Towards a New Entrepreneurial Growth Theory

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Abstract
Following Schumpeter (1934), the literature on innovation distinguishes between invention and innovation. Innovation is the conversion of ideas into cash. Innovation refers to incremental and emergent or radical and revolutionary change in thinking, products, processes, etc. Robert Solow, the Nobel-Prize winner, is known as the developer of neoclassical, exogenous growth theory (Solow, 2000) that dominates public policies. In his model, economic growth is caused by capital accumulation and autonomous technological change. Solow obtained the main results by dividing changes in labor productivity into two parts: (1) increase in the amount of capital per unit of labor and (2) technological progress in residual analysis. In his Nobel Prize lecture in 1987, Solow, referring to Schumpeter's thinking, called for a new theory of economic growth (Solow, 1987): “The models offered the possibility of having a theory of the steady-state growth rate itself, instead of treating it as an exogenously given, if sometimes changing, fact of life.” Solow found that “Schumpeterian” technological progress in western countries has been the most important input factor allowing long-run growth in real wages and the standard of living. Referring Schumpeterian models Solow emphasized the rivalry (or occasional complementarity) between an innovation and its predecessors. Solow’s followers have continued to model technological changes as exogenous productivity shocks which create cyclical fluctuations around a growth trend and stochastic productivity changes on macroeconomic variables.

Keywords: Growth Theory, Entrepreneurship, Globalization, Regional Agglomeration, Networking, Innovation.

Introduction
During his lifetime, Joseph Schumpeter criticized repeatedly the neoclassical economic theory that he claimed concealed the fundamental problem of economic change. Schumpeter insisted on the discontinuity between the mathematically perfect model of economics and entrepreneurship. Schumpeter was convinced that the analysis of the overall process of evolution required a radical reinterpretation of the system of general economic equilibrium. Following Schumpeter, the evolutionary economics has been based on the growth of knowledge, not on the mathematical models (Loasby, 1999, pp. 2-4). Schumpeter not only recognized the need for a theory of economic development, but also came to understand that such a theory would have to account for the process of technological change (Lazonick, 1991, p. 126). According to Lintunen (2000), Schumpeter suggests that (1) an entrepreneurial function is an act of will by the entrepreneur for the introduction of innovation in an economy, and a source of evolution in a whole society, (2) entrepreneurial leadership is a source of creative energy for innovation and evolution, and (3) entrepreneurial profit is the temporary monopoly return on the personal activity of the entrepreneur.

Schumpeter (1942) gave economists food for thought with the concept of creative destruction. He made his famous prediction about the transition from competitive capitalism to trustified capitalism. Schumpeter himself believed that free market capitalism is the best economic system. Galbraith (1956) extended Schumpeter's notion of corporatism. Galbraith claimed that large US firms engaged in collusion with the government. The last financial crisis is an example of that on a global scale. The US and EU and even Asian banks incurred huge economic losses. However, there was a pronounced public interest; collusion between the national governments and big investment banks, exceeding that present in entrepreneurial firms, to pay a major part of these economic losses from the national budgets. ‘Right now, our economy is being dragged down by our dysfunctional financial system, which has been crippled by huge losses on mortgage-backed securities and other assets’ (Krugman, 2009). Paul Krugman, the Nobel-Prize winner, interprets the concerns of contemporary development economists.

The major challenge for competitive capitalism is that governmental subsidies allocated to save inefficient banks make it difficult for innovative firms to obtain financial resources to commercialize their innovations. As innovative firms are the catalyst of economic growth, these collusions threaten the global capitalistic market economy as a whole. The rapidly expanding global economy poses new challenges for economic theories. Our contribution is that the current and future challenges in the global economy can best be solved through a better understanding of Schumpeterian entrepreneurship in its modern, global contexts. A major paradox of the literature on entrepreneurship is that the process of opportunity recognition and exploitation (Kraus and Kauranen 2009) has been analyzed in a vacuum separate from the existing market.
structures. The fact is, however, that multinationals dominate commodities all over the world (Karliner, 1997).

**Schumpeterian economics of innovation**

Schumpeter viewed entrepreneurialism as the fourth factor of production, as the catalyst of economic growth and revitalization. Technological innovations are the most visible form of innovation. Innovations are not continuously distributed in time, but proceeds by leaps which upset the existing equilibrium and generate (irregular) economic growth. He saw the innovative transformation of routine behavior as a relatively slow and conflict-ridden process and distinguished innovation as the function of entrepreneur that is separate from the administrative function of manager. This reinterpretation helped him outline his theory of economic business cycles as reflecting the wave-form process of economic evolution under capitalism. Schumpeter regards technological uncertainty as neither a sufficient nor a necessary determinant of fluctuations but postulates that fluctuations are caused by supply shifts based on uneven technological changes. In Schumpeter’s (1939) economic system, business cycles, especially Kondratieff, waves are the major catalyst of economic growth. Schumpeter proposed a three-cycle model of economic fluctuations or waves:

1. Kitchin inventory cycle (3-5 years),
2. Kuznets infrastructural investment cycle (15-25 years), and
3. Kondratieff long cycle (45-60 years).

Schumpeter (1939) argued that entrepreneurs create radical innovations in the face of competition. His notion has been generally accepted. The question that is the most contradictory is: Who is Schumpeter’s winner entrepreneurs in practice? (Lintunen, 2000). There are two options. Looking at Schumpeter writings (1934, 1939, and 1942) as a whole it is possible to distinguished two different types of processes underlying innovation by firms:

1. **Creative destruction creates economic discontinuities, and in doing so, an entrepreneurial environment for the introduction of innovation, and earning monopoly profits.** Competition is a self-destructive mechanism that normalizes the profit level when the innovation effects, value added, have been utilized. An entrepreneurial discovery occurs when an entrepreneur makes the conjecture that a set of resources is not being optionally utilized. In order to introduce innovations and to earn monopoly profits, an entrepreneur needs to identify market opportunities early enough. Creative destruction is associated with innovation of entrepreneurs (or small firms) entering unexplored market where there are low entry barriers for new entrants utilizing the common pool of knowledge stock. Creative destruction is a microeconomic process by its nature but has considerable macroeconomic implication for economic growth (Aghion and Howitt, 1992, 1998). Innovations are materialized in new innovative firms and jobs are highly personalized.

2. **Creative accumulation is associated with institutionalized innovation by large firms.** When entrepreneurs under creative destruction draw from the public domain only to place their own innovations within the reach of imitators, large firms under creative accumulation appropriate and protect a major part of their intellectual property, and build on their proprietary knowledge stock through R&D departments. Multinationals (1) use monopoly power in large extent, and (2) build on proprietary knowledge stocks through big in-house R&D departments and networks of partners, including universities. Multinationals are useful partners for entrepreneurs since they can provide for their partners world-class technologies (Markusen and Venables, 1997; Lööf, 2009) and the most efficient global marketing channels and logistics. Multinationals operate in all continents, and in all markets (goods, services, financing, IPRs etc). By utilising the scale economies and monopoly power large firms create high barriers to entry of new entrants (Scherer & Ross, 1990), and impact on industry life cycles (Klepper, 1996) and market structure (Agarwal, Sarkar and Echambadi, 2002).

The neo-Schumpeterian writers have continued to deal with dynamic transformation process in economies driven by the introduction of innovations, e.g. Christopher Freeman (Freeman, 1982) and Giovanni Dosi (Dosi, 1982). Aghion and Howitt (1992) developed a process model of quality-improvements in sequential and stochastic R&D race. Cheng and Dinopoulos (1991) divided the quality-improvement process into (1) technological breakthroughs in terms of creative destruction, e.g. firm pioneer innovation of the “black-white” television and (2) improvements that follow breakthroughs in terms of creative accumulation, e.g. the “colour” TV. Following the notion of decreasing return of economics, the set of technological opportunities created by creative destruction are expected to diminish with each of improvements but can be replenished with a new breakthrough.
Although Schumpeter’s theory of business cycles is difficult to apply to the global economy, there is no doubt that much of the future technology revolution will impact on global environment, although we may not know the full implications. What we know is that the Schumpeterian creative destruction is continuously going on. Michael Jensen (1992) made a study of Schumpeterian dynamics. Comparing the growth of GNP with R&D statistics, Jensen noticed that since the chock of the oil crisis in the mid 1970s the growth of R&D expenditures in the industrialized countries has been double higher than the growth of GNPs. The revolution of information technology (IT) has been the major source of Schumpeterian creative destruction and innovations in the industrialized countries. A Schumpeterian chock does not only create new firms, but destroy the obsolete. In the early 90s, Finland was hit by serious crisis in the bank industry and about 1/5 of firm population was lost. During the crisis the positive side of creative destruction the export boom of big firms (e.g. Nokia).

Regional agglomeration economies as the driver of innovation

Gunnar Myrdal (1957, 1968), the Nobel-Prize winner, developed the core-periphery model that is a simple yet useful conceptualization to be used at different geographical scales (global, national, regional, etc). Myrdal proposed that the key concept of spatial development is cumulative causation that can be explained by spread and backwash effects. Spread effects are the positive benefits in terms of technology transfer from core countries to periphery countries. The brain drain, which refers to the tendency of highly educated citizens in periphery countries to migrate to core countries, is one of the major negative backwash effects (Braudel, 1981). The US, the EU, Japan, etc. are recognized as core countries. They are rich and developed. The average citizen achieves a high standard of living. Periphery countries as a sub-group the least developed countries, LDCs¹, have poorly educated, housed and fed population. In African LDCs, a small portion of population is living nearby the coast or a navigable river compared about 90 percent in high-income countries. LDCs have a risk to fall behind of the global trade without an efficient infrastructure (World Trade Report 2006). In past decades the newly industrializing countries (NICs), such as China, India and Brazil, have had impressive economic growth rates.

Albert Hirschman (1958) modified Myrdal’s model claiming that core cities grow through increasing returns (to knowledge), with the satellites of leading technology innovators’ spread by knowledge exploitation nearby. Krugman (1999) proposed increasing returns to scale (through backwash) and expansion to other nearby areas (through spread). As firms expand their competitive edges and their activities may move out of the region generating ‘spread’ of technological innovations globally. Kenichi Ohmae (1995) has predicted that “region states” with sound socio-cultural structures constitute fertile ground for stimulating innovations of existing firms, encourage entrepreneurship and attract inward investments. Core areas, such as the triad of New York, London and Tokyo dominate global business services (Sassen, 1991). Urbanization seems to be a major set of centripetal forces. As firms expand their competitive edges and their activities may move out of the region generating ‘spread’ of technological innovations globally. Today, urban ghettos are parts of the famous Silicon Valley production system (Saxenian, 1994) and the most favorable location of high-tech centers of start-ups and spin-offs. Geographical proximity can be expected to serve the incubation of new technologies.

Paul Krugman’s (1991) notion of the New Economic Geography is referring to the market-size effects in generating linkages that foster geographical concentration, on one hand, and opposing forces of immobility working against such concentration, on the other. Krugman’s model (1991) as a modification of the Marshallian triad (Marshall, 1920) includes the centripetal forces (Krugman, 1998, p. 8): (1) market-size effect - a large local market creates both demand and cost linkages, (2) thick labor markets - spatial externalities makes employees easy to find employers and vice versa, and (3) pure external economies – e.g. information spillovers. Krugman (1998, p. 8) identifies centrifugal forces, such as (1) immobile factors - land and natural resources are immobile, and in a global context, people, (2) land rents – clustering of business increases demand for local land, driving up land rents, and (3) pure external diseconomies – e.g. excessive accumulation, as a traffic chaos. The development of a country or region is not deterministic but stochastic.

Michael Porter (1990) has debated that localization economies, not urbanization economies draw on knowledge. He believes that it is possible to identify the predominant pattern of competitive advantage model that a country, through its firms, poses at a particular time. Marshall (1920) advanced his economic analysis of externalities in specialized industrial locations. His industrial districts as the prototype Manchester contribute to the external economies of the firms through spatial externalities and, savings on transportation costs. Porter’s prototype of cluster is the Silicon Valley that is an urban concentration of private engineering laboratories and federal military R&D facilities in California. The big size of the Silicon Valley is unique and difficult to replicate in other countries (Penttinen, 1994). Opposite to Porter Alan Rugman (1991, 1996) discusses about a double diamond, the close integration of Canada’s economy with the US. Facts are speaking against Porter’s claim that clusters are ‘permanent’ element of a nation’s competitive edge since globalization has resulted to firm downsizings even in the EU and the US (Baily et al. 1996). In Finland a Porter’s clusters volatile. The ICT and paper clusters are in transfer out of Finland opposite to the implications of Porter’s diamond model in Finland (Hernesniemi et al. 1995).

Many of the nations and regions that have relied on Porter’s clusters as the main competitive edge are now in crisis. In the US, some famous clusters, e.g. the Route 128 in Boston, the minicomputer cluster in Massachusetts and the mainframe cluster in Minneapolis have experienced rise-fall patterns opposite to Porter’s claim. The Hot Spot concept by Pounder and St. John (1996) a dynamic explanation of regional clustering that is common all over the world. The specific characteristics of Hot Spot is that it is regional cluster of firms that (1) compete in the same industry, (2) begin as one or several start-up of firms that, as a group, grow more rapidly than other industry participants, and (3) have the same immobile physical resource requirements. As shown in figure 1, A Hot Spot has three evolutionary phases: (1) origination Hot Spot identity, (2) convergence of clustered firms, and (3) firms’ reorientation that includes a decline in the cluster performance.

![Figure 1. Hot Spot versus Non-Hot Spot Growth](image)

Drawing on Pounder & St. John (1996), we may assume that hot spot initially grows faster than the industry, but then it experiences declines not felt by the competitors outside the hot spot. Clustered firms are more successful than non-clustered in the early stages of life cycle of certain pioneering inventions. In the origination state, essential elements are agglomeration of economies, enhanced legitimacy and emerging salience of local competitors that through increased entry, competitive parity and differentiation catalyst innovativeness of Hot Spots. In the origination state, innovative firms in these regions have good opportunities for the global growth. There seems to be an element that can be used to anticipate the origin and initial location of regional clusters of firms (Saxenian, 1994). If several new firms spin off from a common parent, or a set of parents, then a cluster of like firms could begin spontaneously. Referring to writings of agglomeration economies, we assume that the new firm-based growth is functioning in Hot Spots in-between local networks and global clusters (figure 2).

![Figure 2. Growth drivers inside a Hot Spot](image)

**Networking as the main driver**

Firms need networks of experts and institutions around them to get feedback on their products and services. Digitalization has lowered transaction costs (Williamson, 1991) of control allowing a dispersed
organization of the firm, e.g. outsourcing of back-office operations. The cross-border trade of digitized products, such as music videos, via the Internet and the Web has been scaled up in service industries (Cross, 2000). Networking in its modern forms could be the competitive edge for small firm (Peters, 1990). However, multinationals are building networks in production, sales and service all around the world. Multinationals are able to renew continuously their core competences (Hamel and Prahalad, 1994). They take advantage of their legal superiority in even business secrets which in principle should be an advantage of small firms (Lahti et al. 2006). Multinationals collaborate with the best universities and research labs to get access to the latest technology and knowledge. In sum, multinationals can maintain their global geographical reach (Dicken, 2003) in technologically, legally complex operations like the global outsourcing and so on.

Networking seems not to become the “super highway” of small firms to global markets as neo-Schumpeterian writers (e.g. Peters, 1990) have claimed. Networking is profitable for multinationals (Lahti, 2007). The main reason is that global business operations are risky (Poole-Robb and Bailey, 2003), because of their complexity in cultures and markets. For small firms, the pattern of going abroad is often an accident like an unsolicited order, resulting from advertising in trade journals, through exhibitions, and by other means (Albaum et al. 1998). Promotion of small firms’ exporting capacity is in the political agenda of e.g. the EU. The paradox is that importing is often more prospective that exporting (Korhonen, 1999). A solution to this paradox is disruptive business models and technologies (Christensen, 1997). The key issue is economies of speed (Chandler, 1990). Globalization though a gradual involvement in foreign markets advocating by the stage-theory (Luostarinen and Welch, 1990) is to slow. A born-global model (e.g. Knight and Cavusgil, 2004) is a promising option. Investments in globalization, to get access to relevant tacit knowledge, and agency costs related to risk finance, are tempted to marginalize small firms (Lahti, 2008). Most of multinationals are public-listed or have otherwise “deep” pockets by wealthy owner family. Multinationals can speed up their operations through foreign direct investment (FDI) and they have for their good optimal geographical reach worldwide. In sum, we will conclude that networking as such is an edge of small firms if it is organized as professionally as multinationals’ operations.

In order to create networks, we need to distinguish between the degree of knowledge embedded in e.g. physical, human and social capital (Chandler et al. 1998). We assume that there are three basically different kinds of capital:

1. Social capital refers to norms, trust, networks, etc. that facilitate co-operation among the group for the mutual benefit of the group. It allows the exchange of information, otherwise considered sensitive. For the transfer face-to-face contacts are vital (Putnam et al. 1993) studied the Third Italy2 is that famous of fashion goods. Putnam demonstrated many various means that have been used in the Third Italy to create institutional and business networks with low transaction costs, common language and trust. SEC in Finland facilitates business networks. In SEC the boundaries of social capital are much more specific than in the Third Italy. It is a lot easier to cooperate when you know your partner, and when the partner is representing the same values and ethical principles.

2. Knowledge capital is different from the traditional factors of production, since useful tacit knowledge is not possible to exchange without major transaction costs. The rise of internet is credited with lowering the transaction costs for general codified knowledge. Intelligent networks are developing rapidly. Networking is closely related to lateral and holistic thinking when the management theories are focusing adaptive and linear thinking. In the Third Italy, there are both creative designers and rational businessmen. Networks of innovative firms are led by marketing organizations in Milan and Florence. The most talented businessmen appreciate design industries and top positions in the leading design firms. The production of the Italian design is organized by family firms often without skills in foreign languages. These firms are extremely elastic of their structure. They succeed through co-development with marketing organizations3. The SEC in Finland follows the same model. The famous Italian networking model is very competitive in its nature. This is the story that the Silicon Valley verifies. A balance between competition and creativeness is a good standpoint for the evolution of institutions (trust, social capital) and for business prospects (customer contacts, product innovations).

2 The "Third Italy" around the province of Emilia-Romagna with 3.9 million residents. The success of the "Third Italy" is evident since during past two decades the "Third Italy" have advanced from Italy’s poorest province to the fastest growing economic powerhouse of the country.

3 Source: My own field research travels in the Third Italy in the end of 1980s and in the beginning of 1990s, when I analyzed some thirty firms and collaborated with the leading entrepreneurs in the region.
3. Money capital is needed in commercialization of products. It is useful to benchmark venture capitalists (VCs) that have a similar mission as network builders. VCs have also a long-term contract. When net workers seem to rely on trust as the basics of long-term contracting, VCs prefer formal legal contracting. Most VC funds have a fixed life of 10 years and a 3-5 years investing cycle. This is about the same kind of contractual model that most of multinationals have with their subcontractors. VCs usually have several funds at the same time to avoid the lack of capital prior to the end of fund’s life cycle. Multinationals systematically utilize the portfolio theory of Harry Markowitz (1959), a Nobel prize-winner. They have a global sourcing strategy to search for new subcontractors. Both VCs and multinationals have specialists engaged in the implementation of existing contracts with small firms. VCs are selective in dealing with firms, so are multinationals. Both know that the major source of value added is the intellectual property. Both appreciate solid business plans, good management teams, and a passion for excellence among their partners. VCs and multinationals follow the model of rational investor behavior, the “economic man” behavior propagated by economists.

The problem of small firms in their internationalization is how to compensate the small scale in competition against multinationals. Instead of scale, small firms have to rely on scope (Lahti, 1983, 1989, 1991, 2000). Networking is the best vehicle for that. The difficulty to economize the extended scope of resources through networking depends on the fact that the research has not succeeded to integrate three forms of assets (social, knowledge/technology and money) in a model that could be applicable to small firms. Figure 3 shows a model by professor Lahti where there are three basically different kinds of capital:

![Figure 3. Accumulation of intangible and tangible capital](image)

**Towards a new endogenous growth theory**

The Schumpeterian approach is closely related to the new, endogenous growth theory, pioneered by Robert Lucas (1981, 1988) and Paul Romer (1989, 1990). The new growth theory was made popular by Romer whose main contribution is the construction of a model that lays bare the crucial role ideas play in driving growth. In Romer’s view, the (global) economy is not defined by scarcity and limits on growth as the neoclassical growth theory has postulated. Physical objects are scarce and subject to the law of diminishing. Relying on the law of increasing returns, an innovative firm generates growth even in an environment of scarce physical objects. The process from an idea through planning to success is not linear. Most ideas become market failures during the process because of competition. Romer found that an economy’s increased openness serves to raise domestic productivity, and hence must have a positive effect on the living standards of a nation. This is what has happened in NICs, China as an example.

The new growth theory is based on the idea that long-run growth is determined by economic incentives (Lucas, 1988) created by the markets. It is humans who boost productivity, spawn new opportunities for Schumpeterian monopoly profits, and ultimately drive economic growth. Romer (1989) shares Lucas’ notion that intentional inventions generate technological spill-over and lower the costs of future innovations. Today, there are billions of young educated people in our globe that are an infinite source of innovations. In the digitalized, global economy, they are ‘entrepreneurs of their own labour’ to the extent that they face opportunity costs of his time and talents. As Schumpeter found, temporary monopoly profit is the lifeblood of innovativeness. For most young people a motivation is money that is needed to survive in a market economy. The primary motivation of the next generation is the feeling of being a member of the
global community. An example is the passion which poor people in Africa feel when they gain access to mobile phones. While they are able to use it only for few minutes per day, they feel they are global citizens. Writers as Tom Peters (1990) have complemented Romer. They believe that in the global economy many complex problems can be solved with collaboration over old barriers.

What has been unique during the past two decades of globalization is the huge growth of multinationals in number and size to about 60000 multinationals in 2001 (UNCTAD, 2001. Alan Rugman (1996) believes that multinationals are inherently increasing world welfare and are not exploitative. According to Nagesh Kumar, FDIs’ contribution to the host country’s GNP growth is more than proportionately compared to domestic investments, because of knowledge and technology spillovers to domestic firms from multinationals (Kumar, 1990, 1994, 1998).

The most debated symbol of globalization is the WTO (World Trade Organization). Non-discrimination is the main principle on which the rules of the multilateral trading system are founded. The WTO criticism is wrong, since the WTO treaty makes all member nation states equal. The WTO TRIPS Agreement established standards of protection as well as rules on enforcement, and brought the IPR regimes of WTO member countries under the jurisdiction of the new dispute settlement system of the WTO. The TRIPS is a major catalyst knowledge economy. Scientific knowledge as a commercial commodity is the profound characteristics of globalization. The mega-science themes, like astronomical research and the human genome project, are global as such since they can only be addressed on a global scale. Universities all over the world produce commercial knowledge for firms, following the Stanford University’s role model in Silicon Valley (Haour, 2004). Knowledge represents the capabilities of individuals or social groups associated with meaning, as well as the abilities to organize, interpret and assess information, while information is knowledge reduced to messages that can be transmitted to decision agents (Dasgupta and David (1994). While information represents the mere datum, knowledge represents the meaning of that datum, and the force that can create new meanings, new ideas to use it in a valuable way (Burton-Jones, 1999).

Conclusion

The Neo-Schumpeterian Economics covers transformation processes both on (1) micro level (industry and firm) and (2) on macro level (public sector and monetary system) in an economic system. When neoclassical models are usually presented in a perfectly competitive framework imperfect competition in the form of temporary monopoly power lies at the heart of Schumpeter's process of creative destruction (Grossman and Helpman, 1991). Schumpeterian business cycles are built on an endogenous mechanism of growth and fluctuations based on the mix of technological opportunities and profit-driven R&D investments by firms. The New-Keynesian approach explains price and wage rigidities through market failure and imperfect competition (see e.g., the introduction in Mankiw and Romer, 1991). In this approach, business fluctuations are generated by changes in aggregate demand. These two approaches are not far from each others. One of the major differences concerns the policy implications that are built in the New-Keynesian analysis but difficult to draw in the New-Schumpeterian analysis. As Peter Drucker said Schumpeter and Keynes are the "two greatest economists of this century" (1986: p. 104). Their approaches represent parallel but distinctly different approaches to growth and fluctuations.

The digital revolution will continue and contribute to global economic growth during the 2010s. The entrepreneurs who invented these new products are young adults or sometimes even schoolchildren, receiving differential rewards of their mobility, adaptability, and creativity. This is the trend all over the world. Even in China young people are keenly looking for innovations so as to avoid the dirty jobs in material-intensive industries on China’s coastlines. In the global economy, there are at least billion young adults out of job (Unctad 2001). Most of them are living in Asia, Africa, and Latin America. The current financial crisis in the US and EU has accelerated the downsizing of jobs. This trend cannot continue forever without violating the institutional foundations of democratic nations. There must be some systematic failure in the orthodox economic theories if the best resource, educated young talents with mobility, adaptability, and creativity are marginalized. In the European context, economic integration and globalization might lead to the declining role of states when power has also moved upwards to the EU organizations due to formal integration (Strange, 1996). Krugman’s (1999) market-size effects are remarkable in the core markets of the

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4 This is set out in Article I (i.e. 1) of the General Agreement on Tariffs and Trade (GATT), which is the WTO agreement dealing with the rules of trade in goods.
EU like German and France although science-based clusters still in an emerging stage (Regional clusters in Europe).

References
35. Krugman, Kauranen.pdf
72. Regional clusters in Europe, Observatory of European SMEs 2002/ No. 3, European Commission.