ISSN: 1576-0162

Very Large Enterprises, Focal Firms and Global Value Chains

Las grandes empresas, las firmas focales y el valor añadido global

Paul H. Dembinski
Fribourg University
dembinski@ecodiagnostic.ch

Recibido: junio de 2009; aceptado: octubre de 2009

Abstract

The paper starts by presenting the empirical evidence on to the economic performance of largest among the stock exchange listed firms, named in this paper VLE (very large enterprises). This evidence suggests that these very large firms contribute a significant proportion of macro-economic growth. Among many potential explanation of this situation, one hypothesis is explored in the second part of the paper, namely the role of "focal firm" that many of the VLE may play within existing and emerging Global Value Chains. The peculiarity of a "focal firm" is that it organises the work of other enterprises involved both in the production and distribution portions of the chain. In consequence, the economic performance of the largest may well capture a portion of effort and performance realized by its smaller partners, be it suppliers or distributors.

Keywords: Very Large Enterprises; Value Chain Global ; Macroeconomic Growth ; "Focal Firms" ; Productivity.

Resumen

El artículo comienza presentando una evidencia empírica de la actuación económica de las empresas más importantes que cotizan en bolsa, llamadas en este artículo VLE (very large entreprises). Esta evidencia sugiere que estas empresas contribuyen en gran proporción al crecimiento macroeconómico. En la segunda parte del artículo se plantea, entre las muchas causas potenciales que pueden explicar este hecho, una hipótesis basada en el papel que pueden jugar las VLE dentro de las "firmas focales", dando lugar a Cadenas de Valor Globales. La peculiaridad de una "firma focal" radica en que organiza el trabajo de otras empresas, involucradas todas ellas en eslabones de producción y distribución de la misma cadena. En consecuencia, la actuación económica de las compañías más importantes podría capturar una porción de esfuerzo y hacer realidad su actuación gracias a sus pequeños colaboradores, ya sean proveedores o distribuidores.

Palabras clave: Grandes Empresas; Cadena de valor global; Crecimiento Macroeconómico; "Empresa focal"; Productividad.

JEL Classification: L11; O11; O47.

1. Very Large Enterprises (VLE) in the World Economy

There is a broad evidence and agreement that multinational enterprises play a leading role in the world economy. However both evidence and agreement fall into pieces when it comes to qualify this role in quantitative as well as qualitative terms. This section addresses two rather different aspects of VLE. First, it presents some evidence on their aggregate performance and compares it to the national performance. Second, it looks at the VLEs as the ultimate structuring forces of the world economy truly *focal* role they may play in *global value chains*.

VLEs is a useful but fuzzy concept, four characteristics help to better differentiate them from the rest of the enterprise population:

- Most of the VLEs are public companies, and their shares and bonds are listed on major financial markets. In most cases, the shares of these companies belong to the most liquid on the market, i.e. they are the less risky for financial investors. Because of that liquidity, in normal times VLES have an enhanced capacity to rise additional finance on more favorable terms than less liquid or non-listed companies. The "price" listed companies pay for the preferential access to finance is their supervision and regulation by market authorities. According to IFC data, about 50'000 enterprises are listed on world stock exchanges, it is clear however that not all do qualify as VLEs.
- VLEs are powerful enough to set up and manage a worldwide networks of subsidiaries deeply studied in the literature. This enables them not only to choose new sites to suit their needs, but also to optimize their global activities, skills and finances across borders. The often used term "multinational enterprise" stresses this capacity of building trans-border networks. According to Unctad, there is about 60'000 "multinational" enterprises worldwide which control about 500'000 affiliates around the globe. In its estimate, Unctad considers as "multinational" any enterprise that has at least one affiliate. In consequence, it is obvious that not all multinationals in the Unctad sense are VLEs.
- In industrial societies, the strength of major corporations derives from their ability to take the full advantage of their production facilities

(economies of scale) and hence charge lower prices than their smaller competitors could ever achieve. In post-industrial societies, in which marketing and service matters more than the production of goods, the nature of the VBEs advantages has changed. The strength of major corporations, in a post-industrial society lies less in economies of scale on the production side than in their ability to manage global brands and carry out parallel activities which. Even though these activities result in different products or services, make use of the same basic skills (economies of scope). VLEs are high-profile companies which polish and protect their images and reputations with the help of advertising and marketing campaigns. Their brand names or other identifying features enable them to interact directly with the consumers of their products and services.

- VLEs spend considerable proportions of their turnover on R & D for new generations of products or services. In fact, what they are trying to do is to control the speed of innovation. Each business does everything possible to match the speed of innovation to its own investment cycle and so optimize its profitability.

The company reports, stock markets' authorities and listings produced by media groups. –Such as the famous Fortune 500 started in 1954– and data providers are the unique source of quantitative information on VLEs. Despite of their apparent accessibility due to the data processing technologies, a coherent statistical series on economic performance of world largest enterprises is still missing.

Because of the lack of existing data, the empirical scope of this analysis has been narrowed to the largest non-financial enterprises listed on the stock markets of the Triad with some consideration for BRICKS. Using the World scope and Thomson Financial, it was possible to isolate the 1000 such enterprises in United States and Europe and 800 in Japan, and analyze their economic performance for 1995 and 2005.

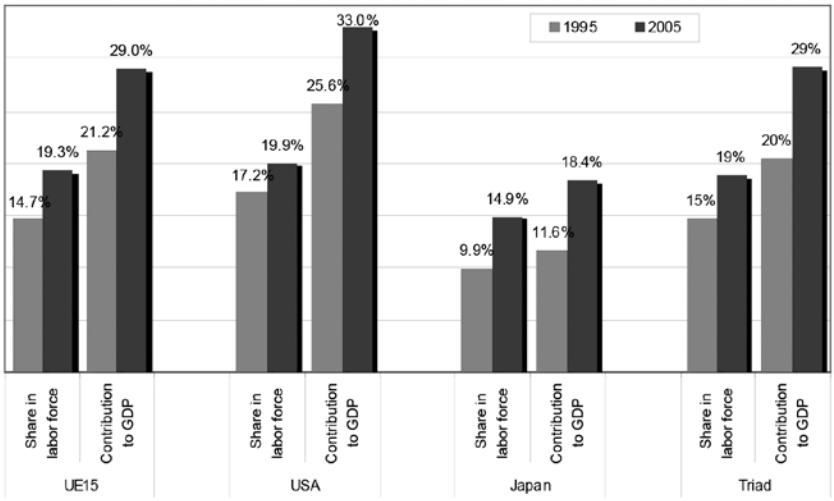
1.1. VLEs PRODUCTIVITY

Productivity measures are usually obtained at a macro-level by dividing the gross domestic product by the level of employment or of the labour force. This aggregate measure however does not allow for differentiation of productivity levels among different subsets of enterprises, such as VLE and SMEs. On the basis of the accounts of stock market listed VLEs, value added and productivity have been either calculated or estimated for years 1995 and 2005 and compared with macro-economic GDP and productivity figures put together by the World Bank (all in nominal USD).

As shown in Figure 1, from 1995 to 2005, employment of the largest 2800 enterprises in the Triad (1000 in EU; 1000 in US and 800 in Japan) increased significantly by more than 20 million people, while their share in total labor

force of the Triad rose by four percentage points, from 15 to 19%. The relative employment growth differed significantly among the members of the Triad: the share of employment of the largest Japanese enterprises shifted from 10 to 15% of the total labour force; in the EU the corresponding share increased from 15 to 19%, while in the US the increase was 17 to 20%.

Figure 1 : Largest Enterprises: Productivity Enhancers in Triad Regions



Source: Own calculations 2007

Looking at the dynamics in each of the regions: employment in the Japanese largest enterprises grew by an average of 4.1% a year, in European by 3.6% while employment in the American VLEs rose by 2.7% on average.

From 1995 to 2005, the share of value added produced by the largest 2800 enterprises in the regional Triad's GDP progressed by almost 10 percentage points, from 20 to roughly 30% of the total. The relative contribution of the same enterprises to world gross product increased more slowly, from 15 to 19%.

The fact that the contribution of the largest enterprises to GDP progressed – in all three regions of the Triad – more rapidly then than their share in labour force indicates the very strong positive dynamics of labour productivity of these enterprises. The dynamics of productivity growth becomes visible when comparing levels of average labour productivity generated by the whole economy with the productivity achieved by the largest enterprises.

In the US, between 1995 and 2005, labour productivity of the largest enterprises increased by almost 70%, while the country's labour productivity lagged largely behind with an increase of 9%. In consequence, the 1000

largest US enterprises are at the origin of a significant portion of the overall US economic growth. The same dynamics were at work in the European Union (15), where labour productivity in large enterprises progressed by 44% in 10 years, while the average productivity of the labour force (including unemployed) decreased by 6% (in current US dollars terms). The data for Japan are available only for the years 2000 to 2005, but they indicate that the overall decrease (in dollar terms) in labour productivity in Japan was slower in large enterprises than in the whole economy. Today, the largest enterprises of the Triad achieve levels of productivity that are between 140% (Japan) and 290% (US) of the average country productivity.

How are productivity gains shared among labour and capital, on average, in the largest enterprises? Figure 2, provides some insight and also extends the analysis to some other countries. During the last ten years, generally speaking, the share of labour related costs in total value added generated by the largest enterprises significantly decreased only in Europe (from 58 to 49%), while remaining almost stable in the US (at 52%) and in Japan (around 35%). However, available data show that the share of labour related costs in value added per employee decreased both in the European and American VLE during the last ten years. This means that, symmetrically, the share of capital remuneration (depreciation, interest payments and profits) increased, per employee, from 45% to 54% of total value added in Europe and from 53 to 58% per employee in US. Since 2000, the share of capital remuneration in value added of the largest Japanese enterprises increased from 74 to 84%. When profits alone are considered, then the share in value added increased by ten percentage points in both Japan (from 6 to 17%) and in EU (from 11 to 21%), while in the US it remained stable at around 17%.

Since 1990, the role of financial markets increased in many emerging economies. In consequence, local large enterprises became more visible, and their annual reports are now available to a wider audience. This is the case of the three large, fast growing developing economies considered here: Brazil, China (with Hong-Kong and Taiwan) and India. However, the number of companies for which reports are available and technically complete is relatively small. In addition, the lack of data limits the time horizon to 2000-2005.

In China and India (China 280 companies, India 240) and Brazil (130 only), the contribution of the observed enterprises to GDP grew much faster than their share in employment. In India, the share in labour force slightly increased to 0.5% in 5 years, while the contribution to GDP progressed by 3.5 percentage points, from 5.9 to 9.4%. In China, the share of value added of the 280 large companies in GDP increased by 4 percentage points, to 13.4%, with an employment level in 2005 of 1% of labour force, in progress of 0.4 percentage points since 2000. In Brazil, the share in employment decreased from 1.4 to 1.2% of the labour force, while contributions to the GDP decreased also by 0.2% but at a high level.

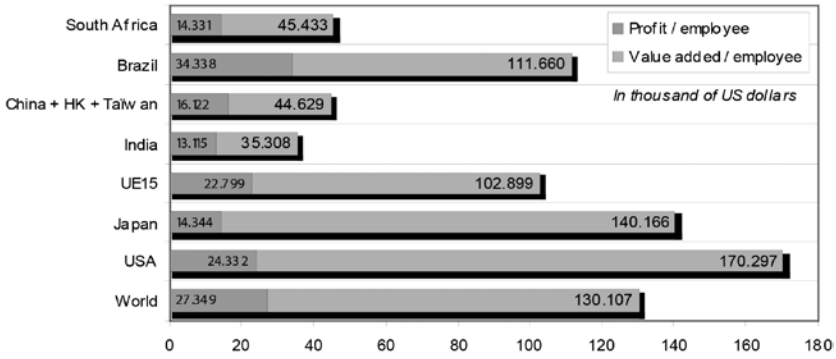
In India and China, value added per employee of the large enterprise is 40 and 30 times higher than the productivity of labour force; in Brazil the ratio

is "only" 10. The dynamics of value added per employee is also staggering, illustrating the driving role of the largest enterprises in terms of productivity. Again, these figures indicate that large enterprises are effective real growth engines in the most important BRICS economies.

1.2. Labour and Capital Remunerations in VLEs

The largest enterprises are, across the world and in each of its regions, the high-powered productivity engineers. These enterprises – in most cases multinationals – are well equipped and brightly staffed so as to make the best out of combining globally the highest possible productivities achieved in each and every location. Despite this fact, local conditions still matter as suggested by the wide range of value added levels generated by one employee in national sets of observed enterprises. The highest level (170'000 USD) is achieved by US multinationals, European firms generate per head 40% less value added, while Chinese and Indians are about 60% below the Europeans. Thus, an employee of a large Indian enterprise generates 20% of what his colleague in an US large enterprise achieves.

Figure 2 : Value Added and Profits per Employee Compared

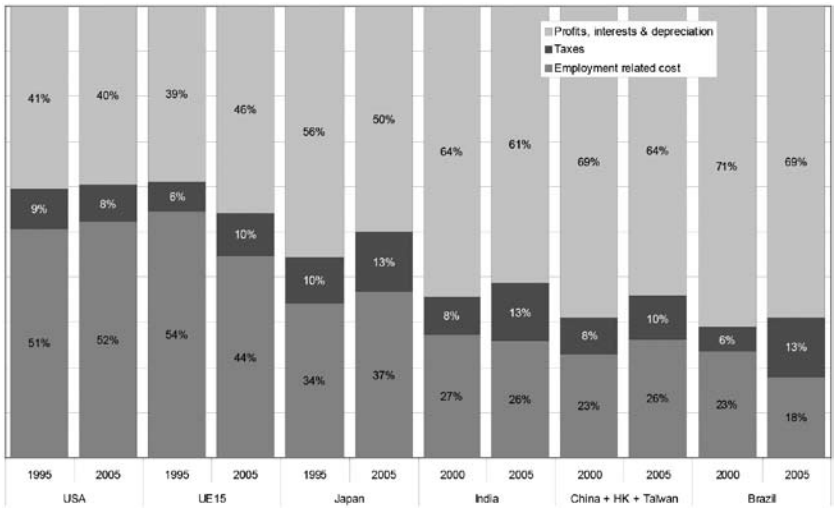


Source: Own calculations.

This being said, the dispersion narrows when profits per employee are considered: they are highest in Brazil (34'000) and lowest in India (13'000), i.e. 38% of the former. The possible, convergence of levels of profits per employee may be partially explained by the growing integration of world financial markets and their global financial requirements.

When comparing the composition of value added of the largest listed enterprises the share of labour remuneration in most cases remains fairly constant with the important exception of EU, where this share in value added dropped by almost ten percentage points in 10 years.

FIGURE 3 : STRUCTURES OF GROSS VALUE ADDED COMPARED



Source : Own calculations.

1.3. LARGEST LISTED ENTERPRISES AS GROWTH ENHANCERS

Many factors may explain the extraordinary performance of the large, listed enterprises as compared to the rest of the economy which is composed of non-listed often smaller enterprises (SMEs):

(a) the very high capital intensity, or in other words, a high level of equipment, which may be a consequence of their easier access to cheaper capital sources;
(b) the capacity of the largest enterprises to attract the most productive elements of the labour force;
(c) the high rate of innovation which confer the major players the possibility to reap market benefits of a "first mover";
(d) their capacity to spread and organize internationally their complex operations as featured by the so-called eclectic paradigm based on ownership-localization-internalization advantages (Dunning, 1992);
(e) a price mark-up capacity on the final user market due to the ownership and development of strong brands and more generally of unique marketing capacities;
(f) the pricing power with respect to the suppliers that allows the VLE to harvest the economic fruits of technical productivity gains achieved in other segments of global value chain.

The last three explanations refer to hypothesis that VLEs –unlike smaller enterprises– have a specific capacity to master-mind their economic (and often political) environment. This may well result directly in their economic performance superior to the rest of the economy. The notion of "Global Value Chain" is a recent attempt to articulate more precisely this hypothesis.

2. Global Value Chains (GVC)

2.1. Intricacies of the Concept

The notion of GVC is a composite of three distinct concepts. The meaning of each of these has to be scrutinized before the sense of GVC notion can be properly grasped.

Value added is the key (national) accounting concept that allows –as shown in the first section– for a clear linkage between enterprise and macro-economic levels. Indeed, it is the cornerstone of national accounts but only seldom appears as such in enterprise accounts, French accounting practices being an exception to this rule. At the enterprise level, value added is equal to the difference between turnover and inputs bought from outside, as such it corresponds to the sum of remunerations of enterprise's factors of production (labour and capital).

The second important concept in the GVC notion is the one of "chain". In everyday language, a chain is a succession of links. Used in an analogical sense by the management and economic literature, it refers first to a succession of technical steps in the process of transformation of inputs into a final product. When used in this sense, the number and the size of the links in the chain that extend from raw materials to the final user depend on the state of the technology. The economic dimension of a "chain" comes to the fore when different components of the technical transformation are carried out by one or a number of different enterprises. Economists speak then of varying degrees of "vertical integration". In this case, the building blocks of the of chain sequence are no more the steps of technical transformations, but economic transactions taking place between firms. The idea of a sequence of economic and technical transformations/transactions is applied at two different analytical levels: the classical input-ouput interdependence analysis between industries, and what the French used to call the analysis of "la filière". "Commodity chain" is a term used by international political economists and by development specialists, today it is being partly replaced by the GVC notion.

The "value chain" concept has been very successfully introduced in the management literature by Michael Porter in his 1985 book "Competitive Strategy". But unlike the above mentioned economic approach, Porter focuses his use of the concept of value chain on the internal processes of the firm. The implicit idea is that within a firm the product flow undergoes a series of

transformations and ennoblements and its value increases accordingly step by step. This is why Porter identifies five steps, or functions (supply, inbound logistic, production, outbound supply and marketing) that directly increase product value. These are the links within the firm's value chain as presented by Porter. Porter acknowledges the existence of other functions within the enterprise (R&D, human resource, finance etc) but sees them as contributing only indirectly to increased product's value. This analytical framework helped to clearly articulate the key managerial question, namely how to identify on one side the activities that should be performed within the firm because they generate the highest value and, on the other side, those, with lower value, that should either be abandoned to other players or outsourced. In Porter's writings, the term "value" is used without any explicit precision, but it seems the meaning is closer to the ROI (return on investment), or shareholders' value rather than to value added or costs.

Unlike in the economic literature, in the managerial one the notion of chain is seldom (von Gunten, 1991) used to encompass the whole sequence of transactions or transformations extending from raw materials to the final customer. Conventional analysis has been limited to a particular stage of transformation located either "upstream" or "downstream" of the envisaged firm. The "upstream" portion is the locus of issues and problems related to the "supply chain", when the "downstream" portion is linked to the "distribution chain" management problems. The firm is located at the juncture of these two semi-chains which complement each other. From this position, the firm manages its classical "make, buy or share" dilemmas according to the corresponding chunks of value involved. It also manages its relations with different layers (tiers) of suppliers and distributors.

An additional difficulty linked to the use of the image of "chain" arises when the firm in question diversified, i.e. is not mono but multi-activity one, as this is the case of major VLEs today. In such a case, the question arises whether the Porter's model of value chain should be applied to a unique final good or service, or should I be extended to the whole activity enterprise level?

The notion of chain carries with it the idea of linearity and sequence. Even if these characteristics apply to some manufacturing processes, they concern only these enterprise functions that contribute directly to the creation of value. In all other fields, namely in most of the service enterprises, and in many supportive functions within manufacturing enterprises (R&D, finance, human resources, accounting, etc..) –that correspond in most cases to in-house service activities– the sequential dimension is either absent or less visible. In these situations, cooperation, networks, or convergent activities replace sequential transactions. In consequence, the application of the neat and mechanic "value chain" paradigm to other than exclusively manufacturing activities is inappropriate. It has to be replaced by a less elegant concept of network or of system which allows for complex interactions between different contributors to the value added of a good or service. Whatever is the shape of

firm's interactions with its suppliers, partners or distributors, for the managerial perspective, the maximization of "value" (short, medium or long term?) remains the major, if not the sole, objective.

Despite of its intuitively evocative capacity, the image of "chain" is simplistic when applied to situations where the interactions between different parties to value production are so intense and multidimensional that even the borders of organizations involved are blurred by the sheer intensity of these interactions. For this reason, in the literature either the word of "chain" is used in a broad, almost symbolic sense, or it is replaced by the term of "system". In consequence "value chains" become "production systems". However, the difference extends beyond wording. For those of the authors that stick to "chain", the search for tools to manage the processes of value creation and distribution remain the core interest, whereas those preferring "system" focus more on the strategic interdependencies among interacting enterprises. The two approaches are complementary but not identical.

In the age of globalization, the adjective "global" is fashionable in almost any context. When related to "value chains", it is used to mean the transnational reach of the inter-enterprise relational fabric. The inter-enterprise links arising from interdependencies within value chains are "stronger" than national borders. In other words, the commanding logic of interaction within the chain or production system is to a large extent exogenous to the place of operations of actors.

The trans-border or global logic that governs many of the world-wide "value chains" or "productive systems" raises the question about their spatial dimension and the role that national and local authorities can play in influencing them. Are they compelled to a passive role, or can they be active so as to increase their share in the value (added) generated.

The paragraphs above have hinted at the fact that each of the three pillars on which the notion of "Global Value Chain" stand is polysemic. This is to be seen more as warning than as a conclusion. Although the debate about the meaning of GVC will go on for years, it is worth mentioning here three more general epistemic problems that it raises.

- Are GVC new forms of economic organizations where complex relations replace market transactions and where enterprises involved develop unprecedented levels of interdependence and interpenetration?
- Are GVC, as new forms of trans-border inter-firm linkages, internalizing de facto what used to be seen as inter-national trade? In other words, are they commanding, more directly than thought of until now, and beyond the sheer transfer pricing practices internal to TNC, the international distribution of value added?
- Are GVC concepts, i.e. only analytical tools, or are they real phenomena? Are these concepts only tools that help us to handle an increasingly complex and emerging inter-firm reality, or do they exist as such? Clearly the inter-firm relations extend beyond and cannot be fully

grasped be the classical concepts of "market" or "enterprise" but this is not a sufficient argument to conclude that GVC exist as such.

2.2. Three Lines of Research Related to GVC

The polysemic character of the GVC notion, explains the blossoming research around this –and related– concepts. The purpose of these pages is not to offer a final systematization of this research, but rather to sketch out the main points of convergence and divergence. There are three lines of research, three research programs which can be identified in the broad literature extending across many disciplinary fields.

The three research programs discussed briefly below converge in their basic question which can be phased as follows: how do enterprises organize and coordinate their activities in highly complex technical matters when they are more complementary to each other than competitors?

The three lines of research diverge on the methods used to investigate the common problem and also on the type of conclusions they intend to draw. The three lines of research converging on the GVC problem differ in their "entry point" to the problem. From the managerial viewpoint, probably the first to address the issue of GVC, the firm and its efficiency objectives are the unique point of concern. Thus the managerial line of research, will scrutinize the problem by strictly sticking to management techniques. The industrial economy and development research will address the GVC from a macro perspective and look at the instruments– internal such as governance, or external such as regulations – that could influence its spatial and social consequences. Finally, the local and territorial approach will look at the GVC from the perspective of a given territory and look for tools it may use to increase its role or share in GVC.

2.2.1. The Managerial Literature and Research

Management of supply chains is, since many years, a subject taught in most business schools. Until recently its meaning has been limited to the techniques and procedures that have been put in place in order to achieve "just in time" results. The question was how to smooth the flow of orders, stocks and deliveries. As a consequence of recent large scale offshoring and outsourcing by VLEs, supply chain management gained in importance to encompass also the management of suppliers relations, as an extension of the total quality management, and the techniques of contracting in complex situations. Today, supply chain management extends to the questions of logistics, data transfers and interfaces between different layers of a supply chain. As such it is part of strategic efforts aiming at building efficiency and long term trust along the chain.

VLEs, –mostly transnationals– are the most common entry point for the managerial literature. This research attempts at providing the VLEs with analytical, and sometimes also practical tools able to help them asses

their suppliers base and develop the most appropriate relations with it. The separation line between academic research and consultants' or advisors' work is not clearly cut as supply and distribution chain management remains hot topics on major player agenda.

Faced with pressure on their financial results, large enterprises in many manufacturing industries seek to enhance their key position as organizer and distributor of work to their suppliers and distributors. By doing so, they leave all the prima facie productive work to them. The challenge is especially high in activities that are intense in R&D, where the large enterprises tend also to keep the controlling role in the development of new technologies and their protection though IP instruments.

The importance of value chain management for enterprises and its multidimensional character explains why the data gathering process in this field is extremely difficult. Most of the pieces of research (or consultant reports) derives information either form anecdotal evidence (ad hoc interviews or experience), or from filed work or surveys carried out by industry associations or consultants. Most of this work is industry or even company specific.

Parallel to the "traditional" supply (and distribution) chain management oriented literature, another trend in research deserves to be mentioned here. The focus point of this research is the reconfiguration of chains into networks or systems. Two main drivers behind this transformation are identified: the extension of ICT and the "new business models" emerging in the service sector. There the sequential vision of supply chain has to be replaced by the synchronization of convergent –but independent activities– that are jointly delivered to the customer. Air travel is one of the best examples: since airport service, reservation system, food and transport belong to the same "service" sold, however they are provided often by different suppliers which may be financially independent but are economically interdependent or even interlocked.

2.2.2. Industry and Development Research

GVC are of interest also to research carried out at industry level. Here the entry point is not the firm, large or SME, but the inter-industry linkages that are necessary to produce a ship, a car or a plane. This research borrows from input-output literature and is interested in interdependencies between industrial branches or sectors, and also in the distribution of functions (R&D, production and marketing) or roles among different tiers of suppliers and distributors. In many cases the GVC industry research has an international, not to say an explicit development concern. For this approach, the main concerns and policy considerations are the terms and conditions of international value added sharing across borders, employment consequences in terms of number of jobs and their quality, and technological transfer issues. In most cases, research discussed here is industry specific. Over the past twenty years, an established methodology is emerging under the leadership of Institute for

Development Studies (Sussex) and authors like Gereffi, Kaplinsky and Schmitz (Bair, 2005), just to name a few.

2.2.3. TERRITORIAL AND CLUSTER APPROACH

In the perspective of cluster approach, the key issue is a geographic location where enterprises experience synergies due –among other factors– to proximity. The quality of the juncture between such territory based clusters and GVC, more specifically the large enterprises operating worldwide is the dominant concern for many local policy makers. As SMEs play an important role in most of existing or emerging clusters, the relevance of cluster research for the better understanding of GVC is clear.

2.3. FOCAL FIRMS AND GLOBAL VALUE CHAINS

From 2005-2007 a joint field research effort has been carried out under the title "Enhancing the role of SMEs in Global Value Chains" by two Swiss universities (Swiss Research Team lead by Paul H. Dembinski), the OECD (Mrs Marie-Florence Estimé and Mariarosa Lunati) and UNCTAD (Mrs Fulvia Farinelli). The project was funded by GIAN/RUIG (Geneva International Academic Network) and the Swiss government (seco). The main goal of the project was to look at kind of interactions between VLEs and SMEs that were either their suppliers of distributors. Five final products or services were chosen so as to extend the research beyond the traditional automotive industry and, more broadly, beyond the manufacturing sector. These goods and services were: automobiles, precision, scientific and medical instruments, tourism services, cinema and software.

Fact finding effort was carried out by research teams in 15 countries commissioned either by the research team or by national governments. Two important conclusion of this research are worth mentioning at this stage.

2.3.1. HETEROGENEITY OF GLOBAL VALUE CHAINS

In some cases, the notion of Global Value Chain is a useful conceptual tool to analyze inter-enterprise linkages in the field, and for large player to design their interactions with their numerous smaller partners. However, each of the five product/service chains analyzed is highly specific, and has to be described using a large number of variables.

The working of value chains for the five studied products/services differs in very many aspects which makes a comprehensive comparison impossible. The table in Figure 4 compares those aspects that appeared critical to understand the internal logic of the working of a given value chain. On one hand there the table enhances the strategic the role a VLEs can play, and, on the other hand the kind of roles left to SMEs.

Among important aspect of comparison, the question of existence of alternative and competing value chain structures or set-up comes to the fore. Is the dominant value chain set-up a unique one (as in automobiles), a dominant one (like in cinema) or one out of few (like in tourism)? What if there is no clearly dominant value chain set-up, as in medical and scientific equipment industry or, if, as in the cinema and software industries, there is room for an emerging set-up based on remote delivery methods or piracy? The question of contestability and innovation in value chain set-up is closely related to the one about the strategic portion of the global value chain: what are the value adding activities that have a structuring impact on the other steps of transformation? In other words, does in the actual set-up of the value chain exist a strategic locus a "focal firm" could occupy or target in order to reap advantages of the whole value chain?

2.3.2. Focal Firms, the Nexus of Global Value Chain

The table in Figure 4 suggests that the concept of Global Value Chain can be meaningfully used only when the interaction between different layers of enterprises is masterminded by skilful (usually large) players that take the active role of "chief conductor or music director". This enterprise –usually a very large one– has been labeled here the "focal firm".

Each of the five product/service chains presented in the table can be divided into two segments, a segment in which all value added activities are centred on the production of the good or service, and a segment in which value adding is made of efforts to reach the final customer or user. The approximate moment or place where the focus of attention moves from production to the market is called here the 'focal point'. It cuts the global value chain into an upstream segment centred on production and a downstream segment centred on the market.

A firm plays a focal role (and can be labeled a "focal firm") when it consistently operates value adding processes on both sides of the focal point within a chain, i.e. both in production and in marketing/distribution. The term focal firm is inspired by the taxonomy of supplier networks elaborated by Harland et al. (2001). Accordingly, the automotive global value chain would combine a high focal firm's influence with a low network dynamics, while for instance the global value chains for some medical and scientific instruments derive from highly dynamic networks with a low or no influence of focal firms.

The existence of focal firms is obvious in the automotive industry, in most of the software activities and in most of the cinema industry. Their presence is much less clear in the two other industries analyzed, namely tourism and medical and scientific equipment. Also, in the industries reviewed focal firms are in most cases well recognized as major or global players listed on stock markets. A critical question that remains to be answered is what portion of the final value added in each of the segments is generated directly by the focal firms and what portion is left to partners upstream or downstream of the chain.

An additional important aspect of the global value chain structure refers to the sources of strengths of the focal firms in each industry and the level of concentration. For instance, while the command of economies of scale is still the key strengths of automakers, standard setting is critical in software activities.

Some evidence suggests that in the automobile global value chain, the focal point is located around 65% of the final value added which means that distribution and marketing efforts make up for the remaining 35% of the final value of the product. In medical and scientific instruments industry, the focal point could well be located around 80%, while in cinema industry it is about 50%.

The place and role that SMEs actually play or could play in global value chains depends on the role and strength of focal firms and the prevalence of the global value chain structure. In the production segment, the situation is more open since focal firms in each chain configuration are, at least to a certain extent, either dependent on efficient suppliers (especially knowledge and innovations suppliers) or prone to competition by new entrants. This is the case for the medical and scientific equipment industry, in software, in cinema and above all in tourism. In the distribution segment, if the chain structure is firmly structured around strong focal firms the role left to SMEs is limited to "mass distribution", to customization as in the case of software, or to provision of additional services like in the case of automobiles.

Most of the global value chains under review involve long-lasting interactions between larger enterprises and SMEs. In most cases these interactions extend beyond a textbook type of market transaction. Many different wordings have been used in literature extending from alliances or partnerships to outsourcing. However, none of these terms is sharp enough to capture the ambivalent issue of trust, power, negotiation, reciprocity and in some cases even solidarity among enterprises co-operating within a global value chain. Despite the fact that these aspects extend beyond the accepted field of economic expertise, they are vital to understand the actual and potential roles of SMEs.

The most commonly known typology of "global value chains" governance is the one proposed by UNIDO (2003; p.12 –initially proposed by Gereffi in 1994) which differentiates between buyer and producer driven value chains: "In producer-driven value chains, large, usually transnational, manufacturers play the central roles in coordinating production networks (including their backward and forward linkages). This is typical of capital– and technology-intensive industries such as automobiles, aircraft, computers, semiconductors and heavy machinery. Buyer-driven value chains are those in which large retailers, marketers and branded manufacturers play the pivotal roles in setting up decentralized production networks in a variety of exporting countries, typically located in developing countries." Each of these configurations is based, in the last analysis, on economies of scale achieved by the enterprise that is central to the value chain. In consequence, in either of these configurations, SMEs cannot do more than be a second or even third-tier supplier. A recent paper (Gereffi & al 2005) develops another (complementary to the previous one)

typology focusing on the characteristics that require inter-firm transactions (complexity and ability of partners to codify) and a high degree of sophistication of the supply-base. This approach identifies five types of global value chains extending from high level to low "explicit coordination" and "power asymmetry": hierarchy, captive, relational, modular, and market.

Are roles evolving? Global value chains are not static, as they are sequences of value adding activities that may change due to external factors such as new technology or regulation. They may also evolve because of internal changes such as strategies to outsource or abandon certain activities to partners.

In most well established global value chain structures, SMEs have to face focal firms, for whom the stronghold in the chain is a strategic asset. These firms devote considerable resources to mastermind the critical portions of the chain and to streamline it so as to optimize their own economic performance. They are able to manage critical knowledge, technologies and intellectual property assets on a global scale. Moreover, many focal firms have financial liquidity necessary to quickly acquire "interesting" SMEs.

Symmetrically, SMEs have control of the basic knowledge of individual processes and local clients and they are quick at exploring niches, but lack the overall understanding of chain structure and of key assets. As a result, they often end up in a weak negotiating position when confronting focal firms. Even when SMEs do have a comparative advantage, they may have difficulties defending it in terms of their share in total value added generated by the chain.

3. Conclusion

The two sections of the paper have pictured the role of VLEs from two different perspectives. The first section is mostly devoted to the analysis of their economic performance in terms of productivity and to their contribution to the overall economic growth which they seem to be driving. The second section analyses the benefits that a firm may derive from assuming the role of a focal firm within an existing or emerging global value chain. By doing so, the focal firm uses its structuring power or capacity it derives from its other assets or skills in order to model its environment according to its strategic views. Even if not all VLEs do in reality take to role of focal firms, the minimal prerequisites of achieving such a role correspond to the main characteristics of a highly transnational VLE as described in the first section of the paper.

The two sections of the paper follow rather different methodological lines, but they complement each other: the second section suggests how, by taking the role of focal firm in a GVC, a VLE can generate an enhanced economic performance as compared with the rest of the economy. The paper does not prove it, but only contributes to strengthen this hypothesis.

Figure 4 : Key Descriptive Elements of the Five Value Chains Analyzed

	Automotive Industry	Medical and Scientific Instruments	Software	Tourism	Cinema
Long term trends	Deverticalisation is accelerating in the 1990s; massive capacity subcontracting; geographical reorganisation of supply base excess capacity; growing concentration through M&A; tendency toward global technologies and regulations	Technology and demand driven; the development phase can be short	In the 1970s, with the emergence of PC autonomisation of software production from hardware; with the "convergence age" higher degree of integration; software producers are part a wider IT system; technology and internet convergence or integration	Long term fall in travel costs; ageing and more leisure prone societies in OECD countries; wide use of ICT.	Growing vertical integration along the value stream from production to distribution; IT, especially the internet, are deeply affecting traditional distribution channels.
Key deliverable	Fairly homogenous but highly "branded" durable products; long product life-cycles; average price 10-20 000 US$	Extremely heterogeneous product lines often coupled with expert services or disposables; rather short, technology driven, life-cycles; price brackets: from few US$ to millions for sophisticated hospital equipment	Set of instructions that move hardware; mass product or customised service; shortening life-cycle depending on standards and available hardware. Standard mass products ca 1000 US$, professional packages may run in millions	Services related to all activities undertaken by visitors outside their usual environment. Price brackets: from few hundred to few thousand US$	Aesthetic performance/ experience in a theatre or in private environment (home); very short life-cycle. Price brackets: 10-50 US$
Critical portion of the value chain	Access to the final customer; very high entry barriers	Technology and product innovation; reasonable contestability	Control of standards; certain contestability	Distribution of products/ information	Access to distribution
Methods of delivery	Mainly unique - retail outlets for branded cars	B2B and B2C	Multi-channel, internet based, fraudulent channels (piracy)	Services can be either sold in bundles or packages through intermediaries or purchased separately by the tourist	Multiple channels; cinemas, DVD, downloads
Existence of focal firms	Yes	Only in some highly specialised markets	Yes	Tour operators aspire to this role	In most cases, yes

	Automotive Industry	Medical and Scientific Instruments	Software	Tourism	Cinema
Global Brands	Controlled by strong focal firms with important marketing budgets	Growing but still secondary	Present specially in horizontal (all user) markets	In air transport, hotel, tour operators and travel agency activities	Global reach of successful products; global stars
Key strengths of focal firms	Economies of scale; global optimisation of production; negotiation capacities with suppliers and retailers thanks to the "tier" set-up in production and distribution	Management of multiple technology platforms	Capacity to manage complexity, product architects (Microsoft), complex system operators (Google; Yahoo!)	Capacity to contract out in advance services of suppliers; quality control and insurance	Capacity of funding but also of advertising in order to limit the financial risks involved in production
Role of the focal firms	Strong: product design and architecture; key technology control; brand management; negotiation capacity	Rather weak: multi-technology and multi-product; mastery of synergies	Standard setting, on which other products are developed	Integrators of complementary "primary" services	Strong : intellectual property clearinghouses, production, and marketing of rights
Existence of alternatives GVC structures	No, but recourse to car rentals and "unbranded" car possible	Heteronomy	Proprietary vs. open source philosophies; embedded piracy	Direct access by clients to "primary" service providers	Illegal (recourse to piracy)
Up-stream coordination mechanism	Stratification of suppliers, with some strategic niche suppliers	Networks, local clusters	Complexity management, subcontracting	Local clusters; destinations management	Contract with options on a project basis with durable right
Down-stream coordination mechanism	Growing control of retailers by the focal firms	Often direct distribution by producers: B2B	Retailers are or may be customizers for specific software applications	Global Reservation systems; franchising in hotel industry	Contract with options on a project basis with durable right
Explicit governance	No	No	Possible	Franchising in hotel industry; locally joint supply	Interdependent contract network linking risks and rewards along the whole production chain

	Automotive Industry	Medical and Scientific Instruments	Software	Tourism	Cinema
Global vs. local market	Global production involving potentially local clusters; global distribution with local outlets	Production is dispersed (possible clusters); medical equipment products have to conform to local regulations; elsewhere markets are global	Local adaptations (linguistic) may be required, but the hardware is global	Global distribution; local provision of tourism services	Localised production (clusters); global distribution
Role of SMEs in the upstream segment	Focal firms' supply chain structured into different tiers. First tier made of global enterprises. SMEs appear mostly in second and third tiers where they are mostly mass suppliers. Some SMEs enter first tier as high-knowledge suppliers, including R&D.	Possibly independent of focal firms, but often dependent. SMEs are present at any segment of the chain, especially in innovation processes.	Potential innovators and challengers of standards and focal firms. In most cases mass code suppliers.	Independent niche players, or linked to focal firms as ultimate producers of 'primary' tourism services; locally locked; franchisees	Exceptionally competitors of focal firms; in most cases component suppliers or retailers of packages
Role of SMEs in the downstream segment	Ongoing concentration in retailer networks. Repair shops still mostly SMEs.	SMEs often have access to the final users or prescriptors.	SMEs are retail customizers and application developers.	Traditional travel agents. Today, they lost their 'raison d'être' due to internet delivery.	Shops for distribution of DVD and screen theatres but strongly dependent on movie distributors and producers.
Policy implications	Important : Security, liability and environmental norms: global convergence of norms; influence of competition policy in distribution	Local safety and professional norms; intellectual property norms; support of innovation by governments	Very important : intellectual property norms and protections - lack of global convergence; public policy dilemmas	Important but limited: natural and cultural amenities are considered as public goods. Local support for destinations, safety and security, environmental and quality standards	Public support in question; cultural goods

References

Adler, P. S. and Ggoldoftas, B. (1999): "Flexibility Versus Efficiency? A Case Study of Model Changeovers in the Toyota Production System", *Organization Science: A Journal of the Institute of Management Sciences*, January-February, 10 (1).

Bair, J. (2005): *Global Capitalism and Commodity Chains: Looking Back, Going Forward" in Competition and Change*, 5, (2), June, 153-180.

Chien-Liang Kuo, D.; Chen, W. H. and Smits, M. T. (2005): "SME-based Collaborative Supply Chain Management: The Impact of Information Technologies", *International Journal of Management and Enterprise Development*, 2 (3/4).

Clark, I. (1997): *Globalization and Fragmentation: International Relations in the 20th Century*, Oxford UP, Oxford, 219

Clark, K. B. and Fujimoto, T. (1991): *Product Development Performance: Strategy, Organization and Management in the World Auto Industry*, Harvard Business School, Boston, 1991.

Dembinsky, P.H. and Mlynek, D. (1998): *Les PME High-Tech, éléments moteurs del'innovation*, Eco'Diagnostic, 50.

Dembinsky, P.H. (2003): *Economic and Financial Globalization: What the Numbers Say?*, United Nations, Geneva and New York, 200.

Dunning, J. (1992): *Multinational Enterprises and the Global Economy*, Addison-Wesley Publishing Company, Int. Business Series, Reading, 700.

Dudenhöffer, F. (2003): "On the Structure of Industries: Findings from the Automotive Branch," in Ething, R. and Rauscher, M.: *Challenges to the World Economy - Festschrift for Horst Siebert*, Springer, Berlin.

European Commission (2004): *European Competitiveness Report 2004,* Bruxelles, chapter 4.

European Commission (2004): *Employment in the market economy in the European Union - An analysis based on the structural business statistics*, Office for Official Publications of the European Communities, Luxembourg, Theme 4.

Fixton, S. and Sako, M. (2001): "Modularity in Product Architecture: Will the Auto Industry Follow the Computer Industry?", IMVP – MIT.

Fringant, V. (2004) : *La modularité : un fondement pour des firmes architectes?*, Geripsa, 25.

Fujimoto, T. and Jewheon, O. (2004): *Electronic technology and Parts Procurement: A Case of the Automobile Industry*, Discussion Paper, MMRC-F-17, University of Tokyo.

Gereffi, G. (1994): "The Organization of Buyer-Driven Global Commodity Chains: How the US Retailers Shape Overseas Production Networks"

in Gereffi, G and Korzeniewicz, M (eds), *Commodity Chains and Global Capitalism*, Preager, 95-122.

Gereffi, G., Humphrey, J. and Sturgeon, T. J. (2005): "The Governance of Global Value Chains", *Review of International Political Economy*.

Ghemawat, P. and Ghadar, F. (2000): "The Dubious Logic of Global Mega/mergers", *Harvard Business Review*, July -August.

Gunasekaran, G., Cecille, P. (1998): "Implementation of Productivity Improvement Strategies in a Small Company", *Technovation*, 18 (5).

Hannan, M. T.; Carroll, G. R.; Drobev, S. D. *et al.* (1998): "Organisational Mortality in European and American Automobile Industries", *European Sociological Review*, 14 (3).

Harland, C. and Lamming, R. (2001): "A Taxonomy of Supply Networks", *Journal of Supply Chain Management*, 37 (4).

Harvard Business Review (2000): *Harvard Business Review on Managing the Value Chain,* Harvard Business School Press, Boston.

Hayashy, M. (2002): "The Role of Subcontracting in SME Development in Indonesia: Micro-Level Evidence from the Metalworking and Machinery Industry", *Journal of Asian Economics*, 13.

Jenkins, R. (1995): "The Political Economy of Industrial Policy: the Automobile Manufacturers in the Newly Industrialising Countries", *Cambridge Journal of Economics*, 19.

Kasouf, C. J. and Celuch, K. G. (1997): "Interfirm Relationships in the Supply Chain: the Small Supplier's view", *Industrial Marketing Management*.

Kumar, N. (1996): "The Power of Trust in Maufacturer-Retailer Relationships", *Harvard Business Review*, November-December, reprint 96606.

Langlois, R. N. (2003): "Vanishing Hand: the Changing Dynamics of Industrial Capitalism", *Industrial and Corporate Change*, 12 ,351-385.

Ministère de l'Economie, des Finances et de l'Industrie (2001) : *Le commerce électronique inter-entreprises et son impact sur le secteur automobile,* Ministère de l'Economie, des Finances et de l'Industrie, Paris.

OECD (2005): *Trade and Structural Adjustment*, Trade Directorate, TD/TC2,Chap1,final and TD/TC2, Chap2, final.

OECD (2007): *Enhancing the Role of SMEs in Global Value Chains: Background Report*, Tokyo, 86.

Olin, J.; Greis, N. and Kasandra, J. (1999): "Knowledge Management Across Multi-tier Enterprises", *European Management Journal*, August, 17(4).

Pammolli, F. and Riccaboni, M. (2005): *Medical Devices Competitiveness and Impact on Public Health Expenditure*, Study prepared for the Directorate Enterprise of the European Commission, University of Florence, Roma.

Pointner, W. (2004): *Umbruch in der Automobilindustrie? Von den Grenzen des Outsourcing,* Peter Lang, Bern, Frankfurt, etc.

Porter, M. E. (1985): *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, New York.

Sabel, C. F. and Zeitlin, J. (2004): "Neither Modularity nor Relational Contracting: Inter-Firm Collaboration in the New Economy", *Enterprise & Society***,** Vol. 5, No 3, September, 388-403.

Sako, M. (2003): "Modularity and Outsourcing: The Nature of Co-Evolution of Product Architecture and Organization Architecture in the Global Automotive Industry", in Prencipe, A.; Davis, A. and Hobday, M.: *The Business of Systems Integration*, OUP, Oxford.

Schmitz, H. (2005): *Value Chain Analysis for Policy Makers and Practitioners*, International Labour Organisation, Geneva.

Tuunainen, V. K. (1999): "Opportunities of Effective Integration of EDI for Small Businesses in the Automotive Industry", *Information & Management*, 34.

Unido, (Humphrey, J. and Memedovic, O.) (2003): *The Global Automotive Industry Value Chain: What Prospects for Upgrading by Developing Countries?,* UNIDO (United Nations Industrial Development Organization), Vienna.

Unido, (Gereffi, G., Memedovic, O.) (2003): *The Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries?*, UNIDO, Vienna.

Vlickery, G. (1996) : "La mondialisation de l'industrie automobile," in OCDE : *La mondialisation de l'industrie, vue d'ensemble et rapports sectoriels*, OCDE, Paris.

Von Gunten, F. (1991) : *Competition in the Swiss Plastic Manufacturing Industry - A Group Ananlysis based on Micro-Micro Considerations*, Physica Verlag, Heidelberg.

Williams, K.; Williams, J. and Haslam, C. (1997): *Against Lean Production,* Unpublished manuscript.