Document II/4 - The Impact of Globalisation on Employment

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The paper deals with the impact of economic globalisation on employment from a statistical governance perspective. It looks firstly at the different ways in which economic globalisation may impact on employment, using economic theory and empirical findings. It then reviews and assesses some analytical tools that can be considered to measure this impact. It goes on to examine briefly the situation in the ESS to evaluate the extent to which it delivers relevant information on the issue. Finally, it raises the question of whether NSIs should engage more forcefully in impact analysis.

1.   Introduction

Globalisation generally refers to various dynamic phenomena that have the following elements in common: (i) they cut across national boundaries and (ii) they result in higher integration or interdependence of human societies. Globalisation can be of an economic, social, political or environmental nature, for example. In this paper we shall restrict ourselves to economic globalisation, that is to increasing flows of production factors (capital, labour), of products (goods, services), and of technology between national economies. We shall first consider how economic globalisation might impact on employment, then review some analytical tools that can be used to assess this impact, and finally look at the informational situation in the ESS with respect to globalisation and employment. It should be noted that employment may

also have an impact on globalisation (reverse impact). This aspect is, however, beyond the scope of the present paper.

2. Ways in which economic globalisation may impact on employment

We have identified seven aspects of employment on which economic globalisation may have an impact. This list is not intended to be exhaustive. It will simply show the diversity and complexity of the issue.

2.1 Number of jobs

Economic globalisation may first have an impact on the number of jobs available in the economy, and thus affect key macro-economic variables such as the unemployment rate and the employment-to-population ratio. The issue is made more complex by the fact that the impact can be different at the micro-economic level (establishment, enterprise, economic activity) and at the macro-economic level (total economy), as well as in the short/long term. Offshoring is a case in point [1]. Closing an enterprise in country A to move it to country B may result in job losses in a particular economic activity of country A. It may also result in job gains for country A as a whole because of higher productivity in the remaining enterprises, higher wages, and higher consumption demand. This optimistic view seems to be supported by some of the latest ILO analyses, according to which the number of jobs available in the world is higher than ever before [2]. Factors other than economic globalisation, such as demographic growth, may however be the real cause of this situation.

2.2 Structure of jobs

Economic globalisation may also affect the structure of jobs, i.e. their distribution across economic activities. Jobs linked to certain economic activities may tend to disappear whereas jobs linked to other, maybe new activities, are created due to changing competitive advantages and patterns of specialisation [3]. Here again the issue is made more complex by the fact that changes in the structure of jobs can be caused by economic globalisation but also by technological progress, for example.

2.3 Composition of jobs

The composition of jobs, i.e. the mix of skilled and unskilled jobs in the economy, is also likely to be affected by economic globalisation. So far, in developed countries, low-skilled workers have been most affected by stagnating revenues and / or increasing unemployment due to competition from developing countries' workers and also as a result of technological progress. The workforce in developing countries, however, is becoming better qualified and increasingly engaging in more sophisticated, service-oriented activities. Skilled workers in developed countries are more and more feeling the competition of their counterparts in developing countries.

2.4   R&D jobs

Jobs in the field of R&D are often regarded as of strategic importance for national economies because of their link with innovation. In developed countries, economic globalisation results in opposite trends. On the one hand, there are enterprises moving their R&D activities abroad in order to bring them closer to important markets or to benefit from qualifications more readily available in some foreign locations. On the other hand, there are also enterprises moving their production activities abroad to allow them to focus on R&D activities at home.

2.5   Job earnings

Economic globalisation may affect job earnings in two ways. First, by increasing the overall efficiency of the economy, i.e. its productivity, it causes an increase in real incomes that may be shared with job earnings. Second, by fostering movements of products and production factors it may eventually even out price differences between countries, including the price of labour, i.e. job earnings. Both trends seem to materialise at the global level. According to recent ILO analyses the share of working poor in total employment is on the decrease [4]. Also, job earnings seem to be steadily increasing in developing countries, leading to a narrowing of the job earnings gap at global level. At the same time, however, the job earnings gap between the best and the least qualified workers seems to be widening within developed countries [5]. It looks like wage inequalities are slowly changing places.

2.6   Migrations

A great and increasing number of people are moving between countries and continents. For the OECD countries it is estimated that about 30 per cent of migration is linked to labour [6]. Labour migration is directly fostered by regional agreements liberalising the movement of people as in the EU, by changing patterns of specialisation, and by the development of multinational enterprises moving key personnel to, from and between their foreign affiliates. The development of transport and communication facilities serves as a catalyst. Migration leads to significant inflows and outflows of workers whose impact on labour markets is still unclear. In developed countries migrants may ease labour shortages and be part of the solution to population ageing. In developing countries, however, migration to more developed countries may result in a « brain drain ».

2.7   Employment conditions

Employment conditions are part of the competition between economic locations in addition to more obvious factors such as labour costs. Lower safety requirements, longer working hours, or a ban on trade unions, for example, may be attractive for multinational enterprises and may spur offshoring. This may in turn have an effect on employment conditions in the source countries of offshoring as recently observed in some EU countries as regards working hours. Changing patterns of specialisation induced by economic globalisation or technological progress, such as a more service-oriented economy, may also have effects on employment conditions that are not always clear.

3.   Review of some analytical tools

Without taking into account general equilibrium analysis due to its complexity, we have identified three types of analytical tools to assess the impact of economic globalisation on employment:

- statistical indicators;

- job content of trade method;

- econometric models.

3.1   Statistical indicators

The OECD has developed a list of reference statistical indicators for economic globalisation [7] that also relate to employment, namely:

- share of foreign-controlled affiliates[i] in total employment / R&D employment / compensation of employees;

- share of domestic parent companies in total employment / R&D employment / compensation of employees;

- share of multinational enterprises (foreign-controlled affiliates + domestic parent companies) in total employment / R&D employment / compensation of employees.

The whole set of OECD reference statistical indicators is intended to provide information on the extent and intensity of economic globalisation. The three reference statistical indicators listed above form a subset that is useful for assessing how important internationally active enterprises are for generating employment in a particular country. These statistical indicators are relatively easy to produce because they use statistical data that are generally available. However, these indicators say little about the specific impact of economic globalisation on employment.

Since 1980, the ILO has developed a comprehensive set of statistical indicators of labour markets [8]. They encompass 20 key indicators of the labour market, ranging from labour force participation rate to poverty, working poverty and income distribution. These indicators are useful for generating a detailed analysis of the labour market situation in a particular country. They can give a rough idea of the impact of economic globalisation on employment in a specific country. Yet, one can never be sure that what is reflected in these statistical indicators is in fact happening in the labour market as a direct result of economic globalisation. Technological, demographic or socio-cultural changes may also play a role.

The OECD and the ILO offer well-developed sets of indicators for both economic globalisation and labour markets. What is missing, however, is a set of indicators that links the two areas with the aim of describing and quantifying their relationships (impact indicators). Developing these indicators is an ambitious and complex task since (i) both economic globalisation and employment are multidimensional and

dynamic, (ii) the effects of economic globalisation on employment are likely to be numerous and to vary at micro-/macro-economic levels as well as in the short/long term, (iii) economic globalisation is not the only phenomenon that affects employment, and (iv) there may be a reverse impact of employment on economic globalisation.

3.2   Job content of trade

The job content of trade method is an attempt to quantify the impact of one dimension of economic globalisation (international trade) on three dimensions of employment (number, structure and composition of jobs) by measuring the job content of both exports and imports. The basic idea is that exports and their intermediate consumption generate additional production for the economy and thus create jobs. Imports, on the contrary, are substitutes for domestic production and thus destroy jobs. The difference between job creation and job destruction is considered to be the net effect of international trade on employment [9].

It is relatively easy to evaluate the job content of exports and their intermediate consumption using national accounts data. The task is more difficult when it comes to the job content of imports because price and productivity levels are different between countries. To tackle these problems two methods are used to convert imports into forgone domestic production: the value substitution and the volume substitution methods. The value substitution method is based on the assumption that the value of forgone domestic production is equal to the value of imports, thus allowing for possible higher domestic prices to be compensated by lower quantities. The volume substitution method is based on the assumption that one imported unit substitutes for one unit of domestic production, thus ignoring the effects of possible price differences between the domestic economy and the rest of the world.

The net effect of international trade on employment is given by:

$L_t = \sum_j (L_{jt}/Q_{jt})T_{jt}$

where,

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L_t: number of jobs in full-time equivalent created or destroyed at time t in total economy

L_{jt}: number of jobs in full-time equivalent in industry j at time t

Q_{jt}: gross production in industry j at time t

T_{jt}: net exports (exports minus substituted imports) in industry j at time t

The method can, of course, be further refined to measure the types of jobs (for example, skilled / unskilled) that are created or destroyed by international trade[ii].

The following table shows as an example the job content of trade in full-time equivalent for the primary and secondary sectors in Switzerland in year 2003. The value of imports has been calculated using the value substitution method. The figures are experimental and non-official.

Economic activity	Jobs to production ratio	Net exports (1'000 CHF)	Job content of net exports
	$(L_{jt}/Q_{jt})*10^6$	T_{jt}	$(L_{jt}/Q_{jt})*T_{jt}$
Agriculture, hunting, forestry, fishing and fish farming	10.776	-2'703'699	-29'135
Mining and quarrying	2.989	-1'613'914	-4'823
Manufacture of food products, beverages and tobacco	2.047	-2'442'787	-5'000
Manufacture of textiles	4.623	-1'013'292	-4'684
Manufacture of wearing apparel, dressing and dyeing of fur	4.749	-2'712'798	-12'882
Leather and footwear	4.818	-1'192'426	-5'745
Manufacture of wood	5.081	-740'841	-3'764
Manufacture of pulp and paper	2.813	-134'653	-379
Publishing, printing	4.156	-1'255'984	-5'219
Manufacture of coke, chemical industry	1.272	13'623'688	17'334
Manufacture of rubber and plastic products	3.510	93'717	329

Manufacture of other non-metallic mineral products	3.606	-1'086'465	-3'917
Manufacture of basic metal	3.611	-1'293'744	-4'672
Manufacture of fabricated metal products	4.952	488'420	2'419
Manufacture of machinery and equipment	3.328	9'362'742	31'158
Manufacture of office and electrical machinery and computers	2.729	-3'516'334	-9'596
Manufacture of communication equipment	2.868	-2'381'056	-6'828
Manufacture of medical and optical instruments, watches	2.742	14'020'387	38'449
Manufacture of motor vehicles	3.294	-8'200'553	-27'013
Manufacture of other transport equipment	3.175	650'133	2'064
Manufacture of furniture, other manufacturing	4.400	-2'807'714	-12'353

Primary and secondary sectors average	Total	Total
3.271	5'142'825	-44'258

Source: calculations of the authors. Results may be affected by rounding differences.

It appears that Switzerland had in 2003 a trade surplus for the primary and secondary sectors of almost 5'143 million Swiss francs, while its trade balance for the same sectors expressed in job content was negative by 44'258 full-time equivalent jobs. This is the result of differing jobs to production ratios across economic activities.

The economic activities with the biggest trade surplus (Manufacture of coke, chemical industry, and Manufacture of medical and optical instruments, watches) have below-average jobs to production ratios. They are less labour-intensive than the overall primary and secondary sectors in terms of full-time equivalent jobs. On the other hand, most of the net importing economic activities have above-average jobs to production ratios. Switzerland thus imports goods which are more labour-intensive than its exports, causing the sign reversal between the traditional trade balance and the job content trade balance. These findings are consistent with classical trade theory, which predicts that a developed country should specialise in capital-intensive goods due to its relative production factors endowment.

The job content of trade method is appealing because it is relatively straightforward and relies on data available in national accounts statistics and / or labour market statistics. It is an interesting method for assessing the impact of trade on the structure and composition of jobs. The results concerning the number of jobs for the total economy should, however, be treated with caution because the method does not take into account the dynamic effects of international trade. Another weakness of the method is that it makes the unrealistic assumptions that countries can produce everything they need (autarky) and that they all use the same production technology. Last but not least, the very idea that exports are creating jobs whereas imports are destroying them is not grounded in economic theory.

3.3   Econometric models

Assessing the impact of economic globalisation on employment is basically about testing and quantifying the relationships between two sets of economic phenomena. Regression analyses (logistic, linear, etc.) are the most common techniques. They require a set of variables (dependent variables / explanatory variables) available for a sufficient number of observations (for example countries, regions, economic activities). The better harmonised the variables are between the different observations, the better the analysis.

For all their limitations (incompleteness of economic theory and ensuing specification problems, non-experimental nature of economic data, risk of spurious correlations), econometric models are powerful tools because they can disentangle the effects of economic globalisation on employment from other effects, which is of critical importance. They are extensively used in the literature to analyse the relationships between particular dimensions of economic globalisation (international trade, foreign direct investment, etc.) and of employment (number, structure, composition, earnings of jobs, etc.). However, we are not aware of an econometric model that would embrace all aspects of economic globalisation and employment. The conclusions delivered by existing econometric models are thus only partial. They also fail to take into account the dynamic effects of economic globalisation. Given the lack of viable alternatives, however, it would be worth working towards turning econometric models into more reliable and effective tools. This could be achieved, for example, by harmonising variables and model specifications used across countries.

4.   Informational situation in the ESS

There is a wealth of statistical data on economic globalisation and on employment available in the ESS. These data can mainly be found in the following statistics:

–   national accounts statistics and in particular the supply-use and symmetric input-output tables;

–   statistics concerning balance of payments, international trade in services and foreign direct investment;

–   international trade statistics (goods), which cover both extra- and intra-EU trade;

–   structural business statistics;

–   science and technology statistics, which cover both R&D expenditure and R&D personnel;

–   labour force statistics;

–   statistics on earnings and labour costs.

Ongoing work in the fields of inward / outward FATS, the EGR, international sourcing and the new benchmark definition on FDI, new trade indicators merging trade and business registers data will further extend this informational basis. It can thus be said that the coverage of economic globalisation and employment in the ESS is good and steadily improving.

Two particular strengths of the ESS should also be mentioned. First, statistical data are to a great extent comparable between ESS countries because methodology is enshrined in legislation that is binding for ESS countries. Second, statistical data are fairly consistent because they use the same concepts, definitions, classifications and units, and can thus often be easily combined with each other. National accounts statistics and structural business statistics offer a good example of this.

The ESS thus delivers large volumes of comparable and to some degree consistent statistical data on both economic globalisation and employment. These data can give

an idea of what the interaction is between economic globalisation and employment but they are not intended to be impact indicators. Such indicators are missing in the ESS.

5. Conclusion

Economic globalisation and employment are multidimensional and dynamic. They also interact with each other. At this stage we have a lot of statistical data on both of these subjects but almost no statistical indicators on the impact of economic globalisation on employment. There are diverging views on the role of NSIs in this respect. One opinion is that NSIs should restrict themselves to producing good quality data on economic globalisation and on employment. In particular, they should concentrate on extending the coverage and quality of their data, trying to make them more comparable and consistent. NSIs should, however, stop short of venturing into impact analysis. This type of work should be left to research institutes that are not engaged in official statistics and that are in a better position to use econometric methods. Another opinion is that the lack of statistical indicators describing and quantifying interactions (impact indicators) is a fundamental weakness of contemporary statistical production. As a result, the picture of the world which official statisticians deliver to policymakers, analysts and the public at large is fragmented, and this considerably lessens the value of statistical information. NSIs should therefore engage more forcefully in impact analysis. This is an issue on which participants may wish to exchange views.

6. References

[1] OECD (2007), Offshoring and Employment: Trends and Impacts.

[2] ILO (2007), Global Employment Trends Brief.

[3] OECD (2007), Staying Competitive in the Global Economy: Moving Up the Value Chain.

[4] ILO (2007), op. cit.

[5] OECD (2007), Employment Outlook 2007.

[6] OECD (2007), International Migration Outlook 2007.

[7] OECD (2005), Handbook on Economic Globalisation Indicators.

[8] ILO (2005), Key Indicators of the Labour Market (KILM), 4th edition.

[9] OECD (1997), Trade, Earnings and Employment : Assessing the Impact of Trade With Emerging Economies on OECD Labour Markets, in OECD Employment Outlook 1997.

7. Acronyms

EGR	EuroGroup Register
ESS	European Statistical System
EU	European Union
FATS	Foreign Affiliates Statistics
FDI	Foreign Direct Investment
FSO	Swiss Federal Statistical Office
ILO	International Labour Organization
KILM	Key Indicators of the Labour Market
NSIs	National Statistical Institutes
OECD	Organisation for Economic Co-operation and Development
R&D	Research and development

Notes

[i] The control is exercised by a single direct investor or a group of associated shareholders controlling the majority (+50%) of ordinary shares or voting power.

[ii] $L_{it} = \sum_{j}[a_{ijt}(L_{jt}/Q_{jt})]T_{jt}$

where,

L_{it}: number of (for example) skilled / unskilled jobs created or destroyed at time t in total economy

a_{ijt}: average proportion of (for example) skilled / unskilled jobs in industry j at time t