



Statistics Directorate
Trade and Globalisation Statistics Section (TAGS)

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trade indicators**
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Session IV: EXTERNAL TRADE INDICATORS

b) Linking trade and business statistics

Executive Summary:

The linking of trade data with enterprise statistics, in particular micro-based structural business statistics, has received a very high priority by OECDs Working Party on Trade in Goods and Trade in Services Statistics (WPTGS).

More than ever before, the current economic context requires a finer analysis of economic actors, identifying in particular for micro-enterprises (0-10 employees) the scope for growth and employment. There is evidence that trade is a major driver for micro-based growth and the deeper analysis of export behaviour and export patterns (by commodity/sector, number of export markets, identification of niche markets, etc.) would constitute a quite powerful policy tool for furthering the participation rates of SMEs in national economies (e.g. improving access to export finance, facilitating regulations, tax reductions, and so forth).

This OECD activity, called TEC (Trade by Enterprise Characteristics), focuses on Non-EU member countries of OECD. Most EU countries are being covered by Eurostat (OECD-Eurostat joint venture) and are included in this database. TEC is in the process of being “unlocked” in OECDs data Warehouse OECD.Stat for public external access and EU countries have been contacted to give their agreement to public access.

This exercise is new in the sense that, in general, the linking (or rather matching) of activity-based statistics (business statistics) and product-based statistics (merchandise trade) is not attempted. Unless the trade registers and business registers are linked together, using the same

statistical unit, this cannot be done. After years of development, this activity can be considered as “mature” and not any longer as being experimental. The question, therefore, arises of how to further the usefulness of indicators collected. Admittedly, and for practical reasons, the list of indicators (by size class, by top enterprises, by partner zones and countries, and by commodity groups) still is limited and rather aggregated for confidentiality reasons.

BEST, the OECD “Business Economic Statistics and Trade Steering Group”, which meets once per year, will in 2009 discuss how to take the process further in this sense.

Avenues to be explored include:

- Extension of data coverage to include services
- Based upon experience gained so far and feedback received, design of a development strategy to enrich the list of indicators
- How to reduce the “rigidity” of this database? By this is meant that for each change participating countries have to be asked to calculate the requested data, based upon their respective micro-databases (both Eurostat and OECD only receive calculated and de-confidentialised aggregates). Would it be possible, along with the observable trend towards micro-data collection, to enter into discussions with NSOs to what extent the full databases could be accessed directly and which confidentiality safeguard mechanisms would need to be implemented? Such full access would tremendously enhance the usefulness of the TEC database, since allowing generating new indicators without having to ask countries to perform these calculations.
- Increasing the number of participating countries: OECD is in the process to discuss with Turkey and OECD Oceania participation in TEC. The possibility of joining in is largely determined by the national statistical system and its ability to access and link different registers. Other countries will be approached as well, including new OECD accession countries (Israel is already member of TEC and the BEST Steering Group) and, possibly, EEP countries (Brazil, China, India, Indonesia, South Africa).

LINKING TRADE WITH STRUCTURAL BUSINESS STATISTICS: OECD PROGRESS REPORT

Introduction

1. One of the main future development areas for external trade statistics is to link them more closely to other statistics. The linkage of trade statistics with business statistics allows to measure, on the one hand, the contribution of real economic sectors to trading, and on the other hand, to complement business data with detailed information on trade. This enables to analyze the effects of international trade to production, employment and enterprises' performances.
2. Similarly, trade by size of enterprise broken down by sector of activity, by export markets, and by location (*e.g.* region) not only allows analyzing trade effects on employment and value added, but also to “map” performances.
3. The central issue is to try to classify trade operators according to enterprise characteristics and the feasibility of doing so largely depends on – inter alia – the possibility to develop or use common identifiers between the trade register and the business register. The merging of external trade statistics and structural business statistics is of considerable interest to users in the context of globalisation analysis. Statistics on the trade in goods focus on presenting trade flows between countries with a breakdown of products whilst structural business statistics highlight the structure and evaluation of the activities of businesses. By combining these two statistical domains it is possible, on the one hand, to get more information on the structure of traders and on the other hand, to answer questions like which economic sectors contribute most to volume of external trade and what the contribution of different size enterprises to trade is.
4. Under guidance of the Business Economic Statistics and Trade (BEST) Steering Group, a first OECD Linkage Table, which is based on Eurostat's Standardisation Document Rev. 2¹, was sent out to participating Non-EU-OECD member countries in June 2007². The tables are in line with Eurostat's methodology applied, but have been amended in two respects (UN classifications instead of EU classifications and OECD's Geo-Nomenclature instead of Eurostat's Geo-Nomenclature) to enable Non-EU countries to respond.

1. European Commission, Eurostat G-3 Standardisation Document rev. 2, Compilation of External Trade by Enterprise Characteristics, Doc. MET No879, Luxembourg 31.5.2006.

2. See STD/NAES/TASS/ITS(2007)13 *Linkages of Trade and Structural Business Statistics - OECD Progress Report*. Paper presented at the 8th OECD ITS Expert Meeting 17-19 September 2007 ([http://www.oilis.oecd.org/oilis/2007doc.nsf/LinkTo/NT0000412E/\\$FILE/JT03231691](http://www.oilis.oecd.org/oilis/2007doc.nsf/LinkTo/NT0000412E/$FILE/JT03231691)).

Current status quo

5. Up to now, OECD has received data collection tables from Canada, the United States³ and Norway. In addition to that, Eurostat provided OECD with the respective (published) data tables of several EU member states for reference year 2003⁴.

6. The Eurostat tables were – as far as possible – converted to OECD methodology (\$US, nomenclature, ISIC instead of NACE) and integrated to OECD's new database on Trade by Enterprise Characteristics.

7. The OECD database on Trade by Enterprise Characteristics (TEC) now features five datasets:

- Dataset 1: TEC by size classes
Data available for: AUT, BEL, CAN, CZE, DNK, FIN, FRA, HUN, ISL, ITA, LUX, NOR, POL, SVK, SWE, USA, EST, SVN.
- Dataset 2: TEC by top enterprises
Data available for: AUT, CAN, CZE, DNK, FIN, FRA, HUN, ITA, LUX, NOR, POL, SVK, SWE, USA, EST, SVN.
- Dataset 3: TEC by partner zones and countries
Data available for: AUT, BEL, CAN, CZE, DNK, FIN, FRA, HUN, ITA, LUX, NOR, POL, SVK, SWE, USA, EST, SVN.
- Dataset 4: TEC by number of partner countries
Data available for: AUT, CAN, CZE, DNK, FIN, FRA, HUN, ITA, LUX, NOR, POL, SVK, SWE, USA, EST, SVN.
- Dataset 5: TEC by commodity groups (CPC)
Data available for: NOR, USA.

8. The extent of data availability as shown above (7.) varies across countries. Not for all countries all data at all details are available. Confidentiality issues (especially on ISIC 2-digit-level) and differences in categories used between OECD and Eurostat (*e.g.* for size classes) are the main reasons for that. Data for EU countries in many cases refer to extra-trade⁵ only.

Data access

9. A theme called “Trade by Enterprise Characteristics” has been added to the OECD data warehouse, OECD.STAT, within the Globalisation cube (see figure 1).

3. Data for exports only.

4. “Trade by Enterprise Characteristics - Results of the Standardisation Exercise 2006”.












5. Not taking into account data from the Intrastat system.

Figure 1. Trade by Enterprise Characteristics within OECD.STAT



10. The theme consists of the five data subsets, called I to V ('TEC by size classes' up to 'TEC by commodity groups (CPC)'). While datasets I, III and IV come with two indicators each, one of them referring to 'number of enterprises' and the other one to 'Trade value', datasets II and V deliver value figures (\$US) only (see example of figure 2). Some summary analyses on the use of these tables are shown later in this paper.

Figure 2. Concentration of trade (showcase example from dataset II)

Indicator		1: Concentration of Trade (\$US)			
Flow		Exports 			
Reporter Country		Austria 			
Year		2003			
Sector ISIC	TOTAL: Total	OTH: Other	TOTAL: Total		
	 	 	G: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods  	CDE: MINING AND QUARRYING, TOTAL MANUFACTURING, ELECTRICITY, GAS AND WATER SUPPLY  	
Top enterprises					
 TOTAL: Total		37 068.32	7 106.87	6 921.9	23 039.55
TOTAL: Total	1: Top5	4 636.12	3 254.38	1 072.93	3 202.58
	2: Top10	6 783.39	4 084.48	1 398.86	4 865.53
	3: Top20	9 680.38	5 081.91	1 854.35	6 862.35
	4: Top50	13 814.62	6 014.57	2 640.51	9 922.38
	5: Top100	17 783.04	6 469.36	3 359.59	12 816.74
	6: Top500	27 844.58	6 970.83	5 253.69	19 859.08
	7: Top1000	31 622.03	7 053.65	5 973.99	21 840.77

11. This new OECD.STAT theme within the Globalisation cube of course offers the usual conveniences that OECD.STAT provides for all datasets (drag & drop-functionality, individual queries, individual user-defined views, standard charts, download formats etc.).

12. The methodologies used can be accessed via the metadata functionalities of OECD.STAT (red “i”), both metadata for the top-level (general methodology for the whole theme; see figure 3a) and detailed level as well (e.g. detailed information about matching ratios by country, see figure 3b.).

**Figure 3a. Metadata access:
Top-level metadata**



**Figure 3b. Metadata access:
Detailed-level metadata (here: Country metadata for Denmark)**

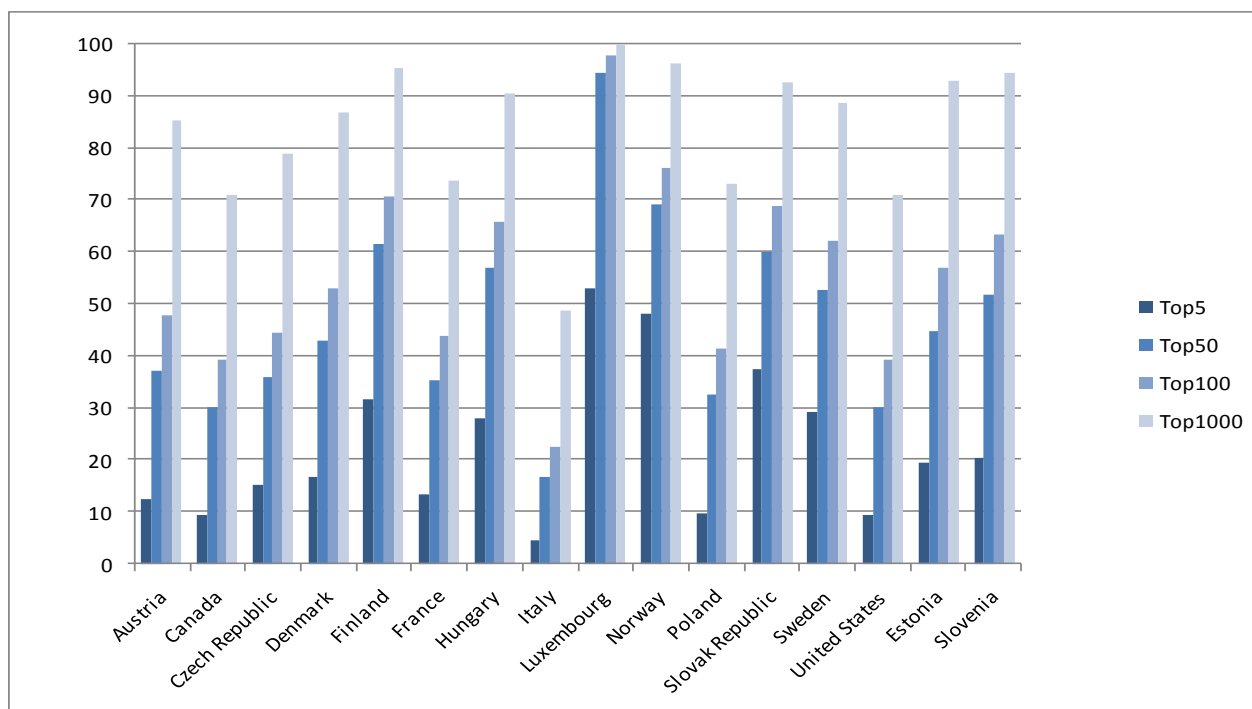


Some results

13. Figure 4 shows the influence (in terms of value) of the top exporting enterprises of a country on the value of total exports (=100%). Though the situation varies by countries, the chart shows that for 9 out

of 16 countries, the top 100 enterprises covered at least 50% of the total exports of the respective country. Naturally, this is more likely for smaller economies with fewer enterprises than for larger economies with a higher number of traders. It's however quite striking that for a large world economy such as the United States, the top 5 traders accounted for almost 10% of the total US export value of 2003.

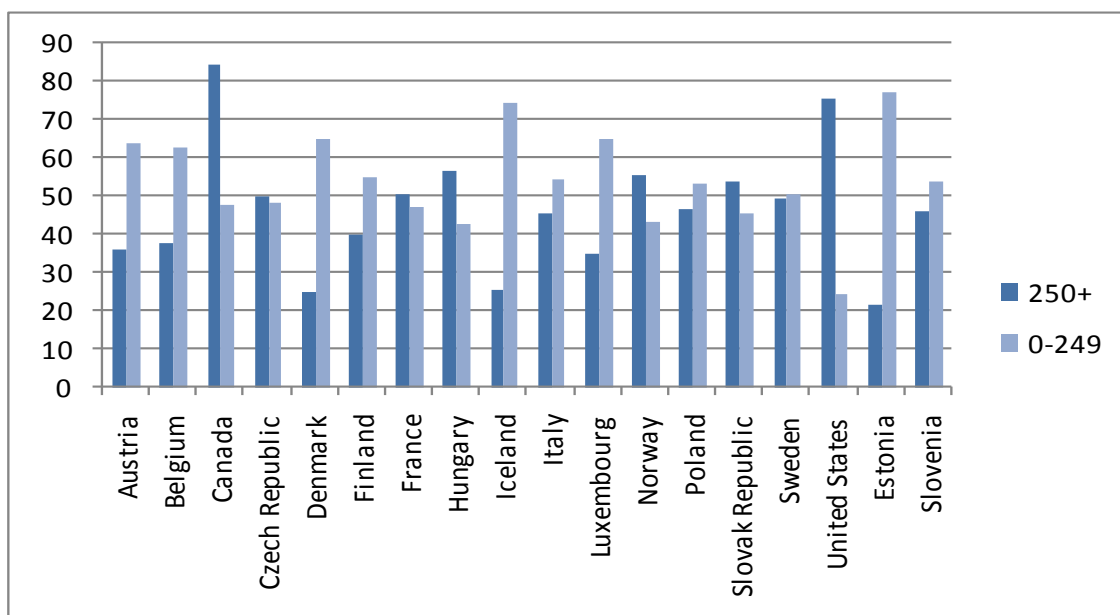
Figure 4. Concentration of Trade: share (%) of export value by top enterprises (2003)



14. The role of enterprises with less than 250 employees and the role of larger enterprises for the total exports of a country is presented in figure 5. While there's a marked dominance of enterprises with 250 employees and more in the total exports of the US and Canada (76% and 84% respectively), the situation looks different for countries such as Iceland, Estonia and Denmark where it's quite the opposite case – which is also due to the different economical structures of the countries concerned.

15. Figure 6 shows the number of traders – of ISIC sectors C to E - that exported to the Russian Federation, China or Japan in 2003. For almost all of the so called “western countries” shown, the most frequent export partner within the three countries was Japan. It's quite the opposite for the former Warsaw-Pact-countries and Finland whose most popular export partner (in terms of number of exporters) was the Russian Federation.

Figure 5. Share (%) of total export value by number of employees, 2003

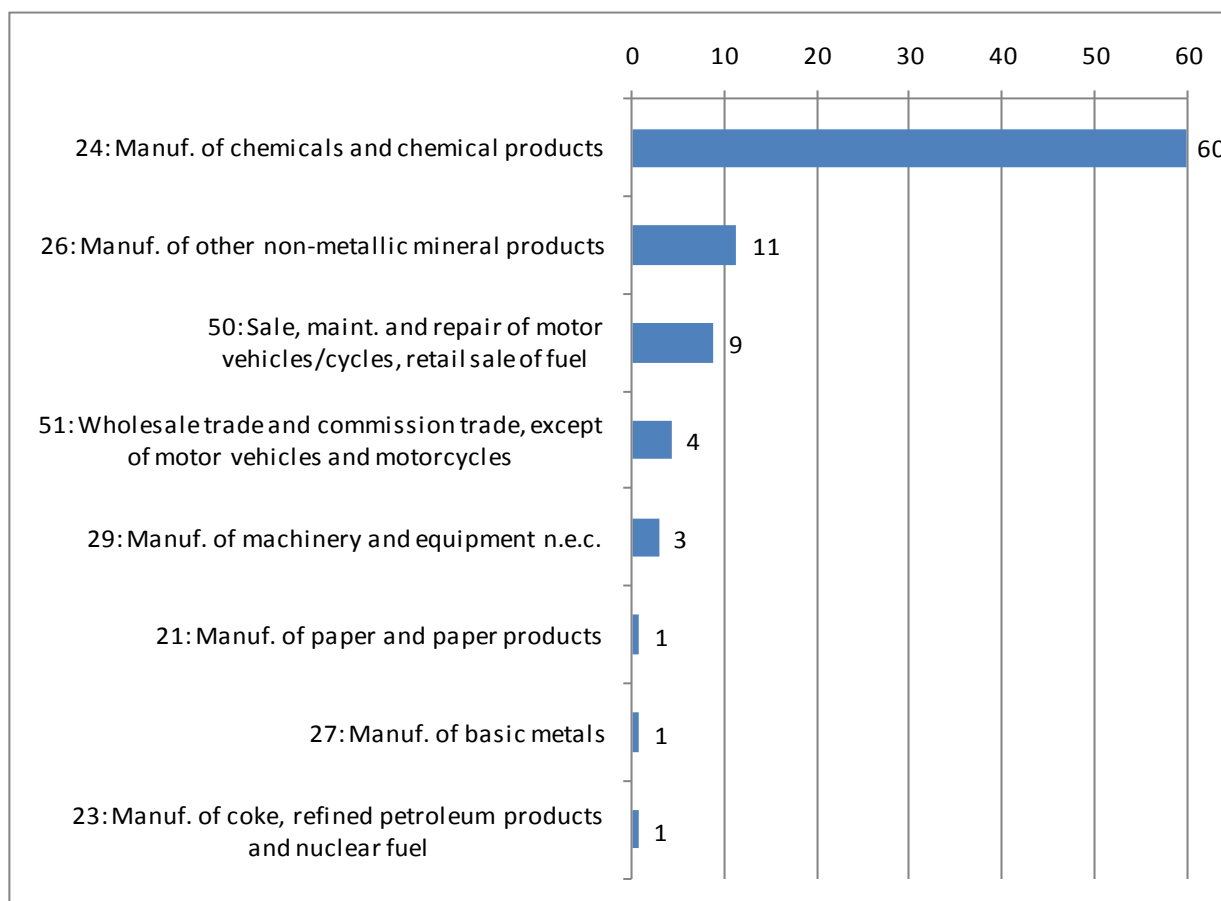


**Figure 6. Number of enterprises that exported to Russia, China and Japan
ISIC sectors C-E, 2003**



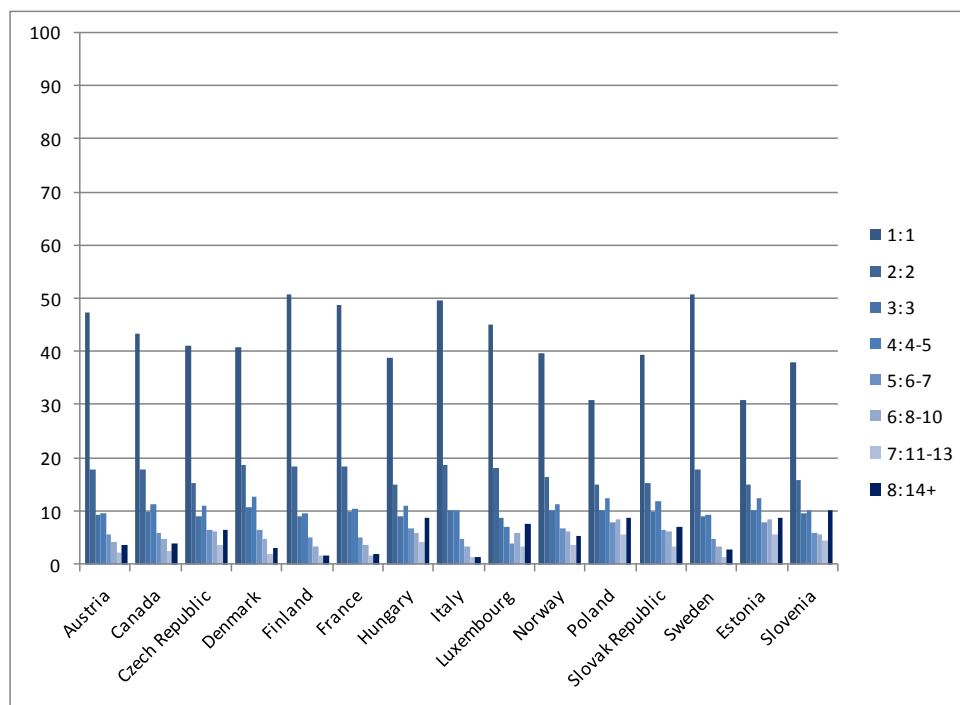
16. The US exports of basic chemicals (CPC 34) by (selected) sectors of the exporting enterprises are presented in figure 7. Clearly, manufacturers of chemicals and chemical products (ISIC 24) were the main exporters of this type of products (60% of total export value in 2003). But also manufacturers of other non-metallic products (ISIC 26) and sale, maintenance and repair of motor vehicles/cycles, retail sale of fuel (ISIC 50) played a role with shares of 11 % respectively 9%.

**Figure 7. Top exporters (ISIC) of basic chemicals (CPC 34),
USA, 2003, in % of total exports of CPC 34**



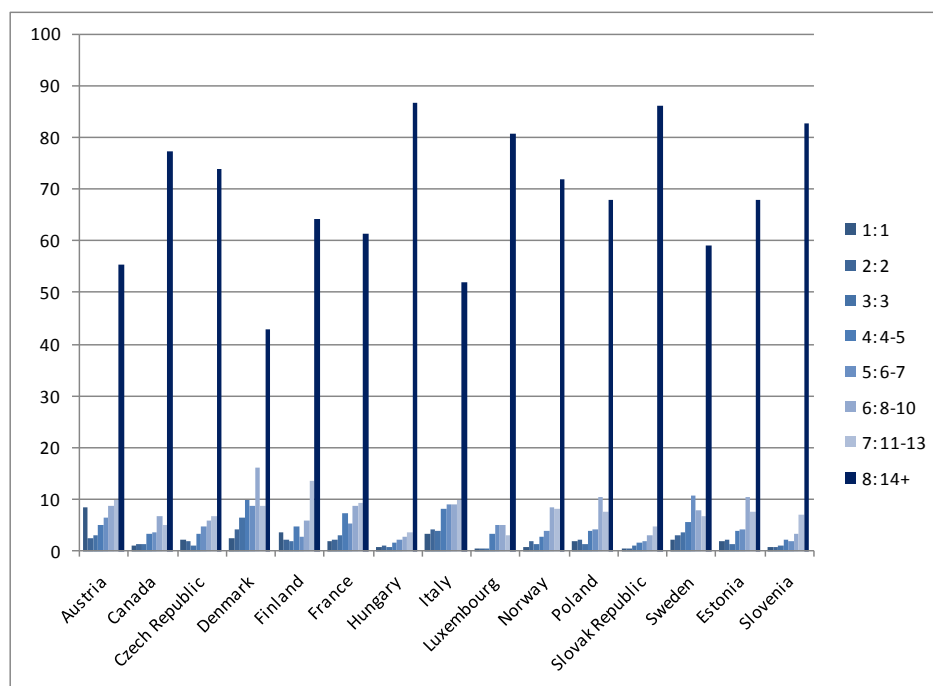
17. Figures 8a to 8d show how many traders (of ISIC sections C to E) had trade relations with how many countries in 2003 and the trade value spreading according to number of partner countries. For both flows, imports and exports, it's evident that there's a huge contrast between number of enterprises and trade value. While for all countries shown most enterprises traded with one partner country only (31% to 51% of all enterprises for imports and 33% to 70% for exports), the by far largest trade values were clearly realised by enterprises that traded with 14 and more partner countries (43 to 87% of total value for imports and 43 to 96% for exports).

Figure 8a. Number of enterprises according to number of partner countries (Imports)
 ISIC C-E (Mining and quarrying, total manufacturing, electricity, gas and water supply), % of total, 2003



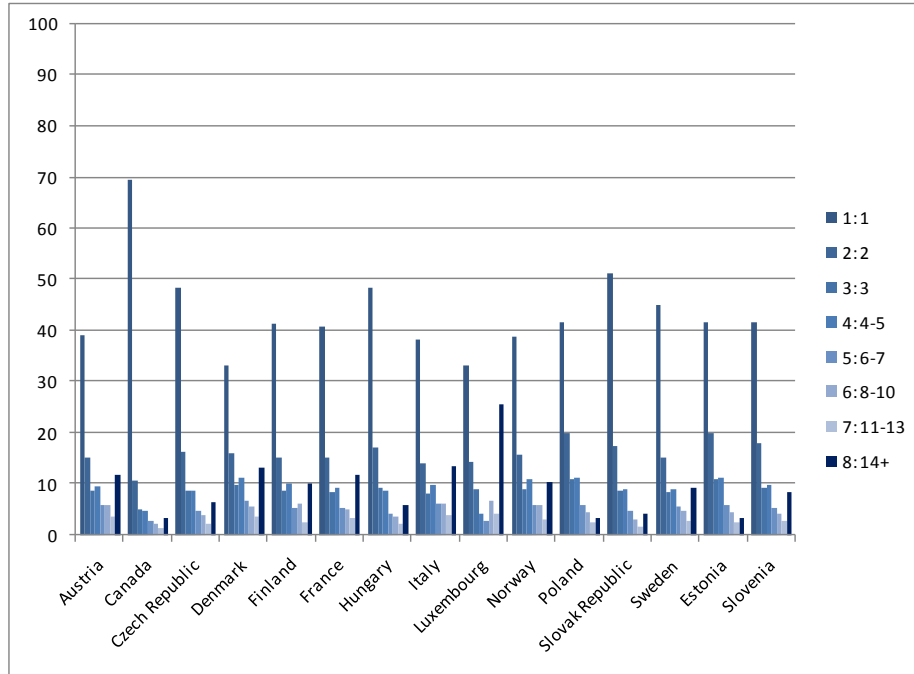
N.B.: Data for EU countries refer to extra trade only.

Figure 8b. Trade value according to number of partner countries (Imports)
 ISIC C-E (Mining and quarrying, total manufacturing, electricity, gas and water supply), % of total, 2003



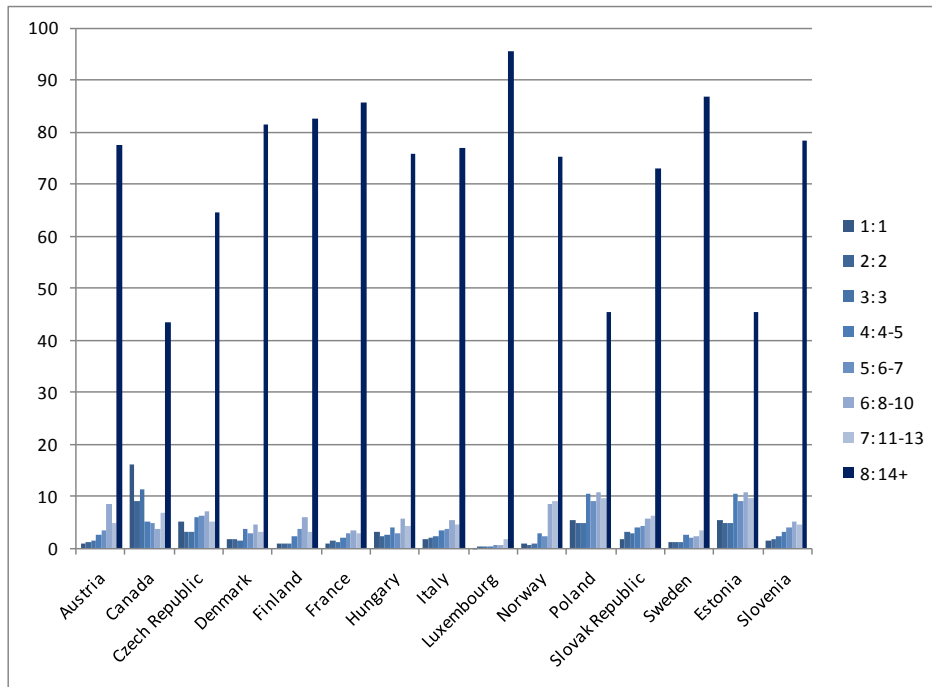
N.B.: Data for EU countries refer to extra trade only.

Figure 8c. Number of enterprises according to number of partner countries (Exports)
ISIC C-E (Mining and quarrying, total manufacturing, electricity, gas and water supply), % of total, 2003



N.B.: Data for EU countries refer to extra trade only.

Figure 8d. Trade value according to number of partner countries (Exports)
ISIC C-E (Mining and quarrying, total manufacturing, electricity, gas and water supply), % of total, 2003



N.B.: Data for EU countries refer to extra trade only.

The road ahead

18. OECD will send out the current database sheets to the respective member countries for final verification/approval before publishing the TEC database.

19. OECD will continue the close co-operation with Eurostat in this concern. Eurostat's Standardisation Exercise 2008 (Reference year 2005) will be the starting point for the next data collection on OECD-level (non-EU-OECD member countries). The concrete details will be elaborated upon the next B.E.S.T.⁶ steering group meeting in 2009.

20. Non-EU-OECD member countries that are not yet participating in the data collection are very much invited to join the data collection, especially OECD Asia and Oceania. OECD Accession Countries and countries of the Enhanced Engagement Program of the OECD are welcome to join as well.

21. OECD has, thus, made quite significant progress in this policy-relevant area, enabling a more world-wide view on trade by enterprise characteristics. It is OECDs intention to further fine-tune the database with respect to possible additional indicators and to enlarge the availability of countries. It can be reasonably expected that the current financial crises and globalisation per se will generate even more interest and demand for this set of trade indicators with focus on the economic characteristics of traders, in particular SMEs.

6. B.E.S.T. = Business Economic Statistics and Trade Steering Group.