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New Argonauts – A Concept for Regions?

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Abstract

For many decades it was argued that globalization reduces the significance of the sub-national level with regard to economic growth. On the other hand, several representatives assumed that the opposite would turn out to be the case and named globalization to be the main factor for the increasing importance of locations. Michael Porter's industrial cluster model can be seen as a starting point for the discussion in this paper about the New Argonauts and their significance for regional development. As clusters dispose of a specialized labor market, a particular regard should be given to knowledge and learning effects in form of human capital within clusters. Consequently, high-skilled workers are crucial for economic growth and cluster development. They can transfer and diffuse tacit knowledge into clusters, which in turn is significant for innovations. But locally circulating knowledge can run the risk of negative cluster lock-ins. Therefore, external influences are crucial for clusters' life cycles. Professionals are highly mobile and it is the mobility of skilled individual that assures the renewal of clusters. As a result, most regional policies concerning the attraction of professionals chiefly concentrate on immigration. In this context, regions try to attract and retain human capital in order to prevent the scarcity of high-skilled human labor.

1 Introduction

Knowledge is one of the crucial components for regional economic success and innovation. It is always connected to human capital, especially highly skilled workers. Consequently, for regions that want to be productive and efficient this means to compete with other regions for qualified brains. Part of the discussion on ***brain drain***, ***brain gain*** and ***brain circulation*** (or briefly: ***migration flows***) are re-migrants. In this paper, highly skilled re-migrants are treated. In the context of our paper, they are defined as individuals from an industrialized country possessing a tertiary education. Additionally, they show the following migration patterns: The highly skilled returnees leave their home

region in order to migrate to a host region within the same country or abroad. In our paper we call this kind of mobility between regions ***inter-regional mobility***. Moreover, following the description of Richard Florida (2008) we regard the individuals as talented, creative and skilled people. There are several reasons for migration, but education and job possibilities are still the main migration factors. After their stay in a host region the returnees come back to their home region and bring several advantages they acquired. New networks, ideas, working organizational forms and further new incentives are counted as advantages which are stressed in many studies. Those advantages can work as refreshing effects for the home region's economic growth.

> ***Therefore, this paper aims to explore the role and importance of re-migrants or as AnnaLee Saxenian (2002) calls them 'New Argonauts' for regional economic development within the home region. In addition to the first goal, some hypotheses about regional policies to enhance a management of re-migration will be considered.***

The paper is structured as follows: First of all, we discuss the emerging importance of the region. For this we refer, to name an example, to Michael Porter's (1990) cluster concept. Secondly, we show the importance of highly skilled workers for regional development. With regard to the cluster concept and the danger of regional lock-in effects, we later enter the discussion of brain drain - brain gain and introduce the concept of brain circulation and return-migration (re-migration) referring to AnnaLee Saxenian's study on the New Argonauts. In a last step, we will derive some hypotheses about regional return-migration. Those hypotheses are meant to be thought-provoking impulses contributing to avoid regional lock-in effects by making better use of return-migration.

2 Globalization and Regionalization

The Importance of Places – The importance of the regional level regarding migration flows of highly skilled workers arises from globalization: the growing integration of markets and businesses. For many decades it was argued that globalization reduces the significance of the sub-national level. In his book, Thomas Friedman (2005) claims that "The world is flat" when it comes to innovating activities and he continues stating that "[...] you can innovate without having to migrate" (quoted in Florida 2008, p. 17). Saying this, Friedman alludes to the fact that the worldwide connection by new media technologies makes places less important. He assumes that innovation incentives are independent

from places. Meanwhile, there is a larger amount of evidence that economic actions are increasingly regionally structured. Several representatives emphasize that real places are needed for innovation activities and that innovation incentives cannot completely be transmitted by modern communication facilities. Among those representatives is Richard Florida (2008) pointing out that people and firms need real places for their activities and productivity in order to exploit and exchange their knowledge (cf. Florida 2008, p. 66).

The Emergence of Regionalization – From an economic point of view, the term ***globalization*** might imply the decreasing importance of the geographical unit ***nation state***. The nation state as an economic area is progressively ousted by the global economy. However, that does not necessarily mean that nation states become irrelevant; nevertheless, they do no longer define the economic rules of the game (cf. Blotevogel 2000, p. 17). It seems to be obvious, in a second step, that globalization diminishes any further differences between places. In reality, the opposite turned out to be the case. Empirical studies show a growing gap regarding regional development - regional disparities within states are not shrinking, they are growing. Additionally, studies observed that some regional economic systems developed their own unexpected dynamics, while other regional economies collapsed (cf. Weichhart 2001, pp. 7 f.). Setting regions in the center of attention is one crucial effect of globalization which is manifested in the term ***regionalization***. Regionalization describes the fact that working and living spaces are nowadays regionally structured which brings the local aspect of globalization into play. And it is also Michael Porter (1990) who stresses the fact that globalization is the main factor for the increasing importance of locations. Thus, it is Michael Porter's industrial cluster model that can be seen as a further starting point for the discussion in this paper about the New Argonauts and their significance for regional development. With the help of Porter's industrial cluster model the economic relevance of regions with regard to high-skilled workers' migration can be observed using the spatial and knowledge dimension of clusters.

3 Porter's Cluster Concept - Spatial and Knowledge Dimension

How does Globalization foster Localization? – To begin with, globalization reinforces the phenomenon of regional specialization. Regional specialization occurs when a critical mass of related industries agglomerate. By bringing similar firms to agglomeration which benefit from local external economies of scales, as Krugman (1991) describes, agglomer-

ation contributes to regional innovation and productivity. Geographical concentration and proximity intensifies the interaction among firms and raises the self-reinforcing power of clusters (cf. Martin, Sunley 2003). Still, the idea of agglomeration and its effects is not new to Porter and his cluster model. Already Marshall (1989) described this occurrence in 1890 as a concentration of specialized industries and activities in certain locations (cf. Martin, Sunley 2003).

Porter's Cluster Definition – Porter defines clusters as "geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions […] in a particular field that compete but also cooperate" (Porter 2000, p. 15). In contrast to this, Rehfeld (1999) defines clusters as the concentration of elements in a production chain. As a consequence, these clusters are production cluster and can therefore be understood as an interface between internal and external linkages in a region (cf. p. 43). Referring to Martin, Sunley (2003) Porter's model bases on two main elements: Firstly, they explore that firms organized within clusters must be linked to each other. Consequently, firms being part of clusters should be interconnected horizontally by buying and selling chains and vertically by complementary products and/or services. Secondly, Porter's model builds on the ***spatial dimension*** stressing the importance of geographical proximity. Short way interaction promotes co-operation and competition among firms bounded in clusters. Porter's work pictures that success of national export firms depends on the intensity of interactions between the national ***competitive diamonds*** consisting of four sets of factors: "firm strategy, structure and rivalry; factor input conditions; demand conditions; and related and supporting industries" (Martin, Sunley 2003, p. 7). These competitive diamonds can only function and therefore be regarded within spatial proximity. Hence, it is almost impossible to regard Porter's cluster model without the spatial dimension which is one of the main conditions when explaining his model. And even if Porter's model raises some lacks of explanation about, e.g., geographical boundaries or the intensity of linkages between firms in clusters, Martin, Sunley (2003) declare that Porter's cluster model has become a standard concept and a key policy emphasizing economic localization. Meanwhile, successively pushed by the effects of globalization, the cluster model became an example for cities and regions to raise their competitiveness in the internationalized world. For this, we can summarize that a high quality and quantity of regional interactions between firms is necessary for regions to compete in a globalized world. A stronger regional co-operation can be seen as the answer to globalization.

There is also a ***knowledge dimension*** with relevance to regional development. According to Maskell, Malmberg (2007) the process of knowledge development within agglomeration creates the core of regional economic development. This dimension concerns human capital as knowledge carrier within agglomerations. Florida describes: "When people – especially talented and creative ones – come together, ideas flow more freely, and as a result individual and aggregate talents increase exponentially" (Florida 2008, p. 66). Consequently, assuming that interconnections among firms organized in clusters predominantly depend on social relationships and networks, the focus point of our on-going discussion is the role of human capital in ***knowledge-based clusters***.

Firms organized in clusters are not black boxes, but consist of human face-to-face relationships which are based on trust, formal and informal networks. In fact, human capital seems to be crucial to the cluster discussion not only with regard to networking activities, but also increasingly in view of bringing in knowledge and learning effects. The local clustering of regional knowledge is a key element of competitiveness within globalization (cf. Martin, Sunley 2003). Especially stressed by the term ***knowledge economy***, Porter's clusters depend on knowledge as driver for economic growth, productivity and innovation. Already Marshall (1989) explained the importance of knowledge concerning regional development (cf. Cotic-Svetina et al. 2008). As clusters dispose of a specialized labor market, a particular regard is given, in the following, to knowledge and learning effects in form of human capital within clusters shifting toward a ***knowledge-based*** and ***learning-based*** economy (cf. Lundvall, Borrás 1999).

The importance of Knowledge and Learning within Cluster – Collective learning and the accumulation of knowledge from different local sources is brought into clusters and arises *inter alia* from socio-economic, organizational and cultural proximity building among regional partners (cf. Cotic-Svetina et al. 2008). Moreover, on the basis of further literature, Cotic-Svetina et al. (2008) define collective learning in clusters as relative to three dimensions they call ***vertical*** (related to supply chains; input-output relationship between firms; predominantly local), ***horizontal*** (several firms operating in the same industry; similar outputs) and ***social*** (no inter-firm relations; mainly referring to people working in clusters). Thus, many learning effects occur from face-to-face interrelations and contribute to clusters especially with regard to innovation. And also Gertler, Asheim explain that success depending upon the ability to produce new or improved products and processes is anchored in regional knowledge generation strengthened by proximity

(cf. 2005, pp. 293 ff.). The authors call knowledge the most important factor for innovation which is embedded geographically. It is especially ***tacit knowledge*** but also ***codified knowledge*** which constitutes the basis for innovative-based value creation. Tacit knowledge, as it is difficult to exchange over long distances, is a determinant of geographical innovation activity. It arises from the regional, social and institutional context. As innovation is generated by the interactions among regional research organizations, firms and public agencies (also called: triple helix model), tacit knowledge is shared and transmitted in face-to-face communication processes among regional partners using the same language and codes. Gertler, Asheim describe these partners as users of the same conventions, values and norms of shared institutional environment. The partners' personal knowledge of each other and the experience with succeeded co-operation in the past makes the spatial proximity the key of effective production. By sharing tacit knowledge, regions become important for innovation systems. Nonaka, Takeuchi (1995) as well as Lundvall, Borrás (1999) have pointed out that "the process of knowledge generation and exploitation requires a dynamic interplay between, and transformation of, tacit and codified forms of knowledge as well as strong interaction of people within organizations and between them" (Gertler, Asheim 2005, p. 295).

Accordingly, referring to collective learning effects and knowledge generation, a special regard will be given to regional labor markets and their mobility within clusters. Normally, professionals are highly mobile and the mobility of skilled individuals assures the renewal of clusters (cf. Camagni 1991). In view of that, high-skilled workers are crucial for economic growth and cluster development (cf. Malmberg, Maskell 2006). They can transfer and diffuse tacit knowledge within clusters by changing jobs and exchanging knowledge from firm to firm which, in turn, is significant for innovation. Doing so, the mobility of skilled workers among clusters assures a common local pool of knowledge. Also Camagni (1991) turned towards the mobility of highly skilled professionals within clusters "which leads to the diffusion of embodied and tacit technological know-how as well as organizational expertise" (Cotic-Svetina et al. 2008, p. 338).

The Importance of External Knowledge – So far, with the help of the cluster concept two central aspects were pointed out: First, clusters strengthen the regional level in times of globalization. Second, knowledge is the determining resource for the successful existence of clusters.

Knowledge and learning effects are part of clusters' life cycles, but locally circulating knowledge can run the risk of negative regional cluster lock-ins. Hence, it was, e.g., Malmberg, Power (2005) who stressed the necessity of knowledge exchange between clusters and outside parties. For a ***long-term*** cluster development, knowledge exchange and circulation with external partners is essential, otherwise clusters can collapse. External influences are crucial for the cluster's life stimulating regional economy by new technology and knowledge. Through the missing of new knowledge, steady regional mechanism being advantages for years can develop to hazards. They can turn into key sources of inflexibility by self-reinforcement. Martin, Sunley (2006) describe several escaping possibilities from regional lock-ins and list as a significant factor the importation of knowledge and technologies from elsewhere by highly skilled workers. The interrelation of highly skilled workers at the regional and even international level, especially of re-migrants, has a huge influence on the regional developing processes. Further, those highly skilled workers that are connected on a national and international level, act as interfaces between their home regions and activities outside this region. As economic regional paths are expanded and improved constantly by regional players, brain cycle, is crucial for regional development. Strambach (2010) describes that local firms, organizations and further regional authorities are linked to each other in complex ways. They constantly co-operate in networks, which are local, national and also international. Cotic-Svetina et al. (2008) underpin the daily exchange of firms that are not only embedded in regional innovation networks, but also in networks from outside by using their national and international channels. This interconnection of professionals within networks allows a fluent knowledge exchange for regional economy. As a consequence, breaking free from lock-in effects not only depends on technologies, but also on human capital in form of highly skilled workers who can serve as one way to respond to crises by using innovative approaches and lean on acquired learning effects.

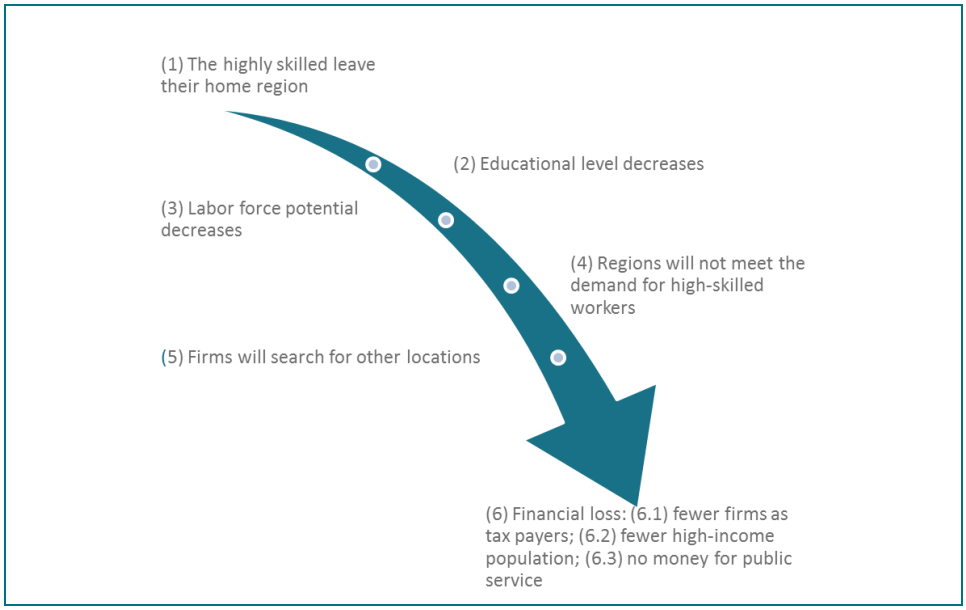
Rationalization and the Highly Skilled – As a result of the outlines given above, it becomes obvious that regions do not only any longer compete for the traditional production factors ***land***, ***labor*** and ***capital***. Knowledge became a further factor of competition, not to say the most important factor. Although the traditional factors might not have lost any of their significance, however, their relative significance with regard to the new production factor ***knowledge*** is enormous. Due to new technological innovations, different modes of production and changed society values, the traditional production factors land, labor and capital got a new significance as location factors. Additionally, ***hard***

location factors are almost similar in all industrialized countries, i.e., they became homogeneous. Moreover, other location factors such as ***natural location factors*** became less important. So, the development of new industrial branches and a tertiary development within the economy lead to a higher level of qualification requirements. When in former times the regional labor market needed the access and had access to a mass of unqualified workers from rural regions in order to generate regional economic growth, it is now the access to high-qualified and high-differentiated workers that is needed for regional economic development (cf. Grabow et al. 1995, p. 80).

Why does the Highly Skilled count for Regions? – It is not the availability of workers in general that counts, but as explained before, the availability of high-qualified workers including their special knowledge and skills. The demand for high-skilled individuals that supply regions with their knowledge is not only of significance in the context of knowledge as the motor for innovation and consequently for regional development. A reasonable fear of shrinking regions arises within the context of demographic change and the out-migration of high-skilled workers. Thus, the competition for high-qualified workers became a core factor of competition between regions, as high-qualified individuals are nowadays the most important productive factor in the knowledge and information era. The reason why the highly skilled are a main factor of competition in regional development can also easily be explained by considering the interconnection between the three actors ***region***, ***high-skilled worker*** and ***firm***. The out-migration of highly-skilled workers will cause a local chain reaction that leads to the fall of their home region. In a nutshell, there are six interdependent steps causing the fall of a region: (1) The highly skilled leave their home region for reasons like lousy work and career perspectives, unsatisfactory educational and leisure opportunities or other personal or professional reasons. Consequently, (2) the region's educational level decreases (3) and so does the labor force potential of qualified individuals. It follows that (4) the region cannot meet the demand for highly skilled workers which in turn (5) influences the location decision of firms which will search for locations that offer skilled labor force. In the end, (6) the region will suffer from financial and social losses as (6.1) there will be a decreasing number of firms located in the region that pay taxes and thus contribute to the region's financial prosperity. At the same time (6.2) the numbers of highly skilled employees decreases who are members of the high-income population group who also contribute to the region's financial prosperity by spending their incomes. Consequently, (6.3) the region has less money to spend on public services such as culture, sports or for projects and the

design of public space in general. This will cause the social fall of the region as the region becomes less attractive for high-skilled individuals who attach importance to such factors. The loss of high-skilled workers within one region can cause a serious downward spiral for regional development.

Figure : Downward Spiral of Regional Development



Source: IAT, Saskia Dankwart, 2011

4 Brain Circulation and the New Argonauts

Brain Drain - Brain Gain - Brain Circulation – The contribution of the highly skilled to regional development has been pointed out and will be followed by the discussion about ***brain drain*** and ***brain gain*** which is closely connected to the competition for high-qualified workers. However, two particularities have to be emphasized with regard to the recruitment and the labor market for highly-qualified people with a tertiary education. First of all, it is essential to realize that

> "higher occupational groups tend to rely less on kin-based networks for accessing positions abroad than lower skilled individuals. They have more extensive and diverse networks consisting of colleagues, fellow alumni and relatives whom they can, and do, mobilize for their recruitments" (Meyer 2001, p. 94).

Although Meyer mentions the recruitment for positions abroad, it is also true for the accession of positions in their home country that most individuals with a tertiary education follow different recruitment structures than individuals with a lower degree of education. Their recruitment is often characterized by informal connections outside formal-

ized ways of recruitment that are provided by public employment services. Public employment services are rather consulted by people without a tertiary education. Furthermore, when we talk about the mobility of highly skilled workers, we always have to take the "specificity of scientific labor markets" (Chompalov 2000, p. 32) into consideration. Chompalov argues that the specificity lies in a higher degree of internationalization compared to labor markets for non-scientific workers. Additionally, scientific labor markets are smaller, but still characterized by a higher degree of mobility.

The Competition for High-qualified Individuals is always embedded in the Discussion about Brain Drain – The term ***brain drain*** was coined in the 1960s and describes the migration of skilled people. Brain drain is often associated with migration flows between developing countries and industrialized countries, and is usually unidirectional, that means, the highly skilled stay in the country they moved to. Nevertheless, brain drain also appears between industrialized countries and should especially be considered between regions on a national and international level, meaning ***inter-regionally***. Thus, brain drain is a kind of permanent migration of highly skilled workers causing a loss of human capital and innovation potential in their home region. Within the discussion about brain drain, further phenomena like ***brain gain***, ***brain exchange***, ***brain waste*** or ***brain circulation*** were developed. The concept of brain gain could be described as the other side of the coin of brain drain. Brain gain means that high-skilled individuals seek to enter a country and enrich the country with their qualifications, skills and abilities. A combination of brain drain and brain gain is described by brain exchange. When qualified workers leave their home country and their gap is filled with qualified workers from outside the country it is called brain exchange. The loss of human capital due to unemployment or other incidents like missing challenges can cause brain waste. The concept of brain circulation describes best how regions benefit from return-migration and why there should be a concept of ***New Argonauts*** not only at the international level, but also for regions in industrialized countries. AnnaLee Saxenian (2002) herself coined the term brain circulation.

> "In some parts of the world, the old dynamic of 'brain drain' is giving way to one [she calls] 'brain circulation.' Most people instinctively assume that the movement of skill and talent must benefit one country at the expense of another. But thanks to brain circulation, high-skilled immigration increasingly benefits both sides. Economically speaking, it is blessed to give and to receive" (Saxenian 2002, p. 29).

Brain circulation describes the fact that highly qualified individuals leave their home country to get, e.g., further education or job experiences abroad. After a certain period in the host region, they return and bring back their experiences, social networks and grown ideas into their home region. Daugeliene, Marcinkeviciene get to the heart of brain circulation when they say that

> "(b)rain circulation is a multifaceted phenomenon, which covers the movement of highly skilled persons between different countries, institutions, with the main purpose to create, share, spread the knowledge and thus stimulate nations knowledge-based economies development" (Daugeliene, Marcinkeviciene 2009, p. 52).

In close connection to the concept of brain circulation stands the emergence of the New Argonauts, also coined by AnnaLee Saxenian.

New Argonauts as Part of the Return-migration – The concept of New Argonauts is originally described by AnnaLee Saxenian. Saxenian focuses in her concept on highly skilled workers, who voluntarily leave their home region to collect experiences abroad or who migrate motivated by the search for education and job possibilities. In Saxenian's description of the New Argonauts she embedded the re-migration flow into an environment with two main characteristics: (1) The New Argonauts are regarded as highly skilled individuals from developing countries. (2) Saxenian observes the re-migration flow rather on a national level. Although she treats the regional impact from return-migration, her overall perspective is based on the migration flow between developing countries and industrialized countries. The concept of the New Argonauts is meant to be an initial point for the focus of this paper with regard to re-migration policies and it should help to introduce a new view on regional re-migration flows. Thus, this paper aims at taking a new perspective by (1) considering New Argonauts from industrialized European regions. This means, (2) the focus directly lies on a regional level. In contrast to Saxenian's approach, the approach used in this paper facilitates the set-up of hypotheses regarding necessary policies to benefit from return-migration, as the returnees do not have to deal with phenomena like ***mistrust***, ***uncommunicativeness*** or ***underdeveloped networks***. These are circumstances that can often be found in developing countries and to which the New Argonauts in Saxenian's approach have to adapt when they bring new ideas into their home region (cf. Saxenian 2006, p. 325). Saxenian not only focuses on the newly acquired skills and knowledge the highly skilled bring into their home region after their return. Additionally, she emphasizes the ability of the New Ar-

gonauts to implement the new knowledge into their old known structures in their home region. It is not only the out-migration and the return-migration she concentrates on, but also the way how new and old knowledge can be mixed-up and create influences to regions of origin.

The concept of Saxenian describes an informal way of return-migration. The highly skilled organize their stay on their own. In contrast to the New Argonauts a further concept of return-migration called ***Expatriates*** presents formalized ways of return-migration. The concept was coined by Nadja Israel (2006) who describes the return-migration issue from a firm's perspective. According to Israel Expatriates are employees who are delegated to a foreign country by their firms to increase the firms' international relations and increase the know-how transfer. Expatriates return after a certain period abroad in a further partner firm or one of the firm's affiliates and bring new competences and networks with them to their home firm and region. This described way of return-migration can be seen as an organized way to assure knowledge exchange within a firm with regard to life cycles of products and processes bringing also positive side effects to the region. In addition to acquired skills, employees who migrated for a while and returned also learn new social abilities. Often, they were active abroad in a different cultural environment and were part of a different society. They were handling different values and rules as they know from their home country or region and learn how to integrate themselves. These experiences let Expatriates work and function under new conditions. After their return they are able to handle old situations by new solutions. They are used to work in multicultural teams and handle different potentials. For firms who gave their workers the possibility of an organized migration also further effects occur: Their employees acquire knowledge about foreign markets and economies. Through this, they facilitate a market access for their origin firm in foreign countries. Moreover, they are well skilled in foreign markets and can support their firm in case of a headquarters change (cf. Isreal 2006). And, of course, there is a further reason to underpin why firms delegate their employees to a foreign region. In the course of globalization, on the one hand, and the effects of demographic change, on the other hand, regional labor markets do not always provide employees with adequate skills that are required by regional firms. The organized delegation of employees to where the required skills can be gained is a provision on the firm's side to counteract lack of professionals in the home region. This is an example of an active role overtaking by regional authorities (in this case the firm) with in the process of regional economic development.

Despite the fact that Saxenian stresses more the ***individual perspective*** of return migration, while Israel puts her focus on the ***firm's perspective and interests*** and the fact that Saxenian describes informal ways of return-migration, while Israel treads formal ways of return-migration, there are some similarities between the two concepts:

Saxenian describes people leaving their home country and moving to well-known economic successful working areas or agglomerations, e.g., Silicon Valley, in order to improve their skills and abilities. They often have to manage the transmission from one culture into another. In that regard, the New Argonauts are similar to Israel's Expatriates who are also confronted with new ways of life, new people, and new ideas. They not only learn new languages and to work in a completely different environment in comparison to their home region, they are also influenced in their way of acting and thinking with regard to economic issues like running a business. They practice learning by doing and they are integrated in a new world.
Notwithstanding those similarities, the main reason why the concept of Expatriates is mentioned is that this concept is successful. Firms gained successful experiences with sending employees abroad in order to get new impulses for their economic development. This raises the question whether regions should strengthen policies that help to formalize brain circulation, focused on return-migration.

5 Hypotheses - How to prevent regional Lock-ins?

Most regional policies concerning the attraction of professionals chiefly concentrate on immigration. In this context, regions try to attract and retain human capital in order to prevent the scarcity of high-skilled human labor. People's decision to move to a certain place depends on their current needs and requirements which might vary during their life (cf. Florida 2008, pp. 6, 11). As most policies focus on attracting external human capital, high-skilled immigrants are seen as bringers of salvation regarding economic development, while the inherent potential for innovative incentives from ***returnees*** is being neglected. Especially re-migrants respectively New Argonauts can bring innovative incentives into their home regions. AnnaLee Saxenian explains that those returning entrepreneurs, who gathered experience abroad, have some advantages in comparison to domestic entrepreneurs who never left. Returnees contribute to the regional economic growth by bringing new technologies and ideas into the region as they had the chance to get an outside-perspective on their home region (cf. Saxenian 2006, p. 17).

In this last section, some hypotheses will be derived from the aspects we presented above. Those hypotheses are incentives to re-think ***regional return-migration policies*** for high-skilled people. As seen in previous sections, high-skilled individuals are the core factor that brings innovative ideas preventing regional lock-ins caused by inflexibility.

How to prevent regional Lock-ins by High-skilled Return-migration? – In the concept of the New Argonauts, Saxenian observes the knowledge transfer from an ***industrialized country*** into a ***developing country***. The New Argonauts bring innovative incentives into their home region by spending a certain period abroad in an industrialized country to get further education or to gain job experiences. In contrast to what Thomas Friedman claims, Saxenian shows that the world is not flat and that place matters. ***The New Argonaut had to migrate in order to innovate!*** Without their experiences abroad in an industrialized country, the New Argonaut had not been able to develop innovative ideas that, in turn, support regional development in their home region.
Taking a closer look at Saxenian's study, there are some interesting core statements that can be transferred into the context of regional development through return-migration in industrialized countries. Further, there are some hypotheses that can be derived giving some additional incentives to think about ways to prevent regional lock-in effects through return-migration policies.

The main hypothesis is that if and how effectively regions can profit from return-migration, strongly depends on regional policies for re-migrants.

The more comprehensive return-migration policies are, the better regions can benefit from the returnees' networks, knowledge, skills etc. Accordingly, the quantity but particularly the quality of return-migration policies decides whether regional lock-in effects can be prevented. According to Saxenian

> "(t)he experience of the new Argonauts suggests that regional advantage in today's global economy requires the recombination of both local and distant know-how and expertise to define new solutions and to create new products and industries" (Saxenian 2006, p. 17).

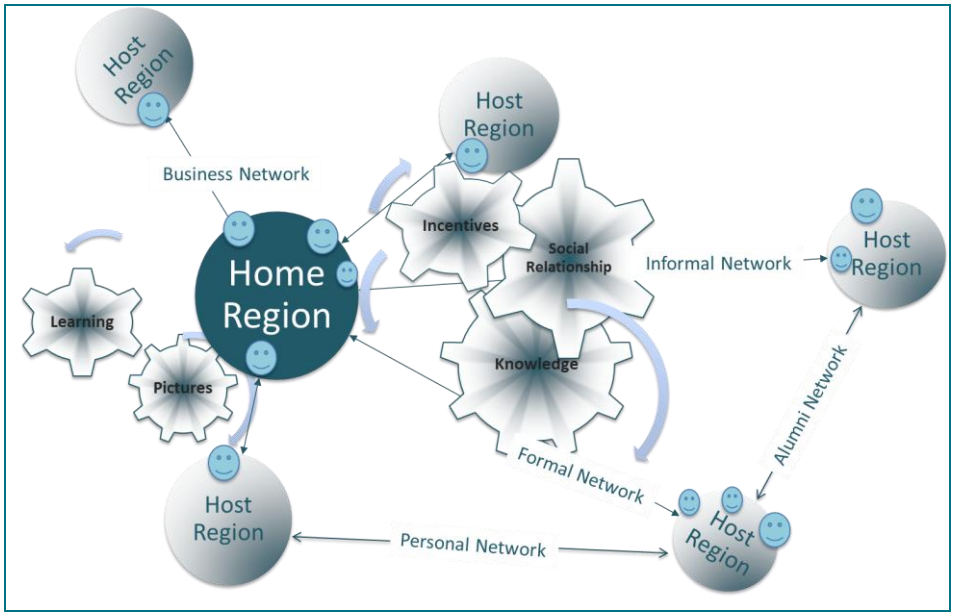
This statement is also true for regional development in industrialized regions. At this stage brain circulation comes back into the play. Returnees have to adapt their gathered knowledge, skills and ideas to the context of their home region. As every region is differ-

ent, there is no ***one fits all model*** that allows the direct implementation of ideas. Ideas that fit with the host region might have to be modified in the home region. So what does this imply for regional return-migration policies and the prevention of lock-in effects?
First of all, return-migration can only be initiated when the returnees feel that their work and knowledge is being rated higher in their home region than in the host region (cf. Saxenian 2006, p. 326). One major problem is that returnees are being neglected by regions for a long time. Thus, there seem to be just few incentives given by regions to come back. Regions rather practice brain exchange than brain circulation as they often focus on getting new talents into the region and lose sight of the fact that ***'their' talents*** are somewhere outside. However, if the highly skilled return, regions should give them an appropriate ***institutional framework*** to realize their ideas in order to fight regional lock-in effects. Not all of the ideas that returnees bring into the region are suitable. As mentioned before, lock-in effects can be avoided by innovative ideas. As a consequence, regions should give the returnees the possibility to adapt an idea to the region. A regional expert or a network of experts who/which gives further information about regional circumstances might support this idea implementation. Otherwise, ideas are too quickly turned down and a great opportunity for innovation incentives will be missed.

How to prevent regional Lock-ins by Functioning Networks? – Further on, consideration is given to the already described importance of networks. As said before, national and international networks between firms, suppliers, headquarters and their affiliates are extremely important for knowledge exchange and knowledge generation. However, also the private use of networks, while being in a foreign region, can contribute to avoid regional lock-in effects. These networks which occur as inter-relations between human beings outside the business context consist of the same relevance, maybe even more, than business networks do. The answer to a 'why-question', is clear: Personal relationships in different regions abroad or within the country give people the possibility to develop a feeling of being connected with a specific place. As soon as people who moved into another region establish personal networks there, they will also establish a connection with the region itself. It is ***not only just a place*** any longer, like any other random place in the world, it is ***a familiar place***. Being linked with people abroad means in particular the overtaking of their view of a region. People living in a specific region can give a special access to foreigners to the region by knowing and stressing regional advantages. Doing this, foreigners might develop a positive view of the region and a ***warm place (city) marketing*** occurs, how it is called in the literature by Gert-Jan Hospers

(2004). After returning to the home region, the positive association with the host region remains and is manifested in a certain image that we develop about regions and cities. That positive association with a region is important when it comes to the attraction of highly skilled workers. Several studies show that people do not choose the regions they live in arbitrarily, but mainly affected by a feeling they connect to a certain region. In this regard, the so-called warm place (city) marketing establishes a connection between the host region and the high-skilled individual that moved into the region. Additionally, though the establishment of a ***warm place feeling*** regions foster brain drain by attracting people from outside. But they also foster brain circulation when they manage to give their own inhabitants a warm place feeling that ensures to attract them back into the region whenever they will leave.

Figure : Inter-regional Networking Activities of High-skilled Workers



Source: IAT, Alexandra David, 2011

How to prevent regional Lock-ins by regionally formalized Return-migration Policies? – As seen in the concept of the Expatriates by Nadja Israel, firms already successfully practice formalized ways of brain circulation. Regions could consider establishing formalized ways of brain circulation by facilitating the way out of the region and the way back into the region.

In the world of internationalization and opening of borders, migration became increasingly easier. Even if, according to newer studies, the migration affinity seems less than claimed, job and education opportunities are still main reasons to name in the context

of migration. Following the hitherto argumentation inter-regional and international migration of highly skilled workers can contribute to the development of regional economies (cf. Klagge et al. 2007). As already mentioned by Malmberg, Maskell (2006) and Cotic-Svetina et al. (2008) knowledge is crucial to regional economies and cluster developments. Klagge et al. point out that "the increasing importance of various forms of knowledge as a factor of production and as the basis for regional competitiveness in the evolving 'knowledge economy'" (Klagge et al. 2007, p. 4). The various forms of knowledge seem to be main terms of regional competitiveness. Taken from the outlines before, we know that regionally embedded knowledge, arising from regional social contexts, can lead regions to success. But by exceeding the border of regional knowledge flows, new knowledge is relevant for further regional goals. Otherwise, regional economy can decrease. For this knowledge, exchange is indispensable. There are several ways how to guarantee the exchange of knowledge. Best known examples with regard to human capital and regional firms are their networks which are not only spread within their home region, but also nationwide and even internationally. At this point regions could formalize networks that facilitate to find a job outside the region, but at the same time those networks should support the returnees to find a job when they want to come back.

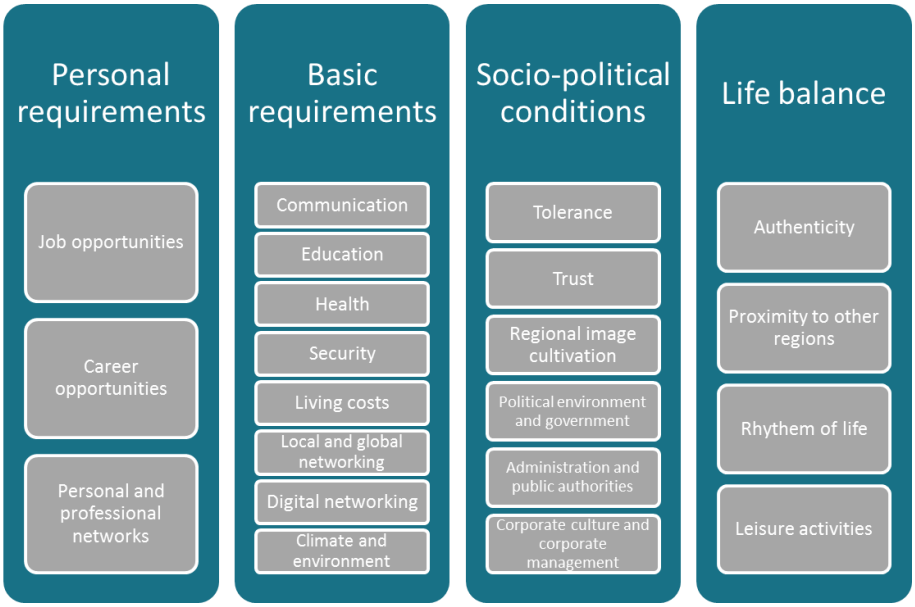
How to prevent regional Lock-ins by 'Re-attraction'? – There is probably no general answer to the question how regions can attract high-skilled workers. One could ask 'Why is that?'. The answer appears simple, and is not that simple at the same time: Places differ and people differ, too. As Florida explains already at the beginning of his book 'Who's your city?'(2008).

> "Finding the right place is as important as - if not more important than - finding the right job or partner because it is not only influences those choices but also determines how easy or hard it will be to correct mistakes made along the way" (Florida 2008, p. 5).

In fact, location-choosing influences almost our whole life. Places decide about our development, the way we live, about our social contacts and relationships, about our education and the chances for the job we would like to run as well as the height of the income. Moreover, regions' attraction is not about ***hard location factors*** anymore. Thus, income, cultural events, job opportunities, communities of further talented people, family allocation and further ***soft location factors*** play an increasingly important role in making a choice for ***the 'right' place***. So, on the contrary, it seems to be clear that it depends

on the ***individual requirements*** of people who their places are. It is some people's dream to live in a quite environment in the periphery and not being part of the hectic metropolitan life. People living in metropolises, on the other hand, enjoy being part of the 'big jungle' of different persons, multicultural influences, new trends etc. Choosing a place as a living and working environment therefore is all about ***identification of the right key factors*** (cf. Florida 2008, p. 11).

Figure : Requirements of the Highly Skilled referring to their Living and Working Places



Source: Pöchhacker Innovation Cunsulting GmbH 2009

6 Conclusion

The cluster concept by Michael Porter framed this paper and allowed us to anchor highly skilled workers as carriers of knowledge and networking individuals in regional agglomerations. By the help of Porter's cluster concept we could show that highly skilled workers, including their knowledge and networking activities, are the key factors for regional economic development. Moreover, we took the study from AnnaLee Saxenian in which she describes the contribution of the New Argonauts into consideration in order to stress the importance of re-migration. By combining Porter's spatial and knowledge-based dimensions of clusters and Saxenian's study on the New Argonauts, we could bridge the subject of regional development in industrialized countries and the importance of re-migration for a region's supply of high-skilled workers.

Even though there are ***winners*** and ***losers*** among regions in the competition for high-skilled workers, as Richard Florida says, not every 'losing region' is a 'loser' per se. The decision to move to a certain region is not only dependent on a region's profile, but also on people's requirements during their lifetime. However, based on Florida, in general we can say that highly skilled workers prefer a more ***open***, ***tolerant and creative environment***. Places that include this are mainly metropolitan areas and fewer peripheries. Instead of the downwards spiral pictured above, we could now introduce a spiral of success. As Klagge et al. describe, there are three positive characteristics of return-migration which can be pointed out. Re-migrants have an effect on (1) ***financial capital***, e.g., when starting a business or by local financial investments. (2) To rise ***human capital*** re-migrants offer new skills, qualifications and relevant experiences to the local labor market. (3) As we have already described in this paper, social networks foster ***social capital*** by transactions of knowledge, ideas, symbols, new behaviors etc. (cf. Klagge et al. 2007, pp. 5 f.).

People follow jobs and firms follow people. It is a spiral of causes that the highly skilled like productive and innovative places. The more of them agglomerate in such a place, the more other high-skilled workers will follow. Those places that cannot be recognized as winners of this process must solve in the future the problem of ***attracting people*** by, e.g., the help of ***new regional policies. Regions have to find their own way to re-attract their high-skilled workers***. Returnees are always carriers of entrepreneurship, technology and capital which are all factors contributing to regional development. Thus, "the challenge for policy makers is to facilitate the circulation of highly skilled workers across frontiers while generating benefits for both sending and receiving countries" (Guellece, Cervantes 2002, p. 94). One significant part of these policies is the strengthening of regional networking activities. By this, we think about stronger co-operations between regional authorities involved in the issues of regional development such as educational systems, working environments, innovation policies and further. Anyway, each region needs its own tailor-made policies.

Accordingly, our initial question, if the concept of the New Argonauts could be a concept for regions in industrialized countries can clearly be answered with ***Yes***.
First of all, the example of the Expatriates shows that brain circulation, respectively re-migration, in formalized ways can be successful. Secondly, regions seem to neglect the potential for regional development as there are only few initiatives and policies to at-

tract returnees. Consequently, the regions have to find ways to exploit the full potential of return-migration.

Further perspectives – With regard to Porter's cluster concept, we have to stress that there are three possible types of region which should be taken into account considering New Argonauts. These are: (1) Regions including clusters in a dynamic environment. In this case, the New Argonauts help to build up the regional dynamics. (2) Regions including clusters in a less attractive environment. This case describes the qualitative and quantitative perspective with regard to the stock of high-qualified workers within the region. Qualitative refers to the educational level, while quantitative refers to the amount of skilled individuals. (3) Regions without clusters. This case seems to us as the most interesting one with regard to attraction of high-skilled workers. Thus, in future research a special view should be given to those regions, as they are particularly negatively affected by out-migration and its side effects. Exactly those side effects can decide about the rise or the collapse of regional economies.

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