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Estimating the Benefits of Cross-Border Paperless Trade

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1. Key Findings

- ▶ Cross-border paperless trade has major potential to boost exports and reduce trade costs in the Asia-Pacific region.
- ▶ Under a scenario of full implementation of measures identified by UNESCAP, regional exports would increase by \$224bn annually and total trade costs would fall by \$23bn annually.
- ▶ These numbers are likely to be on the low end of what is reasonable:
 - ▶ They are gains from unilateral reform, not concerted bilateral or multilateral action.
 - ▶ They do not take account of necessary accompanying steps in national paperless trade facilitation in some countries.

2. Defining Cross-Border Paperless Trade

- ▶ UNESCAP work defines cross-border paperless trade as “trade taking place on the basis of electronic communications, including exchange of trade-related data and documents in electronic form”.
- ▶ Cross-border paperless trade is part of the broader push to paperless trade systems as part of the global and regional trade facilitation agenda.
- ▶ The Asia-Pacific has been a leader in trade facilitation, including in cross-border paperless trade. This role is consolidated with UNESCAP Resolution 68/3, which promotes the development of a regional approach to cross-border paperless trade.

2. Defining Cross-Border Paperless Trade

- ▶ To estimate the possible economic benefits associated with broader adoption of cross-border paperless trade, it is important to have a more precise definition, expressed in terms of particular measures.
- ▶ UNESCAP's 2013 Asia-Pacific Trade Facilitation Forum Survey identifies the following components:
 - ▶ Laws and regulations for electronic transactions.
 - ▶ Recognized certification authority.
 - ▶ Engagement in cross-border electronic data exchange.
 - ▶ Electronic exchange of Certificate of Origin.
 - ▶ Electronic exchange of Sanitary & Phyto-Sanitary certificates.
 - ▶ Banks and insurers retrieving letters of credit electronically without lodging paper-based documents.

2. Defining Cross-Border Paperless Trade

- ▶ These six items identified by UNESCAP are used as the definition of cross-border paperless trade for the report.
- ▶ In some senses, it is a narrow definition:
 - ▶ It focuses exclusively on cross-border aspects.
 - ▶ General paperless trade initiatives are dealt with separately, even though in practice, both sets of initiatives are often implemented together as part of reform packages.
- ▶ Many of these aspects of cross-border paperless trade can be implemented unilaterally, but concerted bilateral or regional efforts can boost the gains.

3. Calculating Economic Benefits and Cost Savings

- ▶ There is no pre-existing estimate of the economic benefits and cost savings that can flow from implementation of cross-border paperless trade.
- ▶ Previous studies tend to focus on a single country, or a single measure.
- ▶ This report looks at the process as a whole, and takes a regional standpoint.
- ▶ Economic benefits estimated:
 - ▶ Export gains
 - ▶ Cost reductions
- ▶ All estimates are on a “what if” basis. Simulations, not forecasts.

3. Calculating Economic Benefits and Cost Savings

| Country | Reduction in No. of Documents | Time savings | Cost savings per Transaction | Total Cost savings |
|------------------|----------------------------------|----------------------------------|--|--------------------|
| APEC economies | NA | NA | 1.5%-15%[1] | \$60bn |
| | | | 87% for exports subject to certificate of origin; 49% for imports subject to certificate of origin | |
| APEC economies | NA | NA | | 6.8% or \$7.5bn |
| Hong Kong, China | NA | NA | NA | \$167.5m |
| Japan | 50% | 62.90% | NA | \$0.53bn |
| Korea | NA | NA | NA | \$1.8bn-\$2.4bn |
| Singapore | 97% | 99% | 20%-35% | NA |
| Thailand | 75% for imports; 56% for exports | 41% for imports; 42% for exports | 24% for imports; 26% for exports | \$1.5bn |

3. Calculating Economic Benefits and Cost Savings

- ▶ No ready-made methodology for calculating economic benefits and cost savings of cross-border paperless trade.
- ▶ The report builds up the analysis using a number of ingredients:
 - ▶ UNESCAP 2013 Asia-Pacific Trade Facilitation Forum Survey.
 - ▶ Doing Business data on the time and cost associated with trade transactions.
 - ▶ World Development Indicators data on the volume of trade and total container movements.
 - ▶ A literature-based estimate of the sensitivity of exports with respect to time.
 - ▶ Simple regression analysis to fill in intervening causal steps.

3. Calculating Economic Benefits and Cost Savings

1. Estimated Relationship between Paperless Trade Implementation and Trade Times

Data on Paperless Trade Implementation

Data on Trade Times

Econometric Model Linking Paperless Trade Implementation and Trade Times



2. Simulation of Trade Times under Reform Scenarios

Scenarios of Partial and Full Paperless Trade Implementation

Counterfactual Indicators of Paperless Trade Implementation

Counterfactual Indicators of Trade Times



3. Simulation of Trade Gains and Cost Savings under Reform Scenarios

Data on Exports and Imports

Data on Trade Costs per Container and Number of Container Movements

Counterfactual Indicators of Exports and Imports

Counterfactual Indicators of Trade Costs



3. Calculating Economic Benefits and Cost Savings

- ▶ Simulations are conducted for two reform scenarios, to give an idea of relative benefits and cost savings.
- ▶ Scenario 1 (Partial Reform): All countries in the region achieve at least partial implementation of cross-border paperless trade.
- ▶ Scenario 2 (Full Reform): All countries in the region achieve full implementation of cross-border paperless trade.

4. Simulation Results

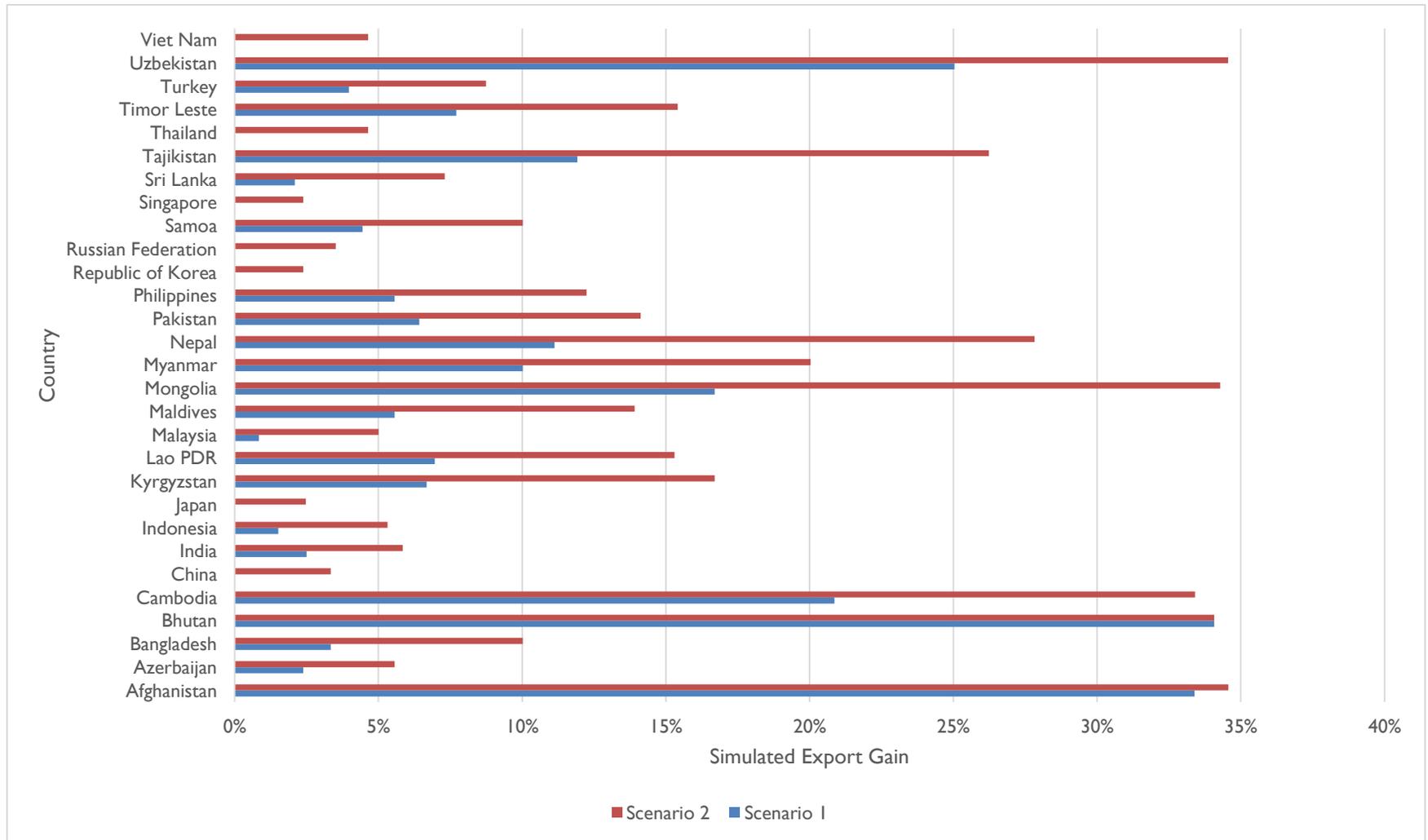
▶ Scenario 1 (Partial Reform):

- ▶ Regional average decrease in export time of 22%, ranging up to 97%.
- ▶ Regional average gain in exports of 8%, ranging up to 34%.
- ▶ Total regional gain in exports of \$32bn annually.
- ▶ Regional average trade cost savings of 22%, for a total of \$3.5bn annually.

▶ Scenario 2 (Full Reform):

- ▶ Regional average decrease in export time of 41%, ranging up to 99%.
- ▶ Regional average gain in exports of 14%, ranging up to 35%.
- ▶ Total regional gain in exports of \$224bn annually.
- ▶ Regional average trade cost savings of 41%, for a total of \$22.9bn annually.

4. Simulation Results



4. Simulation Results

- ▶ Average results accord well with the previous literature, although it is hard to make direct comparisons.
 - ▶ Average total cost savings per country = \$1.2bn in the previous literature, and \$1.3bn in this report.
- ▶ Why do results differ from country to country?
 - ▶ Different implementation baselines mean that partial and full reform imply different rates of change in performance. The largest gains accrue to the countries that reform the most.
 - ▶ Different trade and cost baselines.
- ▶ There is good reason to believe that these numbers are low-end estimates of the true potential gains:
 - ▶ Narrow definition, not part of a comprehensive reform package.
 - ▶ Focused on unilateral implementation, not concerted action.
 - ▶ Some countries have high baselines in terms of the UNESCAP survey, but in practice can be expected to reform further.

5. Policy Implications

- ▶ “New generation” trade facilitation measures like cross-border paperless trade have considerable scope to generate economic gains for reforming countries.
- ▶ For those countries that are currently some distance from best practice, the key is to develop national paperless trade systems that enable cross-border exchange of electronic data and document.
 - ▶ Building in cross-border capabilities at an early stage can save costly retooling later on.
- ▶ A regional agreement on the facilitation of cross-border paperless trade as envisaged under implementation of ESCAP Res. 68/3 would be particularly useful if it:
 - ▶ Features both general (national) and cross-border paperless trade provisions
 - ▶ Brings together a combination of less advanced and more advanced countries
 - ▶ Includes capacity building (and Aid for Trade) as part of the overall package.