada (14th); and the United States (15th).

Grade 5 is given to economies which adopted the revised Kyoto Convention and established the Single Window and highly ranked by LPI index. Singapore; Hong Kong, China; and New Zealand have implemented neither of them or one of them but are ranked highly by LIP as mentioned above. Grade 4 to those implemented both but regarded not sufficiently friendly in LIP. Grade 3 to those preparing for the Kyoto Convention and developing the Single Window and with much lower LIP indexes..

Grade 5: Australia; Canada; Hong Kong, China; Japan; New Zealand; Singapore; and the United States

Grade 4: Chile; China; Korea; Malaysia; the Philippines; Chinese Taipei; Thailand

Grade 3: Brunei; Indonesia; Mexico; PNG; Peru; Russia; and Vietnam

Intellectual Property Rights: The protection of IPR is becoming increasingly important in today's knowledge-based economy. The OAA asks the APEC economies to ensure adequate and effective protection, including legislation, administration and enforcement, of intellectual

property rights in the Asia-Pacific region based on the principles of MFN treatment, national treatment and transparency as set out in the TRIPS Agreement and other related agreements.

All economies have adopted a patent law, design law, and trademarks. In addition, all economies have government organizations in charge of enforcing IPR. The Paris Convention, the multilateral framework for protecting IPR in industry has been ratified by nineteen economies except Russia and Chinese Taipei. Now that Russia has joined the WTO, TRIPS will be ratified by all members. However, several economies are yet to implement domestic legislation for enforcing the IPR. Grade 5 is given to the economies that have adopted the Paris Convention and WTO/TRIPS; Grade 4 to those with domestic organizations in charge of implementing IPR laws; Grade 3 to those still preparing domestic legislation.

Grade 5: Australia; Canada; Chile; Japan; Korea; New Zealand; Singapore; the United States

Grade 4: Brunei; China; Hong Kong, China; Indonesia; Malaysia; Mexico; Peru; the Philippines; Chinese Taipei; Thailand; Vietnam

Grade 3: PNG; Russia

However, the effectiveness of implementation of IPR cannot be assessed from the new IAPs. IPR is still a major cause of trade and investment disputes and its implementation need to be improved through consultation and negotiation.

Government Procurement: As regards government procurement, priority purchase of domestic products was long admitted for the reason of national security and industry protection (exempted from national treatment in GATT Article 3). However, because of the globalization of businesses, government procurement transactions have necessitated a demand for open and competitive market for government procurements. The Government Procurement Agreement (GPA) was ratified as a part of Marrakech Treaty in 1994, which covers both commodities and services and includes local governments and other public organizations as well. However, the decentralization of government administration differs among APEC members, and as such the OAA did not emphasize the liberalization of government procurement but insisted on the transparency of legislature and procedures and its international dissemination.

On the other hand, APEC adopted a model measure, *Government Procurement Non-Binding Principles of Transparency, Value for Money, Open and Effective Competition, Fair Dealing, Accountability and Due process, and Non-discrimination* (NBGP) and encouraged individual members to align own procedures to it. Incidentally, GPA was modernized by WTO in December 2011.

In the new IAPs most economies reported on their GP process. Seven APEC economies have been signatories to GPA, while China is negotiating to accede to it. ALL 13 economies under the 2010 mid-term assessment were found to have introduced GP system highly consistent with the NBGP and introduced e-bidding practices for GP. Some economies report preparing or implementing the GP process along the line of GPNB.

Grade 5 is given to the economies which are the signatories to WTO/GPA. Although Australia and New Zealand are not its signatories because of their federal system, they have already implemented advanced GP process with e-bidding. Grade 4 is given to those, non-signatory to GPA but have implemented e-bidding and related facilities, Grade 3 to those preparing and implementing the GP process.

Grade 5: Australia; Canada; Hong Kong, China; Japan; Korea; New Zealand; Singapore; Chinese Taipei; US

Grade 4: Chile; Indonesia; Malaysia; Mexico; Peru; Thailand

Grade 3: Brunei; China; Philippines; PNG; Russia; Vietnam

In the 2008 global financial crisis, such economies as the US, Indonesia, and major states of Australia have applied the buy home produced products and services for government purchase. The US, as a signatory of the GPA, exempted other GPA signatories from this Buy-American policy, while Australia and Indonesia, which are non-signatory economies, can discriminate other APEC economies under these measures.

Business Mobility: The OAA adopted the enhancement of the mobility of business people as a strategic approach to facilitate trade and investment expansion in the region in response to a strong request by ABAC. The Group of Business Mobility started in 1997 and focused a transparent legislation for business visa and short-term business stay and proposed individual economies to publish the *APEC Business Travel Handbook* (ABTH) and issued the *APEC Business Travel Card (ABTC)*. The Handbook collects and disseminates the information about the processing of visas, the application procedures, and the terms of validity. The Travel Card provides privileged lanes for guaranteed business travelers at the immigration office.

All APEC economies have already published the Travel Handbook. The ABTC started by a few proponent economies and joined by eight economies by 2000 but had not

spread further due to political and security reason (Feinberg and Zhan 2001). Some economies have also strengthened immigration procedures for the anti-terrorism since 2001. Nevertheless, it is a big achievement of APEC that ABTC has now been adopted by all APEC economies. On the other hand, there is witnessed a big diversity between APEC economies for short-stay business (at least a 7-day visit) visa requirements for even ABTC holders. PSU conducted a survey on it and found that 6 economies require visa for business visitors from almost all (18~20) other APEC economies (Australia, Brunei, China, PNG, Peru, and Russia), while 4 economies (Hong Kong, China; Malaysia; Philippines; and Singapore) requires no visa and others are in between. There may be other types of complication in acquiring visa (time, fee, and number of documents, etc.) but it is hard to obtain a comparable information from the new IAPs and PSU reports.

As such, we give grade 4 to all economies for having implemented ABTC and add additional 1 grade to 15 economies (other than 6 economies mentioned above) for not requiring short-stay business visa.

Grade 5: All economies except for the following six

Grade 4: Australia, Brunei, China, PNG, Peru, and Russia

Nevertheless, some may argue the need for freeing the mobility of semi-skilled and unskilled workers across the border. It is a desirable direction for APEC to pursue in the long run, but it is beyond the Bogor Goals. Incidentally ASEAN has started to liberalize the movement of skilled workers (engineers, nurses, accountants, and medical doctors) among members in its ASEAN Economic Community Blueprint (2008).

The preceding assessment still leaves seven areas of *the Guidelines* to be evaluated (Table 1) .

Competition policy/ Deregulation: Competition policy aims to promote market competition, while Deregulation aims to provide transparent and efficient regulations affecting business activities. Given a wide difference in development stage and different institutional and legal structures among APEC economies, the two areas were not well focused on the OAA in 1995. Half of them neither had competition law/agency nor shared the need for regulatory reform (SOM report 2010). However, in the 2000s, the two areas have attracted attention as ‘behind-the-border-measures’ supporting liberalization and facilitation of cross-border transactions. In 2004 Leaders highlighted this problem in the ‘Leaders’ Agenda to Implement Structural Reform (LAISR).

In the new IAPs, many economies reported on both areas extensively in the same direction. They reported on amendment of competition policy and strengthening of enforcing mechanism. They also reported on current review process of regulations or regulatory reform in specific or wider areas. ASEAN economies have enacted competition laws and started regulatory review. Transition economies like China, Russia and Vietnam introduced competition policy and regulatory review, with capacity building assistance by the United States and Australia. We welcome this emerging enthusiasm but we refrain from scoring their achievement stages because of insufficient information and diverse reporting in the new IAPs. We wish Economic Committee in charge of LAISR collect more comprehensive information of these efforts, objectively assess their achievement, and encourage all attempts. A few economies referred to World Bank's EoDB indicators as a comparable measure of individual economies' efforts. However, since we have already resorted to the same index in Investment area (Appendix table), we refrain from the duplicate use of the same index.

The **ROO** originally aimed at collecting information about different ROOs in preferential and non-preferential ROOs among APEC members and promoting their harmonization. With bilateral and regional FTAs flourished world-wide, different ROOs between these intra-APEC RTAs tend to cause impediments to efficient production networks within the region so that APEC has adopted a Model Measures for FTAs in which the ROO is a major focus. However, to our disappointment, no economy report on ROO in the new IAPs, either in the ROO area or related FTA area. If APEC is serious in this attempt, SOM should urge them so that they report on their efforts for converging and harmonizing them among themselves.

Dispute settlement: This is still a rather untouched area among APEC members, but apparently this area does not convey a clear message to IAP reporters. Out of seven economies reporting on this area, four reported on dispute settlement at home and only Singapore announced the start of the Singapore office of the World Intellectual Property Organization Arbitration and Mediation Center. EPG Report III (1995) proposed 'APEC Dispute Mediation System' to supplement the WTO panels for dispute settlement but many members have tended to resort to the latter and no argument has followed on this area. SOM may well reconsider the continuance of this area in the new IAPs.

The remaining three areas are skipped for most economies in PSU Reports. The **Implementation of the URA** have been completed by most APEC economies. The importance of **Transparency** and **Official-web** are well shared by all APEC economies.

6. Overall Assessment of the Final Bogor Goals

Table 1 provides a summary matrix of scores of 21 economies by 8 areas. The last row gives the average scores, or average achievement, of the 21 economies in individual areas.

Table 1 Five grade assessment by economies and areas

	Tariffs	Services	Invest	S&C	Customs	IPR	Gov Pro	Bus Visa
Australia	5	4	5	5	5	5	5	4
Brunei	5	2	3	4	3	4	3	4
Canada	5	4	5	5	5	5	5	5
Chile	5	4	5	4	4	5	4	5
China	3	3	3	4	4	4	3	3
Hong Kong, China	5	4	5	4	5	4	5	5
Indonesia	4	3	3	4	3	4	4	5
Japan	5	4	5	5	5	5	5	5
Korea	3	4	5	5	4	5	5	5
Malaysia	3	3	4	4	4	4	4	5
Mexico	3	3	4	4	3	4	4	5
New Zealand	5	4	5	5	5	5	5	5
PNG	3	2	3	3	3	3	3	4
Peru	4	3	4	4	3	4	4	4
Philippines	4	3	3	5	4	4	3	5
Russia	3	2	3	4	3	3	3	4

Singapore	5	4	5	5	5	5	5	5
Chinese Taipei	4	4	4	4	4	4	5	5
Thailand	3	3	4	4	4	4	4	5
USA	5	4	5	5	5	5	5	5
Vietnam	3	3	3	4	3	4	3	5
APEC Average	4.0	3.3	4.1	4.3	4.0	4.3	4.1	4.7

Business mobility have achieved the highest score 4.7, very close to achieving the Bogor goal. It is followed by Standard and Conformance and Intellectual Property Right, both 4.3, and by Customs Procedures and Government Procurement both 4.1. All facilitation areas achieved 4 or more, that is, "completed with important exceptions". In liberalization areas, the APEC average scores are lower, 4.1 in Investment, 4.0 in Tariffs, and 3.3 in Services. Are they not far from the image of many observers about APEC's achievement by areas? It should be noted that a half of APEC economies have achieved integrated market in investment and customs procedures comparable with EU members (in terms of EODB and LPI indexes), while APEC is far from EU in institutional setting.

- APEC economies have made good progress in implementing facilitation areas. Most economies established major standards and ratified international treaties. However, more than half of them have only recently completed them and are still preparing domestic legislations for enforcing them. They have benefitted from Collective Action Plans (CAPS) and capacity building assistance by Ecotech task forces.
- APEC has made limited progress in tariffs and investment, still keeping high tariffs and restricting foreign investment in sensitive sectors. More progress have been made on FTA basis but further liberalization on MFN basis may come only at the conclusion of the DDA negotiation.
- APEC's efforts remain insufficient in NTM and services. Several economies do not report on remaining NTMs seriously in their IAPs partly because of half measures by APEC. In services, tourism, finance, telecommunication, and transport have been liberalized partly but conventional restrictions remain untouched. It is the case not only in APEC economies but also in many WTO members, reflecting fundamental deficiency of the service negotiation in DDA. A big improvement is not likely to come toward 2020 in these areas. PSU should encourage SOM to strengthen the IAPs with the help of working groups on NTMs and services.
- While the importance of behind-the-border-measures has become shared by most APEC economies, competition policy and regulatory reform have only recently been tackled by most developing economies. While FTAs continue to be negotiated between APEC members, more efforts are needed to harmonize so that spaghetti bowl and trade

diverting effects be minimized. SOM and PSU should guide the IAP process toward the final Bogor Goals so that the Leaders' commitments be achieved.

We do not calculate the total scores of individual economies over all areas. It is because we do not aim to rank them by their total scores but to examine individual economies' patterns of achievement by areas. It is shown clearly in the radar charts which measure each economy's scores of 1 to 5 from the center along the eight axes. The solid line gives the economy's scores, while the dotted line gives the APEC average. The outermost line linking 5 along all axes reflects the highest achievement, that is, complete achievement of the Bogor Goals. Relative position of each economy vis-a-vis APEC average tells how it has achieved toward the goal.

Radar charts show us the APEC economies' achievement toward the Bogor Goals. Here it should be noted that these reflect the current level of their achievement but not measure the accumulated efforts of individual economies in liberalization and facilitation since 1995. As we repeated in our assessment of achievement in individual areas above, the institutional achievement in liberalization and facilitation have been constrained by their stage of economic development and experience in market economies. In fact, the progress in liberalization was greater in developing economies and transition economies. Industrialized economies had already achieved high levels of liberalization at the time of the Bogor Declaration and it is quite natural for them to have acquired higher scores in this assessment work.

7. Conclusion and Recommendations

(1) While IAPs still remain no easy readings, PSU's Progress Reports provide concise summaries of individual economies' progress in liberalization and facilitation towards the year 2020, with 3~4 page for each economy and around 80 pages all together including overall picture for APEC as a whole. We recommend academics, businessmen and other stakeholders of APEC to read it and monitor closely the APEC's progress toward the final Bogor Goals. It will encourage senior officials and staffs working on APEC to continue their efforts toward 2020 as APEC Leaders have committed.

(2) Beyond providing concise summaries, PSU Report can also help strengthening the IAP process. IAPs 2012 and their PSU summaries do not convey sufficient information in some areas and economies. SOM and PSU can strengthen the Guidelines for IAPs 2014, indicating major standards , treaties, and domestic legislations to be included by all economies so as to be compared between economies

(3)Further encouragement is still needed in some areas of OAA, especially in NTM, services, competition policy, and FTAs so that all economies enhance their liberalization and facilitation as was deliberated in the previous section. We cannot change the APEC modality of voluntariness and non-binding but need to strengthen our peer pressure if we really aim the Bogor Goals.

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APPENDIX

Appendix Table 1 Basic data for five grade assessment: Tariffs and Services

	Sim.avTariffs	Agr Tariff	**% of over 10% tariffs**	**Services**
Australia	2.8	1.3	0.1	25-30-0
Brunei	2.5	0.1	10.3	3-22-32
Canada	3.7	11.3	8.6	15-26-14
Chile	6.0	6.0	0	2-25-28
China	9.8	15.2	30.3	14-38-8
Hong Kong, China	0	0	0	4-38-13
Indonesia	6.8	8.4	16.2	6-26-23
Japan	4.4	17.3	6.4	19-36-0
Korea	12.1	48.5	14.5	15-26-14
Malaysia	8.4	13.5	24.6	11-30-14
Mexico	9.0	21.5	34.6	12-34-9
New Zealand	2.1	1.4	0	8-38-9
PNG	5.1	14.7	21.0	8-28-19
Peru	5.0	6.3	12.4	1-36-18
Philippines	6.3	9.8	15.8	4-23-28
Russia	9.5	13.5	32.6	Not acceded to GATS yet
Singapore	0	0.2	0	10-27-8
Chinese Taipei	6.1	16.5	14.3	20-35-0
Thailand	9.9	22.8	23.4	2-49-4
U.S.A	3.5	4.9	7.7	25-30-0
Vietnam	9.8	17.0	36.5	9-46-0

Appendix Table Basic data for five grade assessment 2

	Investment (	**Standard & Conformance** Intern'l alignment (%)	**Customs Procedure** RKC,SW, LPI
Australia	Stage A, 15, 4.9	ISO, IEC, VAP, 38%	RKC adop'd, SW est'd, 3.68
Brunei	Stage B, 83, 4.7	ISO, IEC, VAP,	SW est'd
Canada	Stage A,, 13, 5	ISO, IEC, VAP, 70%	RKC adop'd, SW est'd, 3.71
Chile	Stage A, 39, 5.6	ISO, IEC,	SW est'd, 2.93
China	Stage C, 91, 5.4	ISO, IEC, VAP, 68%	RKC adop'd, SW est'd, 3.16
Hong Kong, China	Stage A, 2, 6.2	VAP, completed	3.83
Indonesia	Stage C, 129, 5	ISO, IEC, VAP, 45%	SW est'd, 2.43
Japan	Stage A, 20, 4.4	ISO, IEC, VAP, high	RKC adop'd, SW est'd, 3.79
Korea	Stage A, 8, 4.3	ISO, IEC, 99%	RKC adop'd, SW est'd, 3.33
Malaysia	Stage B, 18, 5.2	ISO, IEC, VAP, 62%	RKC adop'd, SW est'd, 3.11
Mexico	Stage B, 53, 4.8	ISO, IEC, 66%	SW est'd, 2.55
New Zealand	Stage A, 3, 4.9	ISO, IEC, VAP, 100%	RKC adop'd, SW under dev, 3.64
PNG	Stage C, 101	ISO, IEC, Codex	2.02
Peru	Stage B, 41, 5.4	ISO, IEC, 15%	SW under dev, 2.5
Philippines	Stage C, 136, , 4.3	ISO, IEC, VAP, 78%	RKC adop'd, SW est'd, 2.67
Russia	Stage C, 120, 3.6	ISO, IEC,	RKC adop'd, 2.15
Singapore	Stage A, 1, 6.5	ISO, IEC, VAP,	SW est'd, 4.02
China. Taipei	Stage B, 25, 5.4	VAP, high	SW under dev, 3.35
Thailand	Stage B, 17, 5.1	ISO, IEC, VAP, 25%	SW est'd, 3.02
U.S.A	Stage A, 4, 4.6	ISO, IEC, VAP, high	RKC adop'd, SW est'd, 3.68

Vietnam	Stage C, 98, 5.3	ISO, IEC, VAP, 24%	RKC adop'd, SW under dev, 2.68

Appendix Table Basic data for five grade assessment 3

	Intellectual Property right	**Government procurement**	**Business Mobility** Visa req
Australia	Paris Convention and TRIP	Not GPA sig, advanced GP process	ABTC, 19
Brunei	Paris Convention and TRIP Implem	Own rule of GP	ABTC, 18
Canada	Paris Convention and TRIP	GPA signatory	ABTC, 10
Chile	Paris Convention and TRIP	NBGP consistent	ABTC, 6
China	Paris Convention and TRIP, Implem	Establishing GP process	ABTC, 20
Hong Kong, China	Paris Convention and TRIP Implem	GPA signatory	ABTC, 2
Indonesia	Paris Convention and TRIP Implem	Implementing e-GP	ABTC, 11
Japan	Paris Convention and TRIP	GPA signatory	ABTC, 9
Korea	Paris Convention and TRIP	GPA signatory	ABTC, 12
Malaysia	Paris Convention and TRIP Implem	NBGP consistent	ABTC,, 1
Mexico	Paris Convention and TRIP Implem	NBGP consistent	ABTC, 11
New Zealand	Paris Convention and TRIP	Not GPA sig, advanced GP process	ABTC, 8
PNG	Preparing domestic legislation	Establishing GP process	ABTC, 20
Peru	Paris Convention and TRIP Implem	NBGP consistent	ABTC, 20
Philippines	Paris Convention and TRIP Implem	Establishing GP process	ABTC, 2
Russia	Preparing domestic legislation	Establishing GP process	ABTC, 18
Singapore	Paris Convention and TRIP	GPA signatory	ABTC, 2
China. Taipei	TRIP Implem	GPA signatory	ABTC, 12

Thailand	Paris Convention and TRIP Implem	Implementing e-GP	ABTC, 11
U.S.A	Paris Convention and TRIP	GPA signatory	ABTC, 13
Vietnam	Paris Convention and TRIP Implem	Establishing GP process	ABTC, 11

Annotations to Appendix Table

(Sources: IAPs 2012, PSU Reports and Dashboard, except for otherwise stated)

Tariffs: simple average applied MFN tariffs, simple average agricultural tariffs, and % of tariff line with over 10 % tariff.

Services: A-B-C denote numbers of sectors (total 55) 'bound, unbound, and not stated' for market access and/or national treatment in both Model 1 and Model 3 in *GATS Commitment Tables 2003.*

Investment: Stages A,B,C based on the *APEC Guidance on Investment Regime 2007.* Numbers are World Bank's EODB indexes, World Economic Forum's Business Rules Impact on Foreign Direct Investment index in the *Global Competitiveness Report* (2010-2011)

Standard and Conformance: Adopted ISO, IEC, and VAP. Degree of alignment of domestic standard to international counterpart (%), whose comparability needs to be examined.

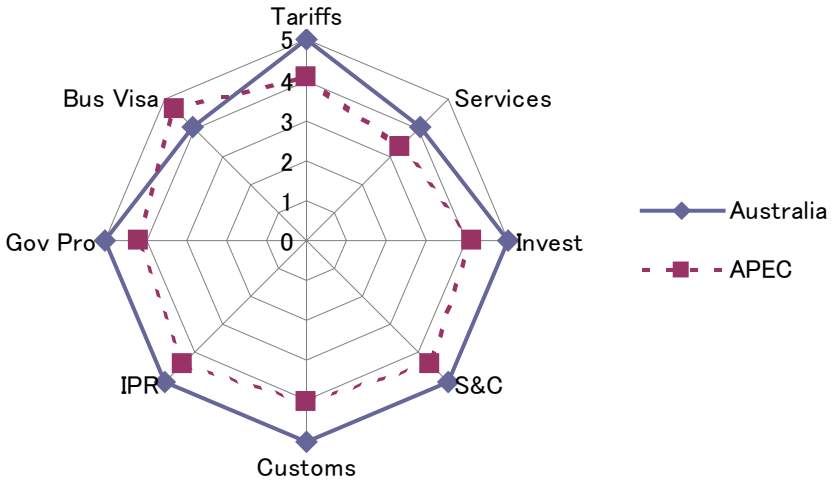
Customs Procedures: Harmonization to HS and WTO valuation agreement and UN/EDIFACT have already implemented by almost all APEC economies. Adoption of RKC and/or Single Window established or in preparation. Sources: SCCP, CAP *Assessment/Evaluation Matrix: Summary by Economy*, July 2009 and SCCP, *Single Window Report*, September 2010. World Bank's *Logistic Performance Index (Customs)* is added in order to measure their effectiveness in individual economies.

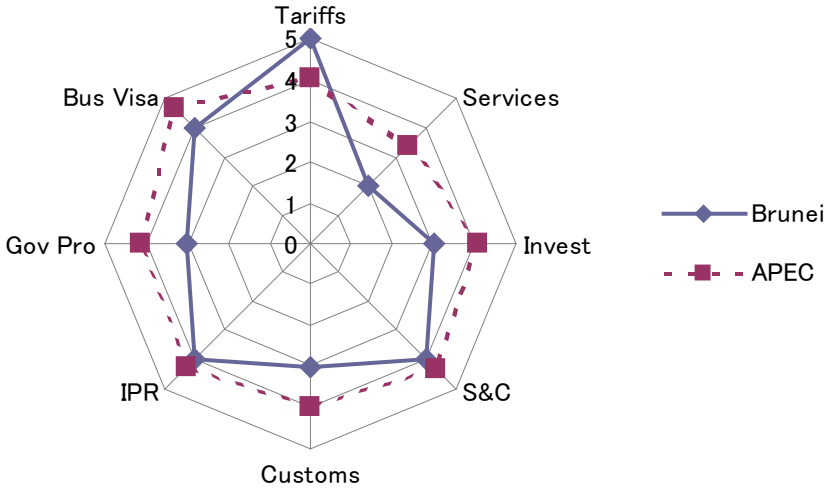
Intellectual Property Right: Paris Convention and TRIP are signed by most economies , but some economies are still implementing domestic organizations in charge of enforcing IPRs. Two economies are still in preparation.

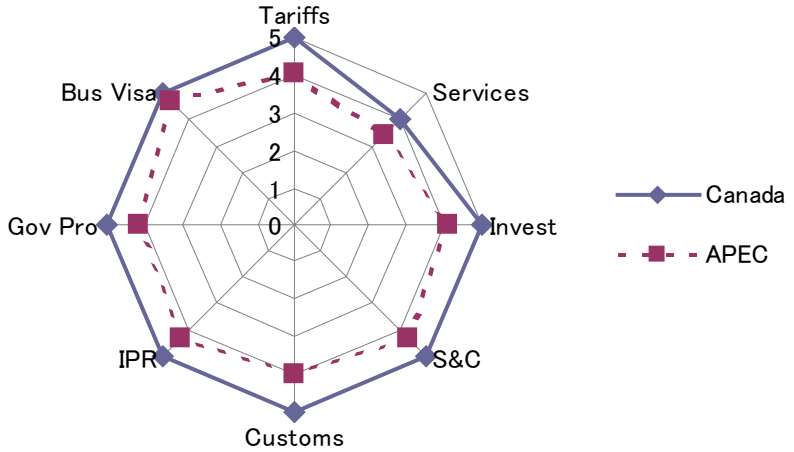
Government procurement: Australia and New Zealand do not participate in GPA because of their federal system but adopt a common GP procedure and keep transparency and competition within their bilateral FTA.

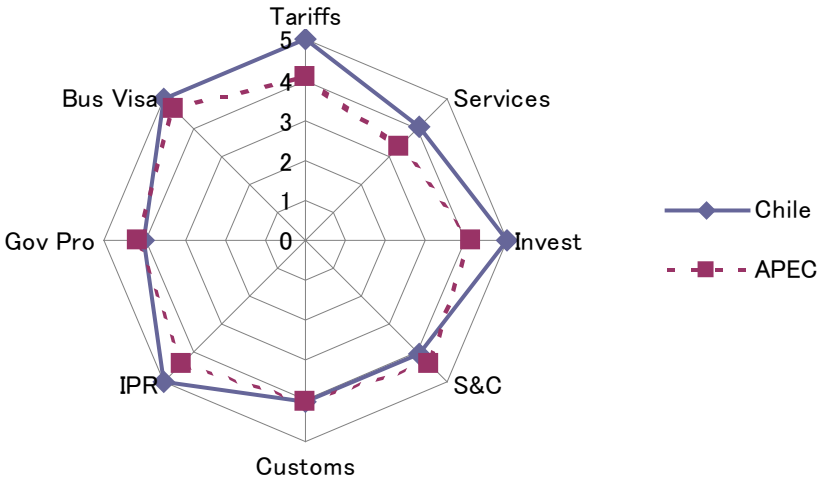
Business Mobility: Implementation or provisional implementation of ABTC. Number of other APEC economies from which visitors are required for short-term business visa (Source: PSU Report on Business Mobility, 2011).

Appendix: Radar Charts for 21 APEC Economies





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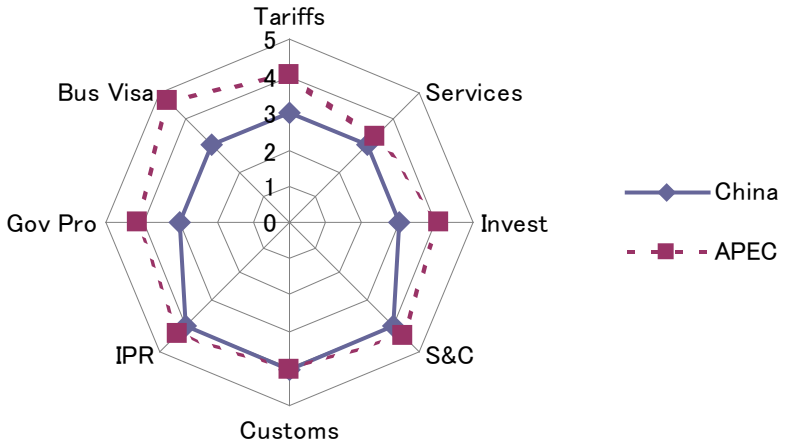
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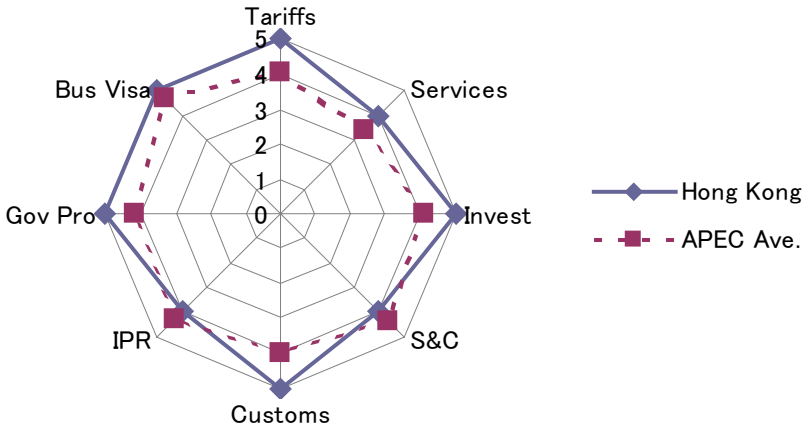
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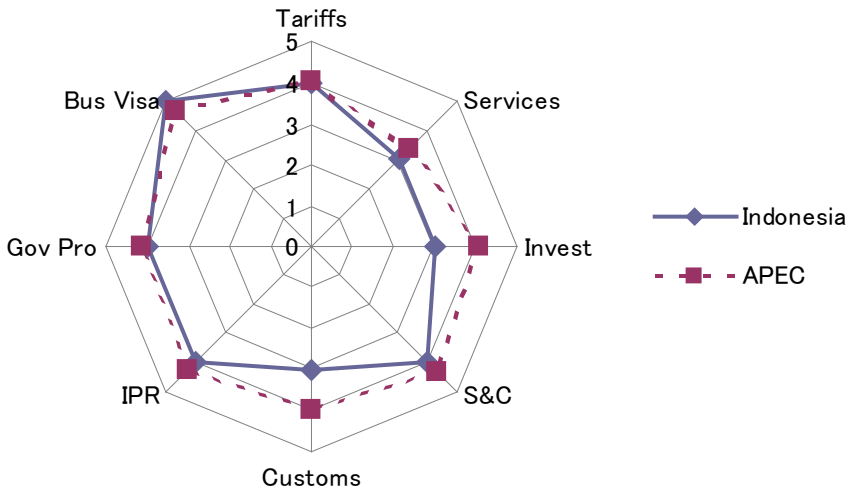
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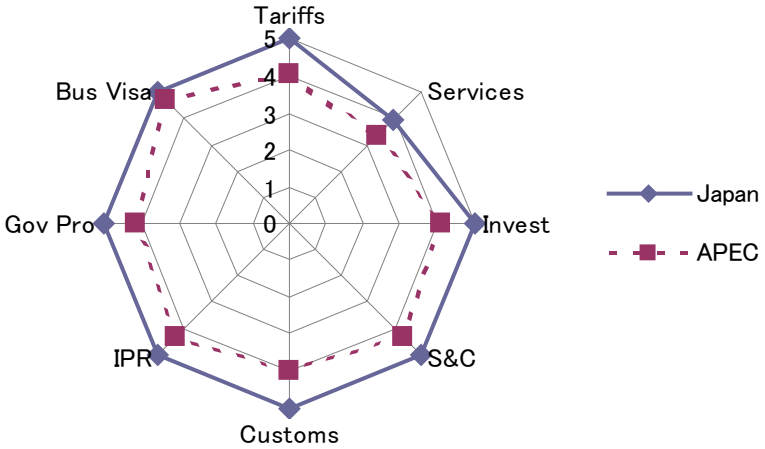
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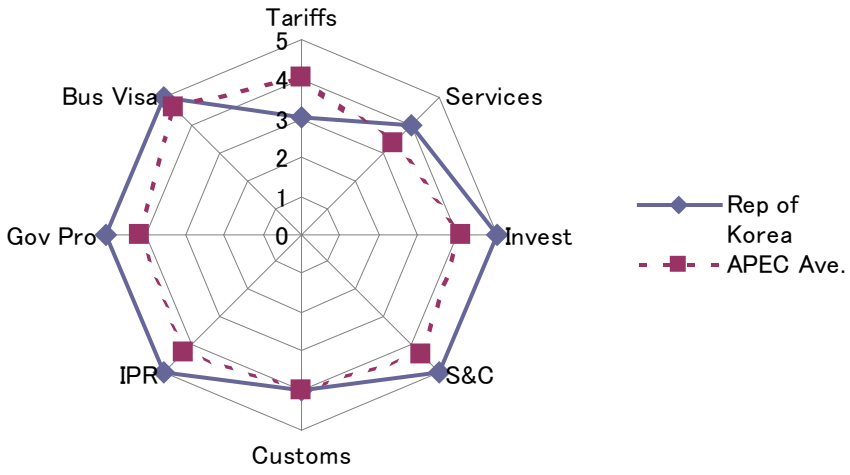
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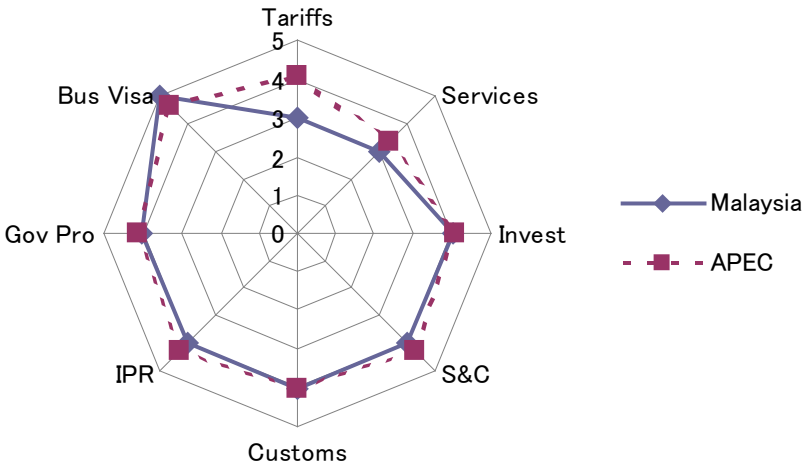
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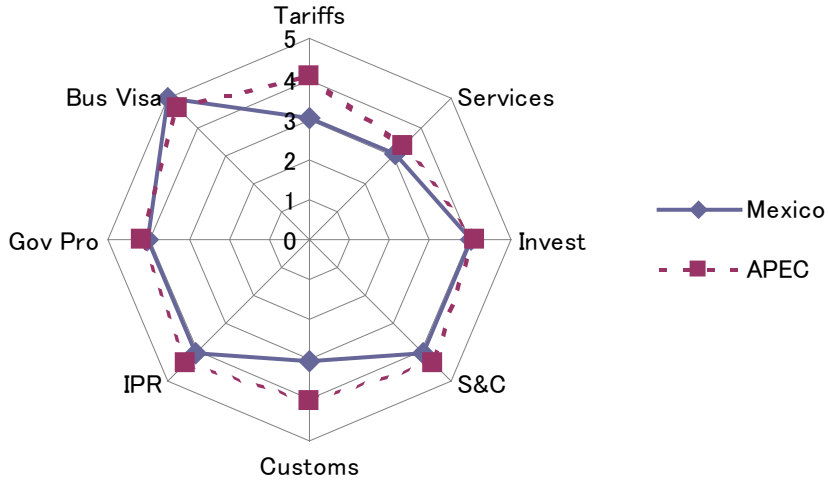
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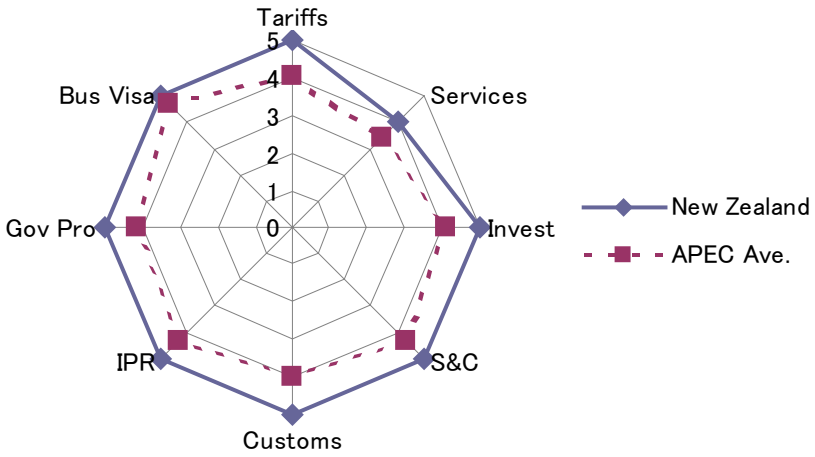
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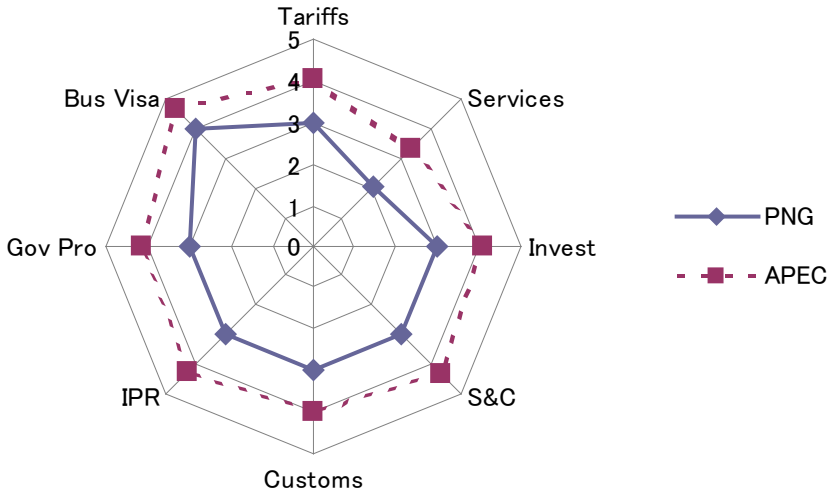
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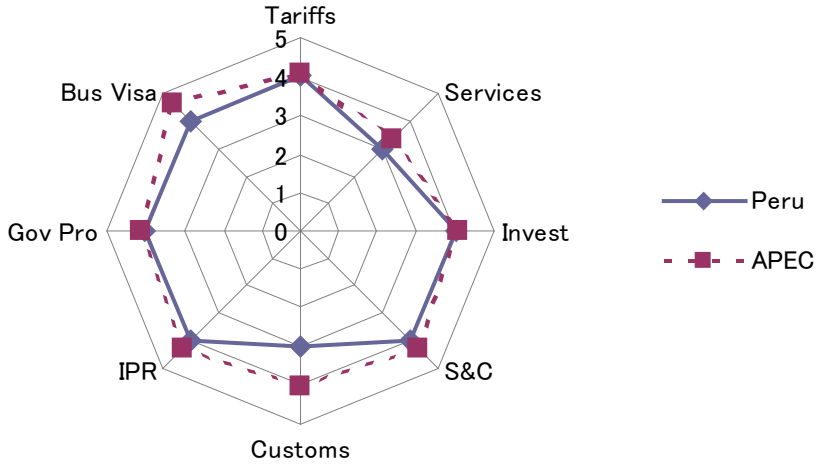
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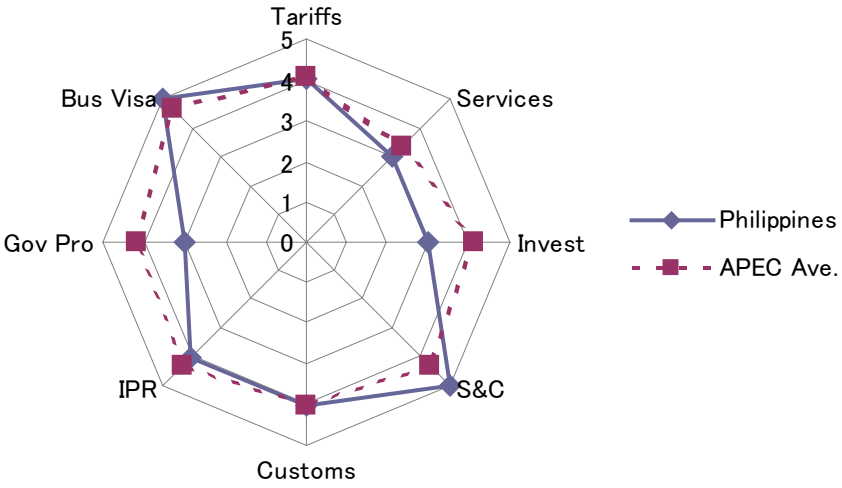
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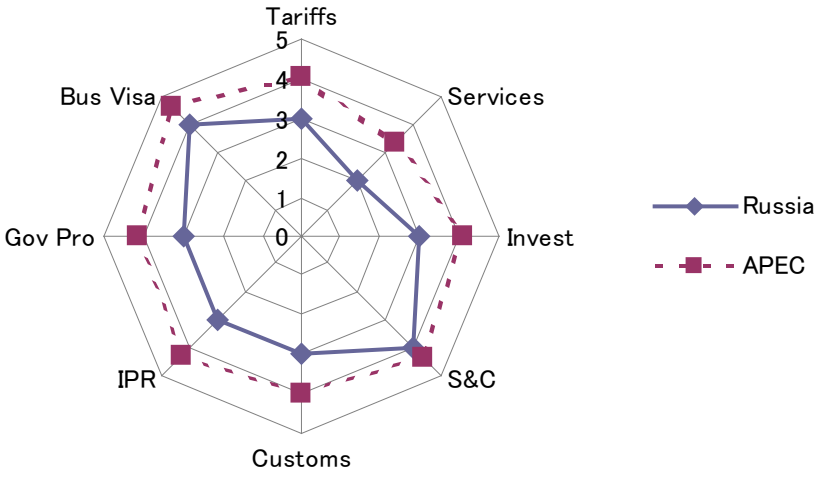
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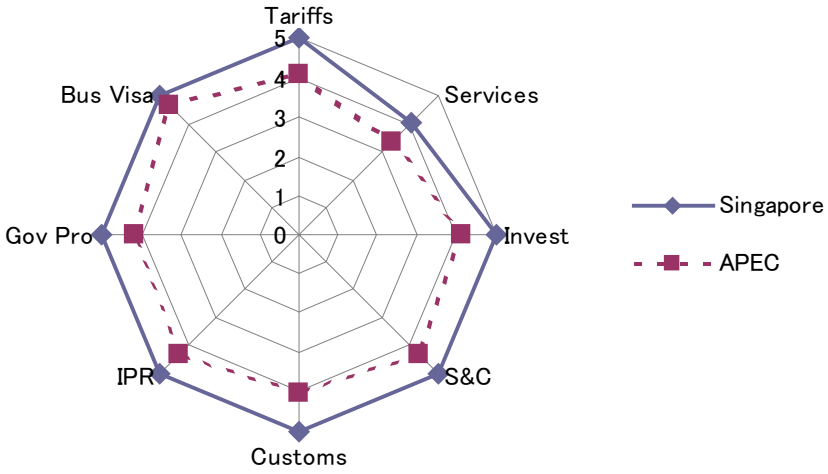
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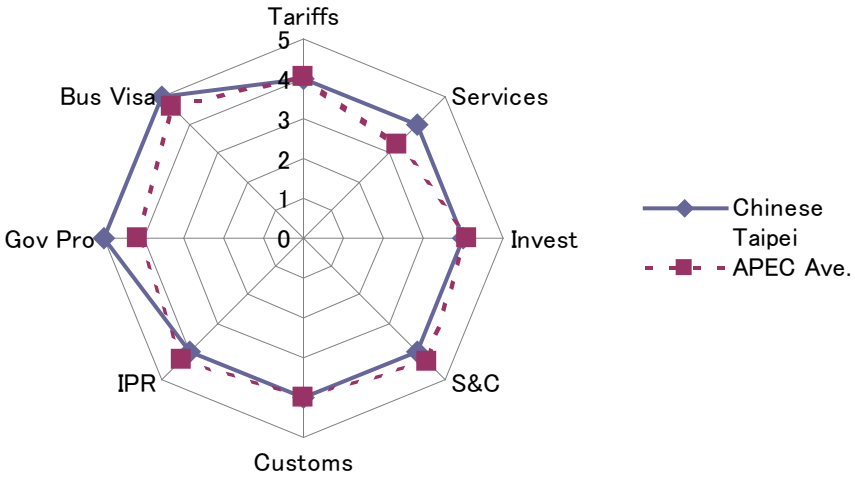
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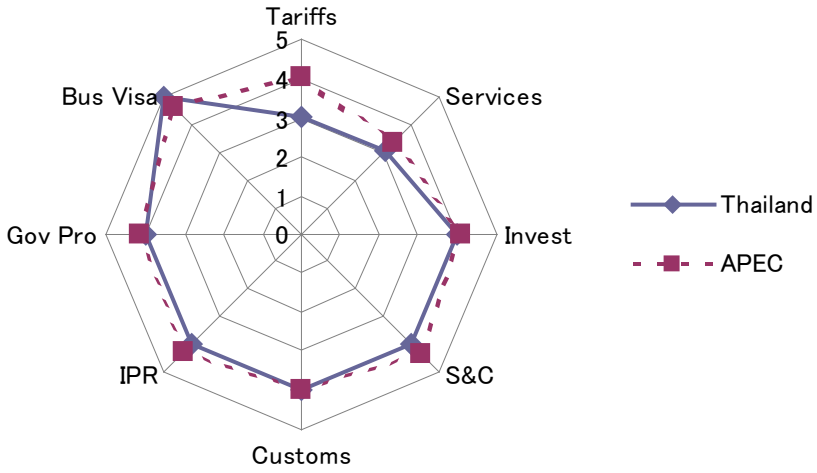
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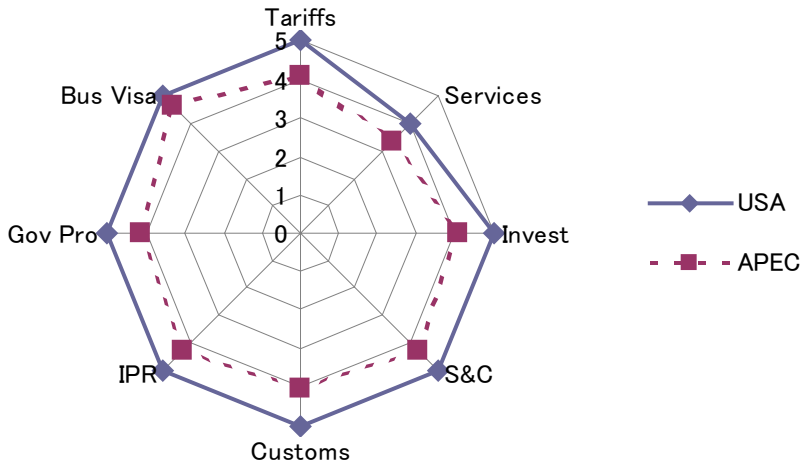
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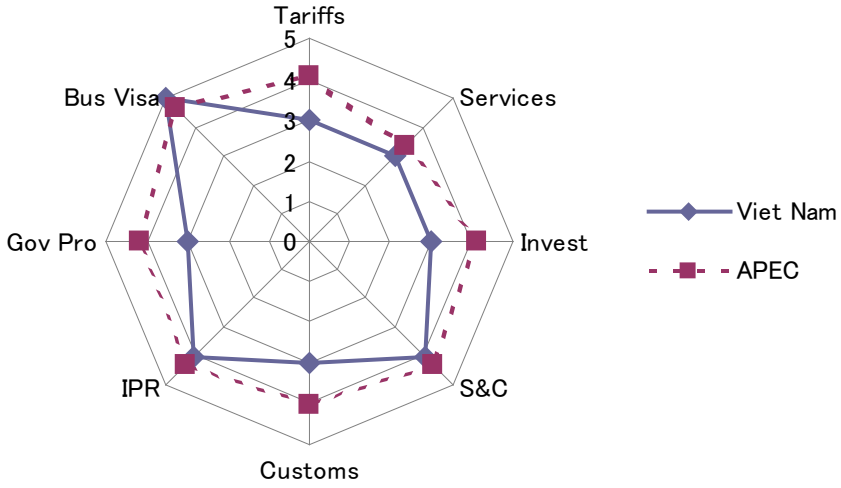
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APEC's New IAP Process: How Can We Strengthen It toward the Bogor Goals in 2020

By
Ippei Yamazawa, Toshihiro Atsumi, and Hikari Ishido
ASCJ, Revised, June 2013

2.Regional Economic Integration (REI) in East Asia

- While WTO/DDA got stumbled, bilateral and sub-regional FTAs mushroomed world-wide.
- Among APEC economies, TPP and RCEP are negotiated, which tend to intensify competitive liberalization and cause rivalry
- APEC is seldom mentioned because of its non-binding modality.

3. APEC provides strong base for REI

- APEC helps to promote TPP and RCEP in parallel because
  - It includes all members of the three
  - It has 24 year experiences and records of implementing liberalization and facilitation
- Although constrained by its non-binding modality, APEC moves towards the Bogor Goals in 2020 and beyond, to FTAAP
- We call upon all APEC stakeholders to monitor it closely and support its progress

5. Start of the new IAP process

- May 2011 Montana, SOM adopted the *Bogor Goals Progress Report Guidelines*;
- New IAPs cover all 14 areas of OAA plus three (transparency, FTA, and others)
- Describe only significant new developments
- Report in 2012, 14, 16, 18 and 2020
- PSU helps SOM to discuss it by providing a short 1-2 page summary for each economy
- November 2011 Honolulu, Leaders endorsed it
- 2012 All 21 economies submitted IAPs
- September 2012 Ministers endorsed the review

6. IAPs 2012 and PSU's *Summary Report*

- A wide diversity is witnessed between three groups, reflecting different stance of drafting

(A) BR(5pages),CL(11), CA(10),ROK(16), PE(19),RU(18), SG(14)

(B) AU(32), CN(36), JP(26), ML(24), PNG(33), PH(26), CT(35)

(C) HK(50), ID(56), MX(83), NZ(51), TH(131), US(79), VN(54)

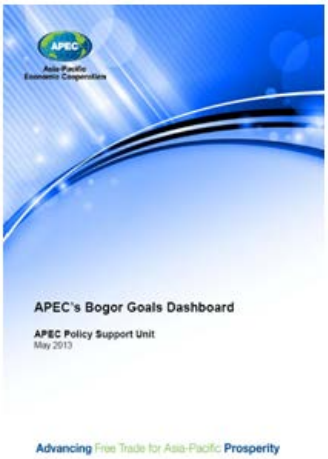
- A) focus only updates, repeating 'no change since 2010', B) give concise report on every area.

6. continued

C) either follow the previous style or spending pages on specific areas.

•The new IAPs followed the conventional matrix of areas X (Improvement & Future plans) , containing many empty cells and list of contact addresses. Never easy readings.

•PSU 's *Progress Report* summarizes required information by the *Guidelines* in a readable format of 3-4 pages, citing from previous IAPs if necessary. Its over-all summary conveys APEC's progress toward final BG.



Japan

		2008	2009	2010	2011	2012
	Goods Trade					
1.	MFN Applied Tariff (HS 6-digit level simple average)	5.4	4.9	4.4	5.3	
2.	MFN Applied Tariff - Agriculture (HS 6-digit level simple average)	23.6	21.0	17.3	23.3	
3.	MFN Applied Tariff - Non-Agriculture (HS 6-digit level simple average)	2.6	2.5	2.5	2.6	
4.	Zero - Tariff Product Lines (%)	53.7	53.7	53.8	54.2	
5.	Zero - Tariff Imports (%)	80.5	77.7	78.5		
6.	Percentage of Product Lines with MFN Tariff Rates >= 10%	6.4	6.3	6.4	8.0	
7.	Non-Ad Valorem Product Lines (%)	6.3	3.7	3.2	3.3	
8.	Non-Ad Valorem Imports (%)	1.6	1.5	1.2		
9.	Logistics Performance Index - Overall Index (1=low, 5 =high)	4.02		3.97		3.93
10.	Land Time to Export (days)	10	10	10	10	10
11.	Land Time to Import (days)	11	11	11	11	11
12.	Cost to Export (USD per container)	859	859	880	880	880
13.	Cost to Import (USD per container)	957	957	970	970	970
14.	Documents to Export (number)	5	5	5	5	5
15.	Documents to Import (number)	5	5	5	5	5
	Services					
16.	Services Sectors with GATS Commitments	112	112	112	112	112
17.	"Best" EIA/FTA Services Commitments Achieved (0= no commitments, 100= full commitments in all sectors)	67.77	68.11	68.11		
18.	Number of EIA/FTAs with Sectoral Services Commitments - Number of EIA/FTAs	9-9	11-11	11-11	12-12	13-13
	Investment					
19.	Prevalence of Foreign Ownership (1= very rare, 7= highest)	4.5	4.4	4.5	4.5	4.4
20.	Business Rules Impact on FDI (1= very rare, 7= highest)	4.8	4.5	4.4	4.5	4.8

7. Negative list /Accumulated Achievements

- **New IAPs focusing on updates tend to blur remaining barriers. Few concrete remarks are made on future plan. No use of returning to previous practice of listing all the past efforts.**
- **Negative lists of remaining impediments in liberalization areas help to encourage individual economies towards BG (PSU's *Dashboard*)**
- **Some economies reported their accumulated achievements in facilitation, to be followed by other economies**
- **PSU's *Report* and *Dashboard* should be strengthened along this line for future submission.**

8. FTA effects need to be incorporated

- Many economies reported on FTAs: a clear departure from the previous IAPs, following the *Guidelines*.
- Some reported in detail but most only existence/ negotiation, but making New IAPs comprehensive information source via reference addresses
- Further analysis is needed on preferential treatment under FTAs. One example is tariff reduction on FTA basis (SOM Mid-term assessment 2010).

  Average MFN vs FTA-inclusive effective tariffs in 1996

  - APEC5 7.0% vs 2.8% →1.4% (2006)

  - APEC8: 8.9% vs 5.5% →1.1%

8. Continued

- Similar analysis is needed in other areas as well
- APEC economies also apply other TILF preferentially to their FTA partners, which need to appear in their IAPs and PSU's reports.
- Furthermore, it is probable that some may apply voluntarily their FTA agreements on MFN basis , especially in facilitation areas.
- APEC had adopted *Best Practice for FTAs* (2006) and *FTA Model Measures* (2009) , which should be utilized for their convergence.

9. Aims of Academic Review

- We undertook a careful review of the IAPs2012 and attempted independent academic assessment
- How its Guidelines are implemented?
- How much APEC economies have achieved toward the Bogor Goals?
- In which areas do they need to strengthen efforts?

10. Quantitative Assessment by economies & areas

- Give realistic contents to the Bogor Goal along the Osaka Action Agenda, and draw a road map toward it
- Score individual economies and areas, based on new IAPs, PSU *Reports*, and *SOM Report 2010*, in five grades;

  5: almost achieved, 4: achieved with major exception, 3: achieved more than half,

  2: implemented partly, 1: not started yet
- Not relative assessment. Support data attached (Appendix table)
- Draw a radar chart for each economy's achievement by areas.

11. Assessment of Achievement: Tariffs

- The OAA did not aim at 'zero tariffs for all commodities' but gradual decrease of simple average tariffs (SAT) and reduce tariff peaks
- Zero tariffs achieved within FTAs but not on MFN
- Most industrialized economies achieved less than 5% SAT but high tariffs remain in sensitive sectors
- Several developing economies reduced applied SAT less than 10% but still keep high tariffs (over 10%) in many product lines

Grade 5: AU, BR, CA, CL, HG, JP, NZ, SG, US

4: ID, PE, PH, CT

3: CN, KR, ML,MX, RU,TH,VN

12. Non-Tariff Measures

- All IAPs say 'No NTM not consistent with WTO rules' but many NTMs remain. OAA and Leaders encourage their reduction
- NTM decreased by tariffication of farm products (2000) and quota restrictions on textiles by MFA abolished (2005)
- *UNCTAD/TRAINS* database: differ greatly in reporting year, sector classification, and types of measures, impedes objective comparison. We have given up grading on NTM.
- SOM should strengthen its *Guidelines* for reporting NTMs, preferably in quantitative terms.

13. Services

- GATS only started at UR and services liberalization delayed, esp. in developing economies
- Monopoly of basic telecom, restriction to domestic treatment of foreign banks, cabotage in marine/air transport still remain in industrialized economies
- New IAP and PSU's *Report* give liberalization in some sectors (positive list) , which is insufficient information for grading.
- *WTO/GATS Commitment Tables* gives the number of services sectors 'liberalized, out of total 55 sectors → grade 4,3, 2

13. Continued

- ***SOM Report 2010*** conveys that deeper commitment have been made under FTAs. However, does it actually reduce restrictions to foreign suppliers than 'Unbound' in GATS?
- Developing economies are still implementing domestic regulations in services. 'Model services regulation' will help them to develop competitive services industry.
- Grade 5: None sufficiently liberalizing
  4: AU, CA, CL, HK, JP, KR, NZ, SG CT,US
  3: CN, ID, ML,MX, PE, PH, TH
  2: BR, PNG, RU

14. Investment

- APEC Non-Binding Investment Principles in 1995, and many IAPs stress their consistency but industry protection still remain
- Based on *APEC Guidebook on Investment Regimes*,
  - No (pre-)restriction to investment by foreign firms
  - No regulation of foreign firms after investment
  - Protection of foreign investors, etc.
- World Bank's index of Ease of Doing Business and GCR's Business Rules Impact indicator give objective assessment of government rule –making in business (adopted from PSU's *Dashboard*)

Grade 5: AU,CA,CL, HK,JP,KR,NZ,SG,US
4: ML,MX,PE,CT,TH
3: BR,CN,ID,PH,PNG,PH, RU,VN

15: Standard and Conformance

- APEC adopted S&C Framework declaration and S&C Sub-committee, have been promoting harmonization of domestic standards to international ones and mutual recognition of conformance assessment, but their achievement differs by development stage
- 17 economies adopted ISO, 15 IEC, 17 VAP, 15-18 participate in MRA in electric and electronics, foods, and labor skills
- % of international alignment reported in new IAPs : Its comparability need to be examined

Grade 5: AU, CA, JP, KR, NZ, PH, SG, US
4: BR, CL, CN, HK, ID, ML, MX, PE, RU, CT, TH, VN 3:PNG

16. Customs Procedures

- OAA instructed simplification and standardization. SCCP calls for collective actions
- Harmonization of tariff classification and WTO rules have been implemented by many.
- Electrification of CP (paper-less) wide spread
- Revised Kyoto Convention adopted by 11 economies
- Single Windows introduced by 14, while 4 preparing
- World Bank's Logistic Perform Index (for actual friendliness of these procedures) ranks 14 APEC together with 17 EU members in its top one fifth

Grade 5: AU, CA, HK, JP, NZ, SG, US
4: CL, CN, KR, ML, PH, CT, TH
3: BR, ID, MX, PNG, PE, RU, VN

17. Intellectual Property Rights

- OAA set objectives to ensure effective protection of IPR, including legislation, administration, and enforcement.
- APEC economies perceive IPR indispensable in order to attract FDI and expand trade and all IAPs claim its implementation
- All implemented patents law, design law and trade marks. 18 participated in Paris Convention for patent, and 19 ratified WTO/TRIP

Grade 5: AU,CA,CL, JP,KR,NZ,SG,US
4: BR,CN, HK, ID,ML,MX, PE,PH,CT,TH,VN
3: PNG, RU

- The effectiveness of implementation cannot be assessed from new IAPs and PSU Reports. IPR is a major cause of dispute and its implementation need to be improved through consultation and negotiation

18. Government Procurement

- APEC adopted a model measure, Non-binding Principles of GP (1995)
- OAA insisted transparency of legislation, procedures and dissemination, but not liberalization so much
- Half of APEC economies ratified or observer participated in GP Agreement (1994).

Grade 5: AU,CA, HK,JP,KR,NZ, SG,CT,US

4: CL,ID,ML,MX, PE,TH

3:BR,CN, PNG,PH,RU,VN

AU and NZ are non-signatory of GPA but implemented advanced GP process

19. Business Mobility

- Strongly requested by ABAC as a strategic approach to trade and investment expansion.
- Processing of visa, application procedure, the terms of validity, and their transparent dissemination
- APEC Travel Handbook and Business Travel Card (ABTC) implemented by all economies.
- Six economies require visa for short-stay business from visitors from almost all economies (18~20)

Grade 5: all economies except for the following six

4: AU, BR, CN, PNG, PE, RU

- Freer movement of unskilled workers beyond the Bogor goal

20. Other Areas

- *Deregulation & Competition Policy*: ambiguous goals defined by OAA and divergent reporting in IAPs. Restarted in 2006 as '*Regulatory Reform*' program in Economic Committee (behind the border measures)
- *Rules of Origins*: re-emphasized as a major element in 'FTA Model Measures' (2006)
- *Dispute Settlement*: many economies resort to WTO DS panel

Insufficient information for assessing their achievements

21 Table 1 Five grade assessment by economies and areas

	Tariffs	Services	Invest	S&C	Customs	IPR	Gov Pro	Bus Visa
Australia	5	4	5	5	5	5	5	4
Brunei	5	2	3	4	3	4	3	4
Canada	5	4	5	5	5	5	5	5
Chile	5	4	5	4	4	5	4	5
China	3	3	3	4	4	4	3	3
Hong Kong, China	5	4	5	4	5	4	5	5
Indonesia	4	3	3	4	3	4	4	5
Japan	5	4	5	5	5	5	5	5
Rep of Korea	3	4	5	5	4	5	5	5
Malaysia	3	3	4	4	4	4	4	5
Mexico	3	3	4	4	3	4	4	5
New Zealand	5	4	5	5	5	5	5	5
PNG	3	2	3	3	3	3	3	4
Peru	4	3	4	4	3	4	4	4
Philippines	4	3	3	5	4	4	3	5
Russia	3	2	3	4	3	3	3	4
Singapore	5	4	5	5	5	5	5	5
Chinese Taipei	4	4	4	4	4	4	5	5
Thailand	3	3	4	4	4	4	4	5
USA	5	4	5	5	5	5	5	5
Viet Nam	3	3	3	4	3	4	3	5
APEC Average	4.0	3.3	4.1	4.3	4.0	4.3	4.1	4.7

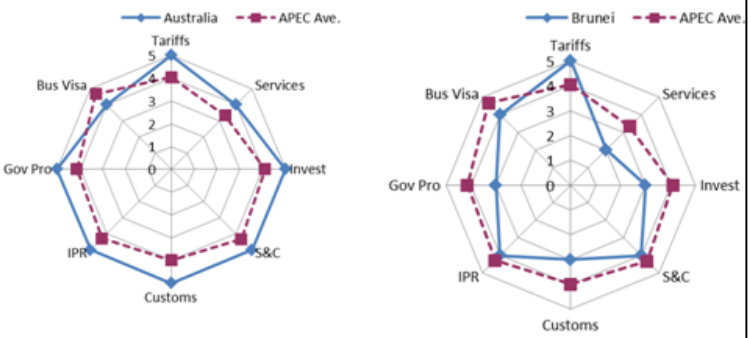
25

22. Assessment of All APEC Economies

APEC averages by areas show:

- Facilitation: Bus Mob 4.7 >S&C,IPR 4.3>CP,GP 4.1, higher achievement thanks to the help of CAPs Sub-Committees' guidance
- Liberalization: Investment 4.1>Tariffs 4.0 >Services 3.3, lower achievement due to sensitive sectors and industry protection
- Radar chart of each economy gives the structure of achievement by areas (cf. APEC averages)
- We do not think much of the total grade of each economy and its ranking among 21 economies

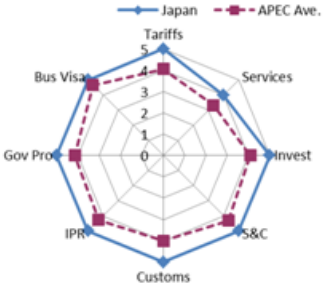
23 Radar charts: Australia/Brunei



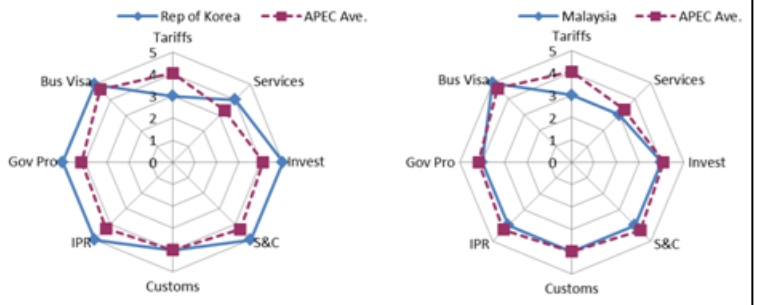
24 Radar charts: Canada/Chile

25 Radar Charts: China/Hong Kong, China

26 Radar Charts: Indonesia/ Japan



27 Radar Charts: Korea/ Malaysia

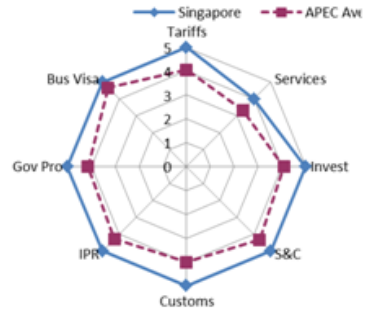


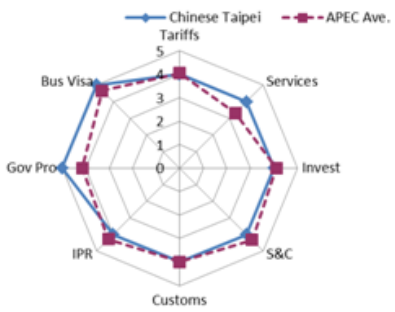
28 Radar Charts: Mexico/ New Zealand

29 Radar Charts: PNG/ Peru

30 Radar Charts: Philippines/Russia

31 Radar Charts: Singapore/Chinese Taipei





32 Radar Charts: Thailand/ USA

33 Radar Chart: Viet Nam

34. Conclusions and Recommendations

(1) While IAPs remain no easy readings, PSU's Reports provide concise summaries of individual economies' progress in TILF toward 2020, with 3~4 pages for each and around 80 pages for APEC as a whole. We recommend academics, businessmen, and other stakeholders read it and monitor closely the APEC's progress. It will encourage SO and staffs working on APEC.

34. (cont'd)

(2) Beyond providing concise summaries, PSU Reports can also help strengthening the IAP process. SOM and PSU can strengthen the Guidelines for IAP2014, requesting negative lists and accumulated achievements

34. (cont'd)

(3) Further encouragement is still needed in some areas of OAA, especially in NTM, services, competition policy, and FTA. Although not changing APEC's modality of voluntary and non-binding, we need to strengthen peer pressure if we really aim the Bogor Goals

35 Basic References

- **Main text and statistics are available on line from APEC Study Center Japan's homepage**

  http://ascj.web.fc2.com/
- ***Individual Action Plans 2012***
- **PSU's *Progress Reports***
- **PSU's *Dashboards***

All three are available on line as follows;

- **www.APEC.org>Home>About us>About APEC>Achievements and benefits>Assessment of Achievements of the Bogor Goals in2012.**

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Studied at both Hitotsubashi Univ. and University of Chicago. Doctor of Economics (Hitotsubashi University). Taught at Hitotsubashi for 32 years. Former President International University of Japan (2003-2006), and former President Institute of Developing Economies /JETRO(1998-2003). Regular Participants in Pacific Trade and Development Conference (until 1999), and Pacific Economic Cooperation Conference (until 2003). Member APEC Eminent Persons Group (1993-95). Coordinator, APEC Study Center Japan Consortium (1995-2010). Consultant, APEC IAP peer review process (on Australia, 2002-03). Published *Guidance to APEC* (in Japanese, co-authored with MOFA and MITI, 1995), *APEC: Challenges and Tasks in the Twenty-First Century* (by Routledge ed. 2000), *Japan-ASEAN Comprehensive Economic Partnership: Vision and Agenda* (by IDE/JETRO, 2003)., *APEC: New Agenda for its Third Decade*, (by ISEAS, 2011) He has received Japanese Foreign Minister's commendation for his long time contribution to APEC in 2011.

PANEL SESSION/CODE: *Attaining the Bogor Goals/1.2*

PAPER TITLE: *Advancing the Attainment of the Bogor Goals: The APEC Way*

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Advancing the Attainment of the Bogor Goals: The APEC Way

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1. Introduction

The 2013 APEC host, Indonesia, has included the issue of "Attaining the Bogor Goals," as one of the 2013 priorities. This action is timely because the Bogor Goals were announced in Indonesia in 1994. In 2020, the deadline for achieving the Bogor Goals will arrive. Therefore, there exist some time for APEC to work towards the attainment of the Bogor Goals. With the whole world watching APEC, it will be necessary for APEC members to exert the greatest efforts to implement meaningful actions. APEC will need to show that the APEC way is appropriate for reaching the Bogor Goals.

The main purpose of the paper is to provide suggestions to maximize the ability of APEC to achieve the Bogor Goals. The paper will make a literature review regarding the attainment of the Bogor Goals. Afterwards, the paper will analyze the meaning of the Bogor Goals. The paper will then examine the major elements of the APEC process consisting of decision-making principles, organizational structure, individual action plans and collective actions. These elements affect the achievement of the Bogor Goals. Most importantly, a refined definition of the Bogor Goals that account for the changing APEC economic environment will be posited, as one of the suggestions. Finally, other suggestions will be presented.

2. Literature Review: Attaining the Bogor Goals

In recent years, there exist major reports that concentrate on the issue regarding the attainment of the Bogor Goals. An important report that APEC has generated to examine the progress towards the Bogor Goals is: "The Report on APEC's 2010 Economies' Progress Towards the Bogor Goals." According to the Report, the assessment focuses on 13 APEC industrialized and developing economies. There are five industrialized economies consisting of Australia, Canada, Japan, New Zealand and the United States. The eight developing economies that volunteered to be included in the assessment are Chile; Hong Kong, China; Korea; Malaysia; Mexico; Peru; Singapore and Chinese Taipei. The assessment states that the 13 economies have made progress toward achieving free and open trade and investment but their work is not finished. In addition, the report mentions that APEC must continue to be ready to address new challenges, since the international economy is evolving and incorporating new technologies and new ways of conducting business (APEC 2010).

In summary, the Report relates the message that APEC has made substantial achievement and has become the most important economic forum in the Asia-Pacific region. The suggestion for APEC is that the Bogor Goals should continue to be pursued, as the Bogor Goals remain valid in providing direction for APEC's advancement of trade and investment liberalization and facilitation. Additionally, APEC must continue to implement individual and collective actions that seek to reduce tariffs, barriers to trade in services, restrictions on investment and non-tariff measures (APEC 2010).

The APEC PSU has also published a report called: "Progressing towards the APEC Bogor Goals." The Report states that trade and investment barriers have fallen. For example, the average tariff in the APEC region fell from 16.9% in 1989 to 6.6% in 2008. Furthermore, poverty in the APEC region has been reduced. In 1994, around 52% of the population in the APEC region was living on less than US$2 per day. The figure had dropped to 27% by 2007. The Report also relates that APEC has made progress in removing barriers to trade in

services and investment, particularly by the APEC industrialized economies. In addition, APEC members have signed FTAs to advance trade liberalization beyond their WTO commitments. Essentially, the Bogor Declaration provides guidance on how APEC should advance free and open trade and investment. Another main point of the Bogor Declaration is that barriers to trade and investment should be reduced but it does not specify the level of reduction (APEC PSU 2010).

In 2012, the APEC PSU published a report called: "APEC's Bogor Goals Progress Report." The main points of the Report are that APEC members have continued to make progress, since the 2010 assessment. However, there is room for APEC to make further advancement. In the period of 2008-2010, APEC average tariff rate decreased from 6.6% to 5.8%. The report states that trade facilitation, services and investment have become major areas that APEC can focus on (APEC PSU 2012).

Another important report on the Bogor Goals is: "Asia Pacific Economic Cooperation - Attaining the Bogor Goals; Then Towards a Seamless Regional Economy." The Report states that APEC has made substantial progress towards free and open trade and investment. APEC can now define Bogor Goals that are ambitious as well as attainable by 2020. There is an opportunity for APEC to show that the Asia-Pacific region is the most open region through the Bogor Goals. It is suggested that APEC could ensure that almost 100% of the value of trade in goods faces no tariffs or quantitative restrictions in the APEC region. In addition, APEC could support free trade in services. The Report also suggests that the development of an attainable form of the Bogor Goals could be complemented with the long-term objective of a seamless regional economy. The result is the creation of transport and communications networks in the APEC region. International commerce will then become cheaper, easier and faster (Elek 2012).

From reviewing the reports on the Bogor Goals, it can be said that the Bogor Goals remain the most important goals for APEC to achieve. An important feature of the Bogor Goals is the existence of deadlines for achieving the Bogor Goals, 2010 for developed economies and 2020 for developing economies. Since developed economies have more work to do following the 2010 assessment, the current final deadline is now 2020 for all APEC members. The 2020 deadline is clear and without controversy. However, the meaning of the Bogor Goals is not as apparent. There is room for APEC to define the Bogor Goals in a clearer manner.

Presently, the Bogor Goals are about the achievement of free and open trade and investment. An important question is: What is the degree of free and open trade and investment acceptable to APEC? For example, free trade can mean zero tariffs. Free trade can also be defined as freer trade. An important purpose of the paper is to provide a more precise meaning of the Bogor Goals. The suggestion for the meaning will take into account the APEC process. With a clearer meaning, it will be easier for APEC to state that the Bogor Goals have been achieved when the deadline of 2020 arrives. Essentially, the Bogor Goals will then not be a moving target, as is the case at the moment. In addition, the paper will also offer suggestions for strengthening the APEC process, so as to assist with the attainment of the Bogor Goals.

3. Analyzing the Bogor Goals

In order to clarify the meaning of the Bogor Goals, the most significant step to be taken is to examine the 1994 APEC Leaders' Declaration, which is also known as the Bogor Declaration. APEC Leaders state in the Declaration that they are meeting together for the purpose of setting the future path of APEC's cooperation. The outcome is the advancement of economic growth in the Asia-Pacific region as well as throughout the world. The strengthening of economic cooperation will be based on equal partnership, shared responsibility, mutual respect, common interest, and common benefit. Furthermore, APEC will take the lead to enhance the multilateral trading system, trade and investment liberalization in the Asia-Pacific region, and Asia-Pacific development cooperation. Since the open multilateral trading system is the foundation of APEC's economic growth, APEC will seek to take the lead in advancing the multilateral trading system (APEC 1994).

In order to enhance trade and investment in the Asia-Pacific region, APEC Leaders agree to accept the long-term goal of free and open trade and investment. The goal will be reached through the reduction of barriers to trade and investment. Additionally, the promotion of free flow of goods, services and capital among APEC economies will also be pursued. This goal will be achieved in a manner that is consistent with GATT, so that APEC's actions will lead to more liberalization at the multilateral level (APEC 1994).

Most importantly, APEC Leaders agree that APEC should achieve the goal of free and open trade and investment in the Asia-Pacific region by the year 2020. Since APEC economies have different levels of economic development, the industrialized economies will achieve free and open trade and investment by 2010 and developing economies will do so by the year 2020 (APEC 1994).

APEC Leaders emphasize that they strongly oppose the creation of a trading bloc that is inward-looking and that prevents the pursuit of global free trade. APEC will support free and open trade and investment in the Asia-Pacific region in a way that strengthen global trade and investment liberalization. Therefore, the result of trade and investment liberalization in the Asia-Pacific region will lead to the lowering of barriers in APEC and also between APEC economies and non-APEC economies. APEC will pay attention to its trade with non-APEC developing economies to make sure that they will also gain benefit from APEC's trade and investment liberalization. APEC's efforts in trade and investment liberalization will conform with GATT/WTO rules (APEC 1994).

Essentially, the Bogor Declaration relates that the Bogor Goals are about the achievement of free and open trade and investment by 2010 for developed economies and 2020 by developing economies. The most important point that needs to be considered is the meaning of free and open trade and investment. It means that there exists trade and investment liberalization. The challenge for APEC is that the degree of trade and investment liberalization is not specified. For example, free trade can denote zero tariffs for all trade. According to the Oxford Dictionary, free trade is defined as "international trade left to its natural course without tariffs, quotas, or other restrictions" (Oxford 2013). In the case of WTO, GATT Article XXIV states that a free trade area refers to a group of two or more customs territories whereby the duties and other regulations are removed on substantially all the trade (WTO 2013). The main point is that the WTO is stating that a free trade area exists when substantially all the trade is free of trade barriers.

4. Elements of the APEC Process

4.1 APEC Decision-Making Principles

APEC has developed a distinctive APEC process that has shown to be practical for APEC. An important element of the APEC process is the APEC decision-making principles that consist of: consensus building, voluntary participation, non-binding decisions and peer pressure. The APEC decision-making principles guide the APEC members in the discussions during meetings and in the conduct of activities.

A major part of the APEC decision-making principles is consensus building. APEC members seek to build consensus in all of its work. This means that all APEC members must approve a decision. The second important principle is voluntary participation. This principle ensures that APEC members will only need to participate in activities that they are willing to do so, even if they support the activities. For example, APEC members do not need to attend APEC meetings and workshops. The third decision-making principle is non-binding decisions. This means that APEC members will not be punished for not participating in APEC activities after agreeing to participate. Finally, the fourth principle is peer pressure. However, this principle should be characterized as being an unofficial principle, because of its sensitive nature. In order to reach consensus, APEC members have applied peer pressure. Peer pressure is applied when only a few members are against a decision. Usually, support for a decision by most members will change the position of members that have not been supportive in the beginning. Sometimes, APEC members will stress the positive aspects of a decision to change the minds of members that disagree.

Since the beginning of APEC's existence in 1989, the APEC decision-making principles have been in operation. There is no indication that APEC will change the principles. Most importantly, the principles have enabled APEC to function effectively. Thus in the immediate future, APEC will continue to accept the present form of decision-making principles. Therefore, it is suggested that APEC should continue to utilize the current decision-making principles. The improvement in the APEC process will have to come from other elements of the APEC process.

4.2 Organizational Structure

In the APEC Website, it is stated that the policy level of the APEC structure includes: 1) Leaders' Meeting; 2) APEC Business Advisory Council; 3) Ministerial Meeting; 4) Sectoral Ministerial Meetings; 5) Senior Officials' Meeting; and 6) Senior Finance Officials' Meeting. The working level consists of: 1) Committee on Trade & Investment (CTI); 2) Budget & Management Committee (BMC); 3) Economic Committee (EC); 4) SOM Steering Committee on ECOTECH (SCE); 5) CTI Sub-Committees; 6) SCE Special Task Groups and 7) SCE Working Groups. In addition, there exists the APEC Secretariat which supports the work of all APEC fora (APEC 2013). Furthermore, the APEC Policy Support Unit (PSU) provides research and analysis to support the work APEC fora and members (APEC PSU 2013). Essentially, APEC fora can cover all the issues relating to trade and investment liberalization and facilitation.

The CTI coordinates the work of APEC on trade and investment liberalization and facilitation. Specifically, the CTI oversees eight sub-groups: Business Mobility Group (BMG), Electronic Commerce Steering Group (ECSG), Group on Services (GOS), Intellectual Property

Experts' Group (IPEG), Investment Experts' Group (IEG), Market Access Group (MAG), Sub-Committee on Customs Procedures (SCCP), and Sub-Committee on Standards Conformance (SCSC). In addition, the CTI also manages three industry dialogues: Automotive Dialogue (AD), Chemical Dialogue (CD) and Life Sciences Innovation Forum (LSIF) (APEC 2013a).

In the Osaka Action Agenda, it is stated that APEC will promote economic and technical cooperation (ECOTECH), so as to advance sustainable growth and equitable development in the Asia-Pacific region. APEC's work in ECOTECH will also facilitate trade and investment growth in the APEC region (APEC 2013b). The SOM Steering Committee on ECOTECH (SCE) coordinates the ECOTECH activities. Specifically, SCE manages fourteen working groups and two task forces (APEC 2013c). It can be said that APEC has created a comprehensive organizational structure to advance the Bogor Goals.

4.3 Individual Action Plans' Assessment System

An Individual Action Plan (IAP) is a report in which an APEC member states the actions it has implemented individually to achieve the Bogor Goals. From 2012 until 2020, IAPs will be provided every two years and IAPs were submitted in 2012 (APEC 2013d). According to the document called "Bogor Goals Progress Report Guidelines," the 2012 IAPs and subsequent IAPs will report on the following areas: Tariffs; Non-tariff measures; Services; Investment; Standards and conformance; Customs Procedures; Intellectual Property; Competition Policy; Government Procurement; Deregulation/Regulatory Review; WTO Obligations including Rules of Origin; Dispute Mediation; Mobility of Business People; Official Websites that Gather Economies' Information; Transparency; RTAs/FTAs; and Other Voluntary Reporting Areas (APEC 2011).

The aforementioned report also mentions a new IAP peer review process that consists of three parts. First, regular Senior Officials' review will be held in 2012, 2014, and 2018. Second, the second-term review will be conducted in 2016. In particular, the review of economies that were assessed in 2010 will focus on the shortcomings that were stated in 2010 assessment of the Bogor Goals. The 2016 APEC host economy will lead the assessment with support from the APEC Secretariat and the PSU. Third, the final assessment will be undertaken in 2020. In the year of review, the PSU will provide a report on APEC members' achievements and areas for improvement. Additionally, the PSU will also develop a Dashboard to complement the aforementioned report (APEC 2011). The Dashboard shows figures relating to trade and investment liberalization and facilitation (APEC 2013e).

The PSU's "APEC's Bogor Goals Progress Report" provides information on APEC's overall progress as well as progress made by every APEC economy. The main source of information is the IAPs. The information consists of two parts: 1) Highlights of Achievements and Areas for Improvement; and 2) Summary of Updates. The Summary of Updates focus on most areas of the 2012 IAPs, such as Tariffs, Non-Tariff Measures, Services, Investment and others (APEC PSU 2012). In addition, the PSU has also published the "APEC's Bogor Goals Dashboard." The report provides figures for APEC as a whole and every APEC economy. The figures are categorized into three major parts consisting of: 1) Goods Trade; 2) Services; and 3) Investment (APEC PSU 2012a).

From examining the APEC work in developing a monitoring and evaluation system for the IAPs, it can be said that APEC has created an effective system. The review of the IAPs, to be held every two years, is appropriate because the review will be held at the same time as the submission of IAPs. Furthermore, the stating of the schedules for the review may cause APEC members to actively implement individual actions, so as to be able to show progress. Most importantly, the involvement of the PSU in the IAP review will certainly result in an objective evaluation because they have already done an excellent work during the 2012 review.

4.4 Collections Actions: APEC Projects

APEC projects have become an important element of the APEC process for assisting with achieving the Bogor Goals in a collective way. APEC states that projects promote the advancement of free and open trade and investment in the APEC region. Since 1993, around 1,600 projects have been implemented. APEC projects have focused on workshops, publications and research (APEC 2013f).

The APEC document, "Funding Criteria for All APEC-Funded Projects in 2013," has been created to ensure that APEC projects support the attainment of the Bogor Goals. It is stated that Rank 1 projects will receive priority in funding. Rank 1 projects are projects that directly promote regional economic integration through free and open trade and investment. In particular, 2013 Rank 1 projects focus on the following areas: 1) Multilateral trading system; 2) SMEs Development; 3) Supply chain connectivity; 4) APEC environmental goods and services framework; 5) Next generation trade and investment issues; 6) Investment; 7) Services; 8) Standards and regulatory cooperation; 9) Trade and travel facilitation; 10) Ease of doing business; 11) information technology and digital economy; and 12) APEC New Strategy for Structural Reform (ANSSR) (APEC 2013g).

The Rank 2 projects may sometimes receive funding from APEC. They are the projects that support the APEC Leaders' Growth Strategy. The Rank 2 projects focus on the following areas: 1) Balanced Growth: Financial markets; 2) Inclusive Growth: Human resources development, women and the economy; 3) Sustainable Growth: Energy efficiency, sustainable development of oceans, conservation; 4) Secure Growth: food security and food safety, health system, emergency preparedness, counter terrorism, fighting corruption; 5) Innovative Growth: Education, innovation policy (APEC 2013g). Essentially, the growth strategy reinforces the APEC's trade and investment agenda and ensures that economic integration is sustainable. APEC seeks to make sure that growth will be balanced, inclusive, sustainable, innovative, and secure (APEC 2010a).

In addition, APEC projects' proposals have to satisfy the APEC quality criteria. The five criteria are as follows: Relevance; Effectiveness; Efficiency; Impact; and Sustainability. Relevance refers to the linkage to APEC goals. Effectiveness is about the likelihood of a project to meet its objectives. Efficiency means cost-effectiveness of a project. Impact refers to the beneficiaries and how they are going to benefit. Sustainability is about the extent to which a project's benefits will be evident even after the project has been completed (APEC Secretariat 2013).

APEC has developed a comprehensive system to fund APEC projects. In particular, the funding criteria and the quality criteria ensure that APEC-funded projects can assist APEC to attain the Bogor Goals. The main challenge is that the funding for APEC projects is not adequate. In 2012,

there were 215 projects that requested APEC funding but only 103 projects were funded. The 2012 approval rate was 48%. The value of projects requesting funding in 2012 was about US$25 million. The value of projects approved in 2012 was about US$12 million (See Appendix A). The amount of funding available for APEC projects is around US$15 million in 2013 (APEC 2013h). The important point is that APEC members are enthusiastic about developing projects that can support the achievement of the Bogor Goals. However, APEC funding for projects is not sufficient.

5. Suggestions for APEC

5.1 Bogor Goals

There is the need for APEC to clarify the meaning of free and open trade and investment. The suggestion is that APEC can state that the achievement of the Bogor Goals has occurred when progress has been made by every APEC economy and by all APEC economies collectively. The main indicator of success is that progress in trade and investment liberalization has been realized. This means that there will be freer trade in 2020 than in 1994. This definition fits the APEC support for flexibility.

However, the Bogor Declaration has also stated other points that can enhance the meaning of the Bogor Goals. The paper suggests that these points should also be included in the definition of the Bogor Goals. First, the Bogor Goals are also about the advancement of WTO's multilateral trading system. It is clearly stated in the Bogor Declaration that APEC supports the multilateral trading system. Second, the Bogor Declaration has mentioned that APEC Leaders oppose the creation of a close trading bloc that does not promote global free trade. Third, trade and investment liberalization in APEC will not only reduce barriers in the APEC region but will also lower barriers between APEC and non-APEC economies (APEC 1994).

Therefore, a comprehensive and updated definition of the Bogor Goals will include the following main points:

- Achieve freer and more open trade and investment by 2020 for all APEC economies.
- Advance the WTO's multilateral trading system.
- Oppose the creation of a close trading bloc that does not promote global free trade.
- Ensure that the promotion of trade and investment liberalization in APEC will not only reduce barriers in the APEC region but will also lower barriers between APEC and non-APEC economies.

The usefulness of updating the meaning of the Bogor Goals is that APEC will have a clearer picture of the Bogor Goals. It will ensure that APEC members will be more enthusiastic about attaining the Bogor Goals, since they have become reachable goals. Furthermore, APEC will be able to show that it is serious about supporting trade and investment liberalization in the APEC region. Most importantly, APEC economies will seek to reduce their trade and investment barriers to non-APEC economies. However, the clarification of the Bogor Goals is only the first step to assist with the attainment of the Bogor Goals. It will also be necessary to strengthen the APEC process, so as to ensure greater progress in achieving the Bogor Goals.

5.2 Major Elements of APEC Process

5.2.1 APEC Decision-Making Principles

The four APEC decision-making principles have ensured the smooth operation of APEC. There is general support in APEC for consensus building, voluntary participation, non-binding decisions and peer pressure. In the "Chairman's Summary Statement-1989 APEC Ministerial Meeting," Ministers have stated that APEC cooperation should occur through open dialogue and consensus (APEC 1989). Furthermore, the "1995 Leaders' Declaration" has mentioned that APEC supports voluntarism and collective initiatives (APEC 1995). The APEC decision-making principles have continued to guide APEC. There is no discussion in APEC to change them. Therefore, it is suggested that APEC continues to promote the four APEC decision-making principles.

5.2.2 Organizational Structure

APEC has developed a comprehensive organizational structure to assist with the attainment of the Bogor Goals. In particular, the CTI and its sub-fora have been created to work on trade and investment liberalization and facilitation. Furthermore, the SCE and its working groups and task forces are advancing ECOTECH.

Recently, cross-cutting issues have become important for APEC. For example, the APEC Travel Facilitation Initiative (TFI) seeks to assist with the movement of travelers in the APEC region. The SCE will oversee the implementation of the Initiative. The TFI Steering Council has been created to manage the Initiative. The Council includes five relevant sub-fora consisting of TPTWG, BMG, SCCP, TWG and CTTF. The TFI Coordinator is the United States and will lead the Council. The Council will dissolve at the end of the Initiative in 2015(APEC 2012).

It is suggested that APEC considers the establishment of councils that are similar to the TFI Council for advancing cross-cutting issues. An example of a major cross-cutting issue is the mainstreaming of ocean-related issues. The council arrangement will enable relevant APEC sub-fora to work closely with each other. In utilizing the council arrangement for managing cross-cutting issues, the efficiency and effectiveness of APEC's work in this area will improve.

5.2.3 Individual Action Plans' Assessment System

The new IAP assessment system, in which the PSU has played a major role, deserves APEC's strong support. In particular, the PSU has performed well. It is suggested that APEC should ensure that the PSU continues to publish the "APEC's Bogor Goals Progress Report" and the "APEC's Bogor Goals Dashboard" during future IAP reviews.

In addition, it is also suggested that the APEC Study Centers Consortium (ASCC) and the PSU should work together to enhance the Progress Report and the Dashboard. The objective is to assist with the development of a review process that has the support of APEC, ABAC, PSU and

ASCC. The positive outcome is a more acceptable and effective review process that may enhance an APEC economy's willingness to implement individual actions to achieve the Bogor Goals.

5.2.4 Collections Actions: APEC Projects

APEC projects are playing an important role to assist APEC members to achieve the Bogor Goals. Therefore, there is the need to ensure that APEC projects are promoting free and open trade and investment. Every year, APEC creates the "Funding Criteria for all APEC-Funded Projects." Projects that are considered to be related to the Rank 1 criteria will receive funding priority. Thus the Funding Criteria should be carefully developed to make sure that projects are focusing on the weakest areas of trade and investment liberalization and facilitation. It is suggested that the Funding Criteria include the weak areas stated in PSU's "APEC's Bogor Goals Progress Report" and the "APEC's Bogor Goals Dashboard." The outcome is that the projects are linked with the Funding Criteria and the PSU's Bogor Goals assessment reports. APEC funds will then be utilized in an effective manner and projects will be able to support the achievement of the Bogor Goals.

With APEC members continue to be interested in developing projects and in seeking funding for projects, there exists a need to ensure that funding remains available. It will be even better if APEC increases the funding level. Presently, funding comes from the annual APEC membership contributions and voluntary contributions. There is the possibility that voluntary contributions could decrease in the future. Since APEC projects are important collective actions, funding for projects must at least be kept at the present level. In 2013, the amount of funding is around US$15 million (APEC 2013h). Therefore, it is suggested that APEC reaches an agreement to maintain funding for projects at the 2013 amount of around US$15 million. If voluntary contributions fall in the future, APEC members will be required to make up the difference. APEC projects have become a significant force to assist with the attainment of the Bogor Goals, so that they must be emphasized. In addition, APEC has already created an excellent system to manage projects. Furthermore, APEC members have benefitted from the projects that are being implemented.

Appendix A

APEC Standard Projects

Year	2008	2009	2010	2011	2012
No. of Projects Requesting Funding	176	287	179	188	215
Value of Projects Requesting Funding	US$14,057,481	US$24,556,424	US$17,522,851	US$20,798,273	US$25,135,842
No. of Projects Approved	134	151	95	138	103
Value of Projects Approved	US$11,108,344	US$12,959,193	US$8,704,269	US$14,470,832	US$11,504,811
% Approved	76%	53%	53%	73%	48%
Average Project Cost	US$82,898	US$85,822	US$91,624	US$104,861	US$111,697

Note: Figures are for the APEC-funded portion of projects.

Source: APEC PMU. 2013. “Project Management Unit Report.”

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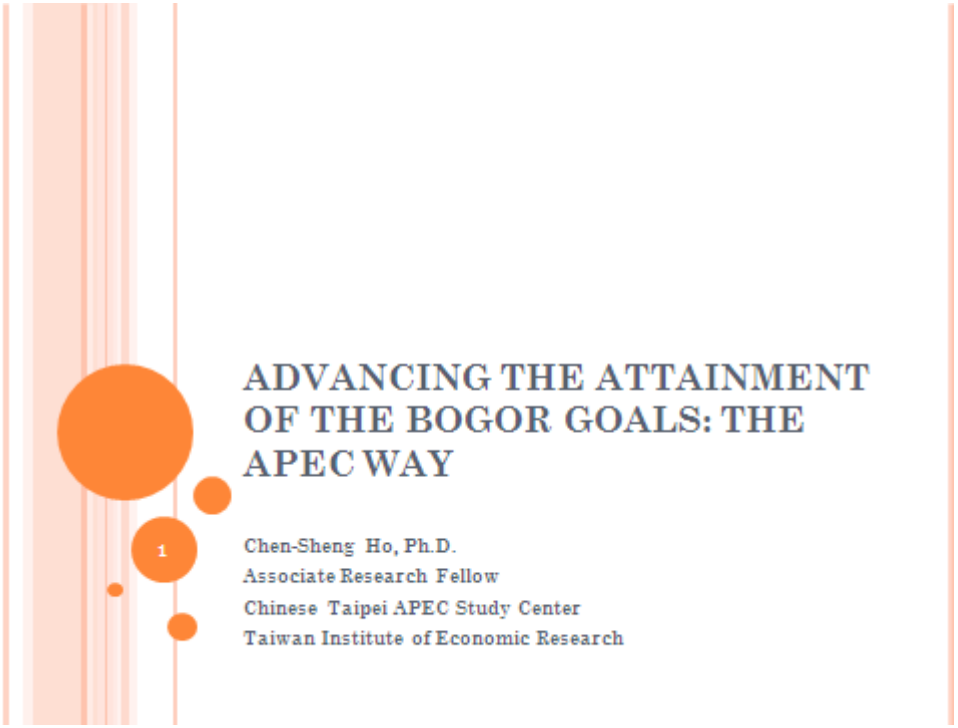
ADVANCING THE ATTAINMENT OF THE BOGOR GOALS: THE APEC WAY
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Purpose of Presentation

- Analyze the meaning of the Bogor Goals.
- Examine the major elements of the APEC process that affect the attainment of the Bogor Goals.
- Provide a refined definition of the Bogor Goals.
- Offer other suggestions to achieve the Bogor Goals.

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Analyzing the Bogor Goals

1994 Bogor Declaration

- Achieve free and open trade and investment by 2010 for industrialized economies and developing economies will do so by the year 2020.
- Oppose the creation of a trading bloc that is inward-looking and that prevents the pursuit of global free trade.
- Ensure trade and investment liberalization in the Asia-Pacific region will lower barriers in APEC and also between APEC economies and non-APEC economies.

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Elements of the APEC Process Affecting the Attainment of the Bogor Goals

APEC Decision-Making Principles

- APEC decision-making principles consist of: consensus building, voluntary participation, non-binding decisions and peer pressure.
- There is no indication that APEC will change the principles.

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Elements of the APEC Process Affecting the Attainment of the Bogor Goals

Individual Action Plans' Assessment System

- From 2012 until 2020, IAPs will be provided every two years, beginning with 2012.
- A new IAP peer review process that consists of three parts:
  1. Regular Senior Officials' review will be held in 2012, 2014, and 2018.
  2. The second-term review will be conducted in 2016 and focus on the shortcomings stated in the 2010 assessment. The 2016 APEC host economy will lead the assessment with support from the APEC Secretariat and the PSU.
  3. The final assessment will be undertaken in 2020.
- In the year of review, the PSU will provide a progress report and also a Dashboard.
- Presently, it seems the future IAP assessments will be done internally.

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Suggestions for APEC

Bogor Goals

- APEC can state that the achievement of the Bogor Goals has occurred when progress has been made by every APEC economy and by all APEC economies collectively.
- This means that there will be freer trade in 2020 than in 1994. This definition fits the APEC support for flexibility.
- Therefore, a comprehensive and updated definition of the Bogor Goals will include the following main points:
  1. Achieve freer and more open trade and investment by 2020 for all APEC economies.
  2. Advance the WTO's multilateral trading system.
  3. Oppose the creation of a close trading bloc that does not promote global free trade.
  4. Ensure that the promotion of trade and investment liberalization in APEC will not only reduce barriers in the APEC region but will also lower barriers between APEC and non-APEC economies.

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Suggestions for APEC

Major Elements of APEC Process

Organizational Structure

- It is suggested that APEC considers the establishment of councils that are similar to the Trade Facilitation Initiative Council for advancing cross-cutting issues.
- An example of a major cross-cutting issue is the mainstreaming of ocean-related issues.
- The council arrangement will enable relevant APEC sub-fora to work closely with each other.
- In utilizing the council arrangement for managing cross-cutting issues, the efficiency and effectiveness of APEC's work in this area will improve.

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Suggestions for APEC

Major Elements of APEC Process
Collections Actions: APEC Projects

- It is suggested that the Funding Criteria include the weak areas stated in PSU's "APEC's Bogor Goals Progress Report" and the "APEC's Bogor Goals Dashboard."
- The outcome is that the projects are linked with the Funding Criteria and the PSU's Bogor Goals assessment reports.
- APEC funds will then be utilized in an effective manner and projects will be able to support the achievement of the Bogor Goals.
- With APEC members continue to be interested in developing projects and in seeking funding for projects, there exists a need to ensure that funding remains available.

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Chen-Sheng Ho Profile

Chen-Sheng Ho is an Associate Research Fellow at the Chinese Taipei APEC Study Center of Taiwan Institute of Economic Research. His research interests are focused on APEC issues, such as trade liberalization, ECOTECH and regional economic integration. He has participated in the ASCC's APEC International Assessment Network (APIAN) and has conducted other APEC projects.

Additionally, he has been a member of Chinese Taipei's APEC delegation and is presently the Co-Chair of BMC's APEC Small Working Group on Project Issues. He received his B.S. degree in Economics and Political Science from Vanderbilt University (USA) and Ph.D. in International Affairs from University of Pittsburgh (USA).

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Education

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Work Experience

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8/02-7/08	Kao Yuan University Intl. Business Department Assistant Professor	Kaoshiung Hsien, Chinese Taipei
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APEC Participation

Since June 2012	Co-Chair of APEC Small Working Group on Project Issues ● Under the Budget and Management Committee (BMC) ● Evaluate APEC projects
Since Sept. 2011	Advisor for the APEC Green Initiative in SMEWG ● Provide advice on the APEC process
Since 2010	APEC Senior Officials Meetings (SOMs), Ministerial & Leaders Meetings ● Attend APEC, as part of Chinese Taipei delegation ● Advise on APEC issues and process.

PANEL SESSION/CODE: *Attaining the Bogor Goals/1.3*

PAPER TITLE: *Case Study: Innovation in Philippine Transnational Corporations*

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Case Study: Innovation in Philippine Transnational Corporations

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Abstract

Although Philippine FDI outflows still lag behind some of its ASEAN neighbors, there is an increasing number of Philippine transnational corporations (TNCs) successfully investing abroad. This study focusing on four large indigenous firms provides insights on their international knowledge flows and the factors contributing to their technology strategies and innovation activities. This paper finds that market expansion activities increase learning in firms that extend knowledge and technical assistance from the home office to affiliates in host economies. Firms augment their capabilities and experience through long-term relationships with partners in production networks, in particular with suppliers who provide support for in-house innovation.

Key Words

innovation, Philippines, transnational corporations, foreign direct investment outflows, knowledge transfer

1. INTRODUCTION

Recent studies are increasingly focused on innovation in Asia especially in the local transnational corporations (TNCs) emanating from the region's developing economies. There is keen interest in determining Asian TNCs' characteristics and technological profile in contrast to the traditional multinational firms from developed economies. Closer to home, the prospect of ASEAN economic integration in 2015 has underscored the need for indigenous Southeast Asian firms to build their capacities and integrate regional developments in their business plans to exploit opportunities and tackle challenges. Because outward investment from ASEAN economies is mainly directed to economies within the region, it bears watching how stronger intraregional investment can strengthen the region's integration processes (UNCTAD 2008).

Earlier studies on Philippine foreign direct investment outflows noted the unavailability of systematic and complete information on Philippine transnational corporations. Philippine TNCs in the 1980s were strongly represented in the construction, real estate, trading, banking and financial sectors. In particular, Filipino construction companies in the Middle East and some parts of Southeast Asia promoted the export of skilled and semi-skilled labor. In a more recent study Hill (2010) cited the

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Philippines as one of ASEAN's major labor exporters but did not include the economy in the discussion of the region's foremost foreign investors.

Research on innovation in Philippine firms tends to focus on domestic and foreign firms that are operating in the local economy. Previous ERIA research projects on innovationhave studiedthe linkages involved in industrial upgrading and innovation in representative firms in the Philippine electronics sector (Macasaquit 2008), the challenges to innovation faced by local assemblers and parts manufacturers in the automotive sector (Quimba and Rosellon 2011), and the upgrading of capital goods in two firms involved in the fruit processing business (Rosellon and Yasay 2012).

This case study aims to contribute to the literature by understanding the process of innovation in four large Philippine transnational corporationsinvolved in the food manufacturing, pharmaceutical, port operation and remittance service businesses.These firms have significant overseas foreign direct investments (OFDI) and give a balanced representation of the manufacturing and service industries. The remittance service business is also of further interest as it appears as a logical offshoot of the earlier wave of Philippine OFDI that saw a huge outflow of labor and technical manpower.

The paper uses semi-structured interviewsto explore the firms' motives for expansion andthe technology and innovation strategies that support the outward push to host markets. This research also attempts to gain insights on how the companies learn and build their capabilities through intra-firm international networks and interaction with other actors including SMEs and indigenous firms.

The paper is organized as follows: Section 2 gives a background on regional and Philippine inward and outward foreign direct investments. A discussion of the results of the individual firm interviews follows. Section 4 summarizes the major findings, provides a conclusion and draws the implications for policy.

2. REGIONAL AND PHILIPPINE FOREIGN DIRECT FLOWS

It is well established that the generation of modern technology and technical knowledge is highly concentrated in developed economies, and takes place mainly in large companies and multinational corporations (UNCTAD 2012). The rapid industrialization of Southeast Asia was facilitated to a large extent by foreign direct investments (FDIs) from multinational corporations (MNCs). Foreign direct investments (FDIs) from these MNCs are generally sought for their potential to accelerate technology transfer, increase domestic production, generate employment and provide opportunities for international market networks. Hence, economies in developing Asia have removed restrictions on MNCs and put in place measures to attract FDIs. As a result, FDI flows in the region have risen dramatically over the last two decades.

2.1 Regional and Philippine Foreign Direct Investment Inflows

East Asia and Southeast Asia lead other developing sub-regions in share of world FDIs from 1985 to 2011 (Table 1). FDI inflows to East Asia averaged US$ 76.4 billion, twice that of Southeast Asia and more than triple the inflows to other non-Asian regions. Developing economies of Asia continue to be the most favored FDI destination, receiving increasingly larger shares of world FDI inflows since the early 1990s and averaging US$ 140 billion compared to similar economies in America (US$72 billion) and Africa (US$ 17 billion).

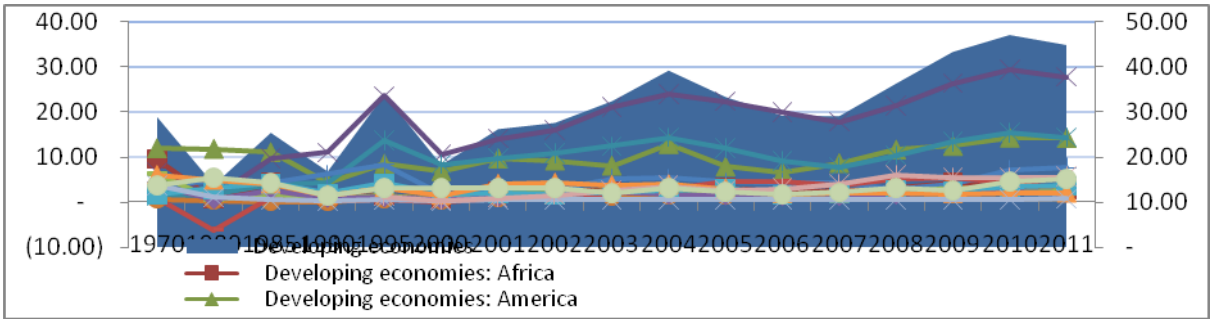
Hattari and Rajan (2008) identified Japan as the single biggest source of FDI inflows in developing Asia during the 1990-2004 period, accounting for 17-18 percent of total flows, followed by the US (4-9 percent), Europe (averaging 14 percent) and other Asian economies which had an average share of 35 percent.

Table 1: Inward foreign direct investment flows, annual 1970 – 2011 (in US$ million, current prices)

	1970	1980	1985	1990	1995	2000	2001	2002	2003
Developing economies	3854.36	7478.92	14187.90	34853.48	116207.68	255506.00	216865.15	173283.02	190124.81
Developed economies	9491.23	46575.81	41663.20	172526.34	222484.17	1137996.20	601241.07	443431.70	376807.61
Developing economies: Africa	1266.10	400.35	2443.32	2845.31	5654.96	9671.06	19960.82	14629.75	18190.54
Developing economies: America	1598.60	6415.81	6223.07	8926.09	29513.07	97824.49	80725.33	58447.21	47879.32
Developing economies: Asia	853.59	542.59	5397.47	22628.36	80489.65	147786.80	115968.10	100083.37	123706.82
Eastern Asia	177.82	949.71	2248.28	8791.07	46575.33	116640.66	79067.47	67707.48	72694.30
Southern Asia	96.39	284.28	134.98	212.80	2816.35	4864.11	7513.40	10712.54	8238.79
South-Eastern Asia	459.94	2636.12	2316.42	12820.85	28632.37	22696.08	22094.77	17267.56	29878.16
Western Asia	119.44	-3327.51	697.79	803.64	2465.61	3585.95	7292.46	4395.79	12895.56
Sub-Saharan Africa	832.08	256.83	987.21	1658.70	4438.75	6813.17	15181.75	11470.72	14278.31
Sub-Saharan Africa excluding South Af	498.47	267.13	1435.21	1737.10	3197.45	5925.83	8397.82	9901.56	13544.64
South America excluding Brazil	227.39	1610.49	2281.38	4053.37	14228.37	24276.69	15394.42	11399.72	12541.50
Central America and Greater Caribbean	806.54	2638.78	2260.71	3372.41	10930.10	21718.11	33786.12	27203.90	22338.98
Central America and Greater Caribbean	494.44	539.48	277.11	739.18	1403.80	3608.09	3859.83	3321.23	3684.26
CIS (Commonwealth of Independent St	_	_	_	_	3873.99	5299.11	7138.24	8960.67	15511.39
MERCOSUR (Mercado Común Sudam	488.35	2907.49	2337.37	2937.40	10274.35	43571.45	24991.36	18938.56	12236.94

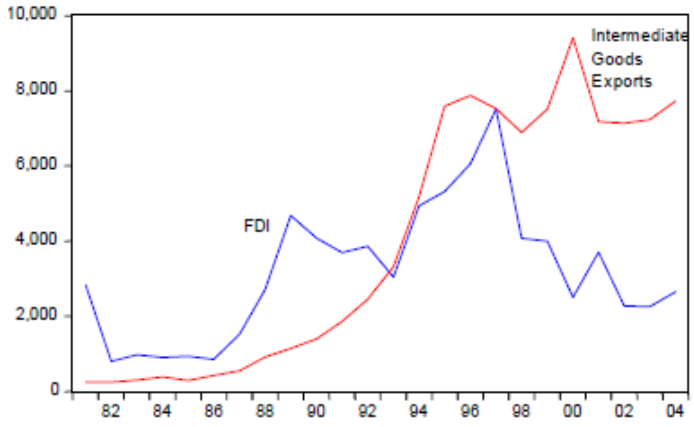
	2004	2005	2006	2007	2008	2009	2010	2011	avg (1985-2011)
Developing economies	291866.01	327247.76	427163.40	574311.49	650016.76	519225.02	616660.69	684399.28	230551.21
Developed economies	422179.06	622625.41	981869.33	1310425.43	1019648.04	606212.26	618586.09	747860.02	452319.03
Developing economies: Africa	17357.10	30504.78	36782.88	51478.90	57841.51	52644.87	43122.14	42651.85	17612.68
Developing economies: America	96164.72	78057.30	98175.35	172280.95	209517.03	149402.39	187400.68	216988.32	72130.96
Developing economies: Asia	177983.49	218420.37	290906.98	349412.16	380360.40	315237.64	384062.96	423156.97	140205.33
Eastern Asia	106335.51	116188.89	131829.44	151003.57	185252.77	159183.24	201364.12	218974.13	76378.13
Southern Asia	10695.48	14431.40	27918.56	34694.52	52868.78	42370.32	31745.65	38941.75	11467.54
South-Eastern Asia	39672.10	43301.24	64037.64	85602.50	50253.71	47407.72	92759.99	116559.23	32652.77
Western Asia	21280.40	44498.84	67121.35	78111.56	91985.14	66276.36	58193.21	48681.86	19706.90
Sub-Saharan Africa	12426.91	20573.00	17123.25	29968.25	37327.60	36237.35	29477.18	36901.51	11946.91
Sub-Saharan Africa excluding South Af	11628.89	13926.08	17650.01	24273.72	28321.30	30871.91	28248.83	31094.15	10029.67
South America excluding Brazil	18738.49	28974.72	24657.52	37202.04	47762.23	30374.21	41850.65	54811.98	19549.78
Central America and Greater Caribbean	29711.75	30064.19	28136.29	41585.23	39234.66	23525.82	29209.00	30798.85	17647.35
Central America and Greater Caribbean	4885.15	5656.99	8017.13	10092.89	12094.20	7406.54	8500.35	11244.47	3818.02
CIS (Commonwealth of Independent St	26408.32	25786.87	43490.60	76508.81	106819.82	63438.93	68966.29	84538.58	28501.70
MERCOSUR (Mercado Común Sudam	22630.56	21214.16	25948.05	42589.52	57098.40	31588.33	58078.66	76397.47	22810.67

Source: UNCTAD Statistical Database http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx?sCS_referer=&sCS_ChosenLang=en (accessed January 9, 2013 and Feb



Japanese FDIs in Malaysia, Philippines, Thailand and China were heavily concentrated in manufacturing, particularly electric machinery, whereas in Indonesia, mining and chemicals benefitted from Japanese FDI. Urata (2002) explains that the differences in sectoral patterns of Japanese FDI among these economies are attributable to factors such as natural resource endowments and FDI policies (Figure 1).

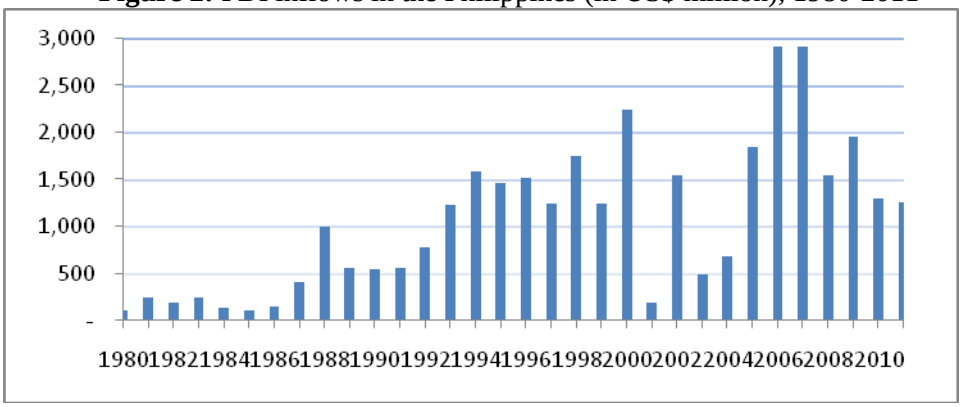
Figure 1: Japanese FDI and intermediate goods exports to ASEAN (Indonesia, Malaysia, Philippines, Singapore and Thailand)



Source: Thorbecke and Salike2011)

Inward FDI in the Philippines has been historically low compared with its peers in ASEAN. Political instability and poor investment climate contribute to the economy's weaker FDI inflows (Aldaba 2013). Figure 2 illustrates the volume of FDIs in the economy from 1980 to 2011 with the ebbs and flows seemingly reflecting the turbulent as well as the relatively peaceful moments in Philippine history. In the early 1980s, FDI inflows were rapidly fluctuating but by mid-1990s, steady increases can be observed as liberalization efforts that begun in early 1990s took effect.

Figure 2: FDI inflows in the Philippines (in US$ million), 1980-2011



Source: UNCTAD Statistical Database

Although investments dipped in 2001 and 2003, and the Philippines was able to recover the following year, total inward FDI has yet to reach the regional average (Table 2). For the period 2000-2011, FDI inflows of the Philippines averaged US$ 1.58 billion, the sixth biggest in the region after Singapore, Thailand, Indonesia, Malaysia, and Vietnam.

Table 2: Average inward foreign direct investment flows in East and Southeast Asia, 1970-2011 (in US$ million, current prices)

	Average FDI Inflows										Share to Total
YEAR	1970-79	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010	2011	2000-2011	2000-2011
World	23,969.18	57,762.90	128,037.20	201,344.95	603,851.24	837,483.65	1,481,628.94	1,309,001.23	1,524,422.19	1,202,415.54	
East Asia	443.12	2,153.88	7,082.47	22,551.59	61,559.52	88,489.08	148,691.58	201,364.12	218,974.13	133,853.47	11.13
China	0.08	617.40	2,619.90	16,028.48	42,056.91	50,893.99	86,390.80	114,734.00	123,985.00	77,095.25	57.60
China, Hong Kong SAR	367.64	1,288.34	2,978.19	4,588.19	13,477.57	28,616.93	49,008.13	71,069.50	83,155.58	45,195.86	33.77
China, Macao SAR	0.20	1.68	(0.13)	(1.68)	0.39	286.26	1,720.22	2,828.34	4,365.06	1,435.48	1.07
Chinese Taipei of	7	153.80	789.60	1,154.40	1,763.80	2,566.60	5,011.00	2,492.00	(1,962.00)	3,201.50	2.39
Korea, Republic of	109.40	92.65	568.20	760.11	4,175.85	5,973.85	6,094.98	8,511.20	4,660.90	6,126.36	4.58
Southeast Asia	1,230.69	3,204.45	4,877.87	15,256.09	29,884.83	26,321.73	58,120.56	92,759.99	116,559.23	52,627.56	4.38
Brunei Darussalam	3.82	(4.01)	1.60	6.58	651.84	1,123.05	337.02	625.67	1,208.30	761.19	1.45
Cambodia	0.16	0.20	-	31.20	217.51	131.68	617.19	782.60	891.70	451.56	0.86
Indonesia	437.95	210.40	441.80	1,713.40	2,669.60	(1,159.81)	6,874.67	13,771.00	18,906.00	5,104.28	9.70
Lao People's Dem. Rep	0.22	-	0.88	21.96	87.62	19.74	217.00	332.60	450.00	163.86	0.31
Malaysia	326.19	1,130.76	798.71	4,422.80	5,208.85	2,928.47	5,469.04	9,102.97	11,966.01	5,254.71	9.98
Myanmar	0.48	0.15	10.92	167.22	552.94	226.73	663.45	450.20	850.00	479.26	0.91
Philippines	80.02	186.80	448.80	942.20	1,445.40	1,031.20	2,239.60	1,298.00	1,262.00	1,576.17	2.99
Singapore	301.30	1,386.67	2,426.95	5,180.54	12,777.70	16,024.24	27,587.18	48,636.68	64,003.24	27,558.08	52.36
Thailand	79.82	286.79	743.80	1,990.20	4,377.68	4,583.93	8,447.26	9,733.32	9,571.98	7,038.44	13.37
Viet Nam	0.74	6.69	4.41	779.99	1,895.68	1,411.60	5,646.60	8,000.00	7,430.00	4,226.75	8.03

Source: UNCTAD Statistical Database http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx?sCS_referer=&sCS_ChosenLang=en (accessed January 9, 2013 and February 1-5, 2013)

In terms of sectors, Aldaba (2013) reported that the Philippine manufacturing sector had the biggest share of foreign direct investments from 1980 to 2009, averaging 46 to 48 percent. Investments in mining and quarrying were significant in the 1980s at 34 percent but suffered sharp declines in the succeeding time periods. Financial services were third largest in the 1980s at 8 percent, increasing to 18 percent in the 1990s and dropping in 2000-2009 to 10 percent.

The same report (Aldaba 2013) identified the United States as the economy's biggest source of foreign direct investments up to the 1980s when it contributed 56 percent of total inflows. This dropped sharply to 13 percent in the 1990s but increased to 24 percent in the 2000s regaining the top spot. Japan's share led that of the US in 1990-1999 at 22 percent but slid to second place in the most recent time period at 24 percent. Hong Kong China, Netherlands, U.K. and Singapore are the other major sources of FDIs in the Philippines.

2.2 Regional and Philippine Foreign Direct Investment Outflows

While global outward FDI is still largely dominated by traditional sources, recent outflows from emerging economies have started to attract significant attention (for instance Lall et al, 1983, Wells, 1984, as cited in Hill and Juthathip, 2011). Table 3 reflects the recent phenomenon of rising investments from emerging economies, as big businesses in these economies expand overseas.

Table 3: Inward and outward FDI stock (billion US$), 1990-2009

	Inward FDI					Outward FDI				
	1990	1995	2000	2005	2009	1990	1995	2000	2005	2009
World	**2081.8**	**3381.3**	**7442.5**	**11524.9**	**17743.4**	**2086.8**	**3606.6**	**7967.5**	**12416.8**	**18982.1**
Developed economies	**1557.2**	**2521.5**	**5653.2**	**8535.8**	**12352.5**	**1941.6**	**3272.2**	**7083.5**	**10956.4**	**16010.8**
European Union	761.9	1146.9	2322.1	4690.2	7447.9	887.5	1487.9	3759.7	6299.7	9983.1
United States	539.6	1005.7	2783.2	2818	3120.6	731.8	1363.8	2694	3638	4302.9
Japan	9.9	33.5	50.3	100.9	200.1	201.4	238.5	278.4	386.6	740.9
Developing economies	**524.5**	**848.4**	**1728.5**	**2713.6**	**4893.5**	**145.2**	**330**	**862.6**	**1308.4**	**2691.5**
Africa	60.7	89.3	154.2	271.5	514.8	19.8	31.5	44.1	52.4	102.2
Latin America and the Caribbean	111.4	187.1	502.1	816.7	1472.7	57.6	87.9	204.4	353.8	643.3
Asia	349.6	568.1	1067.7	1619.5	2893.8	67.4	210.1	613.5	901.6	1945.2
East (and Southeast) Asia	304.9	509.9	977.5	1354.9	2251.5	58.5	199.6	594.1	839.5	1703.9
East Asia	240.6	357.4	710.5	950.5	1561.5	49	149.4	509.6	674.2	1361.5
China	20.7	101.1	193.3	272.1	473.1	4.5	17.8	27.8	57.2	229.6
Hong Kong, China	201.7	227.5	455.5	523.2	912.2	11.9	78.8	388.4	471.3	834.1
Korea, Republic of	5.2	9.5	38.1	104.9	110.8	2.3	10.2	26.8	38.7	115.6
Chinese Taipei	9.7	15.7	19.5	43.2	48.3	30.4	42.6	66.7	106.5	181
South-East Asia	64.3	152.5	267	404.3	690	9.5	50.1	84.5	165.3	342.4
Indonesia	8.7	20.6	25.1	41.2	72.8	0.1	5.9	6.9	13.9	30.2
Malaysia	10.3	28.7	52.7	44.5	74.6	0.8	5.1	15.9	21.9	75.6
Philippines	4.5	10.1	18.2	15	23.6	0.4	1.3	2	2	6.1
Singapore	30.5	65.6	110.6	194.6	343.6	7.8	35	56.8	121.4	213.1
Thailand	8.2	17.7	29.9	60.4	99	0.4	2.3	2.2	5.1	16.3
South Asia	6.8	15.3	29.8	76.3	217.7	0.4	0.8	2.9	11.7	82
India	1.7	5.6	16.3	43.2	164	0.1	0.5	1.7	9.7	77.2

Source: Hill and Juthathip (2009)

From a regional standpoint, East Asia is the largest investor among developing regions, accounting for over 60 percent of FDI outflows from 2000 to 2009. Mainland China and Hong Kong, China have the highest magnitudes of inflows and outflows. Among the five Southeast Asian economies included in the table, Singapore leads in outward FDI flows at US$ 213 billion in 2009 while the Philippines comes in last with US$ 6.1 billion.

Table 4 describes the direction of outward investments from emerging economies for 2003 and 2008. The figures indicate that developing Asian economies are the preferred investment destinations of emerging economies. For instance, over 60 percent of outward FDIs from China, Philippines and Thailand went to economies in East and Southeast Asia. Between 2003 and 2008, the total outward investments of emerging Asian economies to other parts of Asia ranged from 40 to 80 percent of their total FDI outflows.

Table 4 : Direction of outward FDI from selected emerging Asian countries, 2003 and 2008 (% of Total Outward FDI)

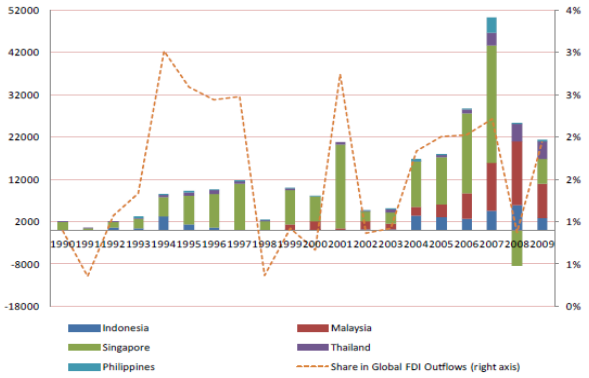
	China		HK		Korea	Philippines	Malaysia		Singapore	Thailand	
	2003	2008	2003	2008	2003	2003	2003	2008	2003	2003	2008
US	1.5	1.3	0.8	0.8	27.7	14.2	20.5	11.1	5.4	3.1	9
EU	1.3	1.7	2.3	1.3	12.9	13.9	14.5	17.2	5.9	1.3	2.1
Japan	0.3	0.3	0.6	0	1.8	0.2	2.7	1.5	1.3	0	0
Asia	79.7	70	41	48.7	41	72.8	44	53.4	48.2	73.1	73.2
East/Southeast	78	68.4	41	48.7	37.7	72.8	42.2	49.9	47.8	71.8	71.4
East Asia	76.2	64.8	37.5	46.5	25.6	25.7	11.9	13	24.8	19.3	16.8
- China	0	0	36.3	46.5	20.7	19.4	2.6	2.9	13.2	13	11
- Hongkong China	74.1	63	0	0	4.4	5.6	7.8	8.7	7.4	6.3	5.7
- Korea, Republic	0.7	0.5	0.3	0	0	0	0.2	0.2	0	0	0
- Chinese Taipei	0	0	0.6	0	0.3	0.7	1.3	1.3	2.5	0	0
Southeast Asia	1.8	3.5	3.5	2.2	12.1	47.1	30.3	36.9	23	52.5	54.6
- Indonesia	0.2	0.3	0.1	0	3.8	0.1	5.2	9.6	6.9	1.9	1.8
- Malaysia	0.3	0.2	0.9	0.6	1	7.2	0	0	9.1	1.9	2.7
- Philippines	0	0	0.4	0	1.5	0	1.8	0.9	2.1	5.7	2.1
- Singapore	0.5	1.8	1.2	0.9	1.3	33.9	19.7	22.1	0	17.5	15
- Thailand	0.5	0.2	0.8	0.7	1.6	0.3	2.1	1.9	3.1	0	0
- Viet Nam	0.1	0.3	0	0	2.7	5.5	0.9	1.6	1	9.1	3.9
South Asia	0.2	1	0	0	2.4	0	1.4	2.2	0.4	1.3	1.8
- India	0	0.1	0	0	1.6	0	0.4	0.4	0.4	1.3	1.8
Africa	1.5	4.2	0	0.7	1.7	0	6	7.3	4	1.5	3.3
Latin America	1	0.7	0.9	0	4.3	0	0.4	0.4	0	0	0
Other	14.8	21.7	54.3	48.5	10.8	0	12	9.1	35.2	21	12.5
Total	100	100	100	100	100	100	100	100	100	100	100

Source: Hill and Juthathip (2009)

In particular, majority of the emerging economies from East Asia invested significantly in their immediate neighboring economies—economies with which they share cultural affinities (south-south investments). Economies in ASEAN invested heavily in Singapore including the Philippines which directed 30 percent of its total outward investments to that economy in 2003. The Philippines' investment shares in other economies were almost marginal, except for US, Europe and China, each of which got over 10 percent of outflows.

Hill and Juthathip (2009) maintain that Philippine outward investment has always been negligible although in recent years Philippine multinationals have started to realizegrowth potential overseas. FDI outflows from the Philippines started to pick up in 2002 and increased significantly in 2004 (Figure 3). While this positive trend was initially led by portfolio investments, later increases were due to direct overseas investments, reaching a peak of US$ 3.5 billion in 2007. Investments quickly declined the following year, during the global crisis. The Philippines' transnational companies prefer to invest in hotels and restaurants, transport, storage and communications, and food and beverage manufacturing (Thomsen, Otsuka and Lee, 2011). The choice of industries is indicative of the economy's competitive advantage in labor intensive business activities, particularly those with strong people and customer-oriented focus.

Figure 3: FDI outflows from ASEAN 5, 1990-2009



Source: Thomsen, Otsuka and Lee (2011)

In the past decades the Philippine government has been focusing its efforts on attracting greater foreign direct investments into the economy and does not offer any incentives for local firms investing abroad. According to the investment development path theory (Dunning 1981 as quoted by Pananond 2008),aeconomy will actively pursue outward foreign investment only when its firms have developed considerable ownership advantages. Given that the Philippines is still accumulating location-specific advantages as a net recipient of FDI, it may take some time before the economy reaches a sufficiently high level of development to become a net source of foreign direct investments.

3. PROFILE OF PHILIPPINE TRANSNATIONAL CORPORATIONS

The four Philippine transnational firms used in the case study do business in different sectors namely food manufacturing, pharmaceutical, port terminal services and remittance services. The two firms involved in manufacturing are discussed first, followed by the service companies. Innovation as referred to in the case study encompasses all activities executed by the company that bring about new or more effective products, processes, services and technologies.

3.1 Firm A

Firm A is a privately held, leading snack food and beverage company that manufactures over 100 variants of starch based savory and sweet products, cereals, popcorn, cookies, powdered drinks and sauces. The company is best known for its Oriental-sounding brand name of snack products widely popular in mainland China where Firm A is one of the biggest industry players. The company's headquarters and major plants are located in the Philippines while the rest of its manufacturing facilities are located in Asia.

3.1.1 Profile of the Firm

Firm A started as a small family business in Manila in 1946. The founder, a Chinese migrant from Fujian,repackaged coffee and flour products for post-war consumers and eventually extended both its product line and distribution network. The business was incorporated in 1966 and nine years later, the companyenteredthe fledgling snack food manufacturing sector using Japanese technology and recipes, thus the introduction of the brand name for their prawn cracker product. Subsequent business growth led the owners to upgrade equipment and invest in research and development to improve existing products and develop new ones for the market.

In 1993 under the helm of the founder's son, the company began manufacturing operations in Shanghai, China. The company was offered incentives including a state-owned plant, workers and tax holidays. In 2001, the company's brand received the Shanghai Famous Brands award.

In 2006 Firm A began locating in smaller, tier 3 cities that offered bigger incentives than major cities especially for branded companies. Local governments provided land, interest-free financing payable through tax rebates, and the necessary infrastructure, sometimes offering to build factories according to investor specifications. Currently, the company operates 14 factories in 10 Chinese provinces and has a network of 550 distributors and 150 direct retailers.

The company has since established manufacturing plants in Vietnam (1997), Myanmar (1999), Indonesia (2006), Thailand (2007), and Cambodia and India (2012). The company's entry in the latter economies is considered particularly resource and capability augmenting as the variety of indigenous spices enhanced the firm's R&D and product innovation activities. Firm A's investments abroad are mostly wholly owned and Greenfield, its preferred type of investment. The company and its affiliates employ over 15,000 people in eight economies in East and Southeast Asia.

Unofficial sources estimate Firm A's total sales in the Philippines at US$ 100 million and US$ 350 million in China, both in 2011. The company has always kept a low profile choosing to focus marketing strategies on its products. It only launched its first brand-centered advertisements within the last three years.

Figure 4: Some of Company A's popular products

Seafood-based: prawn and fish crackers
Savory-flavored: cheese, barbeque, bacon, garlic, chili, ketchup, pizza, onion chips
Cereals and multi-grain snacks
Green pea and pork-rind flavored chips
Sweet crackers with assorted fillings
Savory toasted bread
Flavored iced tea
Instant powdered drink mixes

Source: Company product catalogue

3.1.2 Foreign Investment

Market expansion is the key reason for Firm A's expansion outside the Philippines. In particular, entering the China market was the vision of the founder's eldest son, the firm's current chairman, who saw the potential demand in China's big population. He had been studying closely the China market specifically Shanghai for several years before launching operations there in 1995. At that time, the snack food market in the Philippines was already saturated and the company's products were popular and widely sold. In contrast, China's economy was just opening up and according to the company, the Chinese had no concept of snacking on manufactured snack food. The competition, loosely described, came from the local sweets, nuts, watermelon and sunflower seeds that people munched on between meals. The company said that in a sense they introduced the concept of snacking.

After Deng Xiao Ping instituted the open market policy in 1992, China enticed early investors with incentives such as 100 percent ownership of the enterprise and the provision of factory plants and facilitated the hiring of workers. Firm A started operations in Shanghai province, leasing two plants with a staff of 400 workers from a state-owned company. The relative lack of competition, the huge market, the incentives granted to early entrants and its production, distribution and marketing capabilities it gained in snack food manufacturing in the Philippines all contributed to Firm A's success in China.

The company learned from its experience in China the advantages of early entry in the local snack food market and has replicated this mode of investment in other emerging economies in Asia. An affordable quality product, a strong distribution network and a good marketing strategy, which increases in importance as the market becomes more sophisticated, are key to the company's way of doing business.

Another firm-specific advantage crucial to the success of the company's overseas expansion is the active involvement and hard work of two generations of family owners. To closely monitor operations in China, the chairman's eldest son spent 14 years living and working in the economy. The third generation composed of the chairman's six children currently manages the overseas operations as well as important aspects of the business including marketing and communications. The lean upper management organization makes possible close and constant coordination mainly through face-to-face meetings, and quick decision-making.

3.1.3 Innovation and Knowledge Transfer

According to Firm A, expansion abroad further honed the company's in-house capabilities for both product and process innovation. Different types of innovation depend on the state of the host market and the company's own capabilities. Laboratory-based R&D carried out in each host economy where the company has manufacturing facilitates the development of new snacks and the modification of products it has developed elsewhere to suit local tastes. The company introduces the snacks that are already popular in other markets and using customer feedback, its local R&D facilities develop new flavors for the local market.

The company usually works with a range of raw material suppliers both local and foreign to combine natural ingredients and spices. In-house localized R&D units discuss specific flavoring needs with suppliers and test sample batches. Collaboration with universities and research institutes has also been attempted. In 2008, Firm A worked closely with a northern state university in the Philippines to study how to utilize surplus vegetables, particularly squash, produced in the area. The joint research showed the local variant to be too starchy and sweet, and unsuitable for potato chip production so further link up was discontinued.

The company also tried to backwardly integrate by working with local farms in China to grow potatoes. However, since farming was a completely different business model, the venture proved difficult to manage so the company decided to focus on its core competence in snack food manufacturing.

Compliance with government directives rather than direct collaboration with government research facilities has contributed to product innovation. Efforts by the Department of Health (DOH) in the Philippines in the early 2000s to promote healthy snack food in school canteens spurred the company to produce savory toasted bread snacks now highly popular across the region. Several products fortified with vitamins carry the DOH acceptance seal while other products are certified Halal by the Office of Muslim Affairs. The trend towards healthier products has spurred innovation in products with high vegetable content like its green pea snacks, products with zero trans-fat, and

vitamin-enriched drinks. The development of new products also depends on the possibilities offered by new technology.

Knowledge transfer in the company flows equally among the home office and its foreign affiliates. Close interaction among the family members, who are either based abroad or travel frequently to fulfill international responsibilities, are vital for disseminating vital information. Support from a professional, Filipino management team further ensures that the information is shared in the organization. Technical and management personnel including engineers, accountants and supervisors originate largely from its operations in the Philippines and are posted for at least two years in a foreign affiliate, usually after working in its main manufacturing plant in the Philippines.

Consulting fees for legal, accounting, advertising and promotion services in the different economies constitute just a fraction of sales as the company has developed strong in-house resources for technical and other services. Technical, product, process and service training are mostly provided in house.

Firm A nurtures long term relationships with its raw material, equipment, and packaging suppliers and has brought this network in its regional expansion while forming new ties with local companies. The company has customized machinery with the technical assistance of these suppliers who are sources of the latest technology. The company also works with suppliers to maintain process-based quality management systems to ensure safety and hygiene and meet the standards of ISO and HACCP (Hazards Analysis and Critical Control Point) at its factories.

3.2 Firm B

Firm Bdevelops, manufactures, and markets a wide range of pharmaceutical products, cosmetics, personal and healthcare toiletries, food and nutritional products, hospital and medical equipment, and healthcare services. It is the Philippines' largest pharmaceutical company and has a network of 10 affiliates across the Asia Pacific region. The company positions itself as a provider of high quality yet affordable products and its portfolio consists of more than 350 brands across 12 product divisions.

3.2.1 Profile of the Firm

Firm B started in Manila in 1945 as a small corner drug store by two friends.It was the first local company to venture into industrial-scale pharmaceutical manufacturing and in fifteen years it developed a strong nationwide distribution and sales network. Filipino-Chinese family members of

the two founders including the succeeding two generations continue to hold the majority share and occupy board and top management positions in the privately held company which does not release financial data. Table 6 shows publicly available figures on Firm B's operations in the Philippines. The company has maintained a 20 percent market share in the economy for the past three decades and many of its brands are leaders and household names (see Figure 5).

Figure 5: Firm B's therapeutic categories

Anti-Allergy	Endometabolics
Anti-Asthma-COPD	Eye-Ear
Anti-Fibrinolytics	Gastrointestinal
Anti-Infectives	Genito-Urinary-Nephro
Anti-TB	Hospital Solutions
Cardiovascular	Medical Device
Central Nervous System	OB-Gyne
Cosmetics	Oncology
Cough-Cold	Oral Care
Dermatologicals	Somatics
Dietetics	Vitamins

Source: Company profile

The company considers its human resources as its greatest asset critical to long-term growth. It attracts long-staying professional management, some of whom worked with the founders. The company describes its work ethic as revolving around family and community, and aligns its human resources strategy with the overall business strategy. The company has been cited as one of Asia's Best Employers by the Asian Wall Street Journal and Far Eastern Review. The company currently employs a total of 9,000 persons, around a third in the different foreign subsidiaries and affiliates.

The company's emphasis on relationships translates to a vast network of business alliances in the healthcare industry, and it is experienced in partnershipsincluding product licensing, supply and marketing agreements and joint ventures. It maintains a professional marketing team to promote prescription products while over-the-counter (OTC) sales of its health and wellness brands are marketed through multi-media advertising.

Table 5: Firm B's ranking among Top Philippine corporations, 2009-2

	2010	2009
Gross Revenues	USD 709,775.9 (PHP 3,2017,990)	USD 637,050.6 (PHP 30,347,178)
Net Income After Tax	USD 75,391.64 (PHP 3,400,917)	USD 67,706.09 (PHP 3,225,315)
Total Assets	USD 907,799 (PHP 40,950,813)	USD 784,773.4 (PHP 37,384,250)
Total Liabilities	USD 245,568.8 (PHP 11,077,610)	USD 222,792.4 (PHP 10,613,163)
Stock Holders' Equity	USD 662,230.2 (PHP 29,873,203)	USD 561,981 (PHP 26,771,087)

Notes: Figures reflect Philippine operations only.
Figures converted to US$ using NSCB yearly average exchange
Source: Businessworld's Top 1,000 Corporations

3.2.2 Foreign Investment

Firm B's expansion into Asia is the vision of the company's founder and chairman. It invested outside of the Philippines principally to gain new markets and also to take advantage of the incentives offered by host economies. The exception to this model is its recent joint venture with a local biotechnology firm in China where the JV is in the early stages of new product development. The availability of natural resources and access to new technology were major considerations in this specific investment.

The company has manufacturing facilities in China, Indonesia, Myanmar, Thailand, Vietnam and the Philippines and maintains affiliates in Cambodia, Hong Kong China, Laos, Malaysia, Singapore and Sri Lanka. Firm B has both 100 percent owned and joint venture affiliates although it prefers wholly owned investments for greater control and managementflexibility. The company's investments are mostly Greenfield investments.

3.2.3 Innovation and Knowledge Transfer

Most of Firm B's core research and development activities are done in the Philippines. In the 1970s, the company invested in hiring top Filipino scientists based abroad to set up and develop world-class laboratory and research facilities. This research and development hub introduces new products for the local market that are subsequently introduced in its foreign affiliates. The R&D center also localizes existing products developed elsewhere. The company spends about 5 percent of sales on R&D.

The company is also focused on process innovations, including the use of technology in relationship management and distribution channels. The company has active external linkages in its production network and partners with raw material suppliers for on-site quality assurance inspections and machinery suppliers forcustomized equipment. The company also shares information with other firms, for example, when its distribution company acquires exclusive selling rights to another company's health and wellness products or when it engages in toll manufacturing for other firms. The company works closely with suppliers especially in quality assurance and gives awards for excellence, for example, in the quality of raw materials and packaging.The company does not hire consultants and local suppliers to accomplish R&D but uses them extensively in other economies for legal, tax and administrative matters.

Knowledge flows mostly from the home office to foreign affiliates that fulfill complementary R&D in terms of customization of products for local consumption (e.g. cough syrup flavors) and

understanding the local market including feedback from customers. Knowledge is also disseminated through personnel transfers consisting of skilled Filipino R&D staff, technicians, engineers, finance and management heads. Transfers originate from the home office to foreign affiliates where the length of posting is about four years on average.

Intra-company training addresses both hard and soft skills covering technical, product, and service topics and are conducted in both the head office and foreign affiliates. Knowledge transfer is also being conducted through coaching wherein members of top management, who have been with the company for many years, mentor and pass on their learning to younger successors.

Major outputs of company's cross economy knowledge transfer are product innovation, process innovation, new knowledge, significantly improved engineers, technicians, R&D personnel and significantly improved technology development. Lately the emphasis is on distribution channelsand reaching the consumer in new ways through the use of technology, for example, tablets and electronic media.

3.3 Firm C

Firm C is in the business of acquiring, developing, managing and operating container ports and terminals worldwide. It owns and operates 25 terminal facilities in 18 economies, 12 of them in Asia. The company specializes in container ports in developing economies acquired mainly through concessions[ix].

3.3.1 Profile of the Firm

Firm C is focused on developing, acquiring, owning and operating common user container terminals in the 50,000-2,500,000 TEU[x]range. The company was established in December 1987 in the Philippines.In the following year, it won the 25 + 25 year concession to operate the container terminal located in Manila, the economy's busiest port, in an international tender. This terminal is now the economy's largest, most modern cargo terminal and the company's flagship operation.

[ix]There are two modes of port operation: through concessions and management contracts. In port concessions, the owner of the port allows Firm C to infuse capital and build the infrastructure including terminals and container handling equipment. Under a management contract, the owner builds the infrastructure and brings in the company to manage the facilities.

[x]TEU refers to twenty-foot equivalent unit, the volume of a 20-foot metal box used to describe the cargo capacity of a container terminal

The company aspired to be a global port operator and began a domestic and overseas expansion program in 1994. Its first concessions were acquired through public-private partnerships wherein a foreign government seeking to develop a port but lacking capital engages Firm C to build the necessary infrastructure and manage the operations. Around 70 percent of the company's portfolio was acquired through government-led privatization efforts in Asia, Latin America and Eastern Europe. In more recent years the company has expanded through corporate acquisitions and entry in developed economies.

Firm C is a registered Philippine company and is currently owned 63.5 percent by its Chairman and President, a Filipino of Spanish descent, through direct individual shareholding and various family-owned corporations. The firm has received many awards for its operations in the home office as well as in foreign affiliates. Most recently, one of its European ports won Gold and Bronze Innovation Awards for its design, production and use of a cross-beam for loading and unloading heavy cargoes into containers, and its new terminal planning and work management IT system, respectively. The parent company has also been awarded by Euromoney as the overall best managed company in Asia for the Transportation/Shipping sector.

3.3.2 Foreign Investment

The company owns 25 port terminals in 18 economies, 6 of them located in the Philippines. Among the regions, the company has the most of number of ports in Asia at 12, with 6 in the Americas and 5 in Europe, the Middle East and Africa (see Figure 6). The company has 5,000 employees worldwide, among them highly paid rank and file with specialized technical skill in crane operation.

The company's overseas investments are 100 percent owned with the exception of joint ventures in Yantai, China and with a family corporation in Pakistan. The company prefers wholly owned investments because it can exercise sole control of the business. It has done Greenfield investments and the takeover of existing firms and is open to both.The company's geographical expansion beyond the Philippines was the personal vision of the company's chairman. Buoyed by success in its initial port concession in the Philippines, it gained entry in other developing economies through similar government privatization routes, developing expertise in cost management and efficiency, and a track record for adapting quickly to different operating environments. The company made its first investment in a developed economy last year when it won a port concession in Oregon, USA. The company has found this investment a particularly challenging learning experience on many aspects including relations with organized labor.

Figure 6: Firm C's portfolio of port concessions and management contracts

ASIA	
Location	Start of Operations (with Firm C's involvement)
Manila, Philippines	June 1988
Zambales, Philippines	April 2008
Batangas, Philippines	April 1999
South Cotabato, Philippines	October 1999
Davao City, Philippines	January 2007
Misamis Oriental, Philippines	June 2008
Okinawa, Japan	January 2006
Shandong Province, China	April 2007
Sulawesi Selatan, Indonesia	June 2006
Muara, Negara Brunei Darussalam	May 2009
Tamil Nadu, India	ongoing development
Karchin Port, Pakistan	2012

AMERICAS	
Location	Start of Operations (with Firm C's involvement)
Pernambuco, Brazil	April 2002
Guayaquil, Ecuador	August 2007
Oregon, USA	February 2011
Buenaventura, Colombia	ongoing greenfield development, to open in 2015
Buenos Aires, Argentina	ongoing greenfield development, to open in 2013
Manzanillo, Mexico	ongoing greenfield development, to open in 2013

EUROPE, MIDDLE EAST AND AFRICA	
Location	Start of Operations (with Firm C's involvement)
Gdynia, Poland	June 2003
Adjara, Georgia	November 2007
Rijeka, Croatia	April 2011
Toamasina, Madagascar	October 2005
Tartous, Syria	*pulled out in Dec 2012 due to civil war

Source: Company profile

3.3.3 Innovation and Knowledge Transfer

Firm C defines research and development in relation to the identification and assessment of specific business opportunities that can be acted upon in the near term. Knowledge of market is crucial to local service innovation thus every port terminal it operates has a research and development unit. A wholly owned subsidiary manages the company's foreign operations and maintains regional representatives in Manila and seven other cities worldwide.

Firm C's recognizes the importance of process innovation and works closely with world-class container handling equipment and information technology suppliers, for example terminal operations and radio frequency identification-based truck tracking systems. It successfully customized equipment that generate cost savings and has developed proprietary operating systems in collaboration with supply partners with whom it has long-term relationships. The company bills itself as an international company and it invests in state-of-the-art information technology to stay at par with competitors from developed economies and deliver cost efficiencies to customers.

The company also fosters knowledge and information exchanges with suppliers as well as relevant government agencies to ensure company and industry standards are met. The company bestows Supplier Quality Awards every year to recognize the Group's top suppliers and service providers. In turn, Firm C has been recognized by the Philippine Department of Labor and Employment with a Safety Milestone Award for its effective implementation of safety and health programs for employees.

Firm C believes innovation evolved in the company through more experience and lessons learned in doing business with different economies, hiring more good people, and better training. Technical, process and service training is important for the company and about 80 percent of training is provided by in house expertise in both Philippine and foreign affiliates. The company maintains sophisticated training facilities in Ecuador where crane operators from around the region undergo intensive technical courses. The company also partners with other institutions to provide training. In 2011, the United States Department of Energy and the Philippine Nuclear Research Institute conducted training for employees of its flagship operation in Manila on Megaports Operation Readiness. Engineering staff in its European affiliateare sponsored for professional training on quay cranes and reach stackers, for example, the Crane Technicians course, a professional 3-day training courseoffered by thesoftware company that developed and installed the crane operating systems. In Brazil, the company implemented an employee incentive program that gives rewards for innovations, new ideas and improvements towards organizational development.

Knowledge transfer flows equally among the home office and affiliates and initiated mainly by an international senior management team that has global responsibilities. The team has vast experience in port development and management and in their strategic positions they effectively diffuse new learning among subsidiaries. Process innovation, significantly improved engineers and technical people are among the outcomes of these knowledge transfers.

Knowledge is also circulated through personnel exchanges involving technical and mostly management personnel. The average length of stay for relocated personnel is two to three years. The company does not pay royalties but pays consultancy fees related to administration, civil works and construction.

3.4 Firm D

Firm D is the largest Filipino-owned non-bank remittance service provider in the Philippines. It has been recognized for product and technology innovations that enable faster and cost-effective delivery of remittances from overseas Filipino workers (OFWs) to beneficiary families. The company pioneered the use of the Internet platform in service delivery and its own-brand debit card was recognized by the Asian Development Bank in 2004 as an innovative product offering. The company has 800 remittance-receiving outlets in 24 economies and territories consisting of subsidiaries, associates, tie-ups and agents. Through its bank and non-bank partnerships in the Philippines, beneficiaries can access remittances through 9,000 bank and non-bank pay out stations and 9,000 automatic teller machines (ATMs) nationwide.

3.4.1 Profile of the Firm

Firm D was registered with the Philippine Securities and Exchange Commission in March 2001 and started commercial operations in Hong Kong, China and engaging agents in Singapore and Chinese Taipeiin the same year. It continued to open offices and enter into agreements with agents in Asia Pacific, the Middle East, and Europe. In 2004, it introduced the Visa Debit Card, a combined debit and ATM card.This new product enabled remitters to open and reload beneficiaries' cards from anywhere in the world and allowed beneficiaries to withdraw cash from the major ATM networks in the Philippines as well as Visa ATMs and merchant partners worldwide. The Asian Development Bankrecognized this product as an innovative product, offering the fastest mode of service and enabling mobile and Internet banking transactions. In 2007 it became the first remittance company to list in the Philippine Stock Exchange.Two Filipino-Chinese families are the majority owners of the company.

Firm D's volume and value of remittance transactions have been increasing in the past four years despite the global economic slowdown reflecting the resiliency of inward remittance flows (Table 6). Some indication of the crisis is reflected in the slowing growth rate in both indicators. There were 2.8 million transactions in 2011, a 2 percent year-on-year increase compared to 11.9 percent from 2008 and 2009. Transaction value was US$ 1.2 billion in 2011, an increase of 9.9 percent over the previous year, much lower than the 42 percent year-on-year increase in 2009.

Table 6: Firm D's volume and value of transactions, 2008 – 2011

Year	Transaction Volume (in 000)	Transaction Value (in US$ 000)
2008	2,397	762,346
2009	2,683	1,083,555
2010	2,737	1,103,952
2011	2,795	1,213,410

Source: Company documents

3.4.2 Foreign Investment

Firm D invests abroad principally to expand its market. Its main customers are Filipinos working overseas who send money to beneficiaries, usually in the Philippines. The company has wholly-owned investments and joint ventures (see Figure 7), the latter in Singapore and Chinese Taipeiwhere the remittance business is highly restricted. The company holds 49 percent,the maximum allowable stake, in its local associates. Firm D prefers 100 percent owned investments in which it can exercise full control. Most of the company's investments are Greenfield.

Currently, eight out of the company's eleven subsidiaries and associates are located in the Asia-Pacific region. The region also contributes the largest in terms of volume and value of transactions at 47 percent and 60 percent, respectively. The regions Middle East, Canada and Europe contribute in decreasing order to both volume and value. Firm Dcontinues to establish its presence in economies with high concentration of Filipinos and to increase its share of clients from among the 9 million overseas Filipino workers by partnering with more banks and non-bank institutions in the Philippines to serve as collection points for beneficiary families.

Figure 7: Firm D's foreign affiliates

Country	Year incorporated	Percentage of Ownership
Hong Kong, PRC	March 2001	100 percent
United Kingdom	June 2001	100 percent
Canada	July 2001	100 percent
Australia	December 2002	100 percent
Australia	September 2003	100 percent
Austria	July 2005	100 percent
New Zealand	September 2007	100 percent
Hong Kong, PRC	April 2008	100 percent
Japan	June 2011	100 percent
Singapore	May 2001	49 percent
Chinese Taipei, Province oJfuCyh2	49 percent	

Source: Company documents

3.4.4. Innovation and Knowledge Transfer

Firm D employs a broad definition of research and development (R&D). Research on markets, competition, technology and regulatory matters constitute R&D activities and are undertaken in each host market. The development of new products and services and localizing products developed in other affiliates also constitute R&D. The company pioneeredservices including online crediting, extended crediting time (beyond office hours on weekdays), and weekend crediting. The firm also introduced same-day and next-day delivery service of cash remittances through in-house messengers and accredited couriers. More recently, services innovations such as the payment of bills and loans, social security membership contributions, and insurance premiums have been made possible by the Firm D'sresource-exploiting advantage which is its extensive technical infrastructure.

The home office invests in research studies on OFW-related issues in collaboration with private universities. The company carries out operations and research and development (R&D) activities both in the Philippines and in its foreign affiliates. The company considers the market research on customers in host markets and its IT network infrastructure in Manila as the main factors driving innovation in products and services.

Knowledge at Firm D flows from all directions, principally from the home office in the Philippines to foreign affiliates and vice versa. Since most customer beneficiaries live in the Philippines and the main IT support systems are located in Manila, feedback from these sources feed into the company's development of new products and processes, for example, in remittance delivery, and are communicated and sometimes even further improved in the foreign offices. Market conditions in host economies play an important role in generating new products and services. The foreign-to-foreign payment service that facilitates sending of remittances to another economy instead of the Philippines reflects the phenomenon of Filipinos who work in a succession of economies and need to pay obligations in the locations where they were previously assigned. These product innovations further spur the company's expansion in other economies as well as increase the number of partnerships with foreign banks.

Product and process innovation at Firm D at the receiving end where beneficiaries collect remittances usually aim to decrease transaction costs. Some of Firm D's innovations including the company-branded combined debit and ATM card and weekend crediting of remittances result from customer feedback. The company's extensive technical infrastructure is its resource-exploiting advantage that makes possible other service innovations in the Philippines including the payment of bills and loans, social security membership contributions, and insurance premiums.

The firm invests in its core information technology platform and works with both local and international suppliers for continuous systems development, security and risk management features and proprietary information systems. The company maintains a long-term relationship with the original suppliers of its main IT system in the Philippines and works closely with them for improving and innovating processes. Firm D works with local suppliers in other economies. The company does not buy technology off the shelf and custom-made software is developed in house in collaborationlocal software developers. The company sends its Filipino technical people to set up network links in foreign affiliates. Local suppliers and consultants enter the company's production network specifically in meeting the regulations for setting up in host markets. Some economies require the development of certain procedures and documentationfor which local expertise is necessary and thus inter-firm knowledge sharing takes place.

4. COMPARATIVE ANALYSIS AND POLICY RECOMMENDATIONS

4.1 Cross-Case Comparison

All four Philippine TNCs interviewed in the case study invest abroad principally to expand their market. The firms first gained experience and competence in their home economy where as

market leaders in their core businesses they developed ownership advantages including management skills, branding, technology, and research and development capabilities. For three of the firms, market-seeking behavior means producing and selling their goods and services in the domestic market while for the remittance firm this behavior means following its customers overseas.

Investing abroad is a capability-exploiting move for all firms as they used their existing resources to gain new markets. The firms also perceived location-specific advantages in the economies where they chose to invest. In the case of the firms involved in services, the nature of their service and business model necessitate setting up in the host markets in order to stay close to their customers. For the manufacturing firms, the destination economies offered new sources of raw material that fueled product innovation as well as attractive incentives that lowered the firms' cost of entry and level of risk.

Most of the economies where the firms are invested are emerging economies, principally in Southeast Asia. Only the two firms engaged in services have affiliates outside Asia. The firms developed their competencies and expertise in the Philippines, a middle-income economy, and find these are competitive and add value in similar or lower income economies. Emerging economies are particularly attractive because these offer fast growth and less competition. For some firms, their industries are already crowded in the Philippines and spending on marketing and promotions is costly thus for the same amount of investment, there are higher returns in investing in high-growth markets abroad than in the home economy.

The four firms express a preference for Greenfield investments and cited full control and management flexibility as the attractive features of this investment mode. The firms said they entered into joint ventures only if this was the viable way of entering a market or if the venture partner offered technology or raw material access that the company perceived as valuable. In most of the joint ventures, the firms brought in their core expertise and their experiences in other markets were an important contribution to the undertaking.

The firms unanimously report an increase in learning as a result of their market expansion activities. The companies upgraded their technical capabilities and knowledge as they ventured in host markets which offer new sources of raw materials for the manufacturing firms while the services firms said the understanding of cultures and different ways of doing business are important learning processes. There is also evidence of intra-firm international production networks as firms tend to combine what they learned in host economies and knowledge from the home office to successfully penetrate new markets.

All firms said they introduce new products and services to cater to local demand and actively pursue research and development activities for both products/services and processes. Cost competitiveness and efficiency are important motivators for innovation in these firms. Three of the four firms perform operations and both product and process R&D functions in each host market where they have made an investment. One manufacturing firm carries out operations and process R&D in each host economy but product R&D is largely done in the home office. This firm has the longest history of foreign direct investment among respondent firms and early on had made substantial investment in developing a core in-house R&D team.

Knowledge transfer and collaboration between the home office and subsidiaries are carried out differently among the surveyed firms depending on the industry structure and company strategy. For the food manufacturing and port operator services firms, there is a high degree of research and development that is local and therefore knowledge flows equally among the foreign affiliates and the home office. Product and process innovations by the pharmaceutical and remittance services firms are mainly done in Manila and thus knowledge transfers tend to radiate from the home office outwards, including the deployment of skilled Filipino personnel.

Professional, high-level management are important agents in spreading learning across the firms. Frequent exchanges of information among the core management responsible for overseas affiliates spread the knowledge gained across the organization and contribute to innovation. Direct information flows also happen through personnel exchanges usually from the home office to foreign affiliates involving Filipinos in technical and management positions. Knowledge is further disseminated through technical and product training for staff usually conducted by the firms themselves.

The four TNCS reported linkages and inter-firm knowledge transfers were mainly achieved working with supply chain partners for product and process innovations. Technology and machinery suppliers were cited by most firms as their collaborators in process innovations such as customized equipment. Raw material suppliers are particularly important partners for product innovation in the manufacturing firms. All firms said they have long working relationships with some of their major suppliers, meaning they had worked with them in other host economies and could be relied on for information on the latest technology as well as training. Three of the four firms interviewed for this case study are owned and managed by Filipinos of Chinese descent and the implications of networking with overseas Chinese in Asia in terms of information sharing and inter-firm linkages are interesting and can be explored in further studies.

The surveyed firms collaborate with a range of firms in their production networks. The firms tend to work with large equipment suppliers and cited reasons such as keeping up with competition and the promotion of state-of-the art technology for their choice. Since all the firms customize equipment, they also work with smaller or local suppliers who may deliver specific parts in combination with the main machinery. Indigenous firms and SMEs also enter the supply chain as raw material suppliers especially for food manufacturing where flavors need local ingredients for wider appeal and acceptance. Local service suppliers widely used by the firms include accounting, finance, legal and translation services.

Half of the surveyed firms reported active collaboration efforts with a university or local public/private support institution. The remittance services company recognizes the value of research on the attributes and behavior of their target market and invests in customized studies undertaken by a local private university. The snack food manufacturing firm had attempted joint research on cultivating new sources for raw materials. The other firms generally acknowledged joint product- or process- related research could be useful however they cited the lack of time and resources to support these undertakings in the near term.

4.2 Conclusions

The Philippine transnational firms interviewed for the study generally exhibit behavior typical of firms investing abroad. Saturated home markets drove firms to maximize their firm-specific assets and expand their business in foreign economies especially in emerging markets where returns to investment are higher and which in turn benefit from the firms' capital, technology and technical expertise (Banga 2007). Firms learn from their market expansion activities and use this knowledge to enter new host economies. Firms introduce product and process innovations to cater to local demand and achieve cost competitiveness and efficiency.

This paper finds that knowledge transfers and technical assistance usually flow from the home office to overseas affiliates through high-level management team and key personnel transfers, mostly Filipinos. The firms augment their capabilities by working with their partners in production networks. External linkages, specifically long-term relationships with suppliers of technology and related services, are an important support for in-house product and process innovation and frequent information exchanges contributed to process improvement and equipment upgrading. The firms also shared information with indigenous and SME suppliers that usually provide raw materials, supporting equipment and administrative and legal services. Weak linkages to technology resource centers, government research institutes and universities indicate that the economy's external support system for technology development lacks maturity and needs improvement.

The study shows evidence of relationship specific learning (Kellogg 2011) where relationship stability is important to productivity. In this case, large equipment suppliers who had worked with the firms in previous host economies contribute valuable support for process and product innovations. There are also indications that direct information flows are important for innovation in these firms (Machikita and Ueki 2011) through regular communication among the top management team and supported by Filipino technical and management personnel exchanges. This study also notes the competence and adequacy of skilled Filipinos in fulfilling the responsibilities of a wide range and varying levels of work positions in these Philippine transnational companies.

4.3 Policy Recommendations

The firms interviewed for this study are themselves the main drivers for innovation and linkages with knowledge networks such as universities, government research institutions and other public or private technology resource centers could be more robust. Previous studies (Macasaquit 2008) have noted the weak technology transfer process that limits the flow of knowledge from universities and research and development institutions to industry. There is a need to improve the national system of innovation to support and augment the firms' capacity for innovation.

The success of Philippine transnational companies abroad is notable as they act as regular economic agents devoid of a political agenda by the home economy and in absence of supporting policy. The Philippine government continues to be focused on attracting foreign direct investment inflows and there are no targeted policies to guide, much less to boost direct outward investment flows. The interviewed firms suggested the introduction of fiscal and financial incentives that are part of the standard home economy measures (HCMs) offered by developed economies to their MNCs. Greater access to accurate information on doing business abroad through the Philippine government's diplomatic and consular missions and sponsored business matching events could be the initial steps to help bridge the knowledge gap and contribute to company competitiveness.

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Case Study: Innovation in Philippine Transnational Corporations

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The Bogor Goals and TNCs

- Multinationals (MNCS) could accelerate technology transfer, increase domestic production, and generate employment
- Rise of Asian transnational corporations (TNCs) investing in the region
- Role of TNCs in regional production chains
  - Interaction with regional and local companies
  - Interaction with large companies and SMEs

Rationale for Study

- Few studies on Philippine FDI outflows
- Philippine TNCs in the 1980s were strongly represented in the construction and banking & financial sectors
  - Motives for expansion: to export skilled / semi-skilled labor and to source cheaper capital from abroad
- What do we know about currently active Philippine TNCS?

Research Questions

- Characteristics of Philippine TNCs
  - Understand motives of cross-economy investment
  - Interaction with external partners
    - Local and regional suppliers
    - Large companies and SMEs
    - Universitiesand research institutes
  - Output of interactions
    - Innovation
    - Capability development
- Insights for policy implications

Agenda

- Regional and Philippine Foreign Direct Flows
- Presentation and Summary of Philippine TNCs
- Cross-Case Comparison
- Conclusions and Policy Implications

Regional and Philippine FDI Flows

- Philippine foreign direct inflows have been historically low compared to ASEAN neighbors

Average inward foreign direct investment flows in East and Southeast Asia, 1970-2011 (in US million dollars, current prices)

YEAR	1970-79	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010	2011	2000-2011	Share to Total 2000-2011
World	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
East Asia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
China	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
China, Hong Kong SAR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
China, Macao SAR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
China, Taiwan Province of	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Korea, Republic of	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Southeast Asia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Brunei Darussalam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cambodia	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Indonesia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Lao People's Dem. Rep.	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Malaysia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Myanmar	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Philippines	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Singapore	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thailand	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Viet Nam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source: UNCTAD

Regional and Philippine FDI Flows

- Sources of Philippine foreign direct inflows
  - United States led other investor countries up to the 1980s with an average of 56 percent of total inflows
  - Japan's share led that of the US in 1990-1999 at 22 percent but slid to second place in 2000-2009 at 24 percent
  - Hong Kong China, Netherlands, U.K. and Singapore are other major sources of FDIs

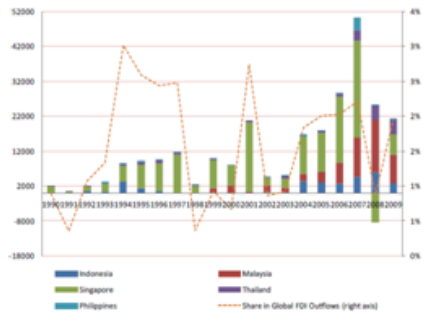
Regional and Philippine FDI Flows

- Major sectors receiving FDI
  - Investments in mining and quarrying were significant in the 1980s at 34 percent but then suffered sharp declines
  - Manufacturing had the biggest share of foreign direct investments from 1980 to 2009, averaging 46 to 48 percent
  - Financial services were third largest in the 1980s at 8 percent, increasing to 18 percent in the 1990s and dropping in 2000-2009 to 10 percent

Regional and Philippine FDI Flows

- The Philippines also trails its peers in FDI outflows

FDI outflows from ASEAN 5, 1990-2009



Source: Thomsen, Otsuka and Lee (2011)

Regional and Philippine FDI Flows

- The Philippine government continues to focus its efforts on attracting greater foreign direct investments
- Absence of incentives for local firms investing abroad means Philippine TNCs function as pure economic agents
  - No tax reductions, soft loans, grants
- The Philippines is still accumulating location-specific advantages as a net recipient of FDI

Business Profiles of PH TNCs

	Firm A	Firm B	Firm C	Firm D
Line of Business	Snack food and beverage manufacturing	Pharmaceutical manufacturing	Container ports operations	Remittance service
Highlights	Over 100 varieties of snack products Major industry player in China	More than 350 brands across 12 product divisions	Specializes in container ports in developing countries acquired mainly through concessions	800 remittance-receiving outlets in 24 countries and territories
Start of Operations	1946	1945	1987	2001
Start of International Expansion	1993	late 1960s	1994	2001
Type of Company	Private	Private	Public, majority-owned by company's Chairman	Public, majority-owned by company's Chairman

Investment Destinations of PH TNCs

	Firm A	Firm B	Firm C	Firm D
Line of Business	Snack food and beverage manufacturing	Pharmaceutical manufacturing	Container ports operations	Remittance service
Host Economies	China, Vietnam, Myanmar, Indonesia, Thailand, India, Cambodia	China, Indonesia, Myanmar, Thailand, Vietnam. Cambodia, Hong Kong, Singapore, Malaysia, Laos, Sri Lanka	Japan, China, Indonesia, Brunei Darussalam, India, Pakistan, Brazil, Ecuador, Colombia, Argentina, Mexico, USA, Poland, Georgia, Croatia, Madagascar, Syria	Hong Kong, United Kingdom, Canada, Australia, Austria, New Zealand, Japan, Singapore, Chinese Taipei
Total Workforce	15,000	9,000	6,000	less than 300

- The four firms are invested in a total of 32 host economies, including 17 APEC member economies and all 10 ASEAN countries

Investment Destinations of PH TNCs

	Firm A	Firm B	Firm C	Firm D
Line of Business	Snack food and beverage manufacturing	Pharmaceutical manufacturing	Container ports operations	Remittance service
Host Economies	China, Vietnam, Myanmar, Indonesia, Thailand, India, Cambodia	China, Indonesia, Myanmar, Thailand, Vietnam. Cambodia, Hong Kong, Singapore, Malaysia, Laos, Sri Lanka	Japan, China, Indonesia, Brunei Darussalam, India, Pakistan, Brazil, Ecuador, Colombia, Argentina, Mexico, USA, Poland, Georgia, Croatia, Madagascar, Syria	Hong Kong, United Kingdom, Canada, Australia, Austria, New Zealand, Japan, Singapore, Chinese Taipei
Total Workforce	15,000	9,000	6,000	less than 300

- The four firms are invested in a total of 32 host economies, including 17 APEC member economies and all 10 ASEAN countries

Results of Interactions in Host Economies

	Firm A	Firm B	Firm C	Firm D
1. Outputs of knowledge transfer				
1.1 Product innovation	√	√	√	√
1.2 Process innovation	√	√	√	√
1.3 New knowledge	√	√	√	√
1.4 Significantly improved engineers /technicians / R&D personnel	√	√	√	√
1.5 Significantly improved technology development / R&D system	√	√	√	√

Interaction with External Partners

	Firm A	Firm B	Firm C	Firm D
1. Knowledge exchanges with external partners				
1.1 Local suppliers	√	√	√	√
1.2 Regional suppliers	√	√	√	√
1.3 Universities / private research institutions	x	x	x	√
2. Modes of knowledge transfer				
2.1 Consultancy / technical services fees	√	√	√	√
2.2 Training	√	√	√	√
2.3 Personnel exchanges	√	√	√	√
3. Intra-company knowledge transfer in the past five years				
3.1 Knowledge transfer is increasing from home office to overseas subsidiaries	x	√	x	x
3.2 Knowledge transfer is increasing from overseas subsidiaries to home office	x	x	x	x
3.3 Knowledge transfer flows equally among home office and overseas subsidiaries	√	x	√	√

Summary and Conclusion

- Market expansion is the key reason for foreign expansion of Philippine TNCs
  - Ownership advantages were built up in home market
  - Location-specific advantages contribute to cost competitiveness
  - Capabilities and experience add value especially in developing and emerging economies

Summary and Conclusion

- Market expansion activities increase learning in firms
  - Upgraded technical capabilities and knowledge
  - Understanding of cultures and different ways of doing business
  - Evidence of intra-firm international production networks

Summary and Conclusion

- Innovation
  - Firms introduce new products and services to cater to local demand and actively pursue research and development activities for both products/services and processes
  - Cost competitiveness and efficiency are important motivators for innovation
  - Firms pursue innovation activities with supply chain partners, usually in long-term relationships
  - Firms collaborate with a range of firms in their production networks

Summary and Conclusion

- Knowledge Transfer
  - Knowledge flows equally among foreign affiliates and the home office in firms that localize R&D
  - When product and process innovations are focused in Manila, knowledge tends to radiate from the home office outwards
  - High-level management are important agents in spreading learning
  - Direct information flows also happen through personnel exchanges usually from the home office to foreign affiliates involving Filipinos in technical and management positions

Implications for Policy

- Domestic Level
  - Need for quality IFDI
  - Targeted vs. generic support of OFDI
  - Improve domestic innovation system
- Regional Level
  - Coordination of investment incentives
  - Cooperation regarding market intelligence

Thank you for your kind attention

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Factors That Affect Net Trade Creation: APEC Economies Case Study

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Abstract

The Bogor Goals has been declared since 1994; with one of its objective is enhancing trade and investment in the Asia-Pacific. In enhancing trade, the long-term purpose is to create free and open trade between APEC economies. Tariff reduction is only one factor to support free and open trade between APEC economies, other factors that need to be considered are trade facilitation improvement, behind the border restriction reduction, and transport cost reduction. Using gravity model analysis, we can analyze how each factor will support the net trade creation between APEC economies to enhance trade as its long term goal.

1. Introduction

In 1994, Asia Pacific Economic Cooperation (APEC) Leaders declared their goal for 2020 in Bogor Indonesia, or popularly known as APEC Bogor Goals. The objective of the Goals is achieving free and open trade in 2020. In order to achieve this very ambitious goals, APEC Economy needs to reinforce economic cooperation in Asia-Pacific region on the basis on equal partnership, shared responsibility, mutual respect, common interest, and common benefit. In doing so, APEC constructs several objectives: (i) strengthening the open multilateral trading system; (ii) enhancing trade and investment liberalization in the Asia Pacific; and (iii) intensifying Asia-Pacific development cooperation[1].Those three objectives are interdependence one and another. If APEC wants to enhance trade and investment, they also need to strengthen the multilateral trading system and intensifying Asia-Pacific development cooperation. Thus, we cannot assess the achievements of one objective and put aside other objectives' achievement.

One of the APEC objectives is enhancing trade and investment liberalization in the Asia Pacific. Since 1994 until 2012, export of APEC economies contributes to 46.2 percent of world export. Meanwhile, the import rate contributes to 49.9 percent of world import. APEC export growth from 1994 to 2012 is 8.5 percent, higher than world export growth, which only grows 8.3 percent. APEC import growth also shows the same pattern with export growth, by 8.6 percent of which it is outreach world import that only grow 8.4 percent. It is clear how important APEC economies are for world trade flows.

Intra-trade in APEC also shows significant growth, which discussed in Lee (2012). He divides three sub-periods: 1990-1995, 1996-2001 and 2002-2007. In 1990-1995 and 1996-2001 the study finds that APEC has no significant impact to either the APEC members or non-members. It is because APEC acted as a forum and was established based on voluntary commitments to goals. In contrast, in the 2002-2007 he discovers significant trade creation among APEC members and non-members, following the adoption of the APEC Trade Facilitation Principles and e-APEC Strategy in 2001. In conclusion, he mentions that expectation of the trade-creating effect of APEC become stronger in the future because advanced APEC members will have completed their tariff reductions by 2010 and the developing members by 2020.

The reduction of tariffs on imports is a central feature of APEC's effort towards the Bogor Goals. APEC supports their members to open their economy and take benefit from the trade liberalization by reducing tariff. Since early 1990's, APEC shows rapid progress in reducing their tariff. On average, APEC economies voluntarily reduce 67 per cent of their applied

[1]APEC Economic Leaders' Declaration of common resolve, 15 November 1994.

tariff. Highest economies that made tariff reduction since 1990's are Thailand, Papua New Guinea, and China. Other significant contribution also showed by Hong Kong and Singapore, which succeeds to have zero tariffs. Although APEC has been successfully and significantly reduced their tariff, but tariff is not the only factors that hinder trade flows in the region. The other factor that needs to be account is trade facilitation measures.

In 2011, APEC Leaders set a target to reduce trade transactions costs by 5 per cent between 2002 and 2006. Committee on Trade and Investment (CTI) creates Trade Facilitation Action Plan (TFAP I) as a responses to the Leaders objective. In TFAP I, APEC members need to work in four priority areas, namely customs procedures, standards and conformance, business mobility, and electronic commerce. The plan aims to reduce transaction cost and simplify the administrative procedural requirements. In the end of TFAP I, there are 62 per cent of 1400 actions or measures improved based on each economy self assessment. TFAP II as an extension of the TFAP I was developed to achieve further reduction of trade transactions cost by 5 per cent between 2007 and 2010. TFAP II will focus on the action plans from TFAP I that had not been completed yet. Greater emphasis will be given to Collective Actions and Pathfinders. TFAP II is a very ambitious agreement compare to EU, US, or other binding agreement because it also covers services, business mobility and security. It is worth noting that TFAP is APEC commitment to contribute to the world trade creation, through the intra-trade creation. APEC is not only satisfied with tariff reduction but also further go beyond it by improving trade facilitation.

It is important to find the conceptually distinctive measures of trade facilitation that meet the policy makers need to specify on the approach of supporting trade flows via trade facilitation improvement. This will be the greatest challenge to develop our study on which we need to carefully analyze the closest measures on trade facilitation. The question is whether we need to focus on ports, on customs reforms, on international regulatory harmonization or e-commerce. Previous effort that proxy trade facilitation with import prices or transportations cost cannot provide the link to policies or projects that decision makers need. In this study we will study about net trade creation as a result of tariff reduction, trade facilitation improvement, behind the borders restriction reduction, and transport cost reduction. As a value added, we will use the Key Performance Indicators in TFAP II as a basis to decide the trade facilitation measures and we also will use other studies on trade facilitation to consider other measures that may influence intra-APEC trade. Moreover, using the latest Enabling Trade data from the World Economic Forum (WEF), we will be able to assess which trade facilitation measures have direct impact to trade flows.

2. Literature Reviews

2.1. Trade Facilitation Definition and Coverage

The definition of trade facilitation is various across international economic agency. The 'red line' between those definitions is an effort to move goods in a cross-border trade through ports and simplify the trade documentation in an efficiently manner. More concepts, however, included to the trade facilitation definition that deals with the 'behind-the-border' environment. It includes, but not limited to, transparency, professionalism of customs, regulatory environments, as well as harmonization of standards and conformance to the best practice of regulations. The transformation of the definition shows how wide the trade facilitation scope is and how important of the domestic policies and the institutional framework of trade environment. Table 1 lists the trade facilitation definitions across international organizations and across time (if any) to show how the definition evolves.

Table 1. Summary of Trade Facilitation Definitions Across Various Organizations

No	Organization and Year	Definition
1	APEC Economic Committee (1999)	"The use of technologies and techniques which will help members to build up expertise, reduce costs and lead to better movement of goods and services"
2	OECD (2001)	"Simplification and standardization of procedures and associated information flows required to move goods internationally from seller to buyer and to pass payments in the other direction"
3	UNCTAD (2001)	"The simplification and harmonization of international trade procedures that include the activities, practices and formalities involved in collecting, presenting, communicating, and processing data required for the movement of goods in international trade"
4	APEC (2002)	"Trade facilitation generally refers to the simplification, harmonization, use of new technologies and other measures to address procedural and administrative impediments to trade"
5	ECE (2002)	"Trade facilitation aims at developing a consistent, transparent, and predictable environment for international trade transactions. It is based on internationally accepted norms and practices resulting from the simplification of formalities and procedures, standardization and improvement of physical infrastructure and facilities, harmonization of applicable laws and regulations"
6	OECD (2005)	"Trade facilitation covers all the steps that can be taken to smooth and facilitate the flow of trade. The term has been used widely to cover all sorts of non-tariff barriers, including product testing and

		impediments to labour mobility"
7	APEC (2007)	"Trade facilitation refers to the simplification and rationalisation of customs and other administrative procedures that hinder, delay or increase the cost of moving goods across international borders. Or to put it another way, cutting red tape at the border for importers and exporters so that goods are delivered in the most efficient and cost effective manner"

Source: This summary is drawn from Wilson, Mann, and Otsuki (2003) and Bin (2009).

2.2. Trade Facilitation in the Asia-Pacific Region

APEC's attempts to apply the trade facilitation measures began in 2001, when APEC adopted the Shanghai Accord that emphasizes the importance of trade facilitation. The accord supported the APEC Principles on Trade Facilitation as part of a collective plan and set a target of 5 per cent reduction in trade transaction cost by 2006. A trade facilitation action plan (TFAP), then, was constructed in 2002 in which there are 21 APEC economies that participated in the plan. The plan was only covered four areas, specifically movement of goods (with a focus on customs and other border procedures), standards, business mobility, and e-commerce. A further plan, or the second TFAP, was agreed to further reduce the trade transaction costs by 5 per cent from 2007 to 2010. The areas covered were expanded with the addition of domestic regulatory reform, works on business ethics, and secure trade (APEC, 2007). The inclusion of domestic regulatory reform extends the trade facilitation measures in the region from simply the border regulation to the whole regulatory system.

The APEC Policy Support Unit (PSU) conducted final assessment of the TFAP II in 2012. The PSU concluded that the plan achieved its objective of a 5 per cent reduction of trade transaction cost from 2006 to 2010. It also found that a significant progress was achieved in most of the TFAP II measures. For example, in customs procedure area, the plan has managed to reduce 8.1 per cent (in monetary value) of the time taken in customs clearance and technical control between 2006 and 2010 and a number of APEC economies are moving closer to a fully paperless trading system. Nonetheless, the report recommends further improvement in trade facilitation measures beyond the TFAP II that focused on the APEC Supply-Chain Connectivity Framework.

2.3. Impact of Trade Facilitation on International Trade

Studies have been conducted to assess the impact of trade facilitation measures on international trade flows. Essentially, trade facilitation improvement will promote trade

flows through the reduction of trade transaction cost, both direct and indirect costs[2]. In short, most of the studies discover that measures on trading time and costs, customs procedures, trade-related documentary requirements are the major determinants of international trade flows.

Transaction costs do increase the price or value of goods. Walkenhorst and Yasui (2003) calculate that there is a maximum of 15 per cent of the goods values that comes from the direct and indirect trade transaction costs in the import and export procedures. The study also shows that a reduction of 1% in transaction cost will lead to a welfare gain in amount of roughly US$40 billion. Another observation from UNCTAD concludes that trade transaction cost could contribute from 7 to 10 per cent of total value of world trade, while the European Union (EU) finds that around 3.5 to 15 per cent of total value of world trade is the intra-EU transaction costs of trade.

Djankov, Freund, and Pham (2010) and Duval and Utokham (2009) evaluate the impact of trading time and costs to international trade flows. Djankov, Freund, and Pham (2010) use a sample of 126 countries and find that a deferral of one day in goods delivering, may lower trade by 1 per cent, and increases on time-sensitive goods, such as agricultural goods. Using data from Asia Pacific region, Duval and Utokham (2009) assess the goods delivery cost from factory to nearest port and concludes that 5 per cent reduction in cost will increase 4 per cent exports.

Another important measure in trade facilitation is the quality of the infrastructure, either soft (e.g. information and communication technology, ICT) or hard (e.g. port infrastructure). Several studies have focused on analysis of infrastructure quality in affecting the international trade flow using the gravity model. Shepherd and Wilson (2009) use bilateral trade flow in the Southeast Asia region and conclude that port infrastructure, as well as ICT, have a direct impact on the trade flows. Li and Wilson (2009) try to analyze the impact of trade facilitation on small and medium enterprises (SMEs). They discover that improvements on ICT and the predictability of trade policies will encourage SMEs to export, thus the export rate will be higher. The quality of port infrastructure also plays an important role on the international trade flows. It can be seen from the studies of Wilson, Mann, and Otsuki (2005), in elaborating the importance of port efficiency and the quality of service sector infrastructure, and also from Nordas and Piermartini (2004), which find port efficiency to be the most essential factor among other infrastructure quality for trade flows. Hernandez and Taningco (2010) utilize Broad Economic Categories trade data in 1-digit level in East Asia region. They discover the importance of maritime port infrastructure

[2] The direct costs consist of expenses to supplying information and documents to the government agencies or paying for trade-related activities. While the indirect costs can be explained as the loss of business opportunities and impose inventory holding and depreciation costs on traders arise from a lengthy waiting times.

quality for trade in industrial supplies, fuels and lubricants, capital goods, and consumption goods; whereas telecommunication services influence trade in consumption goods.

Transparency also becomes an interesting subject to discussed in studies on trade facilitation measures. Helble, Shepherd, and Wilson (2007) discover that transparency improvement, through simplification and greater predictability, in the import countries will lead to an increase of 7.5 per cent (approximately USD 148 billion) in intra-regional trade. Other study from Sadikov (2007) shows that barriers in business registration procedures and export signature requirements can have a negative effect on exports. Méon and Sekkat (2006) observe a relation of poor institutional quality, especially the control of corruption, which leads to a low export rate in manufacturing industry.

3. Methodology and Data

3.1 Methodology

Kepaptsoglou, et al (2010) studies the utilization of gravity model in the past ten years. They acknowledge that Tinbergen (1962) and Linneman (1966) are the two persons who firstly introduce gravity model and followed by many researchers with more than 50 studies from 1999 to 2009. Kepaptsoglou, et al (2010) states that gravity models are commonly used to investigate trade flow and related policies. For instance, some studies analyze trade flows between regions in general or of specific products. Recent studies focus on examining the effects of regional trade agreement, currency unions and common markets and particularly on how these measures can create or diverte trade. Other researchers have examined trade policy implications and factors that affect trade, such as natural border effects, monetary union impacts, domino effects, the foreign direct investments, the rules of origin, transportation costs, neutral partners theory, trade union rights and democracy effects, trade facilitation, regulatory quality and export performance and north versus south effects, when controlling for distance.

Various studies attempt to use different dependent and explanatory variables. For dependent variable, exports and bilateral trade flow are the most common variables found in trade flow gravity models. For explanatory variables, Kepaptsoglou, et al (2010) divides it into two groups of explanatory variables. First, factor that indicates demand and supply of trading countries and second, factor that represent the impedance on trade flows between countries. Country's economic and market size, income level, population and area size and GDP per capita are common proxies for demand and supply.

Impedance factors as a second group of explanatory variables are all elements that affect trade flows in negative or positive manner. Examples for impedance variables are

transportation cost, remoteness, performance and quality of border and behind the border, common language, border adjustency, and landlocked country. Transportation costs are the main resistance factors; these include actual freight transportation costs, tariff, quality of infrastructure, etc. Poor infrastructure is added into the transportation cost because it will directly increase transportation cost. Behind the borders are measured by port efficiency, customs environment, e-business existence and the countries' regulatory environments. Based on above review, gravity model is a tool to analyze trade flow or trade creation as a result of restriction reduction under free trade agreement or cooperation.

APEC is a very unique economic cooperation. Every economy under APEC is voluntarily offered their effort to improve bilateral trade as well as intra-APEC trade to create better environment for international trade. In other words, it is based on the Most Favoured Nation (MFN) principle. It will create positive externality to all APEC economies trading partners. Having said that, we will study how tariff reduction, trade facilitation improvement, behind the border, and transportation cost reduction will affect import to APEC economies. Moreover, we will study the net trade creation from intra-APEC trade as a result of joining economic cooperation in the Asia Pacific region.

Challenges to our study will be to link the variables into APEC economies policies. It is important for us to also give value added for this study so policymakers can analyze which factors will affect their trade and to what extent the measures will affect the trade flows. As a result we will use the Key Performance Index (KPI) on TFAP II as our variables on trade facilitation improvement. KPI in TFAP II are customs procedure, standards and conformance, business mobility and electronic commerce. Although we want to use all the variables in the KPI but we cannot find data for each economy that represent each KPI in our model. Hence, without any intention to make two other KPI become less important, we will focus only on customs procedures and electronic commerce. Other explanatory variables are tariff, transport cost, and behind the border restriction, which may give additional information for the policymakers.

Using standard gravity model as reviewed above, our model is as following:

$$
\begin{aligned}
&ln\ Imp_{ij}^{t} \\
&= \beta_0 + \beta_1 \text{lrgdp\_imp}_i^t + \beta_2 \text{lrgdp\_exp}_j^t + \beta_3 \text{ltrate\_imp}_{ij}^t + \beta_4 \text{ldaimp\_imp}_i^t \\
&+ \beta_5 \text{lcoimp\_imp}_i^t + \beta_6 \text{ldoimp\_imp}_i^t + \beta_7 \text{leffcp\_imp}_i^t \\
&+ \beta_8 \text{ltrack\_imp}_i^t + \beta_9 \text{lireip\_imp}_i^t \\
&+ \beta_{10} \text{lcorpi\_imp}_i^t + \beta_{11} \text{lregenv\_imp}_i^t + \beta_{12} \text{ldist}_{ij}^t + \beta_{13} \text{lqtinf\_imp}_i^t \\
&+ \beta_{14} \text{lqtsev\_imp}_i^t + \beta_{15} \text{lcontv\_imp}_i^t + \beta_{16}\, d2APEC + \alpha_j + \gamma_{ij} + \varepsilon_{ij}^t
\end{aligned}
$$

where i and j stand for importer economy i and exporter economy j, respectively, and t denotes trading years (2009, 2010, 2012). Same with Rose (1999) and Lee (2012), we choose the real bilateral import (Imp) between APEC economies to each of the economy in the world as the dependent variable. We use import because it is closely substitute the effects of domestic trade barriers in APEC economies. The independent variables for our study are divided into two groups of explanatory variables. First, demand and supply of trading partners will be as an explanatory variable represent by real GDP. We will see how GDP from the importer and exporter affected trade. Second explanatory variables, which are impedance factors variables, will be represents by tariff, trade facilitation, transportation cost, and behind the border restrictions.

Tariff is the key for many free trade agreements (FTA) and regional trade agreements (RTA). Higher tariff tend to reduce import but lower tariff tend to increase import. We still include tariff variable to analyze which coefficient will be higher in our model, tariff or other explanatory variables. We expect the sign for tariff coefficient will be negative, but not as high as other variables under trade facilitation, transportation cost, and behind the border measures.

Variables to measures trade facilitation will be divided between customs procedures and e-commerce. Terms $ldaimp\_imp_i$, $lcoimp\_imp_i$, $ldoimp\_imp_i$ denote APEC economies indicators of custom procedures. Longer time, higher cost, and too many documents needed to import will lower import. Thus, we expect all custom procedures variables sign will be negative. Terms $leffcp\_imp_i$ and $ltrack\_imp_i$ denote APEC economies e-commerce. Efficiency of clearance process and tracking and tracing ability is the result of e-commerce implementation. Thus, we expected the sign for those two variables are positive.

Terms $lireip\_imp_i$, $lcorpi\_imp_i$ and $lregenv\_imp_i$ denote APEC's behind the borders measures for irregular payment in exports and imports, corruption perception index, and regulatory environment index. Behind the border restrictions suppose hinder the trade creation, since irregular payment, corruption and regulatory environment will lead to high cost economy and will reduce import. For regulatory environment we combine seven indexes to produce one index of regulatory environment, which are property rights, ethics and corruption, undue influence, government efficiency, domestic competition, efficiency of financial market, openness to foreign participation and availability of trade finance.

Terms $ldist_{ij}$, $lqtinf\_imp_i$, $lqtsev\_imp_i$, and $lcontv\_imp_i$ denote APEC's transportation cost measures for distance, quality of transport infrastructure, quality of transport services and connectivity, respectively. We expect distance coefficient will be negative, because distance will increase the import cost and reduce APEC's international trade. Quality of transport infrastructure consists of several indexes, namely airport density, paved roads, quality of

air transport infrastructure, quality of railroad infrastructure, quality of roads, and quality of port infrastructure. Quality of transport services contains ease and affordability of shipment, logistics competence, timeliness of shipments in reaching destination, and postal service efficiency. Lastly, connectivity variable is a mixed of two indexes, namely transshipment and liner shipping connectivity. Quality of transport infrastructure, quality of transport services, and connectivity will represent the efficiency of one's country to support trade flow. Thus we expect those three variables will positively influence APEC's international trade.

To measures the net trade creation, we utilize d2apec as the dummy variable. If importer and exporter are APEC economies we will put 1 and 0 otherwise. We expect to see the positive sign in the coefficient result, which means APEC economies will tend to trade among each others. Furthermore, we will have two specific intercepts for our model. First, the term α_j is the exporter-specific intercept that captures the exporter-specific fixed effects. Secondly is γ_{ij} as the term for specific intercept that captures the year of trade fixed effects. Last, the term ε_{ij} is the error term, with normally distributed assumption. Table 2 will show the variable names and expected sign for all the explanatory variables we use.

Table 2. Summary of Variables

Variable	Definition	Source[a]	Expected Sign
$lrgdp\_imp_i$	*Natural logarithm of real GDP of country i*	IMF	(+)
$lrgdp\_exp_j$	*Natural logarithm of real GDP of country j*	IMF	(+)
$ltrate\_imp_{ij}$	*Natural logarithm of bilateral import tariff rate from country j to country i*	UN COMTRADE	(-)
$ldaimp\_imp_i$	*Natural logarithm of days to import in country i*	DB	(-)
$lcoimp\_imp_i$	*Natural logarithm of costs to import in country i*	DB	(-)
$ldoimp\_imp_i$	*Natural logarithm of documents to import in country i*	DB	(-)
$leffcp\_imp_i$	*Natural logarithm of efficiency of clearance process index in country i*	LPI	(+)
$ltrack\_imp_i$	*Natural logarithm of tracking and tracing ability index in country i*	LPI	(+)
$lireip\_imp_i$	*Natural logarithm of irregular payments in exports and imports index in country i*	WEF	(+)
$lcorpi\_imp_i$	*Natural logarithm of corruption perception index in country i*	TI	(+)
$lregenv\_imp_i$	*Natural logarithm of regulatory environment index in country i*	WEF	(+)
$ldist_{ij}$	*Natural logarithm of geographical distance from country j to country i*	CEPII	(-)

$lqtinf\_imp_i$	*Natural logarithm of quality of transport infrastructure index in country i*	WEF	(+)
$lqtsev\_imp_i$	*Natural logarithm of quality of transport services index in country i*	LPI	(+)
$lcontv\_imp_i$	*Natural logarithm of connectivity index in country i*	UNCTAD	(+)
d2apec	*Dummy variable, equal to 1 if country i and j are APEC economies and 0 otherwise*	-	(+)

[a]IMF: International Monetary Fund, UN COMTRADE: UN Commodity Trade, DB: World Bank Doing Business Report, LPI: World Bank Logistics Performance Index, WEF: World Economic Forum Global Competitiveness Report, Executive Opinion Survey, CEPII: Centre d'Etudes Prospectives et d'Informations Internationales, UNCTAD: UN Conference on Trade and Development.

Source: Enabling Trade Report 2012

3.2. Data

This study uses a panel data of 19 APEC economies with all countries in the world (in total 132 countries as trading partners), for 2009, 2010, and 2012[3]. So, there will be 7,462 observations of bilateral trade flows. For the exhaustive list of countries included in the dataset, please refer to Appendix 1. Source of data can be seen in Table 2 above.

4. Regression Results

Table 3 displays the summary of regression results. Our approach is somewhat to be called as the "top-down" approach. There are 5 specifications of the regression. The first specification includes all trade facilitation measures in one regression model. In the second specifications onward, we try to examine the direct impact of each measure to APEC's international trade.

In general, our result is in line with former studies on trade that utilize gravity model. What is more important is that it shows the significancy of trade facilitation measures in influencing international trade. Although there are few measures that contradict to our initial presumption in the baseline model (first specification), especially 'days to import' and 'costs to import', but they remain as expected in the other specification. Furthermore, based on the R^2 statistics, around 78 per cent of variation in APEC's international trade is accounted in our model.

[3]The Enabling Trade index, as our main sources of trade facilitation variables, is not available for Brunei Darussalam and Papua New Guinea and also 2011.

Table 3. Regression Results Summary

Dependent variable	$IMP_{i,t}$				
Specifications	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
$GDP_{i,t}$	0.606***	0.965***	0.869***	0.945***	0.687***
	(-0.0374)	(-0.0285)	(-0.0272)	(-0.0272)	(-0.0292)
$GDP_{j,t}$	0.0402	0.0315	0.037	0.0378	0.0373
	(-0.0352)	(-0.036)	(-0.0356)	(-0.0358)	(-0.035)
$Tariff\ rate_{i,t}$	-0.0473**	-0.0217	-0.00107	-0.00255	-0.0257
	(-0.0216)	(-0.0209)	(-0.0204)	(-0.0213)	(-0.0208)
$Days\ to\ import_{i,t}$	0.166*	-0.174**			
	(-0.0939)	(-0.0736)			
$Costs\ to\ import_{i,t}$	0.587***	-0.501***			
	(-0.119)	(-0.085)			
$Documents\ to\ import_{i,t}$	0.063	-0.243***			
	(-0.0874)	(-0.0782)			
$Efficiency\ of\ the\ clearance\ process_{i,t}$	1.829***		1.524***		
	(-0.506)		(-0.301)		
$Tracking\ and\ tracing\ ability_{i,t}$	0.063		0.600*		
	(-0.383)		(-0.323)		
$Irregular\ payments\ in\ exports\ and\ imports_{i,t}$	-0.992***			-0.762**	
	(-0.329)			(-0.298)	
$Corruption\ perceptions\ index_{i,t}$	-0.393			0.157	
	(-0.288)			(-0.206)	
$Regulatory\ environment_{i,t}$	0.618			1.701***	
	(-0.379)			(-0.361)	
$Quality\ of\ transport\ infrastructure_{i,t}$	1.510***				0.768***
	(-0.301)				(-0.227)
$Quality\ of\ transport\ services_{i,t}$	0.615				0.996**
	(-0.581)				(-0.417)
$Connectivity_{i,t}$	1.343***				1.191***
	(-0.175)				(-0.134)
$Distance_{ij}$	-1.115***	-1.221***	-1.293***	-1.211***	-1.206***
	(-0.0627)	(-0.0585)	(-0.0588)	(-0.061)	(-0.061)
Dummy for intra-trade APEC	4.719***	4.623***	4.573***	4.639***	4.638***
	(-0.383)	(-0.404)	(-0.412)	(-0.389)	(-0.404)
Country fixed effect dummies	Included	Included	Included	Included	Included
Year dummies	Included	Included	Included	Included	Included
Observations	5,517	5,517	5,517	5,517	5,517
Wald chi2	15844	13932	14348	14329	14757
R-square	79%	78%	78%	77%	79%

Notes: [1] Robust standard errors in parentheses
[2] Significance level: *** significant at 1%; ** significant at 5%; * significant at 10%

Tariff rate behaves as predicted, as does distance. Tariff has a negative impact for APEC economies' international trade. It is worth to depict, however, that tariff rate is not significant across the four specifications. Although it is significant in the first specification, but it only has a small coefficient (0.05) compare to the trade facilitation measures. It means that tariff rate reduction is not as essential as in the improvement of trading system to facilitate measures. APEC economies need to put more attention and efforts to enhance their trade system to facilitate the international trade more.

Trade creation is another aspect, which this study can be seen for. The dummy for intra-trade APEC is proved to be positive and significant across all regression specifications. The result is consistent with Lee and Park (2007) and Lee (2012) studies that APEC has an effect of trade creating. Moreover, APEC economies must encourage the achievement of Bogor Goals by developing countries in 2020, as the trade creating effect will become stronger in the upcoming future.

The second specification indicates APEC's general objective of 'Customs Procedure' on the TFAP II. The main variables included are 'days to import', 'costs to import', and 'documents to import'. All of those measures are proved to be negatively impact APEC's international trade, which is paralel with TFAP principle to simplify the rules and procedures[4]. It can be seen that a 10 per cent decrease on days, costs, and documents to import will increase trade value by 1.7 per cent, 5 per cent, and 2.4 per cent, respectively. Streamlining the procedures to import must be the only choice that policy makers need to think of.

The third specification also attempts to capture the importance of trade facilitation measure principle agreed by APEC in TFAP II. It reveals that the 'efficiency of the clearance process' and 'tracking and tracing ability' is positively and significantly influence APEC's international trade. Between both measures, 'efficiency of the clearance process' has larger coefficient and is highly significant than 'tracking and tracing ability'. It means that to increase the trade value, APEC economies must continuously improve their clearance procedures. Through efficient procedures in the border, APEC-based enterprises may reduce their trade transaction costs and eventually their competitiveness will strengthen.

The forth specification shows the elasticity of behind the border measures on trade. 'Irregular payments in the exports and import' as the first variable shows negative sign. The sign of irregular payment variable is contradict with our hypothesis. We hypothesize to get a positive sign, where higher perception index in the irregular payments means rare irregular payments occur in APEC's international trade. So the analysis of it is inconclusive. We suspect that the different definition of export and import irregular payments index cause such contradictory sign. We would suggest using only the perception index for irregular payment in import activity, which is currently not available.

Second variable is corruption perception index. A higher index means lower corruption arise in the importer country. The coefficient shows a positive sign by 0.16. Unfortunately,

[4] The coefficient of 'days to import' and 'costs to import' are positively significant in the first specification, which contradicts with our logical of the result. The possible explanation is the occurrence of multicollinearity among the independent variables that affect the result of the estimator. Although many studies would suggest omitting or combining the highly correlated variables, we still include those variables in a separate regression due to its importance on assessing the individual measures' influence to trade value.

it is not significant. Hence, the improvement of corruption perception index will positively influence the international trade, yet the effect is not obvious for APEC economies.

The last measure of behind the border restriction is 'regulatory environment', which captures the degree of protection of property rights, ethics and corruption, undue influence, government efficiency, domestic competition, efficiency of financial market and openness to foreign participation. From the enterprise perspective, it is important to find a good regulatory environment on their import destination country, or specifically in APEC economies in order to increase international trade. The coefficient of regulatory environment is 1.7 and is statistically significant. It reflects the importance of regulatory environment compare to other behind the border measure, because it has the highest coefficient among others.

The fifth model specification depicts the relation of transportation cost to APEC's international trade. Sign of all coefficients are as expected and significantly affect APEC's international trade. First variable is distance, which has a negative coefficient across all specifications. It means that the farther the distance between APEC's and their trading partner, the lower the trade value as a result of higher transportation cost. Second variable is quality of transport infrastructure. The 'transport infrastructures' term in here refer to air transport, railroad, roads, and port infrastructures. It is proved that infrastructure quality has a positive connection to international trade. Higher quality of transport infrastructure will increase international trade, because it will help process in delivering goods to be more effective and efficient.

Third is quality of transport services. Better services provided by the importer country will increase the international trade. The coefficient of transportation services is 0.99, which means that a 10 per cent improvement of transport services quality will increase APEC's international trade by 9.9 per cent. The last measure of transport cost is connectivity (as represented by transshipment connectivity index and liner shipping connectivity index). Compare with other 3 transportation cost measures, connectivity index coefficient is the second highest. A growing trend nowadays has put connectivity as a focus to facilitate international trade. This result gives a supporting evidence of the importance of connectivity. APEC economies need to strengthen their connectivity network to bolster international trade.

5. Conclusion

This study examines the impact of trade facilitation measures in APEC's international trade with a gravity model. We utilize data of 132 countries (i.e. 19 APEC economies and 113 non-APEC economies) in 2009, 2010, and 2012. There are eleven variables of trade facilitation measures in our study, eight of which represent the APEC Principles on Trade Facilitation. We also identify other measures from the literatures that seem to be an important determinant of APEC's international trade, particularly the quality of transport infrastructure; quality of transport services; and connectivity.

In general, we find that tariff rate reduction is not the only factor that has a direct impact to APEC's international trade. Moreover, using the latest bilateral trade data, it shows that the elasticity of tariff rate reduction to trade is so small. It means that more attempts to reduce trade transaction cost should be through improvement of trade facilitation measures. So what matters now for policymakers is trade facilitation development, which will further reduce trade transaction costs.

Our result reveals that many of the measures are significantly influence APEC's international trade. Simplifying customs procedure, through reducing the number of days, costs, and documents, may promote trade value in a positive way. Between those components, higher priority should be put on costs to import reduction, as it shows the larger elasticity to APEC's international trade. Furthermore, the result of clearance process efficiency supports the need to prioritize customs procedure improvement to escalate international trade. One can link the effectiveness and efficiency of the clearance process to prevent the surge of warehouse or storage costs and also the loss of business opportunities, which will reduce enterprise competitiveness. Tracking and tracing ability, though has a small elasticity compared to clearance process efficiency, also has an important role in APEC's international trade. It shows economies' ability to develop a reliable e-commerce system to facilitate trade and also improves the predictability of the goods delivery.

The result of behind the border measures is less encouraging. From three measures that we consider influencing international trade, we discover only one variable, which is the regulatory environment improvement, to be significant to increase APEC's international trade. Although, the regulatory environment is a domestic issue within a country, but there is a need to have a collective plan, at least in trade-related regulations to accelerate their international trade.

The last measure is the transportation costs measure. All variables in this measure is highly significant. Beside tariff rate, the second highest contribution to trade transaction costs is transportation costs. Our result sends a reminder to the policy makers to give their priority, specifically in connectivity, transport infrastructure quality, and transport services quality. A strategic enhancement in this sector should lead to an improvement in the economies' trade competitiveness.

To conclude, policymakers in APEC economies should continuously promote trade facilitation measures to strengthen their international trade value. There is a shifting priority, from tariff reduction to trade facilitation improvement in attempt to decrease trade transaction costs. However, policymakers must also recognize what measure need to be prioritized in their action plan, as each measure offer various positive impact to trade value.

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Appendix 1. List of 132 Countries Included in the Dataset

Australia	Dominican Republic	Kenya	Paraguay	United Kingdom
Albania	Ecuador	Kuwait	Peru	United States
Algeria	Egypt	Kyrgyz	Philippines	Uruguay
Angola	El Salvador	Latvia	Poland	Venezuela
Argentina	Estonia	Lebanon	Portugal	Vietnam
Armenia	Ethiopia	Lesotho	Qatar	Yemen
Austria	Finland	Lithuania	Romania	Zambia
Azerbaijan	France	Luxembourg	Russia Federation	Zimbabwe
Bahrain	Gambia	Macedonia	Rwanda	
Bangladesh	Georgia	Madagascar	Saudi Arabia	
Belgium	Germany	Malawi	Senegal	
Benin	Ghana	Malaysia	Serbia	
Bolivia	Greece	Mali	Singapore	
Bosnia and Herzegovina	Guatemala	Mauritania	Slovakia	
Botswana	Guyana	Mauritius	Slovenia	
Brazil	Haiti	Mexico	South Africa	
Bulgaria	Honduras	Moldova	South Korea	
Burkina Faso	Hongkong	Mongolia	Spain	
Burundi	Hungary	Montenegro	Sri Lanka	
Cambodia	Iceland	Morocco	Sweden	
Cameroon	India	Mozambique	Switzerland	
Canada	Indonesia	Namibia	Syria	
Chad	Iran	Nepal	Chinese Taipei	
Chile	Ireland	Netherlands	Tajikistan	
China	Israel	New Zealand	Tanzania	
Colombia	Italy	Nicaragua	Thailand	
Costa Rica	Ivory Coast	Nigeria	Tunisia	
Croatia	Jamaica	Norway	Turkey	
Cyprus	Japan	Oman	Uganda	
Czech Republic	Jordan	Pakistan	Ukraine	
Denmark	Kazakhstan	Panama	United Arab Emirates	

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PANEL SESSION 2

Attaining the Bogor Goals (Part 2)

Chair: Prof. Ippei Yamazawa (Japan)

2.1. Prof. Lepi T. Tarmidi,
APEC Study Centre, University of Indonesia
" Paving the future Path of APEC: The Need for A New Vision"

2.2. Robert Scollay
New Zealand APEC Study Centre, University of Auckland
" *The APEC Region En Route to the Bogor Goals*?"

2.3. Andi A. Parewangi and Gandi Setiawan
Respectively: Department of Economics, Faculty of Economics, University of Indonesia and Ministry of Finance RI
"The Dynamics of APEC Interdependency and the Global Welfare Distribution"

2.4. Eric Chiou and Bo-Xing Hsu
Chinese Taipei APEC Study Center, Taiwan Institute of Economic Research
"Exploring the Configuration of Industrial Competitiveness under Pathways to FTAAP"

2.5. Seungrae Lee
Korea Institute for International Economic Policy (KIEP)
"Regional Economic Integration and Multinational Firm Strategies: Evidence from Korea"

Special Discussant: Surjadi (Indonesia)

PANEL SESSION 2

Asia-Pacific Economic Cooperation

APEC Study Centre Consortium Conference 2013
July 26 - 27, Jakarta, Indonesia

ASCCC INDONESIA

PANEL SESSION/CODE: *Attaining the Bogor Goals/2.1*

PAPER TITLE: *Paving the future Path of APEC: The Need for A New Vision*

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PAVING THE FUTURE PATH OF APEC: THE NEED FOR A NEW VISION

Lepi T. Tarmidi

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The APEC Process of Trade and Investment Liberalization

In Bogor, Indonesia, in 1994, APEC Leaders made an important breakthrough by announcing the APEC Bogor Goals of "free and open trade and investment in the region by 2010 for industrialized member economies and 2020 for developing member economies". After achieving great progress in trade and investment liberalization at the beginning years, then from around 2005 onwards progress seemed to be slowing down, if not to say stuck. However progress has been achieved under a unilateral liberalization MFN basis, meaning it applies to all countries in the world. It proofs that the process of liberalization was not easy and that the mechanism of voluntary unilateral initiatives on a legally non-binding basis constitutes a big hurdle to achieve the Bogor Goals as opposed to a mechanism based on reciprocity and hard and intensive negotiations. The result was that the first target of 2010 for industrialized member economies could be met.

Free and open trade and investment could be achieved and could function much better but through hard and intensive negotiations like in the legally-binding FTAs and the case of the European Union. Thus APEC should revise its strategy, because in the process of liberalization there are gains to be obtained but there are also losses to be born. As how much an APEC economy will gain is not clear, because each individual APEC member is submitting their own offers, and there is no reciprocity. And how about other countries who are not members of APEC, they will benefit from APEC member's unilateral market access offers without having to offer anything in return. Indonesia, therefore, bears a historical burden to pave the future path of APEC according to the Bogor Goals.

Despite optimistic statements like "We are confident that APEC is well on track toward achieving the goal of free and open trade and investment among its economies. … We endorse the Report on APEC's 2010 Economies' Progress Towards the Bogor Goals and conclude that while more work remains to be done, these 13 economies have made

significant progress toward achieving the Bogor Goals." (AELM 2010, Yokohama, Japan). The first goal of APEC of 2010 has been passed without meeting the goal by far. Instead, a **new Bogor Goal** has been envisaged, "We will further promote regional economic integration, working toward the target year of 2020 envisaged by the Bogor Goals for all APEC economies to achieve free and open trade and investment." (AELM 2010) Some prominent APEC economists like Andrew Elek (see Elek) and Prof. Ippei Yamazawa[xi] even doubt that the Bogor Goals can be achieved in 2020. And finally "We will take concrete steps toward realization of a Free Trade Area of the Asia-Pacific (FTAAP), which is a major instrument to further APEC's regional economic integration agenda. An FTAAP should be pursued as a comprehensive free trade agreement by developing and building on ongoing regional undertakings, such as ASEAN+3, ASEAN+6, and the Trans-Pacific Partnership, among others." (AELM 2010).

WTO and APEC

Between APEC and the WTO there are no conflicting goals, because the objective of APEC is WTO plus, i.e. realizing the GATT Uruguay Agreement plus some other additional liberalization measures. APEC liberalization measures should be deeper than the WTO commitments. The WTO Uruguay Agreement should be realized between 1995 to 2005. The implementation of the agreements in APEC and in the WTO are however different, the WTO commitments are legally binding, whereas agreements in APEC are non-legally binding. And the fact is that all WTO members adhered to the GATT Uruguay agreements.

Another difference is, agreements in the WTO were reached through long term intensive hard trade negotiations in the GATT Uruguay Round Trade talks from mid 1986 to December 1993. However, further trade talks in the WTO stalled, it seems it has reached its maximum limit. In APEC, the instrument to realize the Bogor Goals is through the Osaka Action Agenda and subsequently through the Manila Individual Action Plan (IAP). Like the case

[xi]) Comments from Prof. Yamazawa in a private conversation in Medan, Indonesia, recently, on June 30, 2013.

with the WTO, the APEC liberalization process towards the Bogor Goals progressed very slowly. Instead, every year APEC is venturing into new fields of interests to keep the APEC process going.

Back in 1994, APEC members counted 18 economies. Of the 18 economies all were signatories of the WTO Agreement, except three namely Papua New Guinea (June 1996), PR China (December 2001) and Chinese Taipei (January 2002). Three other new members (Peru, Russia and Vietnam) joined APEC in 1998. Peru was already a member of the WTO in 1995, followed by Vietnam (January 2007) and Russia at a much later date (August 2012).

Many Leaders and officials in APEC often claimed the success of trade and investment in the APEC region as their own big achievements. “Since the first APEC Leaders’ Meeting in 1993 in Seattle, USA, our trade has grown four times and foreign direct investment in the Asia-Pacific region has been growing at an annual rate of more than 20 percent.” (AELM 2012, Vladivostok, Russia) The question is, were the liberalization achievements being realized by APEC, were they because of the APEC IAPs? Or was it the work of the legally binding commitments of the WTO? If it was because of the WTO commitments, then APEC was only a free-rider, and APEC was not in the driver’s seat.

Proliferation of Subregional and Bilateral FTAs

Before the declaration of the OAA, there already existed two RTAs and two BTAs in the APEC region. These are already:

- Australia - New Zealand Closer Economic Relations and Trade Agreement (ANZERTA). The agreement in trade in goods entered into force on 1 January 1983, and in services on 1 January 1989
- Australia – Papua New Guinea FTA (PATCRA); which is an agreement in trade in goods, that entered into force on 1 February 1977
- At the time of the foundation of APEC, the Association of Southeast Asian Nations (ASEAN), consisting of six countries, became *en bloc* members of APEC. ASEAN was established in 1967. In 1976 ASEAN introduced the Preferential Trading

Arrangement, which on January 1, 1993, was upgraded to become the ASEAN Free Trade Agreement (AFTA).

- Back in 1989, the US – Canada FTA entered into force, which later in 1994 was expanded with Mexico to become the North American Free Trade Agreement (NAFTA).

(See Tarmidi 2009).

Since the implementation of the APEC Bogor Goals, starting with the Osaka Action Agenda in 1995, the APEC region witnesses a proliferation of many sub-regional and bilateral FTAs (see Attachment 1). The latest being the Trans-Pacific Strategic Economic Partnership Agreement (TPP), originally in force in January 2006, consisting of 12 member countries and the Regional Comprehensive Economic Partnership (RCEP) just established recently in November 2012 in Phnom Penh, Cambodia, consisting of ASEAN + 6 (10 ASEAN countries, China, Korea, Japan, Australia, New Zealand and India).

This is a clear sign that in fact member economies are not satisfied with the current progress of APEC liberalization programs. They believe that more can be achieved through other ways, and these are the results of FTAs. In FTAs, agreements are reached through negotiations based on reciprocal benefits, not on a unilateral offer as is the case in APEC, albeit from the fact that there are also problems and might not be fully satisfactory.

Sub-regional economic integration schemes in turn might not satisfy all of the participating parties. Some participants feel that in reality they achieve free trade and investments if they do it on a bilateral basis. Because in a multilateral regional agreement, the result of an agreement is generally being determined by the least common determinant. In a group the pace of progress is being determined by the slowest member. Take e.g. the Japan-ASEAN Comprehensive Economic Partnership Agreement. The content of the agreement might be satisfactory for Myanmar, Laos, Cambodia, but certainly by not satisfactory for Singapore and Japan. So some ASEAN countries made separate bilateral free trade agreements with Japan. (See Attachment 1)

A good example of a deep economic integration scheme is the development of economic integration process in the European Union. They are able to realize a fully open economy

among their members. These are being achieved through hard and long intensive negotiations. First they realized a Customs Union, then they moved to construct a European Single Market with no borders, further they unite into the European Union and lastly to introduce a single currency (the Euro) for most of its members. Although throughout all of these periods they also faced many problems and some are very serious like the current Euro crisis in some member countries.

Conclusion and lesson learned, the goal of a free and open trade and investment like the Bogor Goals can be achieve only through hard, long and intensive negotiation rounds. It took seven long years of negotiations and a large number of studies and preparation before the European Community on January 1993 embarked to implement the European Single Market Act. There were around 270 laws in each individual country that must be harmonized to realize a single market.

On the contrary, in Asia we are proud of the so-called "Asian way" of doing things, meaning making decisions instantly like instant noodle. E.g., the decision to embark on an AFTA was made overnight during the ASEAN Summit Meeting in Singapore in 1992. AFTA started right away on January 1, 1993, without any preparation and without prior in-depth studies.

Revitalization of IAPs

The main instrument to realize the Bogor Goals is the IAP, adopted in Manila in 1996. The APEC process of voluntary unilateral trade and investment liberalization is supposed to be achieved through peer review mechanism. The review mechanism itself proofed to be weak, and as far as the knowledge of the author of this paper goes, no peer pressure has been exercised. And as such, it is doubtful that APEC could achieve the renewed Bogor Goals of 2020. A Report by the APEC Policy Support Unit in 2012 stated:

"... in 2005, a midterm stocktake was carried out to analyze APEC's performance and identify challenges that hinder the progress towards achieving these goals. In 2010, an assessment of APEC's progress towards the Bogor Goals showed that substantial progress had been made by APEC industrialized and developing economies, but more work needed to be done en-route to 2020.

In general, the analysis of the information shows that APEC member economies are moving in the right direction, as progress has been achieved in all areas since the previous assessment conducted in 2010. Nevertheless, there is room for improvement as more work can be done. Efforts in trade liberalization have been significant, but uneven across sectors and non-tariff measures still remain.

Trade facilitation, services and investment are becoming more relevant areas in the pursuit to improve business conditions. (APEC's Bogor Goals Progress Report, p. i)

To support above statement, the Report mentioned some achievements and areas of improvements (APEC's Bogor Goals Progress Report, p. 1)

Meanwhile several initiatives were proposed to realize the Bogor Goals like the Early Voluntary Sectoral Liberalization (EVSL) scheme, the pathfinder approach, and so on. In 2004 APEC adopted the Leaders' Agenda to Implement Structural Reform (LAISR), consisting of five priority areas: regulatory reform, competition policy, corporate governance, public sector governance, and strengthening economic and legal infrastructure (SELI).

In spite of the minimum results in deliverables APEC succeeded in many areas of co-operation. APEC has booked some success in terms of economic cooperation in the form of Leaders Summit Meetings, Ministerial and Senior Officials Meetings, Collective Action Plan, Individual

Action Plans, various Committees and Working Groups (see Attachment 2), ABAC, ASCC. As a formal forum of dialogue, APEC has succeeded in enhancing understanding and closer economic cooperation among member economies.

A guideline for a new IAP has been adopted by the SOM 2 in Montana, the details are as follow:

- "New IAP should cover all 14 areas of Osaka Action Agenda plus those added afterwards (transparency, RTAs/FTAs, and other voluntary reporting areas). 2010 economies (13 economies which were assessed in 2010) might give emphasis to those areas where shortcomings were highlighted by Leaders, cited above).
- Economies should describe, in brief points, only significant new developments under each chapter heading.
- Economies would report in 2012, 2014, 2016, and 2018. The final assessment would be undertaken in 2020." (Yamazawa et al., p.3)

Recommendation

- We need to be realistic as to what is possible and what is not possible. Not possible to aim a "free and open trade and investment" and to aim at FTAAP in 2020 or later, because negotiations between highly advanced countries like the US and Japan versus newly industrializing economies and developing countries with different and quite often conflicting interests and goals. Possible is to enhance economic cooperation,

trade facilitation and behind the border measures, promote sub-regional and bilateral economic partnership agreements in the region. The proliferation of sub-regional and bilateral FTAs is already a reality in the APEC region. In the long-run there will be a natural selection process among the many FTAs, some will prove to be successful, some not so satisfactory and others will simply fail and finally dissolve.

- So far every year there is flurry of numerous meetings (see Attachment 2). Tangible and intangible benefits must be weight against the costs: financial, human resources and loss of time. It was taken as granted that there are net intangible benefits from all APEC activities. Make these meetings more effective in producing concrete results like solving the global financial crisis, promote connectivity, organizing trade fairs, etc. There is much that we can do and achieve aside from aiming at free and open trade and investment.
- The annual AELMs should be made sparsely, e.g. every two or three years, allowing time for officials to implement all the decisions and to think.
- APEC needs a new vision for the future "instead of just a talking-shop" (compare Elek). It is not an easy task to determine a new direction and vision for APEC, it needs an in-depth study, not an instant noodle solution mostly by government officials like the FTAAP, and so on. Government officials have the experience, but they lack time to think things over. I suggest to establish an APEC Expert Group consisting of experienced economists and the APEC Policy Support Unit with the special task to redefine a realistic future goal for APEC. This is a working taskforce for a time period of three years to allow to come to good results. There will be seminars to get inputs from government officials, ABAC, academicians, and so on.

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Attachment 1

Table 1. RTAs and BTAs in Force in the APEC Region

RTA Name	Coverage	Entry into force
ASEAN* – China FTA	Goods	1 January 2005
ASEAN* – China EIA	Services	1 July 2007
ASEAN* - Australia – New Zealand FTA	Goods & services	1 January 2010
ASEAN* - Japan CEPA	Goods	1 December 2008
ASEAN* - Korea FTA	Goods	1 January 2010
ASEAN* - Korea FTA	Services	1 May 2009
ASEAN* - India FTA	Goods	1 January 2010
Australia – Chili FTA & EIA	Goods & Services	6 March 2009
Australia – Malaysia FTA & EIA	Goods & services	1 January 2013
Canada – Chile FTA & EIA	Goods & services	5 July 1997
Canada – Peru FTA & EIA	Goods & services	1 August 2009
Chile – China FTA	Goods	1 October 2006
	Services	1 August 2010
Chile – Japan FTA & EIA	Goods & services	3 September 2007
Chile – Malaysia FTA	Goods	25 February 2012
Chile – Mexico FTA & EIA	Goods & services	1 August 1999
Chile – Korea FTA & EIA	Goods & services	1 April 2004

Attachment 2

Committee on Trade and Investment

- Automotive Dialogue
- Business Mobility Group
- Chemical Dialogue
- Electronic Commerce Steering Group
- Group on Services
- Intellectual Property Rights Experts Group
- Investment Experts' Group
- Life Sciences Innovation Forum
- Market Access Group
- Rules of Origin
- Sub-Committee on Customs Procedures
- Sub-Committee on Standards and Conformance

SOM Steering Committee on Economic and Technical Cooperation

Working Groups

- Agricultural Technical Cooperation
- Anti-Corruption and Transparency
- Emergency Preparedness
- Energy
- Health
- Human Resources Development
- Experts Group on Illegal Logging and Associated Trade
- Ocean and Fisheries
- Policy Partnership on Science, Technology and Innovation
- Policy Partnership on Women and the Economy
- Small and Medium Enterprises
- Telecommunications and Information
- Tourism
- Transportation

Task Groups

- Counter-Terrorism Task Force
- Mining Task Force

Other Groups

CURRICULUM VITAE

N a m e	: Prof. Emeritus Dr. Lepi T. Tarmidi
Place & date of birth	: Jakarta, December 7, 1937
Citizenship	: Indonesian
Religion	: Roman Catholic
Marital status	: Married
Languages	: Indonesian, English, German, Dutch

Higher Education :

1956 - 1963	MA in Business Administration, Faculty of Economics, University of Indonesia, Jakarta
1970 - 1973	Diplom-Volkswirt, Department of Economics, University of Hamburg, West Germany
1974 - 1979	Doctor, Department of Economics, University of Hamburg, West Germany
Fall 1988	Internship at the Department of Economics, American University, Washington, D.C., U.S.A.

Working Experience :

1964 - 1968	PT Tanggulang, a private timber company in Jakarta
1968 - 1969	Bank of America, Jakarta Branch
1965 - 1969	Lecturer at the Faculty of Economics, University of Tarumanagara
1979 - now	Lecturer at the Faculty of Economics, and the Extension Program of the Faculty of Economics, University of Indonesia, Jakarta. Subjects: International Economics and Development Economics
1979 - now	Research Associate at the Institute for Economic and Social Research, Faculty of Economics, University of Indonesia.
1983 - now	Lecturer at the Study of National Security, Program for Postgraduate Studies, University of Indonesia, Jakarta. Subjects: Development Economics, Economics and National Resilience.
1990 - now	Lecturer at the Military Law College: Economic Theory and Development Economics.
1995 – now	Lecturer at the Graduate Programme of the Faculty of Economics, University of Indonesia
2002 – now	Lecturer at the Graduate Programme of the Centre for European Studies, University of Indonesia

Winter Semester 2004/5 — Visiting Professor at the Graduate School of International Cooperation Studies, Kobe University, Japan

2006 – now — Lecturer at the Graduate Programme for Public Administration Planning and and Policies, University of Indonesia

Position :

February 1997 – December 1999: Vice-Director, APEC Study Centre, University of Indonesia

February 1997 – December 2002: Supervisory Board Member, Centre for European Studies, University of Indonesia

January 1998 – December 2000: Associate Professor of Economics, University of Indonesia

7 April 2000 – July 2007 : Director, APEC Study Centre, University of Indonesia

January 2001 – May 2009: Professor of Economics, University of Indonesia

June 2009 – now: Professor Emeritus in Economics, University of Indonesia

Academic Activities

1. Winter Semester 1988 Internship at the American University, Washington, DC, USA
2. January - February 1990 Field survey for the research on the "Uruguay Round Multilateral Trade Negotiations" and on "Europe 1992" in Geneva, Paris, Hamburg, Brussels, Antwerp, Rotterdam and Amsterdam.
3. July 1991 Research in Bangkok and Taipei on the functioning of Export Promotion Boards.
4. June – August 1993 AugustResearch Fellowship from DAAD visiting the Seminar fuer Internationale Wirtschafts-beziehungen, Volkswirtschaftliches Institut, Ludwig-Maximilians-Universitaet, Muenchen, and the HWWA-Institute for International Economics, Hamburg.
5. March – April 1995 Research Fellow at the Australian National University, Canberra, on the Indonesian Kretek Cigarette Industry.
6. Mai – August 1995 Research Fellowship from the Japan Foundation at the Osaka International University, Osaka, on APEC.
7. September – November 1996 Research Fellow at Boston University, Boston, USA.
8. October 1999 Salzburg Seminar on Race and Ethnicity, participant.
9. December 1999-5 February 2000, Research project "ASEAN - European Union Economic Relations" at the University of Heidelberg and the HWWA-Institut fuer Wirtschaftsforschung, Hamburg, funded by the DAAD, Germany.
10. May 30 – June 4, 2005, Visiting Scholar at the University of Colima on invitation by the APEC Study Center, University of Colima, Mexico.
11. 1985 – 2003 Doing extensive research for the Indonesian government on trade and development issues.
12. Published papers in a number of Indonesian journals and abroad.
13. Writing papers for seminars in Indonesia as well as abroad.
14. Writing a large number of articles for local newspapers.

PANEL SESSION/CODE: *Attaining the Bogor Goals/2.2*

PAPER TITLE: *The APEC Region En Route to the Bogor Goals?*

SUBMITTED BY: *Robert* ***Scollay***

INSTITUTION: *New Zealand APEC Study Centre, University of Auckland*

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ECONOMY: *New Zealand*

The APEC Region En Route to the Bogor Goals?

Robert Scollay
New Zealand APEC Study Centre, University of Auckland
ASCC Annual Conference, Jakarta, Indonesia
26-27 July 2013

The Bogor Goals

The Objective
- Free Trade and Investment in th Asia-Pacific Region

The Mechanisms
- Trade and Investment Liberalisation
- Trade and Investment Facilitation
- Economic and Technical Cooperation

The Agenda
- Osaka Action Agenda

The Target Dates
- Developed Economies: 2010
- Developing Economics: 2020

State of Play
Architecture and Processes: WTO and APEC

WTO

- Doha Round stalled until ?
- Bali Ministerial 2013: targeting progress on trade facilitation
- Agriculture: elimination of export subsidies
  - Action at Bali, or awaiting conclusion of Doha Round
- Plurilateral services agreement (TISA: negotiations beginning

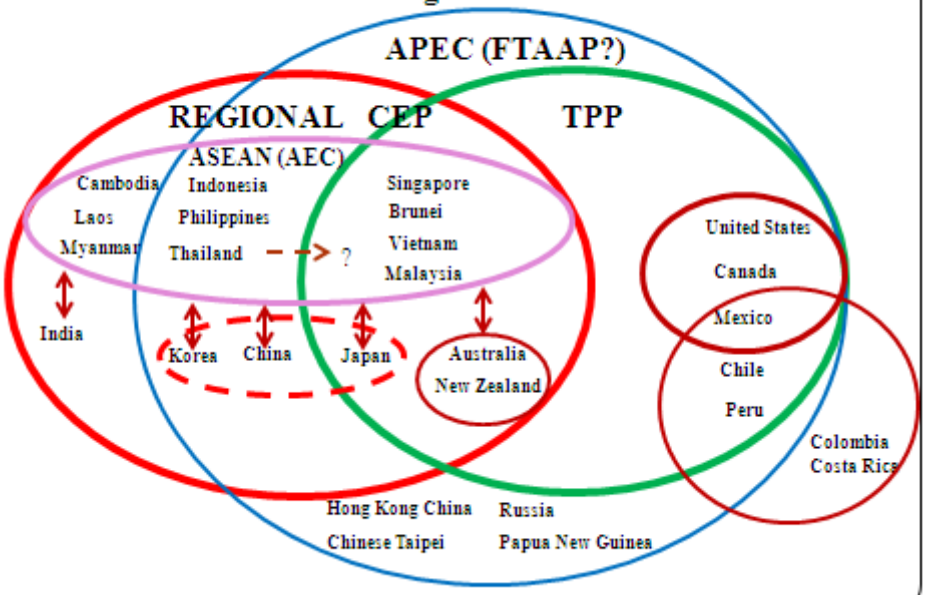
APEC

- Reduced emphasis on concerted unilateralism and IAPs
- Capacity building and sharing experiences continues
- Regional Economic Integration Agenda directed at FTAAP
- Environmental Goods and Services (egs)

State of Play
Architecture and Processes: Preferential

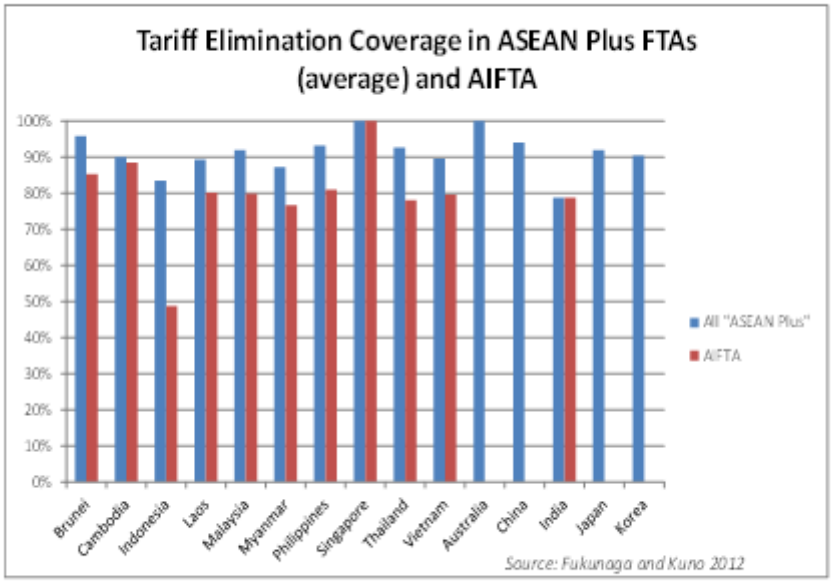
- Bilateral: The "Noodle Bowl"
  - Multiple bilateral FTAs
- Plurilateral and Sub-regional
  - ASEAN: ATIGA, AFAS and the AEC
  - "ASEAN-Plus" FTAs
  - CJK FTA
  - Pacific Alliance
- Region-wide
  - TPP
    - linked to APEC's REI agenda
    - negotiations began 2010, now up to 18th round
      - targeted completion by end 2013 – over-ambitious
    - negotiating agenda based on ambitious target
    - Intended as "single undertaking"
  - RCEP
    - contributor or competitor for APEC's REI agenda?
    - negotiations began May 2013
      - targeted completion end 2015 (linked to targeted completion of AEC)
    - negotiating agenda based on improving upon "ASEAN Plus" FTAs
    - "single undertaking" a "possible" option, but open to consider other modalities
    - flexibility to be shown

Configurations of Region-wide and Subregional Asia-Pacific Integration



State of Play and Outlook: Goods Tariffs

- TPP
  - Aims at "comprehensive" market access
    - in principle, implies 100% tariff elimination coverage (tariff line basis)
      - phasing over 7-10 years
    - will be challenging to achieve in practice
      - known sensitive items currently in "undefined basket"
        - e.g. dairy, garments
      - Single schedule v. bilateral scheduling approach – contentious
- RCEP
  - ERIA (FTA Comprehensive FTA Mapping Project) proposes target of 95% tariff elimination coverage as realistic advance on "ASEAN-Plus" FTAs
    - ERIA's analysis (see graph) indicates target is within reach for most RCEP participants
      - AIFTA is an outlier)
    - Target requires significant progress on agricultural tariffs
      - Potential for positive contribution to food security
        Trade is "far and away the best instrument for smoothing out variations in (food) production and consumption" (P. Timmer)
    - Single schedule approach not yet fully accepted but under discussion
      - Appears closer to acceptance in RCEP than in TPP



State of Play and Outlook: Goods Rules of Origin

- **Fulfilling purpose of Bogor Goals requires rules of origin that facilitate integration of production across the region, including**
  - **full cumulation**
  - **co-equal rules: RVC and CTC with realistic thresholds**

RCEP

- **Useful precedents in "ASEAN Plus" FTAs**
- **Potential for convergence but detail is challenging**

TPP

- **US resists pressure to move away from restrictive aspects of US approach e.g. "yarn forward"**
- **Mexico also anxious to preserve existing US framework**

State of Play and Outlook: Goods Trade Facilitation

TPP has an ambitious agenda

- some useful developments
  - e.g. SPS: proposals for enforceable disciplines and rapid response mechanism (rrm)
- but indications from negotiations on other issues (TBT, SMEs) are less encouraging

RCEP

- ERIA analysis finds trade facilitation provisions in "ASEAN Plus" FTAs are weak
- ASEAN's AEC blueprint indicates an ambitious agenda on trade facilitation, but
  - information on implementation is sparse
  - ERIA scores ASEAN's trade facilitation performance well below that of its "Plus" FTA partners.

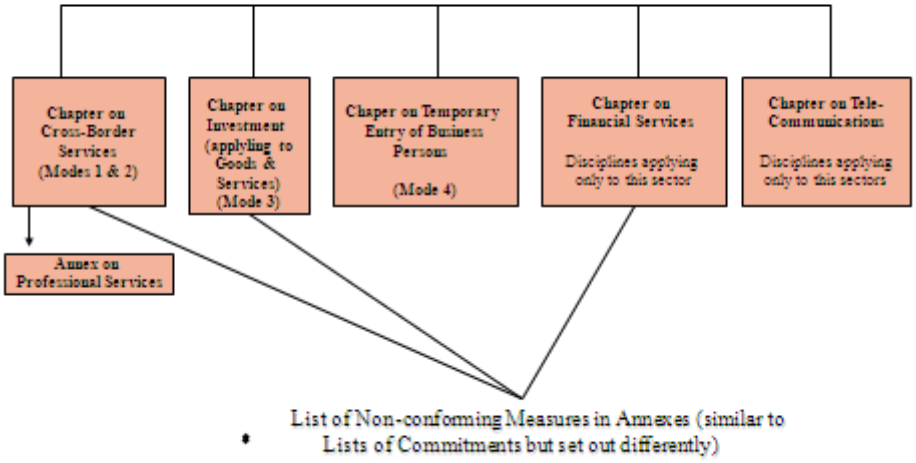
State of Play and Outlook: Services

Potential and Reality of Services Trade Liberalisation
PECC (2011):

- services trade liberalisation is relatively neglected
- but largest remaining potential welfare gains from trade liberalisation are in services
  - large size of service sector relative to other sectors
  - efficient services sector
    - critical for "ease of doing business"
    - boosts competitiveness of other sectors
- obstacles to more effective services trade liberalisation
  - importance of efficient services is poorly understood
  - exaggerated fears of adjustment costs of liberalisation
  - existing modalities have delivered very weak results,
    - dismal results from "request and offer" in the Doha Round
    - GATS and GATS-based approaches (positive list) have delivered generally weak results in both WTO and preferential agreements
    - difficult to identify gap between commitment levels and existing practice

→ Need a new modality

Structure of most "negative list" type of FTAs for treatment of Services and Investment



Source: Stephenson (2013)

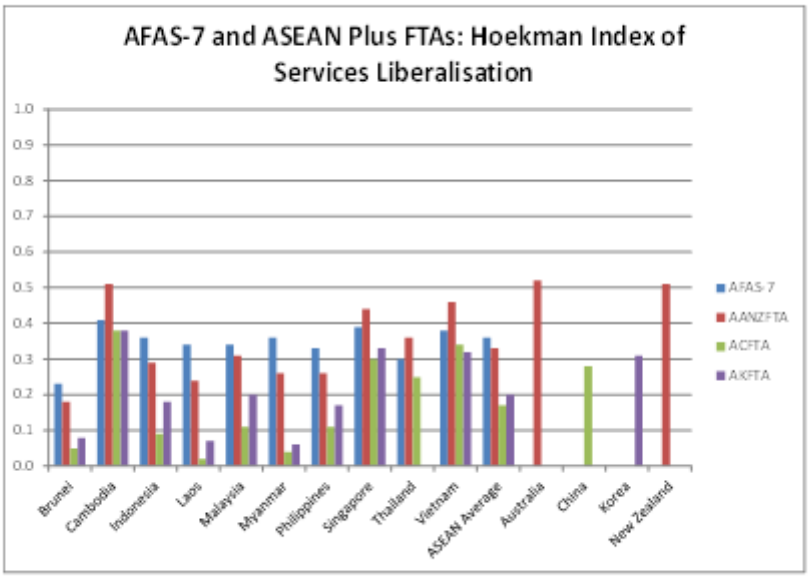
State of Play and Outlook: Services (2)

TPP

- Using "negative list" approach
  - usually considered more conducive to liberalisation than GATS-based positive list approach
    - avoids potential overlap between services and investment provisions
  - but little information to date on scope of sectoral coverage or extent of non-conforming measures
- US constrained by Congressional mandate from making market access commitments on Mode 4

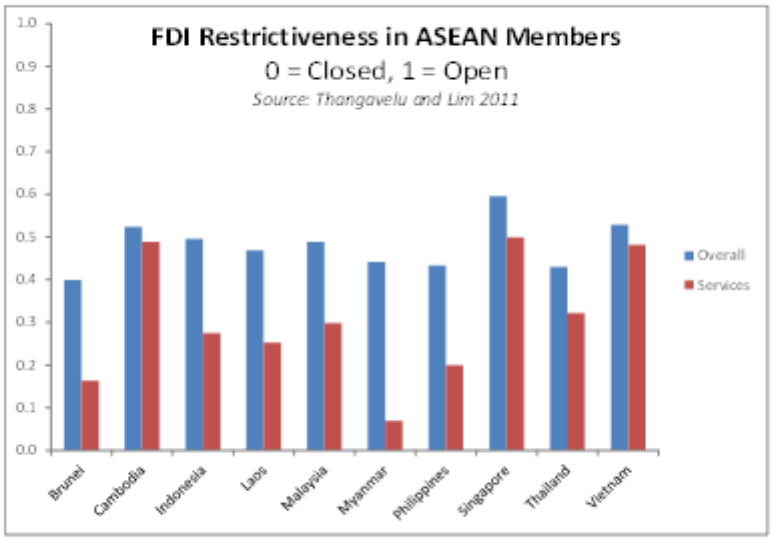
RCEP

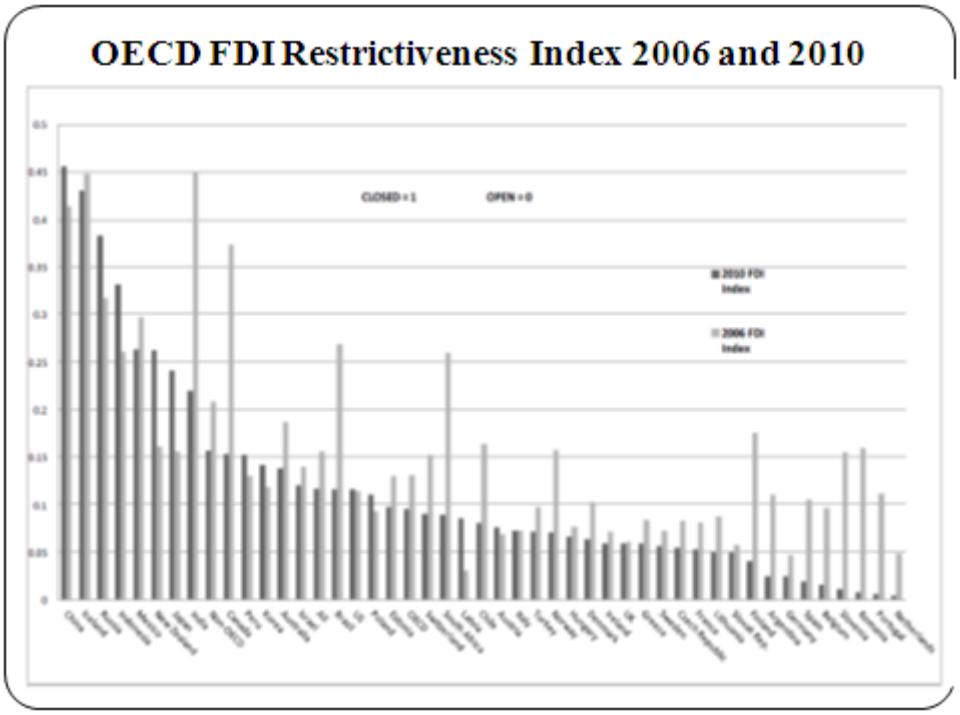
- Approach
  - almost certainly GATS based
  - single schedule approach being discussed
- ERIA analysis using "Hoekman index" indicates limited liberalisation in AFAS-7 and "ASEAN Plus" FTAs
- AFAS-8 expands sectoral coverage, and further liberalisation targeted in AFAS-9 and AFAS-10
  - RCEP outcome likely to depend on AFAS progress and willingness to commit beyond AFAS in RCEP



State of Play and Outlook: Investment

- **Assessments of foreign investment restrictiveness indicates scale of challenge in achieving Bogor goals in this area**
  - **ERIA mapping project**
    - **ASEAN FDI restrictiveness remain high especially in services sectors**
  - **OECD FDI restrictiveness index**
    - **Restrictiveness above OECD average in (descending order) China, Russia, Indonesia, Mexico, NZ, Japan, India, Canada, Peru, Korea, Australia, US**
    - **Restrictiveness increased between 2006 and 2010 in China, Russia, Indonesia, NZ, Japan, Peru, Korea, US**


FDI Restrictiveness in ASEAN Members
0 = Closed, 1 = Open
Source: Thangavelu and Lim 2011
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Overall
Services
Brunei
Cambodia
Indonesia
Laos
Malaysia
Myanmar
Philippines
Singapore
Thailand
Vietnam


OECD FDI Restrictiveness Index 2006 and 2010
CLOSED = 1
OPEN = 0
2010 FDI Index
2006 FDI Index

Conclusions

Remaining Tasks to Achieve Bogor Goals and Potential Contribution of TPP and RCEP

- **Tariffs**
  - **TPP and RCEP well-placed to build on and consolidate contribution of existing plurilateral FTAs**
  - **Requires substantial progress on agricultural tariffs**
    - **relevance for food security**
- **Rules of Origin**
  - **Potential for substantial contribution especially from RCEP**
- **Trade Facilitation**
  - **Potential for substantial contribution if outcome matches ambition**
- **Services Trade and Investment**
  - **Remaining gaps are very large**
  - **Approach may need to change if gaps are to be filled**

Robert Scollay received his economics education at the University of Auckland, New Zealand and University of Cambridge, England. He spent several years in the private sector, working in an international trading company, before joining the Economics Department at the University of Auckland, where he was also appointed director of the New Zealand APEC Study Centre in 1995.

He has been a visiting scholar at the Institute for International Economics (Washington DC), UNCTAD (Geneva), Institute of Southeast Asian Studies (Singapore), Bocconi University (Milan) and Korea Institute of International Economic Policy (KIEP), among others. He was international coordinator for the PECC Trade Forum from 2001 to 2005, leading a number of its research projects, including projects undertaken for the APEC Business Advisory Council (ABAC). He has recently led a PECC project on "A Post-2010 Trade Agenda for the Asia-Pacific" and is currently heading an NZPECC project on developments in the regional food economy. Recent research and publications have focused on issues relating to regional trade agreements and regional economic integration, especially in the Asia-Pacific region, including recent developments such as the Trans Pacific Partnership (TPP) and the Regional Comprehensive Economic Partnership (RCEP), as well as multilateral liberalisation and the global trade architecture.

Dr Scollay has also undertaken consultancies for the World Bank, UNCTAD, ESCAP, Asian Development Bank, Inter American Development Bank, Commonwealth Secretariat, the APEC Secretariat, the APEC Business Advisory Council (ABAC), the ASEAN Secretariat, the Pacific Islands Forum Secretariat, and the Asia New Zealand Foundation, as well as various agencies of the New Zealand and Australian governments.

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Asia-Pacific Economic Cooperation

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ASCCC INDONESIA

PANEL SESSION/CODE: *Attaining the Bogor Goals/2.3*

PAPER TITLE: *The Dynamics of APEC Interdependency and the Global Welfare Distribution*

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ECONOMY: *Indonesia*

THE DYNAMICS OF APEC INTERDEPENDENCY AND THE GLOBAL WELFARE DISTRIBUTION [12]

Andi M. Alfian Parewangi[13]

Gandi Setiawan, SE, MPP

Abstract

This paper applies Matrix of International Trade (MIT) model to analyze the dynamics of interdependencies within APEC member and between Europe, Africa and Middle East. The quarterly portrait for the last ten years (2003Q1-3012Q4) provides interesting dynamics; *first*, Indonesia, Malaysia, and Thailand gain constant benefit from international trade. Almost reaching its full capacity, Singapore is relatively unable to gain much from the increase of its trading partner's outlays. India does experience increasing capability to gain from its international trade, and also a better trade polarization, particularly to Middle East and Africa. *Second*, measured with the increment of net foreign balance (NFB), the average welfare distributed to developed economies (US, Japan, Australia and China) is 20 times higher than the developing ones. *Third*, China took over and dominates United States on trading with Europe and even Australia since 2007. *Fourth*, the dependency of developing economy group to developed one is averagely 13 times than otherwise. Only Japan and Middle East and Africa have increasing trade dependency on developing economies of APEC; Australia and Europe are constant; while United States and China experience declining dependency. *Fifth*, within APEC, the total trade multiplier of Indonesia with his all trading partners declines; showing its weakening global position.

Keywords: Interdependency, trade gains APEC, Matrix of International Trade (MIT) model.

JEL Classification: F17, F47, R12.

I. INTRODUCTION

The issue of interdependency across economies will always be interesting for economies within a regional arrangement like APEC, and also for the outsider ones. The form, the pattern, the timing and the speed of transmission, including the magnitude of transmitted impact, would be a main concern particularly in abnormal condition; such as in the presence of shock or crisis. Any issues

[12] Prepared for APEC Study Centre Consortium Conference, "*Enhancing APEC Resiliency: More Integrated, Connected, Sustained, and Inclusive Development*", July 26-27, 2013, Jakarta, Indonesia. This paper is based on joint research between Fundamental Asia with Fiscal Policy Office, Ministry of Finance, Republic of Indonesia.

[13] Andi M. Alfian Parewangi is a lecturer on Univ. of Indonesia and Univ. of Muhammadiyah Jakarta, and Head of Research Department, Fundamental Asia (alfian.parewangi@gmail.com). Gandi Setyawan is Head of Services Cooperation, Center for International Cooperation, Fiscal Policy Office, Ministry of Finance Republic of Indonesia (gandy.pksi@gmail.com). Author would like to thanks to research team member for their great work and support, Fadhli Hanafie, Tiffa U. Dewanti, Mawardi, and Aurelia Anny. I would like to thanks to research team member for their great work and support, Fadhli Hanafie, Tiffa U. Dewanti, Mawardi, and Aurelia Anny.

with potential negative impact on stability and market confidence will disturb the global economic climate and put a pressure on the trade (Teng, 2009).

APEC is basically established to support the regional integration in Asia Pacific that has above average growth relative to other region in the world. Unlike WTO, the membership of APEC is not binding (until now), nor a negotiation forum. There are 3 (three) initial pillars within APEC; investment liberalization, trade and technical cooperation. The structural and reformation agenda of APEC focuses on domestic policy regulation and competition framework. Along with his development, the coverage of the issue also develops including environment, security, labor movement, financial crime and terrorism.

Naturally, each economy will try to catch any opportunity of regional coordination, and concurrently would do any effort to protect their domestic economy. It has been admitted explicitly that to revitalize APEC, any agendas or initiatives should be relevant and compatible with the interest of United States, Japan and China, and then their supporting partners such as ASEAN, Australia, Canada, and Korea, (Wong May, 2006). Furthermore, the positioning of APEC should complement the existing regional cooperation such as ASEAN+3 and East Asia Summit. This explicit view clarifies the anticipative effort of each grouping to gain the future benefit of this fast growing region.

The role of APEC on its member economy has been empirical focus on various researches. Dee, Geisler and Watts (1996) analyze the detrimental impact of full liberalization of APEC members and found that it will provide severe impact on labor absorption on agriculture sector in Japan and Korea. This requires adjustment on labor absorption trend to minimize this negative impact. They also found that the increase in efficiency and specialization will be helpful to increase the real per capita income on agriculture.

For the case of Indonesia, Oktaviani and Ross (1996) used Computable General Equilibrium (CGE) model and argued that full liberalization in APEC will provide positive impact (or less negative[14]), than partial liberalization of only developed members. They also found that by following liberalization, Indonesia will gain benefit even when the other developing economy members do not.

Adams, Huff, Pearson and Powel (1998) utilized dynamic CGE model of Monash and combined it with GTAP model, and found that liberalization in APEC will provide substantial increase in real GDP within 1-2 decades. Thailand plus Philippine for example, is projected to gain 39% increase of real GDP, Korea (14%), New Zealand (11%), and Indonesia (10,5%). This benefit will be at the cost of non APEC members, which experience an averagely 1 percent reduction in their real GDP. Nevertheless, the projection assumed perfect capital mobility, and the violation of this assumption will provide lesser real GDP increase; for example Thailand plus Philippine would increase only 2.5 percent. Furthermore, the author admitted that the model cannot distinguish the capital ownership, hence those real GDP increase do not necessarily represent welfare increase.

[14] It was not really clear wheather the term of 'less negative' refered to lower negative impact.

The future of APEC is also another focus of concern and debate. The study carried out by Pacific Economic Cooperation Council showed 44 percent of the correspondent consider APEC to be irrelevant, 63 percent viewed the member of APEC are lack of commitment, while 56 percent considered that APEC does not possess clear focus, (Hank Lim, 2007).

This paper will not provide assessment about the future of APEC, but will provide empirical fact about the dynamics of interdependencies across APEC members, and also between APEC and other region including Europe, Africa and Middle East. The consequence of this interdependency dynamics on welfare will be another focus of this paper, provided by model simulation. We expect these empirical results will provide a neutral benchmark for further discussion on APEC.

The second section of this paper provide the theoretical framework, the third section discuss the Matrix of International Model and the data, while section four provide the result of the model and its analysis. Section five provide conclusion and will close the presentation.

II. THEORETICAL FRAMEWORK

Without losing its generalities, we can model the trade pattern using two economy, two commodities and two inputs model[15]. Let C_i^h is consumption of economy *h* on final output *i*; Q_j^h is output *j* produced by economy *h*; x_k^{jh} is input *k* used to produce output *j* in economy *h*; $U^h = U(C_i^h)$ is utility function of economy *h*; and $Q_j^h = Q(x_k^{jh})$ is production function of economy *h,* for *h*, *i*, and *j* = 1, 2.

We assume homogeneity on output, durable, no transaction cost within input and output market, mobile input and output across economy, equalized price of input *k* across economy, all consumers are rational, and finally we assume the utility function is regular and homogenous.

The production function can vary across the two economies; this is to capture possible differences on input productivity. Moreover, we also assume that only this input will affect the trade pattern, implying the condition $C_i^h \neq Q_j^h$ may occur. The difference between the two will be traded internationally.

In the first stage, each economy has initial endowment of $\overline{X}_k^h$ for *k*,*h*=1,2. The input is immobile across economy, but mobile across sectors.[16] Each economy maximizes their profit without considering the other economy. On the next stage, the two economies carry out trade to maximize their utility, given international relative equilibrium price. This equilibrium price should lies between the two domestic autarky prices.[17]

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[15] We can model *n* producers in economy A and *m* producers in economy B to capture intratrade phenomena.

[16] When the input is mobile across economies, then consumption point of E_1 will also represent the production point of the two economies, and the trade process has been accomplished.

[17] The domestic relative price are observable from relative productivity of input in both economies.

To obtain feasible, efficient, stable and Pareto optimum equilibrium, we need $\sum_{h=1}^{2}\sum_{j=1}^{2} x_k^{jh} = \overline{X}_k$; implying the sum of input *k* = 1,2 utilized in both sector and both economies, should be equal to the available input in the world. This condition also implies full utilization of input and there is no idle one. $\sum_{h=1}^{2} C_j^h = Q_j$ shows the total consumption of economy *h* = A, B, should be equal to the total production of good *j.* This ensures no excess supply in output market in the world, but is possible domestically.

If the two economies maximize profit, the production process in each economy will be as follows:

Max. $\pi_h = p_{jh}.Q^{jh}(X_k^{jh}) - \sum_{j=1}^{2} w_k^j x_k^{jh}$

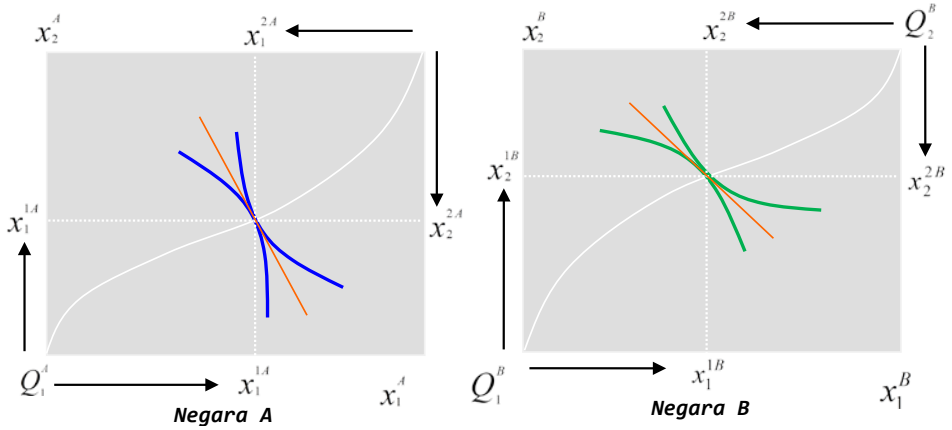
s.t. $\sum_{h=1}^{2}\sum_{j=1}^{2} x_k^{jh} = \overline{X}_k$

$\sum_{j=1}^{2} x_k^{j1} = \overline{X}_k^1$

$\sum_{j=1}^{2} x_k^{j2} = \overline{X}_k^2$

The above equation system consist of 16 endogenous variables of x_k^{jh}, p_{jh} and Q_j^h for *h, j, k* = 1,2; and 14 exogenous variable of w_k^{jh}, $\overline{X}_k$ and $\overline{x}_k^h$. The first order condition on x_k^{jh} will provide optimum value for all 16 endogenous variables, as illustrated below:

Graphic 1. Equilibrium of 2 Economies, 2 Goods, and 2 Inputs

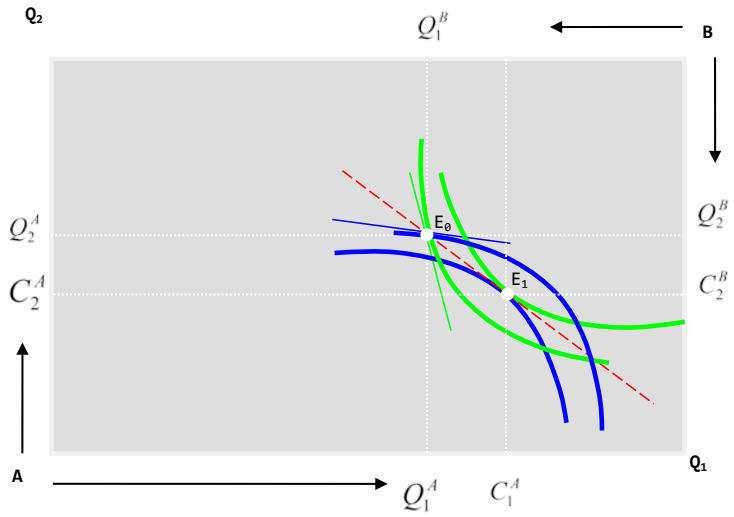


Source: Parewangi (2004)

Though geographically apart, the optimization on production side will run simultaneously for the two economies, in the sense that both are subject to the availability of global endowment x_k. This first process will provide initial equilibrium in production and provide us Q_j^A and Q_j^B for *j*=1,2. On the other hand, we also have initial sectoral distribution of input in both economies.

This equilibrium is not final since the marginal rate of technical substitution differs across economies ($MRTS_{1,2}^j$, economy A ≠ B for goods *j*=1,2). Given this initial production, the initial consumption point will be in E_0 on the following graphic.

Graphic 2. Output and Endowment Distribution



Source: Parewangi (2004)

E_0 is autarky condition, and when the trade is in place, the equilibrium will shift to E_1. At this new equilibrium, economy A will import $(Q_1^A - C_1^A)$ and export $(Q_2^A - C_2^A)$, vice versa. Up to now, we assume that the relative price of input is equal in both economies; hence the difference in relative price of output in point E_0 is solely determined by the initial endowment.

With open economy, both economies found their own comparative advantage in producing particular goods, and open possibility of trade to maximize their utility. The total good available globally is depicted by the size of the Edgeworth box. Worth to note, that even when the input is immobile, the trade provide new relative price, which lead to new production composition in both economies. If this is evident, then the size of the Edgeworth box will change.

The remaining issue is how we know the final equilibrium of E_1 among infinite possible solution. One way to solve this is by introducing a given international price $(p_1/p_2)^{Int}$; which will drive the new equilibrium to E_1. Using this relative price, the production sector in each economy will adjust. Formally, the optimization will follow:

Max. $U_h = U^h(C_i^{jh})$

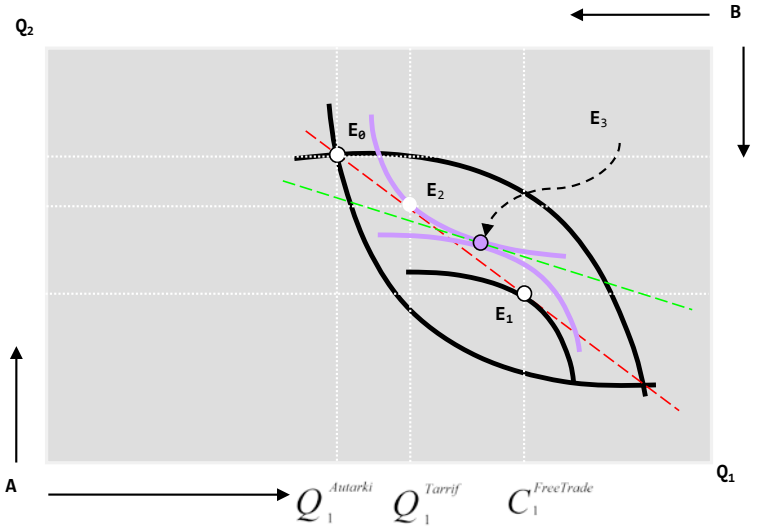
s.t. $\sum_{h=1}^{2} C_j^h = \tilde{Q}_j$

$MRS_{1,2}^h = (p_1/p_2)^{Int}$ for j,h=1,2

On this theoretical framework, this international relative price is sufficient to provide optimal equilibrium. Given a regular and 'well-behave' utility function, there will be only one combination of Q_1 and Q_2, which equalize MRS to this international price in both economies.

If we let the preference to be non-homogenous across economies, the possibility of excess demand will exist at this international relative price, as illustrated below:

Graphic 3. The Role of International Relative Price on Trade



Source: Parewangi (2004)

But we put this possibility aside for this moment even the relative price along the contract curve varies because we have assume that the preference is regular and the elasticity of substitution between the two goods is constant.

On empirical ground, one reason for unequal gain distribution of trade is tariff.[18] Moreover, on utilizing the available endowment, each economy can choose the type of goods to produce and to trade. This choice will determine the welfare obtained, for example China who specialize to produce and to export high value added and high productivity goods, (Rodrik, 2006; Schott, 2006).

[18] Including environmental issue or preferential trading based on common political views, security, geographics, culture or other non-economic considerations. Empirically, we can examine the welfare distribution by observing the deviation of autarky price and the after-trade equilibrium price.

III. METHODOLOGY

3.1. Empirical Model

This paper utilizes Matrices of International Trade (MIT). This model is classified in deterministic class, and represents general equilibrium of global trade. MIT model is quite powerful in analyzing the international trade pattern, since it internalize spatial aspects. From domestic income identity,

$$\boldsymbol{Y}_i = \boldsymbol{C}_i + \boldsymbol{I}_i + \boldsymbol{G}_i + \boldsymbol{X}_i - \boldsymbol{M}_i \quad i = 1, 2, ..., n$$

(Eq. 1)

where $\boldsymbol{Y}_i$ is GDP of economy i; $\boldsymbol{C}_i$ is consumption; $\boldsymbol{I}_i$ is investment; whereas $\boldsymbol{X}_i$ and $\boldsymbol{M}_i$ is export and import of economy *i*. To separate the analysis on exports and imports, we disaggregate the above equation into:

$$\boldsymbol{Y}_i + \boldsymbol{M}_i = \boldsymbol{C}_i + \boldsymbol{I}_i + \boldsymbol{G}_i + \boldsymbol{X}_i \quad i = 1, 2, ..., n$$

(Eq. 2)

where $\boldsymbol{C}_i + \boldsymbol{I}_i + \boldsymbol{G}_i + \boldsymbol{X}_i = \boldsymbol{Z}_i$, is the total demand for domestic output of economy *I*; term $\boldsymbol{C}_i + \boldsymbol{I}_i + \boldsymbol{G}_i = \boldsymbol{F}_i$ is the total domestic demand for economy *I*, hence $\boldsymbol{F}_i + \boldsymbol{X}_i = \boldsymbol{Z}_i$; while $\boldsymbol{M}_i + \boldsymbol{Y}_i = \boldsymbol{E}_i$ is the total government spending, hence $\boldsymbol{E}_i = \boldsymbol{Z}_i$.

Unlike input-output model which analyze sectoral domestic in each economy, the MIT model in this paper does not disaggregate the export and import across sectors but more focus on economies. There is possibility to model sectoral MIT, then each of this matrix will be related one another and form inter-sectoral MIT, and this will be analogous to the interregional I-O.

From the trade table, we obtain:

$$\mathbf{X}_i = \sum_{j=1}^{n} x_{ij} \text{ and } \mathbf{M}_i = \sum_{j=1}^{n} m_{ji}$$

(Eq. 3)

where $\boldsymbol{x}_{ij}$ shows the export of economy *i* to economy *j,* and reversely $\boldsymbol{m}_{ji}$ shows the import of economy *i* from economy *j.* $\mathbf{X}_1$ for example, shows the total export of economy one to economy *j* = 1, 2,..., *n.* Likewise $\mathbf{M}_1$ shows the total import of economy one from economy *j* = 1, 2,..., *n.* Since the relation of trade are reciprocal, matrix $\boldsymbol{X}_{ij}$ and $\boldsymbol{M}_{ij}$ actually are identic.

In input-output model we recognize final demand in column and value added on row. In the international trade matrix, the column consist of final demand components of consumption (C), investment (I) and government spending (G), while the additional row contains domestic incomes Y.

Each row (summation to the right) on an international trade matrix shows the distribution of domestic production of economy *i* to other economies (j = 1, ..., n for i ≠ j):

$$\sum_{j=1}^{n} x_i + C_i + I_i + G_i = Z_i$$

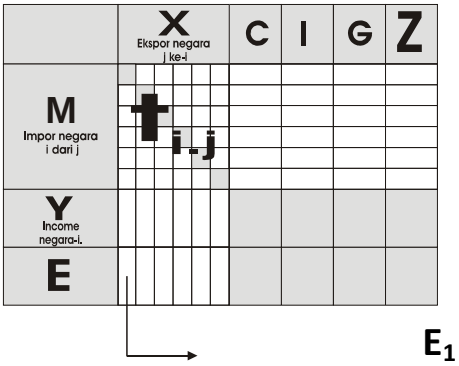
(Eq. 4)

while each column, shows the domestic spending composition of economy *i*:

$$\sum_{j=1}^{n} m_{ij} + Y_i = E_i$$

(Eq. 5)

the use of index *i* and *j* is interchangeably, depending on the row or the column, and this applies to all cells inside the matrix; *i, j* ∈ n.



Graphic 4. International Trade Matrix Table

If we sum up the number in all rows in column 1, then we will get the spending composition of economy 1 (*E1*). The ratio of each cell $\boldsymbol{x_{1j}}$ to this sum will provide us $\boldsymbol{t_{1j}}$; the trade coefficient of less than one:

$$t_{ij} = \frac{x_{ij}}{E_i}$$

(Eq. 6)

Due to the addition of Y in E, this coefficient is similar but smaller than the import coefficients, which is obtained from the ratio of import from certain economy over total import.

Trade Linkage

By assuming that the proportion of total domestic spending is fixed, then we can derive the following closed system:

$$\sum_{j=1,}^{n} t_{ij} Z_i + F_i = Z_i \,,$$

where *i* = 1, 2, 3, ..., *n.* Using matrix notation we have:

$$\begin{aligned} T\ Z\ + F\ &= Z \\ Z\ (T\ - I\ ) &= F \\ Z\ &= (T\ - I\ )^{-1} F \end{aligned}$$

(Eq. 7)

To solve the above equation, the matrix $(T-I)^{-1}$ must be non-singular and satisfy the *Hawkins-Simons* condition; (i) diagonal element must be greater than zero and less than one, and (ii) the determinant of the matrix $(T-I)$ must be greater than zero.

$$\left(\frac{1-t_{11}}{t_{12}}\right) > \left(\frac{t_{21}}{1-t_{22}}\right)$$
$$(1-t_{11})(1-t_{22}) - t_{12}.t_{22} > 0$$

(Eq. 8)

Inverse of the matrix (*I-T*) is called Machlup foreign-trade induced multiplier, which describes the trade linkages between economies.

Suppose there is an autonomous change in a economy *i*, then it will lead a direct change and indirect effect on the trade flows between this economies to other economies. In the first round, this increase of demand will raise the economy's imports, which in turn will raise the income of the exporting economy *j*. On the next round, an increase in income of economy *j* will raise its domestic demand, including to the economy origin of the shock. This process will continue until domestic economy in both economies reach equilibrium. The overall impact of this continuous process is captured in Machlup multiplier.

The Effect of Output Growth on International Trade

There are several techniques adopted from input-output models. One of them is the technique *Goodwin's Net Foreign Balance* (NFB). This method, developed by Goodwin allows us to measure changes in an exogenous factor (F) to the trade balance of each economy. The equation is given as follows:

$$NFB = [(I-\lambda)(I-T)^{-1} - I]\ \Delta F$$

(Eq. 9)

Where λ is a diagonal matrix of the sum of the column ***T***.[19]

[19] Technical explanation on how to calculate the model including its application is available on Deterministic Modeling training module, Fundamental Asia (2008).

Trade Linkage of Two Economy Groups

Another technique developed by *Miyazawa* is trade multiplier, which measure the effect of economic growth of certain economy group against other economies in the world. This technique is obtained by partitioning the import coefficients as follows:

$$T = \left(\begin{array}{c|c} T_{11} & 0 \\ \hline T_{21} & 0 \end{array}\right) + \left(\begin{array}{c|c} 0 & T_{12} \\ \hline 0 & T_{22} \end{array}\right) = T_1 + T_2$$

(Eq. 10)

The partition can also be as follows:

$$T = \left(\begin{array}{c|c} T_{11} & T_{12} \\ \hline T_{21} & T_{22} \end{array}\right)$$

where T_{11} and T_{22} shows the import coefficient between economies within a group, while T_{12} and T_{21} shows the import coefficient between economies of different groups.

The above matrix divides the economies into two groups. Using the formula provided by Miyazawa, we can obtain Muchlup multiplier by solving the inverse of the following partitioned matrix inverse:

$$T = \left(\begin{array}{c|c} T_{11} & T_{12} \\ \hline T_{21} & T_{22} \end{array}\right)$$

$$(I-T) = \left(\begin{array}{c|c} (I-T_{11}) & -T_{12} \\ \hline -T_{21} & (I-T_{22}) \end{array}\right) \text{, say } (I-T)^{-1} = \left(\begin{array}{c|c} L & O \\ \hline V & E \end{array}\right)$$

since $(I-T)(I-T)^{-1} = I$ then:

$$\left(\begin{array}{c|c} (I-T_{11}) & -T_{12} \\ \hline -T_{21} & (I-T_{22}) \end{array}\right)\left(\begin{array}{c|c} L & O \\ \hline V & E \end{array}\right) = \left(\begin{array}{c|c} I & 0 \\ \hline 0 & I \end{array}\right)$$

(Eq. 11)

With several matrix operations, we have:

$$\begin{aligned} (I-T_{11})L - T_{12}V &= I && (a) \\ (I-T_{11})O - T_{12}E &= 0 && (b) \\ -T_{21}L + (I-T_{22})V &= 0 && (c) \\ -T_{21}O + (I-T_{22})E &= I && (d) \end{aligned}$$

Multiplying equation (a) with $(I - T_{11})^{-1}$ then insert it to equation (c), we have:

$$\begin{aligned}
L &= (I - T_{11})^{-1}(I + T_{12}V) \\
0 &= -T_{21}\left[\left((I - T_{11})^{-1}(I + T_{12}V)\right)\right] + (I - T_{22})V \\
(I - T_{22})V &= T_{21}\left[(I - T_{11})^{-1} + (I - T_{11})^{-1}T_{12}V\right] \\
(I - T_{22})V &= T_{21}(I - T_{11})^{-1} + T_{21}(I - T_{11})^{-1}T_{12}V \\
T_{21}(I - T_{11})^{-1} &= \left[(I - T_{22}) - T_{21}(I - T_{11})^{-1}T_{12}\right]V \\
V &= \left[(I - T_{22}) - T_{21}(I - T_{11})^{-1}T_{12}\right]^{-1}\left[T_{21}(I - T_{11})^{-1}\right] \\
V &= \Delta_2 T_{21} B_1
\end{aligned}$$

(Eq. 12)

Insert ***V*** back to the equation (a), we will get the value of element ***L*** below:

$$\begin{aligned}
&(I - T_{11})L - T_{12}V = I \\
&L = (I - T_{11})^{-1}(I + T_{12}V) \\
&L = (I - T_{11})^{-1}\left(I + T_{12}\left[(I - T_{22}) - T_{21}(I - T_{11})^{-1}T_{12}\right]^{-1}\left[T_{21}(I - T_{11})^{-1}\right]\right) \\
&L = (I - T_{11})^{-1} + (I - T_{11})^{-1}T_{12}\left[(I - T_{22}) - T_{21}(I - T_{11})^{-1}T_{12}\right]^{-1}\left[T_{21}(I - T_{11})^{-1}\right] \\
&L = B_1 + B_1 T_{12}\Delta_2 T_{21} B_1
\end{aligned}$$

(Eq. 13)

To obtain the sub-matrix of ***O*** and ***E***, we can repeat the above procedure and get:

$$\begin{aligned}
O &= (I - T_{11})^{-1}T_{12}E \\
I &= -T_{21}(I - T_{11})^{-1}T_{12}E + (I - T_{22})E \\
I &= [(I - T_{22}) - T_{21}(I - T_{11})^{-1}T_{12}]\ E \\
E &= [(I - T_{22}) - T_{21}(I - T_{11})^{-1}T_{12}\ ]^{-1} \\
E &= \Delta_2
\end{aligned}$$

(Eq. 14)

Insert ***E*** into equation (b), we obtain the sub matrix ***O***:

$$\begin{aligned}
&(I - T_{11})O - T_{12}E = 0 \\
&O = (I - T_{11})^{-1}T_{12}E \\
&O = (I - T_{11})^{-1}T_{12}\left[(I - T_{22}) - T_{21}(I - T_{11})^{-1}T_{12}\ \right]^{-1} \\
&O = B_1 T_{12}\Delta_2
\end{aligned}$$

(Eq. 15)

Using the notation given by Miyazawa, the sub-matrix can be presented in the following more compact ways:

$$(I-T)^{-1}=\left(\begin{array}{c|c} L & O \\ \hline V & E \end{array}\right)=\left(\begin{array}{c|c} B_1+B_1T_{12}\Delta_2T_{21}B_1 & B_1T_{12}\Delta_2 \\ \hline \Delta_2T_{21}B_1 & \Delta_2 \end{array}\right),$$

(Eq. 16)

where:

- $B_1=(1-T_{11})^{-1}$ is the internal multiplier matrix of group 1; T_{11} shows internal trade matrix within group 1.
- $B_2=(1-T_{22})^{-1}$ is the internal multiplier matrix of group 2. While T_{22} shows internal trade within group 2.
- $\Delta_2=(I-T_{22}-T_{21}B_1T_{12})^{-1}$, is external multiplier matrix of group 2.

Matrix ***V*** lies in row 2 column 1, and is equivalent to $\Delta_2T_{21}B_1$, which shows the influence of the internal propagation of group 1 on group 2's income (analog to *internal direct* and *indirect import demand*). The dimension of this matrix is (mxn), where m indicates the number of economies in group 1 and n in group 2. Element $\delta_{i2\,j1}$ indicates the increase in income of economy i_2 (economy *i* in group 2), due to an increase exogenous outlays of economy j_1 (in group 1).

To measure the increase in income of group 2 due to increasing income in group 1, the column of matrix ***V*** is calculated as follows:

$$M_{j1}=\sum_{i2}\delta_{i2\,j1}$$

(Eq. 17)

We can rearrange this matrix in the following way:

$$V = [(I - T_{22}) - T_{21}(I - T_{11})^{-1} T_{12}]^{-1} [T_{21}(I - T_{11})^{-1}]$$
$$V = [(I - T_{22})^{-1} I - (I - T_{22})^{-1} T_{22} - (I - T_{22})^{-1} T_{21}(I - T_{11})^{-1} T_{12}]^{-1} (I - T_{22})^{-1}(T_{21}(I - T_{11})^{-1})$$
$$V = [(I - T_{22})^{-1}(I - T_{22}) - (I - T_{22})^{-1} T_{21}(I - T_{11})^{-1} T_{12}]^{-1} (I - T_{22})^{-1}(T_{21}(I - T_{11})^{-1})$$
$$V = [I - (I - T_{22})^{-1} T_{21}(I - T_{11})^{-1} T_{12}]^{-1} (I - T_{22})^{-1}[T_{21}(I - T_{11})^{-1}]$$
$$V = [I - B_2 T_{21} B_1 T_{12}]^{-1} B_2 T_{21} B_1$$
$$V = \Delta_{22} B_2 T_{21} B_1$$

(Eq. 18)

Thus, once again we can prove the simplification of Miyazawa's formula; $\Delta_2 = \Delta_{22} B_2$.

The matrix of $\Delta_2 T_{21} B_1$ is multiplication of three matrix multiplier Δ_{22}, B_2, B_1 with *T21*, where $B_2 = (I - T_{22})^{-1}$ is the internal multiplier matrix of group 2 and $\Delta_{22} = (I - B_2 T_{21} B_1 T_{12})^{-1}$ is the Miyazawa's external multiplier matrix.

Δ_{22} shows the direct, indirect and induced effects on group 2's income, due to changes in import demand of group 2 from group 1. By summing up the column of matrix multiplier group 2, we can trace the source of income changes:

- $m^1_{j_1} = T_{21}$ is an income change due to direct import demand by economy *j* in group 1 to group 2.
- $m^2_{j_1} = T_{21} B_1$ is income changes due to direct and indirect import demand by economy *j* in group 1 to group 2.
- $m^3_{j_1} = B_2 T_{21} B_1$ is the changes of group 2's income, due to direct and indirect import demand group 1, plus direct and indirect *induced effect* of group 2 (an increase of group 2's income).
- $M_{j_1} = \Delta_{22} B_2 T_{21} B_1$ is total foreign induced trade multiplier from group 1 consisting of (i) income/ output generated by internal propagation group 1 and (ii) income/ output generated by the internal propagation group 2.

Using the above notation, we can redefine the following measures:

- $\frac{m^1_{j_1}}{M_{j_1}}$ = share of direct effect in total multiplier.
- $\frac{m^2_{j_1} - m^1_{j_1}}{M_{j_1}}$ = share of indirect effect in total multiplier.

- $\frac{m_{j_1}^3 - m_{j_1}^2}{M_{j_1}}$ = share of direct and indirect effect within group 2 (internal propagation of group 2, which stimulated by import demand of group 1), in the total multiplier.
- $\frac{M_j - m_{j_1}^3}{M_{j_1}}$ = share of external propagation of group 1 in total multiplier.

Using similar procedure, we can derive the impact of group 2 against group 1.

3.2. Data and Variable

Required data are export, import, and components of aggregate demand (consumption, investment, government spending and the stock), which is uniformly in USD. Since MIT model is deterministic equilibrium model, the data will cover all economies in the world.

We focus on nine economies of APEC: Indonesia, Thailand, Malaysia, Singapore, India, United States, Japan, China, and Australia. These economy is classified into two group; the developed group (United States, China, Japan and Australia), and the developing group (Indonesia, Thailand, Malaysia, Singapore and India, or ASEAN-I in short). For analytical purposes, India is grouped with four major ASEAN economies, firstly because this economy is potential competitor for China; and secondly, the size of India's economy is relatively similar to these four ASEAN member compared to the other groups. To find out the interdependency dynamics between APEC and other regions, we include Europe, Africa and the Middle East. The rest of the economy is classified as rest of the world (ROW).

The frequency of the data is quarterly, covering the period of 2003Q1 to 2012Q4. We assume that three months interval is long enough to capture the dynamics of interdependencies.

IV. RESULTS AND ANALYSIS

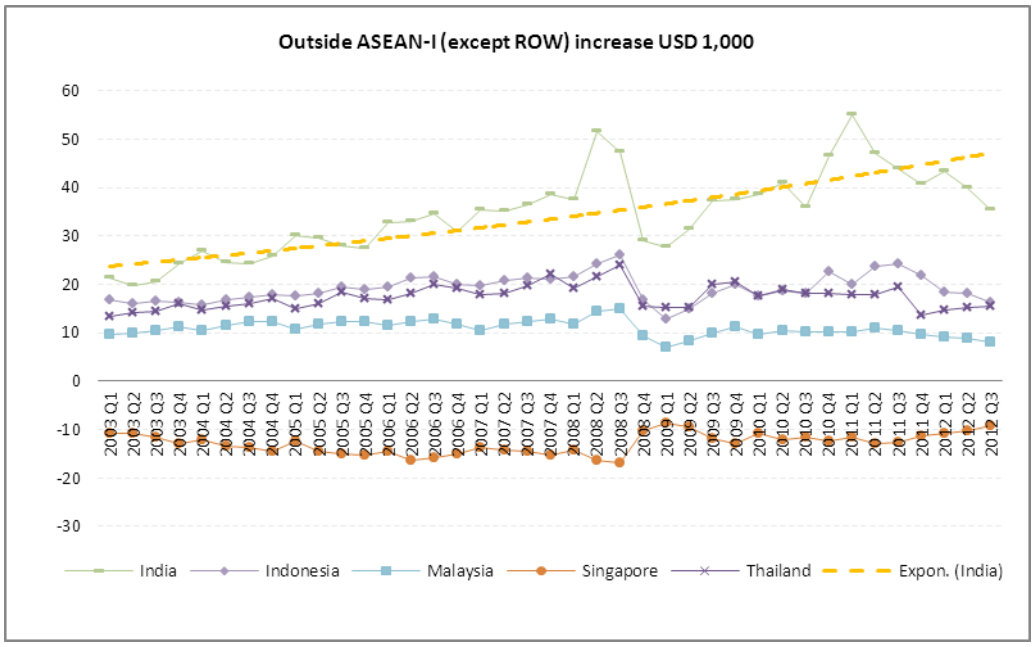
4.1. Net Foreign Balance Simulation

This simulation captures the impact of outlays changes of certain economy on the external balance of other economies, which is distributed through a global trade network. The transmitted impact will vary across time, depending on the 3 (three) aspects, *first*, the fundamental economic of the origin economy of the shock; *second* the fundamental economy of other economies, and *third*, the interlinkages structure across economies through bilateral, regional and global trade network. Computational and simulation result described below, is a portrait of the actual conditions about the trade patterns on certain point of time during the observation period (2003 - 2012). These portrait series can show the dynamics of the changing of the positioning patterns of each economy's in the global trade network.

The results show that an outlays increase of developed economies[20] will benefit India, Indonesia, Thailand and Malaysia, in the form of Net Foreign Balance (NFB) increase. India experience increasing capability to benefit from this shock (shown with positive trends) during the observation period (see Graphic 5). Thailand and Indonesia share similar constant pattern, as well as Malaysia but with smaller magnitude, implying no significant position within the global trade network. One important aspect is the weak institutional particularly for the case of Indonesia. Difference in the institution quality is source of comparative advantage, and trade will lead to greater costs for the parties with worse institutions (Levchenko, 2004).

Singapore itself does not gain much from the increase of global purchasing power. This economy has its own unique compared to other ASEAN members. Singapore recorded a trade that goes beyond its GDP (124.7 percent and 127.3% in 2003 to 2012). We suspect this is due to Singapore economy has been on the verge of saturation.

Graphic 5. The Impact of Global Outlays Increase on ASEAN-I



Source: Model simulation, Fundamental Asia.

When the sub-prime mortgage crisis occurred in 2008 in the United States, at first NFB of Singapore decreased, while Indonesia, Malaysia, Thailand and India experienced an increase during the first two quarters. The impact of the crisis hit Indonesia, Malaysia, Thailand and India on third quarter 2008 until first quarter of 2009, while Singapore started to enjoy positive trend of the NFB changes.

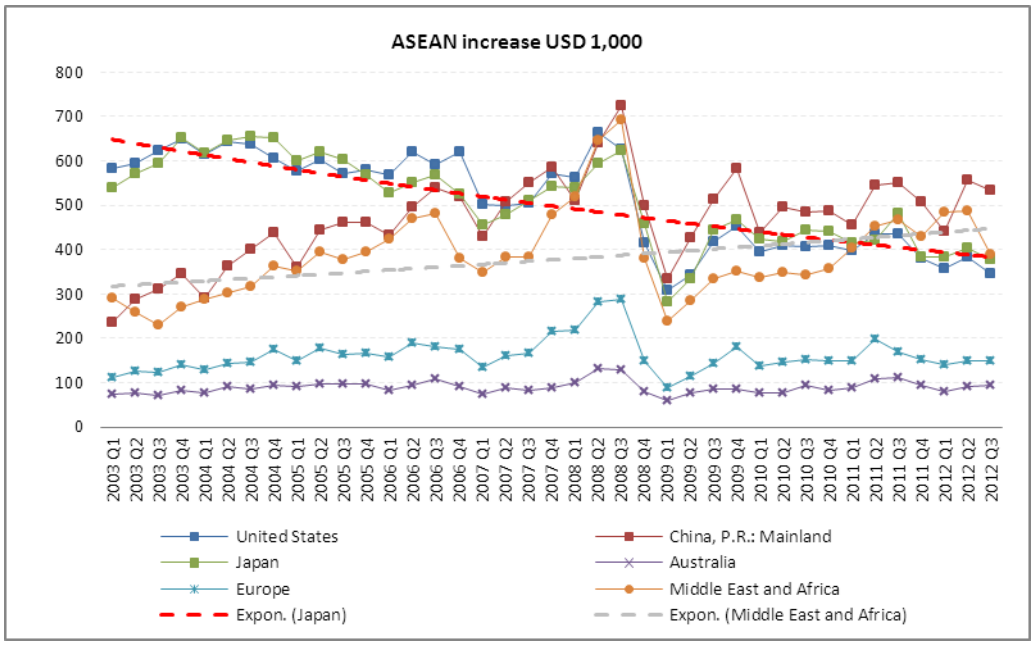
This result is in line with the actual conditions, for example India. As the US-Meltdown occur, this economy recorded a current account deficit of USD10 million due to a drastic reduction of U.S. and Europe demand, and the largest impact was on manufacturing sector

[20] On this paper, the developing economy group consist of Indonesia, Thailand, Malaysia, Singapura and India.

particularly on Leather, Textiles, and Jewelry product. Prior the crisis (2006-2007), India recorded a trade surplus of 15 percent with United States. In November 2008, India's exports declined by 9.9 percent which was widening his current account deficit. In the third quarter of 2008, India's export decreased to USD 1.5 million from USD 12.7 million in the previous year, while India's imports increased by USD 6.1 million (Sivaraman, 2008). However, within two quarters after the crisis, India was able to stabilize its position as shown with upward NFB changes trend.

Graphic 6 show the impact of USD1,000 increase of ASEAN-I outlays. We have two notes for this result; *first*, the magnitude of perceived benefits enjoyed by developed economies is much greater than otherwise. Through global trade network, averagely United States, Japan, Australia, Europe and China obtain an NFB increase of USD400 for every USD1,000 increases in ASEAN-I outlays. This is 2000 percent or twenty times higher than the average increase in NFB enjoyed by ASEAN-I (USD20), for the opposite shock. This may indicates unequal distribution of trade gains.

Graphic 6. The Impact of *Outlays* Increase of ASEAN-I on Other Economies



Source: Model simulation, Fundamental Asia.

Several empirical studies may support this possibility. Hirschman classical approach and the modern interpretation of the Kirshner stated that big economies using the FTA primarily as a tool to advance the strategic and political interests through asymmetric trade relations with small economies (Steven and Gleason, 2011).

Generally, developed economies like the U.S. locked their asymmetrical trade relations with small economies not by compulsion, but by persuasion or by encouragement. The effects of asymmetrical trade relations will be very strong when the small partner economy is export-oriented and the large economies have a large import market for the final product (Steven and Gleason, 2011); Indonesia is one of this typical economies.

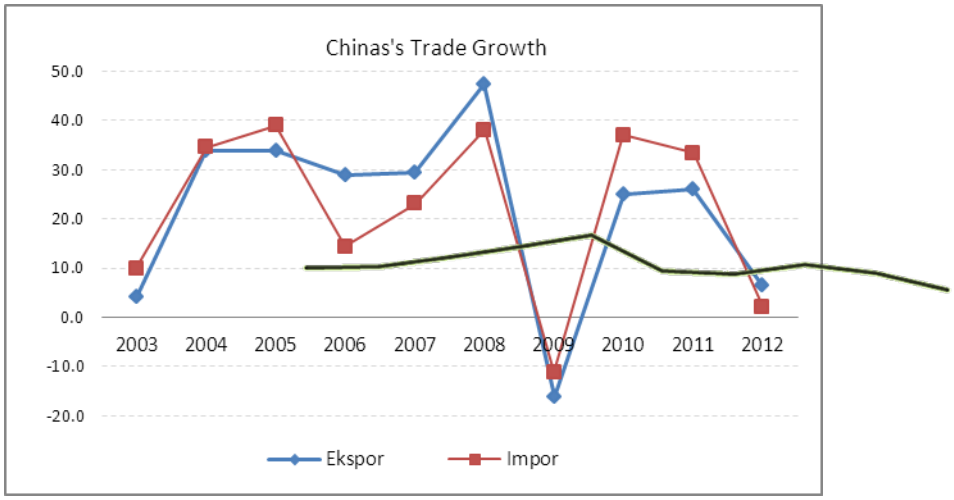
Second, there is an interesting pattern change between developed economies with ASEAN-I. United States and Japan which are known as the largest trading partner of ASEAN tend to have weakening trade linkages across the time. On the other hand, China before 2006, compared to U.S. and Japan, gained lower benefit from trading with ASEAN-I. After that period, China began to surpass the United States and Japan, and gained higher NFB changes (see green trend line). The same pattern was also applies for Middle East and Africa, while Australia and Europe tend to have a constant trade linkages with the ASEAN-I. China's power was seen in 2003, when this economy recorded high growth of 10%, and 12.7% in 2006. The highest economic growth was in 2007 (14.2%), one year after China overtook the role U.S. and Japan, as shown on simulation results.

There was a question if export performance lead to China's economic growth. The answer might be the opposite; it was the China's domestic strength that drives this economy recording outstanding external performance. There are two reasons to support this argument, *first*, the growth spurt is not solely driven by exports, but also driven by gross industrial output. *Second*, China's experienced the changing trade patterns from labor-intensive products, such as textiles and shoes, to technology intensive product. Several empirical studies have calculated the role of factors of production (capital, labor) and productivity (TFP; residual in Solow growth model) on the growth of the Chinese economy.

Bosworth and Collins (2008) found that the productivity or the efficiency of input use accounted for 40 percent of the output growth in China. This is equivalent with TFP growth of 3.6 percent during 1978 to 2004. The TFP contribution distinguishes China from other emerging Asia, which rely more on capital injection (Bosworth and Collins, 2008). Moreover, the Chinese certainly do specialization in her export, and this could be a valid indicator for the strength of China's domestic economy, (Ferrarini and Scaramozzino, 2010).

Graphic 7 shows the growth of China's economy and trade during observation period. China implemented a series of policies that also supports the role of China's domestic strength in pushing exports, some of which are tax incentives, subsidies, price setting, and investment regulation and administration in favor of domestic activity, particularly for the sector where domestic private and state owned enterprises operate, (Erixon, Messerlin, and Razeen Sally, 2008).

Graphic 7. Trade and Economic Growth of China 2003-2012 (%)



Source: Index Mundi[21] and CIA World Factbook[22]

Note: green line shows GDP growth

Until now, the major trading partners for China's exports are still United States (17.1%); Hong Kong, China (14.1%); Japan (7.8%); Korea (4.4%); and Germany (4%). Overall, the economies with high incomes are the main exports destination, accounted for 79.2% of China's total exports. East Asia and Pacific has an average proportion of 5.8%, while Europe and Central Asia region is 4.3 percent.

The main import origin partners of China are Japan (11.2%), Korea (9.3%), United States (6.8%), Germany (5.3%), and Australia (4.6%). In aggregate, China's import is mainly from high income economies (67.7%), then East Asia and Pacific (9.2%), and Latin America and the Caribbean (5%).

Using the same model, we simulate the impact of USD1,000 increases of European outlays; the result is presented in Graphic 8. The shock of European outlays provides very small NFB changes for other economies (averagely USD 6). On the other hand, the results of these simulations confirm the proximity of U.S. economy with Europe, especially before 2007. Started from 2007, China enjoyed the highest NFB increase compared to all European trading partners.

The positive trade surplus of China against Europe has been a concern of many researchers, though it is also important to remember that Germany for instance also recorded a much larger surplus compared to China. The success of China on trading with Europe was highly influenced by her ability to utilize low wage labor and her capability to assembly various part to produce final product. On this case, China is successful to be hub economy as Singapore does;

[21]Index Mundi, China Facts (http://www.indexmundi.com/g/g.aspx?v=89&c=ch&l=en) accessed on Tuesday, 19 March 2013, 07.15

[22] CIA Worldfactbook, China (https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html) accessed on Tuesday, 19 March 2013, 07.17

except that Singapore relies more on transport services efficiency and import final good and re-export them.

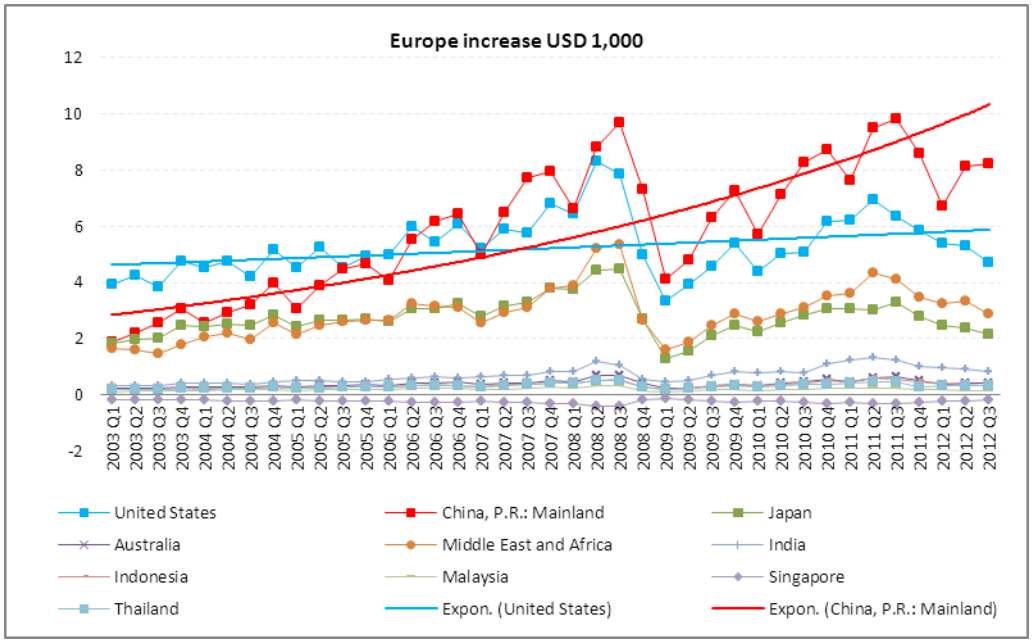
The ability of China on its global trade is also evident when simulating outlays increase of Australia (Graphic 9). For every USD1.000 increase of Australia *outlays*, China gain additional *net foreign balance*; and is increasing overtime. In 2003, the increase of Australia *outlays* benefitted China by USD 15, and by the end of 2012, the NFB changes has been USD 28.

Australia has a strong proximity with United States whether in economy, politics and other aspects. However, the simulation results indicate that this proximity is factually decreasing, as well as the relationship between Australia and Japan. In 2003, for every USD1,000 increases of Australia's outlays, United States will gain additional NFB by USD42, and this was the highest among all trading partners of Australia. By the end of 2012, United States gain NFB changes of only USD25 or much lower than what China gained. During the observation period, the downward trend of US-Australia relationship was evident, and when the crisis hit United States in 2008, China began to overtake the role of United States as major trading partner for Australia.

The increase of China-Australia interconnectedness is not as fast as China-Europe. China also showed great performance on penetrating Middle East and Africa market (Graphic 10). This region was initially more close to United States and Europe. Overtime, this relationship is constant for Europe and declines for United States.

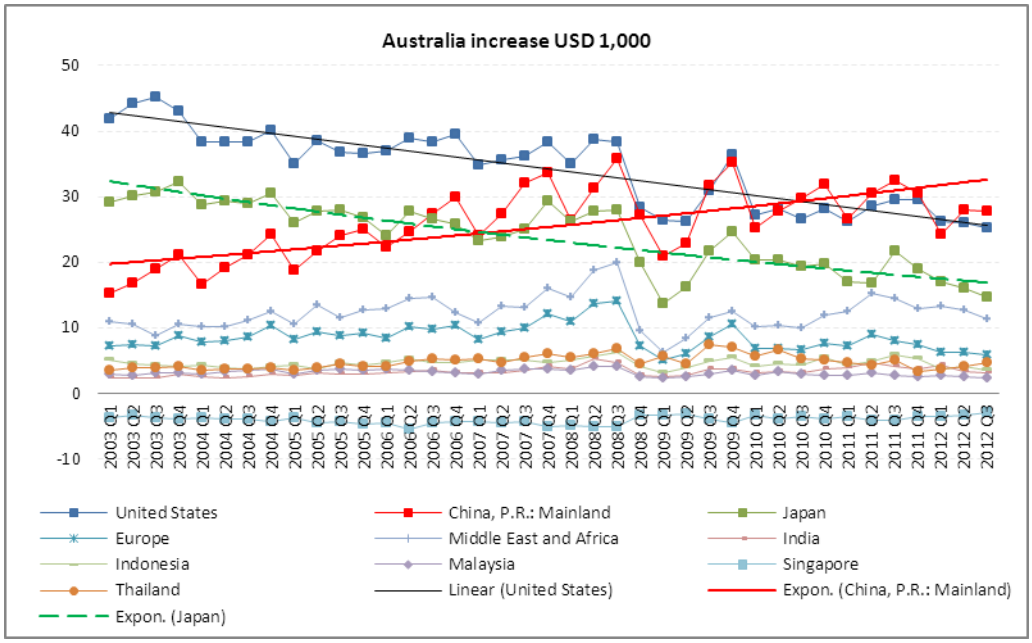
For Indonesia, Malaysia, Thailand, Singapore and India, the outlays increase of this region contribute insignificantly. However, India possesses positive trend on trade linkage with Middle East and Africa, showing India is better polarization and positioning on the global trade. India is considered to be major competitor for China within one decade ahead; the reason is China's economy relies more on export while India on domestic consumption and services export. Moreover, the demographic structure of India is dominated with young labor, while in China the number of labor force is decreasing (Yao and Zhang, 2011).

Graphic 8. The Impact of *Outlays* Increase of Europa on Global NFB



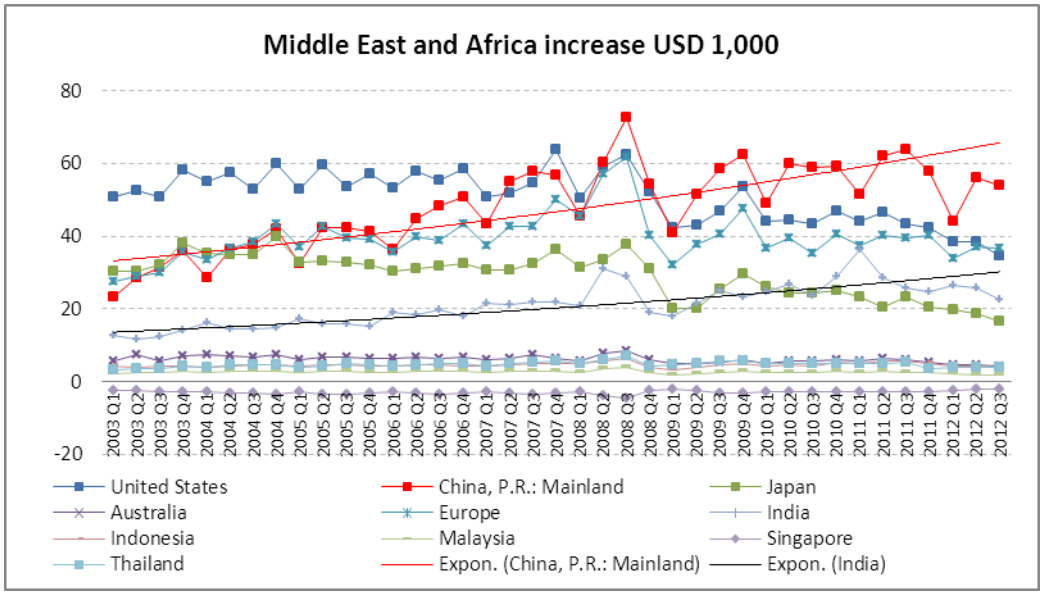
Source: Fundamental Asia (2013).

Graphic 9. The Impact of *Outlays* Increase of Australia on Global NFB



Source: Simulation, Fundamental Asia (2013).

Graphic 10. Impact of *Outlays* Increase of Middle East and Africa on Global NFB



Source: Fundamental Asia (2013).

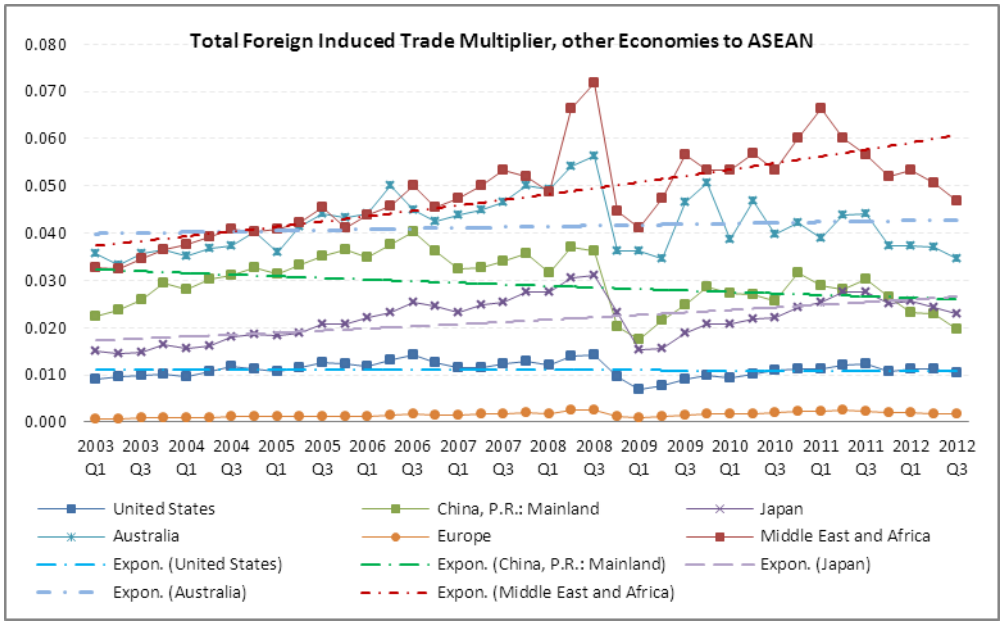
4.2. Total Foreign Induced Trade Multiplier

Position of a economy in the global trade network as indicated by the dynamics of NFB simulation above, can be explored further using induced total foreign trade multiplier. This multiplier is decomposable into four components, direct import requirements, indirect import requirements, internal propagation, and external propagation. This multiplier can also represent the dependency of a economy/ region to another. The calculated multiplier for developed economy is presented on Graphic 11, while for ASEAN-I is provided in Graphic 12.

The result shows that only Japan and Middle East and Africa have increasing trend of dependency on ASEAN-I. In the long run, particularly for Middle East and Africa, this trend demonstrates potential export market for ASEAN-I. Australia and Europe have a constant trend throughout the period of the observation, while the United States especially China demonstrate declining trend of dependency on ASEAN-I, along with their increasing market share in this region.

In absolute terms, the induced foreign trade multiplier (or simply total trade multiplier) of ASEAN-I is much larger than otherwise. The trade multiplier that indicates the dependency of developed economies on ASEAN-I is 0.03, while the opposite dependency of ASEAN-I on the Big Three (Japan, U.S. and China) is 0.4 or 13 times higher, (See Graphic 12).

Graphic 11. Total Multiplier of Other Region, 2003-2012



Source: Simulation.
Note: Total trade multiplier measures the influence as well as the dependency of certain economy to the other.

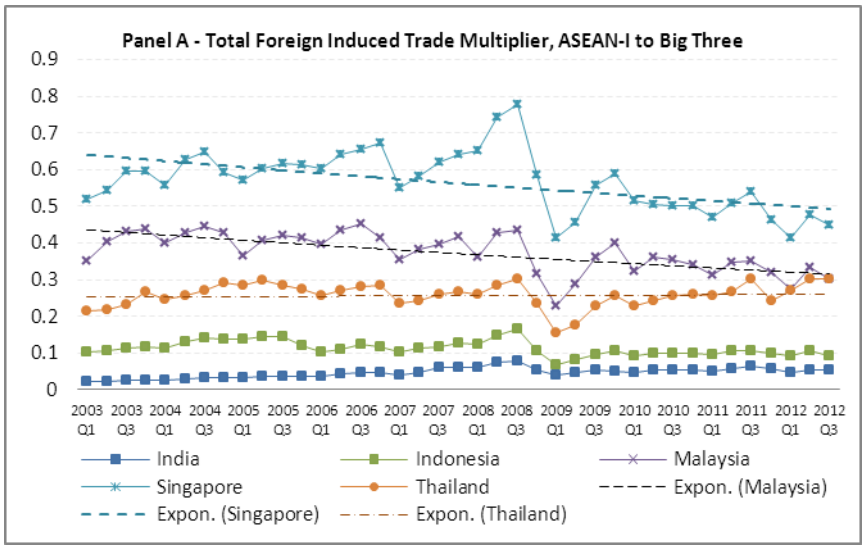
ASEAN-I has high dependency on the Big Three (US, Japan and China); with the highest multiplier is for Singapore (averagely 0.55) and the smallest is for Indonesia and India (below 0.1). The second largest dependency of ASEAN-I is on Middle East and Africa with a total trade multiplier ranges from 0.01 to 0.35. ASEAN-I's total trade multiplier against Australia and Europe is relatively small (averagely below 0.1).

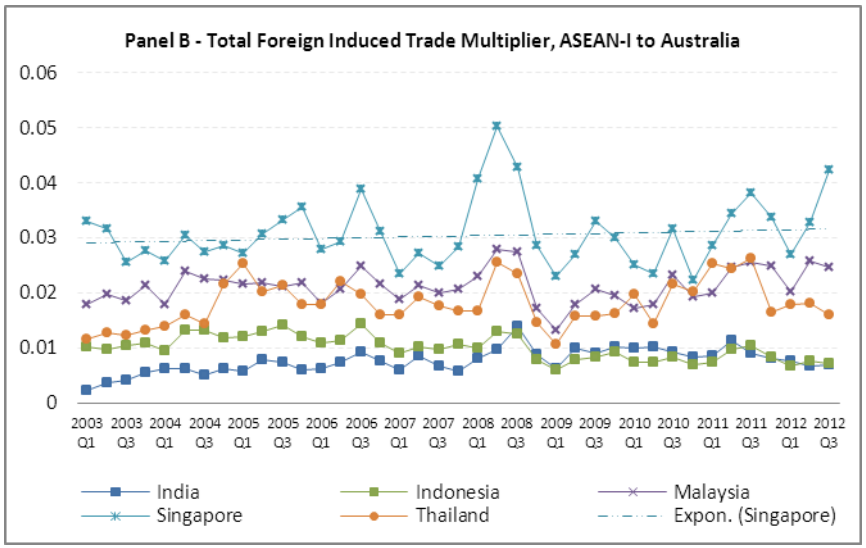
The trend of total trade multiplier during the observation period provide strong evidence about the structural changes on trade linkage, particularly with *the big three* and Middle East and Africa. Only Thailand possessed non-declining trade multiplier, and even increase since first quarter of 2009 (see Graphic 12, upper left panel). Singapore and Malaysia was initially demonstrated proximities with the big three, but then decline overtime. The total trade multiplier of Singapore on the big three was 0.59 on 2003, and by the end of 2012 was 0.44. For Malaysia, the multiplier reduced by 0.1 during the last ten years.

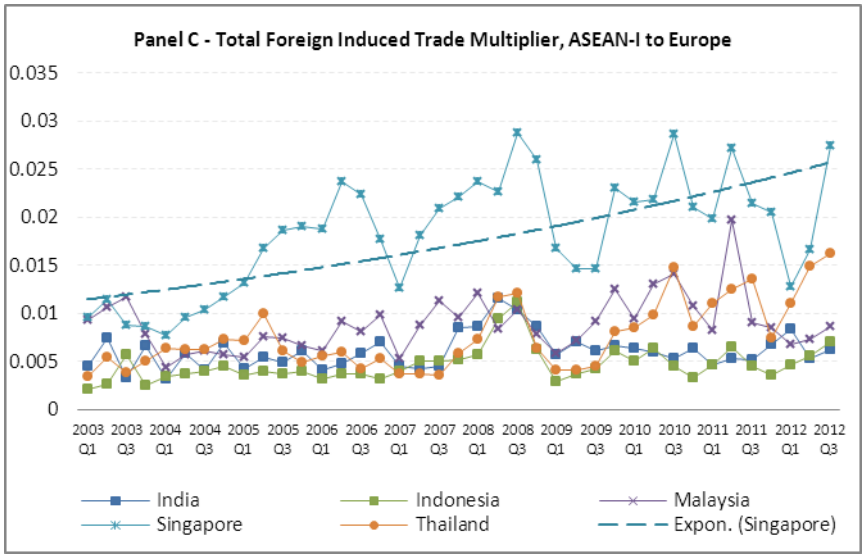
The pattern shows that the trade shift to Middle East and Africa. The upward trend of Thailand trade multiplier to this region is similar to Malaysia (averagely 0.1), while Singapore increase slightly faster by 0.17. By the end of 2012, the total trade multiplier of Singapore to Middle East and Africa was recorded 0.26. Worth to note that India who previously demonstrated lower trade linkage with this region relative to Thailand, Malaysia and Indonesia, but after the subprime mortgage crisis in United States 2008, India accelerate his trade share on Middle East and Africa (see Graphic 12, panel D).

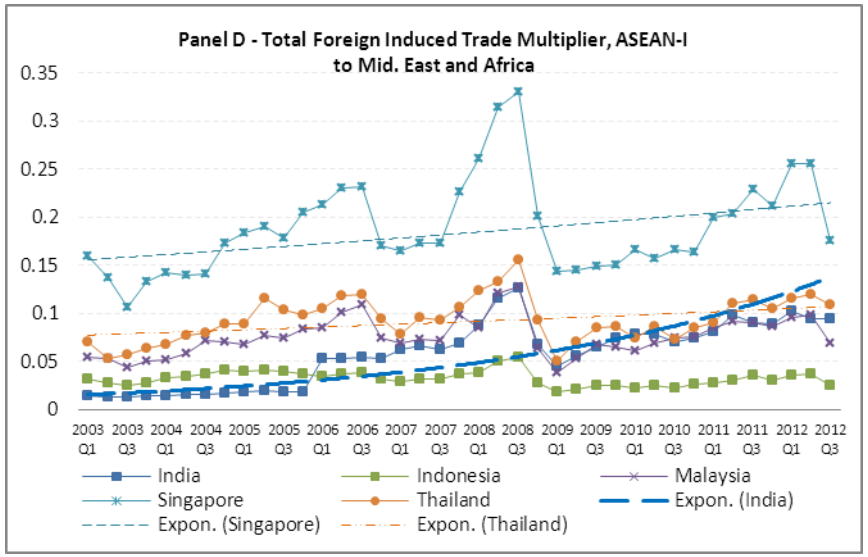
For Indonesia, two important notes to highlight, *first*, the magnitude of his total trade multiplier is only higher than India and only for the big three market (Japan, US and China). *Second*, Indonesia experience continues declining total trade multiplier for all trading partner, showing his weakening position on global trade network.

Graphic 12. Total Multiplier of ASEAN-I






Panel C - Total Foreign Induced Trade Multiplier, ASEAN-I to Europe
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
2003 Q1
2003 Q3
2004 Q1
2004 Q3
2005 Q1
2005 Q3
2006 Q1
2006 Q3
2007 Q1
2007 Q3
2008 Q1
2008 Q3
2009 Q1
2009 Q3
2010 Q1
2010 Q3
2011 Q1
2011 Q3
2012 Q1
2012 Q3
India
Indonesia
Malaysia
Singapore
Thailand
Expon. (Singapore)


Panel D - Total Foreign Induced Trade Multiplier, ASEAN-I to Mid. East and Africa
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2003 Q1
2003 Q3
2004 Q1
2004 Q3
2005 Q1
2005 Q3
2006 Q1
2006 Q3
2007 Q1
2007 Q3
2008 Q1
2008 Q3
2009 Q1
2009 Q3
2010 Q1
2010 Q3
2011 Q1
2011 Q3
2012 Q1
2012 Q3
India
Indonesia
Malaysia
Singapore
Thailand
Expon. (India)
Expon. (Singapore)
Expon. (Thailand)

V. CONCLUSION

Using Matrix of International Trade model, this paper has provided empirical facts. Related to the dynamics of interdependence in APEC region, the study found the followings:

- During the last ten years, Indonesia, Malaysia, and Thailand demonstrated constant NFB changes, which show there is no significant position of these economies on the global trade. For Singapore, we suspect that his inability to gain from the increase of global outlays is because the external performance of this economy has been on the verge of saturation level. On the other hand, India demonstrates increasing capability to gain from the outlays increase of other economies.
- The advantage gained by developed economies within APEC is higher that otherwise. On average, United States, Japan, Australia, and China gain net foreign balance changes twenty times higher than the developing economies. This may indicate unequal distribution of trade gain.
- The increase of Australia's outlays provides the largest NFB increase for China, with increasing trend overtime. The decline of trade linkage between US-Australia is evident across the observation period, and starting 2008, China took over the position of United States as the major trading partner for Australia.

On the APEC relationship with other region, this paper shows the following empirics:

- Outlays increase of Europe provides small NFB change for other economies. The simulation confirms the proximity of United State with Europe prior 2007, and after this year, China took over.
- The increase of European outlays provides insignificant NFB change for other economies. Starting from 2007, China gained the highest increase of net foreign balance from Europe.
- The outlays increase of Middle East and Africa provided insignificant NFB changes for developing APEC member. However, the result shows the upward trend linkage of India for this region.

Based on total trade multiplier, this paper provides us the following facts:

- In absolute, the magnitude of total foreign induced trade multiplier for developing APEC economy is 13 times higher than the developed ones.

- Only Japan and Middle East and Africa demonstrate increasing dependency to developing APEC member (Indonesia, Thailand, Malaysia, Singapore and India). Australia and Europe demonstrate constant trend across observation period. United States and Chine demonstrate declining dependency on developing APEC group, along with their market share increase on this region.
- Within developing APEC, Indonesia demonstrated declining total trade multiplier for his entire trading partner. This indicates the weakening positioning of Indonesia in global trade network, relative to other economies.

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THE DYNAMICS OF APEC INTERDEPENDENCY AND THE GLOBAL WELFARE DISTRIBUTION

Matrix of International Trade (MIT)

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Prepared for APEC Study Centre Consortium Conference, "Enhancing APEC Resiliency: More Integrated, Connected, Sustained, and Inclusive Development", July 26-27, 2013, Jakarta, Indonesia. This paper is based on joint research between Fundamental Asia with Fiscal Policy Office, Ministry of Finance, Republic of Indonesia.

Outline

- Motivation
- The Aims
- The methodology
- Result and Analysis
- Conclusion
- What next?

Motivation:

- Interdependency always matters.
- The magnitude of impact, the form, the pattern, the timing and the speed of transmission is crucial, particularly in abnormal condition (i.e. crisis)
- Any issues with potential negative impact on stability and market confidence will disturb the global economic climate and put a pressure on the trade (Teng, 2009).

Common Views

- Naturally, each economy will try to catch any opportunity of regional coordination, and concurrently would do any effort to protect their domestic economy.
- To revitalize APEC, any agendas or initiatives should be relevant and compatible with the interest of United States, Japan and China, (Wong May, 2006).
- The positioning of APEC should complement the existing regional cooperation such as ASEAN+3 and East Asia Summit.

Role of APEC (Standard views)

- Dee, Geisler and Watts (1996):
  - Full liberalization will provide severe impact on labor absorption on agriculture sector in Japan and Korea.
  - They also found that the increase in efficiency and specialization will be helpful to increase the real per capita income on agriculture.

Role of APEC (Standard views)

- Oktaviani and Ross (1996):
  - Full liberalization in APEC will provide positive impact (or less negative), than partial liberalization of only developed members.
  - By following liberalization, Indonesia will gain benefit even when the other developing economy members do not.

Role of APEC (Standard views)

- Adams, Huff, Pearson and Powel (1998):
  - Liberalization in APEC will make Thailand plus Philippine to gain 39% increase of real GDP, Korea (14%), New Zealand (11%), and Indonesia (10,5%).
  - This benefit will be at the cost of non APEC members (averagely 1 % reduction in real GDP)

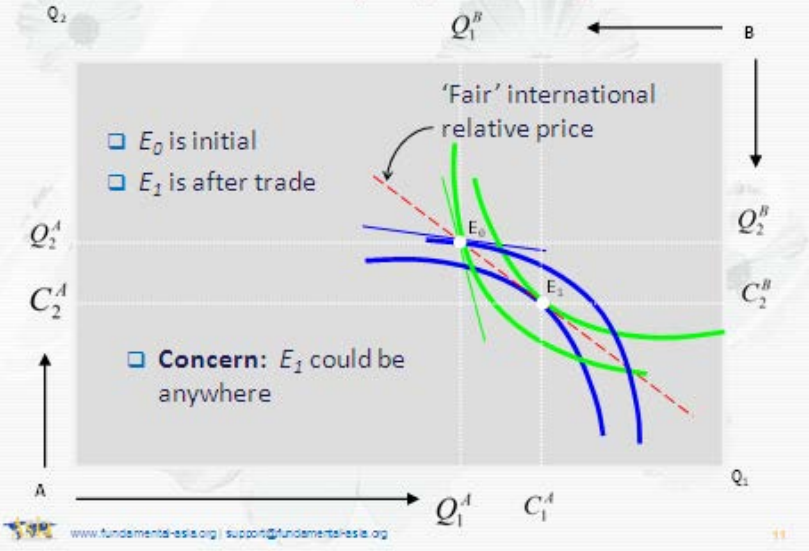
Role of APEC (Standard views)

- Hank Lim, 2007 (The study carried out by Pacific Economic Cooperation Council)
  - 44 percent of the correspondent consider APEC to be irrelevant,
  - 63 percent viewed the member of APEC are lack of commitment,
  - 56 percent considered that APEC does not possess clear focus

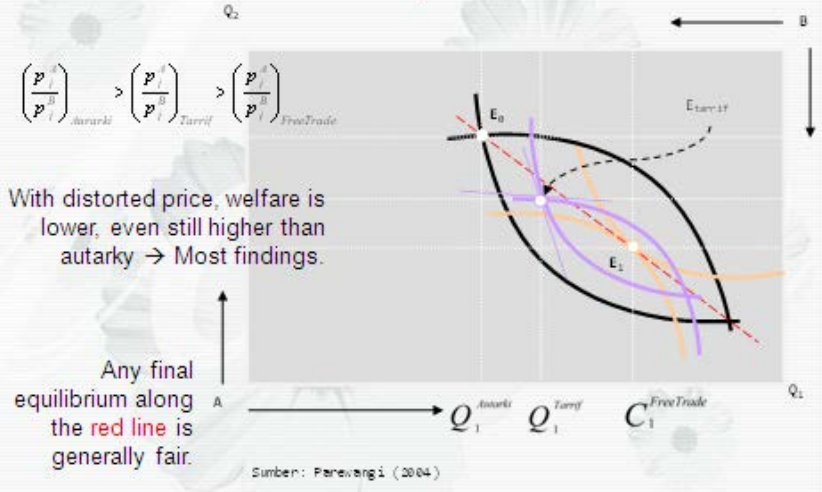
The Aims

- This paper will provide empirical fact about the dynamics of interdependencies across APEC members, and also between APEC and other region including Europe, Africa and Middle East.
- The consequence of this interdependency dynamics on welfare will be another focus of this paper, provided by model simulation.
- We expect these empirical results will provide a neutral benchmark for further discussion on APEC.

THEORY (very brief ...)

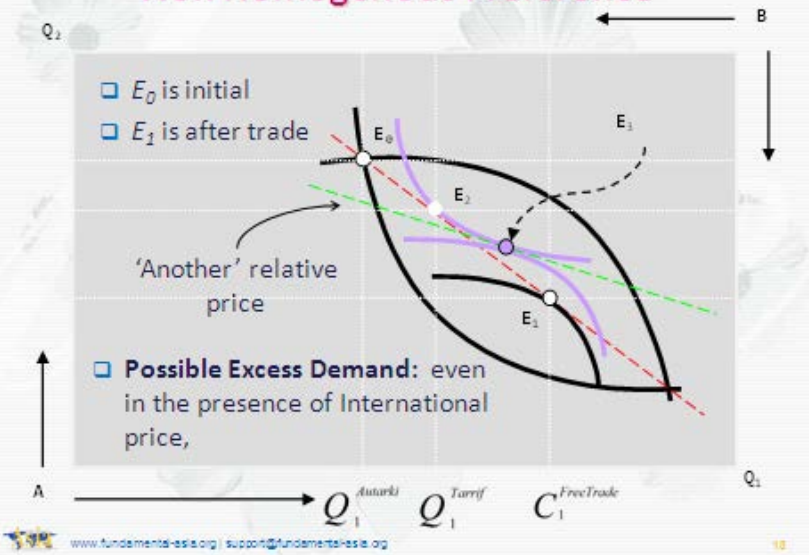


Distorted Equilibrium



Sumber: Parewangi (2004)

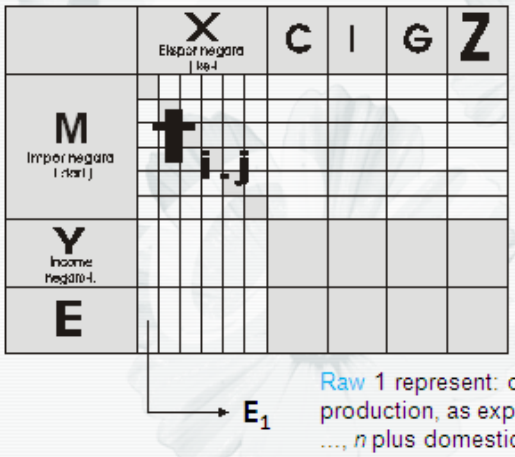
Non Homogenous Preference



Methodology

- We utilizes Matrices of International Trade (MIT).
  - A deterministic class model,
  - Represents general equilibrium of global trade.
- Quite powerful and handy in analyzing the international trade pattern.

Matrices of International Trade (MIT)



Column 1:

- Represent spending of economy 1 to import goods from economy raw j = 1, 2,..., n,
- Plus other exogenous domestic expenditure

Raw 1 represent: distribution of economy 1 production, as export to economy j = 1, 2, ..., n plus domestic consumption, investment and government expenditure.

Explicit Expression

- Constructed in n – equations,

$$\begin{aligned} Y_i &= C_i + I_i + G_i + X_i - M_i \\ Y_i + M_i &= C_i + I_i + G_i + X_i \\ E_i &= F_i + X_i \\ E_i &= Z_i \end{aligned}$$

- By aggregation:

$$\sum_{j=1}^{n} Z_{ij} = \sum_{j=1}^{n} F_{ij} + \sum_{j=1}^{n} t_{ij} Z_j$$

$$Z_i = F_i + \sum_{j=1}^{n} t_{ij} Z_j$$

Useful Measures

- Net Foreign Balance:
  - Developed by Goodwin
  - Measure changes in an exogenous factor (F) to the trade balance of each economy.

$$NFB = [(I - \lambda)(I - T)^{-1} - I]\,\Delta F$$

Trade Linkages

- Carried out by partitioning the import coefficient matrix:

$$T = \left(\begin{array}{c|c} T_{11} & T_{12} \\ \hline T_{21} & T_{22} \end{array}\right)$$

$$(I - T) = \left(\begin{array}{c|c} (I - T_{11}) & -T_{12} \\ \hline -T_{21} & (I - T_{22}) \end{array}\right)$$

, katakan $(I - T)^{-1} = \left(\begin{array}{c|c} L & O \\ \hline V & E \end{array}\right)$

Karena $(I - T)(I - T)^{-1} = I$ maka $\left(\begin{array}{c|c} (I - T_{11}) & -T_{12} \\ \hline -T_{21} & (I - T_{22}) \end{array}\right)\left(\begin{array}{c|c} L & O \\ \hline V & E \end{array}\right) = \left(\begin{array}{c|c} I & 0 \\ \hline 0 & I \end{array}\right)$

- Use matrix operation:

$$\begin{aligned} (I - T_{11})L - T_{12}V &= I && (a)\\ (I - T_{11})O - T_{12}E &= 0 && (b)\\ -T_{21}L + (I - T_{22})V &= 0 && (c)\\ -T_{21}O + (I - T_{22})E &= I && (d) \end{aligned}$$

Finding sub element: L, O, V, E

- Multiply equation (a) with $(I - T_{11})^{-1}$, then insert to (c), we have element ***V*** :

$$\begin{aligned} L &= (I - T_{11})^{-1}(I + T_{12}V)\\ 0 &= -T_{21}\left[(I - T_{11})^{-1}(I + T_{12}V)\right] + (I - T_{22})V\\ (I - T_{22})V &= T_{21}\left[(I - T_{11})^{-1} + (I - T_{11})^{-1}T_{12}V\right]\\ (I - T_{22})V &= T_{21}(I - T_{11})^{-1} + T_{21}(I - T_{11})^{-1}T_{12}V\\ T_{21}(I - T_{11})^{-1} &= \left[(I - T_{22}) - T_{21}(I - T_{11})^{-1}T_{12}\right]V\\ V &= \left[(I - T_{22}) - T_{21}(I - T_{11})^{-1}T_{12}\right]^{-1}\left[T_{21}(I - T_{11})^{-1}\right]\\ V &= \Delta_2 T_{21} B_1 \end{aligned}$$

Specify Useful Measures

- $m_j^1 = T_{21}$ an income change due to direct import demand by economy *j* in group 1 to group 2.
- $m_j^2 = T_{21}B_1$ income changes due to direct and indirect import demand by economy *j* in group 1 to group 2.

Useful Measures

- $m_j^3 = B_2 T_{21} B_1$ changes of group 2's income, due to direct and indirect import demand group 1, plus direct and indirect *induced effect* of group 2 (an increase of group 2's income).
- $M_j = \Delta_{22} B_2 T_{21} B_1$ total foreign induced trade multiplier from group 1 consisting of
  - Income/ output generated by internal propagation group 1
  - Income/ output generated by the internal propagation group 2.

Data

- Focus on 9 economies of APEC: Indonesia, Thailand, Malaysia, Singapore, India, United States, Japan, China, and Australia.
- Classified into 2 group; the developed group (United States, China, Japan and Australia), and the developing group (Indonesia, Thailand, Malaysia, Singapore and India, or ASEAN-I in short).
- To find out the interdependency dynamics between APEC and other regions, we include Europe, Africa and the Middle East.
- The rest of the economy is classified in (ROW).

Frame of Analysis

- The transmitted impact will vary across time, depending on the 3 (three) aspects,
  - The fundamental economic of the origin economy of the shock;
  - The fundamental economy of other economies, and
  - The interlinkages structure across economies through bilateral, regional and global trade network.
- The model calculation is a portrait of the actual conditions about the trade patterns on certain point of time.
- These portrait series can show the dynamics of the changing of the positioning patterns of each economy's in the global trade network.

RESULTS

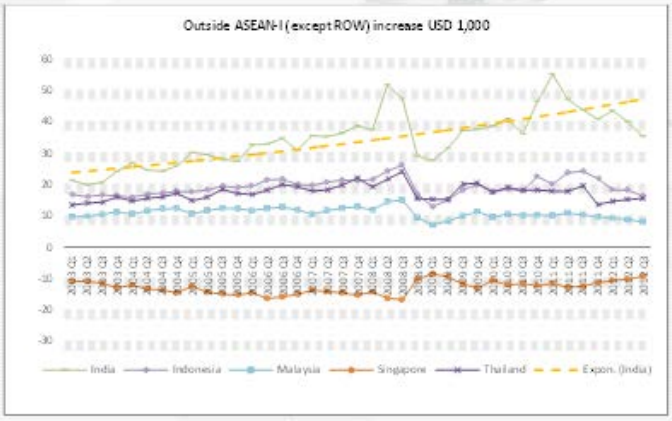
Increase of Non-ASEAN-I Outlays

- The results show that an outlays increase of developed economies will benefit India, Indonesia, Thailand and Malaysia, in the form of Net Foreign Balance (NFB) increase.
- India experience increasing capability to benefit from this shock (shown with positive trends) during the observation period (see Graphic 5).

- Thailand and Indonesia share similar constant pattern, as well as Malaysia but with smaller magnitude, implying no significant position within the global trade network.
- One important aspect is the weak institution, since difference in the institution quality is source of comparative advantage, and trade will lead to greater costs for the parties with worse institutions (Levchenko, 2004).

SIMULATION 1:
Outlays non ASEAN-I Increase

Graphic 1. The Impact of Global Outlays Increase on ASEAN-I



Mimicking Actual Data

- Prior the crisis (2006-2007), India recorded a trade surplus of 15 percent with United States. In November 2008, India's exports declined by 9.9 percent which was widening his current account deficit.
- As the US-Meltdown occur, this economy recorded a current account deficit of USD10 million due to a drastic reduction of U.S. and Europe demand, and the largest impact was on manufacturing sector particularly on Leather, Textiles, and Jewelry product.

- In the third quarter of 2008, India's export decreased to USD 1.5 million from USD 12.7 million in the previous year, while India's imports increased by USD 6.1 million (Sivaraman, 2008).
- However, within two quarters after the crisis, India was able to stabilize its position as shown with upward NFB changes trend.

SIMULATION 2:
Increase of ASEAN-I Outlays

Graphic 1. The Impact of Outlays Increase of ASEAN-I on Other Economies

Source : Model simulation, Fundamental Asia.

Possible Un-equal Distribution of Trade Gain

- The magnitude of perceived benefits enjoyed by developed economies is much greater than otherwise.
  - Through global trade network, averagely United States, Japan, Australia, Europe and China obtain an NFB increase of USD400 for every USD1,000 increases in ASEAN-I outlays.
  - This is 2000 percent or twenty times higher than the average increase in NFB enjoyed by ASEAN-I (USD20), for the opposite shock.
- This possibly indicates unequal distribution of trade gains.

Some Possible Arguments

- Possible explanation:
  - Big economies commonly use the FTA primarily as a tool to advance the strategic and political interests through asymmetric trade relations with small economies (Steven and Gleason, 2011).
  - Generally, developed economies locked their asymmetrical trade relations with small economies not by compulsion, but by persuasion or by encouragement.
- The effects of asymmetrical trade relations will be very strong when the small partner economy is export-oriented and the large economies have a large import market for the final product (Steven and Gleason, 2011);
- Perhaps Indonesia is one of this typical economies.

The Big Three with ASEAN-I

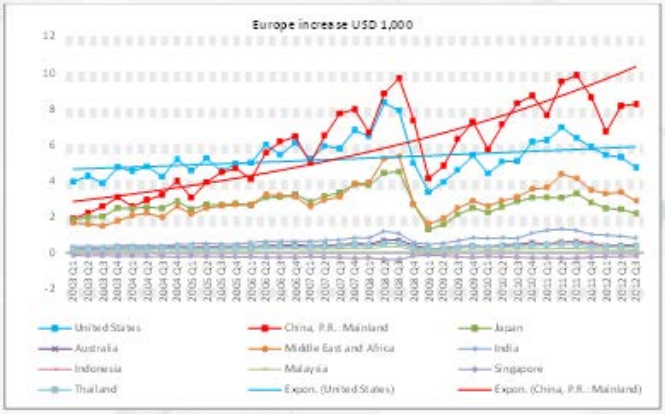
- United States and Japan tend to have weakening trade linkages across the time with ASEAN.
- China before 2006, compared to U.S. and Japan, gained lower benefit from trading with ASEAN-I. After that, China surpass United States and Japan, and gained higher NFB changes.
- China's power was evident since 2003, with high growth of 10%, and 12.7% in 2006. The highest economic growth was in 2007 (14.2%), one year after China overtook the role U.S. and Japan, as shown on simulation results.

Does China really POWERFUL?

- Bosworth and Collins (2008):
  - Productivity of input accounted for 40% of the output growth in China. This is equivalent with TFP growth of 3.6 percent during 1978 to 2004.
  - China do specialization in export, and this could be a valid indicator for the strength of China's domestic economy, (Ferrarini and Scaramozzino, 2010).
- China implemented policies to support its domestic to exports
  - Tax incentives, subsidies, price setting, and investment regulation and administration in favor of domestic activity,
  - Particularly for the sector where domestic private and state owned enterprises operate, (Erixon, Messerlin, and Razeen Sally, 2008).

Simulation 3: Europe outlays increase

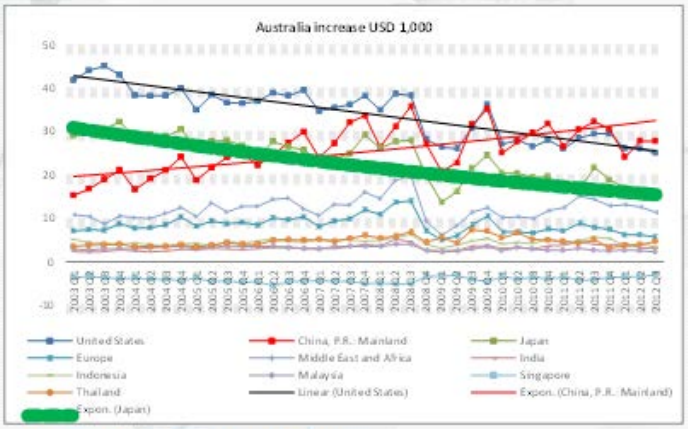
Graphic 1. The Impact of *Outlays* Increase of Europe on Global NFB



Source: Fundamental Asia (2013).

Simulation 4: Australia outlays increase

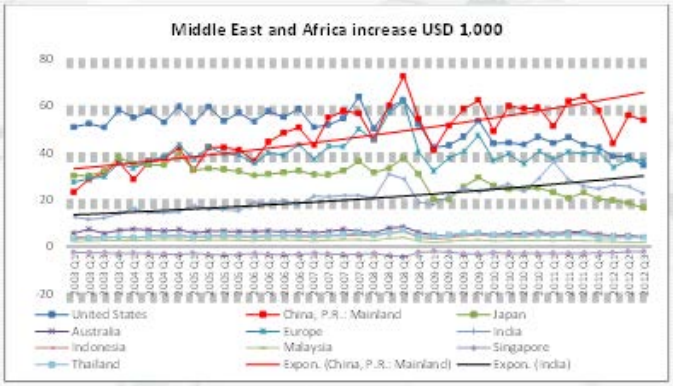
Graphic 1. The Impact of *Outlays* Increase of Australia on Global NFB



Source: Simulation, Fundamental Asia (2013)..

Simulation 4: Middle East and Africa

Graphic 1. Impact of *Outlays* Increase of Middle East and Africa on Global NFB



Source: Fundamental Asia (2013).

Europe and Australia

- The shock of European outlays provides very small NFB changes for other economies (averagely USD 6).
- The results of these simulations confirm the proximity of U.S. economy with Europe, especially before 2007.
- Started from 2007, China enjoyed the highest NFB increase compared to all European trading partners.
- The success of China on trading with Europe was highly influenced by her ability to utilize low wage labor and her capability to assembly various part to produce final product.
- As successful hub as Singapore; except that Singapore relies more on transport services efficiency and import final good to re-export.

Europe and Australia

- The ability of China on its global trade is also evident when simulating outlays increase of Australia (Graphic 9).
- China gain additional *net foreign balance*; and is increasing overtime. In 2003, the increase of Australia *outlays* benefitted China by USD 15, and by the end of 2012, the NFB changes has been USD 28.
- Australia has a strong proximity with United States whether in economy, politics and other aspects. However, the simulation results indicate that this proximity is factually decreasing, as well as the relationship between Australia and Japan.

Europe and Australia

- In 2003, for every USD1,000 increases of Australia's outlays, United States will gain additional NFB by USD42, and this was the highest among all trading partners of Australia.
- By the end of 2012, United States gain NFB changes of only USD25 or much lower than what China gained.
- During the observation period, the downward trend of US-Australia relationship was evident, and when the crisis hit United States in 2008, China began to overtake the role of United States as major trading partner for Australia.
- The increase of China-Australia interconnectedness is not as fast as China-Europe.

Middle East

- China also showed great performance on penetrating Middle East and Africa market.
- This region was initially more close to United States and Europe. Overtime, this relationship is constant for Europe and declines for United States.

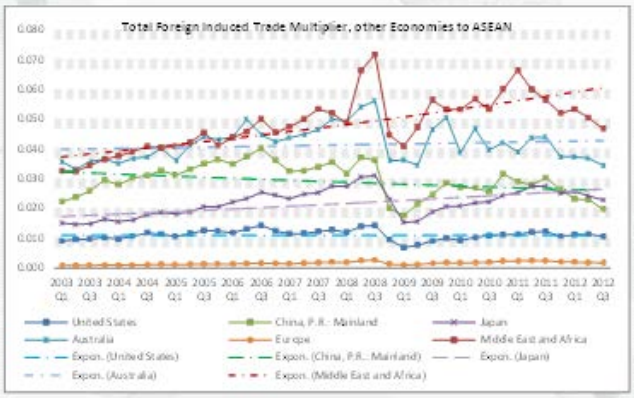
Rising India

- For Indonesia, Malaysia, Thailand, Singapore and India, the outlays increase of this region contribute insignificantly.
- However, India possesses positive trend on trade linkage with Middle East and Africa, showing India is better polarization and positioning on the global trade.
- India is considered to be major competitor for China within one decade ahead;
  - China's economy relies more on export while India on domestic consumption and services export.
  - The demographic structure of India is dominated with young labor, while in China the number of labor force is decreasing (Yao and Zhang, 2011).

TOTAL FOREIGN INDUCED TRADE MULTIPLIER

TOTAL FOREIGN INDUCED TRADE MULTIPLIER

Graphic 1. Total Multiplier of Other Region, 2003-2012

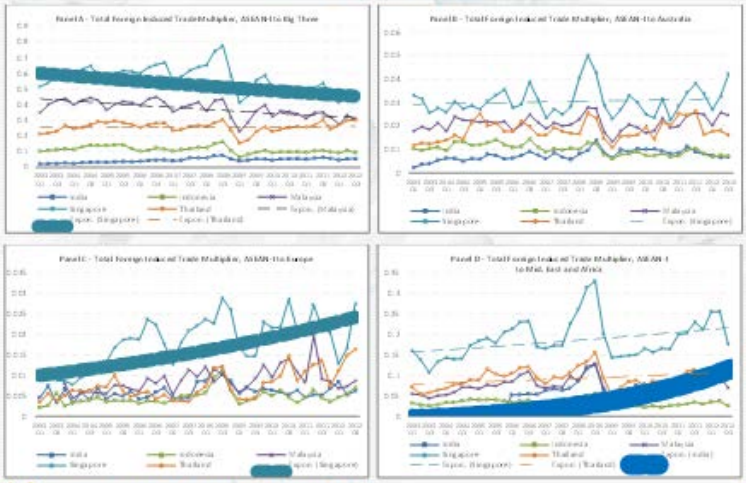


Source : Simulation.

Note: Total trade multiplier measures the influence as well as the dependency of certain country to the other.

Total Multiplier: ASEAN-I on Others

Graphic 1. Total Multiplier of ASEAN-I



- Only Japan and Middle East and Africa have increasing trend of dependency on developing APEC.
- In the long run, particularly for Middle East and Africa, this trend demonstrates potential export market for them.
- Australia and Europe have a constant trend throughout the period of the observation, while the United States especially China demonstrate declining trend of dependency on developing APEC, along with their increasing market share in this region.

Developing APEC to the Big Three

- In absolute terms, the total trade multiplier of ASEAN-I is much larger than otherwise.
- The trade multiplier that indicates the dependency of developed economies on ASEAN-I is 0.03, while the opposite dependency of ASEAN-I on the Big Three (Japan, U.S. and China) is 0.4.
- This is 13 times higher.

WITHIN DEVELOPING APEC

- The highest multiplier is for Singapore (averagely 0.55) and the smallest is for Indonesia and India (below 0.1).
- The second largest dependency of ASEAN-I is on Middle East and Africa with a total trade multiplier ranges from 0.01 to 0.35.
- ASEAN-I's total trade multiplier against Australia and Europe is relatively small (averagely below 0.1).

THE DYNAMICS

- The trend of total trade multiplier during the observation period provide strong evidence about the structural changes on trade linkage, particularly with *the big three* and Middle East and Africa.
- Only Thailand possessed non-declining trade multiplier, and even increase since first quarter of 2009.

THE DYNAMICS

- Singapore and Malaysia was initially demonstrated proximities with the big three, but then decline overtime.
- The total trade multiplier of Singapore on the big three was 0.59 on 2003, and by the end of 2012 was 0.44.
- For Malaysia, the multiplier reduced by 0.1 during the last ten years.

THE DYNAMICS

- The pattern shows that the trade shift to Middle East and Africa.
- The upward trend of Thailand trade multiplier to this region is similar to Malaysia (averagely 0.1), while Singapore increase slightly faster by 0.17.
- By the end of 2012, the total trade multiplier of Singapore to Middle East and Africa was recorded 0.26.
- India previously has lower trade linkage with Mid. East and Africa, relative to Thailand, Malaysia and Indonesia, but 2008, India accelerated.

FOR INDONESIA

- The magnitude of his total trade multiplier is only higher than India and only for the big three market (Japan, US and China).
- Indonesia experience continues declining total trade multiplier for all trading partner, showing his weakening position on global trade network.

IN SUMMARY

DURING THE LAST TEN YEARS ...

- Indonesia, Malaysia, and Thailand demonstrated constant NFB changes, which show there is no significant position of these economies on the global trade.
- For Singapore, we suspect that his inability to gain from the increase of global outlays is because the external performance of this economy has been on the verge of saturation level.
- India demonstrates increasing capability to gain from the outlays increase of other economies.

Developed against Developing Ones

- The benefit gained by developed APEC is higher than otherwise.
- The increase of Australia's outlays provides the largest NFB increase for China, with increasing trend overtime.
- The decline of trade linkage between US-Australia is evident across the observation period, and starting 2008, China took over the position of United States as the major trading partner for Australia.

APEC AGAINST OTHER REGION

- Outlays increase of Europe provides small NFB change for other economies. The simulation confirms the proximity of United State with Europe prior 2007, and after this year, China took over.
- The increase of European outlays provides insignificant NFB change for other economies. Starting from 2007, China gained the highest increase of net foreign balance from Europe.
- The outlays increase of Middle East and Africa provided insignificant NFB changes for developing APEC member. However, the result shows the upward trend linkage of India for this region.

TOTAL FOREIGN INDUCED TRADE MULTIPLIER

- The total multiplier for developing APEC economy is 13 times higher than the developed ones.
  - Only Japan and Middle East and Africa demonstrate increasing dependency to developing APEC member
  - Australia and Europe demonstrate constant trend across observation period. United States and Chine demonstrate declining dependency on developing APEC group, along with their market share increase on this region.
- Indonesia demonstrated declining total trade multiplier for his entire trading partner.

CONCLUSION

'We may need to re-think our strategy to see APEC running smoothly'

Dr. Andi M. Alfian Parewangi

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EDUCATIONAL HISTORY :

Years	Institution	Degree
2000 – 2007	The Economic Department, The University of Indonesia	Doctoral Program
1998 – 2000	The Economic Department, The University of Indonesia	Magisterial Program
1991 – 1997	Economic and Development Studies, University of Indonesia	Undergraduate Program
1989 – 1991	SMUN 3 Bandung	Senior High School
1986 – 1989	SLTPN 6 Makassar	Junior High School

WORKING AND EXPERIENCE:

Years	Detail	Position
2013	Analisa Dinamika Neraca Perdagangan Indonesia: Menuju ASEAN Economic Community, 2015.	Team Leader, this research is funded by Ministry of Finance, Republic of Indonesia
2013	Kepemimpinan, Budaya dan Kinerja Perusahaan: Studi Empiris Perbankan Syariah di Indonesia	Researcher
2012	Capital Flow: The Determinant and Its Impact on Indonesian Economy	Researcher
2012	Krisis Keuangan Global dan Pertumbuhan Ekonomi: Analisa dari Perekonomian Asia Timur	Advisor
2010	Technical Assistance on Inter-Regional Input Output Analysis of Central Region of Sumatera	Team Leader and Tutor
2010	International Workshop on: "REGIONAL FREE TRADE AREA: CHALLENGES AND POLICIY RESPONSES" - Jakarta – Indonesia, 7th August 2010	Content and Paper Coordinator
2010	The Development of Small Scale Enterprises (SME's) towards A Macro Inflation Control on Province Banten	Team Leader
2009	International Workshop: "GLOBAL FINANCIAL CRISIS: CHALLENGES AND POLICY RESPONSES", Indonesia, 12th August, 2009	Concept and Paper Coordinator
2008	The Global Capital Market Crisis and Its Impact on Sectoral Investment on Province Jambi	Team Leader
2008	The Construction of Jambi's Projection and Simulation Model (*JPSM*)	Team Leader
2008	The Global Crisis Impact on Indonesia Regional Economy	Team Leader
2008	Regional Investment in Indonesia: the Obstacles and the Solutions	Team Leader
2008	Fuel Price Fluctuation, Inflation and the Household Welfare of Province Maluku	Team Leader
2008	De-Urbanization of Indonesian Metropolis and Its Causes	Expert Consultant
2008	Central Bank Independence and the Cost for the Indonesian Economy	Expert Consultant
2008	The Impact of CPO Export Tax on Indonesian Economy: The Data Construction and Application of Computable General Equilibrium Model	Team Leader
2008	The Performance of Fund Management on Indonesia Capital Market	Expert Consultant
2008	The Impact of Fuel Price Increase on Province	Team Leader

Years	Detail	Position
	Jambi Economy: Sectoral Analysis and Inflation Forecasting	
2008	Matrices of International Trade (MIT) Modeling	Team Leader
2008 – Now	Fundamental Asia (*Center for Fundamental Economic*)	Head of Research Department
2008	*Subsidy Roadmap for Indonesia,* Research with Bappenas (Central Planning Bureau)	Team Leader
2007	The Impact of Rice Tariff and Quota on Indonesian Agriculture: A Computable General Equilibrium Analysis	Team Leader
2005	*The Foreign Investment; A Multi-Regional CGE Model*, presented at IRSA International Seminar, Depok, 4 August 2005.	Researcher
2004	*Regional Inflation in Indonesia*, LAB IE, Department of Economics, University of Indonesia.	Researcher
2004 – Now	Workshop on: Certified Financial Analyst (CFA), hosted by Bina Insan – Indonesia	Trainer
2004 – Now	Fund Manager Training, hosted by Bina Insan – Indonesia	Trainer
2004 – Now	*Bulletin of Monetary Economics and Banking*, published by Central Bank of Indonesia	Executive Editor and Editorial Board
2004 – 2005	Center of Policies Studies (CoPS), Monash University	Visiting Researcher
2003 – 2005	*Journal of Economic and Development of Indonesia*, published by The Economic Department, The University of Indonesia.	Executive Editor
2002	Economic Modeling Course, Computable General Equilibrium, ACIAR Project No. 9449, Jakarta Indonesia.	Participant
2002	Matriculation Program, Magisterial of Public Decision Making	Lecturer
1999	The Analysis of Subsidy Reduction Fuel and It's Reallocation, Bappenas.	Team Leader
1999 – Now	Department of Economics, University of Indonesia	Lecturer
1999 – 2002	Academic Staff on Economic Department, Postgraduate Program University of Indonesia	Assistant
1997 – 1998	Educational Institution, GAMA COLLEGE, Yogyakarta	Team Leader and Lecturer
1993 – 1995	Photography Club FEUI	Founder/ Manager
1992 – 1993	Department of Student Welfare, Senate FEUI	Manager

- FEUI stands for Faculty of Economic, University of Indonesia
- ACIAR stands for Australian Centre for International Agricultural Research. Held in Jakarta by Professor Alan Powell, Glyn Wittwer Ph.D, Le Anne Jackson Ph.D, and Ms.Johanna Croser

SKILL

Items	Detail	Ability

Items	Detail	Ability
Computer Hardware	Networking, Troubleshooting, Assembling.	Good
Computer Software	• *Data Processing*: SPSS, E-Views, *STATA* • *Design*: Photoshop, Corel Draw • *Economic Modeling*: GEMPACK	Expert Expert Expert Good
Language	English	Spoken, Written
Music	Guitar	Good
Photography	Portrait/ Landscape	Expert

INTEREST AND ANALYSIS TOOLS EXPERTISE

Items	Detail	Ability
Stochastic Model	• Time Series Analysis (VAR, VECM, Multivariate Regression, Multinomial Logit Regression) • Non-Parametric Analysis • Panel Data Analysis	Expert Expert Expert
Deterministic Model	• Input Output • SAM • Matrix of International Trade • CGE	Expert Expert Expert Expert
Field Survey Design	Core Welfare Indicators Questionnaire (CWIQ), Living Standard Measurement (LSM) and specific additional modules.	Excellent

PUBLICATION

Years	Title
2009	The Global Crisis Impact on Regional Economy: An Application of the Multi-region and Multi-sector General Equilibrium Model for Province Maluku*, Bulletin of Monetary Economics and Banking (*forthcoming*), 2009.* (**Author**)
2008	*The Fund Management Performance on the Indonesian Capital Market,* Published on the Journal of Monetary Economic and Banking, Central Bank of Indonesia. (**Author**)
2008	*The Gasoline Price Impact on Province Jambi: Investigating the Household Welfare and Inflation Forecasting,* published on Regional Economic Analysis, Bank Indonesia (**Author**). Downloadable at: *http://www.bi.go.id/NR/rdonlyres/BF15F18F-6C37-4966-B036-34D870C8F88C/14062/boks3DinamikaInflasiJambidanKenaikanHargaBBM.pdf*
2008	Advanced Econometric Workshop, Middle Researcher's Certification, Hotel Makara Jakarta, 3-6 June 2008, (**Author** and **Trainer**).
2008	Econometric Workshop, Middle Researcher's Certification, Hotel Sultan Jakarta, 12-14 February 2008, (**Author** and **Trainer**).
2008	Trainer on Econometric Workshop, Middle Researcher's Certification, Hotel

Years	Title
	Makara, 1-3 April 2008, (**Author** and **Trainer**).
2007	Input Output Modeling Workshop, Middle Researcher's Certification, Hotel Salak, 12-14 Juli 2007, (**Author** and **Trainer**).
2006	*Regression with Dummy Variable,* Module of Econometric Workshop hosted by LAB IESP, (**Author** and **Trainer**).
2006	*Linear Regression with Matrix Approach,* Module of Econometric Workshop by LAB IESP, (**Author** and **Trainer**).
2006	*The Introduction of Spatial Aspect on Deterministic Model: Matrix of International Trade Model (MIT) vs. Input Output Model,* Module of Input-Output Workshop by LAB IESP, (**Author** and **Trainer**).
2006	*The ASEAN Role on Global Trade: An Application of MIT Model,* Module of Input-Output Workshop by LAB IESP, (**Author** and **Trainer**).
2006	*Analysis of the Direct Subsidy to the Farmers Household in Indonesia: An Application of SAM Model,* Module for SNSE Workshop by LAB IESP FEUI, (**Author** and **Trainer**).
2005	*How to Attract Foreign Investment; Using EMERALD A Multi Regional CGE Model*, published on Bulletin of Monetary Economics and Banking, Central Bank of Indonesia, Vol. No. , December 2004, (**Author**). Downloadable at: http://www.bi.go.id/NR/rdonlyres/F64927FB-6F16-4565-A4B5-E2C3DDF53016/2980/dsubsidyvariations1.pdf
2002	*The Role of ASEAN on Glabal Trade Network*, published on Indonesian Journal of Economics and Development, Vol. No. 2002. (**Author**)

~ The End ~

APEC Study Centre Consortium Conference 2013
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ASCCC INDONESIA

PANEL SESSION/CODE: *Attaining the Bogor Goals/2.4*

PAPER TITLE: *Exploring the Configuration of Industrial Competitiveness under Pathways to FTAAP*

SUBMITTED BY: *Eric **Chiou** and Bo-Xing **Hsu***

INSTITUTION: *Associate Research Fellow, Chinese Taipei APEC Study Center Taiwan Institute of Economic Research*

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2013 APEC Study Centre Consortium Conference

Exploring the Reconfigurations of Industrial Competitiveness across Economies under Different Pathways to FTAAP*

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Taiwan Institute of Economic Research

Abstract:

In 2010 APEC affirmed an FTAAP to be built on existing regional undertakings, such as ASEAN+3, ASEAN+6, and TPP. Currently, the former two have converged into RCEP, while China-Japan-South Korea's trilateral FTA talks and TPP have accelerated the pac China-Japan-Republic of Korea's trilateral FTA talks and TPP have above RTAs, few studies provide assessments on the impacts of RTAs on industrial sector level under different pathways toward the Bogor Goals. This paper investigates the repercussions of RTA initiatives on selected industrial sectors across economies by undertaking quantitative analysis for enlightening possible policy adjustments for APEC economies.

Keyword: FTAAP, CGE, sectoral analysis, TPP, RCEP

*It is a preliminary research paper. Please do not quote any content of the paper.

Introduction

Since APEC was established in 1989, promoting regional economic integration has been an unchanged goal that APEC aims to achieve. In 1994, APEC leaders had unprecedentedly reached consensus and committed to achieve free and open trade and investment by 2010 for industrialized economies and by 2020 for developing economies. Meanwhile, APEC economies also agreed to pursue this goal by further reducing barriers to trade and investment and by facilitating free flow of goods, services and capital.[1]

The above consensus became an important milestone for APEC, also known as the "Bogor Goals," indicating an ambitious and likely ultimate objective that APEC economies would like to attain through continuously joint efforts and collaboration by all APEC economies. Over the past years, APEC has initiated various action plans in attempt to moving toward the Bogor Goals (Yamazawa, Atsumi, and Ishido 2012). Since then, APEC has steadily made progress toward the Bogor Goals. However, APEC's actual performance has been the center of debate among scholars.[2]

In 2010, APEC leaders' declaration unequivocally asserted that APEC "will further promote regional economic integration, working toward the target year of 2020 envisaged by the Bogor Goals for all APEC economies to achieve free and open trade and investment."[3] More importantly, the declaration also indicated that APEC "will take concrete steps toward realization of a Free Trade Area of the Asia-Pacific (FTAAP), which is a major instrument to further APEC's regional economic integration agenda."[4] It implies that APEC has regarded FTAAP as the most important means to attain APEC's goal of regional economic integration.

Furthermore, the declaration further articulated that "An FTAAP should be pursued as a comprehensive free trade agreement by developing and building on ongoing regional undertakings, such as ASEAN+3, ASEAN+6, and the Trans-Pacific Partnership [TPP], among others."[5] This statement reveals a crucial implication and suggests that APEC economies, to a large extent, seemed to agree that FTAAP as a concept of future regional comprehensive free trade arrangement, which can be realized through ongoing regional free trade initiatives in the Asia-Pacific region. Whether it is the ASEAN-centered RTAs, such as ASEAN+3, ASEAN+6, and now the Regional Comprehensive Economic Partnership (RCEP), or the US-led TPP, can

[1] See 1994 Leaders' Declaration: Bogor Declaration—APEC Economic Leaders' Declaration of Common Resolve, http://www.apec.org/Meeting-Papers/Leaders-Declarations/1994/1994_aelm.aspx
[2] See 2010 Leaders' Declaration: Yokohama Declaration—The Yokohama Vision—Boor and Beyond, http://www.apec.org/Meeting-Papers/Leaders-Declarations/2010/2010_aelm.aspx
[3] Ibid.
[4] Ibid.
[5] Ibid.

be an instrument to attain FTAAP. In other words, with regard to the way to approaching FTAAP, APEC leaders certainly do not hold a specific opinion on which pathway APEC should adopt in order to move toward the end. Looking on the bright side, APEC's flexibility allows its like-minded member economies to cooperate and launch various RTA initiatives toward the common end. On the down side, the ambiguity of APEC regarding the pathway of FTAAP implementation may induce a fierce competition between divergent RTA ideas supported by different groups of APEC economies and therefore trigger unnecessary debates and cleavages among APEC economies regarding the future realization of FTAAP.

Despite many existing studies having estimated the aggregated effects of various RTAs in the Asia-Pacific region by using a computable general equilibrium (CGE) (Kawai and Wignaraja 2008; Kim, Park, and Park 2013; Park 2006; Petri, Plummer, and Zhai 2012a; 2012b), it is regretful that most research fails to elucidate possible adverse effects on and inevitable industrial adjustment within individual economy due to the negative repercussion of regional economic integration. After all, the fruition of any regional economic integration initiative, such as FTAAP, does not signify the coming of an economic heaven where each participating economy and each industrial sector within that economy can equally benefit from this RTA formation. The theories of international trade indicate that deeper economic integration merely promises the possibility of generating better economic welfare and leading to more reasonable and efficient distribution of resources for the free trade region as a whole, but do not suggest that each industrial sector in individual economies can evenly gain from this promising RTA arrangement, neither do these theories guarantee that these sectors will not suffer from it.

The goal of this paper is to investigate a question of what feasible consequences of different pathways to FTAAP may generate to affect APEC economies' industrial competitiveness on the sectoral level. This paper argues that although the future establishment of FTAAP may effectively increase economic welfare for all APEC economies, it remains necessary for individual APEC economy to prepare for possible industrial adjustment under various pathways, since industrial sectors of individual APEC economies may encounter different impacts induced by FTAAP.

Furthermore, this paper also intends to explore whether it is reasonable and desirable for individual economies to pursue their RTA agenda when considering their domestic industrial interests after the completion of their targeted RTA initiatives. It may be puzzling and paradoxical if the outcome of RTA causes more harm than good for an economy's prioritized sectors. In short, instead of evaluating aggregated economic welfare for whole APEC region and individual APEC economies, this paper attempts to explore the impacts of different FTAAP pathways on individual APEC economy's industrial sector.

Due to the length limitation and complexity of each industrial sector, this paper selects automobile sector and electronic equipment sector as the center of focus. This paper utilizes a computable general equilibrium (CGE) model and conducts simulations by using the dynamic General Trade Analysis Project (GTAP) model to analyze the feasible effects of various RTA initiatives on each economy's industrial sectors. TPP, RCEP, and FTAAP are main RTA frameworks covered for assessment in this paper.

The paper is arranged as follows: The first section introduces the importance of research questions and the arrangement of the paper. The second section illustrates the research design of the paper and briefly explains the assumptions of different RTA scenarios and the way to utilize GTAP model to simulate their feasible impacts on industrial sectors. The third section elucidates and analyzes the results of GTAP model from both economic and policy aspects. The final section is the conclusion, summing up the findings of the paper and highlighting the policy implication for APEC economies and APEC as a whole in pursuit of the Bogor Goals.

Research Design

Overview of the Dynamic GTAP Model

This paper adopts numerical simulations by using the dynamic GTAP model, which was illustrated in detail in Ianchovichina and McDougall's (2001) paper and Ianchovichina and Walmsley's (2012) book. This model is the extension of the standard GTAP model developed by Hertel (2007) and accounts for international capital mobility and capital accumulation. While this model preserves all characteristics of the standard GTAP model, it captures the effects of international capital mobility and capital accumulation, so as to improve drawbacks of the standard GTAP model that fails to take the important FTA effects on investment and wealth into account.

This paper utilizes the dynamic GTAP model to investigate the possible impacts of different RTA scenarios on industrial sectors within relevant participating economies.

Rationale of Selected Sectors

Given that the latest version of the GTAP 8.1 database covers 134 countries/regions and 57 sectors, we would like to investigate the consequences of some selected sectors in different scenarios of RTA initiatives. Appendicle 1 lists 57 sectors included in the GTAP model. As it shows, the GTAP model largely provides primary, secondary, and tertiary sectors of a country.

Within these 57 sectors, we decide to choose No. 38 and No. 40, which are Motor Vehicles and Parts as well as Electronic Equipment. More specifically, the former corresponds to cars, lorries, trailers and semi-trailers, and the latter includes office, accounting and computing machinery, radio, television and communication equipment and apparatus. In other words, the former represents automobile industry, which has been broadly regarded as a locomotors of a country's economy. Meanwhile, the latter has been perceived as the dynamics of modern and ongoing economy over the past few decades.

We select these two sectors as illustrated cases for the following reasons. First, these two sectors represent a significant portion of economic activities in the APEC region and have economic importance. Auto companies in the APEC region has occupied seven out of top ten car companies in the world in 2013.[6] The United States, Japan, and Korea have become the locations of car manufacturing headquarters for the global markets. Meanwhile, China's auto industry has been grown rapidly and eager to catch up with other traditional auto companies. Needless to say, Thailand has been called the "Detroit of the East" and is the 7th largest car exporter in the world.[7] In addition, Malaysia and Indonesia have a long history of actively promoting their domestic auto industry among ASEAN countries.

On the other hand, electronic equipment sector has been an important economic driver for many APEC economies, from advanced economies, such as the United States and Japan, to newly industrial economies, like Korea, Chinese Taipei, and Singapore, and to developing economies, like Malaysia, Indonesia, Vietnam, and China. In other words, electronic equipment sector has been developed as a seamless production chain across different APEC economies to provide the most cutting-edged electronic products for the global market. In addition to the vital role of electronic equipment sector played in advanced APEC economies and most APEC economies in East Asia, in recent years, Mexico and Chile have also launched relevant policies to promote the development of this industry, in order to become the new hub of information and telecommunication industries in the upcoming years.

Second, to some extent, these two sectors also become part of sensitive and controversial issues in moving forward to the completion of FTAAP. Without doubt, the Big Three auto companies in the United States have been anxious about the further expansion of market share by Japanese car in the US market with Japan's joining in TPP. Malaysia's protectionist policy toward its auto industry has triggered

[6] See "Top 10 Car Companies in the World 2013," http://www.top10foru.com/top-10-car-companies-in-the-world-2013/

[7] See "Thailand's booming car industry: Detroit of the East," *The Economist*, Apr. 4th, 2013, http://www.economist.com/blogs/schumpeter/2013/04/thailands-booming-car-industry

several disputes with other ASEAN countries, such as Thailand, in the implementation of the ASEAN Free Trade Area (AFTA). Whether Indonesia is willing to open its vast domestic market for foreign cars remains a crucial test for the ASEAN Economic Integration. Very likely, these issues are likely to emerge in the ongoing RCEP negotiations.

Relatively speaking, the products covered in electronic equipment sector may not be as controversial as the goods in auto sector, since the Information Technology Agreement (ITA) has covered more than 80 percent of world trade in information technology products. Nevertheless, with the original product coverage becoming outdated, the voice of establishing the ITA II has increased in order to enlarge additional information technology products for possible additional tariff concessions.[8] This issue has been debated in the WTO between advanced economies and developing economies and has not reached consensus. Although APEC has declared its favorable stance in promoting the ITA II, it remains dubious whether ongoing RTA initiatives in the APEC region will reach agreement on this issue, given different consideration of individual economy's strategy to promote its electronic sector.

Scenarios of RTA Proposals

Due to stalled development of the WTO Doha round, RTAs have been proliferating around the world. Merely in the APEC region, several RTA initiatives have made impressive progress in recent years. For example, led by the United States, TPP members have completed the 17th round of negotiations and plan to reach the conclusion by October 2013. On the other hand, RCEP, representing the convergence of ASEAN+3 and ASEAN+6, also began its negotiations in May 2013 and is scheduled to be finalized in 2015.

In addition, despite territorial disputes and political obstacles, the Trilateral Free Trade Agreement between China, Japan, and South Korea has made breakthrough by launching the first round of negotiation this year. On the other side of the Pacific, the Pacific Alliance, composed of Chile, Colombia, Mexico, Peru, and recently Costa Rica, has also drawn much attention and has potential to be another promising RTA initiative toward the goal of FTAAP.

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[8] See "Information Technology Agreement—Introduction" from the WTO website: http://www.wto.org/english/tratop_e/inftec_e/itaintro_e.htm

Although there are at least four major RTA proposals in the APEC region, we select TPP and RCEP as two illustrated scenarios to examine the possible impacts of these two RTA formations on the targeted two sectors. Moreover, in order to have a comparative baseline, we also include the scenario of FTAAP and analyze its effects on the selected two sectors, in comparison with the aforementioned two scenarios. In short, this paper evaluates the impacts of three scenarios, including TPP, RCEP, and FTAAP, on the two sectors in APEC economies. The following briefly explains the assumptions and conditions of each scenario.

- **Scenario 1: TPP 12**

  Adding the latest member of Japan, total number of TPP members is 12.[9] Given that TPP is pledged to be a high-quality and high standard FTA, we assume that TPP members will eliminate all tariffs for all products. Additionally, although South Korea is not a TPP member, to be close to the reality, we also take the Korea-US FTA (KORUS FTA) into account.

- **Scenario 2: RCEP 16**

  RCEP members cover all member of ASEAN+6 and have 16 economies.[10] Although it is uncertain whether RCEP will reach the consensus on eliminating tariffs for all products as TPP pledges, to be consistent, we assume that RCEP members will also reduce tariff to zero for all products, so as to be a competitive option compared with TPP. Furthermore, since AFTA, ASEAN-China FTA, Japan-ASEAN FTA, and Korea-ASEAN have been signed and effective, we also take these FTAs into account while estimating the impacts of RCEP.

- **Scenario 3: FTAAP**

  FTAAP has become an APEC's long-term goal to achieve the formation of the Bogor Goals. Hence, we can anticipate that FTAAP will include 21 APEC economies and tariffs for all goods in the APEC will be entirely abolished. As a result, currently effective bilateral and multilateral FTAs in the APEC region will be taken into consideration while conducting the GTAP analysis in this scenario.

the United States, and Japan.

[10] RCEP members include: ASEAN 10 members and China, Japan, Korea, Australia, New Zealand, and India.

Limitations of GTAP Simulation

We utilize the dynamic GTAP model to simulate the possible effects of each scenario on individual economy's two sectors. Despite the dynamic GTAP model being broadly applied by many nations to analyze the results of targeted FTA in terms of economic welfare to an economy when conducting FTA negotiations with their counterparts, it is undeniable that the GTAP model is built on certain assumptions that may not reflect the reality, and that the interpretation of its outcome is certainly not without limitations, which should be cautious.

In sum, the GTAP model has the following constraints: First, it assumes that commodity market and production factor markets are fully competitive and without market externalities. Second, it assumes that labor market is full employment and no existence of voluntary unemployment. Third, it assumes that labor can freely move within the border, but cannot cross the border. Fourth, it assumes that labor is homogeneous. Fifth, it assumes each country's production technology exogenous, not endogenous. Sixth, it introduces the Solow growth-based investment model, which assumes national saving an exogenous given. Seventh, the simulation in this paper only considers liberalization of trade in goods, and it does not take liberalization of trade in serves into account. Eighth, this paper assumes that liberalization of trade in goods will drop tariffs to 100%, and it does not account for import quotas and non-trade barriers (NTBs). Ninth, it is a comparative static analysis and does not goods will drop tariffs to 100%, and it does not account for import quotas and non-trade barriers (NTBs). Ninth, it is a comparative static analysis and does not account for the dynamic impacts of FTA. Finally, it does not consider the financial effects.

GTAP Analysis

In comparison with existing studies focusing on the outcome of economic welfare as a criterion to evaluate whether a country should join a FTA or not, this paper concentrates on the impacts of different RTAs on sectoral level, specifically targeting at Motor Vehicle and Parts sector as well as Electronic Equipment sector. The following sections illustrate the results of the GTAP model and provide some analyses.

Motor Vehicle and Parts Sector

Table 1 shows the results of the GTAP model in different scenarios.

Table 1. Change of Motor Vehicle and Parts Sector's Output under Three Scenarios (%)

Economy	Scenario 1: TPP	Scenario 2: RCEP	Scenario 3: FTAAP
1. Australia	***-7.67***	***-9.42***	***-8.51***
2. Canada	***-0.48***	0.6	***0.39***
3. Chile	***-2.5***	-0.08	***-3.2***
4. Japan	***3.97***	***1.63***	***3.97***
5. Malaysia	***6.89***	***7.61***	***9.56***
6. Mexico	***0.19***	0.06	***3.8***
7. New Zealand	***-6.36***	***-5.56***	***-6.37***
8. Peru	***-2.31***	0.27	***-2.53***
9. Singapore	***-6.54***	***-7.05***	***-5.16***
10. USA	***-0.82***	0.19	***-0.11***
11. Vietnam	***8.06***	***7.93***	***10.74***
12. China	0.11	***-2.3***	***-2.2***
13. Korea	6.15	***7.27***	***9.87***
14. Philippines	-0.83	***9.63***	***9.82***
15. Thailand	-2.88	***7.62***	***7.94***
16. Indonesia	-1.88	***-5.89***	***-4.07***
17. Chinese Taipei	-1.1	-1.15	***0.47***
18. Russia	-0.34	0.23	***-2.96***
19. HKG	-0.15	0.41	***-0.55***
20. India	-0.47	***6.13***	-0.59
21. Lao	-6.2	***0.2***	14.15
22. Cambodia	1.54	***0.56***	-5.47
23. Colombia	-0.27	0.1	0.25
24. Uruguay	0.17	1.86	1.1
25. Costa Rica	-0.47	0.54	-0.24
26. Panama	-0.16	-4.03	1.52
27. Guatemala	0.12	6.13	1.46
28. Rest of the World	-2.23	0.2	-0.27

Note: Above APEC economies do not include Brunei and PNG, because their data are not covered in the GTAP database. The bold and italic number indicates that the corresponding economy is included in the given scenario.

- **Scenario 1: TPP 12**

In Scenario 1, among 12 TPP members, Vietnam's auto sector is likely to grow significantly by 8.06%, followed by Malaysia's 6.89%, and Japan's 3.97%. Conversely, economies' auto sector suffered massively adverse impacts of TPP are likely to be Australia's -7.67%, Singapore's -6.54%, and New Zealand's -6.36%. Surprisingly, the United States' auto sector is also negatively affected by TPP and its output will drop 0.82%. Another surprise is Korea's auto sector. Although Korea is not included in TPP in the simulation, its auto sector will grow by 6.15%, suggesting that the US-Korea FTA does play an important role in ameliorating the possible negative influence of Korea's absence in TPP on its auto sector.

- **Scenario 2: RCEP 16**

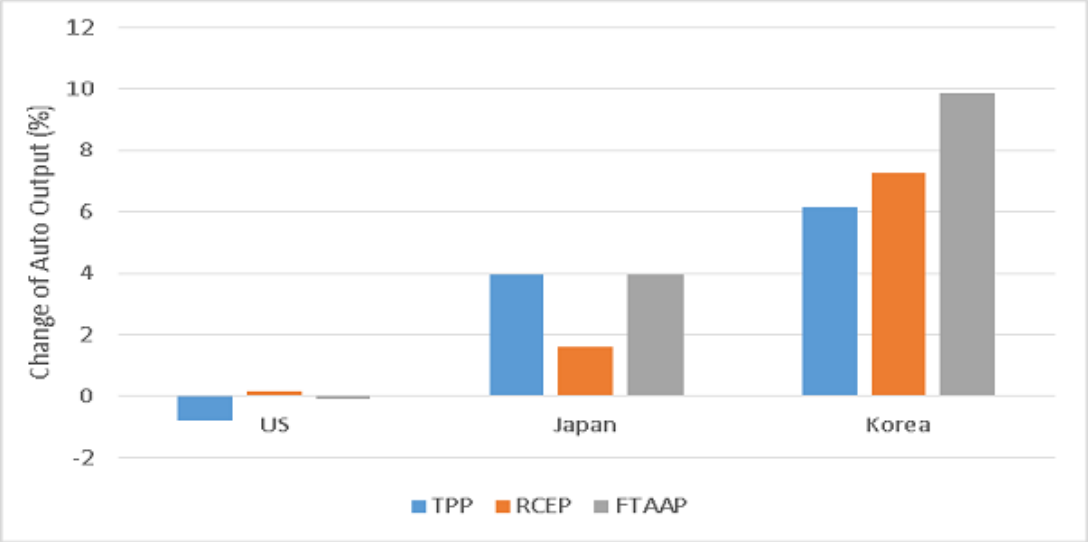
In Scenario 2, it is noteworthy that among RCEP members, auto sector in the Philippines grows remarkably and achieves 9.63%, followed by Vietnam's 7.93%, Thailand's 7.62%, Malaysia's 7.61%, and Korea's 7.27%. In addition, auto sector in India, which is a non-APEC economy, but a member of RCEP, is also likely to increase its output by 6.13%, as RCEP is implemented. In contrast, RCEP members, such as Australia, Singapore, New Zealand, and Indonesia, are likely to bear huge blow in their auto sector. Auto sector in Australia is estimated to decrease its output by 9.42%, Singapore negatively affected by 7.05%, Indonesia fell by 5.89%, and New Zealand declined by 5.56%. A traditional carmaker champion economy, Japan, will only have mild growth in its auto industry by 1.63% under the RCEP framework. Surprisingly, China's auto industry does not receive positive benefits from the RCEP formation, and the output in its auto sector is likely to decline by 2.3%, worse than it is in Scenario 1 of TPP 12.

- **Scenario 3: FTAAP 21**

In Scenario 3, all APEC economies will abolish their tariffs in their auto related goods and each economy's actual competitiveness in auto sector is likely to stand out in this new fair game of regional free trade. As we can see, APEC's winners in auto sector based on its output growth include Vietnam (10.74%), Korea (8.87%), the Philippines (9.82%), Malaysia (9.56%), and Thailand (7.94%). Though receiving positive outcomes, other APEC economies do not have the same impressive performance in their auto sectors, such as Japan (3.97%), Mexico (3.8%). On the contrary, APEC economies' auto sector devastated most include Australia (-8.51%), New Zealand (-6.37%), Singapore (-5.16%), and Indonesia (-4.07%). Of course, it is noteworthy that most of these economies do not have strong auto industry in the beginning and auto sector certainly is not the pillar of its economy. Hence, after the formation of FTAAP, auto sector in these economies cannot help but suffer further decline.

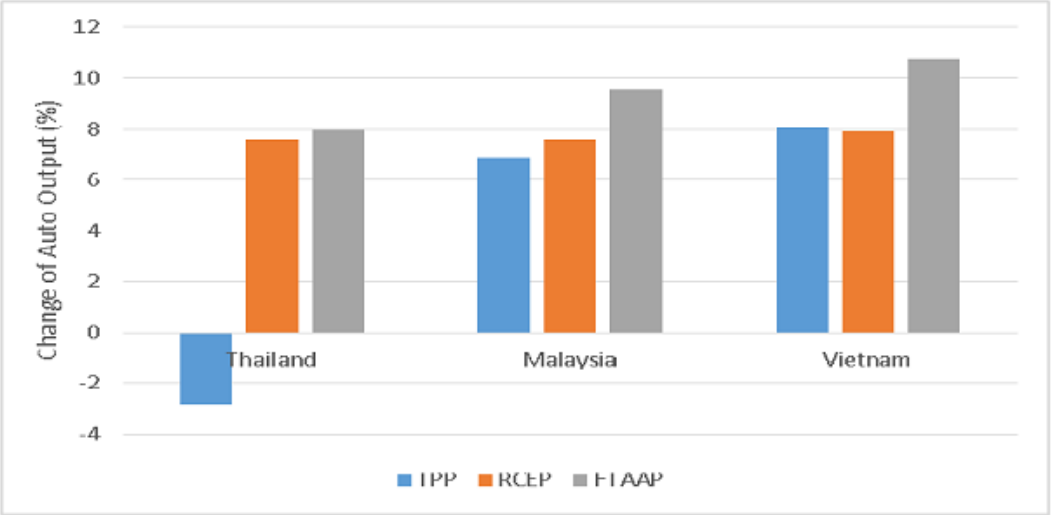
As we further analyze three economies, the United States, Japan, and Korea, that relatively have strong and robust auto industries, it is interesting to find that the competitiveness of three economies' auto sector may change dramatically under different RTA initiatives. Figure 1 shows that the changes of output for US auto sector under three RTA. Surprisingly, TPP, actively promoted by the United States, seemingly does more harm than good for the US auto makers (-0.82%), compared with RCEP (0.19%)and FTAAP (-0.11%). For Japan, TPP and FTAAP sway an equally positive influence on Japan's auto makers. In contrast, RCEP, in which Japan is a member, has relatively mild positive effect on Japan's auto sector. On the contrary, Korea's auto industry grows enormously under the formation of FTAAP (9.87%), less in RCEP (7.27%), and least in TPP (6.15%), which Korea has not joined yet. From auto industry's perspective in each economy, it seems more reasonable for Korean auto makers to push the formation of FTAAP than these makers in the United States and Japan. From Japanese auto sector's view, Japan's participation in TPP seems to be a better choice than its membership in RCEP, since its auto makers have to encounter fierce competition from Korea's counterparts. From the US auto makers' perspectives, it seems unwise for the United States to pursue TPP, since TPP does more bad than good compared with the other two RTA initiatives. It is not surprising that the US auto companies have been anxious about the further expansion of Japanese car in the US market after Japan announced its intention to join TPP negotiations.

Figure 1. Change of Output in Auto Sector between the US, Japan, and Korea under Three RTA Initiatives



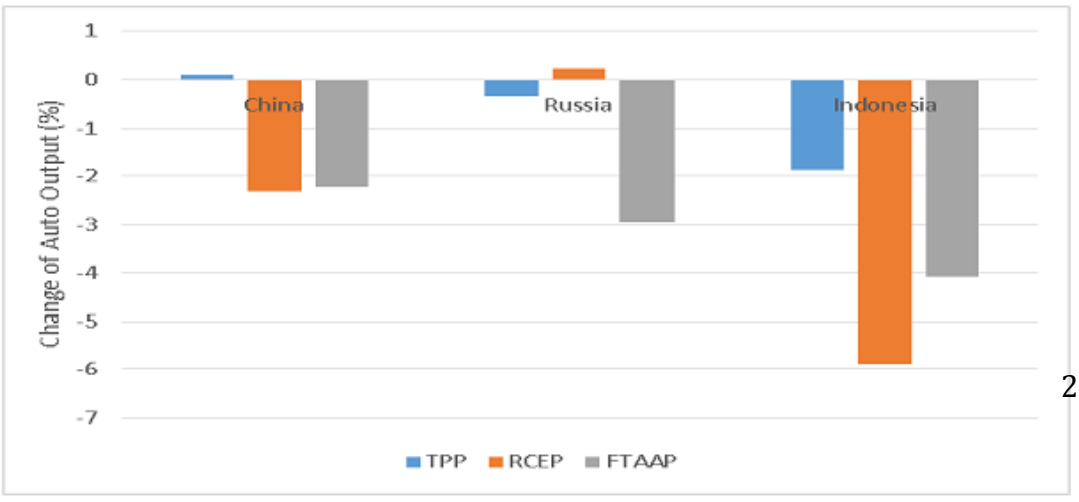
For developing economies, we can also see that three RTA initiatives may generate different impacts on their auto industries. For Thailand, both RCEP and FTAAP will pose positive influence on its auto industry and boost its output significantly. Nevertheless, Thailand's absence in TPP may produce massive adverse impact on its auto sector. On the other hand, for Malaysia's auto makers, it can easily rank its RTA priorities based the expected increase of output it may become in three initiatives. The same rationale can also be applied to Vietnam. Although Vietnam does not have strong auto sector, the results of simulation suggest that its auto sector may be full of potential to grow after the formation of RTAs.

Figure 2. Change of Output in Auto Sector between Thailand, Malaysia, and Vietnam Under Three RTA initiatves



Above economies may either have strong competitiveness in their auto sector or have potential to become future stars in auto industries. However, we also find that auto sectors in the economies with enormous population and vast markets may not be able to take their existing advantages to promote their auto industries. Conversely, auto sectors in these populous economies, such as China, Russia, and Indonesia in Figure 3, may suffer due of these RTA proposals. That is because these economies are forced to open their domestic car markets for ruthless competition with foreign auto makers. The results of GTAP simulation indicate that FTAAP does no good for these three populous economies. Similarly, RCEP poses negative impact on China and Indonesia, both of which are RCEP members, but Russia, not a RCEP member, gains slightly in its auto output. These results imply that RTAs generate more harm than help to auto industries in populous economies.

Figure 3. Change of Output in Auto Sector between China, Russia, and Indonesia Under Three RTA Initiatives



Electronic Equipment Sector

Table 2 lists the results of the GTAP model in Electronic Equipment Sector under different scenarios.

Table 2. Change of Electronic Equipment Sector's Output under Three Scenarios (%)

Economy	Scenario 1: TPP	Scenario 2: RCEP	Scenario 3: FTAAP
1. Australia	***-1***	***-7.03***	***-3.94***
2. Canada	***0.81***	0.17	***1.11***
3. Chile	***-1.3***	0.27	***-1.24***
4. Japan	***-0.59***	***-0.89***	***-0.99***
5. Malaysia	***0.67***	***-0.42***	***-0.16***
6. Mexico	***0.83***	-0.31	***5.26***
7. New Zealand	***-2.51***	***-2.01***	***-3.37***
8. Peru	***-4.24***	0.18	***-5.66***
9. Singapore	***-1.44***	***-3.24***	***-2.54***
10. USA	***-0.45***	0.48	***0.05***
11. Vietnam	***12.78***	***20.24***	***17.82***
12. China	0.15	***0.48***	***0.55***
13. Korea	3.43	***1.3***	***3.07***
14. Philippines	1.27	***2.57***	***3.15***
15. Thailand	2.51	***5.61***	***9.79***
16. Indonesia	10.77	***7.34***	***12.16***
17. Chinese Taipei	0.48	1.41	***-3.51***
18. Russia	-0.55	-0.39	***-3.74***
19. HKG	-1.16	-2.9	***-1.24***
20. India	-0.17	***5.24***	0.5
21. Lao	-3.48	***70.87***	68.11
22. Cambodia	-6.17	***1.56***	-1.58
23. Colombia	0.06	0.02	1.48
24. Uruguay	0.23	-0.03	1.02
25. Costa Rica	-0.54	-2.35	-0.12
26. Panama	0.11	1.5	1.9
27. Guatemala	0.72	0.51	3.05
28. Rest of the World	-0.65	-1.68	-0.19

Note: Above APEC economies do not include Brunei and PNG, because their data are not covered in the GTAP database. The bold and italic number indicates that the corresponding economy is included in the given scenario.

- **Scenario 1: TPP 12**

In Scenario 1, one of the TPP members gaining the most significant growth in electronic equipment sector is Vietnam and its output in this sector is likely to grow by 12.78%. Compared with other TPP members, Vietnam's growth is outstanding, since other economies, such as Canada (0.81%), Malaysia (0.67%) and Mexico (0.83%), only increase their outputs less than 1%. Furthermore, a traditional champion for electronic goods, like Japan, even suffers decline in its electronic equipment output by 0.59%. TPP members receive negative impacts of TPP on this sector include Peru (-4.24%), New Zealand (-2.51%), Singapore (-.1.44%), Chile (-1.3%), Australia (-1%), and the United States (-0.45%). The above fact suggests that the number of TPP members suffered from TPP's adverse effects is larger than the number of its members received positive benefits in their electronic equipment sectors. Hence, it may be dubious regarding to what extent TPP can actually promote electronic equipment sector within TPP members.

- **Scenario 2: RCEP 16**

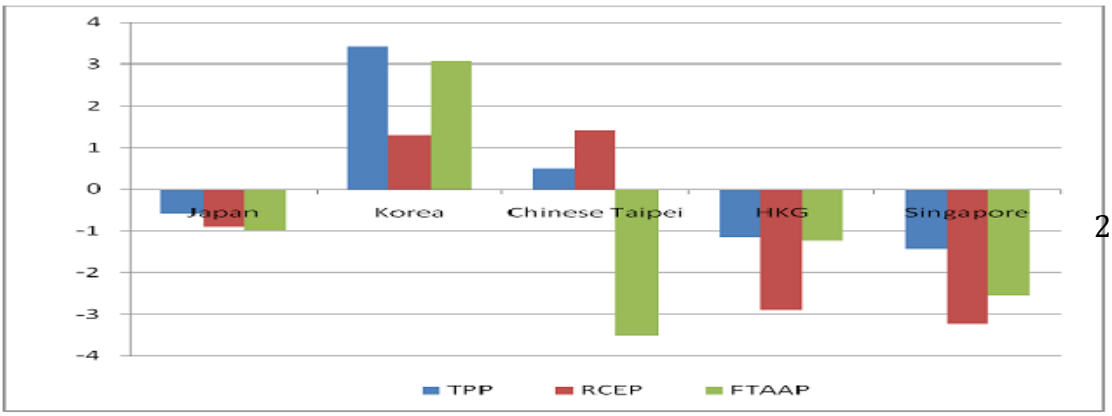
In Scenario 2, consistent with the outcome in Scenario 1, Vietnam's electronic equipment sector is likely to grow significantly with impressive 20.24% growth of output. Nevertheless, another RCEP member, Lao, will be the largest winner of the RCEP formation, since the output of its electronic equipment sector, based on the outcome of GTAP simulation, will increase by 70.87%. Of course, this extraordinary growth may be due to the very low baseline of existing output in Lao's electronic equipment sector. Nevertheless, this result does indicate that Lao may have great potential to become another stronghold of electronic products, as long as RCEP can be accomplished. Additionally, other economies benefiting from RCEP are Indonesia (7.34%), Thailand (5.61%), India (5.24%), the Philippines (2.57%), Korea (1.3%), and, to lesser extent, China (0.48%). By contrast, electronic equipment sectors in most developed economies are likely to be negatively affected by RCEP, such as Australia (-7.03%), Singapore (-3.24%), New Zealand (-2.01%), and Japan (-0.89%). These results imply that RCEP may accelerate the shift of electronic equipment sector from traditional advanced economies, newly industrial economies (NIEs), to developing economies in Southeast Asia. Hence, RCEP may be able to facilitate electronic equipment sector to build a root in these developing economies.

- **Scenario 3: FTAAP 21**

In Scenario 3, among FTAAP members, Vietnam's electronic equipment sector grows by 17.82%, followed by Indonesia's 12.16%, Thailand's 9.79%, Mexico's 5.26%, the Philippines' 3.15%, Korea's 3.07%, and Canada's 1.11%. On the other hand, FTAAP induces adverse effects on other economies, such as Peru's -5.66%, Australia's -3.94%, Russia's -3.74%, Chinese Taipei's -3.51%, New Zealand's -3.37%, Singapore's -2.54, Hong Kong China's -1.24%, Japan's -0.99%, and Malaysia's -0.16%. In electronic equipment sector, the number of the economies negatively impacted by FTAAP is slightly outnumbered by that of the economies obtaining positive growth. Hence, it is difficult to say whether FTAAP could fulfill each economy's rosy expectation in terms of promoting its electronic equipment sector. Nonetheless, similar to RCEP's simulation results, FTAAP seems to facilitate the gravity of electronic equipment sector to move away from advanced economies and NIEs to developing economies in Southeast Asia.

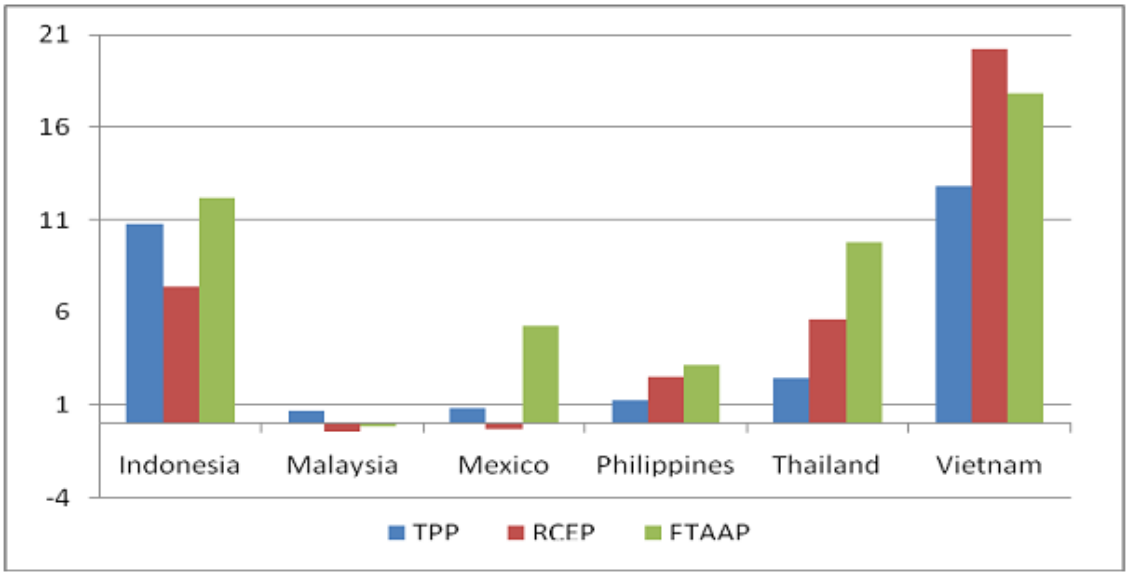
As Figure 4 shows, the output of Japan's electronic equipment sector shrinks gradually as RTA moves from TPP, RCEP, to FTAAP. In other words, Japan's active involvement in RTA may not be able to boost its electronic equipment sector. On the contrary, the larger scope of RTA it joins, the deeper Japan's electronic equipment sector will suffer. As for Korea, its absence in TPP actually results in better performance in its electronic equipment sector in comparison with its membership in RCEP and FTAAP. Surprisingly, Chinese Taipei's sole membership in FTAAP leads to downward development in its electronic equipment sector. The similar situation can be also applied to Singapore and Hong Kong China. The difference is that Singapore's RCEP membership may pose largest adverse impact on its electronic equipment sector, but Hong Kong China's absence in RCEP has the largest negative consequence to its electronic equipment sector. Therefore, except Korea, the membership in these three RTA initiatives may not produce positive outcome in most electronic stronghold economies.

Figure 4. Change of Output in Electronic Equipment Sector between Japan and NIEs Under Three RTA Initiatives



In comparison with the dire situation for Japan and most NIEs' electronic equipment sectors, RTA initiatives do play a more positive role in facilitating the development of electronic industry in developing economies. As illustrated in Figure 5, in most cases, FTAAP generates the best performance in these developing economies' electronic equipment sectors, such as Indonesia, Mexico, the Philippines, and Thailand. More specifically, Malaysia and Mexico's memberships in TPP effectively boost the output of their electronic equipment sectors. The RCEP memberships for the following economies, such as Indonesia, the Philippines, Thailand, and Vietnam, are beneficial to their electronic industries. All electronic equipment sectors in these economies are likely to have noticeable expansion in their output. Hence, it seems reasonable to conclude that joining RTAs will be a better choice for developing economies to promote their electronic equipment sectors and climb up the global value chain.

Figure 5. Change of Output in Electronic Equipment Sector between Mexico and Selected ASEAN Economies under Three RTA Initiatives



Policy Implications

Despite various limitations and constraints of the GTAP simulation, the above analyses reveal some important findings and policy implications that deserve further discussion, as APEC economies strive to speed up the pace to move forward to FTAAP and the Bogor Goals. In short, three findings are as follows:

First, the total increased economic welfare for an economy to participate in RTA does not mean that each sector will equally benefit from the results of RTA. In fact, based on the international division of labor and comparative advantage, RTA is likely to benefit originally competitive sectors, but to further devastate vulnerable sectors in an economy. Thus, each economy should thoroughly consider the possible impacts of RTAs on its different sectors in order to maximize the positive effects of RTAs, while minimizing their negative consequences.

Second, different routes of RTAs will not only pose different impacts on each economy's sectors, but may also shape and alter the sectoral competitiveness of each economy. In other words, an economy may prefer one route of RTA over the others, based on the assessments of its industrial interests under different RTA initiatives. On the other hand, if an economy does not make a prudent assessment before selecting a RTA for participation, it may let its strong sectors encounter more intense competition and fall into a worse situation than the one before joining the RTA. In contrast, if an economy chooses a wise route of RTA, it may be able to avoid its vulnerable industries to face too early harsh competition, while effectively fostering its competitive industries to expand market shares in the RTA market. Hence, the selection of RTA routes and the timing of joining them may be crucial for an economy's FTA strategic consideration.

Third, since RTA is likely to have both positive and negative effects on different domestic sectors and generate both winners and losers, it is crucial for each economy to deeply ponder whether its winners of RTA are desirable and fit its national strategy of economic development, and whether it could bear political and economic consequences of RTA losers. After all, freer trade, the essence of RTA, is not a panacea for each economy's growth and prosperity. Without cautious assessment, the negative effects of RTA could turn an economy's sanguine expectation of RTA into a long-lasting nightmare.

On the other hand, as far as APEC concerns, we conclude three policy suggestions for future consideration.

First, APEC should move the emphasis from supply chain connectivity to industrial production chain connectivity. Based on the GTAP simulation, we find that although the formation of FTAAP can enhance economic welfare for all APEC economies, it seems inevitable that some sectors may suffer different extents of negative impacts. The effects of trade diversion may be blamed for this undesirable result. If APEC could effectively facilitate and strengthen the connectivity of industrial production chain across APEC economies, it may be able to ameliorate the adverse impacts of RTA on those industries.

Second, APEC should consider establishing a mechanism for providing industrial counseling and policy support for the vulnerable sectors. Since FTAAP is likely to pose detrimental effects on some vulnerable industries for each economy, it may be constructive and desirable for APEC to take a lead in establish a mechanism for providing industrial counseling and policy support for these vulnerable industries. This mechanism can play a positive role not only in reducing the possible resistance of vulnerable sectors from each economy, but also in transforming these vulnerable sectors into more productive and competitive ones, to enhance the economic welfare of whole APEC region.

Third, APEC should serve as an important platform for harmonizing TPP and RCEP. Despite the current competition between TPP and RCEP, if APEC can play a more constructive role in facilitating the convergence of TPP and RCEP and making them more complementary, it will be certainly beneficial to the final formation of FTAAP.

Finally, APEC should take a stronger stance in supporting ITA II negotiations. The results of the GTAP simulation show that RTA will benefit developing economies' electronic equipment sectors. Given that this sector largely produces intermediate goods for other industries, if ITA II negotiations could be concluded earlier, the positive effects of ITA II will facilitate the development of electronic equipment sector in developing economies, which is likely to produce spill-over effects through industrial linkages and to stimulate the development of other downstream industries.

Conclusion

Over the past decades, APEC has been assiduously pursuing a free and open trade and investment environment in the Asia-Pacific region. Many efforts have been made and progress has been done. The Bogor Goals, set in Indonesia in 1994, has been perceived as the common dream that APEC economies dream of. And the formation of FTAAP has been broadly regarded as the fulfillment of APEC's dream.

Despite the fact that how to fulfill this dream remains debated among APEC economies, it seems that everyone takes it for granted that this APEC vision will definitely bring benefits for all by improving economic welfare for all APEC economies, so as to contribute to prosperity and growth in the APEC region. Furthermore, this optimistic statement has also been largely supported by many empirical studies. Nonetheless, any FTA or RTA is more likely to be a double-edged sword rather than a one-way path to the heaven. We cannot merely look at the bright side, but ignore the down side. Although plenty of existing reports show that aggregated economic welfare for all APEC economies generated by FTAAP is likely to be the largest one. However, it remains unknown and little discussion regarding how individual sector may benefit or hurt from this RTA initiative, and there are few studies analyzing the impacts of FTAAP under different pathways on sectoral level in respective APEC economies.

Hence, this paper attempts to fill this vacuum by conducting the GTAP simulation to analyze the possible influences of FTAAP and two major pathways of FTAAP on selected industrial sectors in APEC economies, in order to have a better understanding about the feasible changes and reconfiguration of APEC economies' competitiveness in these two sectors. As our analyses suggest, all three forms of RTAs generate winners and losers in these two sectors across APEC economies. Some APEC economies are able to maintain their sectoral competitiveness after the formation of RTAs, but others are likely to lose their leading status in these two sectors as a result of RTAs. More importantly, some APEC developing economies could generate remarkable growth of output in these two sectors after the implementation of RTAs. In other words, one consequence of RTA is to alter the sectoral competitiveness among APEC economies. Hence, what is crucial for APEC leaders to bear in mind is whether they have prepared for the worst, but not whether they have hoped for the best.

Undeniably, this paper is a preliminary research on discovering the unpleasant truth of APEC's common dream. Many efforts remain to be done in the future research, which include the following points. First, it may be useful to further explore the question of what is the best route to FTAAP by conducting the dynamic simulation of the GTAP model. Should FTAAP be achieved through a pathway from TPP to RCEP? Or should it be accomplished through the sequence from RCEP to TPP? Or should FTAAP be achieved through the convergence of TPP and RCEP? Second, it is also worthwhile to investigate the impacts of different routes to FTAAP on selected industries in APEC economies, so as to contemplate their possible reactions to those shocks and feasible policy remedies to vulnerable sectors. The last but not the least point for future research is to utilize the gravity model to account for the possible effects of trade in services in the GTAP model, in order to make the shocks of RTA more realistic and close to the reality.

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Appendix

Table 1. 57 Sectors Covered in the GTAP 8.1 Database

No.	Sector	Corresponding commodities/sectors in the GTAP database
1	Paddy rice	Paddy Rice: rice, husked and unhusked
2	Wheat	Wheat: wheat and meslin
3	Cereal grains nec	Other Grains: maize (corn), barley, rye, oats, other cereals
4	Vegetables, fruit, nuts	Veg & Fruit: vegetables, fruit vegetables, fruit and nuts, potatoes, cassava, truffles,
5	Oil seeds	Oil Seeds: oil seeds and oleaginous fruit; soy beans, copra
6	Sugar cane, sugar beet	Cane & Beet: sugar cane and sugar beet
7	Plant-based fibers	Plant Fibres: cotton, flax, hemp, sisal and other raw vegetable materials used in textiles
8	Crops nec	Other Crops: live plants; cut flowers and flower buds; flower seeds and fruit seeds; vegetable seeds, beverage and spice crops, unmanufactured tobacco, cereal straw and husks, unprepared, whether or not chopped, ground, pressed or in the form of pellets; swedes, mangolds, fodder roots, hay, lucerne (alfalfa), clover, sainfoin, forage kale, lupines, vetches and similar forage products, whether or not in the form of pellets, plants and parts of plants used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes, sugar beet seed and seeds of forage plants, other raw vegetable materials
9	Bovine cattle, sheep and goats, horses	Cattle: cattle, sheep, goats, horses, asses, mules, and hinnies; and semen thereof
10	Animal products nec	Other Animal Products: swine, poultry and other live animals; eggs, in shell (fresh or cooked), natural honey, snails (fresh or preserved) except sea snails; frogs' legs, edible products of animal origin n.e.c., hides, skins and furskins, raw , insect waxes and spermaceti, whether or not refined or coloured
11	Raw milk	Raw milk
12	Wool, silk-worm cocoons	Wool: wool, silk, and other raw animal materials used in textile

13	Forestry	Forestry: forestry, logging and related service activities
14	Fishing	Fishing: hunting, trapping and game propagation including related service activities, fishing, fish farms; service activities incidental to fishing
15	Coal	Coal: mining and agglomeration of hard coal, lignite and peat
16	Oil	Oil: extraction of crude petroleum and natural gas (part), service activities incidental to oil and gas extraction excluding surveying (part)
17	Gas	Gas: extraction of crude petroleum and natural gas (part), service activities incidental to oil and gas extraction excluding surveying (part)
18	Minerals nec	Other Mining: mining of metal ores, uranium, gems. other mining and quarrying
19	Bovine meat products	Cattle Meat: fresh or chilled meat and edible offal of cattle, sheep, goats, horses, asses, mules, and hinnies. raw fats or grease from any animal or bird.
20	Meat products nec	Other Meat: pig meat and offal. preserves and preparations of meat, meat offal or blood, flours, meals and pellets of meat or inedible meat offal; greaves
21	Vegetable oils and fats	Vegetable Oils: crude and refined oils of soya-bean, maize (corn),olive, sesame, ground-nut, olive, sunflower-seed, safflower, cotton-seed, rape, colza and canola, mustard, coconut palm, palm kernel, castor, tung jojoba, babassu and linseed, perhaps partly or wholly hydrogenated,inter-esterified, re-esterified or elaidinised. Also margarine and similar preparations, animal or vegetable waxes, fats and oils and their fractions, cotton linters, oil-cake and other solid residues resulting from the extraction of vegetable fats or oils; flours and meals of oil seeds or oleaginous fruits, except those of mustard; degras and other residues resulting from the treatment of fatty substances or animal or vegetable waxes.
22	Dairy products	Milk: dairy products
23	Processed rice	Processed Rice: rice, semi- or wholly milled
24	Sugar	Sugar
25	Food products nec	Other Food: prepared and preserved fish or vegetables, fruit juices and vegetable juices, prepared and preserved fruit and nuts, all cereal flours, groats, meal and pellets of wheat, cereal groats, meal and pellets n.e.c., other cereal grain products (including corn flakes), other vegetable flours and meals, mixes and doughs for the preparation of bakers' wares, starches and starch products; sugars and sugar syrups n.e.c., preparations used in animal feeding, bakery products, cocoa, chocolate and sugar confectionery, macaroni, noodles, couscous and similar farinaceous products, food products n.e.c.
26	Beverages and tobacco products	Beverages and Tobacco products
27	Textiles	Textiles: textiles and man-made fibres
28	Wearing apparel	Wearing Apparel: Clothing, dressing and dyeing of fur
29	Leather products	Leather: tanning and dressing of leather; luggage, handbags, saddlery, harness and footwear

30	Wood products	Lumber: wood and products of wood and cork, except furniture; articles of straw and plaiting materials
31	Paper products, publishing	Paper & Paper Products: includes publishing, printing and reproduction of recorded media
32	Petroleum, coal products	Petroleum & Coke: coke oven products, refined petroleum products, processing of nuclear fuel
33	Chemical, rubber, plastic products	Chemical Rubber Products: basic chemicals, other chemical products, rubber and plastics products
34	Mineral products nec	Non-Metallic Minerals: cement, plaster, lime, gravel, concrete
35	Ferrous metals	Iron & Steel: basic production and casting
36	Metals nec	Non-Ferrous Metals: production and casting of copper, aluminium, zinc, lead, gold, and silver
37	Metal products	Fabricated Metal Products: Sheet metal products, but not machinery and equipment
38	Motor vehicles and parts	Motor Motor vehicles and parts: cars, lorries, trailers and semi-trailers
39	Transport equipment nec	Other Transport Equipment: Manufacture of other transport equipment
40	Electronic equipment	Electronic Equipment: office, accounting and computing machinery, radio, television and communication equipment and apparatus
41	Machinery and equipment nec	Other Machinery & Equipment: electrical machinery and apparatus n.e.c., medical, precision and optical instruments, watches and clocks
42	Manufactures nec	Other Manufacturing: includes recycling
43	Electricity	Electricity: production, collection and distribution
44	Gas manufacture, distribution	Gas Distribution: distribution of gaseous fuels through mains; steam and hot water supply
45	Water	Water: collection, purification and distribution
46	Construction	Construction: building houses factories offices and roads
47	Trade	Trade: all retail sales; wholesale trade and commission trade; hotels and restaurants; repairs of motor vehicles and personal and household goods; retail sale of automotive fuel
48	Transport nec	Other Transport: road, rail ; pipelines, auxiliary transport activities; travel agencies
49	Water transport	Water transport
50	Air transport	Air transport
51	Communication	Communications: post and telecommunications
52	Financial services nec	Other Financial Intermediation: includes auxiliary activities but not insurance and pension funding (see next)
53	Insurance	Insurance: includes pension funding, except compulsory social security
54	Business services nec	Other Business Services: real estate, renting and business activities
55	Recreational and other services	Recreation & Other Services: recreational, cultural and sporting activities, other service activities; private households with employed persons (servants)

56	Public Administration, Defense, Education, Health	Other Services (Government): public administration and defense; compulsory social security, education, health and social work, sewage and refuse disposal, sanitation and similar activities, activities of membership organizations n.e.c., extra-territorial organizations and bodies
57	Dwellings	Dwellings: ownership of dwellings (imputed rents of houses occupied by owners)

Source: GTAP website: https://www.gtap.agecon.purdue.edu/databases/v8/v8_sectors.asp


2013 APEC Study Centre Consortium Conference
Exploring the Reconfigurations of Industrial Competitiveness across Economies under Different Pathways to FTAAP
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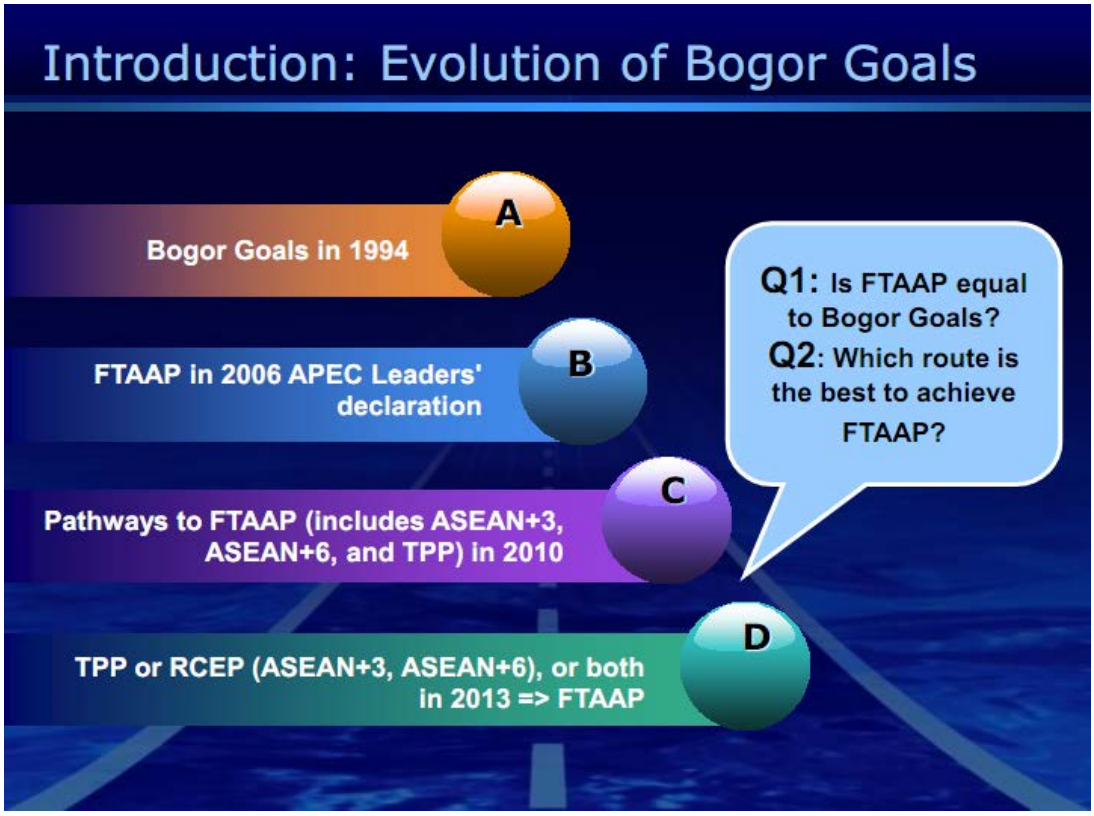
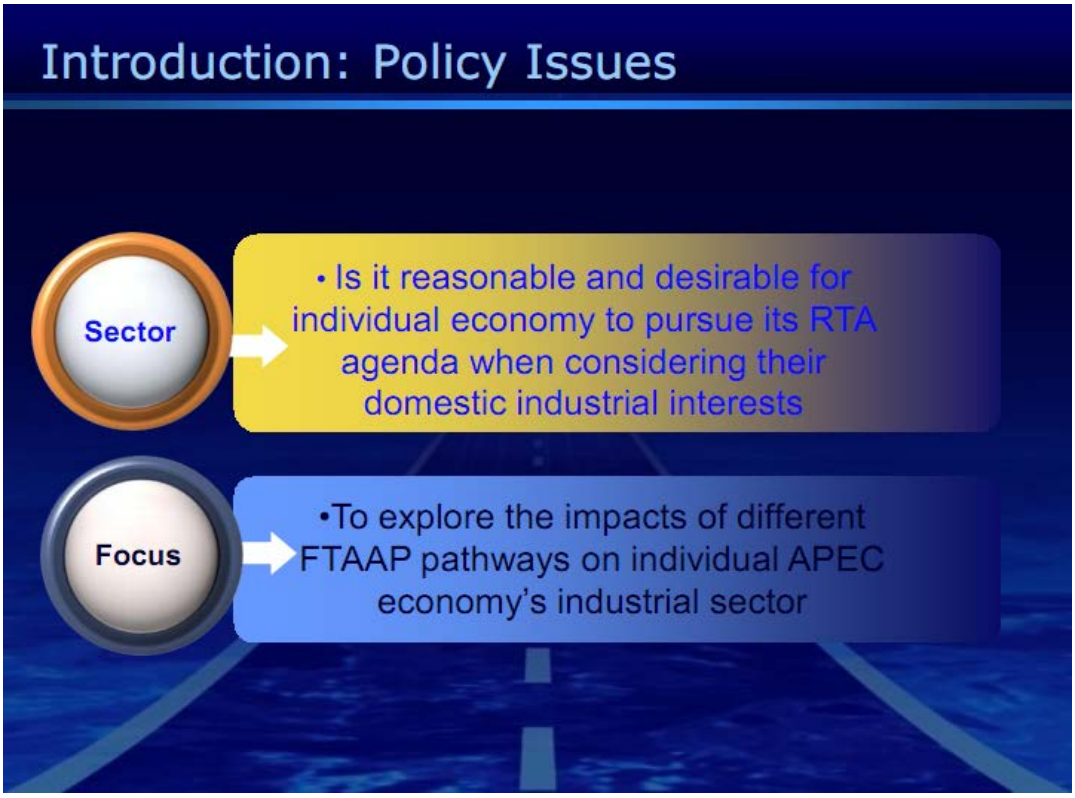
Outline
Introduction
Research Design
GTAP Analysis
Policy Implications
Conclusion

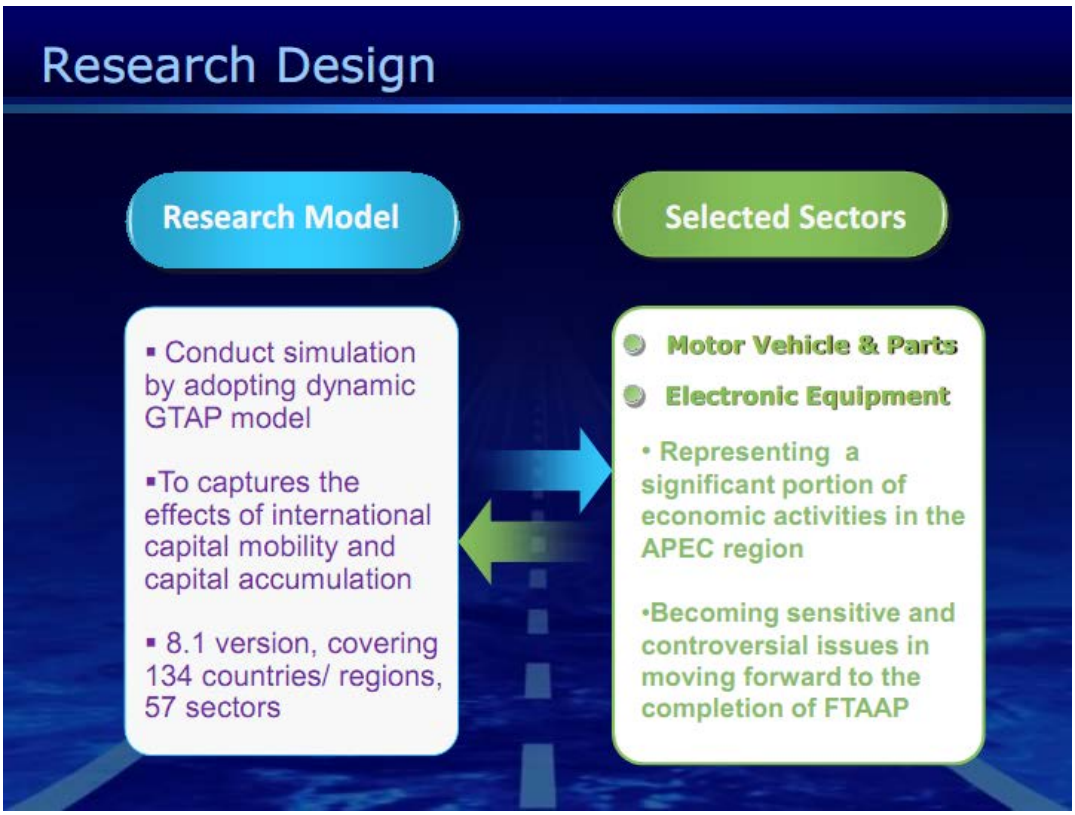
/

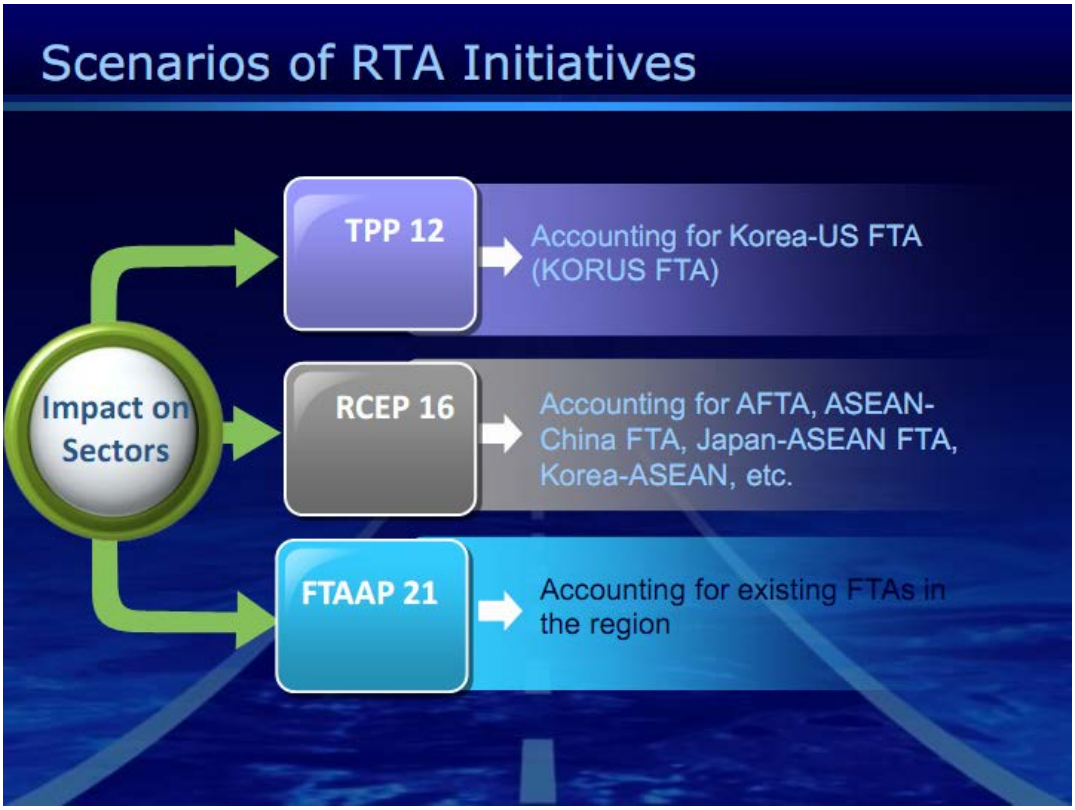


Introduction: Research Question

- Many existing studies estimated the aggregated effects of various RTAs in the Asia-Pacific region by using a computable general equilibrium (CGE)
  - (Kawai and Wignaraja 2008; Kim, Park, and Park 2013; Park 2006; Petri, Plummer, and Zhai 2012a; 2012b)
- FTAAP does not signify the coming of an economic heaven where each participating economy and each industrial sector equally benefits from this RTA formation.
- Few studies explore adverse effects on industrial sectors within individual economy due to the negative repercussion of regional economic integration.
- The objective: To investigate a question of what feasible consequences of different pathways to FTAAP may affect APEC economies' industrial competitiveness on the sectoral level.


Introduction: Policy Issues
Sector
• Is it reasonable and desirable for individual economy to pursue its RTA agenda when considering their domestic industrial interests
Focus
•To explore the impacts of different FTAAP pathways on individual APEC economy's industrial sector


Research Design
Research Model
Selected Sectors
▪ Conduct simulation by adopting dynamic GTAP model
▪To captures the effects of international capital mobility and capital accumulation
▪ 8.1 version, covering 134 countries/ regions, 57 sectors
Motor Vehicle & Parts
Electronic Equipment
• Representing a significant portion of economic activities in the APEC region
•Becoming sensitive and controversial issues in moving forward to the completion of FTAAP



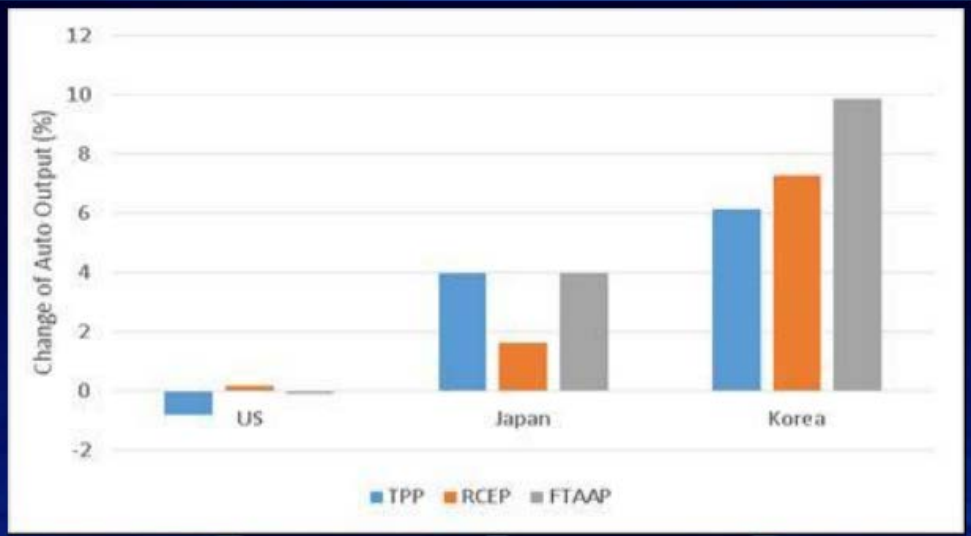
GTAP Analysis: Motor Vehicle & Parts

Economy	Scenario 1: TPP	Scenario 2: RCEP	Scenario 3: FTAAP
1. Australia	**-7.67**	**-9.42**	**-8.51**
2. Canada	**-0.48**	0.6	**0.39**
3. Chile	**-2.5**	-0.08	**-3.2**
4. Japan	**3.97**	**1.63**	**3.97**
5. Malaysia	**6.89**	**7.61**	**9.56**
6. Mexico	**0.19**	0.06	**3.8**
7. New Zealand	**-6.36**	**-5.56**	**-6.37**
8. Peru	**-2.31**	0.27	**-2.53**
9. Singapore	**-6.54**	**-7.05**	**-5.16**
10. USA	**-0.82**	0.19	**-0.11**
11. Vietnam	**8.06**	**7.93**	**10.74**
12. China	0.11	**-2.3**	**-2.2**
13. Korea	6.15	**7.27**	**9.87**
14. Philippines	-0.83	**9.63**	**9.82**
15. Thailand	-2.88	**7.62**	**7.94**
16. Indonesia	-1.88	**-5.89**	**-4.07**
17. Chinese Taipei	-1.1	-1.15	**0.47**
18. Russia	-0.34	0.23	**-2.96**
19. HKG	-0.15	0.41	**-0.55**
20. India	-0.47	**6.13**	-0.59
21. Lao	-6.2	**0.2**	14.15
22. Cambodia	1.54	**0.56**	-5.47
23. Colombia	-0.27	0.1	0.25
24. Uruguay	0.17	1.86	1.1
25. Costa Rica	-0.47	0.54	-0.24
26. Panama	-0.16	-4.03	1.52
27. Guatemala	0.12	6.13	1.46
28. Rest of the World	-2.23	0.2	-0.27

GTAP Analysis: Motor Vehicle & Parts

- **Scenario 1: TPP 12**
  - **Winners**: Vietnam grows 8.06%, followed by Malaysia's 6.89%, and Japan's 3.97%.
  - **Losers**: Economies' auto sector suffered adverse impacts of TPP are likely to be Australia's -7.67%, Singapore's -6.54%, and New Zealand's -6.36%.
- **Scenario 2: RCEP 16**
  - **Winners**: Philippines grows 9.63%, followed by Vietnam's 7.93%, Thailand's 7.62%, Malaysia's 7.61%, and Korea's 7.27%. Auto sector in India, which is a non-APEC economy, but a member of RCEP, increases its output by 6.13%.
  - **Losers**: Auto sector in Australia is estimated to decrease its output by 9.42%, Singapore negatively affected by 7.05%, Indonesia fell by 5.89%, and New Zealand declined by 5.56%
- **Scenario 3: FTAAP 21**
  - **Winners**: Vietnam (10.74%), Korea (8.87%), the Philippines (9.82%), Malaysia (9.56%), and Thailand (7.94%)
  - **Losers**: Australia (-8.51%), New Zealand (-6.37%), Singapore (-5.16%), and Indonesia (-4.07%).

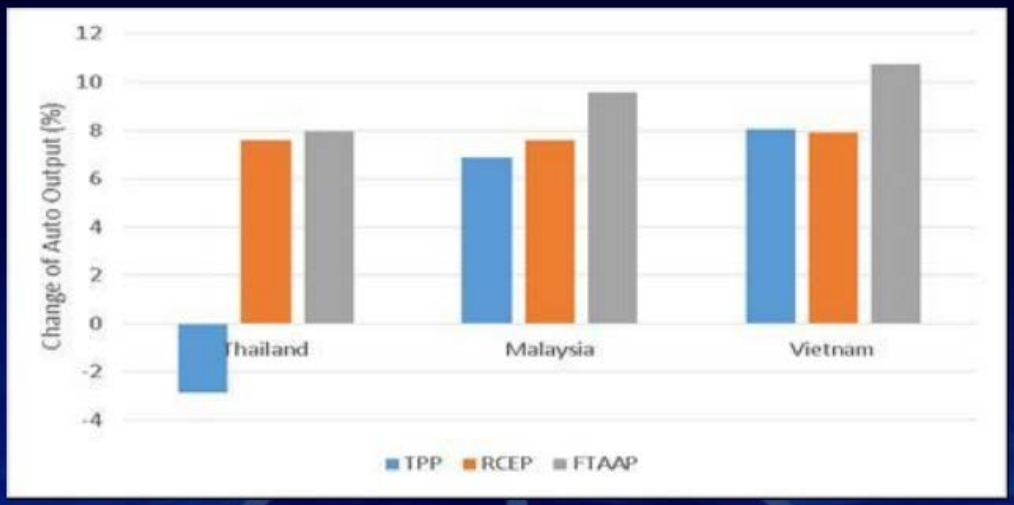
Changes of Output in Auto Sector US, Japan, Korea



The competitiveness of three economies' auto sectors change dramatically under different RTA initiatives.

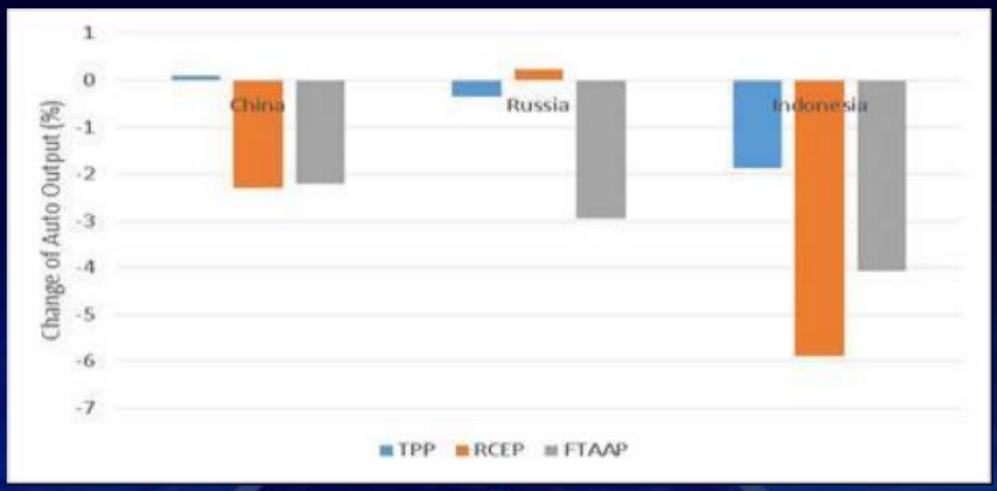
- US benefits little;
- Japan benefits most from TPP and FTAAP
- Korea benefits most from FTAAP

Change of Output in Auto Sector between Thailand, Malaysia, and Vietnam



- Thailand suffers from not joining TPP.
- All economies benefit from joining RCEP
- All economies benefits from the formation of FTAAP

Change of Output in Auto Sector in China, Russia, and Indonesia



Auto sectors in these populous economies, such as China, Russia, and Indonesia may suffer due of these RTA proposals.

- China and Indonesia may suffer negative impact of RCEP and FTAAP

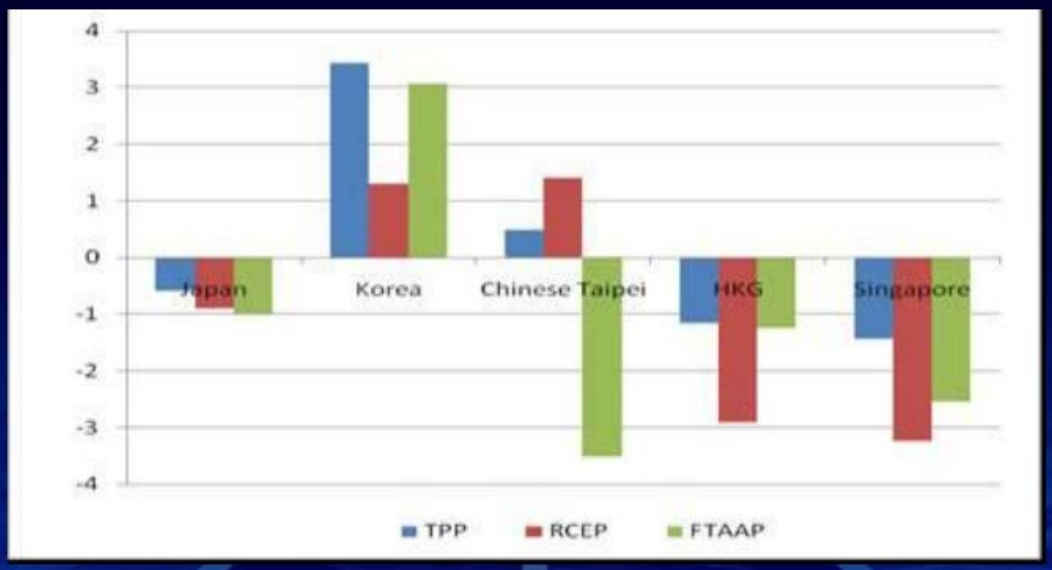
GTAP Analysis: Electronic Equipment

Economy	Scenario 1: TPP	Scenario 2: RCEP	Scenario 3: FTAAP
1. Australia	**-1**	**-7.03**	**-3.94**
2. Canada	**0.81**	0.17	**1.11**
3. Chile	**-1.3**	0.27	**-1.24**
4. Japan	**-0.59**	**-0.89**	**-0.99**
5. Malaysia	**0.67**	**-0.42**	**-0.16**
6. Mexico	**0.83**	-0.31	**5.26**
7. New Zealand	**-2.51**	**-2.01**	**-3.37**
8. Peru	**-4.24**	**0.18**	**-5.66**
9. Singapore	**-1.44**	**-3.24**	**-2.54**
10. USA	**-0.45**	0.48	**0.05**
11. Vietnam	**12.78**	**20.24**	**17.82**
12. China	0.15	**0.48**	**0.55**
13. Korea	3.43	**1.3**	**3.07**
14. Philippines	1.27	**2.57**	**3.15**
15. Thailand	2.51	**5.61**	**9.79**
16. Indonesia	10.77	**7.34**	**12.16**
17. Chinese Taipei	0.48	1.41	**-3.51**
18. Russia	-0.55	-0.39	**-3.74**
19. HKG	-1.16	-2.9	**-1.24**
20. India	-0.17	**5.24**	0.5
21. Lao	-3.48	**70.87**	68.11
22. Cambodia	-6.17	**1.56**	-1.58
23. Colombia	0.06	0.02	1.48
24. Uruguay	0.23	-0.03	1.02
25. Costa Rica	-0.54	-2.35	-0.12
26. Panama	0.11	1.5	1.9
27. Guatemala	0.72	0.51	3.05
28. Rest of the World	-0.65	-1.68	-0.19

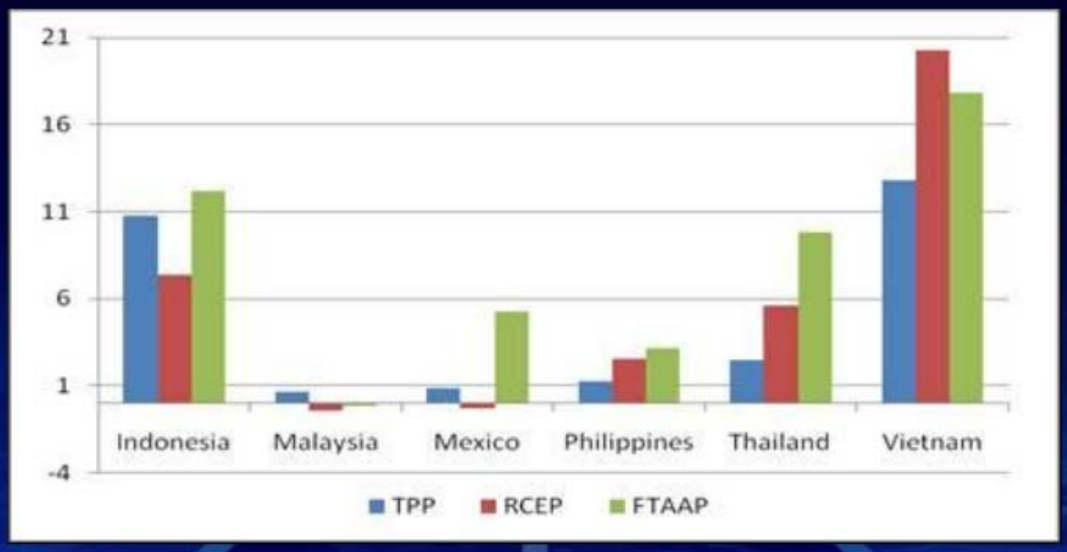
GTAP Analysis: Electronic Equipment

- Scenario 1: TPP 12
  - **Winners**: Vietnam grows 12.78%, followed by Canada (0.81%), Malaysia (0.67%), and Mexico (0.83%).
  - **Losers**: Peru (-4.24%), New Zealand (-2.51%), Singapore (-.1.44%), Chile (-1.3%), Australia (-1%), and the United States (-0.45%).
- Scenario 2: RCEP 16
  - **Winners**: Vietnam grows 20.24%, followed by Indonesia (7.34%), Thailand (5.61%), India (5.24%), the Philippines (2.57%), Korea (1.3%)
  - **Losers**: Most developed economies are likely to be negatively affected by RCEP, such as Australia (-7.03%), Singapore (-3.24%), New Zealand (-2.01%), and Japan (-0.89%).
- Scenario 3: FTAAP 21
  - **Winners**: Vietnam grows by 17.82%, followed by Indonesia's 12.16%, Thailand's 9.79%, Mexico's 5.26%, the Philippines' 3.15%, Korea's 3.07%, and Canada's 1.11%.
  - **Losers**: Adverse effects on economies, such as Peru's -5.66%, Australia's -3.94%, Russia's -3.74%, Chinese Taipei's -3.51%, New Zealand's -3.37%, Singapore's -2.54, Hong Kong China's -1.24%, Japan's -0.99%, and Malaysia's -0.16%

Change of Output in Electronic Equipment Sector in Japan and NIEs



Change of Output in Electronic Equipment Sector in Mexico and Selected ASEAN Economies



Policy Implications

- The total increased economic welfare for an economy to participate in RTA does not mean that each sector will equally benefit from the results of RTA
- Different routes of RTAs will not only pose different impacts on each economy's sectors, but may also shape and alter the sectoral competitiveness of each economy
- Due to positive and negative effects on different domestic sectors and generate both winners and losers, it is crucial for each economy to deeply ponder
  - whether its winners of RTA are desirable and fit its national strategy of economic development;
  - whether it could bear political and economic consequences of RTA losers

Policy Suggestions for APEC

- APEC should move the emphasis from supply chain connectivity to industrial production chain connectivity
- APEC should consider establishing a mechanism for providing industrial counseling and policy support for the vulnerable sectors to each APEC economy
- APEC should serve as an important platform to harmonize TPP and RCEP, in order to attain FTAAP
- APEC should take a stronger stance in supporting ITA II negotiations.
  - Since RTA will benefit developing economies' electronic equipment sectors, given that this sector largely produces intermediate goods for other industries, if ITA II negotiations could be concluded earlier, the positive effects of ITA II will facilitate the development of electronic equipment sector in developing APEC economies, so as to strengthen the connectivity of industrial production chain across APEC economies.

Conclusion

- The common dream of the Bogor Goals and FTAAP may not benefit all sectors in individual APEC economy.
- Studies on exploring the influences of FTAAP and potential pathways of FTAAP on industrial sectors in APEC economies should be increased
- Directions for future research
  - To further explore the question of what is the best pathway to FTAAP by conducting the dynamic simulation of the GTAP model
  - To investigate the impacts of different pathways to FTAAP on industrial sectors in APEC economies, so as to consider their possible reactions to possible shocks and feasible policy remedies to those vulnerable sectors
  - To utilize the gravity model to account for the possible effects of trade in services in the GTAP model, in order to make the shocks of RTA more realistic and close to the reality

CV

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7.Publication:
(maximum selected is 3)

- "Racing to the Top: Chinese Taipei's Achievements on the Ease of Doing Business," in Aggarwal, Vinod K., and Richard Feinberg, ed., *APEC Study Centers Consortium 2011: Key Findings and Policy Recommendations: Green Growth, Trade Integration and Regulatory Convergence*, 2011, Singapore: APEC Secretariat, pp. 39-60.
- "The Past and the Future: The Taiwan Relations Act (TRA) in the Dynamics of Trilateral Economic Interactions," *Issues & Studies*, September, 2010, 46 (3): 29-79 (SSCI).
- "Unraveling the Logic of ASEAN's Decision-Making: Theoretical Analysis and Case Examination," *Asian Politics & Policy*, July-Sept. 2010, 2(3): 371-393.

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- Eric Chiou is an Associate Research Fellow at the Chinese Taipei APEC Study Center and Department of International Affairs in Taiwan Institute of Economic Research. He is also an adjunct assistant professor in the College of International Affairs in the National Chengchi University and in the College of Management in the Defense University. His research focuses include international political economy, regional economic integration, foreign direct investment, and international conflict. He was awarded the government scholarship by Chinese Taipei's Ministry of Education for pursuing his doctoral degree. He received his Ph.D. degree in Political Science from the University of South Carolina in the United States. He has also published several articles in both English and Chinese professional journals.

APEC Study Centre Consortium Conference 2013
July 26 - 27, Jakarta, Indonesia
ASCCC INDONESIA

PANEL SESSION/CODE: *Attaining the Bogor Goals/2.5*

PAPER TITLE: *Regional Economic Integration and FDI Strategies in the Asia Pacific Region*

SUBMITTED BY: *Seungrae **Lee***

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ECONOMY: *Korea*

Regional Economic Integration and Multinational Firm Strategies: Evidence from Korea

Seungrae Lee

Korea Institute for International Economic Policy

July 26, 2013

Question

How does different regional economic integrations affect investment patterns of outsider multinational firms?

Motivation

Literature on regional economic integration and multinational firm activities

- Investigate the effects of regional economic integrations on insider and outsider firms
- NAFTA (Feinberg and Keane (2006)), EU (Ekholm et al. (2007)), ASEAN (Antras and Foley (2009))

  $\longrightarrow$ The formation of integration leads firms to locate plants to have export sales (export-platform FDI)

Most of works are limited to study its effects on developed countries (e.g. US)

- Analyze firm activity in response to the formation of trade agreement between countries

This paper

Decision of firms based in middle-income country choosing production location between different integrated regions

- Region with high-income countries (EEA) and with low-income countries (AFTA)
- Analyze data on Korean firm activities in EEA and AFTA from 2002 to 2006

Good example to provide a broad view on studying the effect of regional trade integration on firms' location choices

- Allow for a comparison of patterns of FDI when entering different trade-integrated regions
- Show that firms perform different activities depending on regional characteristics

Theoretical Framework

1. **Regional trade integration: Ekholm et al. (2007), Antras and Foley (2009)**
   - Low trade barrier between member countries
   - Symmetric trade costs within the region, lower than the costs incurred by exports from home
2. **Production location choice: Melitz (2003), Aw and Lee (2008)**
   - Heterogeneous firms in their productivity level
   - Monopolistic competition

Results overview

Location choices of heterogeneous firms

- More productive firms enter the region through FDI while less productive firms export from home
- Trade-integrated regions make relatively less productive firms to enter by engaging in "complex" FDI
  - A firm activity of engaging in multiple types of FDI
  - "Complex" FDI invovle different patterns based on regional characteristics
  - Empirical evidence from Korean firm data consistent with predictions from the model

The model: Demand

The utility function of representative consumer in all countries:

$$U = [\int_{i\in\Omega} q_i^{\alpha} di]^{1/\alpha}$$

Maximizing utility function with respect to standard budget constraint:

$$q_i = \frac{p_i^{-\varepsilon}}{P^{1-\varepsilon}} E$$

$\varepsilon = \frac{1}{1-\alpha} > 1$: elasticity of substitution between goods
E : exogenous expenditure level in a country

The model: Production

- Firms are heterogeneous in productivity: $\varphi \sim G(\varphi)$ (known parameter)
- Require labor to produce final goods
  - Unit variable cost of firm producing variety i in country j

$$C_{ij} = \frac{w_j}{\varphi_i}$$

The model: Foreign Markets

- f_j: fixed investment cost in country j
- $t_j > 1$: transportation cost from home to country j
- $\tau \in (1, t_j)$: transportation cost within trade-integrated region
- $w_N > w_H > w_S$: factor prices across countries
- Serving country j, a firm offers price that maximizes its profit:

$$p_{ij} = \frac{C_{ij}}{\alpha}$$

$\frac{1}{\alpha}$: mark-up factor

The model: Firm profits

Profit of exporting firm:

$$\begin{aligned} \Pi_{ij}^{EX} &= (1-\alpha) A_j \left(\frac{t_j C_{ih}}{\alpha}\right)^{1-\varepsilon} \\ &= B_j \Theta_i (t_j w_h)^{1-\varepsilon} \end{aligned}$$

Profit of firm investing in country j:

$$\begin{aligned} \Pi_{ij}^{FDI} &= (1-\alpha) A_j \left(\frac{C_{ij}}{\alpha}\right)^{1-\varepsilon} - f_j \\ &= B_j \Theta_i w_j^{1-\varepsilon} - f_j \end{aligned}$$

$B_j = (1-\alpha)\alpha^{\varepsilon-1} \frac{Y_j}{P_j}$
$\Theta_i = \varphi^{\varepsilon-1}$

The first Scenario

Firms serving high-income trade-integrated region

- West and East: symmetric countries inside Northern trade-integrated region
- (x, y, z): choice set that firms can choose for production to serve Home, West, and East
  - e.g. $HWW \longrightarrow$ Home is served domestically while West served through FDI in West, and East by the export from local subsidiary in West
  - 27 possible location combinations

Assumption (1):

$$1 > \frac{w_H t}{w_N} > \tau$$

The first Scenario

Firms serving high-income trade-integrated region

Under assumption (1),

$$\Pi^N_{HHH} = B\Theta[w_H^{1-\varepsilon} + \beta_N(w_H t_N)^{1-\varepsilon} + \beta_N(w_H t_N)^{1-\varepsilon}] \quad \text{(exports)}$$

$$\Pi^N_{HWH} = B\Theta[w_H^{1-\varepsilon} + \beta_N(w_H t_N)^{1-\varepsilon} + \beta_N w_N^{1-\varepsilon}] - f_N \quad \text{(horizontal FDI + exports)}$$

$$\Pi^N_{HWW} = B\Theta[w_H^{1-\varepsilon} + \beta_N(w_N \tau_N)^{1-\varepsilon} + \beta_N w_N^{1-\varepsilon}] - f_N \quad \text{(complex FDI)}$$

$$\Pi^N_{HWE} = B\Theta[w_H^{1-\varepsilon} + \beta_N w_N^{1-\varepsilon} + \beta_N w_N^{1-\varepsilon}] - 2f_N \quad \text{(horizontal FDI in multiple locations)}$$

The first Scenario

Firms serving high-income trade-integrated region

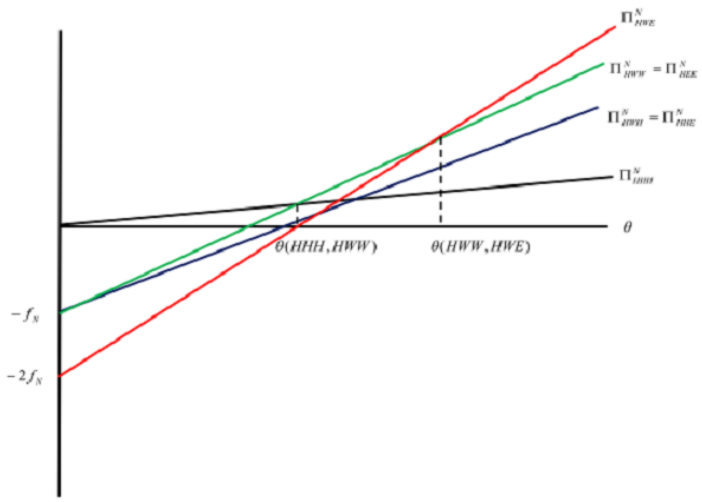

Figure 1: Profit functions in case of Home, North, and North

The second Scenario

Firms serving low-income trade-integrated region

- West and East: symmetric member countries of Southern trade-integrated region
- 27 possible location combinations that firms can choose

Assumption (2)

$$\frac{w_H}{w_S} > t_S$$

The second Scenario

Firms serving low-income trade-integrated region

Under assumption (2):

$$\Pi^S_{HHH} = B\Theta[w_H^{1-\varepsilon} + \beta_S(w_H t_S)^{1-\varepsilon} + \beta_S(w_H t_S)^{1-\varepsilon}] \quad \text{(exports)}$$

$$\Pi^S_{WHH} = B\Theta[(w_S t_S)^{1-\varepsilon} + \beta_S(w_H t_S)^{1-\varepsilon} + \beta_S(w_H t_S)^{1-\varepsilon}] - f_S \quad \text{(export-platform FDI)}$$

$$\Pi^S_{WWH} = B\Theta[(w_S t_S)^{1-\varepsilon} + \beta_S w_S^{1-\varepsilon} + \beta_S(w_H t_S)^{1-\varepsilon}] - f_S \quad \text{(horizontal FDI)}$$

$$\Pi^S_{WWW} = B\Theta[(w_S t_S)^{1-\varepsilon} + \beta_S w_S^{1-\varepsilon} + \beta_S(w_S \tau_S)^{1-\varepsilon}] - f_S \quad \text{(complex FDI)}$$

$$\Pi^S_{WWE} = B\Theta[(w_S t_S)^{1-\varepsilon} + \beta_S w_S^{1-\varepsilon} + \beta_S w_S^{1-\varepsilon}] - 2f_S \quad \text{(complex FDI + horizontal FDI)}$$

The second Scenario

Firms serving low-income trade-integrated region

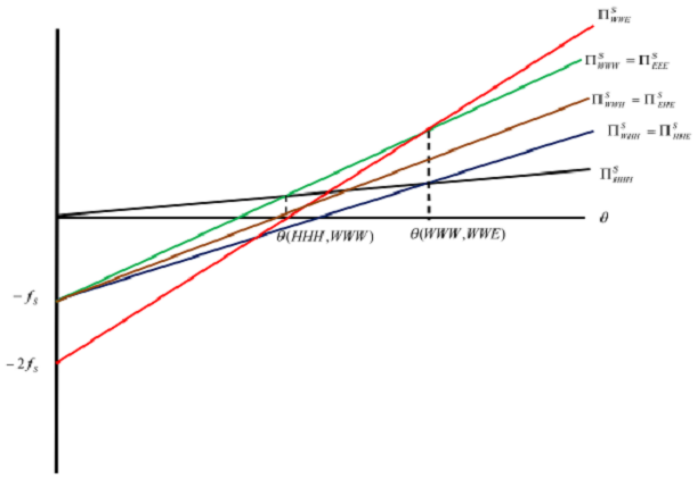

Figure 2: Profit functions in case of Home, South, and South

Data Analysis

Plant-level data

- Data of Korean foreign direct investment obtained from the Overseas Direct Investment Statistics from the Export-Import Bank of Korea
  - Full list of Korean worldwide investment from 2002 to 2006
  - Each plant disaggregated by industry sectors and host country in a given year
- Useful information on individual Korean foreign affiliate in its host country
  - Balance sheet
  - Total sales broken down into:
    1. Sales from local market
    2. Sales from exporting back to Korea
    3. Sales from exporting to third countries
  - Date of establishment

Data Analysis

Firm-level data

- Data of Korean firms obtained from the Korean Information System database of the Korea Investor's Service Co., Ltd
  - Full list of Korean firms registered as corporations
  - Classified by KSIC five-digit level
- Useful information on individual firms
  - Balance sheet, export status
  - Employment divided by production and non-production sectors
- Merge firm-level data with the plant-level data for the econometric analysis

Data Analysis

Table 1: Summary statistics of variables for empirical analysis

Variables	Units	Europe		Asia	
		Mean	Std. Dev.	Mean	Std. Dev.
Share of local sales	Continuous	0.711	0.382	0.607	0.446
Share of export sales to Korea	Continuous	0.039	0.147	0.3	0.417
Share of export sales to third countries	Continuous	0.249	0.359	0.09	0.254
Complex	Binary	0.194	0.396	0.042	0.199
Complexhome	Binary	0.007	0.269	0.443	0.248
Purehori	Binary	0.485	0.5	0.323	0.467
EEA	Binary	0.859	0.382		
AFTA	Binary			0.199	0.399
Labor productivity	Continuous	1.425	2.1	1.478	1.587
Number of firms	Number	189		1048	

Note: The sample includes firms from manufacturing industries (three-digit KSIC level) that established local subsidiaries between 2002 and 2006 are considered.
Complex = 1 if firms have local sales and export sales to third countries
Complexhome = 1 if firms have local sales and export sales to home and third countries
Purehori = 1 if firms only have local sales

Empirical Results

Table 2: Direction of sales of new Korean FDI firms using OLS

	Share of Sales to Local Market	Share of Sales to Korea	Share of Sales to 3rd Countries	Share of Sales to Local Market	Share of Sales to Korea	Share of Sales to 3rd Countries
Firm productivity	-0.02	-0.008	0.015	-0.019	-0.006	0.037**
	(0.0155)	(0.005)	(0.01)	(0.018)	(0.005)	(0.016)
EEA	-0.149	-0.04	**0.153****			
	(0.092)	(0.047)	**(0.069)**			
AFTA				−0.111*	−0.07***	**0.182*****
				(0.057)	(0.026)	**(0.057)**
Productivity*EEA	0.135**	-0.031	**−0.085***			
	(0.059)	(0.025)	**(0.046)**			
Productivity*AFTA				0.003	-0.003	-0.01
				(0.023)	(0.013)	(0.022)
GDP per capita	0.004***	−0.002***	0.0001	0.003***	-0.001	-0.0001
	(0.001)	(0.0007)	(0.0001)	(0.001)	(0.001)	(0.001)
Trade cost	0.001	-0.0005	0.002	0.001	−0.009***	-0.004
	(0.001)	(0.001)	(0.004)	(0.0007)	(0.003)	(0.004)
R&D intensity	-0.0001	0.0004**	−0.0004**	0.0001	-0.0004	−0.003**
	(0.0004)	(0.0002)	(0.0002)	(0.0003)	(0.0003)	(0.002)
Firm size	−0.023***	−0.013***	0.038***	−0.025***	−0.018***	0.042***
	(0.007)	(0.005)	(0.005)	(0.006)	(0.007)	(0.004)
Constant	0.665***	0.352***	0.003	0.868***	0.394***	−0.14***
	(0.11)	(0.051)	(0.093)	(0.127)	(0.133)	(0.053)
R^2	0.2055	0.1163	0.1819	0.3141	0.203	0.3668
# of observations	159	159	159	1014	1014	1014

Note : Heteroskedasticity-consistent standard error allowing for clustering by host country are in parentheses. * represents significance at 10% level, ** for significance at 5% level, *** for significance at 1% level. European countries include 18 EEA countries and 6 non-EEA countries while Asian countries involve 9 AFTA countries and 25 non-AFTA countries.

Empirical Results

Table 3: Strategies of new Korean affiliates between 2002 and 2006 using probit model

FDI strategies	**Complex**	Complexhome	Purehori	Complex	**Complexhome**	Purehori
EEA	0.587	0.645	-0.088			
	(0.677)	(0.52)	(0.445)			
AFTA				0.361	**0.272****	**−0.334***
				(0.315)	**(0.131)**	**(0.181)**
Firm productivity	**−0.199***	-0.011	**0.053*****	-0.052	-0.025	**0.039****
	(0.107)	(0.028)	**(0.018)**	(0.103)	(0.019)	**(0.016)**
productivity*EEA	0.257*	0.267	0.129			
	(0.144)	(0.176)	(0.26)			
productivity*AFTA				-0.007	-0.024	0.083*
				(0.122)	(0.069)	(0.05)
R&D intensity	0.033	-0.302	-0.452	0.309	0.29*	−0.481*
	(0.619)	(0.217)	(0.3)	(0.51)	(0.162)	(0.28)
Firm size	0.127***	0.108***	0.07	0.001	0.001***	0.071
	(0.046)	(0.036)	(0.046)	(0.001)	(0.0003)	(0.048)
Trade cost	0.01	-0.045	0.078*	-0.046	-0.132	0.6*
	(0.039)	(0.03)	(0.046)	(0.063)	(0.172)	(0.361)
GDP per capita	0.002	-0.012	0.019***	0.002	-0.0004	0.019***
	(0.008)	(0.042)	(0.006)	(0.006)	(0.011)	(0.006)
Observations	159	159	159	1014	1014	1014
Number of countries		14			21	
R-squared	0.1561	0.1067	0.053	0.089	0.0594	0.0558
Log-Likelihood	-90.49	-148.65	-450.13	-112.73	-170.97	-448.96
Wald chi2 (Prob > chi2)	659.95	91940.67	168.34	165.66	2656.3	182.04
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
$\frac{dy}{d(productivity)}_{FTA=1}$	**−0.044****	-0.003	**0.021*****	-0.011	**−0.005****	**0.015****
	(0.021)	(0.006)	**(0.007)**	(0.021)	**(0.002)**	**(0.006)**

Note : Heteroskedasticity-consistent standard error allowing for clustering by host country are in parentheses. * represents significance at 10% level, ** for significance at 5% level, *** for significance at 1% level.

Conclusion

- Relatively less productive firms are profitable to enter free trade area by engaging in "complex" FDI
  - pattern of "complex" FDI differ in the size of trade integrated region
  - firm's "complex" FDI in the region with low-income countries involve export sales to home country

Implications for Asia-Pacific region

APEC

- Consist of economies with different income-levels
  - From Vietnam ($ 931 (2012 est)) to United States ($ 43,063 (2012 est))
- Attractive region for FDI as a host
- More opportunity for firms to engage in FDI as a source
  - Various forms of FDI

CV

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Ph.D.	Economics, University of Texas at Austin **Dissertation:** Three essays on International Economics **Committee Co-Chairs:** Dean Corbae and Jason Abrevaya	May 2012
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"Post-Production Services and Optimal Integration Strategies for the Multinational Firm" (2012)
"Regional Economic Integration and Multinational Firm Strategies in Middle-income Countries," with Sanghyun Hwang (2011)
"Technology Spillovers Through Workers' Mobility and Exporters' Choices" (2010)
"Horizontal versus Export-Platform FDI: Choice of Heterogeneous Firms in Trade," with Jaehong Park (2009)

WORK IN PROGRESS

"Environmental Regulations: A New Turning Point for Service FDI?"

"Relational Contract Approach to Foreign Executive Employment: Theory and Evidence" with Sunjoo Hwang

CONFERENCE PRESENTATIONS

Korea International Economic Association Meeting, Seoul, Korea	March 2013
Midwest Economics Association Annual Meeting, St. Louis, MO	March 2011
Southern Economic Association Annual Meeting, Atlanta, GA	November 2010

COMPUTER SKILLS

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