Small and medium-sized enterprises in global value chains

Abstract. This article is dedicated to possibilities and importance of SMEs’ involvement in global value chains (GVCs). The purpose of this paper is to identify the position of SMEs and their opportunities in GVCs in the context of development processes taking place in GVCs and the world economy. To meet the objectives of the research, the authors formulated the following questions: «What is the state of the art of GVCs issues in literature in the context of international economic relations and efficiency?», «What are the positions, potential and opportunities for SMEs in GVCs?», «What solutions would contribute to more effective functioning of GVCs in the overall productive process?». The theoretical part of the paper points out that the nature and impact of GVCs on various aspects of economic processes can be examined from different perspectives. In the analytical part, attention is paid to small and medium-sized enterprises in the EU and GVCs concerning the next issues: determinants of businesses participation in GVCs; perceived benefits of SMEs’ participation in GVCs; advantages of SMEs’ participation in GVCs; importance of SMEs for economic progress and their participation in GVCs. The main results and discussion are related to the following areas: steps to improve functioning of GVCs in the overall productive process and implementation of recommendations for future government support for SMEs’ internationalising. In conclusion, the authors of the article mentioned and summarised issues and topics for further research in the area of GVCs, namely: competitiveness, trade, services, investment, economic development, as well as adaptation and risk areas of GVCs.

Keywords: Small and Medium-sized Enterprises; Global Value Chains; European Union; Internationalisation; OECD

JEL Classification: F23; M21; Z00

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1. Introduction

To understand the nature of the problem which results from the topic, it will be useful to provide some context and status of the global value chains (GVCs) business and the importance which is paid to the area by researchers, integration groupings (EU), respectively selected international organisations (OECD).

Entrepreneurship is a powerful driver of economic growth and job creation: it creates new companies and jobs, opens up new markets and nurtures new skills and capabilities. In the field of industry, for instance, it is therefore particularly important for fast development of the six emerging growth sectors identified in the Commission's Industrial Policy update.

GVCs are important units of analysis to understand enterprise competitiveness. Activities along GVCs may involve concept, design, production, marketing, distribution, retailing and R&D: they might even include waste management and recycling. Depending on the industry needs, each link of the chain performs an activity, and different firms add value at each stage of the production or service process. New transportation, information and communication technologies have driven down the cost of accessing information and trading products, services and facilitated the spatial division of value chains. Accordingly, a certain production process can be located in a particular geographical area because of the location-specific competitive advantages. (UNCTAD, 2010).

The OECD report, in cooperation with the World Trade Organisation and the World Bank, for the meeting of G20 trade ministers on 19 July 2014 in Sydney underlines the importance of GVCs for shaping of economic policy and its impact on trade, economic growth, job creation and distribution of added value through GVCs. GVCs attention is focused on connecting the trades, investments, services and know-how which become a determining factor of future trade flows and investments deployment as a precondition for further economic growth.

The growth of GVCs has increased interdependence of economies and led to increasing specialisation in particular stages of the chain. More than 70% of world trade is intermediate products, services and investment goods. The income generated within GVCs has doubled in the last 15 years. The individual national economies are involved in GVCs with varying portions. This diversity is affected by objective factors such as their geographic location and availability of raw materials. However, relevant are conditions resulting from the country’s economic policy, including the business and investment environment, the level of education, the state of infrastructure, etc.

GVCs are almost exclusively carried out by multinational companies; they are an important part of foreign trade in intermediate products. Also, finished goods and services are implemented within the branches of these multinationals. Eventual - ly, independent suppliers, especially small and medium-sized enterprises, such as subcontractors of production inputs (intermediate goods or services) should be increasingly involved in GVCs. In such a case, their intermediate goods or services will reach foreign consumers as part of the finished goods or services. The potential of the largest economies in the world can be derived from data about the share in added value of those countries, which is stated in Table 1.

The purpose of this paper is to identify the position and the opportunities which SMEs have in GVCs in the context of the development process in GVCs and the world economy. Methodology: To conduct the research, it was important to study publications on the subject. Those which are listed in the literature contain mainly theory relate to the issues under our study and the relevant implications in the environment of the European Union (EU) and the OECD countries. The authors have applied the methods of abstraction, induction, analysis, synthesis and quantitative methods. The data source was mainly statistical databases (Eurostat, national statistical materials). To meet the objectives of the research, the authors formulated the following questions: «What is the state of the art of GVCs issues in the literature in the context of international economic relations and efficiency?», «What are the positions, potential and opportunities for SMEs in GVCs?», «What solutions would contribute to more effective functioning of GVCs in the overall productive process?».

2. The essence of GVCs and knowledge status of the topic in the literature

Global value chains (GVCs) is a term that refers to the geographic deployment of production and services into the areas with the most effective economic conditions and business environment (OECD, 2014).

For the first time, the concept of global value chains appeared in the 1970s in relation to the research of commodity chains (Hopkins, Wallerstein, 1976). The substance of commodity chains was to map all inputs and process steps which result in the production of a product. In 1994, G. Gereffi first introduced the concept of global commodity chains based on the clothing example where he described the supply chain and operations from raw materials to the final product. The terms «commodity» and «value chain» are largely similar; however the «value chain» has a broader meaning as it is used to describe the organisation of production (Bair, 2005). In the 1980s, the term «global value chain» started to be used under the influence of literature on world trade and value chains (Porter, 1985).

An essential function of GVCs is to ensure an optimal ratio of input to output and create the greatest possible degree of added value. The more a country develops value added, the higher the standard of living is for its people. The income obtained from GVCs is a «value that was added in the country at any stage of production of any product» (Timmer et al., 2014). Added value has two basic components: income from work (wages, salaries and remunerations of personnel) and capital income (profits, interest, rents).

The nature and effect of GVCs on various aspects of economic processes can be examined from different perspectives. In this sense, an important problem is to define the essence of GVCs on various aspects of economic relations and international economic relations (World Economy and International Economic Relations, 2015).
aspects of GVCs problems, in particular the theoretical basis of GVCs, the place and the possibility of participation of SMEs in GVCs development in developing and developed countries, specifically in the OECD, etc. (see references) were published by Gereffi et al., (2001); Baldwin, (2012); OECD, (2013); Hausmann, (2014); Stamm, (2004); Baldwin, (2012); Escalís, (2014); UNCTAD, (2013b); Primo Braga, (2013); Bamber et al., (2014); Mankiw and Swagel, (2006); Blinder, (2006); Baldwin, (2012); Grossman and Rossi-Hansberg, (2008); De Backer and Miroudot, (2013); OECD-WTO-UNCTAD, (2013).

2.1. Global value chains at micro- and macroeconomic level

Micro level

Identification of the input - output structure of production activities in the value chain can be realised by mapping manufacturing operations sequences – from raw materials to a finished product. Within each production phase, we can identify companies involved in the key operations of production. A typical feature of GVCs is that the activity (and phase of the production process) take place in different countries of the world. Geographical mapping of the value chain begins with identifying the key company. This is usually original equipment manufacturer (OEM). The main direct suppliers to the OEM companies are first-degree suppliers (Tier 1 suppliers). Companies providing subcontracting for first-level suppliers are categorised under Tier 2, etc. The length of the value chain can vary greatly according to the complexity of the manufactured product and the level of the supplier’s specialisation for specific production activities. Although value chains are global, specific phases of the production process are concentrated in certain regions of the world. In general, sophisticated activities of the value chain are located in developed countries, while inter-consumption and finalisation is carried out in less developed countries. An analysis of the geographical structure of GVCs shows a trend towards increasingly higher regional concentration of GVCs.

The logic of regional concentration (especially at the level of economic groupings) is based on the following factors:

1) geographical proximity and the resulting savings in transportation costs; 2) benefits of spill-over effects coming from the possibility of direct personal communication of key actors at different stages of the production process; 3) harmonisation of the production process and consumption within the EU or NAFTA groupings (Slusna and Balog, 2015).

Macro level

Mapping the country’s participation in global value chains uses two basic approaches. The first one is based on tracking flows of gross exports, while the second approach focuses on the analysis of flows of added value. At macro level the GVC mapping is important for the analysis of the country’s position in global trade, in particular in terms of added value. The international division of labour is reflected in an increase in different countries’ and companies’ specialisation related to those activities where they have a comparative advantage. A deepening division of labour results in a gradual fragmentation of vertically integrated production. There are several indicators that describe the degree of production fragmentation between specialised manufacturers and countries. The most widely used are the participation index and the length of the production chain index (OECD, 2012).

Summary of the first research issue:

The term chain is understood as the full set of activities that companies and their workers are performing, from the initial product concept till the usage by customers. The creation of global value chains is the result of the growing international division of labour. The division of labour is reflected in the ongoing fragmentation of manufacturing operations, which are spread among different countries. Countries specialise in those parts of the manufacturing process in which they have a particular comparative advantage, for example the presence of raw materials, skilled labour or good institutional environment supporting a specific stage in the production process. The ultimate effect of the global value chains functioning is to achieve an optimal ratio between inputs and outputs. Global value chains mapping can be made at the micro- (company) or macroeconomic level.
engagement, suggesting that there is a premium to locating close to large ‘headquarter economies’ (source).

3.3. Perceived benefits of SMEs’ participation in GVCs

From a theoretical point of view, many factors suggest that the integration of SMEs in global value chains, under specific conditions, is for the benefit of those firms. During the OECD (2008) interviews, SMEs were asked about their perception or experience of participation in GVCs. The main findings can be summarised as follows:

- The answers by the SMEs in all sectors support the argument that the participation in global value chains brings benefits to SMEs or is expected to bring them.
- Firms that have successfully integrated in one or more value chains have been able to gain stability or expand their business. Even those SMEs, who have chosen to remain at the margins of the global value chain, recognise the potential for growth associated with participation in GVCs.
- Co-operation within the network is one of the key factors of successful integration. Coordination of work with partners upstream and downstream increases the chances of success due to substantial benefits in terms of information flow, access to superior technologies and learning opportunities.

3.4. Advantages of SMEs’ participation in GVCs

Firstly, according to OECD «Enhancing the Role of SMEs in Global Value Chains», participation in GVCs may provide a number of benefits, including: flexibility and productivity improvements through new niches for the supply of products and services at lower costs. If SME owners take a proactive as opposed to a reactive approach, SMEs can position themselves quickly to capture opportunities in new production areas. This internationalisation of production, through increased outsourcing and development of GVCs, can have a significant impact on SMEs. Secondly, participation in GVCs provides new avenues of growth for SMEs looking to expand. New finance growth opportunities, uncovering more efficient suppliers and untapped markets, and mutually beneficial relationships with other SMEs owners, are all potential gains by small business owners who board the cabins of the GVC express, as opposed to the risk and reality of stagnation when limiting themselves in local or in some cases, even suburban supply chains (OECD, 2008).

3.5. Importance of SMEs for economic progress and their participation in GVCs

SMEs are the backbone of the economy in several developing countries, too. Indeed, they account for more than half of all workers worldwide (equation 1). A cross-country study of 49,370 firms in 104 countries finds out that while small and medium-sized firms (<100 employees) have a comparable share of aggregate employment as large firms, the small firms (<20 employees) provide the largest shares of job creation, highest sales growth and employment growth. (Ayyagari et al., 2014). These findings are also common in OECD countries, where 75% of new jobs are created by SMEs. Forecast growth for employment in the European SMEs for 2014-2016 is shown in table 3. Over the last several years, however, additional research has revamped the debate, indicating that the size is not a relevant measure, but rather it is the age of the firm which determines its contribution to net job creation. Evidence for the United States (Haltiwanger et al., 2015), Colombia (Eslava and Haltiwanger, 2013) shows that once the firm age is controlled for, there is no systematic relationship between its size and job creation, highlighting the role of start-ups and young firms to contribute to the creation of new jobs. However, more evidence is needed to determine what kind of firms play a significant role in net new job creation among developing countries. GVCs likewise operate to the benefit of smaller firms, as they provide opportunities to specialise in tasks within the chain. While SMEs find it difficult to compete along an entire line of activities, in the GVC world of today they can more readily participate in those tasks in which they have expertise, as long as market failures that disproportionately affect SMEs are addressed (table 4). Gereffi, Harrison, and Kopytoff (2005) detail the principal actors in GVCs and the power relations between them: multinatio

### Tab. 3: Forecast growth of SMEs by the EU Member States, 2014-2016

<table>
<thead>
<tr>
<th>Member State</th>
<th>SME value added % change 2014-2016</th>
<th>SME employment % change 2014-2016</th>
<th>Member State</th>
<th>SME value added % change 2014-2016</th>
<th>SME employment % change 2014-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT</td>
<td>6.0</td>
<td>1.9</td>
<td>IT</td>
<td>-1.9</td>
<td>-3.7</td>
</tr>
<tr>
<td>BE</td>
<td>6.4</td>
<td>2.2</td>
<td>LT</td>
<td>15.3</td>
<td>5.0</td>
</tr>
<tr>
<td>BG</td>
<td>4.8</td>
<td>1.2</td>
<td>LU</td>
<td>6.4</td>
<td>1.3</td>
</tr>
<tr>
<td>CY</td>
<td>20.5</td>
<td>15.8</td>
<td>LV</td>
<td>12.6</td>
<td>2.8</td>
</tr>
<tr>
<td>CZ</td>
<td>6.5</td>
<td>0.3</td>
<td>MT</td>
<td>13.0</td>
<td>5.6</td>
</tr>
<tr>
<td>DK</td>
<td>10.8</td>
<td>4.9</td>
<td>NL</td>
<td>6.0</td>
<td>2.0</td>
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<tr>
<td>DK</td>
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<td>3.8</td>
<td>PL</td>
<td>5.8</td>
<td>0.0</td>
</tr>
<tr>
<td>EE</td>
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<td>0.8</td>
<td>PT</td>
<td>7.8</td>
<td>2.6</td>
</tr>
<tr>
<td>EL</td>
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<td>5.4</td>
<td>RO</td>
<td>17.7</td>
<td>7.2</td>
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<tr>
<td>ES</td>
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<td>1.5</td>
<td>SE</td>
<td>6.2</td>
<td>4.7</td>
</tr>
<tr>
<td>FI</td>
<td>3.8</td>
<td>-0.3</td>
<td>SI</td>
<td>3.3</td>
<td>-0.6</td>
</tr>
<tr>
<td>FR</td>
<td>4.7</td>
<td>1.0</td>
<td>SK</td>
<td>4.9</td>
<td>-1.1</td>
</tr>
<tr>
<td>HR</td>
<td>4.6</td>
<td>3.1</td>
<td>UK</td>
<td>12.9</td>
<td>1.7</td>
</tr>
<tr>
<td>HU</td>
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<td>-1.8</td>
<td>EU28</td>
<td>7.0</td>
<td>1.7</td>
</tr>
<tr>
<td>IE</td>
<td>10.1</td>
<td>5.2</td>
<td></td>
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</tr>
</tbody>
</table>


### Tab. 4: Key challenges faced by SMEs in international markets

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying international business opportunities, locating and analysing suitable markets</td>
<td>Engaging specialist staff to assist with the management of international markets</td>
</tr>
<tr>
<td>Contacting potential overseas customers</td>
<td>Meeting the costs of accessing markets</td>
</tr>
<tr>
<td>Obtaining reliable foreign representation</td>
<td>Dealing with anti-competitive behaviour</td>
</tr>
<tr>
<td>Accessing finance for internationalisation</td>
<td>Difficulties in accessing or identifying support from government</td>
</tr>
<tr>
<td>Allocating managerial time to deal with internationalisation</td>
<td>Source: Compiled by the authors based on OECD, 2006</td>
</tr>
</tbody>
</table>
25% of the total input purchased by those firms. Such domestic supplies are not reflected in international trade statistics, which count only direct exports. Estimates for the United States show that in 2007 the export share of SMEs increased from approximately 28% (in gross exports) to 41% (in value-added exports), when such indirect exports are taken into account (USITC, 2010).

Summary of the second research issue:
• Situations: In most cases, large firms dominate in GVCs; however, it is important to include SMEs in GVCs, as SMEs serve as the major driving force for economic performance and sustainability.
• Benefits: Added benefits for SMEs to engage in GVCs consist of:
  - enhancing industrial capabilities by meeting international standards and requirements.
  - encouraging production upgrades by associating with leading global firms.
• Constraints: Lack of: access to finance; advanced technology; skilled working force; networking and market information; economy scale (Hong, 2015).

4. Problems, topics and solutions to more effective functioning of GVCs in productive process
4.1. Steps to more effective functioning of GVCs in productive process
A. In the country’s economic policy, it is necessary to create a business environment favourable to participation in GVCs. Based on OECD (2013), the economic policy priorities of the G20 in this area include (table 5):
  - Ratification and immediate implementation of the WTO Agreement on trade facilitation.
  - Provision of technical assistance from developed countries to developing countries for the latter to meet their commitments on trade facilitation.
  - Improvement of the effectiveness of the services sector, which is a catalyst for the functioning of GVCs.
  - Meeting the commitment to combat protectionism and withdraw all restrictive measures taken to fight the crisis, particularly non-tariff barriers to trade.
  - Solving problems of supplier-customer relations in order to create as much space for the involvement of SMEs in GVCs.
  - Ensuring that preferential trade and investment agreements create better business environment, and not vice versa.
  - Implementation of the active labour market policy, policy to encourage investment, support of education and training so the labour supply would cope with demand, and at the same time to develop adequate social safety net for those who have difficulty adapting to new requirements.
B. At the EU level, trade policy must strengthen Europe’s place in global supply chains. It must support the full range of economic activities through which Europeans create and sell value. That includes the manufacturing of components and final products, which is vital. It also includes services, research, design and marketing, assembly, distribution, and maintenance. Adapting to this reality, EU trade policy has already expanded from traditional tariff discussions. It takes a holistic approach, covering vital issues like public procurement, competition, including subsidies, or sanitary and phytosanitary barriers (SPS). These remain essential. Public procurement spending, for instance, accounts for 15% to 20% of GDP. Infrastructure investment and other public procurement in emerging and developed economies are likely to be major driving forces of economic growth in coming years. While the EU has progressively integrated and opened its markets, EU companies still encounter discrimination and restrictions abroad. It is therefore essential to level playing field in market access, and this can be achieved partly through foreign trade agreements and negotiations on the accession of new countries to the WTO Government Procurement Agreement (GPA). However, trade policy will need to tackle a wider range of issues if the EU is to secure its place in global value chains. This requires us to promote trade in services, facilitate digital trade, support the mobility of professionals, address regulatory fragmentation, secure access to raw materials, protect innovation and ensure the swift management of customs. Joined-up strategy across different areas of economic policy will also need to ensure responsible management of supply chains and to address aggressive corporate profit shifting and tax avoidance strategies that make use of the value chains fragmentation. The Commission is tackling this through different policy tools. Trade agreements support efforts promoting international standards of transparency and good governance1.

5. Conclusions
The evolution of GVC implies the second unbundling of globalisation: production stages previously performed in close proximity were dispersed geographically (Baldwin, 2013):
1) traditional indicator of globalisation by trade value of each country may be misleading, because the export value are double-counted from one country to another. To trace the domestic value-added from the export can be the better measures;

2) higher value-added exports are associated with higher growth rates, part of which comes from participating in GVCs (IMF, 2013);
3) SMEs with unique niche in different stages of manufacturing or different tasks of service could be the driving force for one country to participate more in GVCs;
4) Policymakers need to fully understand how GVCs are or could be linked with the domestic economy in order to help SMEs to participate in GVCs (APEC 2014).

In light of this, governments could facilitate SMEs’ gainful participation in global value chains through policy initiatives in specific areas (OECD, 2008):
1. Raising awareness of the potential of participation in global value chains.
2. Supplier financing (providing financing to small suppliers).
3. Facilitation of compliance procedures.
4. Promoting the development of industrial clusters.

Issues and topics for further research in the area of GVCs
As an important issues and topics for further research GVCs, we consider:
1. Competitiveness area: to increase attention to human capital investment, skills and quality infrastructure and to promote strong links between industry and science and research; the quality of institutions and the State to be deemed as important in making an investment decision of firms.
2. Trad, service and investment area: remove barriers to trade and mobility of investments; it will stimulate new business opportunities, global value chain requires the efficient service and the ability to move people, capital and technology across borders; focus investment promotion more on activities within global value chains than the industry.
3. Economic development: impact of GVCs: integration into global value chains through access to networks, global markets, capital, knowledge and technologies is usually the first step to economic development.
4. Adaptation and risk area: the adaptation process should be facilitated by labour market policies and social policies, as well as by investing in education and skills.

Tab. 5: Recommendations for future government support for internationalising SMEs

<table>
<thead>
<tr>
<th>Concluding outstanding trade negotiations leading to open markets, reduced trade barriers and contributing to a stable and transparent business environment.</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Actively removing non-tariff barriers to international trade (e.g., through mutual recognition of product standards, business and occupational licensing, efficient legal systems, improved customs procedures, facilitating business travel).</td>
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</tr>
<tr>
<td>Promoting clear and accessible public consultation mechanisms to facilitate SME participation in the trade policy process.</td>
<td>Promoting clear and accessible public consultation mechanisms to facilitate SME participation in the trade policy process.</td>
</tr>
</tbody>
</table>
