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Services Trade Restrictiveness Index (STRI): Financial Services

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Abstract

SERVICES TRADE RESTRICTIVENESS INDEX (STRI): FINANCIAL SERVICES

by

Dorothée Rouzet, Hildegunn Kyvik Nordås, Frédéric Gonzales, Massimo Geloso Grosso, Iza Lejarraga, Sébastien Miroudot and Asako Ueno

This paper presents the services trade restrictiveness indices (STRIs) for financial services. The STRIs are composite indices taking values between zero and one, zero representing an open market and one a market completely closed to foreign services providers. The indices are calculated for 40 countries, the 34 OECD members and Brazil, China, India, Indonesia, Russia and South Africa. The STRIs capture de jure restrictions. This report presents the first vintage of indicators for commercial banking and insurance services and captures regulations in force in 2013. The scores in commercial banking range between 0.06 and 0.55, with a sample average of 0.19. The scores in insurance services range between 0.05 and 0.63, with a sample average of 0.20. The results are mainly driven by restrictions on market entry, where significant impediments remain in the form of foreign equity limits, restrictions on legal form, discriminatory licensing criteria and restrictions on cross-border transactions. Barriers to competition, including regulation of products and prices and preferential treatment granted to state-owned financial institutions, also make a substantive contribution to the index values. The paper presents the list of measures included in the indices, the scoring and weighting system for calculating the indices and an analysis of the results.

Keywords: Trade in services, Services trade restrictions, Bank, Insurance, Regulation, Services liberalisation, Trade policy, Regulatory reform

JEL classification: F13, F14, F21, G21, G22, G28, L88

Acknowledgements

The STRI project for financial services started with an expert meeting where the list of measures was discussed. The STRI team is grateful for the insights and advice that all the participants brought to the meeting. The STRI database has been put together by going through laws and regulation in each of the 40 countries included. Each entry is documented by the source and a web link to the law or regulation and each government has fact-checked the database. Needless to say this has been an enormous task and the OECD Secretariat would like to thank Member governments for reviewing and peer reviewing the databases. We will also like to thank Mariam Abdová, Beatriz Cano Buchholz, Ekaterina Burdina, Stellina Galitopoulou, Ahmet Gulsen, Dora Hajdú, Anthony Halley, Anna Jankowska, Gimin Kang, Fatma Kayhan, Yunhee Kim, Maria Kopyta, Hendric Richter, Humberto Lopez Rizzo, Byron Sacharidis, Katharina Sass, Jonathan Senft, Marie Sudreau, Lucie Vondrackova, Jozefien Willemen and Aviad Ben Yehuda who provided excellent research assistance in creating the database. Also thanks to the University of Adelaide and project managers Christopher Findlay and Uwe Kaufman for creating the database for Key Partners. Special thanks to Rainer Lanz and Alexander Ragoussis for their contribution to the design of the STRI methodology. The weighting scheme for the STRI indices is derived from an online survey. Thanks to everybody that took time to do the survey. Finally, the authors would like to thank Juan Marchetti, Stijn Claessens, Crawford Falconer and Raed Safadi for useful comments and inputs. The paper benefitted from discussions at the OECD Working Party of the Trade Committee, which has agreed to make the study more widely available through declassification on its responsibility, and at the OECD Committee on Financial Markets and the OECD Insurance and Private Pensions Committee.

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Executive summary

This paper presents the Services Trade Restrictiveness Index (STRI) for commercial banking and insurance services for OECD countries and Key Partners. The financial services industry accounts for 7% of gross domestic product in OECD countries, and has become rapidly globalised since the 1990s. Trade in retail financial services mainly takes place through affiliates established in host countries. Cross-border trade is more relevant for financial services directed to sophisticated corporate clients, such as syndicated loans, insurance of large commercial risks and reinsurance.

Banking and insurance services support production and exchange in virtually all economic activities. As such, the financial sector is an engine for economic growth, but also a potential source of systemic risk. Prudential regulation of financial services is needed to maintain the stability and soundness of the financial system. In the aftermath of the crisis, the landscape of financial regulation is evolving to deal, in particular, with financial conglomerates and cross-border financial groups. The General Agreement on Trade in Services (GATS) recognises the need to regulate the financial sector for prudential reasons in its "prudential carve-out", but also states that measures taken for prudential reasons shall not be used as a means of avoiding GATS commitments or obligations. The design of the STRI acknowledges the challenge of drawing the line between prudential and trade-restrictive policies. The OECD recognises that prudential rules and standards are set by national governments and regulators as well as international financial standard-setting bodies; this paper should in no way to be interpreted as seeking to define the scope or nature of what measures would be considered prudential. The database and indices aim to record in an objective and comparable manner the state of legal and regulatory impediments faced by foreign financial services suppliers.

The STRI indices take values between zero and one, one representing a totally closed and zero a totally open sector. The results show that the average level of restrictiveness in financial services is moderate but exhibits large variation. The sample average index is 0.19 for commercial banking (ranging from 0.06 to 0.55) and 0.20 for insurance (ranging from 0.05 to 0.63). The results are mainly driven by the policy area *Restrictions on market entry*, where significant impediments remain in the form of foreign equity limits, restrictions on legal form, discriminatory licensing criteria and restrictions on cross-border transactions. *Barriers to competition*, including regulation of products and prices and preferential treatment granted to state-owned financial institutions, also have a substantive impact in the countries with the highest index values.

The STRIs are broken down according to GATS modes of supply. Restrictions on commercial presence (Mode 3) are the most significant component. This reflects the role of commercial establishment as the primary mode of entry into foreign markets for commercial banks and insurance carriers, though the rise of electronic distribution channels has expanded the potential for cross-border trade in financial services. Furthermore, measures that fall under market access and national treatment as defined in the GATS account for the bulk of restrictions, but measures categorised under domestic regulation also contribute significantly to the indices in the most restrictive countries. Regulatory barriers affect both the establishment of financial services suppliers and their on-going operations.

The weights used to calculate the STRI from the qualitative database rely on expert judgement. Sensitivity analysis indicates that the results are not very sensitive to the choice of the weighting scheme.

1. Introduction

The OECD Services Trade Restrictiveness Index (STRI) project was launched by the Trade Committee in June 2007 as a tool for quantifying barriers to trade in services at the sector level (OECD, 2007). This paper presents the indices for financial services with separate indices for the commercial banking and insurance sectors.

The major outputs from the STRI project are:

- A regulatory database, providing detailed information on current laws and regulations affecting international trade in services. The database is available on-line and is frequently updated.
- Trade restrictiveness indices which provide a snapshot of the trade policy stance at a particular point in time. The indices will be calculated at regular intervals and will reflect policy reforms over time.

The STRI database contains information on market access, national treatment, relevant domestic regulation and administrative procedures in all 34 OECD Member countries, the Russian Federation, Brazil, China, India, Indonesia and South Africa. The database records policy measures applied on a most-favoured nation (MFN) basis and does not consider preferential treatment entailed in regional trade agreements.[1] The sources of information for the database are laws and regulation in each country.[2] Each entry is documented by reference to the source. The countries included have verified their data and subsequently the database has been subject to peer review assessing their factual accuracy. The qualitative information contained in the database is transformed into numerical values in the STRI indices.

The use of indices to quantify services trade barriers was pioneered by the Australian Productivity Commission, which developed restrictiveness indices for a range of services sectors including financial services in the late 1990s (McGuire, 1998; McGuire and Schuele, 2000). A number of institutions, including the OECD (Dihel and Shepherd, 2007) and the World Bank (Borchert et al., 2012) have developed services trade restrictiveness indices since then.[3] The OECD foreign direct investment (FDI) restrictiveness index,[4] which includes the banking and insurance sectors, also partly overlaps with the STRI for financial services (Kalinova et al., 2010). Indices of trade openness focusing specifically on financial services have been elaborated by Claessens and Glaessner (1998), Contreras and Yi (2004),

1. Some countries have different degrees of liberalisation towards different trade partners, as a result of regional integration or of international agreements such as the OECD Codes of Liberalisation. In these cases, the STRI records the level of openness towards third countries and does not take into account preferential agreements. For instance, the database for European Union members records legal provisions applying to financial services suppliers from outside the European Economic Area.

2. For federal states, where the sector may be regulated at the sub-federal level in addition to federal laws and regulations, a representative state or province was chosen based on output, population and/or the location of the largest city: New South Wales (Australia), Sao Paulo (Brazil), Ontario (Canada), Province of Beijing (China), Bavaria (Germany), National Capital Territory of Delhi (India), Special Capital Region of Jakarta (Indonesia), Federal District of Mexico (Mexico), Oblast of Moscow (Russian Federation), Canton of Zürich (Switzerland), State of New York (United States).

3. The World Bank has developed services trade restrictiveness indices for 103 countries. See http://iresearch.worldbank.org/servicetrade/

4. The 2012 FDI Regulatory Restrictiveness Index by country is available at www.oecd.org/investment/fdiindex.htm.

Barth et al. (2006) and USITC (2009). However, so far most services trade restrictiveness indices have been published only for one year and for a limited number of countries and sectors. In the instances where indices for financial services have covered a large number of countries, they have relied on either survey data or GATS commitments as sources.

The STRI project builds on these efforts, but goes beyond them in several ways. It creates regulatory profiles and indices for a large number of countries with a harmonised dataset based on actual laws and regulations currently in force, which allows for cross-country and cross-sector comparisons of trade barriers. The STRIs are presented in aggregate form as well as decomposed into several classifications: by policy area, the General Agreement on Trade in Services (GATS) classification and modes of supply, discriminatory and non-discriminatory measures, and restrictions on entry and on-going operations. These different classifications will facilitate the use of the indicators in policy analysis for multiple purposes and as a tool for trade negotiators.

2. Definition and characteristics of the financial services sector

Financial intermediation and insurance services play a major role in the functioning of an economy, both by their own contribution to gross domestic product (GDP) and as facilitators of production in trade in all manufacturing and services sectors. In OECD countries, financial and insurance activities represented in 2010 6.8% of total GDP and 11.6% of the value added created in services sectors.[5] In the European Union, 3.9% of gross value added originated in non-insurance financial services activities in 2011, 0.9% in insurance, reinsurance and pensions, and 0.7% in activities auxiliary to financial services and insurance. In the United States, financial intermediation accounted for 3.6% of GDP and 1.9% of employment in 2011, and insurance for 2.6% of GDP and 1.7% of employment.[6]

The role of insurance and finance as links in value chains, enabling a wide range of investment and export activities to take place, is reflected in their contribution to cross-border trade flows. Insurance services and non-insurance financial services each account for around 1% of global trade and 4% of global services trade in gross terms.[7] However the share of financial services in value added trade flows is much higher and reached over 6% of total exports and 13% of exports of services in value-added terms in 2009.[8] This illustrates the fact that the financial services sector supports trade indirectly by providing services that are essential to the production process of manufacturing exports.

5. Based on the 15 countries covered in the OECD STAN database: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Korea, Netherlands, Norway, Slovenia, Sweden, and United States.

6. Source for EU: Eurostat annual national accounts. Source for US: Bureau of Economic Analysis GDP by industry data. Financial intermediation includes “Federal Reserve banks, credit intermediation, and related activities” (NAICS 521 and 522), and insurance includes “Insurance carriers and related activities” (NAICS 524); “Securities, commodity contracts, and investments” (NAICS 523) and “Funds, trusts, and other financial vehicles” (NAICS 525) not counted. Note that the EU and US numbers for non-insurance financial services are not directly comparable due to the different coverage of the statistics.

7. Source: OECD and WTO Trade in Services statistics.

8. Source: OECD-WTO Trade in Value-Added database. Value-added exports of financial services are measured as value-added originating in a country’s financial services sector and embodied in the final consumption of another country; they include in particular intermediate financial services supplied to exporters of goods.

Definition

Table 1 presents the definition of the financial services sector covered in the STRI according to the WTO Services Sectoral Classification List (MTN.GNS/W/120, hereafter referred to as W/120), which is based on the United Nations Provisional Central Product Classification (CPC Prov.). The W/120 classification is used by most countries for GATS scheduling purposes and is used in the STRI as the basis for the definition of the sector. Table 1 also shows the correspondences with the Extended Balance of Payments Statistics (EBOPS 2010) which is the most commonly used classification system for reporting trade in services, and with the International Standard Industrial Classification (ISIC) Revision 4, which is used for reporting foreign direct investment, foreign affiliate sales and production.

Table 1. Definition of the financial services sector

W/120		CPC Prov.	ISIC 4	EBOPS
Commercial banking				
7.B.a	Acceptance of deposits and other repayable funds from the public	81115-81119	6419	7.1
7.B.b	Lending of all types, incl., inter alia, consumer credit, mortgage credit, factoring and financing of commercial transaction	8113	6419, 6492	7.1
7.B.c	Financial leasing	8112	6491	7.1
7.B.d	All payment and money transmission services	81339[3]	6419	7.1
7.B.e	Guarantees and commitments	81199[3]	6419	7.1
Insurance				
7.A.a	Life and accident insurance services[1]	81211, 81291	6511	6.1.1
7.A.b	Non-life insurance services	81292-81299	6512	6.1.2, 6.1.3, 6.4.2
7.A.c	Reinsurance and retrocession	81299[2]	652	6.2
7.A.d	Services auxiliary to insurance (including broking and agency services)	8140	6622, 6629	6.3

1. The STRI does not include health insurance and pension services, which are part of W/120 code 7.A.a.
2. The service specified is a component of a more aggregated CPC item specified elsewhere in this classification list.
3. The service specified constitutes only a part of the total range of activities covered by the CPC concordance.

Source: Sources: WTO, UN.

The data and indices are presented separately for each sub-sector. The STRI for commercial banking focuses on activities performed by credit institutions: deposit-taking, loans, payment services, financial leasing and guarantees. In the database for insurance services, a number of measures distinguish between regulations applying to life insurance, non-life (property and casualty) insurance and reinsurance. Some restrictions also apply specifically to auxiliary services provided by insurance intermediaries and by actuaries.

In its current version, the STRI does not include investment banking services, trading activities and non-bank investment. These services are not part of the core activities of commercial banks, although many commercial banks are also involved in or own subsidiaries involved in these financial activities. Regulations applying to investment banks, asset management funds, money market funds and other non-bank suppliers differ considerably from those applying to deposit-taking institutions. More importantly, regulatory provisions on trading, securitisation, underwriting and asset management are rapidly changing in many countries as a consequence of the financial crisis. Investment banking services may be included in a future iteration of the STRI when the regulatory framework has become more stable.

For similar reasons, health insurance and pension services are not currently included in the STRI for insurance. The structure of the market, the market share available to private (domestic and foreign) insurers and the scope of prudential regulation for these sub-sectors depend to a large extent on whether a statutory social insurance system is in place. It is envisaged that private health insurance and private pensions may be included in the STRI at a later stage, after further consultation to appropriately take into account the diversity of social policy choices in Member states.

Trade and investment patterns in financial services

Financial services providers can serve foreign markets in two main ways: through cross-border exports (Mode 1) or by establishing agencies, branches or subsidiaries in the host country (Mode 3). Foreign direct investment dominates in retail financial services, where proximity with the consumer matters to expand market share and where regulations often restrict cross-border sales by banks and insurers subject to their home country prudential framework. The direct provision of financial services to foreign persons is most relevant for services which target sophisticated corporate clients, such as large commercial loans and reinsurance. The regulatory constraints on these services are typically lighter since large corporations are presumed to be better able to assess the quality of foreign suppliers and the risks associated with purchasing financial services abroad – including whether the foreign bank or insurer may become insolvent, whether deposit insurance applies to non-residents, or the law of which jurisdiction is applicable in case of disputes.

As retail financial services move online, however, challenging the historically paramount role of physical branches as distribution channels, the potential market for cross-border transactions is growing. The digitisation of financial services is one of the factors behind the shrinking number of bank branches in the European Union since 2009 (DB Research, 2013). The increasing availability of internet and mobile-based services is changing the landscape by disseminating information and facilitating the distribution of financial products abroad, although the share of cross-border transactions in retail banking and personal lines of insurance remains very small.

A related issue is that when transactions take place through the internet, cross-border supply (Mode 1) and consumption abroad (Mode 2) become increasingly difficult to distinguish. With the emergence of electronic distribution channels, it is often possible to conclude transactions in financial services without the customer being physically present, which raises ambiguities about where the service is actually delivered. This has become an issue insofar as GATS commitments undertaken on consumption abroad are typically more liberal than on cross-border supply.[9]

Commercial banking

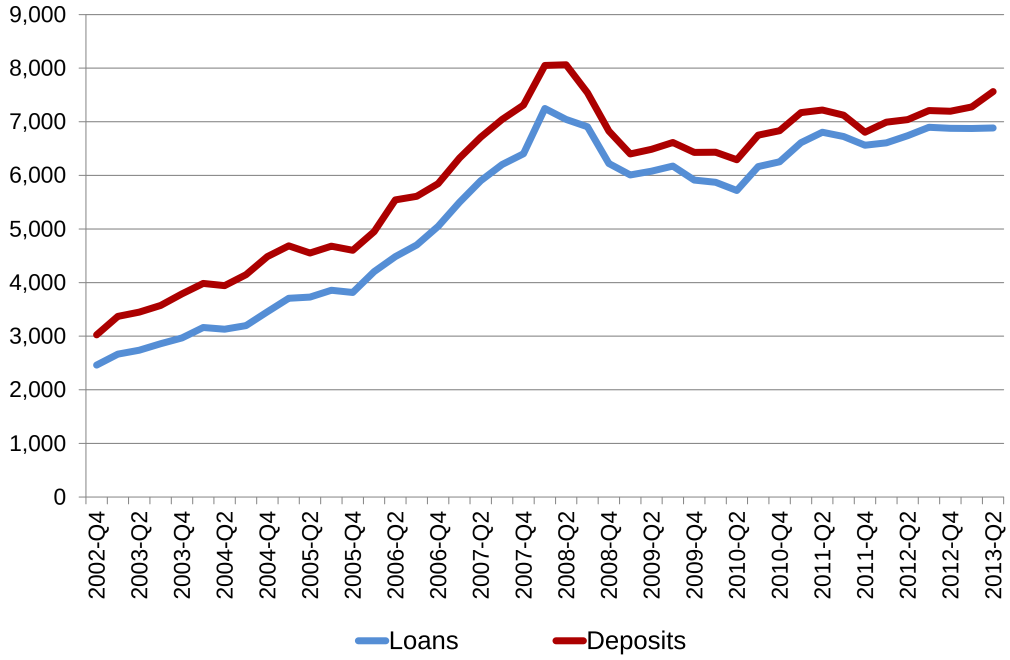
The magnitude of cross-border banking activities is notoriously difficult to estimate, in large part because the high level of aggregation of trade in services statistics does not allow us to isolate commercial banking services from other non-insurance financial services (see Cornford, 2009).[10] In the United States, where a further breakdown is available, credit card and credit-related services account for only a fifth of exports and a third of services imports of

9. See WTO (2010) for a discussion of various options envisaged to deal with this issue. Similarly, many OECD Members permit consumption abroad under the Codes but do not permit solicitation or promotion on a cross-border basis.

10. "Financial services" in the Balance of Payment statistics cover all financial intermediary and auxiliary services (except those of insurance enterprises and pension funds) conducted between residents and non-residents. Included are intermediary service fees, such as those associated with letters of credit, bankers' acceptances, lines of credit, financial leasing, and foreign exchange transactions. Also included are commissions and other fees related to transactions in securities – brokerage, placements of issues, underwritings, redemptions, and arrangements of swaps, options, and other hedging instruments; commissions of commodity futures traders; and services related to asset management, financial market operational and regulatory services, security custody services, etc. (IMF Balance of Payments Manual).

financial services; the majority of financial services trade is in brokerage, management and advisory services. Another way to assess the magnitude and growth of cross-border banking activity is to look at banks' loans and deposits with non-residents, shown on Figure 1. The rapid growth in outstanding cross-border loans and deposits until the onset of the 2007 financial crisis was interrupted by a visible retrenchment in the following years, but the positive trend in international banking has since resumed.

Figure 1. External positions of banks in BIS reporting countries vis-à-vis the non-bank sector

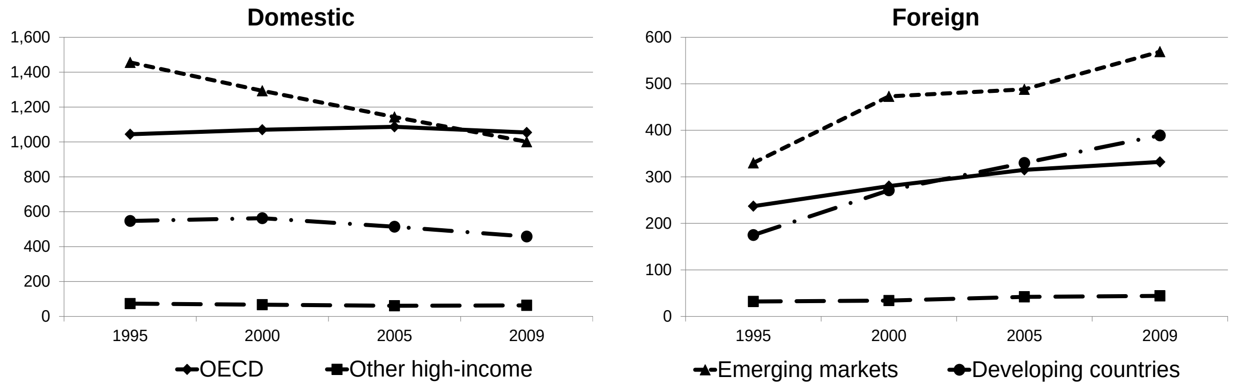


Source: Bank for International Settlements locational banking statistics, 38 reporting countries. In billion USD. The external positions are the amounts outstanding of loans granted to non-residents and deposits received from non-residents by banks resident in the reporting country, including foreign subsidiaries and foreign branches. Interbank loans and deposits and inter-office transactions are not included.

The primary channel of entry into foreign markets for commercial banks is acquiring a stake in a local bank or setting up a branch or subsidiary in the host country. The importance of foreign-owned banks has been increasing in the past decades. Their number has risen since 1995 in OECD countries as well as in emerging and developing economies, at the same time as the number of domestic banks was stagnating or shrinking (Figure 2). On average in the 34 OECD Members, foreign banks owned 38% of total banking assets in 2009 (Claessens and van Horen, 2014).[11] The largest global banking groups, listed in Table 2, own subsidiaries in most major markets and have a commercial presence in up to 60 countries.

11. Simple average. The weighted average, which tends to be driven by a few large banking systems, is 12%.

Figure 2. Number of banks by host country group



Source: Claessens and van Horen (2014), covering 5,059 banks in 137 countries.

Table 2. Subsidiaries of the world's 10 largest banks in 2011

	Bank	Country	Number of domestic subsidiaries	Number of foreign subsidiaries	Number of host countries
1	Deutsche Bank	Germany	297	962	57
2	Mitsubishi UFJ Financial Group Japan	Japan	49	19	12
3	Industrial & Commercial Bank of China	China	5	14	13
4	HSBC	United Kingdom	22	47	27
5	Barclays	United Kingdom	10	17	11
6	BNP Paribas	France	239	604	61
7	JP Morgan Chase	United States	100	29	16
8	Crédit Agricole S.A.	France	334	209	49
9	Royal Bank of Scotland Group	United Kingdom	217	291	28
10	Bank of America Corp.	United States	1 439	549	53

Source: Barth and Prabha (2013). The size of banks is measured by total assets.

Insurance

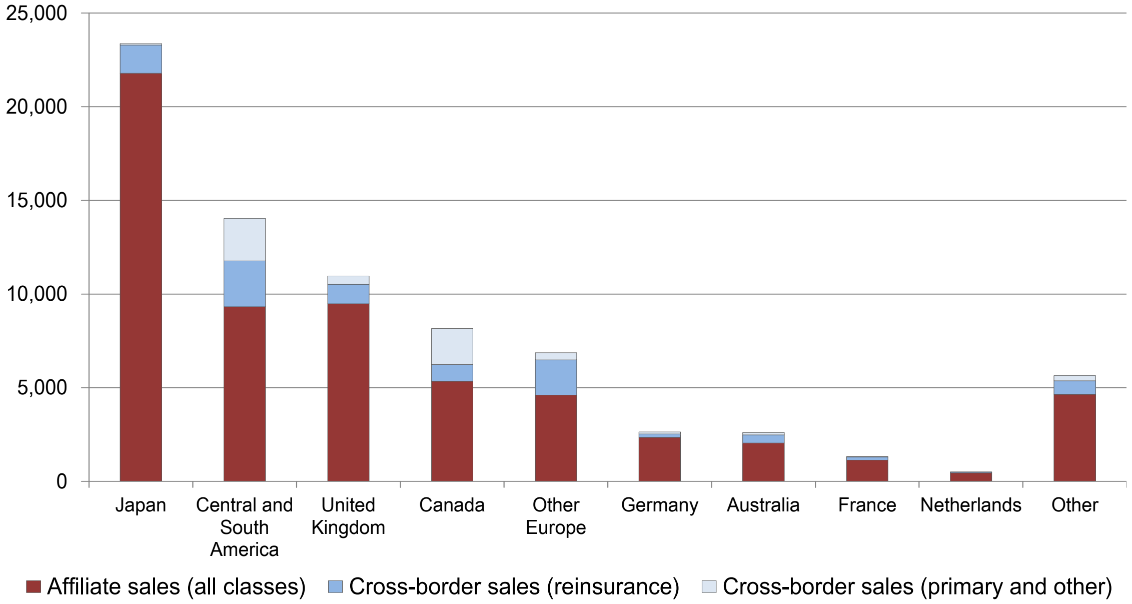
In the case of insurance services, reinsurance is the most globalised segment of the sector, and the main component of cross-border trade. In OECD economies, it accounts for over 70% of total cross-border imports of insurance services. Freight and large commercial risks, including marine, aviation and transport (MAT), are also commonly insured with non-established underwriters.

A prominent feature of cross-border trade in insurance and reinsurance services is the role of global brokers. Brokers play a pivotal role as market-makers in large commercial insurance transactions, helping insurers evaluate the risk and design the policy, and syndicating large complex risks (Cummins and Doherty, 2006). As a result of a consistent consolidation trend, the global brokerage industry for commercial lines and reinsurance is highly concentrated, with the top ten players controlling roughly three quarters of the overall commercial insurance brokerage market (Marchetti, 2009).

For other classes of insurance, internationally active insurers primarily enter foreign markets by establishing locally-licensed branches or subsidiaries. Figure 3 shows that the sales of insurance by US affiliates in foreign countries are of a much larger magnitude than insurance services sold to foreigners on a cross-border basis. Outside the most geographically proximate countries (Canada and Latin America), the latter are heavily dominated by reinsurance. European Union data paint a similar picture, where the turnover of EU insurance affiliates in extra-EU27 countries is over five times larger than cross-border exports of insurance services.

The penetration of foreign-owned insurers varies considerably between OECD Members, reaching over 90% of the life and non-life insurance markets in Hungary, the Slovak Republic and the Czech Republic (Figure 4).[12] The main insurance groups are present worldwide through their networks of affiliates; for instance, the 20 largest European insurance groups write a third of their business outside Europe, and most of them are active in at least three continents.[13]

Figure 3. Sales of US insurers' foreign affiliates and cross-border exports of US insurance services

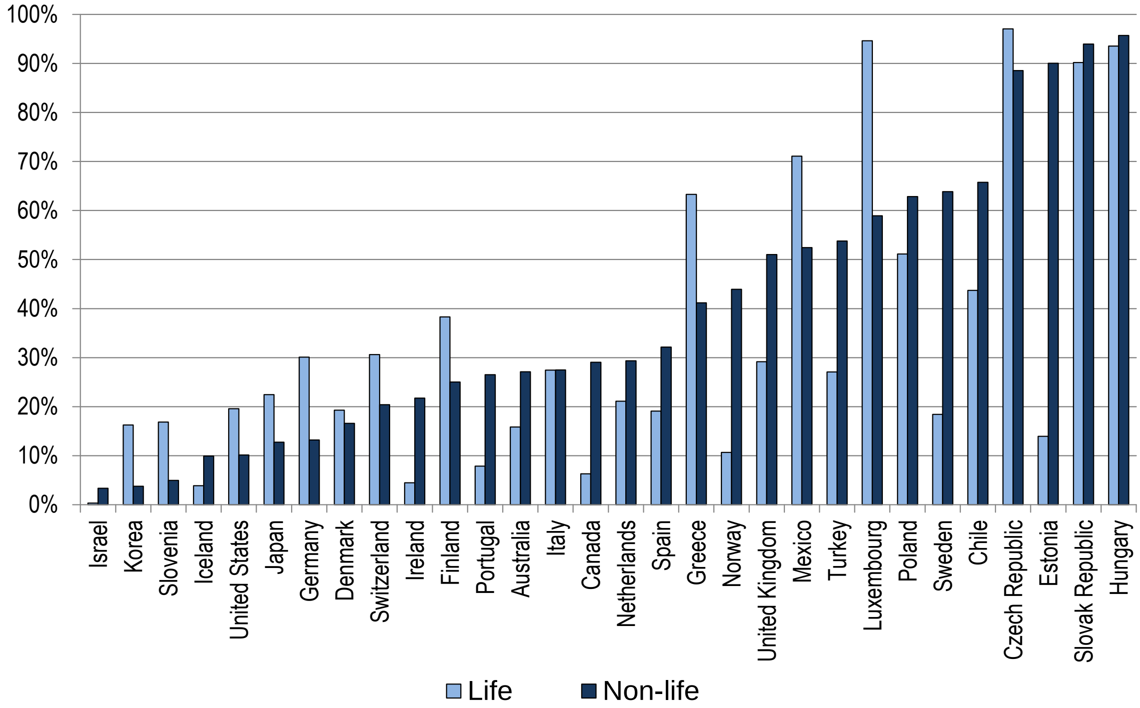


Source: BEA International Services statistics, 2011. In million USD.

12. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

13. Source: Insurance Europe.

Figure 4. Market share of foreign-owned insurance companies in OECD countries



Source: OECD Insurance Statistics, 2012. The market shares of foreign companies include business written by "foreign-controlled companies" and "branches and agencies of foreign companies" in terms of total gross premiums. Figures for the life (respectively non-life) business include the pure life (respectively non-life) undertakings and the life (respectively non-life) business of composite undertakings. The non-life value for Japan is from 2011.

Prudential regulation and trade in financial services

The financial integration described above has not proceeded without raising concerns about its impact on the ability of countries to effectively supervise cross-border financial institutions. Financial regulators need, when different objectives may conflict, to strike a balance between minimising any risks for the stability and soundness of the financial system, ensuring the protection of consumers and depositors, and promoting a competitive environment among financial services providers. Distinguishing between trade-restrictive regulations and those implemented for prudential motives, which partially overlap, is a major challenge in the design of a trade restrictiveness index. For this reason, this paper should in no way be interpreted as seeking to define the scope or nature of what measures would be considered prudential. To shed light on this issue, this section briefly discusses the relationship between prudential regulation and financial liberalisation, and outlines its treatment in trade agreements and international fora.

Financial services, growth and systemic risk

It is widely accepted that among competitive services sectors, financial services are special because of their unique contribution to economic activity, but also potentially to crises. A large literature (surveyed by Levine, 2005) provides evidence that financial development enables and accelerates economic growth. Financial institutions channel an economy's resources towards its most productive activities, manage risks and reduce information and transaction costs throughout the economy. The development of an efficient and inclusive domestic financial system is therefore an essential policy objective when it comes to financial regulation. The empirical evidence in this respect highlights the benefits of openness (Box 1).

However, the core role of the financial services industry is also the reason why it can create instability. The sector is inherently characterised by information asymmetries – regarding the ability and willingness of borrowers to repay loans, of banks to repay deposits, or of insurers to pay claims – which make confidence in the strength of financial intermediaries critical to their smooth operation. As evidenced by the recent crisis, the fragility this entails creates a risk of disruptions in the financial system, whereby the failure of one or a few financial institutions may spill over to the rest of the economy and generate substantial costs for society. Whether the presence of foreign banks is a stabilising factor or an additional contagion risk in times of stress has been a recurrent debate (see Box 1). Yet rather than calling into question financial services trade liberalisation, which does not appear to have been one of the root causes of the financial crisis (WTO, 2010), the crisis has revealed the need for a systemic approach to prudential regulation. It has prompted a shift in focus towards macro-prudential regulation – building on but going beyond effective micro-prudential regulation – as better-equipped to deal with complex and interconnected financial systems.[14]

Two major trends in the evolution of market structures have reinforced these concerns in the past two decades. First, the consolidation of the financial services sector, both domestically and internationally, has been motivated by the search for scale and scope in an increasingly competitive environment but has also resulted in "too big to fail" institutions. Second, the rise of financial conglomerates through waves of mergers and acquisitions had blurred the line between commercial banking, insurance and other financial services. Innovations in financial products have made the distinction even less clear-cut as banks and insurance companies now compete against each other and with other, less regulated financial institutions offering similar products (for instance, securities brokerage firms providing current account-like services and credit cards, or life insurance companies selling various types of investment products). The emergence of large financial conglomerates crossing international borders as well as sectoral boundaries and mixing regulated and unregulated entities creates a challenge for regulatory oversight, which has been the subject of intense debate in international bodies such as the Financial Stability Board (FSB). These trends may however be partially reversed as new or envisaged supervisory tools include ring-fencing deposit-taking activities, requiring "too big to fail" financial actors to divest some of their assets, and strengthening the regulation of systematically important financial institutions.

14. See Brunnermeier et al. (2009) for a discussion of micro- and macro-prudential regulation.

Box 1. Evidence on the impact of foreign financial institutions in host countries

A large literature examines the impact of financial liberalisation on host economies and host financial systems. Cross-country evidence as well as case studies show that the presence of foreign banks is generally linked to greater competition in the banking market as it forces domestic banks to become more efficient, improves the quality of the lending techniques and lowers net interest margins, cost ratios and rents (Claessens et al., 2001; Claessens and Laeven, 2004; Cull and Martínez Pería, 2010). The entry of foreign banks also tends to enhance access to banking services for SMEs and households, especially compared to state-owned banks, despite fears that foreign banks may “cherry-pick” high-quality borrowers (Beck et al., 2004; Clarke et al., 2006; De Haas et al., 2010).

The evidence on the impact of foreign banks on financial stability is somewhat more mixed. On the one hand, foreign banks improve the resilience of host economies to domestic shocks. During host country crises, branches and subsidiaries of multinational banks can rely on parent funding, which enables them to curtail lending less than domestic banks or not at all (De Haas and van Lelyveld 2006, 2010; Dages et al., 2000). Barth et al. (2004) find that greater restrictions on foreign bank entry are associated with a higher likelihood of a major banking crisis. On the other hand, there is also evidence that home country shocks or shocks from third countries can be transmitted to host countries through reduced credit by foreign bank subsidiaries (Peek and Rosengren, 2000; Schnabl, 2012). In the context of the global financial crisis, a number of studies have pointed out the potential transmission of the crisis to emerging markets through affiliates of global banks (Ongena et al., 2013; Popov and Udell, 2010; Cetorelli and Goldberg, 2012; De Haas and van Lelyveld, 2013).

A general message of this literature is that the benefits of liberalising the financial sector are amplified, and its risks are mitigated, when a mix of appropriate policies are in place. In particular, financial liberalisation is more effective at lowering volatility in the financial system in the presence of an open trade regime, a transparent and effective supervisory framework, and appropriate competition policy and enforcement. The level of financial development also appears to matter, as well as the magnitude and the type of foreign bank entry. For instance, claims extended by local affiliates in local currency tend to be more stable than local claims in foreign currencies or cross-border lending flows (García Herrero and Martínez Pería, 2007; Cull and Martínez Pería, 2012).

The impact of foreign insurers’ presence has received considerably less attention from the research community. A few studies highlight the potential benefits of opening markets to foreign insurers (Skipper, 1997; UNCTAD, 2007), but empirical evidence remains scant. In general, foreign insurers are likely to enhance competition in the host market by increasing incentives to innovate in products and marketing and by providing customers with greater choice. They can transfer know-how about efficient techniques of information collection, claims management and risk management. They are also typically part of larger risk pools than domestic insurers, which can enable them to charge lower and more stable premiums as well as to insure risks that domestic companies are unable or unwilling to take on. Down the line, a more efficient and financially sound insurance sector should help mobilise domestic savings, facilitate production in other sectors and create a more stable economic and financial environment. The business model of core insurance activities also makes them less likely than banks to create systemic risk, even though non-traditional activities such as derivatives trading for non-hedging purposes and leveraged investment can amplify financial instability (Geneva Association, 2010; IAIS, 2011b).

The prudential carve-out in the GATS and preferential trade agreements

108 WTO Members have scheduled commitments in insurance services under the GATS, and 110 in banking and other financial services. Besides the general GATS rules, liberalisation commitments are made in accordance with the Annex on financial services, which contains specific provisions applicable to the sector.[15] Recognising the role of prudential regulation to maintain a sound financial sector, paragraph 2 of the Annex lays out the prudential carve-out: “A Member shall not be prevented from taking measures for prudential reasons, including for the protection of investors, depositors, policy holders or persons to whom a fiduciary duty is owed by a financial service supplier, or to ensure the

15. In addition, a number of WTO Members including many OECD Members have scheduled commitments in accordance with the Understanding on Commitments in Financial Services, which sets more ambitious rules and disciplines for liberalisation.

integrity and stability of the financial system.” It also emphasises that the carve-out may not be used to disguise trade-restrictive measures: “Where such measures do not conform with the provisions of the Agreement, they shall not be used as a means of avoiding the Member's commitments or obligations under the Agreement.” However, no definition or indicative scope of prudential measures covered by the carve-out is provided in the Annex or in existing WTO jurisprudence.

A similar exception for prudential regulation is formulated in the financial services chapters of most preferential trade agreements (PTAs). GATS-type PTAs typically adopt the wording of the GATS carve-out. NAFTA-type agreements also list as a prudential reason the maintenance of the safety, soundness, integrity or financial responsibility of financial institutions, and authorise parties to prevent or limit transfers by a financial institution to affiliates or related persons for such purposes (Goncalves and Stephanou, 2010). Some PTAs introduced variations to narrow down the interpretation of the exceptions. For instance, the EFTA-Mexico agreement states that prudential measures adopted under the carve-out “shall not be more burdensome than necessary to achieve their aim, and shall not discriminate against financial service suppliers of another Party in comparison to its own like financial service suppliers”. Yet in most cases, whether a measure is admissible on prudential grounds is left to dispute settlement mechanisms.

The OECD Code of Liberalisation of Current Invisible Operations provides for a slightly narrower right to implement prudential measures in the field of insurance and pensions “in order to protect the interests of policyholders and beneficiaries” and in the field of banking and other financial services “for the maintenance of fair and orderly markets and sound institutions and for the protection of investors or other users of banking or financial services” (OECD, 2013). Importantly, unlike the GATS, it specifies that such measures may not discriminate against non-resident providers. Therefore, under the Code, prudential regulations may not contravene the principle of national treatment.

International standards on financial regulation

The growing international coordination around standard-setting bodies such as the Basel Committee on Banking Supervision (BCBS), the International Association of Insurance Supervisors (IAIS) and the International Organization of Securities Commissions (IOSCO) can help define the contours of best practice in financial regulation. The development and adoption of “soft law” in the sector in the form of international standards and codes, and assessments of compliance conducted by the IMF-World Bank Financial Sector Assessment Program (FSAP) and the Financial Stability Board peer reviews, have encouraged regulatory convergence. As such, they may eventually help draw the line around what constitutes essential prudential regulation. The OECD has contributed to this effort to develop a consensus on best practices, through the elaboration of the *Guidelines on Insurer Governance* (OECD, 2011b) and the *Policy Framework for Effective and Efficient Financial Regulation* (OECD, 2010). The G20 also acts as a forum to coordinate international regulatory responses to the financial crisis. In September 2013, its Leaders have tasked the FSB, in collaboration with the IMF and the OECD, with assessing cross-border consistencies and global financial stability implications of structural banking reforms, taking into account country-specific circumstances.

The Basel Committee is the international standard-setting body for banking regulation and supervision. It acts as a forum for international co-operation where standards are defined and agreed on; their effective implementation by members is monitored by FSAPs. The *Core Principles for Effective Banking Supervision* provide guidelines for supervisory practices and risk management, helping supervisors assess and improve their national frameworks. The BCBS developed the Basel III standards, which aim to strengthen and harmonise bank capital requirements, leverage and liquidity regulations. In addition, a Joint Forum under the auspices of the BCBS, the IAIS and the IOSCO has designed a set of *Principles for the supervision of financial conglomerates* (Joint Forum, 2012).

With regard to insurance services, the goals of the IAIS are to promote effective and globally consistent supervision of the insurance industry in order to develop and maintain fair, safe and stable insurance markets for the benefit and protection of policyholders; and to contribute to global financial stability. To this end, the IAIS is developing harmonised standards and principles on the supervision of insurance and reinsurance companies and assisting in their implementation. The *Insurance Core Principles, Standards, Guidance and Assessment Methodology* (IAIS, 2011a) establish a comprehensive and internationally accepted framework for national insurance supervisors. Work is under way to develop the *Common Framework for the Supervision of Internationally Active Insurance Groups* (ComFrame), which is a set of international supervisory requirements focusing on the effective group-wide supervision of internationally active insurance groups.

Several PTAs include provisions on the application of international standards for financial regulation and supervision. For instance, in the Japan-Switzerland free trade agreement, "each Party shall make its best endeavours to ensure that the Basel Committee's *Core Principles for Effective Banking Supervision*, the standards and principles of the IAIS and the IOSCO's *Objectives and Principles of Securities Regulation* are implemented and applied in its Area." There have been suggestions that these sets of standards and guidelines can more generally form the core of a definition of measures covered by the prudential carve-out (Kaufmann and Weber, 2008). However no consensus on this point has emerged, in part because international standards are designed as non-binding instruments and are implemented on a voluntary basis.

There is a delicate balance between implementing effective prudential regulation and maintaining and open financial sector. The OECD recognises that prudential rules and standards are set by national governments and regulators as well as international financial standard-setting bodies. Taking a stance on whether a given policy instrument is in place for prudential reasons is left beyond the scope of the STRI. More modestly, it aims to record in an accurate, objective and comparable manner the state of legal and regulatory impediments faced by foreign financial services providers in each market. Such information contributes to transparency.

3. Identifying measures to be included in the STRI

Commercial banking and insurance services are subject to a wide range of sector-specific regulatory measures. The construction of a financial services trade restrictiveness index is a complex exercise, not least because the structure of the industry and its regulatory framework have been rapidly evolving since the 2007-2008 financial crisis. The index should include information that is sufficiently specific and detailed that it can inform trade negotiations and regulatory reform. But the index should not be so detailed that the primary barriers are overshadowed by lesser restrictions that add little to the essence of trade restrictiveness.

Annexes B and C present the lists of measures included in the STRI for commercial banking and insurance services. The selection of measures is based on the following criteria:

- Barriers and regulations that are mentioned explicitly in the GATS and in the OECD Code of Liberalisation of Current Invisible Operations;
- Barriers and regulations that are mentioned explicitly in regional trade agreements; and
- Barriers and regulations that experts (during the November 2012 Expert meeting on Financial Services as well as in bilateral consultations) and the research literature identified as relevant.

The provision of banking and insurance services is affected by a wide range of regulations. These can be specific to financial services or apply to all sectors in the economy. Regulations can explicitly discriminate against foreign providers or, although non-discriminatory, can still affect trade by favouring local incumbents. Some restrictions are also often designed to meet social objectives, such as ensuring the protection of depositors, the stability of the financial system and the universal accessibility of basic financial services. Measuring their restrictiveness represents a useful input for policy evaluation, particularly with a view to explore the availability of more efficient ways to achieve the intended objectives.

The measures included in the STRI for financial services have been divided into five categories. This typology of measures forms the basis for the creation of the STRI.

Restrictions on market entry

This category contains barriers to foreign ownership and other impediments to market entry for financial services suppliers. Prominent examples of these measures include restrictions on foreign direct equity stakes, requirements for foreign investment only through joint ventures or only through locally incorporated joint-stock companies, limitations on mergers and acquisitions for foreign firms, controlling the number of banks or insurance companies that may operate by economic needs tests or quotas, or restricting the expansion of firms' branch networks. The imposition of nationality and residency requirements for board members represents another important regulation that restricts market entry for foreign financial services suppliers, and thus impedes trade.

Although the main mode of entry into foreign markets for commercial banks and insurance companies is through establishing a commercial presence, financial services are also increasingly traded across borders without physical presence in the host country. Prohibiting this mode of service provision can impose significant costs on foreign banks and foreign insurers or limit their ability to serve a market, particularly in segments that are inherently international such as syndicated loans, freight insurance and reinsurance.

Restrictions on the movement of people

Limitations on the temporary movement of people can hinder trade. For instance, restricting the number of foreign professionals permitted to enter by labour market needs test or quotas may delay establishment of commercial presence, impose costs on foreign services providers and discourage local services providers from using e.g. foreign consultants.

For insurance services, sector-specific measures apply to insurance brokers, agents and actuaries. The movement of professionals providing intermediation or actuarial services may be hampered by nationality or residency requirements. Foreign provision is also typically regulated by licensing and qualifications requirements. The main barrier then arises from the non-recognition of foreign professional qualifications, training and experience.

Other discriminatory measures

Discriminatory taxes and other forms of subsidies further apply as important measures to include in the STRI. Other impediments to foreign firm operations are discrimination in government procurement and the lack of implementation of international standards set by the Basel Committee on Banking Supervision and the Financial Action Task Force.

For commercial banking services, measures under this heading also include discriminatory access to infrastructure and network services that are essential to perform the core activities of deposit-taking, lending and payment services provision. These include payment and clearing systems, deposit guarantee schemes, capital markets and central bank financing.

In the case of insurance services, the main sources of discrimination relate to reinsurance cessions. Some countries require foreign-owned insurers to reinsure part of their risks with domestic reinsurers, while others limit the share of an insurer's portfolio that can be ceded to foreign reinsurance companies or require financial guarantees from foreign reinsurers.

Barriers to competition[16]

Restrictions on competition lead to a distortion of the level playing field and thus may discourage foreign participants in the market. Measures that allow publicly-controlled firms some type of privileges or exemption from the general competition law reduce competition in the sector. Further, the policy area captures whether foreign firms have access to dispute settlement mechanisms and to subsequent appeal procedures.

In the financial services sector, regulations at the product level may have considerable effects on competition between services providers. The main sector-specific measures captured under this category include price control mechanisms (regulating interest rates, fees and insurance premiums) and prior approval procedures for individual products. In the case of banking services, directed credit schemes and limited access to credit and collateral information restrict competition in the lending market. There are also regulatory tools which enhance competition by facilitating customer mobility, in particular regulations which guarantee the right to repay credit early and limit product tying practices. In the case of insurance services, compulsory cessions to a specific reinsurer are an important barrier to competition.

As financial services are subject to intensive supervision in every country, several measures under this heading assess the independence of the supervisory authority. A supervisor lacking independence from the government creates a less predictable regulatory environment for banks and insurers, and may favour domestic incumbents over foreign providers.

Regulatory transparency

Measures concerning regulatory transparency and administrative procedures are also included in the STRI. These regulations involve publication and communication of the regulatory and licensing regimes as well as the administrative procedures of allocation of licences. Finally, excessive visa processing time represents and additional cost and time for visa processing is therefore included under this heading.

4. Classifying restrictions

Classifying barriers and regulations under different typologies can increase the usefulness of the STRI by highlighting different dimensions of the data specifically for negotiators, regulators and industry analysts. A detailed list of the measures included in the STRI by policy area is found in Annexes B and C. The annex tables also provide information on which category according to GATS classification each measure belongs to; which mode of supply the restriction applies to; whether the measure affects the establishment of a services supplier or its on-going operations; and finally whether or not the measure is discriminatory.

The GATS terminology should increase the relevance of the STRI for World Trade Organization (WTO) and regional trade agreement (RTA) negotiators. However, as with any classification, it is not always possible to clearly identify which category certain restrictions belong to and there are overlaps in the classification of some barriers. For example, quotas on the number or size of firms in the market belong to both market access and national treatment when they are discriminatory against foreign providers. Therefore, *Market access* and

16. The policy area includes public ownership, which may have the effect of market access restriction.

National treatment measures are classified together. This grouping also allows a distinction to be made between restrictions subject to scheduling under the GATS, and consequently to negotiations for their removal; and domestic regulatory measures that usually do not need to be scheduled.

Restrictions not captured by either market access or national treatment are classified under *Domestic regulation and other*. Domestic regulatory measures are subject to both existing disciplines and further negotiations with a view to reinforcing them. Examples of domestic regulatory measures are those relating to lack of adoption of international standards, price regulation, and licensing procedures.

Indices according to the GATS modes of supply can provide useful information for negotiators. These modes include: Mode 1: Cross-border supply; Mode 2: Consumption abroad; Mode 3: Commercial presence; and Mode 4: Temporary movement of natural persons. Separate indices according to modes of service delivery have already been constructed for other services sectors (Nguyen-Hong and Wells, 2003; Dihel and Shepherd, 2007; and Marouani and Munro, 2008). Some regulations are mainly behind the border and potentially affect all modes of supply. They are therefore combined into one category *All modes*. For example, lack of transparency of regulations can have an impact across different modes of supply.

The STRI further classifies measures according to regulations that apply to the establishment of firms versus those affecting their on-going operations; and measures that are discriminatory versus non-discriminatory. Establishment restrictions can generally be regarded as impediments to the movement of factors of production, while those applying to firms' operations constrain service provision after establishment. Non-discriminatory measures may raise the cost for all services providers, resulting in higher prices and lower demand for services, whereas discriminatory ones shift demand towards local suppliers. These classifications could prove useful in helping regulators and industry analysts identify priority areas for reform given defined economic policy objectives.

5. Methodology for developing the STRI

The STRI is derived by aggregating regulations that are potentially trade restrictive into a composite measure of restrictiveness. The construction of the index involves decisions concerning three main issues: scoring, weighting and aggregation. Scoring relates to how regulatory measures are transformed from qualitative to quantitative information. Weighting captures the relative importance of impediments in terms of trade restrictiveness (the higher the weight, the more restrictive a category of measures is considered relative to other categories). The aggregation method determines how weights are applied to scores for calculating the index number. OECD (2011a) explains the methodology in detail, while a technical paper explaining the alternative methodologies, their advantages and disadvantages and the robustness of the chosen methodology is available for interested readers (OECD, 2009). Here a brief non-technical summary is presented.

The approach taken to scoring in the STRI is to transform qualitative information on regulation into binary variables.[17] A majority of the questions included in the regulatory database are Yes/No questions. Regulatory information of a more complex nature (e.g. foreign equity limits) can easily be transformed to binary variables by introducing multiple thresholds. Therefore, for each type of impediment in a given country a score is assigned either 0 or 1, with the former representing the absence and the latter the presence of

17. When compiling a composite indicator, it is not advisable to include both binary and continuous variables in the same dataset as the resulting indicator would not have a clear interpretation (see OECD, 2008).

the restriction. This method ensures that all variables are measured on the same scale such that comparison across different countries and over time is possible.

It is important that the STRI captures as much of the variance in the underlying data as possible. The scoring of foreign equity limits, for instance, should reflect that an equity limit of 49% is more restrictive than a limit of 66%. This is obtained by introducing multiple thresholds. For foreign equity the thresholds are less than 33%, less than 50%, and less than 100%. A country with a limit of 49% will receive a score of one on the ‘less than 50%’ threshold as well as ‘less than 100%’ (i.e. two scores of one), while the country with a limit of 66% will receive one score of one (on the ‘less than 100%’ threshold). The same approach is used for other variables where more detailed information is available (e.g. duration of stay of inter-corporate transferees).

The scoring should account for the hierarchy of regulations. Some of the most significant issues in the sector are foreign equity limitations, restrictions on legal form and discriminatory licensing criteria. The scoring and weighting system therefore needs to reflect that for instance a requirement to enter through a joint venture limits foreign supply more than requiring that the manager of a company must be resident. Avoiding that a large number of general measures waters down the importance of key sector-specific measures can be reconciled with the STRI methodology of assigning expert weights to policy areas and equal weights within policy areas by grouping measures as follows:

- The measures related to the Board of Directors are bundled into one restriction. If the majority must be nationals, the score is 1; if majority must be residents or at least one must be national, the score is 0.5; if at least one must be resident, the score is 0.25. Similarly, the two measures related to the manager are bundled into one, which is scored 1 if the manager must be national and 0.5 if the manager must be resident.
- Foreign equity limits will be scored the same way as for other sectors, with the same implications for other measures linked to ownership and control of a firm (see Annex D). In particular, if the maximum foreign equity allowed is below 50%, two measures on foreign investment screening (approval unless contrary to national interest and notification), residency of members of the Board of Directors, and restrictions on cross-border mergers and acquisitions are automatically scored one.

In the case of banking services, there are a few additional specificities in the scoring scheme:

- If foreign subsidiaries are prohibited, discrimination in access to the discount window, access to capital, coverage by deposit insurance and access to payment and clearing systems are scored one. If foreign branches are prohibited, discrimination in access to the discount window and access to payment and clearing systems are scored one. If both foreign subsidiaries and foreign branches are prohibited, such that foreign investment is only permitted through minority stakes in local banks, then several measures related to commercial presence (licensing criteria, ATM networks, services reserved for domestic suppliers) are also scored one.
- The measures on ATM networks are aggregated into one, which records whether there exists any restriction on the expansion of ATM networks by foreign banks. The combined measure is scored one if either only domestic banks can establish their own ATM networks, or there are limits on the number of ATMs per bank, or each ATM must be licensed as a separate branch.

- Regarding the independence of the supervisory authority, the length of the term of the head of the supervisory authority is scored one if there is no fixed term or its duration is less than five years.[18]

- For the World Bank Doing Business indicators on the time and cost of resolving borrower insolvency, the thresholds have been calculated as the 25th percentile of the average value for the 2004-12 period for the 137 countries covered by the database. This yields thresholds values of 2 years and 9% of the estate value. Indicators above these values are scored as restrictive.

In the case of insurance services, the sector-specific scoring issues are related to cross-border trade and to auxiliary services:

- In some countries, cross-border trade is allowed only for insurance risks that cannot be covered by insurers established in the country, or for which the premium charged by domestic insurers is significantly higher. The absence of such exception when there is a general commercial presence requirement is considered as an additional trade barrier. The exception is only relevant if cross-border trade is ordinarily not permitted; therefore, if cross-border trade is allowed in general for a class of insurance, exception for domestically unavailable insurance is automatically scored zero.

- If commercial presence is required for a class of insurance and there is no exception for domestically unavailable policies, then the measure recording whether cross-border transactions must be carried through a resident insurance intermediary is automatically scored one. If cross-border reinsurance provision is entirely prohibited, the measures on discriminatory financial requirements for foreign reinsurers are also scored one.

- If insurance intermediaries or actuaries must be nationals of the host country, the corresponding measures on residency requirements and the recognition of foreign qualifications are also scored as restrictive.

Aggregating individual restrictions into the STRI consists of two steps. The first step involves assigning weights to the policy areas. The second step involves aggregation into the overall STRI. A number of weighting schemes have been explored to develop the STRI. These are equal weights, expert judgement and random weights. Equal weights are the most common weighting scheme applied for constructing composite indicators. It is a transparent way of creating an index in the absence of any clear alternative. Lack of clear alternatives could be due to insufficient knowledge of causal relationships, absence of an empirical basis for deciding which is more important, or lack of clarity of what the index is supposed to measure. Equal weights are, however, not as free of judgement as is often claimed. With equal weights, the relative importance of each measure depends on how many measures are included and how individual restrictions are organised into sub-indicators, leaving rather a lot to subjective judgement or arbitrariness.

As noted, equal weights are used when there is a lack of clear alternatives. For trade restrictiveness indices, however, it is clear that the measures should be weighted according to their contribution to trade costs, which in turn consist of entry costs and operational costs.[19] Unfortunately services trade data are not sufficiently detailed to estimate the trade cost equivalent of trade barriers and behind the border regulation that affects services trade.

18. The five-year threshold is chosen following the literature on central bank independence; see for example Grilli et al. (1991).

19. For trade in goods, estimating the contribution of tariffs and non-tariff barriers is more straightforward. The World Bank's Overall Trade Restrictiveness Index (OTRI), for instance, makes such estimates at the HS six-digit level (Kee et al., 2009).

Nevertheless, there is a growing literature on measuring trade costs on the basis of observed trade patterns in services, but usually at a higher level of aggregation than what is required for the STRI (Miroudot et al., 2012). Furthermore, the different approaches to measuring trade costs on the basis of observed trade flows have strengths and weaknesses (Nordås, 2011) and as of yet a widely accepted methodology is not available.

Being constrained by the lack of data, alternative ways of weighting the measures in a way that reflects their contribution to trade costs have to be sought. Asking those directly and indirectly involved in services trade is one option. Such expert judgement has the advantage that relative importance can be captured in a realistic and meaningful way. One objection to using expert judgement is subjectivity. As argued above this objection also applies to other methodologies and the problem can be reduced by asking a large group of experts.

A third methodology for weighting measures is principal component analysis (PCA). This is a statistical methodology that assigns the highest weight to the variables that contribute the most to the variation in the dataset. The disadvantage of PCA is that the assigned weights do not reflect the relative trade restrictiveness of a measure, and the weights are based on the sample of countries for which they are estimated. Thus, when the index is extended to new countries, the scores of countries already included may change. We have therefore chosen not to use PCA.

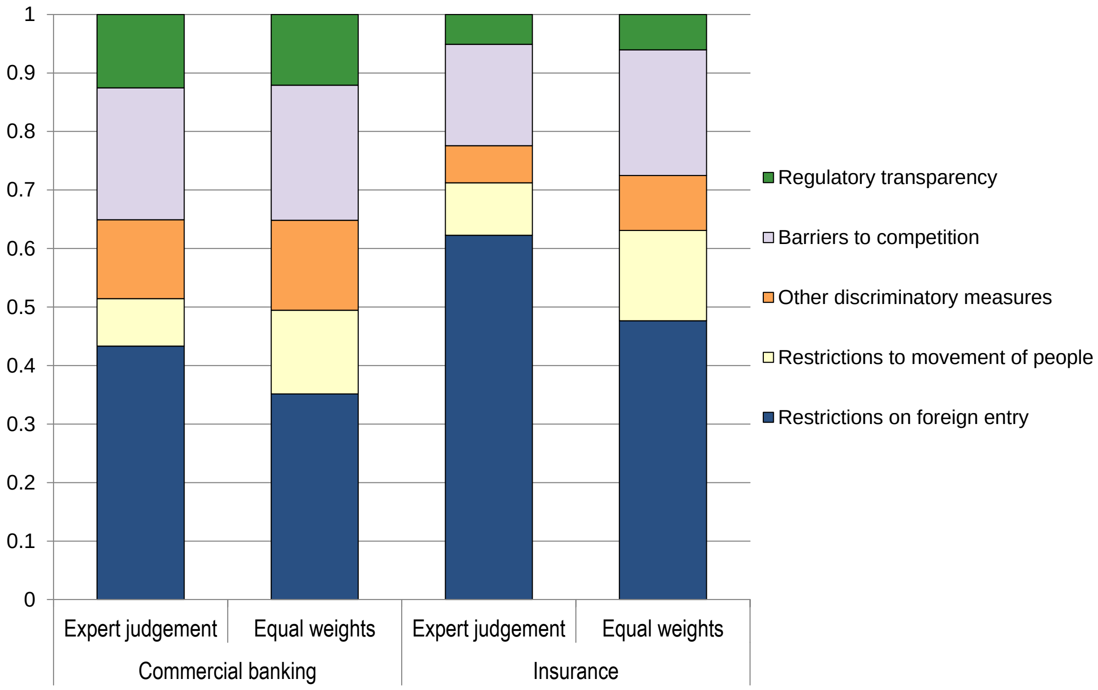
The weighting scheme used for the calculation of the STRI relies on expert judgment. A large number of experts were asked to allocate 100 points among the five policy areas presented above. These are translated into weights by assigning the weight experts allocated to the policy area to each measure that falls under it and correcting for differences in the number of measures under the policy areas.[20]

Figure 5 illustrates how expert judgment weights differ from equal weights in the commercial banking and insurance services STRI. They depict the index for a hypothetical country in which all of the measures in the STRI take the most restrictive value. In both sub-sectors, experts assign a higher weight to *Restrictions on market entry* and a lower weight to *Restrictions on the movement of people* than in the equal weight scenario, reflecting the importance of commercial presence as the main form of trade in financial services.

The method chosen for aggregating the categories into one single index is linear, taking the weighted average (using the expert judgement weights) of the scores. An advantage of assigning a unique weight to each measure is that measures can be aggregated in different ways into different classifications in a consistent manner. The disadvantage is a high degree of compensation such that a high score in one category can be compensated by a low score on another category, with the result that there is less variation among countries in the aggregate index than in the sub-indicators. It may, however, well be the case that restrictions are complementary rather than additive. This problem has been dealt with through the scoring system creating hierarchies and bundles of complementary measures when they are logically linked as explained in the methodology paper (OECD, 2011a) and above.

20. The formula for measure *j* under category *i* is the following: $w_{ji} = score_j w_i / \sum_i n_i w_i$ where n_i is the number of measures under category i and w_i is the share of the total number of points allocated to policy area *i* by the experts.

Figure 5. Composition of the STRI in a completely restrictive country



6. Results

This section presents and analyses the results of the STRI calculations.[21] Figures 6 and 7 present the aggregate indices for commercial banking and insurance services respectively, together with the sample averages and broken down by policy area. The indices are calculated using weights based on expert judgement. The overall level of restrictiveness is moderate, with significant variation across countries reflecting quite large differences in the trade regimes applied to financial services. In commercial banking, the average STRI is 0.19, with a standard deviation of 0.12. Spain, the United Kingdom and Luxembourg have the most liberal regimes for banking services. In insurance services, the average index is slightly higher at 0.20, with a standard deviation of 0.13. The most open markets are the Netherlands and Estonia.

Turning to the contribution of each policy area to the total index, *Restrictions on market entry* feature prominently in the indices for banking and to an even larger extent, for insurance services. Two countries (Indonesia and India) have foreign equity limits in both commercial banks and insurance companies; in addition, China and Russia restrict foreign equity participation in life insurance companies to less than 50%.

21. The regulatory data was collected as of end-2013.

Figure 6. STRI for commercial banking by policy area

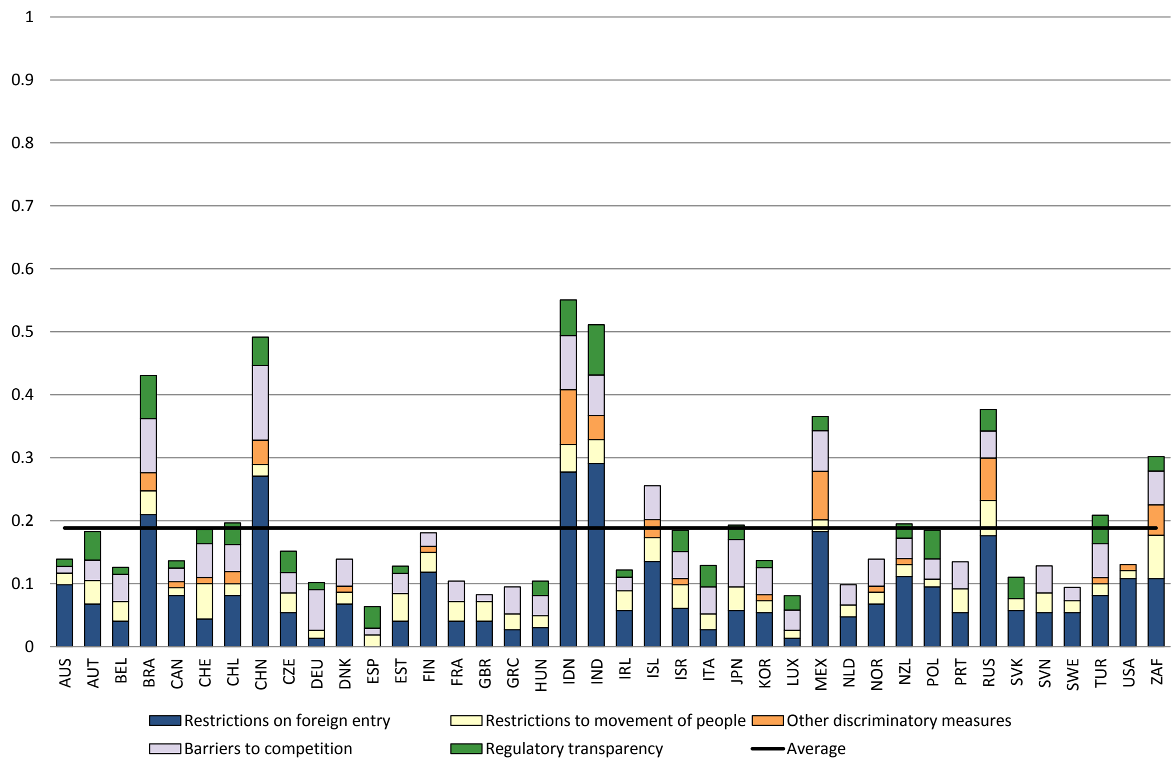
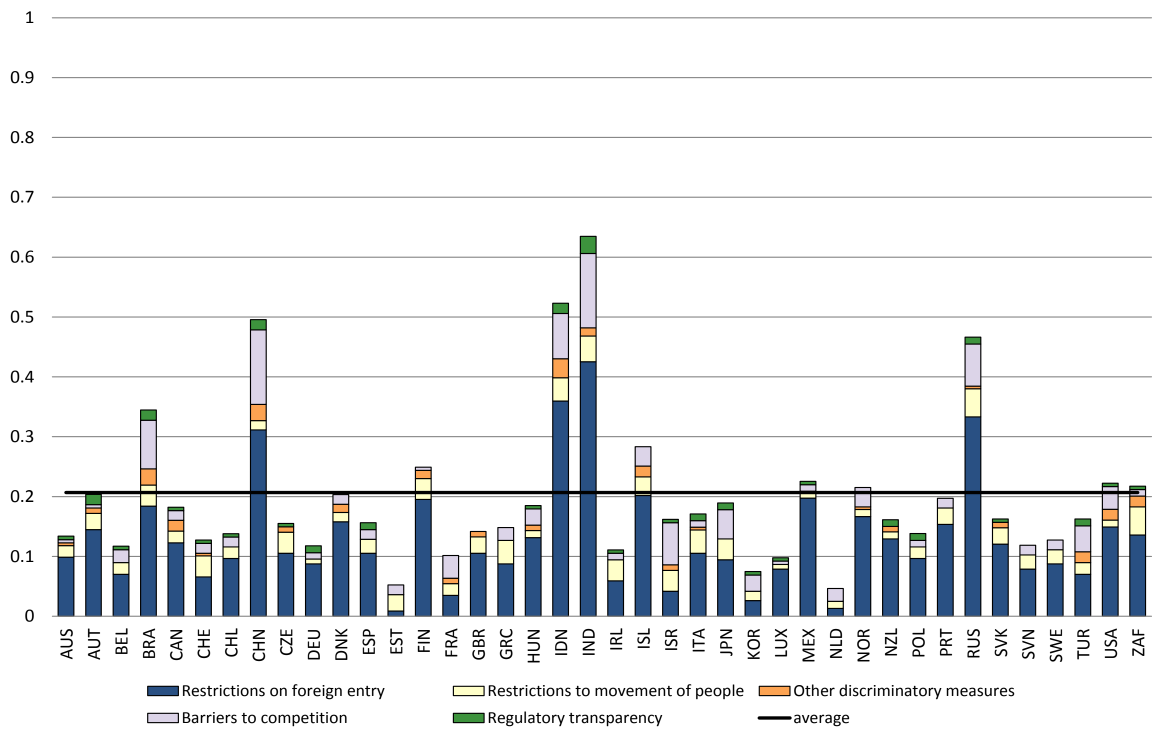


Figure 7. STRI for insurance by policy area



Other common limitations are nationality or residency requirements for directors and managers, which are often specific to the financial services sector, and restrictions on legal form. Foreign banks are not allowed to establish a commercial presence in the form of a branch in Russia and Mexico. Indonesia, India, Mexico, Russia and South Africa prohibit foreign branches in all classes of insurance, and Australia in life insurance only.[22] Insurers cannot take the form of a mutual insurance company in six countries (Brazil, China, Czech Republic, Estonia, Israel, and Slovak Republic), and mutual insurance is restricted in three countries (only non-life in Greece, only life in Ireland, requirement for a special act of Parliament in South Africa).

Most countries also restrict the cross-border supply of some banking services and retail insurance products. In some cases, non-life insurance can be placed abroad if the risk cannot be covered by domestic insurers (Australia, Brazil, Canada, France, Indonesia, Korea, Mexico, United States, South Africa). The reinsurance market is more internationalised, with 25 countries allowing the provision of reinsurance and retrocession services by non-established suppliers without a prior requirement to seek cover with domestic reinsurers.

Barriers to competition also contribute significantly to the indices. State ownership of financial institutions remains widespread: one of the 5 largest banks is controlled by the state in 24 countries, and one of the 5 largest life insurers, non-life insurers or reinsurers in respectively 14, 12 and 6 countries. In some instances, public ownership is the result of the bail-out of distressed financial institutions during the financial crisis and is intended to be temporary, but in most cases the government stake in the financial sector predated the crisis. Another common issue is the lack of independence of the regulatory and supervisory authorities. In half of the countries, less than full independence is achieved in terms of decision-making power, budget and management; overall, more progress has been made in this respect regarding banking authorities than insurance authorities. Strict price restrictions, prior approval of financial products and directed lending have been to a large extent abolished in OECD members. Only India maintains a compulsory cession to the state-owned reinsurer by all life and non-life insurers.

There are few sector-specific discriminatory measures in OECD members under *Other discriminatory measures*. In commercial banking, several countries have restrictions on foreign currency operations (Brazil, Indonesia, India, Iceland, Korea and South Africa). A few have not yet implemented the standards set by Basel II or III. In insurance services, the main discriminatory measures relate to cessions to foreign reinsurers, which are limited in size in Brazil, China and Indonesia and are subject to specific financial requirements in several other countries.

In the STRI for banking services, *Restrictions on the movement of people* only capture limitations on the temporary movement of suppliers that apply to all sectors. This category contributes less to the indices, in large part as a result of the low weight attributed to it by expert judgement. For insurance services, additional restrictions on providers of intermediation and actuarial services also have an impact on the indices. These include permanent residency criteria or the absence of recognition of degrees and experience gained abroad when a licence is required to practice. Finally, the category *Regulatory transparency* includes mostly horizontal measures, but also transparency in the licensing process. In particular, nine countries do not provide a maximum time frame to grant or refuse authorisations to commercial banks, and the same number for insurance or reinsurance companies.

22. Australia has an exception for life insurance companies incorporated in the United States or in New Zealand. Russia has committed to allow foreign life and non-life insurance companies to establish branches by 2021.

A breakdown of the STRIs for financial services according to the GATS framework and modes of services supply is presented in Figures 8 and 9. Most of the restrictions found are limitations to market access and national treatment, especially in insurance, although domestic regulation and other measures also account for a substantial part of the indices in the most restrictive countries where capital controls and product restrictions are more prevalent.

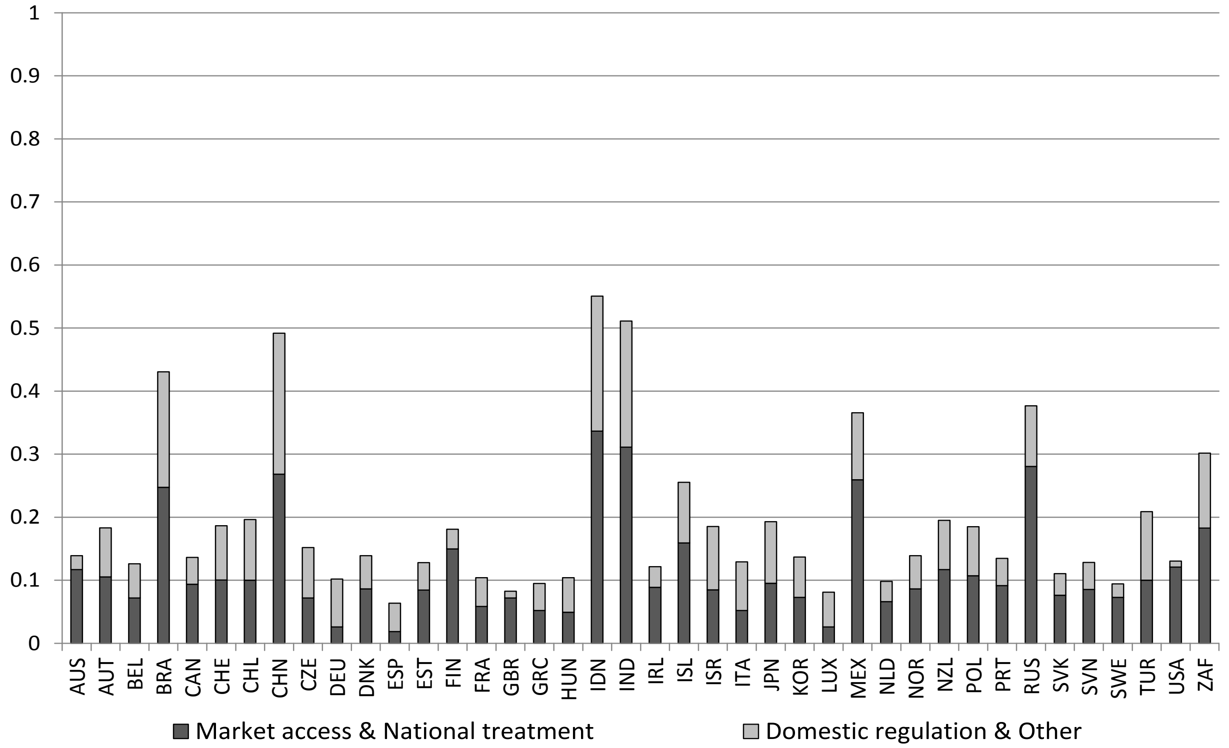
Most of the limitations on market access and national treatment are limitations on Mode 3, which is the main component of the STRIs as evidenced on Figure 9. Although only a small number of measures are specifically related to Modes 1 and 2, they are also significant in the indices because most countries have less liberal policies applying to cross-border trade than to commercial presence. The measures recorded under *All modes* largely overlap with the product-level regulations under *Barriers to competition*. They have a small contribution to the indices as the last decades have seen a trend to dismantle this type of policies in most economies.

Figure 10 reports the indices decomposed into discriminatory and non-discriminatory measures. Discriminatory measures have the most weight in all markets for insurance services and in a large majority for banking services. However, non-discriminatory measures play a relatively larger role in the countries which have the highest indices. Figure 11 indicates that both barriers to the establishment of financial services suppliers and limitations affecting their on-going operations matter in the sector, although the latter are relatively less important in the overall score of almost all countries.

Lastly, since insurance regulations often differentiate between life, non-life and reinsurance classes, the STRI for insurance is broken down by main category of insurance on Figure 12. Overall, it confirms that reinsurance is the most open sub-sector; four countries (Belgium, Chile, Estonia and Luxembourg) have no restrictions specific to reinsurance. The regulatory regimes for life insurance are typically more liberal than for non-life insurance, which includes the provision of compulsory insurance.

Figure 8. STRI by GATS classification: Market access/National treatment and Domestic regulation/Other

Panel A: Commercial banking



Panel B: Insurance

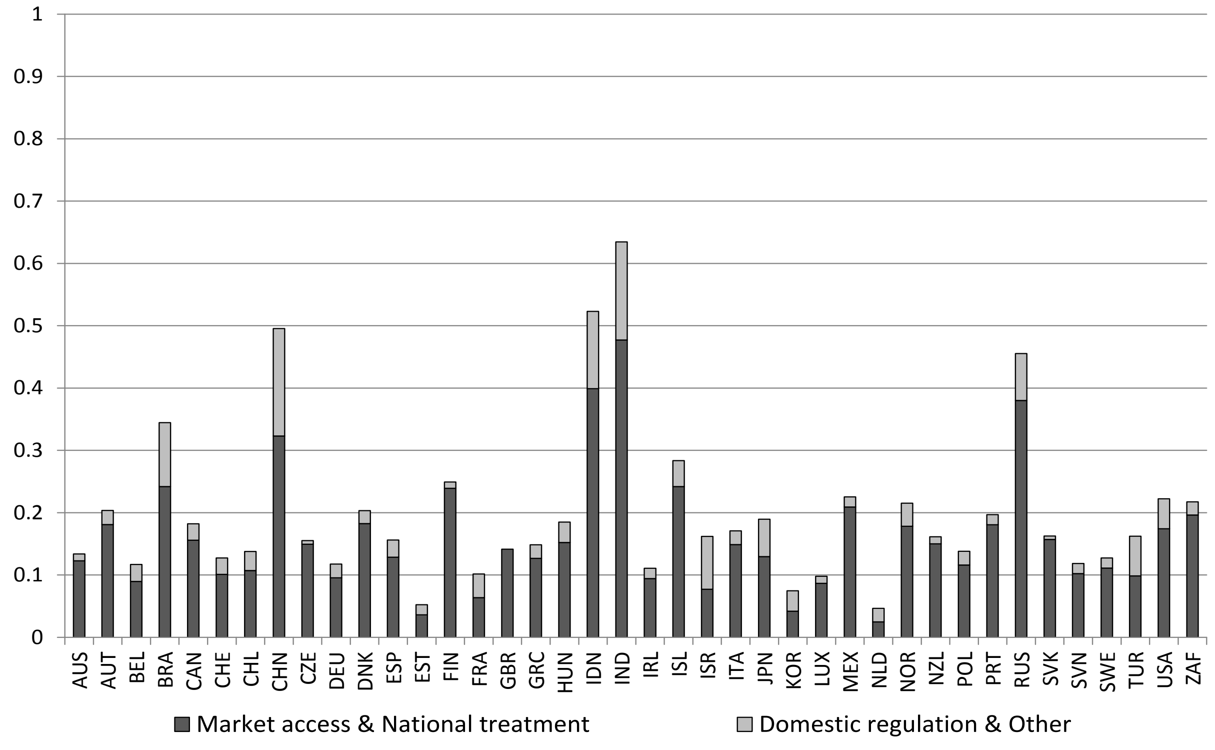
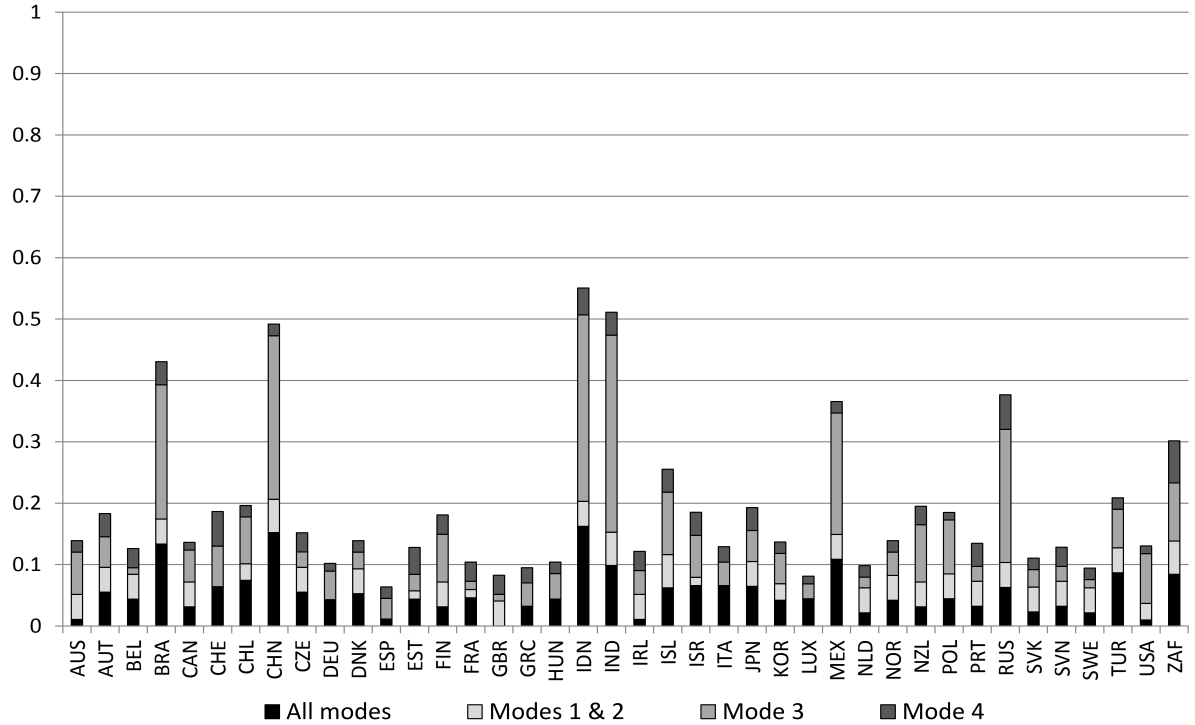


Figure 9. STRI by GATS classification: Modes of supply

Panel A: Commercial banking



Panel B: Insurance

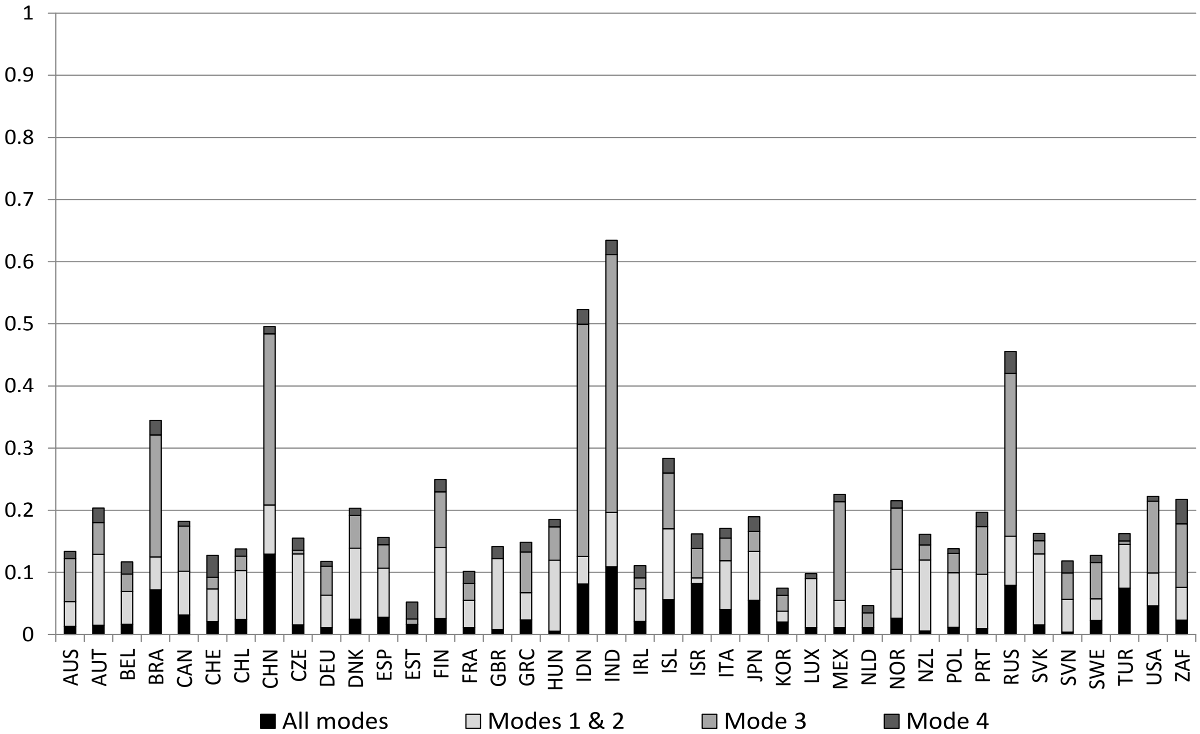
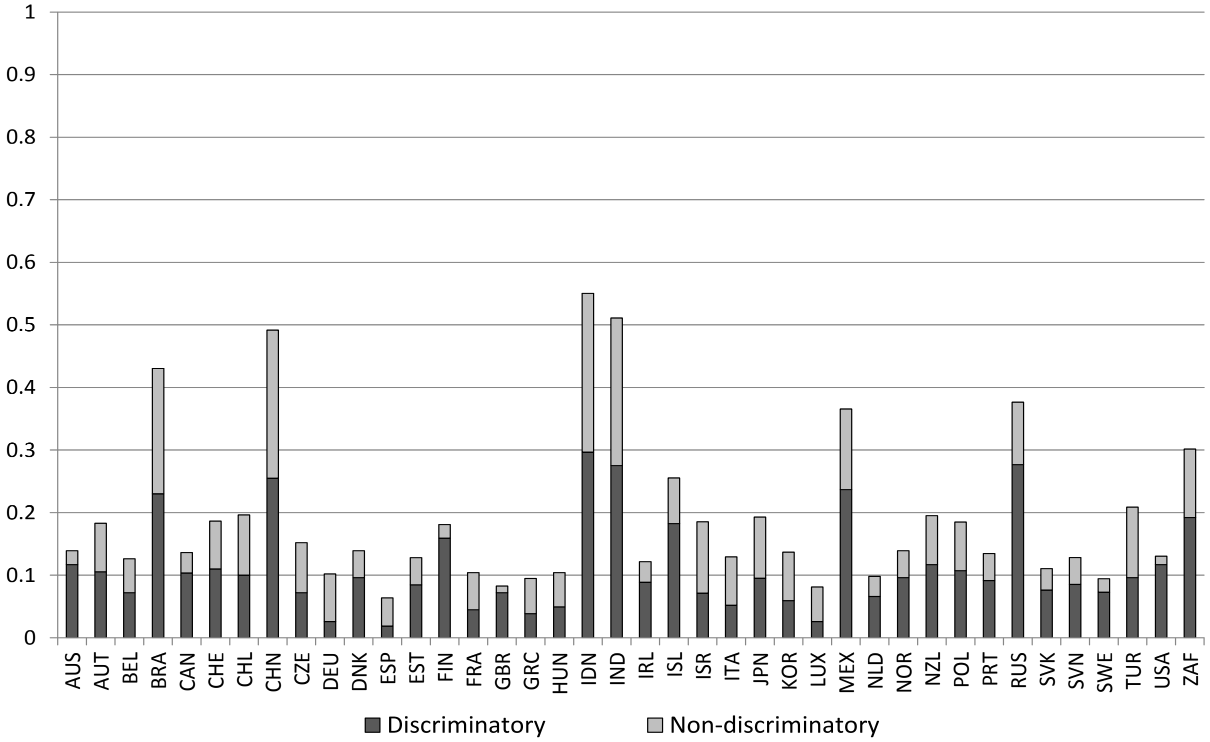


Figure 10. STRI by other classifications: Discriminatory versus non-discriminatory

Panel A: Commercial banking



Panel B: Insurance

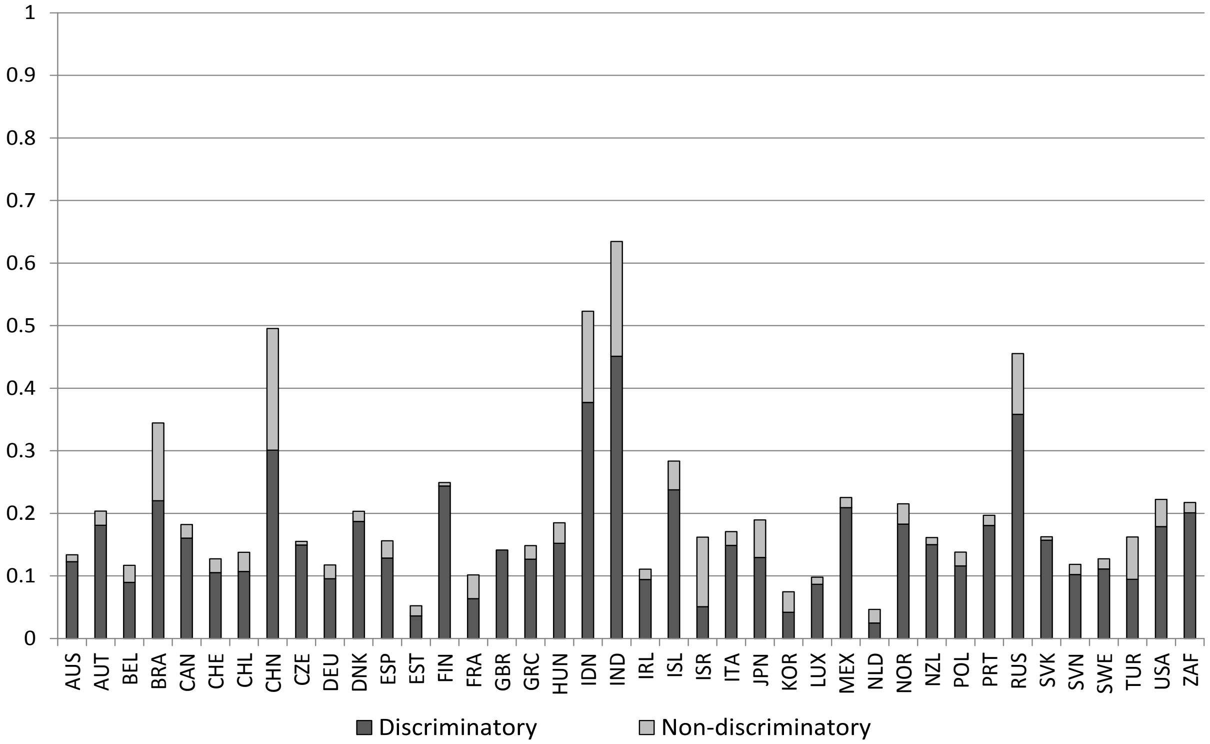
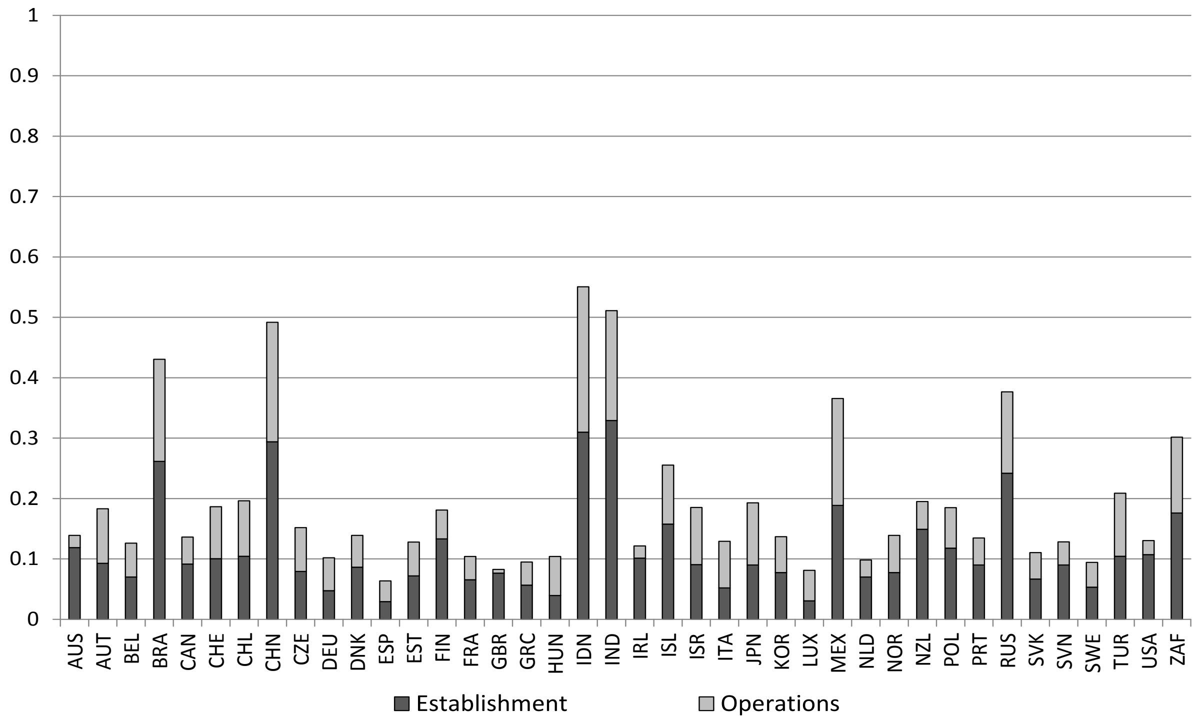


Figure 11. STRI by other classifications: Establishment versus on-going operations

Panel A: Commercial banking



Panel B: Insurance

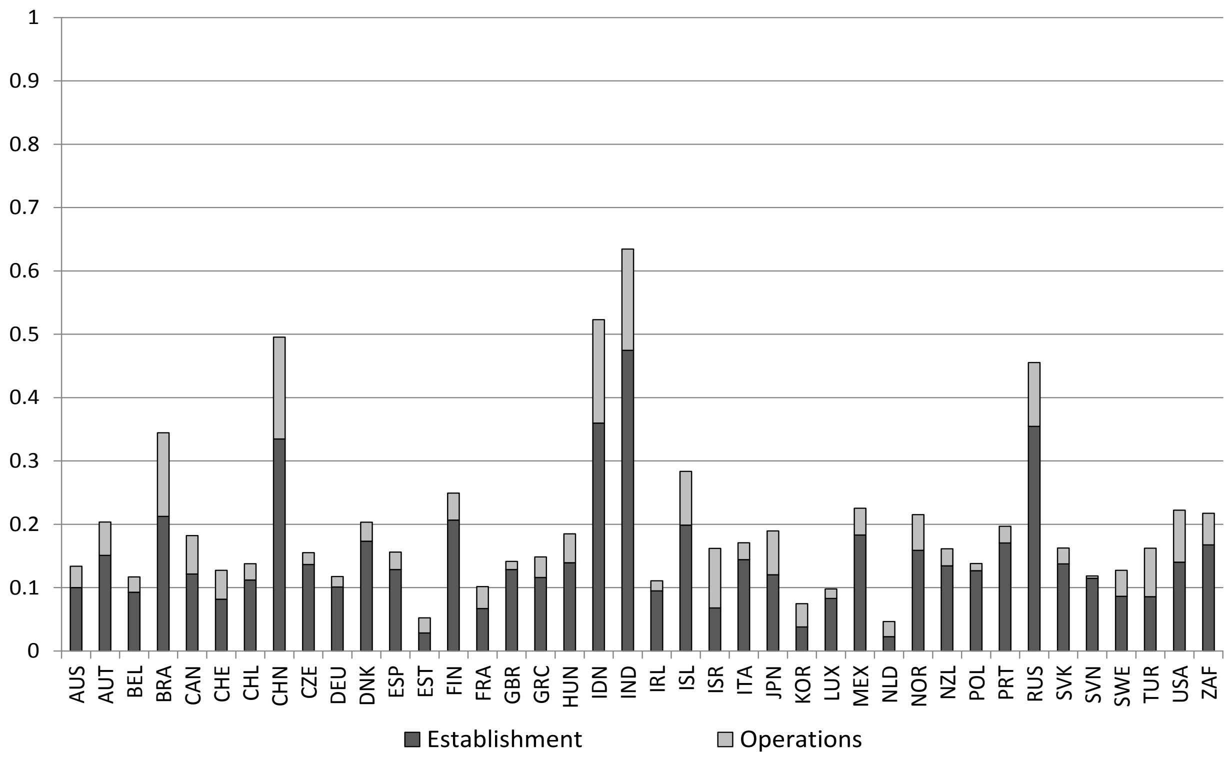
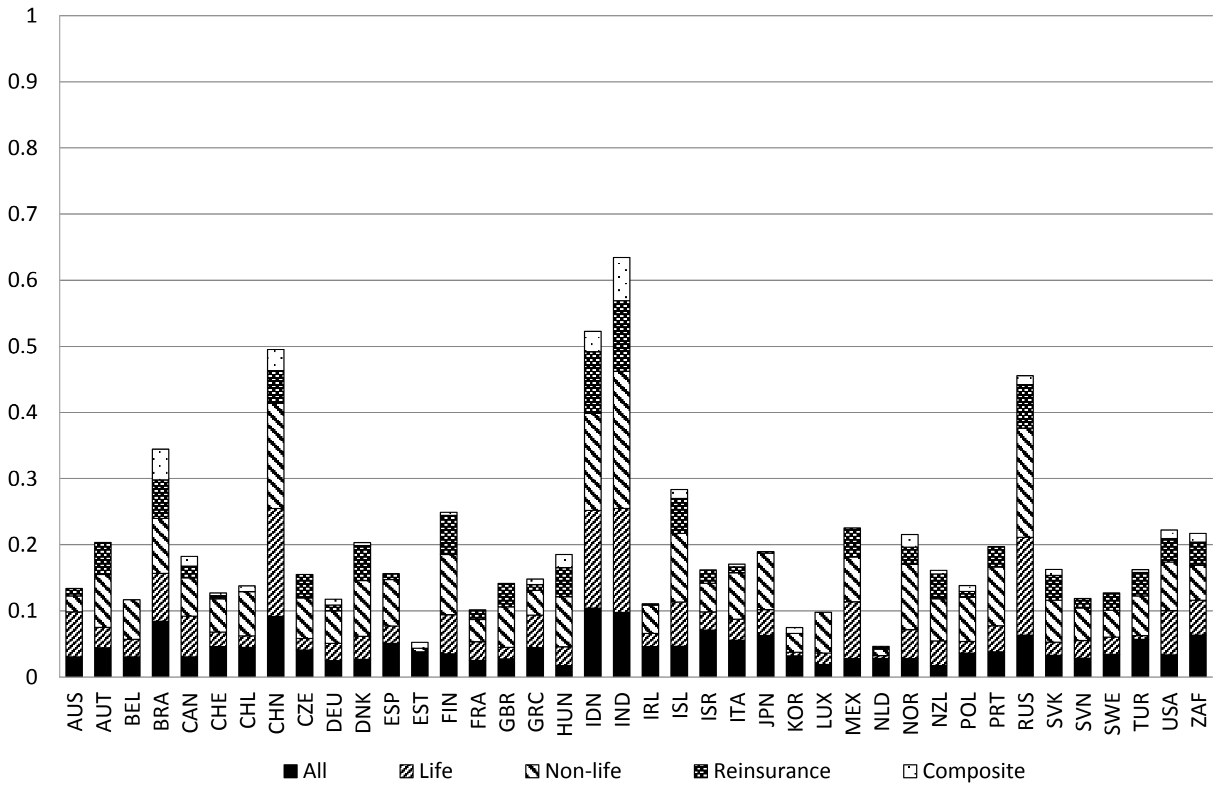


Figure 12. STRI for insurance by sub-sector



Note: "Composite" refers to regulations affecting 2 of the 3 types of insurance.

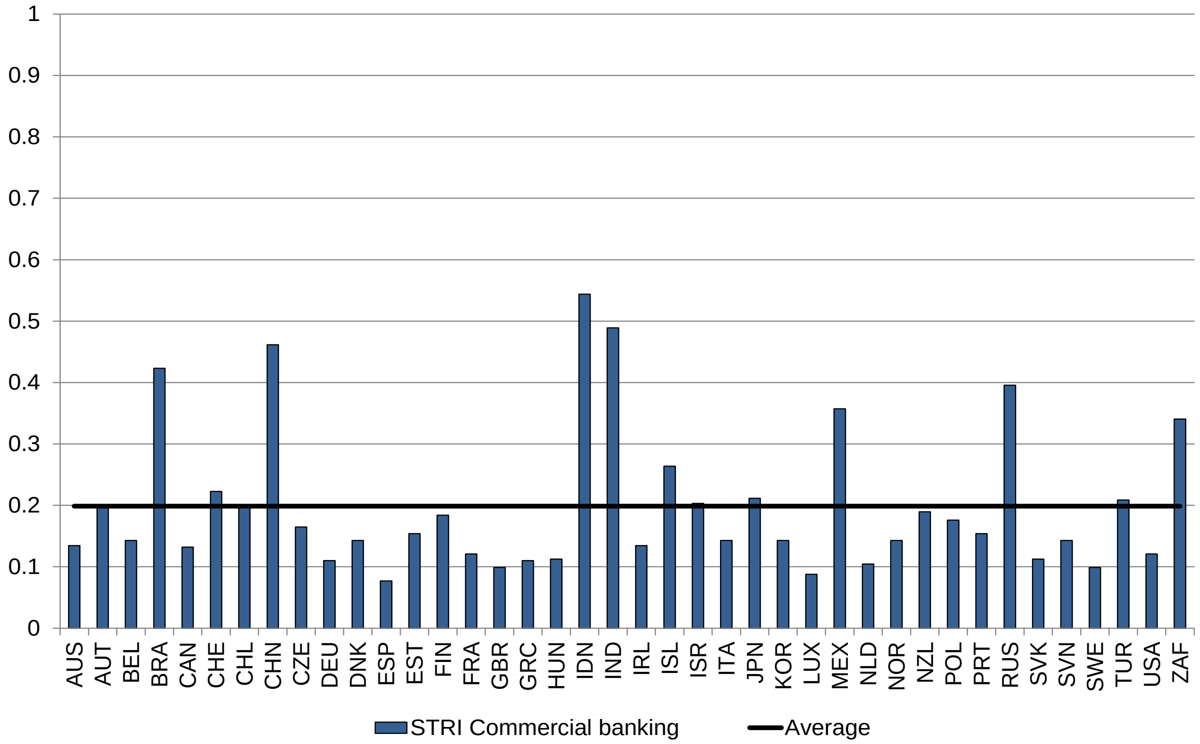
7. Sensitivity analysis

This section shows the sensitivity of the results to the weighting scheme that has been chosen. Figure 13 shows to what extent the choice of expert weights rather than equal weights drives the STRI results. Panel A depicts the overall index for commercial banking services, and Panel B the overall index for insurance services when equal weights are used.

Comparing the equal weights-based indices to the expert weights-based STRIs, it appears that the indices and the rankings of countries are not very sensitive to the choice of the weighting scheme. The Spearman rank correlations between the indices calculated with equal weights and with expert weights are 0.96 for commercial banking and 0.97 for insurance. The main differences in the index values arise at the higher end of the spectrum, and are mostly due to the lower importance given to restrictions on foreign entry in the equal weights scheme, but those differences remain small.

Figure 13. STRI for financial services using equal weights

Panel A: Commercial banking



Panel B: Insurance

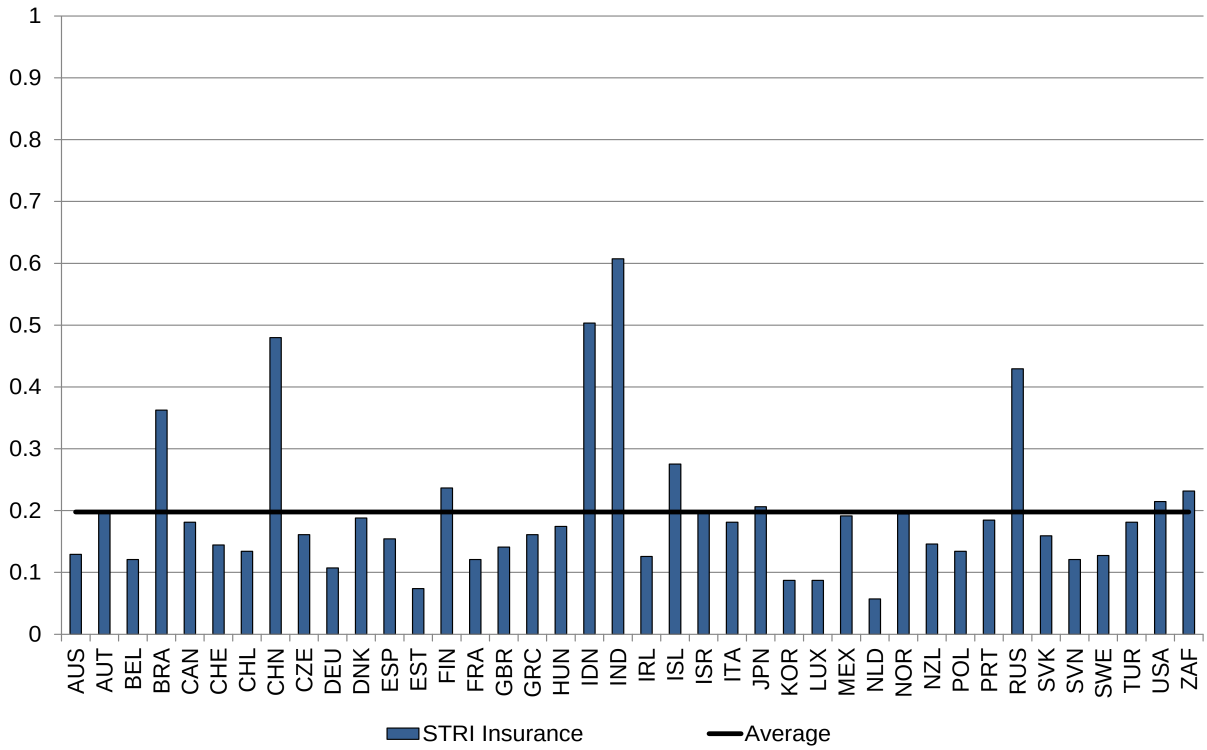
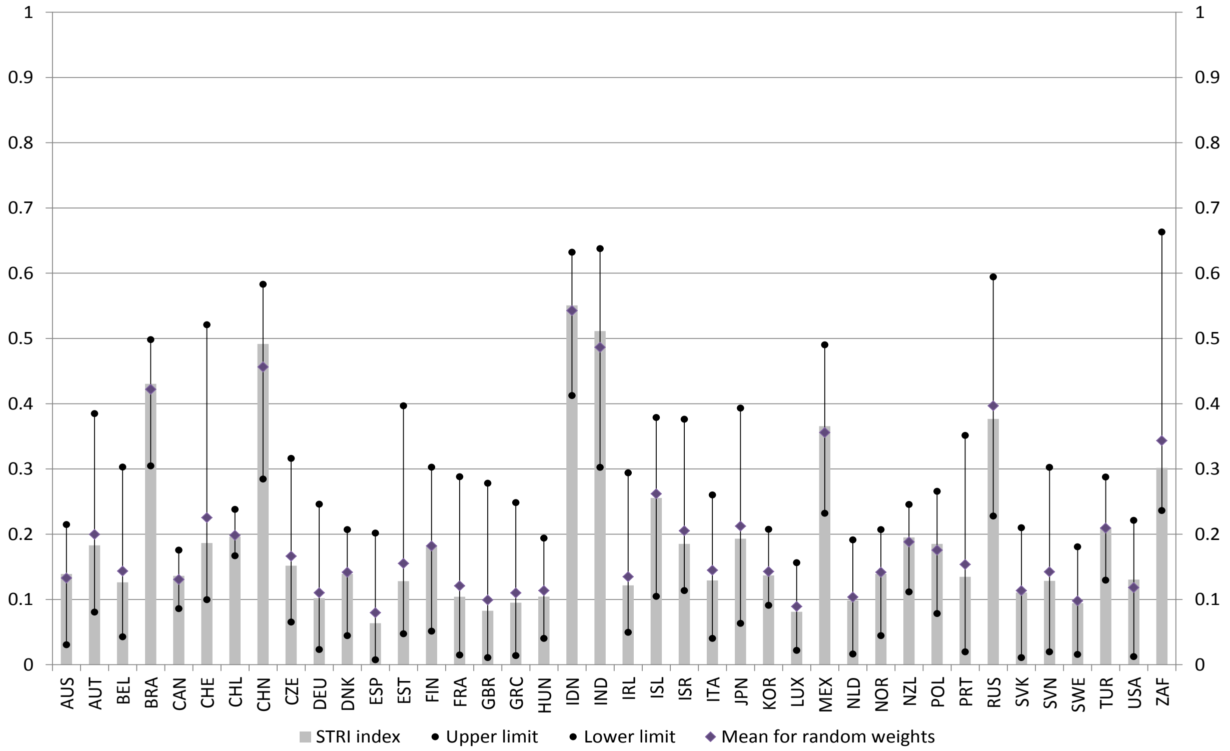


Figure 14. STRI for financial services using random weights

Panel A: Commercial banking



Panel B: Insurance

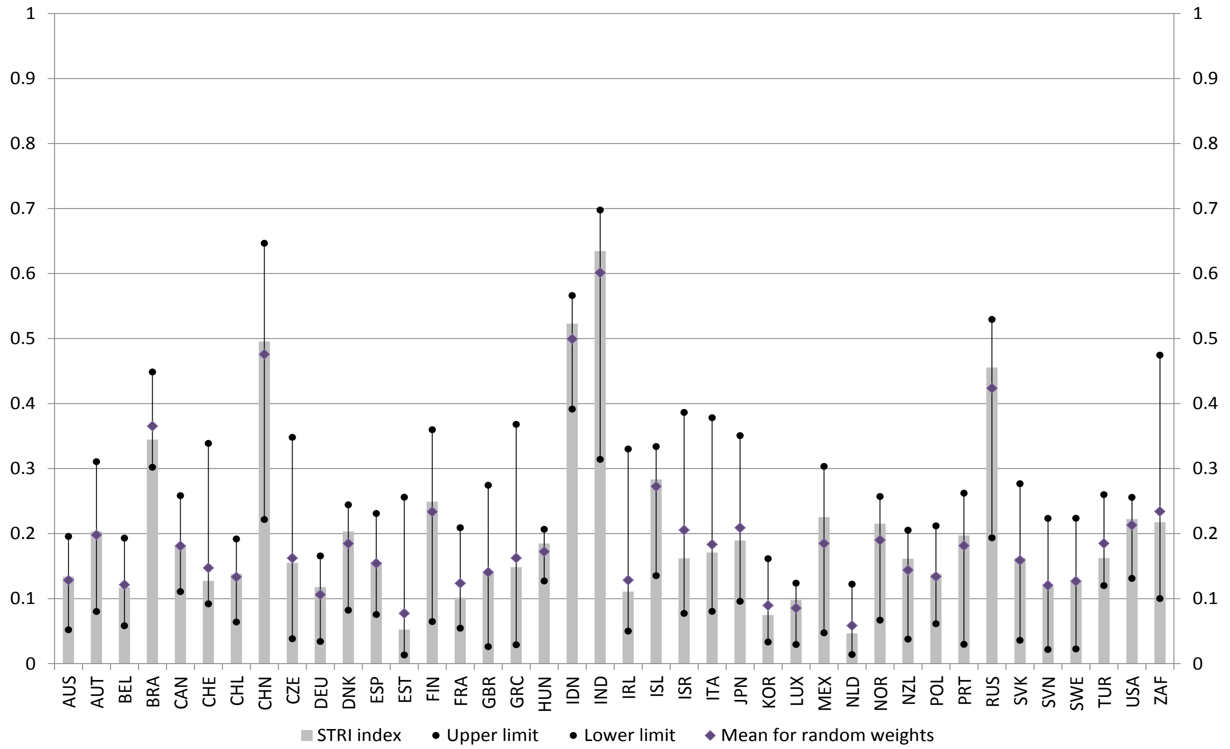


Figure 14 presents the results using random weights. The range of possible index values was calculated on the basis of 3 000 simulations with weights chosen at random (Monte Carlo simulations). Panel A shows the mean, the lowest and the highest index values that emerged from the simulations for commercial banking, as compared to the STRI indices calculated on the basis of expert judgement weights. Panel B shows the results of the same exercise for insurance. The mean value of the indices using random weights are very close to the STRIs based on expert judgement. To the extent that they diverge, the difference between the mean value from random weights and the STRI tends to be slightly positive for commercial banking, and exhibits no consistent sign pattern for insurance. This method leads to a similar ranking of countries as expert judgement and equal weights. Overall, the results of the sensitivity analysis indicate that the indices are robust to the choice of the weighting scheme.

8. Summary and conclusions

This paper has presented preliminary results for the STRI for commercial banking and insurance services. It shows that although many barriers to trade and competition have been removed in the past two decades in OECD countries, significant impediments remain in many economies particularly in the area of foreign market entry conditions. The average level of restrictiveness is moderate but exhibits large variation, from 0.06 to 0.55 in commercial banking (with a sample average of 0.19) and from 0.05 to 0.64 in insurance (with a sample average of 0.20). While there are large economic benefits to be gained from more efficient financial intermediation, the key role of the sector at the core of economic activity is also precisely what may have made governments more cautious to liberalise than in other sectors.

Although e-commerce has enabled a wider range of financial services to be traded across borders without physical presence, the bulk of trade in commercial banking and insurance services takes place through branches and subsidiaries in the host country. The importance of Mode 3 for this sector is reflected in the STRI indices, where most of the measures considered are restrictions affecting the establishment of a commercial presence by foreign firms. Restrictions on foreign equity, barriers to the acquisition of domestic financial institutions and restrictions on legal form are among the most important issues in this category. Barriers to competition taking the form of product market regulation, such as regulated interest and premium rates or prior approval requirements for individual financial products and policy forms, also have a substantive impact in the countries with the highest levels of restrictiveness.

The structure of financial systems has become increasingly complex as financial conglomerates, often operating world-wide, span the whole range of intermediation, insurance and investment services; and as the development of more sophisticated financial products has enabled less regulated entities to compete along similar lines of business with supervised deposit-taking institutions and insurance companies. In these areas, prudential regulation is rapidly evolving. Standard-setting organisations are still in the process of identifying best-practice regulation to deal with financial conglomerates and cross-border groups, which may impact how trade liberalisation in the financial sector is further pursued. Creating a level playing field between bank and non-bank suppliers of similar services, that compete *de facto* but are regulated and supervised in very different ways, is another challenge on which no consensus exists as of yet. The consideration of such issues in the STRI has been necessarily limited at this stage, but it can be revisited at a later stage to account more broadly for the diversity of financial services providers.

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Annex A. Index values by policy area

Commercial banking services

Country	Restrictions on market entry	Restrictions to movement of people	Other discriminatory measures	Barriers to competition	Regulatory transparency	Overall indicator
AUS	0.10	0.02	0.00	0.01	0.01	0.14
AUT	0.07	0.04	0.00	0.03	0.05	0.18
BEL	0.04	0.03	0.00	0.04	0.01	0.13
BRA	0.21	0.04	0.03	0.09	0.07	0.43
CAN	0.08	0.01	0.01	0.02	0.01	0.14
CHE	0.04	0.06	0.01	0.05	0.02	0.19
CHL	0.08	0.02	0.02	0.04	0.03	0.20
CHN	0.27	0.02	0.04	0.12	0.05	0.49
CZE	0.05	0.03	0.00	0.03	0.03	0.15
DEU	0.01	0.01	0.00	0.06	0.01	0.10
DNK	0.07	0.02	0.01	0.04	0.00	0.14
ESP	0.00	0.02	0.00	0.01	0.03	0.06
EST	0.04	0.04	0.00	0.03	0.01	0.13
FIN	0.12	0.03	0.01	0.02	0.00	0.18
FRA	0.04	0.03	0.00	0.03	0.00	0.10
GBR	0.04	0.03	0.00	0.01	0.00	0.08
GRC	0.03	0.03	0.00	0.04	0.00	0.10
HUN	0.03	0.02	0.00	0.03	0.02	0.10
IDN	0.28	0.04	0.09	0.09	0.06	0.55
IND	0.29	0.04	0.04	0.06	0.08	0.51
IRL	0.06	0.03	0.00	0.02	0.01	0.12
ISL	0.14	0.04	0.03	0.05	0.00	0.26
ISR	0.06	0.04	0.01	0.04	0.03	0.19
ITA	0.03	0.03	0.00	0.04	0.03	0.13
JPN	0.06	0.04	0.00	0.08	0.02	0.19
KOR	0.05	0.02	0.01	0.04	0.01	0.14
LUX	0.01	0.01	0.00	0.03	0.02	0.08
MEX	0.18	0.02	0.08	0.06	0.02	0.37
NLD	0.05	0.02	0.00	0.03	0.00	0.10
NOR	0.07	0.02	0.01	0.04	0.00	0.14
NZL	0.11	0.02	0.01	0.03	0.02	0.20
POL	0.09	0.01	0.00	0.03	0.05	0.19
PRT	0.05	0.04	0.00	0.04	0.00	0.13
RUS	0.18	0.06	0.07	0.04	0.03	0.38
SVK	0.06	0.02	0.00	0.00	0.03	0.11
SVN	0.05	0.03	0.00	0.04	0.00	0.13
SWE	0.05	0.02	0.00	0.02	0.00	0.09
TUR	0.08	0.02	0.01	0.05	0.05	0.21
USA	0.11	0.01	0.01	0.00	0.00	0.13
ZAF	0.11	0.07	0.05	0.05	0.02	0.30

Insurance services

Country	Restrictions on market entry	Restrictions to movement of people	Other discriminatory measures	Barriers to competition	Regulatory transparency	Overall indicator
AUS	0.10	0.02	0.00	0.01	0.01	0.13
AUT	0.14	0.03	0.01	0.01	0.02	0.20
BEL	0.07	0.02	0.00	0.02	0.01	0.12
BRA	0.18	0.04	0.03	0.08	0.02	0.34
CAN	0.12	0.02	0.02	0.02	0.01	0.18
CHE	0.07	0.04	0.00	0.02	0.01	0.13
CHL	0.10	0.02	0.00	0.02	0.01	0.14
CHN	0.31	0.02	0.03	0.12	0.02	0.50
CZE	0.11	0.04	0.01	0.00	0.01	0.16
DEU	0.09	0.01	0.00	0.01	0.01	0.12
DNK	0.16	0.02	0.01	0.02	0.00	0.20
ESP	0.11	0.02	0.00	0.02	0.01	0.16
EST	0.01	0.03	0.00	0.02	0.00	0.05
FIN	0.20	0.04	0.01	0.01	0.00	0.25
FRA	0.04	0.02	0.01	0.04	0.00	0.10
GBR	0.11	0.03	0.01	0.00	0.00	0.14
GRC	0.09	0.04	0.00	0.02	0.00	0.15
HUN	0.13	0.01	0.01	0.03	0.01	0.19
IDN	0.36	0.04	0.03	0.08	0.02	0.52
IND	0.43	0.04	0.01	0.12	0.03	0.63
IRL	0.06	0.04	0.00	0.01	0.01	0.11
ISL	0.20	0.03	0.02	0.03	0.00	0.28
ISR	0.04	0.04	0.01	0.07	0.01	0.16
ITA	0.11	0.04	0.00	0.01	0.01	0.17
JPN	0.09	0.04	0.00	0.05	0.01	0.19
KOR	0.03	0.02	0.00	0.03	0.01	0.07
LUX	0.08	0.01	0.00	0.01	0.01	0.10
MEX	0.20	0.01	0.00	0.01	0.01	0.23
NLD	0.01	0.01	0.00	0.02	0.00	0.05
NOR	0.17	0.01	0.00	0.03	0.00	0.22
NZL	0.13	0.01	0.01	0.00	0.01	0.16
POL	0.10	0.02	0.00	0.01	0.01	0.14
PRT	0.15	0.03	0.00	0.02	0.00	0.20
RUS	0.33	0.05	0.00	0.06	0.01	0.46
SVK	0.12	0.03	0.01	0.00	0.01	0.16
SVN	0.08	0.02	0.00	0.02	0.00	0.12
SWE	0.09	0.02	0.00	0.02	0.00	0.13
TUR	0.07	0.02	0.02	0.04	0.01	0.16
USA	0.15	0.01	0.02	0.04	0.01	0.22
ZAF	0.14	0.05	0.02	0.01	0.01	0.22

Annex B. List and classification of measures for commercial banking services

Measure	MA&NT / DR&Other	Mode	Establishment / Operations	Discr. / Non-discr.
Restrictions on market entry				
Maximum foreign equity share (%)	MA&NT	3	E	D
Statutory or legal limit on the shares that can be aquired by foreign investors in government controlled firms	MA&NT	3	E	D
Joint ventures required	MA&NT	3	E	D
Foreign subsidiaries are prohibited	MA&NT	3	E	D
Foreign branches are prohibited	MA&NT	3	E	D
Restrictions on foreign branches	MA&NT	3	E	D
Board of directors: majority must be nationals	MA&NT	3	O	D
Board of directors: majority must be residents	MA&NT	3	O	D
Board of directors: at least one must be national	MA&NT	3	O	D
Board of directors: at least one must be resident	MA&NT	3	O	D
Manager must be national	MA&NT	3	O	D
Manager must be resident	MA&NT	3	O	D
Screening: foreign investors must show net economic benefits	MA&NT	3	E	D
Screening: approval unless contrary to national interest	MA&NT	3	E	D
Screening: notification	MA&NT	3	E	D
Restrictions on the type of shares or bonds held by foreign investors	MA&NT	3	E	D
Conditions on subsequent transfer of capital and investments	MA&NT	3	E	D
Restrictions on cross-border mergers and acquisitions	MA&NT	3	E	D
Quotas or economic needs tests are applied in the allocation of licences	MA&NT	3	E	ND
Criteria to obtain a licence are more stringent for foreign companies	MA&NT	3	E	D
Acquisition of land and real estate by foreigners is restricted	MA&NT	3	E	D
Limits on the number of branches	MA&NT	3	E	ND
Only domestic banks can establish their own ATM networks	MA&NT	3	E	D
Limits on the number of ATMs per bank	MA&NT	3	E	ND
Each ATM is considered as a separate branch in the licensing and authorization process	MA&NT	3	E	ND
Some banking services are reserved for domestic suppliers	MA&NT	All	E	D
A commercial bank is prohibited from engaging in insurance activities	DR&Other	3	E	ND
A commercial bank is prohibited from engaging in securities activities	DR&Other	3	E	ND

Measure	MA&NT / DR&Other	Mode	Establishment / Operations	Discr. / Non-discr.
Some financial products are reserved for statutory monopolies	MA&NT	All	E	ND
Commercial presence required: Deposit-taking	MA&NT	1	E	D
Commercial presence required: Lending	MA&NT	1	E	D
Commercial presence required: Payment services	MA&NT	1	E	D
Limitations on cross-border transfers by customers	DR&Other	1	E	D
Restrictions on internet banking	DR&Other	All	E	ND
Other restrictions on foreign entry	MA&NT	3	E	D
Restrictions to the movement of people				
Quotas: intra-corporate transferees	MA&NT	4	O	D
Quotas: contractual services suppliers	MA&NT	4	E	D
Quotas: independent services suppliers	MA&NT	4	E	D
Labour market tests: intra-corporate transferees	MA&NT	4	O	D
Labour market tests: contractual services suppliers	MA&NT	4	E	D
Labour market tests: independent services suppliers	MA&NT	4	E	D
Limitation on stay for intra-corporate transferees (months)	MA&NT	4	O	D
Limitation on stay for contractual services suppliers (months)	MA&NT	4	E	D
Limitation on stay for independent services suppliers (months)	MA&NT	4	E	D
Other restrictions to movement of people	MA&NT	4	E	D
Other discriminatory measures				
Foreign suppliers treated less favourably regarding taxes and eligibility for subsidies	MA&NT	3	O	D
There are limitations on foreign participation in public procurement	DR&Other	All	O	D
Restrictions on extending loans or taking deposits in foreign currency	DR&Other	All	O	ND
Restrictions on lending to non-residents for domestically licensed banks	DR&Other	3	O	ND
Restrictions on raising capital domestically for foreign banks	MA&NT	3	O	D
Discrimination in the access of foreign-owned banks to the central bank discount window	MA&NT	3	O	D
Subsidiaries of foreign banks are covered by the deposit insurance scheme equally to domestic banks	MA&NT	3	O	D
Non-discriminatory access to wholesale payment systems	MA&NT	3	O	D
Non-discriminatory access to retail payment systems	MA&NT	3	O	D
Non-discriminatory access to clearing houses	MA&NT	3	O	D
Deviation from international standards: Basel standards	DR&Other	All	O	ND
Deviation from international standards: Accounting rules	DR&Other	All	O	ND
Deviation from international standards: Transparency and AML/CFT rules	DR&Other	All	O	ND

Measure	MA&NT / DR&Other	Mode	Establishment / Operations	Discr. / Non-discr.
Other restrictions in other discriminatory measures	MA&NT	3	O	D
Barriers to competition				
Available appeal procedures in domestic regulatory systems are also open to affected foreign parties	MA&NT	3	O	D
Foreign firms have redress when business practices are perceived to restrict competition	MA&NT	3	O	D
The government controls at least one major firm in the sector	DR&Other	3	E	ND
Publicly-controlled firms are subject to an exclusion or exemption from the general competition law	DR&Other	3	E	ND
Regulated contractual interest rates (loans)	DR&Other	All	O	ND
Ceiling on default interest rates (loans)	DR&Other	All	O	ND
Maximum loan value	DR&Other	All	O	ND
Regulated interest rates (deposits)	DR&Other	All	O	ND
Regulated banking fees	DR&Other	All	O	ND
Approval by the regulatory authority required for new products or services	DR&Other	All	O	ND
Approval by the regulatory authority required for new rates and fees	DR&Other	All	O	ND
Directed credit schemes	DR&Other	3	O	ND
Early repayment conditions and fees are subject to regulation	DR&Other	All	O	ND
Product tying is regulated	DR&Other	All	O	ND
Existence of a collateral registry and access of all lending institutions to collateral information	DR&Other	All	O	ND
Advertising is either prohibited or subject to restrictions	DR&Other	All	O	ND
The supervisor has full authority over licensing and the enforcement of prudential measures	DR&Other	All	O	ND
Length of term of heads of the supervisory authority	DR&Other	All	O	ND
The government can overrule the decisions of the supervisor	DR&Other	All	O	ND
The government has discretionary control over funding of the supervisory agency	DR&Other	All	O	ND
Other restrictions in barriers to competition	DR&Other	All	O	ND
Regulatory transparency				
Regulations are communicated to the public prior to entry into force	DR&Other	All	O	ND
Public comment procedure open to interested persons, including foreign suppliers	DR&Other	All	O	ND
Range of visa processing time (business days)	DR&Other	4	O	ND
Time to complete all official procedures to register a company (days)	DR&Other	3	O	ND
Cost to complete all official procedures for registering a company (% of income per capita)	DR&Other	3	O	ND

Measure	MA&NT / DR&Other	Mode	Establishment / Operations	Discr. / Non-discr.
Number of official procedures for registering a company	DR&Other	3	O	ND
Licences are allocated according to publicly available criteria	DR&Other	3	E	ND
There is a maximum time allowed to the regulator for decisions on applications	DR&Other	3	E	ND
Time of resolving insolvency (in years)	DR&Other	All	O	ND
Cost of resolving insolvency (in % of the estate's value)	DR&Other	All	O	ND
Other restrictions in regulatory transparency	DR&Other	All	O	ND

Annex C. List and classification of measures for insurance services

Measure	MA&NT / DR&Other	Mode	Establishment / Operations	Discr. / Non-discr.
Restrictions on market entry				
Maximum foreign equity share (%): life, non-life, reinsurance, brokerage	MA&NT	3	E	D
Statutory or legal limit on the shares that can be aquired by foreign investors in government controlled firms: life, non-life, reinsurance	MA&NT	3	E	D
Joint ventures required: life, non-life, reinsurance	MA&NT	3	E	D
Restrictions on foreign subsidiaries: life, non-life, reinsurance	MA&NT	3	E	D
Foreign branches are prohibited: life, non-life, reinsurance	MA&NT	3	E	D
Restrictions on foreign branches: life, non-life, reinsurance	MA&NT	3	E	D
Board of directors: majority must be nationals: life, non-life, reinsurance	MA&NT	3	O	D
Board of directors: majority must be residents: life, non-life, reinsurance	MA&NT	3	O	D
Board of directors: at least one must be national: life, non-life, reinsurance	MA&NT	3	O	D
Board of directors: at least one must be resident: life, non-life, reinsurance	MA&NT	3	O	D
Manager must be national: life, non-life, reinsurance	MA&NT	3	O	D
Manager must be resident: life, non-life, reinsurance	MA&NT	3	O	D
Screening: foreign investors must show net economic benefits: life, non-life, reinsurance	MA&NT	3	E	D
Screening: approval unless contrary to national interest: life, non-life, reinsurance	MA&NT	3	E	D
Screening: notification: life, non-life, reinsurance	MA&NT	3	E	D
Restrictions on the type of shares or bonds held by foreign investors: life, non-life, reinsurance	MA&NT	3	E	D
Conditions on subsequent transfer of capital and investments: life, non-life, reinsurance	MA&NT	3	E	D
Restrictions on cross-border mergers and acquisitions: life, non-life, reinsurance	MA&NT	3	E	D
Quotas or economic needs tests are applied in the allocation of licences: life, non-life, reinsurance	MA&NT	3	E	ND
Period of time since an applicant’s incorporation in its home country before obtaining a licence: life, non-life, reinsurance	MA&NT	3	E	D
Criteria to obtain a licence are more stringent for foreign companies: life, non-life, reinsurance	MA&NT	3	E	D
An insurance company is prohibited from engaging in banking activities	DR&Other	3	E	ND

Measure	MA&NT / DR&Other	Mode	Establishment / Operations	Discr. / Non-discr.
An insurance company is prohibited from engaging in securities activities	DR&Other	3	E	ND
Some insurance activities are reserved for statutory monopolies	MA&NT	All	E	ND
Some insurance activities are reserved for domestic suppliers	MA&NT	All	E	D
Commercial presence required: life insurance, personal property and casualty insurance, commercial insurance, MAT, reinsurance	MA&NT	1	E	D
Exception to commercial presence requirement for domestically unavailable insurance: non-life, MAT, reinsurance	MA&NT	1	E	D
Resident intermediary required for cross-border supply: life, non-life, MAT, reinsurance	MA&NT	1	E	D
Other restrictions on foreign entry	MA&NT	3	E	D
Restrictions to the movement of people				
Quotas: intra-corporate transferees	MA&NT	4	O	D
Quotas: contractual services suppliers	MA&NT	4	E	D
Quotas: independent services suppliers	MA&NT	4	E	D
Labour market tests: intra-corporate transferees	MA&NT	4	O	D
Labour market tests: contractual services suppliers	MA&NT	4	E	D
Labour market tests: independent services suppliers	MA&NT	4	E	D
Limitation on stay for intra-corporate transferees (months)	MA&NT	4	O	D
Limitation on stay for contractual services suppliers (months)	MA&NT	4	E	D
Limitation on stay for independent services suppliers (months)	MA&NT	4	E	D
Agents and brokers: Nationality or citizenship is required to practice	MA&NT	All	E	D
Agents and brokers: Prior or permanent residency is required to practice	MA&NT	All	E	D
Agents and brokers: A local degree is required to practice	MA&NT	All	E	D
Agents and brokers: A local examination is required to practice	MA&NT	All	E	D
Agents and brokers: At least one year of local professional experience in the sector is required to practice	MA&NT	All	E	D
Actuaries: Membership in the professional association is closed to foreigners	MA&NT	All	E	D
Actuaries: A local examination is required to practice	MA&NT	All	E	D
Actuaries: Absence of a process for the recognition of foreign higher education degrees	MA&NT	All	E	D
Actuaries: At least one year of local professional experience in the sector is required to practice	MA&NT	All	E	D

Measure	MA&NT / DR&Other	Mode	Establishment / Operations	Discr. / Non-discr.
Appointed actuaries must be nationals or residents	MA&NT	All	E	D
Other restrictions to movement of people	MA&NT	4	E	D
Other discriminatory measures				
Foreign suppliers treated less favourably regarding taxes and eligibility to subsidies: life, non-life, reinsurance	MA&NT	3	O	D
There are limitations on foreign participation in public procurement	DR&Other	All	O	D
Restrictions on writing insurance contracts in foreign currency	DR&Other	All	O	ND
Deviation from international standards: Transparency and AML/CFT rules	DR&Other	All	O	ND
Deviation from international standards: Accounting rules	DR&Other	All	O	ND
Mandatory cessions by foreign-owned insurers to domestic reinsurers: life, non-life	MA&NT	3	O	D
Limits on the share of risks that can be ceded to foreign reinsurers: life, non-life	MA&NT	All	O	D
Discriminatory financial requirements for foreign reinsurers: life, non-life	MA&NT	1	O	D
Other restrictions in other discriminatory measures	MA&NT	3	O	D
Barriers to competition				
Available appeal procedures in domestic regulatory systems are also open to affected foreign parties	MA&NT	3	O	D
Foreign firms have redress when business practices are perceived to restrict competition	MA&NT	3	O	D
Arbitration structures are in place to deal with reinsurance disputes	DR&Other	All	O	ND
The government controls at least one major firm in the sector: life, non-life, reinsurance	DR&Other	3	E	ND
Publicly-controlled firms are subject to an exclusion or exemption from the general competition law	DR&Other	3	E	ND
Publicly-controlled firms or undertakings are subject to rules that affect the competition with private insurers	DR&Other	3	E	ND
Compulsory cession of all or a portion of risks to specified reinsurers: life, non-life	DR&Other	3	O	ND
Upper limit on the share of risks that can be ceded to reinsurers: life, non-life	DR&Other	3	O	ND
Insurance premiums, fees or margins are regulated: life, compulsory insurance, other non-life	DR&Other	All	O	ND
Restrictions on the term or value of insurance policies: life, compulsory insurance, other non-life	DR&Other	All	O	ND
Approval by the regulatory authority required for new insurance products or services: life, compulsory insurance, other non-life	DR&Other	All	O	ND
Approval by the regulatory authority required for new rates or fees: life, compulsory insurance, other non-life	DR&Other	All	O	ND
Advertising is either prohibited or subject to restrictions	DR&Other	All	O	ND

Measure	MA&NT / DR&Other	Mode	Establishment / Operations	Discr. / Non-discr.
The supervisor has full authority over licensing and the enforcement of prudential measures	DR&Other	All	O	ND
Length of term of heads of the supervisory authority	DR&Other	All	O	ND
The government can overrule the decisions of the supervisor	DR&Other	All	O	ND
The government has discretionary control over funding of the supervisory agency	DR&Other	All	O	ND
Other restrictions in barriers to competition	DR&Other	All	O	ND
Regulatory transparency				
Regulations are communicated to the public prior to entry into force	DR&Other	All	O	ND
Public comment procedure open to interested persons, including foreign suppliers	DR&Other	All	O	ND
Range of visa processing time (business days)	DR&Other	4	O	ND
Time to complete all official procedures to register a company (days)	DR&Other	3	O	ND
Cost to complete all official procedures for registering a company (% of income per capita)	DR&Other	3	O	ND
Number of official procedures for registering a company	DR&Other	3	O	ND
Licences are allocated according to publicly available criteria	DR&Other	3	E	ND
There is a maximum time allowed to the regulator for decisions on applications	DR&Other	3	E	ND
Other restrictions in regulatory transparency	DR&Other	All	O	ND

Annex D. Scoring of general measures

This section explains the scoring system for continuous general measures that are common to all sectors as well as hierarchies of measures common to all sectors. More detailed explanations can be found in OECD (2011a).

Foreign equity limits are a continuous variable ranging from zero, when no foreign equity is allowed, to 100%, when there are no restrictions. The measure is divided into four brackets as follows:

- Less than 100% allowed
- Less than 50% allowed
- Less than 33% allowed
- Zero foreign equity allowed

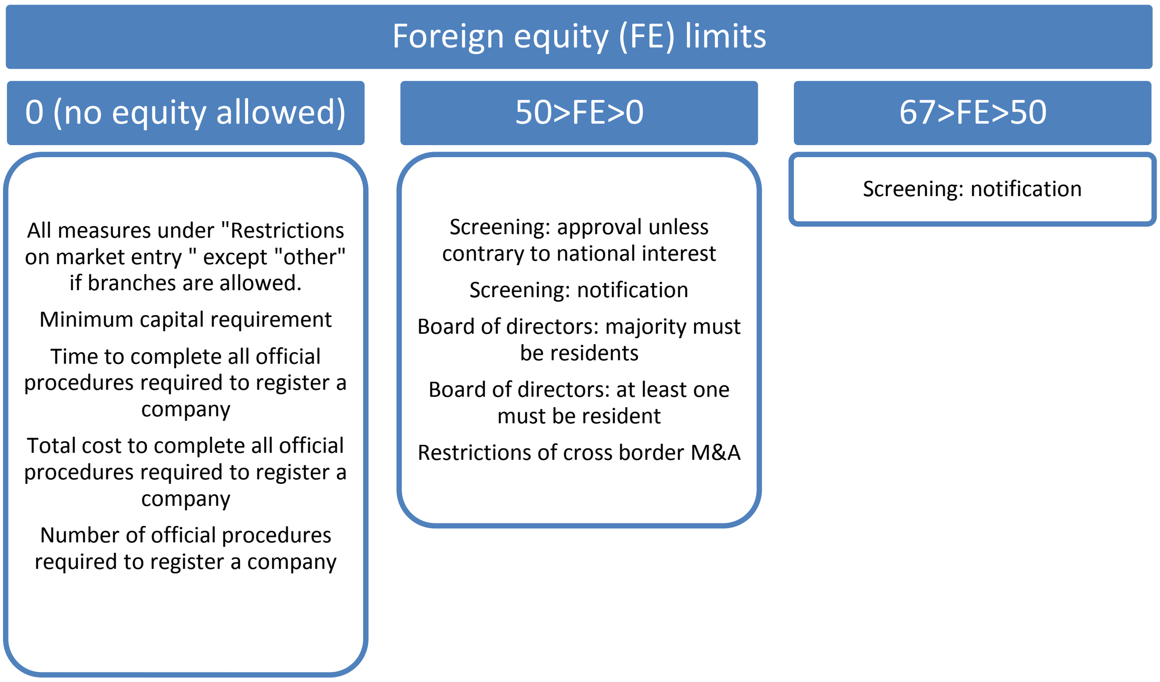
If there are no restrictions, the measure is scored zero. If foreign equity is not allowed at all, there will be four scores of one, since all brackets will be scored one. Thus, if zero equity is allowed, less than 100, less than 50 and less than 33% follow logically. By the same token if the foreign equity limit is 49%, then there will be two one-scores, adding up less than 50% and less than 100%.

The measure on indirect foreign ownership is scored one if the equity foreigners can hold in local investment companies is less than 33%, which is commonly the limit for a blocking minority.

Foreign equity restrictions will also have a bearing on the scoring of some other measures. If, for instance, foreign equity is not allowed, lack of screening or restrictions on board members does not represent a liberal trade policy, but is rather made redundant by the equity restriction. When neither foreign equity nor foreign branches are allowed, all measures related to commercial presence will automatically be scored one.

This way of scoring ensures that if a country eliminates foreign equity restrictions, for example, but introduces screening instead, the overall score on the STRI index will improve. Figure D.1 presents linkages between foreign equity restrictions and other measures.

Figure D.1. Measures that are automatically scored one as a consequence of foreign equity limits



The next general measure for which thresholds are used for scoring is duration of stay for natural persons, which is scored using two brackets. Temporary movement of natural persons is not clearly defined in the GATS, but three to five years are commonly mentioned. Two thresholds for duration of stay for natural persons are introduced for the scoring:

- Less than 36 months
- Less than 12 months

If natural persons can stay 36 months or more the score is zero. If natural persons are allowed to stay less than 12 months, both brackets are scored one. If natural persons in one or more of the categories of natural persons are not allowed at all, both brackets of duration of stay for those categories are automatically scored one. For contractual services suppliers the score is zero also if the duration of stay is linked to the length of the contract as long as the length of the contract is not restricted to be less than 36 months. Thus, if regulation requires that a contractual services supplier with a contract of 6 months gets a visa for 6 months, the scoring is zero as long as the importing firms are allowed to freely choose the duration of the contract within the range of 0-36 months. If natural persons are not allowed at all (or there is a zero quota) all the other variables related to mode 4 supply are scored one as well.

Several measures under the policy area *Regulatory transparency* are continuous variables. These are transformed into binary scores by identifying a threshold above which time, costs or number of procedures are considered an administrative burden and scored one. The thresholds are depicted in Table D.1.

Table D.1. Thresholds for continuous measures under policy heading "Regulatory transparency and administrative requirements"

Measure	Threshold above which the score is one
Range of business visit visa processing time (days)	**10 working days**
Time to complete all official procedures required to register a company (in calendar days)	World Bank Doing Business Indicators – Starting a business: value of the 25th percentile for 183 countries taking the average over 2004-2011: **20 days**
Total cost to complete all official procedures required to register a company (in % of income per capita)	World Bank Doing Business Indicators – Starting a business: value of the 25th percentile for 183 countries taking the average over 2004-2011: **8.6% of income per capita***
Number of official procedures required to register a company	World Bank Doing Business Indicators – Starting a business: value of the 25th percentile for 183 countries taking the average over 2004-2011: **7 procedures**

The value of 10 working days (2 weeks) has been chosen as the reasonable limit beyond which the administrative process would impact negatively the activity of the services provider requesting a short-term business visit visa.[23] For the World Bank Doing Business indicators – *Starting a business*, the thresholds have been calculated as the 25th percentile of the average value for the 2004-11 period for the population of 183 countries covered by these indicators. Thus, countries that perform better than the 25th percentile average over this period get a score of zero. The absolute level of the *thresholds* will be kept constant, while the *entry in the database* for each country is for the latest available year, which ensures that the STRI indices capture the current situation and are comparable over time.

23. In order to have comparable information on visa processing time, information on visa processing time is gathered from all Member countries' embassies in India, Australia and Japan. For Australia and Japan their US embassies are consulted. The number entered in the database is the simple average of these three. India is chosen because all OECD countries require a visa for business visitors from that country and India is the second largest exporter of services other than transport and travel in the world and the only significant non-OECD exporter of services to all OECD Members.