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How to Assess the Impact of Services Trade Liberalisation on Domestic vis-a-vis Foreign Service Suppliers

Assessing the impact of services trade liberalisation is a very important but extremely difficult task at present for a variety of reasons. Services face restrictions on trade that are in general greater than those on trade in goods and more complex to model and assess. Policies that restrict services trade and competition are not the same across all service sectors. The methodologies used in these attempts are still being developed, but more significantly, the data that are needed as inputs into these modelling techniques are woefully incomplete and inadequate. The difficulties are magnified for small and low-income countries where the lack of data is even more severe. This section discusses some of the complexities involved in the modelling effort, the main approaches and their limitations.[77]

5.1 What should be measured?

The output of the wide range of services (including government services) makes up between 50 and 80 per cent of the GDP of most countries. Services are heterogeneous in their characteristics: some are complex, some are highly regulated, some comprise essential infrastructure of modern economies, some are intermediate or business services, while others are consumer and government services. Some connect activities within or between economies.

Infrastructure services include transport and logistics (essential for agriculture, manufacturing and the extractive industries, and tourism), telecommunications and ICT, financial services and distribution, not only wholesale and retail, but also water and energy supplies. Intermediate services include legal, accounting, architecture and engineering, management consulting, advertising and a range of other specialties. This broad grouping includes very high value added and knowledge-intensive activities which are growing fast. Whereas it is common to think of globalisation as affecting, say, transport, telecoms, financial services and distribution, in recent times the intermediate business services have themselves in part become globalised and have their own cross-border production chains.

In addition to cross-border trade flows of these very diverse service activities, it is necessary to measure service flows arising from FDI in developing countries. These data do not exist at present for most developing countries.[78] However, leaving out the FDI component of services trade means that the gains from liberalising FDI, which can be realised through higher quality of products, more choice, greater dependability and lower prices (when an effective competition law is in place and enforced) will not be captured. The extent of private FDI depends on the size of the country market for the

particular service and often on whether one country in a particular region can serve as a hub for services exports to its neighbours, which would then make it more attractive as an investment destination.

When considering such services trade in Modes 1, 2 and 3, it is important also in assessing the impacts of liberalisation that services such as health, education and various social services are excluded from the scope of the agreement when provided exclusively by governments and should not enter the calculations. The treatment of Mode 4 in trade agreements is highly uneven, with many FTAs covering only very limited categories of natural persons, for which there are no reliable data.

5.2 What data should be used?

The first and most obdurate hurdle to surmount is how to measure services. Initially, even conceptually we stumble on how to define what a unit of output is, how to assess its quality and how to determine the unit price for many services. Perhaps it is easier for transport services, where distance can be a quite reliable measure, or for telecommunications, where price per minute can be used, but even the latter does not cover the traffic that now uses the backbone internet cables. For some other services there may be proxies which must be used, even if they only crudely represent the underlying reality, but for business and professional services there are simply no adequate units to measure quality and price without proxies acting as a prop. During the initial stages of developing national accounts, many of these services were measured by labour input, which meant that by definition there could be no increase in productivity because output equalled input.

Accounting experts have revealed that their normal conceptual basic tools can fail them when producing financial statements for the operations of service sector corporations with certain characteristics. The three basic accounting principles of prudence, realised value, and matching income and expenditure no longer always work.

The notion of productivity being related to prices needs fundamental reassessment in the services area. The pricing of services products now often incorporates estimated future costs because increasingly prices reflect judgements on the probable future costs of product utilisation. Productivity as a notion of a past event is now modified in services pricing to take account of the management of risk and the evolution of the future, the source of two basic forms of uncertainties. The first refers to the duration of performance of the service in future time, and the second refers to the events which might alter the mode and quality of this performance to which risk management applies. The cost of materials and physical output of some of the most high tech services may only be a minor part of overall costs.

5.3 Modelling techniques

Considerable progress has been made over the past decade in modelling the impact of liberalisation on services trade. However, the modelling effort is complicated by the

nature of services trade and the fact that several types of channels exist through which liberalisation of services can affect the domestic economy.[79] By serving as inputs into production of other goods and services, services can both increase the productivity of capital and labour inputs and affect total factor productivity, thus stimulating long-term growth effects. Services trade liberalisation can also alter a country's comparative advantage by affecting the composition of trade. For example, improvements in communications can help countries move up the value chain in international trade to export more sophisticated products. Spill-overs from foreign direct investment is a third channel through which liberalisation of services trade affects the domestic economy, since FDI involves the transfer not only of capital, but also technology and know-how. Increased international competition is another channel through which services trade liberalisation may promote gains within an economy. Lastly, 'network effects' or the effects of improved efficiency on other sectors of the economy may also be important.[80]

Assessing the impact of services trade liberalisation has been done through several approaches, each with its own relative weaknesses. These are summarised below.

5.3.1 Total factor productivity models

At the firm or sectoral level, economists have attempted to examine the impact of services trade liberalisation by measuring changes in total factor productivity at the level of the firm to determine whether the performance of domestic manufacturing firms has indeed been improved through services trade liberalisation. This is an empirical approach that also takes into account downstream manufacturing and other industries affected by services liberalisation. Initial studies reveal the positive effects found for telecoms, electricity, financial services, transport and distribution. It stresses the high cost of delays in the logistics chain, whether at ports, during transport or at customs border controls. However, given the wide discrepancies in evaluated results, it is clear that the proxies selected are not yet adequate translators. Studies have been done under this TFP approach covering the impact of services liberalisation on domestic firms in the Czech Republic, Chile and sub-Saharan African countries, as well as on the performance of the transport, financial and communications sectors.[81] Fukui and McDaniel (2010) write that '… the results thus far have been less than robust, revealing wide ranges across research efforts within particular sectors'.

5.3.2 Computable general equilibrium modelling

Another approach has been the use of economy-wide computable general equilibrium models to assess the impact of liberalisation on services trade, as this approach ideally encompasses the empirical effects of all of the various channels discussed above to obtain an impact of the economy-wide effects of such liberalisation. The estimates provided by such models are often more useful for policy deliberations than firm level results, but the CGE approach is fraught with data and modelling difficulties. The

most common way in which economists go about CGE modelling is to transform the barriers to services trade into tariff-equivalent price wedges, using ad valorem barriers that are often the result of guesswork.[82] Authors of the recent survey of advances in modelling of services trade liberalisation state that these estimates 'involve at best a great deal of subjectivity and … leave the interpretation of the CGE results open to question'.[83] However, at present this is the only approach for obtaining economy-wide results. The more complete of the CGE efforts explicitly take account of FDI in services; others look only at cross-border restrictions.

CGE modelling poses a number of challenges for its proponents that have still not been resolved and which may reduce the realistic value of such estimations without the incorporation or improvement of these elements. These include:

- CGE models are mainly of the comparative static type, examining alternative equilibria at one moment of time for what is in reality an ever-evolving disequilibrium, with extensive spill-overs affecting sectors other than those portrayed.
- The number of separate service sectors usually modelled is far fewer than the actual number of distinct service sectors in a given economy, and relatively less disaggregated than for agricultural and manufactured products.
- CGE modelling uses widely varying elasticities of demand for each of the hundreds of different service supplies – and those that vary between intermediate demand and consumer demand; often these elasticities are simply best guesses but their magnitude strongly influences the final results.
- The extent and nature of the informal economy (barter/exchange and unreported activities) is not captured.
- As with many service sectors, the classifications are inadequate in terms of the actual activities. In some cases the statistics are collected under the main ISIC activities and not as Central Product Classification (CPC) products.
- Economies of scope rather than scale, so important to some service activities, are not allowed for.
- Prices do not represent a past cost with an added profit margin, but include elements for future performance over time and thus some risk and uncertainty.
- The wide size scale of economic activities, whether of public or private suppliers, display wide and varying productivities.
- Wholesale distribution services may not be differentiated from retail services supplying household consumers.
- The differing structures of each service sector, where perfect and imperfect competition may not be taken sufficiently into account.

- Base year economic data on which the CGE models are calibrated can become quickly outdated, especially recently, because of the economic crisis.

In summary, as things currently stand, CGE econometric models are stronger for advanced economies that have more disaggregated statistical input on service sector activities than for developing countries, better for estimating impacts on agriculture and manufacturing than for services, and better in this regard for trade in goods rather than trade in services.

Most economists who have carried out relevant CGE studies of services trade liberalisation have focused on particular economies; various studies have examined this impact for India, Tunisia, Russia, Tanzania and Kenya. All these studies show, without exception, that large gains are obtained from reducing regulatory barriers against potential service providers (both foreign and domestic) through liberalising both discriminatory and non-discriminatory barriers to services trade. Welfare gains are estimated to be as high as 11 per cent of GDP, while real income effects from liberalisation are shown to be in the range of 2 to 25 per cent, with FDI a key channel of gain in both cases.[84] An earlier and more ambitious CGE study covered several economies, both developing and developed, and showed that the gains from services trade liberalisation would be much higher for developing economies than for developed economies (where, indeed, some of the latter are shown to lose from services liberalisation worldwide).[85]

5.3.3 Frequency and gravity models

Two other methods which economists have used to try and assess the impact of services trade liberalisation are through calculating cost-price margins for specific service sectors through a so-called frequency approach and a gravity approach. The former involves the collection of information on restrictive policies applied to service activities and a conversion of these into frequency indicators (i.e. the more measures are applied, the higher the frequency). These indicators are then used in regressions to explain the observed higher measures of prices or costs at the national level than at the world level. The second approach (i.e. gravity model) relies upon indirect methods through gravity regressions to estimate what trade flows should be in a certain sector and then estimate the tariff equivalent of policies from the difference between estimated and observed flows. Gravity models can be very convincing in their explanation of how distance, GDP per head, common language, colonialisation and so on affect past trade patterns. But they are an explanation of factors in the past and may not be considered desirable by politicians for forward-looking policy prescriptions. In addition, gravity models do not 'capture' the effect of new exporters expanding service flows.

Both of these efforts to measure the extent and impact of policy barriers on a sectoral and cross-country basis must make use of a policy index of some kind that is necessary to estimate the price, cost or quantity effects of restrictive policies (and therefore, indirectly, the benefits of removing them). However, the difficulty is that

there are no databases for the service sectors that provide information on restrictive measures applied in a comprehensive, comparative and accurate manner. The commitments in the WTO GATS schedules that are often used by researchers are not necessarily useful, as these measures can be misleading since they are frequently not scheduled at the level of regulatory application. Obtaining accurate information and assigning relative weights to their restrictiveness so as to be able to estimate their price and/or cost effects is a matter requiring a detailed level of sectoral investigation and expertise. The restrictiveness indices that have been constructed suggest that barriers to services trade appear to be substantial, especially for Modes 3 and 4.[86]

In summary, while attempts have been made to transform the regulatory restrictions on services, the essential input into all of the various modelling efforts, into more credible price wedges, the underlying data are not very good.[87] Estimates of the price wedges vary widely, and there is as yet no universally accepted measure of restrictions in services that can be converted so as to be usable in these various modelling frameworks.[88]

Two institutional efforts are underway to develop such estimates of such price wedges. Researchers at the World Bank (Mattoo, Borchert and Gootiz) have developed services restrictiveness indices for some of the Bank's member countries. The OECD Trade and Agriculture Directorate is currently undertaking a project to develop 'restrictive indices' of major barriers to services trade for OECD members which should allow for more accurate estimates of these price wedges or restrictive levels in the future for this subset of countries. However, these OECD Services Trade Restrictiveness Indices (STRI) and the robustness of the statistical techniques will need very careful assessment by independent analysts so that the path from economic and sectoral reality, as modified by the often multiple layers of regulations affecting a given service activity and that finally emerges into simplified indices, is captured as accurately as possible.

Though the quality of analysis still needs to be improved, CGE modelling, frequency modelling and gravity approach regression techniques are being used by researchers to obtain estimates of the impact of services trade liberalisation on firm-level, sector-level and economy-wide level variables. Despite their shortcomings, such estimates provide a sense of the relative magnitude of prevailing barriers and the relative magnitude and distribution of the gains that might be realised from increasing competition on services markets and on income and welfare. Across the board, the research suggests that potential gains from liberalisation may be substantial, or even very large, because of the numerous linkages between services and the rest of the economy. Hoekman's assessment of over a decade ago (2000) that 'the state of the data on barriers is such that, in the near term, policy-makers will have to continue to rely primarily on rules of thumb in determining negotiating priorities', is still largely true today, despite the more advanced modelling techniques that have been developed and the research carried out since then.