

# The potential for a new economy and wealth creation in the Kvarken region

A Visionary Analysis of the Kvarken Region

Kvarken Council 2015



**norden**

Nordic Council of Ministers

*”Some people make things happen,  
some watch things happen,  
while others wonder what has  
happened!”*

- Unknown

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*”It’s not about big titles or climbing the corporate ladder. It’s about drive, attitude, understanding the big picture, generating new ideas, stepping outside of your comfort zone. It’s about passion, deep thoughts and knowledge.  
**It’s about wisdom!”***

- Petra Söderling,  
Mobile Brain Tank

# 1 STARTING REMARKS



Figure 1 Joseph Stiglitz gives his views on the state of the European economy in a recent newspaper article in Helsingin Sanomat (Teittinen, 2014).

In a recent newspaper article in Helsingin Sanomat (Teittinen, 2014) Nobel laureate and former chief economist of the World Bank, Joseph Stiglitz, blames main stream economics for the stagnation and the non-performance of the modern European economy. The solution, he argues, lies not only in technological advances or changes in lifestyles, but rather in a new mode of economic thinking. On the contrary, if new ideas are not implemented, Europe could face similar economic struggles in the decades to come.

Similar thoughts are also expressed by Bengt Holmström, a Finnish professor and former Head of the Department of Economics at MIT. On January 23<sup>rd</sup> 2012, at a speech at

Hanken School of Economics entitled ‘Financial crisis- any solutions,’ he states that ‘traditional economic theory does not solve [the] problems,’ indicating that changing conditions has created new aspects to economic wealth creation that require new approaches if they are to be managed properly.

It stands clear that there is an urgent need for new information on how new wealth is created in an intertwined society, and that people need to have the will to use this information; *‘You can show a donkey to the water, but you cannot force it to drink.’* Academics especially need to take note of this old saying the next time they hear a colleague utter the words: *‘Tell me then what I should do!’*

### **1.1 Background and the Kvarken dream**

More than ever before, Europe and the United States seem to be confused and unsure regarding future, specifically economic, developments and about the question of how to create new wealth. Traditional left-wing perspectives are losing their practical importance, but so are those of the pure market fundamentalists’. The fall of the Berlin wall 25 years ago did not solve the big economic and societal questions, nor did it create any successful economic concepts regarding the creation of new wealth. The problem is not only that other continents like Asia and, nowadays also, Africa are moving faster, but that Europe has come to a halt and is now experiencing deteriorating public economies without having any real positive outlooks for the coming 10 years.

So what can the Kvarken region do to overcome the obstacles facing Europe today? Most economists and specialists that study societal development are tackling the issue, roughly speaking, from one of three angles. One group confines to static quantitative analysis by looking at how existing processes can be trimmed, slightly improved or made more efficient in areas such as logistics, marketing and the financial sector; effectively avoiding the risks involved with qualitative research. Another group of researchers concentrate on efficiency issues in isolated research areas where corporate governance, in particular, seems to be a popular subject matter. A third group includes those who like to discuss matters and formulate theories, but which often lack any real ideas of useful practical implementations. While all of these activities may be useful and effective (and, hence,

important) to achieve short term benefits or even bring about a few good ideas (in times when clear aims are lacking), they generally fail to provide any new substantial insight to the future of societal development.

The question then becomes; is the Kvarken region going to follow this general trend or can it dig deeper to uncover hidden, but still realistic, possibilities which may have a large impact on the creation of new wealth? It is the belief of the authors that by interconnecting the Kvarken region on both sides of the strait, it is fully possible to uncover and take advantage of such possibilities and to create a 'Kvarken dream;' not very different to the 'American dream' in the United States a hundred years ago or the economic and social upswing that China is experiencing today. However, in order to succeed, policymakers need to accept new thoughts and concepts into the decision making process, and the private and the public sector has to start cooperating more closely. Hence, it is the aim of this paper to highlight the full economic and social potential of the Kvarken region and to provide a long term road map for both the private and the public sector with validity for the coming twenty to fifty years. We focus on the key areas for potential new wealth creation and show how a functioning ferry connection between Finland and Sweden will be a crucial factor for tapping into this potential.

## **1.2 About the content**

In this paper we introduce a new way of thinking about real wealth creation and suggest ways in which to achieve the full potential of the region. First, we present the notion of an economically relevant geographical region. We need to do away with the unnatural, politically and bureaucratically established, boundaries (which are essentially relics from mediaeval times used for taxation purposes) that are dividing both local and national power. Instead we introduce a new concept of borders called the economically efficient region (EER) of Kvarken. This region is not necessarily a geographically unified area, but it is a natural, logical and dynamic area based on common economic and social needs. Second, we introduce a set of tools by which to decide which economic activities build up the critical wealth creation within the EER. The EER of Kvarken happens to have a strong and fairly well defined economy including many modern industrial manufacturers and



service providers of huge global potential; an economy we refer to as an industry leadership economy (ILE). In fact, new wealth is not only created in the region, but it also exceeds that of other national regions in the ILE category.

Apart from supporting our claims with objective facts, this paper is also a study of the subjective aspects of the issue. As history, internationally and locally, has thought us, development does not solely occur on an objective basis. For instance, regardless of the vast reserves, oil has not generated the success for Iran as it has for Norway. Nor has the unprecedented military power of the United States always been a guarantee for success in international affairs. Rather, throughout time, development has always occurred as a result of mental activism and extraordinary subjectively driven actors. Hence, one of the conclusions we present in this paper is, that in order to achieve its full potential, the Kvarken region needs to develop an independent regional economic understanding which is essential for the creation of a regional ecosystem on which to build its future. It is important to realize that such an understanding is highly subjective in nature and, therefore, cannot be easily analysed using conventional academic approaches.

In any case, a successful ecosystem in the Kvarken region builds upon three pillars. First, the region needs a new and more active private-public partnership (PPP) where the focus lies on invention and the creation of new sources of wealth, as opposed to simply relying on the privatization of public services. Furthermore, an active PPP should rely on an integrated economic analysis on how private and public interests interact. One typical example would be to look at how healthcare, taxation and the ILE could cooperate in a productive manner. For this concept to work, however, a new kind of activism is required on all levels from company leaders and entrepreneurs to bureaucrats and politicians, and it should be based on a common understanding of the strategic ILE interests; not tactical self-interests. One should neither forget the consumer who needs to be included and educated on current policies and public strategies. Assuming that politics and business is simply for the elite is not a viable option in the long run.

Second, it is important to look above and beyond the outdated regional administrative borders on all levels, within the countries, as well as between them. This is partly a

practical and mental issue, and partly a judicial one. Judicially, however, there are no definitive national obstacles which would prevent a joint ecosystem in the Kvarken region; the issue is rather of a more mental and practical nature. One prominent such obstacle has been the lack of a functioning physical link between the cities of Vaasa and Umeå which currently prevents a natural and daily integration from taking place. Hence, in lieu of other viable short term options, a new ferry that connects the two cities, and lives up to modern standards and requirements would be an important facilitator of integration.

Third, we need to be aware of the subjective aspects of the situation. Regional politics, whether economic or social, is always influenced by the subjective view of individuals from public and private leaders to consumers and voters. As previously noted, it is critical, therefore, to make the ordinary citizen aware of current affairs. This allows the citizens, not only, to tap into the wealth created within the ecosystem, but it also provides a natural and important scrutiny of how public and private affairs are exercised. Initial discussions held with hundreds of politicians, business leaders, researchers, as well as ordinary citizens, seem to lend support to this view.

In summary, the potential of the EER of Kvarken, where the ILE works in cooperation within the new ecosystem, is fully dependent on the daily possibilities to freely interact all over the Kvarken region. This extends to people in all positions, from all stages in life; from company leaders to workers, from children to the elderly, to bureaucrats and students. The arrival of a new ferry (which is currently in planning) would significantly deepen the integration between the Vaasa and Umeå regions, and is a key factor in achieving the wealth creation described in this paper. Taken together, the synergy effects of proper real cooperation is in the magnitude of 10 to 15 percent in savings in both the private and public sector. Naturally, this will not materialise if the integration is somehow centrally organised through the appointment of various committees and the like. Rather, we advocate a model of natural integration where the parties involved, in their own self-interests, act for the common good of the entire region. Moreover, we suggest that the synergy effects that allow for the aforementioned savings should be used for increased specialization in areas where the region may already be world leading, or at least close to.

On the more objective side, this paper dwells deeper into the industry leadership economy (ILE) concept and aims to describe its huge potential within the modern industrial economy. We describe the effects the ILE has on employment, but also the dynamic effects on both the regional and national economy at large. We find that the overall effects (including the effects on exports and R&D) of an ILE business is a hundred times more important for the creation of new wealth when compared to any shopping centre or other consumption based business or service provider of equal size. It is true that shopping centres and consumption based businesses and services are regionally important in order to attract inhabitants, but we argue that it is not a fundamental factor for the long term prosperity of the region.

We also find that the magnitude of importance of the ILE for the society at large, including health and educational issues, is largely overlooked by the public, including decision makers, the media and even the voters. We argue that this worrying fact is simply due to the lack of information, understanding and a proper analysis of the subject. Hence, an important objective of this paper is to serve as an eye-opener and to reset the mind-set of the collective society of the EER of Kvarken on this particular matter. If the region succeeds in overcoming these largely mental barriers and tap into the potential wealth within the ILE, it can be the showcase example in Europe on how the ILE can drive real new wealth creation and increase real new consumption levels.

Based on the ecosystem concept, this paper also suggests the establishment of new educational, health and cultural economies within the EER. The dynamic economic link between the unique ILE of Kvarken and the aforementioned socio-economic areas of the EER is strong and of outmost importance. In this context, the new ferry connecting Vaasa and Umeå also serves to achieve, qualitatively, completely new economic levels with the positive effects extending to as far as to the national and European level.

We have touched upon the necessity of the new ferry already a few times and for a good reason. Its importance as a natural link between Vaasa and Umeå extends far beyond the quantitative transport of goods and people. It is much more a question of qualitative nature; of extracting the hidden (but obvious) potential in a larger common workforce

area, new common integrated educational and healthcare systems, new possibilities for entrepreneurs, new investment conditions for local and global actors, a new cultural economy and, most importantly, the creation of a unique regionally expanding economy based on a modern world leading knowledge and export industry (including related services). Therefore, the importance of the ferry is impossible to understand (hence, often misunderstood) using traditional quantitative analytical approaches. The question is not merely about how many passengers or how many tons of cargo is being transported across the strait, but, more importantly, about the qualitative ripple effects a functioning sea link would have for the entire region.

On the whole, the potential of the ecosystem brings a lot of new wealth to the region, but it also generates a large surplus which is spread to the national and even the other European economies. The ecosystem, as described in this paper, coupled with the new ferry as a facilitator, does not simply move resources from one place to another, but it genuinely creates new wealth. As an answer to Mr. Stiglitz's worries, the presented ecosystem could serve as a model for solving existing European, and not only regional, economic troubles.

We intend this paper to create a large public processing. Any economic potential of today is not possible to fully harvest and implement without the consumers' active participation and support. A joint publicly accepted and supported focus on new ambitions is decisive in the creation of a productive regional environment. This is also a request to the political parties to be constructive in the EER issue; to try to avoid mixing their interests with those of the party headquarters', to try to avoid tactical interests and to try to see past personal political ambitions when building the EER. This plea also includes the private sector of which we request more strategic activity that focus on the overall wealth creation, rather than simply safeguarding individual company interest though the use of short-sighted tactics.

Everyone has the right to understand one's future and interest, and to partake in the sharing and creation of new wealth. Early activists are needed that unite company leaders, entrepreneurs, bureaucrats, researchers, politicians and the public in a common support for the ecosystem. This paper intends to keep language and facts at a level which is

understandable for everyone (excluded those who do not want to understand). In doing so, we avoid using theoretical liturgy and use case studies to exemplify our ideas, even though examples sometimes may not be used as such without adaptation. We encourage the reader to focus on the point of the story.

Ultimately, as research in the regional politics has developed into a mass product in recent times, it is more than natural that research should increase its socioeconomic efficiency every year. However, ground breaking unique research activity is only performed by a minority of researchers today. It is that void that this report aims to address.

### **1.3 A short summary of the paper**

This paper intends to shed light on the following ten issues:

1. The role of the modern industry leadership economy (ILE) in the creation of new wealth.
2. New economically efficient regions (EER) evolve geographically without regard to outdated administrative borders that need to be adapted, reorganized or simply set aside.
3. New dynamic policies are adopted and implemented much faster within the new EER structures compared to waiting for national polices to modernize.
4. EER structures require local ecosystem analyses in order to reveal the sources of potential new wealth and to focus its efforts.
5. The EER of Kvarken has an unquestionable unique potential for new wealth creation.
6. To release the potential of the EER of Kvarken, a physical and mental unification and integration of administration, everyday life and business is needed; simple coordination of functions is not enough. The new ferry is a key facilitator in this aspect.
7. The EER is not a tactical project. It is a strategy for the coming 50 years and involves every citizen within the region.

8. We expect a new direction of activism from political party activists, bureaucrats, researchers, entrepreneurs and citizens. Initial signs have been encouraging and show a high readiness to commit.
9. The challenge from emerging countries is a huge possibility for the Kvarken region if it is understood properly.
10. A new understanding of the Kvarken ecosystem is needed; not only of statistical and historical facts, but of the dynamics developments. More specifically, a modern and advanced economic understanding of the interplay between a strong private sector and a strategically strong and wise public sector. Success without one or the other party's involvement is still unprecedented in history.

As a summary, this is a new kind of productive scientific study where we analyse the details from a strategic point of view. We oppose the traditional mentality of studying details in order to form the big picture. Our intent is to stay away from static analyses of static knowledge, and instead focus on the dynamic developments. The famous theory of relativity, expressed simply as  $E=mc^2$ , took some hundred years of knowledge to materialize and it is still quite a bit simpler than what the details in everyday life appears to be. We need not more static and conservative analyses of existing conditions, we need new horizons. Just as any successful company starts with a vision and a mission, the EER of Kvarken needs them too!

## 2 ECONOMIC BACKGROUND TO THE REGIONAL ECONOMICS



Figure 2 The reach of the economically efficient region (EER) of Kvarken.

During the last century, in Europe as well as in the Nordic countries, regional economies, and especially regional economic policy outside of the metropolitan areas, have to a large extent revolved around the question of receiving (mostly centralized) funding to support development goals. More importantly, it has been a game of political tactics within the national parliaments. Even though this practice is still ongoing, the current economic climate and tightened spending feeds the need for new policies of substance.

Due to the rise of debt levels in state economies all over Europe, including Finland and Sweden (the exception being Norway's oil based economy), state policies have shifted towards achieving savings through reductions in spending across budget segments. This

has had detrimental effects on the local economies which means that the traditional model of achieving funding for regional development is changing, and that regions now need to start taking care of themselves to a much larger extent than before. The only real viable option is, hence, to start finding the hidden potential within the region and to start harvesting that potential in order to create new wealth. However, this might turn out to be a hard task as many politicians and bureaucrats (and researchers for that matter) are still mentally stuck in the old format which relies on funding coming from higher-up instances. Not only is a change of practice necessary due to changing conditions, but if most of the time of bureaucrats is spent applying for subsidies and spending public money, there is a clear efficiency problem in the way local governments work.

The outlook for the European economy seems to be one of no or slow growth for the next ten to twenty years, unless, of course, we are hit by another financial crisis, further worsening the situation. Even if the European economy achieved a slow growth rate, it would still quite quickly fall behind the racing emerging markets of Asia, Latin America and, nowadays, even Africa; all of which are quickly developing and have even started surpassing the European economies in knowledge based issues on some fronts. Hence, regions that aim to simply keep up existing qualities of life and to defend what has already been achieved will be surpassed and left behind in the international race. The reason for this is simple; Europe cannot compete with working hours (or hours spent pretending to work), but rather, the existing economies are fully dependent on the level of exports of state-of-the-art knowledge. Hence, passivity in the search for new horizons may cause tragic results in less than a generation.

To understand the size of problem we take a closer look on the Finnish economy. In Figures 3 and 4 we plot the evolution of the government debt and the combined public and private debt (excluding the financial sector), respectively, during the years 1975 to 2013. We also show the evolution of their respective shares of GDP during the same period of time. It is quite clear that, and as Mr. Stiglitz would certainly agree, there has been virtually no new wealth created since the 1990. Most of the increases in wealth experienced since 1990 are, in fact, only an artefact of increased indebtedness.



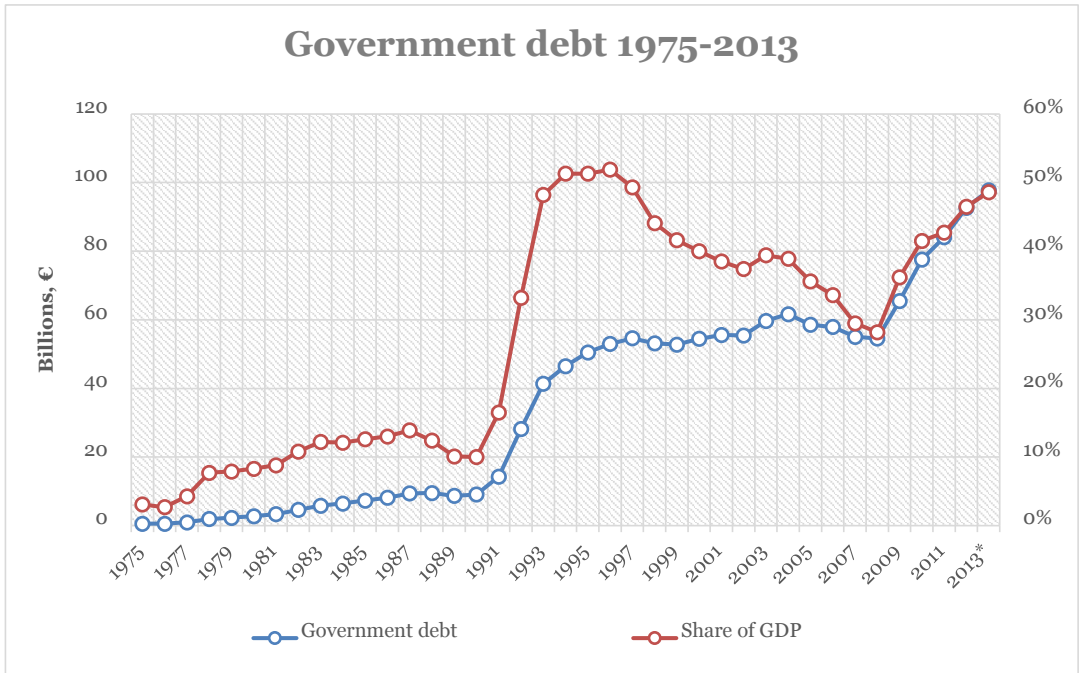


Figure 3 Government debt and its share of GDP from 1975 to 2013. \*Years 2012 and 2013 are approximations. Source: Official Statistics of Finland (OSF) (2014a).

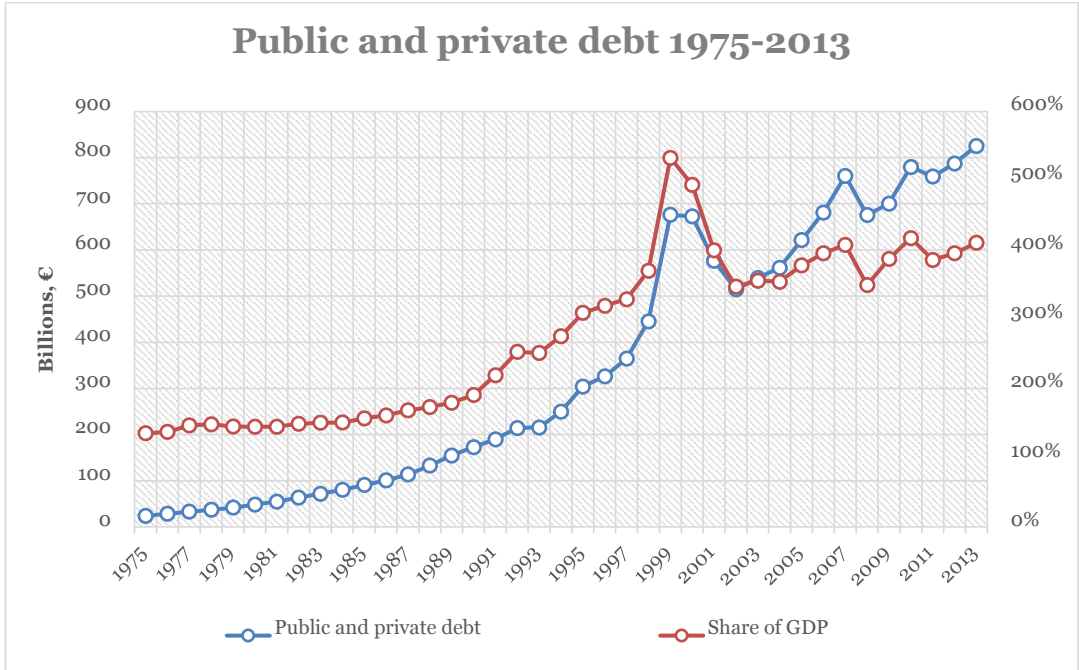


Figure 4 Public and private debt (excluding the financial sector) and its share of GDP from 1975 to 2013. Source: Official Statistics of Finland (OSF) (2014b).

Looking to the world, China is close to becoming the largest economy in the world and will probably be economically stronger than both Europe and the United States by 2030 if nothing is done to change recent developments. As shown in Figure 5, it is not only the Chinese economy that is growing, also the Indian economy is growing quickly and starting to threaten the established positions of the west. To this background, and considering the change in the economic realities facing the European countries, it becomes increasingly obvious that the national responses are simply not enough. Hence, it will be the task of the smaller and more flexible Economically Efficient Regions (EERs) of Europe to lead the change where national policies have failed; a concept we return to in more depth throughout this paper.

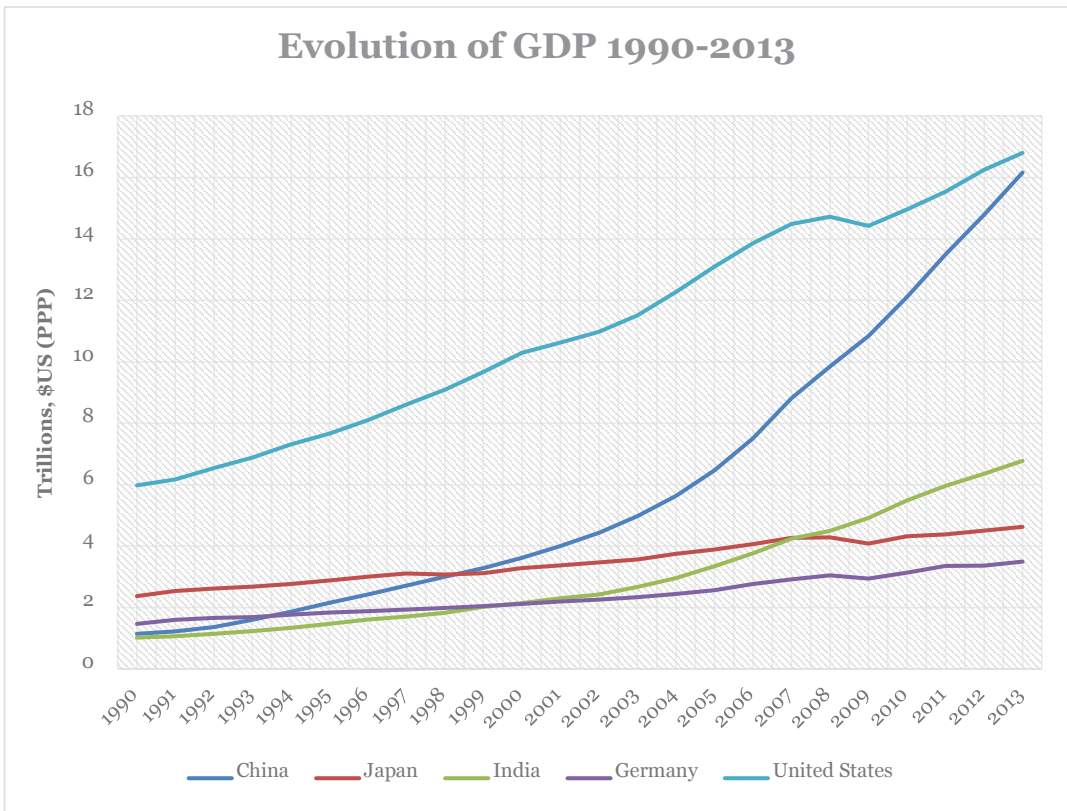


Figure 5 The evolution of GDP in five leading economies of the world. The chart expresses current \$US prices adjusted for purchasing power parity (PPP). Source: The World Bank (2014)

Not only is Asia running ahead, but also Latin America and, increasingly, even Africa is becoming serious competitors unless Europe starts moving forward too. Overall, Africa is

developing with astonishing speed and countries we could not imagine as fast growers, e.g. Nigeria, as shown in Figure 6, is showing remarkable potential. This is not a bad thing, however. The good news is that the growth outside of Europe and the United States is a great possibility for industry leadership economies (ILEs); another concept we will discuss thoroughly throughout this paper. Sadly, though, for consumption based economies the possibilities to gain from the external growth elsewhere in the world are slim.



Figure 6 Future population and past GDP growth in Nigeria. Courtesy of The Economist (2014)

Therefore, what Europeans need to realise is, that even though they have enjoyed, and in many cases still enjoy, a higher GDP per person, better education and more possibilities compared to developing countries, Europe will undoubtedly start lagging behind if it keeps confining in traditional thinking and standard methods of development. More specifically, the European regions will not get the support they need to stay competitive, neither objective, nor subjective, from their national governments, precisely because of the traditional economic policies that are still in force.

It is important to acknowledge that national development is increasingly dependent on regional inventions and initiatives. Regions with a high degree of focus, determination and wisdom push ahead, even in tougher times. Regions with internal divisions, like the lack of a satisfying physical connection between the cities of Vaasa and Umeå, prevent unified action and create village level perspectives with no unified horizon or goals. That being

said, the village perspective is indeed important at the village level, it should, however, not be allowed to cloud the common horizon of the region as a whole. Hence, without regional EER strategies the Kvarken region risks losing out locally, nationally and internationally. On the contrary, with a sound strategy and a clear focus on an ILE, it is possible to take advantage of the changing international and global landscape. The new markets in Asia, Africa and Latin America are not a threat, but an excellent source of income and wealth. The shift in the global economy is a huge advantage for regions with an ILE to tap into. The region needs to build up an export potential and a productive environment through its entire ecosystem. However, this extraordinary potential is largely out of reach for regions that focus simply on local consumerism and the local exchange of services.

In order to succeed in building strong local ecosystems, it must be stressed that administrative borders today are often outdated and do not correspond to modern regional needs or capacities. Hence, actions should be taken with disregard to traditional administrative borders and instead be based on EER thinking. A strong enough EER, with regard to its economy and population, may play a direct role on the international field and in the global economy.

In practice, modern technology and changing working habits are increasing the reach of EERs. People commute ever further distances in an ever shorter time and work can be done efficiently virtually from anywhere; even outside the physical office and working hours. This implies that even fairly remote locations situated as far as 80 km (approximately a one hour drive) away, may be considered core regions in places like Vaasa and Umeå. When thinking of the possibilities of virtual communications, the next level of regions, the inner regions, are ever growing in size and could be taken to encompass locations 100 to 150 km away. For instance, it is not impossible to imagine someone who is living 150 km from the office, working one day a week at the office while working the outstanding time from home. Hence, a modern EER may be defined as stretching as far as 150 km from the centre in one direction. Even currently, the organization of many healthcare and cultural events indicate that modern inner regions in Scandinavia are approximately 150 km in radius, in size. Further, taking into consideration

the needs of local subcontractors and specialist, who play a crucial role for the development of a world leading export oriented industry, a suitable definition of the EER region could be the aforementioned 150 km (see Figure 7).

Considering the examples above, in order to understand the true role of regions, an entirely new understanding of the implication of regional borders is needed. Most unproductive in this sense, are the political party leaders, the bureaucratic management structures of old administrative areas, as well as institutions that work according to the administrative borders drawn up before the globalization of the world economy. Moreover, it lies in the self-interest of many of the aforementioned to preserve the old borders and divisions of regions. However, also some short-sighted private economic interest that are pushing to preserve status quo, in attempts to lessen competition, are highly destructive. All of these negative interest are effectively hindering the development of new natural borders. Hence, the new ecosystem needs a new breed of political and bureaucratic leadership, coupled with progressive entrepreneurs and business activities in societal issues.

### 3 THE THREE REGIONS OF THE EER

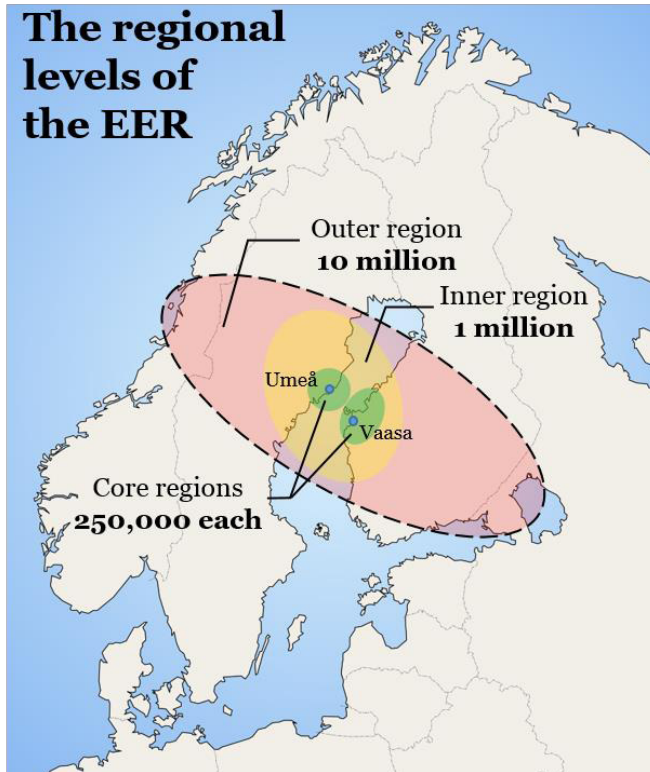


Figure 7 The three regional levels of the EER of Kvarken.

Figure 7 visualizes a possible EER for the Kvarken region. In addition to the core and inner regions, one may still imagine the EER to include neighbouring regions which are of interest. This region would be the so called outer region. Below follows a short description of the different levels.

#### 3.1 The core region

The core region is a region in which commuters need to commute approximately an hour or less of to get to work. This resonates roughly to a 70 to 100 km radius. Within this region all the necessary daily needs for physical and social connections are satisfied, and is characterized by the possibility to enjoy an urban lifestyle. In the case of Kvarken the core

region would encompass a joint population of approximately 0.5 million inhabitants, roughly 250,000 on both sides of the strait. This amount is physically possible to integrate into a single core region if the new ferry is made a reality. In fact, part of the core region does, de facto, already exist administratively on Swedish side in the form of 'Umeåregionen' that has a population of 250.000. On the Finnish side there is no equivalent administratively coherent area, but the coastal region has stayed fairly unified throughout history (the so called 'Österbottens förbund'-area) and is, in many ways, already cooperating with the Härmä and the Suupohja industrial regions. Together these areas also add up to a population of 250.000. Within this integrated core region there is, hence, enough potential for investments in the ILE, top education and healthcare, as well as in higher level cultural and leisure activities.

### **3.2 The inner region**

The Inner region is the circle where commuting time is up to two hours (approximately 150-200 km) for the modern remote-but-close workforce. This area is also the working area for modern healthcare, cultural cooperation and higher education. Subcontractors and service providers for the EER also work and support each other in this area. Within this region, it is safe to assume a total population of 1 million inhabitants on both sides of Kvarken (assuming that they are well connected by the new ferry). This region is the most interesting region in the short term (ten to thirty years) as it encompasses enough people for fundamentally new economic processes to take place and also provides incentives for younger people to move back from international metropolitan areas.

On the Swedish side, the industrial region of Sundsvall and Västernorrland, and the industrial regions of Norrland easily add an additional 250,000 inhabitants to the population living in the core region (in fact, the total number could be as high as 500,000). Accordingly, the former Vaasa county on the Finnish side is a traditional area of common interest and boasts a population of close to 500,000. On top of the Swedish and Finnish areas, there has been interest from many sectors in northern Norway to join the possible inner region in issues surrounding the ILE. The potential size in terms of population of the inner region on the western side of Kvarken alone could, thus, be 1 million.

An objective base to form an EER inner region is clearly present. A population of 1 million is more than sufficient for sustaining advanced ambitions, if the region is united and able to focus on the joint ecosystem.

### **3.3 The outer region**

The outer region is geographically an interesting area for logistical, national policy and geopolitical reasons since it would unite people on an even larger scale. In a separate chapter we discuss the geopolitical potential in the coming 50 years, where Vaasa and Umeå may play an internationally important role for more than 10 million inhabitants stretching from the Atlantic to St Petersburg and beyond (all the way to Moscow).

It is easy to conclude, that the EER of Kvarken possesses all the human capital needed for substantial future developments, at least with regard to the size of its population. Hence, it would be necessary to tap into this resource and to form a new Nordic centre of excellence. The size of the population competes with any other Nordic metropolitan area, provided, of course, that the connection between Vaasa and Umeå is working efficiently. It would also require the scrapping of outdated bureaucratic constructs that limit the development through artificial borders and useless statistics.



## 4 THE ROLE OF THE MODERN INDUSTRIAL ECOSYSTEM

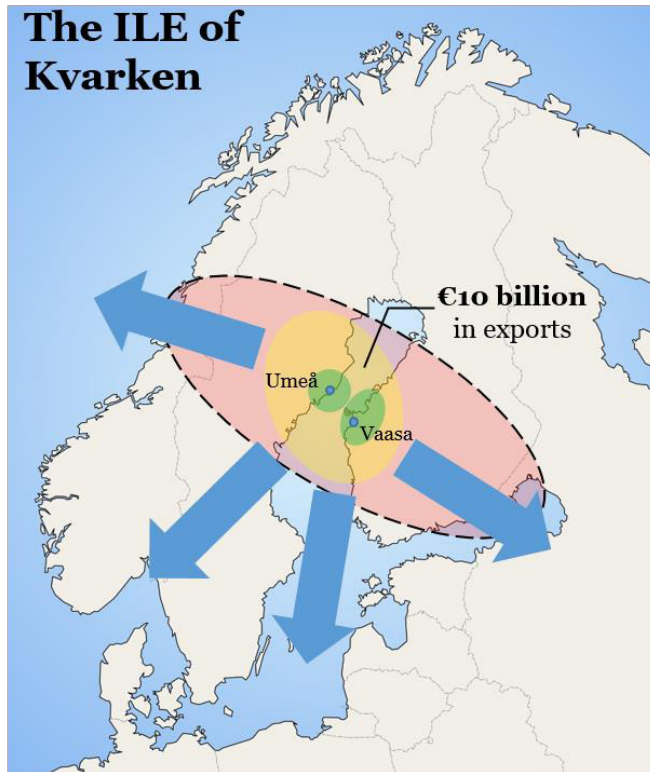


Figure 8 Typical export routes of the industry leadership economy (ILE) of Kvarken.

We start this chapter by making a claim that the EER of Kvarken is already characterized by an ILE. This is true based on the following three observations: first, the EER has a modern industry which creates a higher than average added value on goods and services. Second, the EER creates more than average net exports with a high degree of R&D components. Third, the EER boasts a great growth potential.

Based on official statistics on the industrial added value per person in 2012, Vaasa appeared as the best producer of added value out of the 25 biggest cities in Finland. Equally, the region of Ostrobothnia (wherein Vaasa lies) had the highest export per capita ratio of all the Finnish regions. The data is summaries in Figures 9 and 10.

## Value added per capita in the industry sector 2012

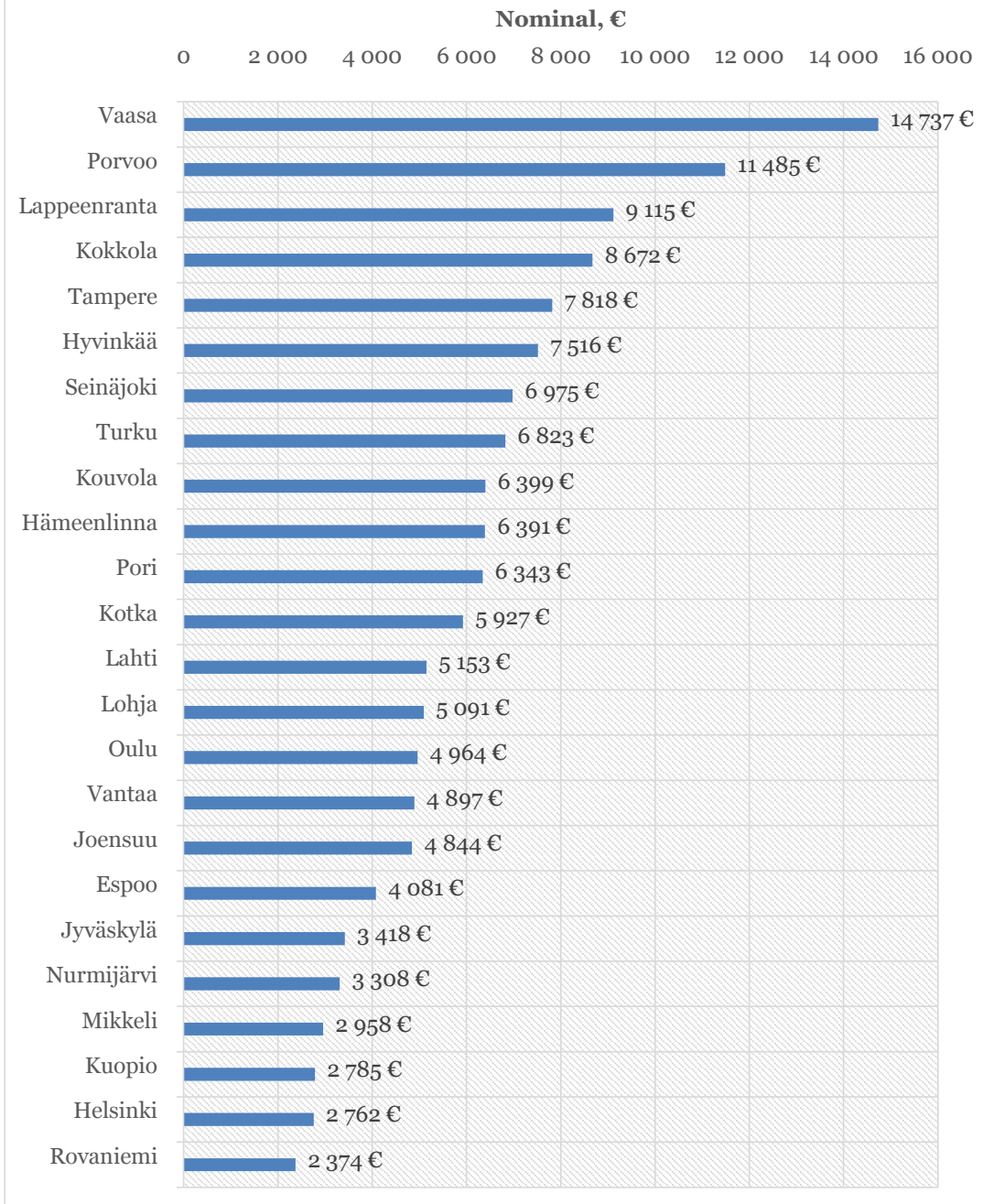


Figure 9 A comparison of the value added in the industry sector per capita in 2012 among the 25 largest cities in Finland. Source: Nylén (2014).

## The value of exports per capita in 2012

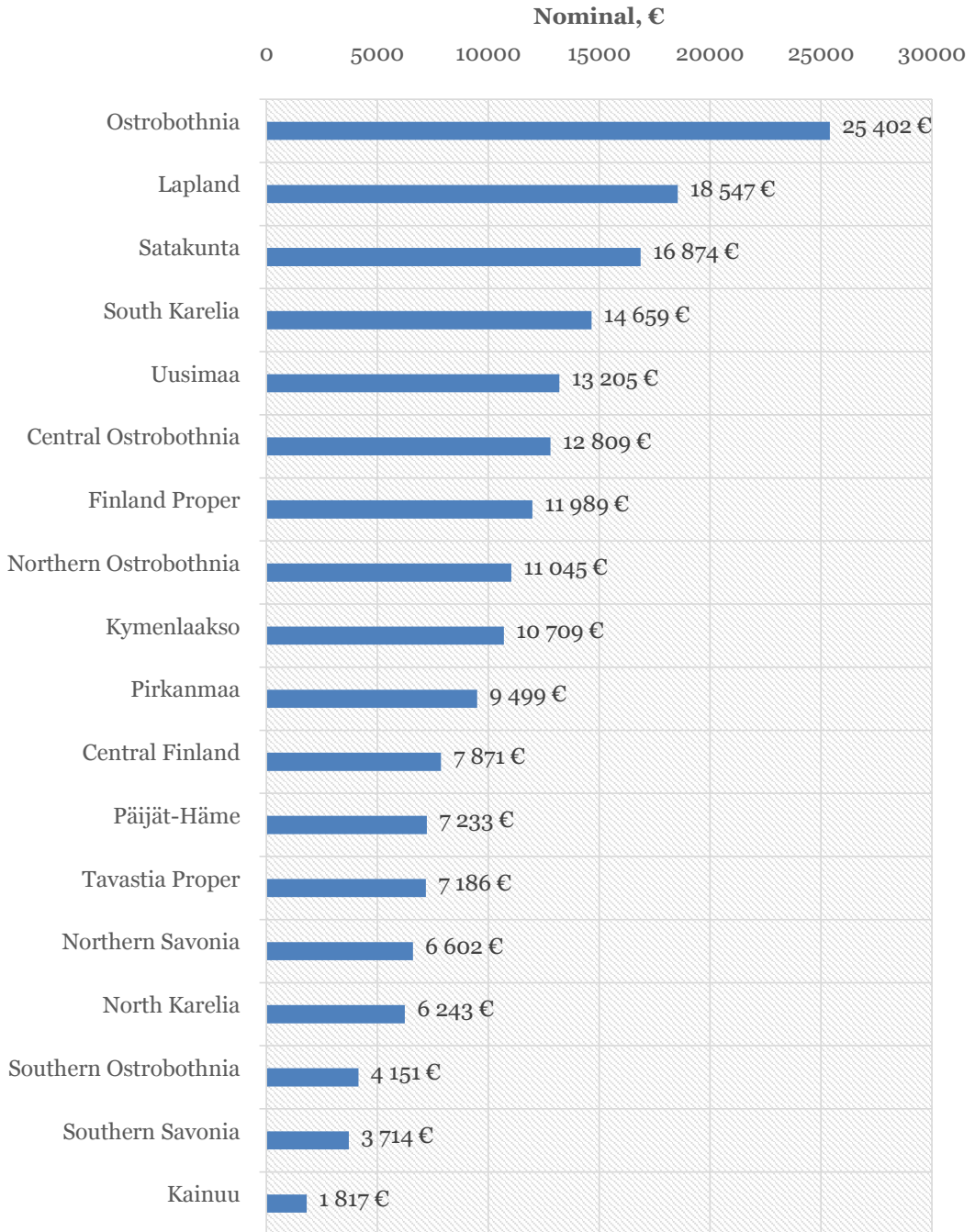


Figure 10 A comparison of the value of exports per capita in 2012 among the 18 regions of mainland Finland. Source: Nylén (2014).

It is important to stress that the extraordinary performance of the Vaasa region in the added value comparison is mostly due to the highly productive R&D activities and the large home-grown development of energy solutions for the global market. But added value does not tell the whole story; also exports serve as a substantial wealth creator (much contrary to the consumption based economy where money is merely showed around, but not created). To focus on exports is important since it measures the increase in real wealth that foreign trade brings the region, but it also serves as an indication of the state of the economy as exports are usually high when raw materials are home-grown or the industry is R&D intensive.

The success of the Vaasa region is also visible in the GDP growth statistics. Table 1 shows the average GDP per capita growth of the 10 growth regions (population wise) in Finland during the years 2001 to 2011. Regardless of whether growth is measured in current or constant prices, the Ostrobothnia region stands out as one of the strongest producers of wealth among the national growth regions.

REGION	CURRENT PRICES	CONSTANT PRICES (BASE YEAR 2000)
CENTRAL OSTROBOTHNIA	5.32 %	1.98 %
OSTROBOTHNIA	3.80 %	2.03 %
TAVASTIA PROPER	3.14 %	1.07 %
PIRKANMAA	3.11 %	2.18 %
PÄIJÄT-HÄME	3.11 %	1.10 %
CENTRAL FINLAND	2.79 %	1.25 %
ÅLAND	2.74 %	0.92 %
NORTHERN OSTROBOTHNIA	2.65 %	2.01 %
UUSIMAA	2.61 %	1.27 %
FINLAND PROPER	2.37 %	1.36 %

Table 1 Average annual GDP per capita growth among the ten growth regions in Finland 2001 to 2011.

Source: Official Statistics of Finland (OSF) (2014c)

A look at Figure 11 also reveals that the Vaasa region is a fairly frequent top producer of GDP growth per capita in the country, albeit it experienced a few major drops in the early and later years of the examined time period.

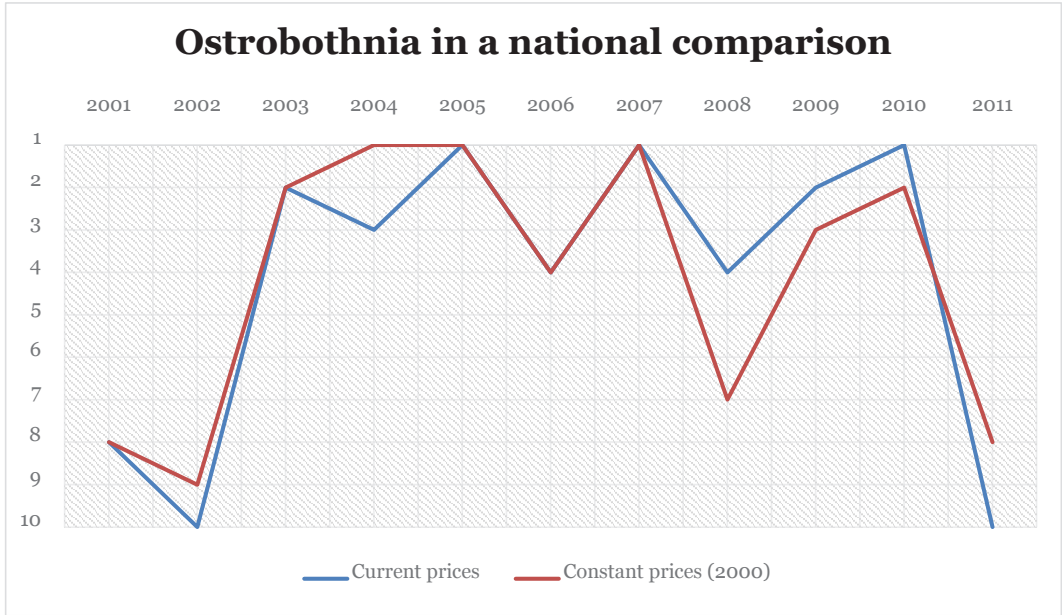


Figure 11 Ostrobothnia’s position relative to the ten Finnish growth regions in terms of annual GDP growth per capita during the years 2001 to 2011. Both current and constant prices are presented. Source: Official Statistics of Finland (OSF) (2014c)

In the Umeå region the base of the economy is quite similar. With a strong focus on exports, the three counties of Norrbotten, Västerbotten and Västernorrland, which make up the inner region of the EER on the Swedish side, even manage to outdo the capital region in terms of exports per capita. This is an important insight considering that the Stockholm area is often praised for its economy by many analysts. Table 2 summarizes the data.

COUNTY	EXPORTS PER CAPITA IN 2011
NORRBOTTEN	171,695 SEK
VÄSTERBOTTEN	147,936 SEK
VÄSTERNORRLAND	106,622 SEK
STOCKHOLM	98,848 SEK

Table 2 The value of exports of goods per capita in 2011 in four Swedish counties. Sources: own calculations based on export data from The Swedish Ministry for Foreign Affairs (2012).

Not only is the Swedish inner region of Kvarken already performing well in terms of exports per capita, but it also continues to play an integral part in driving nationwide

foreign trade. As is evident in Figure 12, especially Norrland and Västerbotten have been increasing their exports more than many other Swedish counties in recent years. Although Västernorrland is not showing as much potential as the other two in light of the statistics, it is still a valuable county for the EER. Namely, the presence of the pulp and paper giant SCA, which utilizes local factories and raw materials, is an important contributor to the retention of the close to €1.7 billion<sup>1</sup> market for forestry products originating from northern Sweden. Since a large proportion of the sales in the industry go abroad, the total value of the presence of SCA for the region is high, and above, what is needed to sustain a vibrant economy.

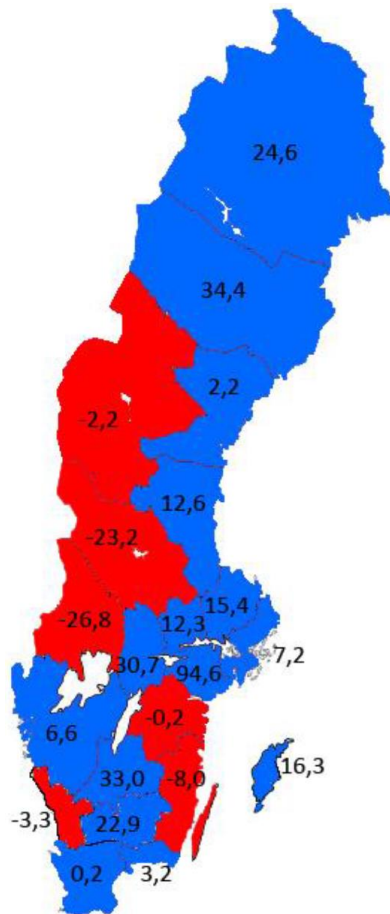


Figure 12 The growth of exports in Swedish counties from 2009 to 2013 measured in percentages. Courtesy of The Swedish Ministry for Foreign Affairs (2014).

<sup>1</sup> The value denotes sales figures from 2013.

SCA is an interesting example not only as a creator of exports, but also for its ability to renew its business models to suit dynamic markets. In recent times it has grown from a “sunset” business, mostly dealing in traditional paper products, to a “sunrise” business strongly cemented in the ILE sector. It is now a world leading provider of hygiene products and its continued development efforts are finding new values and uses for fibres every year. We may only speculate on the impact wood fibre technology may have on the health industry, including using the technology to manufacture new kinds of medicines, but it will most certainly contribute towards new innovations in the packaging and construction industries. In the view of the authors, the most interesting new application in the near future for this “old” industry is, however, to be found in the energy sector.

Apart from SCA, which we have used here as an example of an ILE business, we also find several other companies within the Swedish inner region that fulfil the ILE characteristics. Most notably among them, we find companies such as mining company LKAB, auto manufacturer Volvo and equipment manufacturer Komatsu. The list could be made much longer, but what these companies have in common is that they all contribute substantially to the regional economy through their use of local resources that they refine and, subsequently, sell abroad. It is activities like these that are the core reason to the economic success of the EER of Kvarken.

#### **4.1 The importance of the ILE**

In order to properly understand the role and importance of a modern ILE, and the companies it consists of, we present the reader with a fictional example of a probable outcome if, for instance, engine manufacturer Wärtsilä were to outsource its production away from Vaasa.

First, due to the sudden loss of around 3,000 jobs, the city of Vaasa and the surrounding areas would, to devastating effect, lose out on roughly €30 million per year in direct tax revenues. If this happened, even the economically strong Vaasa would have to cut investments substantially and reduce its workforce by approximately 10 percent. Such a cut which would most certainly have large effects on, for instance, education, healthcare and administration.

Second, the amount of job losses could easily increase with an additional 3,000 as subcontractors suddenly lose out on orders in the magnitude of €200 million. This would shave an additional €30 million off tax incomes, leading to a further 10 percent reduction in the public workforce.

Third, the consumption sector (including shops, car dealerships, hair salons, housepainters, banks, theatres, restaurants, to name a few) loses out as the purchasing power is diminished by at least 10,000 people, equalling at least €200 million in forgone sales a year. Again, around 2,000 to 3,000 people are laid off while those in the service sector that survive, for instance hair cutters, have to lower their rates by 30 percent or people will start cutting their hair themselves.

Fourth, since Wärtsilä is a large producer of R&D, the effects on research and education must also be accounted for. Educational institutions will have to reduce their activities or risk ending up in closure, causing another 500 people to lose their jobs.

Fifth, even the national economy will be strongly affected as a large part of the export revenues generated by Wärtsilä is accumulated, not merely within the local economy, but within the national economy as a whole. Say a typical employee is paid roughly €50,000 gross per year. On top of that, Wärtsilä pays an additional 30 percent to other governmental funds, say roughly €15,000. As the national share of the yearly personal income tax is about €5,000, the direct national tax losses per laid off employee is a total of €20,000 per year. This is disregarding the effects a layoff has on consumption. Hence, taking the decrease in consumption into account we can conservatively estimate that an additional €10,000 per year is lost by the state in forgone VAT and other consumption taxes. The national tax losses from the laid off Wärtsilä workers alone would, hence, amount to €90 million. In sum then, the total economy could directly stand to lose up to 10,000 jobs locally and result in total direct losses of more than €0.5 billion a year in forgone consumption and tax income. The indirect dynamic losses would naturally be quite much higher and could lead to a downwards spiral of more layoffs and more losses.

The above example illustrates why an ecosystem based on an ILE is so crucial for the development on all levels, including cultural and social aspects. Nor can a functioning ILE



be compensated for by simple consumerism. Rather, shops appear where wealth is created and money is circulating, and it is the ILE that creates the purchasing power that sustains a healthy level of consumption. For instance, IKEA does a fantastic job in attracting people, but IKEA only follows the money; it does not create any.

What is then the potential of the ILE in the EER of Kvarken? The energy cluster in Vaasa alone is estimated to have a €4 to €5 billion potential increase in exports by 2025. This would imply the creation of 10,000 new jobs in R&D and the high productivity sectors alone. Including the spill-over effects in the service and public sector, the total amount of new jobs may be estimated to 40,000 to 50,000. A similar estimate for Swedish side of the EER amounts to roughly half of that, but is still an impressive €2 to €2.5 billion per year. However, all of these estimations are entirely dependent on the development of a productive ecosystem where overall productivity is increased preferably by a third. More than half of this increase could be achieved by having an efficient ferry connecting the two sides of the EER. Even though the role of the ferry could seem small at first, looking simply at the amount of passengers and cargo being transported, its real potential lies in the dynamic effects it would bring the region (as previously discussed).

Based on this discussion on the role of the ILE within the EER of Kvarken, we are able to conclude the following pragmatic advice: at a bare minimum, in any public or private meeting regarding policies in the EER or other decisions with societal importance, at least half of time should be spent on issues relating to the development of a productive environment within the ILE. The same is true for any efforts made in societal issues in the future. In any other case, the meetings and efforts are a misuse of time and resources.

#### ***4.1.1 The role of the labour market***

One of the most crucial elements of a well-functioning ILE is a competitive work force where competence is accrued internally through development and through the immigration of competent workers. In this regard, the new ferry would be a crucial facilitator in the creation of a coherent labour force among the 1 million inhabitants. Potentially the total amount could grow even larger to include around 1.5 million inhabitants in a fairly short period of time. If this (internal and external) potential is

utilised efficiently, the gains for the export sector on both sides of Kvarken could easily exceed €100 million in increased efficiency and innovations. However, due to the lack of a well-functioning physical connection across the Kvarken strait, the labour forces of the two halves of the EER have stayed separate from one another and, hence, the Kvarken economy has not been able to benefit from its full potential. By conjoining the two, the new ferry would subsequently have positive effects on the region, of which three in particular stand out.

First, as any human resource manager will understand the efficient matching of labour can be of great importance to businesses. The ferry would not only allow for key workers to migrate across, but also for any worker (ranging from vocational workers to subcontractors) to easily migrate and work as needed, even if the work is performed only during a limited amount of time. For the EER of Kvarken this kind of migration would be especially advantageous since the ILEs of the two sides do not, to a large degree, have any direct competition from one another, implying that a job that requires a certain type of specialization could be performed by a worker or business from within the region, rather than by outside parties.

To exemplify how this view, on the benefits of the new ferry, differs from the more conventional views on the economic impacts of increased passenger traffic, we compare the impact of a typical vacation visitor to that of a professional worker. A visitor from, for instance, Vaasa that goes shopping in Umeå is merely going to result in money being transferred from one side to the other. Every euro spent in Umeå is one euro less spent in Vaasa. However, if the ferry allows for efficient travel within the region, professionals will also travel across at an increasing rate since the threshold to work across the sea is significantly lowered. While the shopper only moves money from one place to the other, the professional will help develop the economy as a whole and in his or her wake make path for others to do so as well, further developing a unified labour market.

We estimate that more than 1,000 professionals would be employed more efficiently, some of which in economically and strategically very important roles, simply as a result of the new ferry. The immediate economic effects would subsequently amount to €50 million in

new wealth created each year, while the long run effects could take the figure up to €100 million per year. Considering that around 70 percent of labour costs are directly ploughed back into the public economy, the return on investment (ROI) of the new ferry increase substantially as the effects of professional labour movements kick in. Hence, a few years could be enough to pay back the investment costs of the new ferry simply through the more effective use of the existing work force.

It is important to stress that a few professionals on the ferry can potentially be much more important for the economy than hundreds of thousands of local passengers and tourist. It is the lack of this kind of a dynamic analysis that makes conventional calculations, based on passenger numbers alone, to fail so miserably in explaining the effects a new ferry actually would have on the economy. Static analyses are, hence, not serious attempts at explaining the actual necessity of a new ferry.

The second labour related key effect of a new ferry is that it allows for the effective recruitment of competent workers from outside the EER. By creating the conditions for a socially, culturally and consumption wise strong region it will be easier for businesses to attract key people. Not only could the EER offer state-of-the-art opportunities in production, services and research, but also close proximity to nature and the sea, a safe surrounding for bringing up children and a healthier than average population (traits that could effectively be used directly in job advertisements, as a side note). However, it is not only important to attract competent workers for their competence alone, but the concentration of knowledge also influences the investment policies of local and global actors, leading to more investments being made in the region. This, in turn, feeds back into the desirability of the region which increasingly helps in attracting and retaining competence in the area. In other words, the new ferry helps in creating the conditions for a positive spiral of knowledge and investment concentration within the region that is of crucial importance for the productivity of the ILE.

The third, and last, notable effect of the new ferry on the labour market is its indirect job crating effect. Because it would greatly facilitate the creation of an ILE in the region, the new ferry would indirectly create 40,000 to 50,000 new job opportunities in the private

and public sector combined (see the above discussion on the potential of the ILE in the EER of Kvarken). Moreover, a common labour market is an essential condition for these jobs to realize and the new ferry would achieve just that.

#### ***4.1.2 The role of entrepreneurs***

The ILE in the EER of Kvarken creates excellent conditions and potential for advanced and globally minded entrepreneurs. The high level of export activity in the region has contributed greatly to the already proportionally high degree of internationalization in the area. Therefore, we suggest that this idle resource could and should be used more actively.

It is quite clear that the inner region has the potential to be a Silicon Valley for young and innovative persons to gather in. At some stage, however, many of these entrepreneurs will start looking abroad for new markets and are faced with the difficult task to find suitable partners and business contacts. To alleviate this problem, we suggest a new pragmatic approach that builds on the competence of existing ILE businesses that already have international operations and access to international markets. Moreover, through direct cooperation within the ILE ecosystem, our suggestion is possible to achieve without the implementation of costly and time consuming consulting programs. Hence, we propose that ILE companies come together on a voluntary basis and agree to share their access ports to world markets simply through the sharing of contacts. Of particular interest are all those foreign business visitors who already frequent the different companies of the region. Such a pool would provide new businesses a cheap and efficient first step towards establishing themselves on the world markets and for established businesses to find new ventures abroad. Most importantly, this would be an opportunity not enjoyed by many modern businesses and would provide the businesses of the region a head start in the global competition.

#### ***4.1.3 The role of the investor market***

The main goal of the investor market in the area is, of course, to attract new private capital. The potential in the coming ten years, assuming a satisfactory ferry connection and the implementation of ILE policies, is in the region of €0.5 billion in direct local and global investments. Without the ILE policies this potential is dramatically lower, however. Total

investments may further be raised by potentially €100 million per year if strong strategic politics are applied. For instance, compared to other main cities in Finland and their contribution to the economy, the public sector hands out about €175 million<sup>2</sup> less per year in public funding to R&D activities in the Vaasa region. This is partly due to the serious lack of observant political parties in the region, but also due to childish national politics where the funding has been directed elsewhere, to less productive areas. Hence, the Vaasa region has been put at a serious comparative disadvantage and been left to finance a relatively large share of its research activities by itself; a task that the regional economy has accomplished fairly well, regardless of the current conditions.

In order to gain momentum, a new type of investor market should also be developed for small companies. This could potentially generate an additional €10 million in investments per year due to the favourable export opportunities, extensive foreign connections and the state-of-the-art knowledge in many industry sectors.

Fortunately, the Vaasa region has already started taking the first small steps of development, but together the Kvarken region could become a global magnet in its field. If the region sets out to be the most productive environment for modern industrial businesses, investments will start pouring in from all over the world. By implementing ambitious ILE policies, a developed ecosystem within the inner region of the EER would provide the fertile ground that is necessary for good investment opportunities to grow in. This would, in turn, attract both local and international interest and result in an influx of new money to the industry, services and real estate sectors.

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<sup>2</sup> Due to some statistical discrepancies the reported sum is probably an understatement. The actual forgone public R&D funding could amass to roughly €220 million (see Chapter 5.1.1 for more on this).

## 4.2 The ILE ecosystem

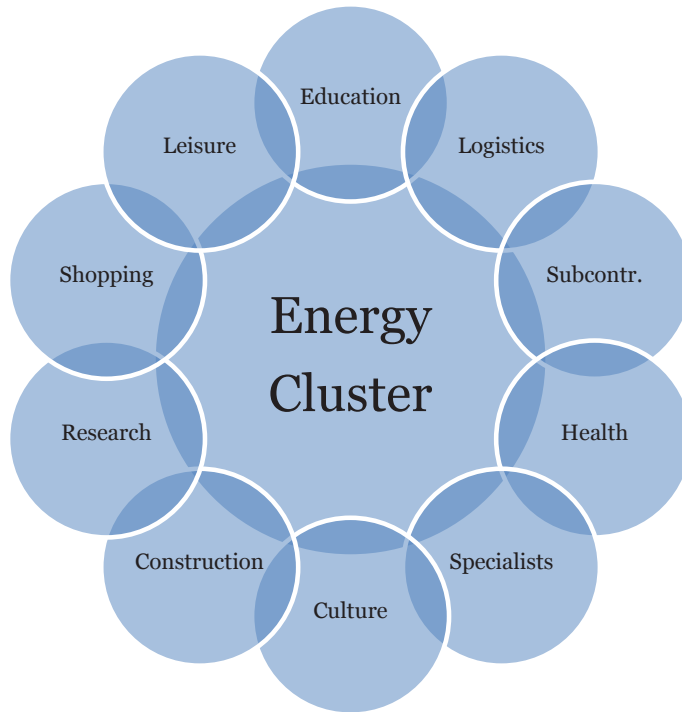


Figure 13 Components of the ILE ecosystem.

It is obvious that the importance of the ILE is generally largely underestimated. Much of the political and scientific discussion is devoted to questions of consumption, something that distorts the political agenda into focusing on simple and short-sighted issues of personal consumer services and shopping possibilities. Even though these are important issues when talking about the retention of inhabitants, they do nothing for the development and creation of new wealth in the region. It is the same reason why Europe and the United States are currently stagnating. Equally, we should view the ferry as something more important than the shopping possibilities it provides (since shopping on either side of Kvarken is simply going to move money around, rather than creating it). In contrast to the consumption based ideas, the fundamental economic message in this paper is, that by focusing on the ILE it is possible to create new wealth without any other region losing out in the process. It is merely a question of harnessing the inherent potential within the region; something that we argue the EER of Kvarken has a lot of.

The potential of the EER of Kvarken draws its merits from the fact that the economy is driven by an industry that is world leading in its field. However, in order to retain the businesses that make up the industrial sector it is essential to be able to provide incentives for them to stay and develop regionally. By fully implementing the EER thinking it is possible to increase productivity two or even threefold across the entire ILE, including investment, taxation, logistic, work, and cultural and socio-economic activities. The realistic potential new wealth generated by the energy cluster in Vaasa alone is an astonishing €4 billion annually. In the same spirit, if the new ferry (the cost of which is estimated to be at most €150 million) can bring the necessary unity to the EER of Kvarken to facilitate the creation of a sufficiently large knowledge centre, work force and investment market, and new socio-economic solutions, it is increasingly hard to find any other public investment with such a high return on investment. More importantly, this return will not be achieved by anyone else in Europe; only the Kvarken has the objective and subjective potential to do so. Subsequently, a program is needed to make the ILE the most interesting choice for the new generations within the EER and the new ferry happens to be one of the most efficient tools to achieve this goal. We discuss this point further in the next chapter.

So far we have shown that one person employed in the ILE creates three additional job opportunities in the private and public sector.<sup>3</sup> In case the ILE is R&D driven the effect would grow to four new job opportunities. These effects are due to the simple fact that ILE businesses contribute towards the building of roads, harbours and other infrastructure, such as transport systems for goods and people; all of which are also used by and for the benefit of the consumers. In contrast, a modern programming company does not need and, hence, does not support these kinds of activities. Further, ILE businesses need highly competent subcontractors in the building of research and factory facilities, they need legal and financial knowledge and, as a natural consequence, they support knowledge creation and education, and support universities and other vocational institutes; something a modern gaming or service company does not. ILE businesses look after their human capital through investments in health improving activities for their employee; an incentive

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<sup>3</sup> See the Chapter 4.1 and the Wärtsilä case.

not shared by a consumption oriented business. Taken together, ILE businesses make huge contributions to the ecosystem around them, even when acting in their self-interest, and this is something conventional economic thinking fails to address, especially in the field of regional development issues.

To exemplify how wrong traditional thinking can make things, we turn to a hypothetical case of the sale of a pair of Adidas sneakers. From a purely business point of view, Adidas makes, say, €135 of the sale of a typical pair of sneakers. Of the sales price, the manufacturer might get €2, roughly speaking, an additional €3 may be paid as salary to the sales clerk at the local store, leaving a profit of €130. Many would agree that this is a good deal; Adidas makes a good profit, a local store worker is employed and even the manufacturer gets a small share. So what is the problem? Regionally speaking, since the money is shipped away somewhere else, one pair of sneakers sold is actually making the region poorer. In essence, the only regional benefit from the sale is the employment of the sales clerk. But even then, it is only a question of redistribution of money from the buyer to the sales clerk, so the regional net effect is still a negative €132. In fact, even though it only makes €2 of the transaction, the real winner is the manufacturer's region (apart from Adidas, obviously). The €2 the manufacturer makes is distributed within the community through the channels described earlier, essentially building up the regional ecosystem. This point is very well exemplified by the Chinese who long ago realized the benefits of a production economy and has used it to astonishing effect during the past decades. Hence, it is not consumption that drives development, but rather production, and this is something that old school economics often fail to realize.

Although it is a good thing that people who can afford a pair of sneakers do not have to travel to other regions to buy them, the issue should also be extended to include the effects on the public economy. In a worst case scenario people make sacrifices in other areas of life in order to afford the €135 sneakers. Examples include eating cheap unhealthy (fast) food and drinking unhealthy soft drinks. This combination of social behaviour and consumerism creates side effects that can be very costly for the society. For instance, one case of diabetes creates on average €30,000 in healthcare costs and, even though it is the



private sector that has created it, it is the public sector that has foot the bill. In sum then, the total negative effect of buying a pair of sneakers on the regional economy is substantial. First, €132 disappears from the regional economy. Second, if even one percent of the population develops diabetes due to brand consumerism, the cost of which is €30,000 per person to the public healthcare system, taxes will increase by €300 per person (excluding the additional administrative costs to the taxation system). Hence, a family of 4 will have to pay an additional €1,200 in taxes simply because they live in the region. Clearly, this is an exaggerated example, but as 20 percent of the population is subject to some form of diabetes, and much of it can be related to consumerist behaviour, it is a very real problem nonetheless. If nothing else, we hope this example will highlight the real effects taking place within the ecosystem where public and private functions work intertwined, often unnoticed to the proponents of traditional economics. Taken together, the purchase of one pair of sneakers could, hence, result in a substantial monetary loss for the ecosystem.

In stark contrast to the above presented consumerist approach, stands the regional ecosystem approach where focus is set on higher level production. In 2013 alone, the energy cluster in Vasa brought in €4.6 billion in export revenues; quite a lot more than the €3 that was left in the region from the sale of a pair of shoes in our example. Increased cultural activities, something which correlates with the state of the economy, induces (or at least should induce) consumers to healthier consumption habits and, hence, decreased healthcare costs. This relieves pressure on taxation which is important for attracting investments and labour, and a positive spiral of new wealth creation takes place. Here, however, we make the assumption that cultural activities in the region, in some shape or form, are productively contributing to the ecosystem and not merely working for entertainment purposes. If they were to play a productive part, they should obviously also be recognized for the results they produce; something which the regional policy makers are quicker to acknowledge than their colleagues on the national level.

By implementing this kind of an ecosystem analysis it is easier to order the different economic activities by importance with regards to wealth creation. Once a proper understanding of the inner workings of the ecosystem is developed, the precise actions and

magnitude of effects may be discussed, endlessly if necessary, in seminars and symposiums. Nonetheless, it should stand clear that the economy of the Kvarken region is disproportionately well developed as an industrially founded world leading economy. It brings wealth which covers not only the cost of the local regional economy, but is a great source of surplus for national economies as well.

## 5 THE NEW ECONOMICS OF WELFARE

### 5.1 The knowledge centre and a new educational economy

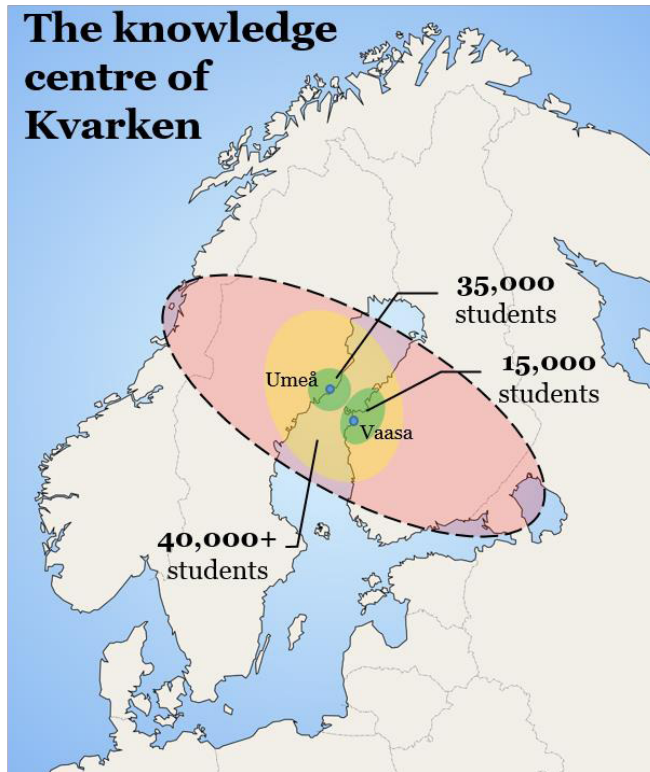


Figure 14 The potential of a knowledge centre in the Kvarken region.

As of now, if public investments in higher education within the core region were properly integrated, the total amount of Kvarken students would amount to 50,000; 15,000 of whom study in Vaasa and 35,000 in Umeå and Örnköldsvik. Due to the lack of any real integration of functions among the institutions in the region, however, the full potential of a unified educational system is not being appropriated. Taking into account the inner region, with cities like Sundsvall, Luleå, Kiruna, Piteå, Seinäjoki and Kokkola, the total amount of students rises to over 90,000. By implementing EER policies that increase the natural coordination and integration across institutions, this pool of students would

become an invaluable asset for the development of the ILE. Moreover, the EER policies would have a far greater effect than conventional cooperative measures that some institutions engage in today. The effects would not only be seen in substantial savings in public spending (due to increased overall efficiency, not simple budgetary cuts), but also in the increase in specialization in fields of international importance. Such a joint effort would enable the creation of a regional Kvarken University where existing universities and vocational institutions work in coordination through the integration of functions.

However, a joint effort on behalf of the education sector is not enough, even the ILE should be engaged. As of now, the two sides of the Kvarken keep largely to themselves and there is only little collaboration across the strait between the business communities on the one hand and the educational sectors on the other. Hence, the economies on both sides lose out on a large share of the existing knowledge potential that resides within the EER. Moreover, even a slight adjustment of the educational system towards closer integration with the ILE and ILE interests would potentially have large effect on new wealth creation in the area. We estimate the potential to be in the region of €100 million per year in new wealth created.

Another issue that closer integration would help solve is the question of costs. In the national educational system costs are roughly divided in three equal parts; 1/3 is spent on buildings, 1/3 on administration and, most importantly, only 1/3 on teaching. It is quite obvious that this division of costs is very inefficient, but it is also very contra productive. Historically the emphasis on buildings and administration made sense, though, as information and learning had to be centralized to a physical location due to reasons of practicality and the lack of effective means of communication. Today, however, things could not be different. For instance, many pupils today learn English better and quicker outside of the class room and acquire a vast amount of knowledge in their free time about subjects the early 20<sup>th</sup> century pupil could only dream about. However, with the help of modern technologies, some attempts have already been made to tap into the possibilities of virtual learning and the trend is growing. This is also a field where (partly due to the geographical limitations) the EER of Kvarken could, and should, be at the forefront in the

development and adaptation of new educational methods. Not only should this be confined to theoretical studies, but also the vocational side should be actively involved in exploring these new avenues. Of particular interest is naturally its involvement with the ILE, where new teaching methods could involve closer practical integration with businesses.

The Kvarken EER has a great potential and stronger need for regional inventions and developments in this sector than many other regions. Because of the structure of the ILE, subjects like mathematics, physics and chemistry are of particular interest, but also a broad array of higher level language skills, like Chinese, Russian, Spanish, German and Arabic, are needed to sustain the exports of the region. Sadly the traditional educational system does not often live up to the needs of businesses in these areas. So the focus needs to change to one where schools are providing the proper incentives to learn these things and to make the students interested in the practical applications of the subjects. In the end, the ILE requires interested, devoted and passionate people to survive the competition coming from the emerging markets, with China, India and Brazil at the forefront. The ILE is only as good as its work force, so if it is to be a world leader in the future the work force has to be the best in the world.

The problem with an unmotivated workforce is by no means overstated. While one may get ten to fifty extremely interested applicants for a work appointment in China, the corresponding number in Scandinavia could be close to none. One practical example of how interest in subjects can be generated is by the use of so called living labs, where people get to experience science first-hand in a practical context. One such lab, we argue, should be established on-board the new ferry. This would allow school pupils to study energy related issues and use mathematics to understand nature in real time, whilst engaging in Swedish, Finnish and English. Considering the effects this could have on the interest to learn and the interest towards ILE subjects, the input of this kind of an activity to, albeit future, wealth creation far exceeds that of the value of simple passenger traffic. We modestly expect that a living lab on-board the new ferry would create about 1,000 more dedicated and interested people in the workforce every year. Since the difference between an interested and a modestly interested employee could be €30,000 on a yearly basis,

measured in GDP, 1,000 more dedicated employees would imply an addition to the economy of €30 million per year, and cumulatively grow. Even though a million euro would be spent to create a top level living lab for the pupils, the returns would far outweigh the costs, even for the public sector. Naturally, these calculations disregard the effects of the mental wellbeing felt by (modern) teachers and pupils that get to experience a new stimulating way of learning. Subsequently, compared to the zero sum game of normal passenger traffic, the living lab clearly has a substantially higher economic impact on the region.

Apart from creating new ways of learning, a deeper integration of the educational system could potentially also create €10 to €20 million per year in public savings. These savings are simply achieved by avoiding to try and “create the wheel” at every institution separately, but instead pooling together the inherent knowledge and making efficient use of one another’s expertise. The savings should subsequently be used for further specialization in order to achieve world class knowledge in the respective fields. Apart from the efficiency gains, deeper integration could save a further €50 million in administration and maintenance costs through a more efficient collaborative use of functions and facilities.

### ***5.1.1 The particular case of the missing R&D funding***

It is not only the education sector that crates knowledge, also R&D efforts are important contributors. However, regardless of the heavy R&D spending of the ILE sector in the Vaasa region, there is a particular oddity that shines through the statistics. As previously noted in this report, the Vaasa region has been largely overlooked in the national distribution of R&D funding, even though it boasts an impressive array of state-of-the-art energy solutions and businesses working at the very forefront of the international scene. A comparison of the public R&D funding and the corresponding exports, i.e. wealth creating activities, in 2012 is presented in Table 3. According to the figures, the Vaasa region obtains a mere 0.2/22 of R&D funding relative to its value creating capacity, while the other main regions obtain, on average, a staggering 1/22. Hence, if the Vaasa region had obtained equal funding, it would have, in fact, been entitled to roughly €207 million in

public R&D funds compared to the €32 million it received. However, due to certain discrepancies in the export statistics, the actual value of exports originating from the Vaasa region might, in fact, have been higher than reported. Some sources cite an undervaluation in the magnitude of €1 billion, implying that the total value of exports should have been roughly €5.5 billion. In other words, the Vaasa region should have actually been entitled to approximately €250 million in public R&D funding had it received the same share as the other regions received. One may only speculate why the region has been overlooked in the distribution of the public funds, but a blaming finger needs to be pointed at the local politicians for not having addressed the issue.

REGION	PUBLIC R&D, MILLIONS	VALUE OF EXPORTS, MILLIONS	RATIO OF R&D SPENDING TO EXPORTS
OSTROBOTHNIA (VAASA)	32 €	4 564 €	0,2/22
UUSIMAA (HELSINKI)	992 €	20 690 €	1.1/22
PIRKANMAA (TAMPERE)	209 €	4 717 €	1.0/22
FINLAND PROPER (TURKU)	181 €	5 622 €	0.7/22
NORTHERN OSTROBOTHNIA (OULU)	179 €	4 425 €	0.9/22
CENTRAL FINLAND (JYVÄSKYLÄ)	126 €	2 166 €	1.3/22
AVERAGE (EXCLUDING VAASA)			1/22

Table 3 Public R&D funding compared to the value of exports in 2012. Source: Own calculations based on figures from Nylén (2014).

Moreover, this serves as cautionary example of what short-sighted village level political thinking can cause. A simple lack of understanding of the bigger picture is a costly endeavour, which in this case particularly hits the energy cluster in Vaasa by hundreds of millions in forgone development funds annually. Obviously, most of the harm will not show up immediately, but a few years down the line.

In order to change this trend we suggest two things. In part, the ferry is needed to boost the joint efforts and engagements with the Umeå region. But the ILE also needs a new commitment of around €200 million from national public funds, earmarked for R&D and

education that focuses on excellence and top tier performance. It will be the task of the politicians to start assessing regional policy from a broader perspective and to assume real responsibility of the future of the region.

## **5.2 Towards a new health economy**

For the ILE businesses a healthy population and, hence, a productive work force is of outmost importance. As much of the work in the ILE involve a high degree of thinking, knowledge, dedication and active interest, it goes beyond all doubt that a good physical health, in combination with excellent mental health, is directly related to productivity. In other words, health should be assessed through the ILE perspective and, luckily, there is a lot that can be done within the ecosystem to combat lifestyle illnesses. Most prominently, cultural and leisure activities, coupled with advanced diagnostics, could be used to effectively address the prevalence of illnesses such as cancer and diabetes. First, the focus needs to be on achieving a physically and mentally active population that can compete on the international level. In this respect the future healthcare policies need to include and be more closely linked with cultural, recreational and educational policies. Second, there are great possibilities within the inner region to achieve radical cost savings in healthcare through a deeper coordination of functions that require specialized knowledge and expensive equipment. Third, a wider integration within the healthcare sector of the inner region allows for the development of economically efficient treatment methods based on advanced diagnostic practices. Fourth, the inner region provides a great possibility to use and develop new technologies and methodologies in the field of remote diagnostics, and self and relative care. If the new health economy is to work, however, it must be the ambition of the policy makers to guarantee healthier lifestyles at a reduced cost; something that requires the implementation of new solutions and methods. Even in this context, the new ferry is of great importance for the proper integration of healthcare polices.

As of today, Umeå already has a state-of-the-art university hospital, but also the Vaasa region is making great progress in e.g. the research, treatment and diagnostics of diabetes. Hence, the integration of healthcare policies within the EER could easily stand to save €50 million per year in public costs through a more efficient use of the existing specialty



knowledge in the region. The combined development of new efficient methods, technologies and diagnostics, coupled with an active inclusion of cultural and recreational policies, could create additional savings in the region of €50 million annually, simply through eliminating the costs of “unnecessary” illnesses. Apart from the direct savings, a further €100 million per year could easily be achieved through increased productivity at the work place.

International studies show that healthcare overall needs a fundamental change in approach and focus, and that this concerns both the private and public healthcare sector. The question is not simply about increasing the quality of the care, but rather about decreasing the need of direct health care interventions through the use of preventive measures. So the solution does not necessarily lie in the privatization of healthcare functions, as some might argue, but it is fundamentally rather a question of finding new innovations and methods to improve the overall health of the population. In this respect small regions will have a hard time pooling together the resources needed to develop according to future needs. Problems occur also on the national level where the administration used to govern the developments often is too cumbersome for real results to be achieved. Hence, midsized regions, such as the EER of Kvarken, that have the resources could be forerunners in the development of a new healthcare economy. However, this is conditioned on the proper integration of functions that would allow for a light and effective administration.

When discussing the potential savings in both education and health, we want to highlight the following fact: based on historical performances in both the public and private sector where integration has been performed, a 10 percent saving of costs has been a modest result. Many times the integrations of processes will see institutions save up to 15 to 20 percent (unless there has been a strong internal opposition to integration). More importantly, these are not budgetary cuts that hit well needed services, but rather they free up resources which may be used more efficiently in e.g. increased specialization in fields of interest.

A quick look at the current situation indicates that healthcare around the world is adapting to the new circumstances, but more often than not, the focus of these efforts are a bit skewed. In the public sector many choose to focus on slimming the administration, which will save them some money in the short term, but does not really address the underlying issue. Equally, the private sector does not contribute much either as many in that line of business focus on treating already ill persons (perhaps a bit more efficiently), but does little to prevent those persons from getting sick in the first place. This misalignment in focuses is largely due to the disincentives to address the core issue of preventing people from getting sick. So while different countries try to solve the issue in slightly different ways, they have one trait in common; health care costs are growing out of control. Table 4 summarizes this point.

<b>COUNTRY</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2050*</b>
FINLAND	7,85 %	7,22 %	8,43 %	8,99 %	13,40 %
SWEDEN	7,96 %	8,18 %	9,06 %	9,47 %	15,08 %
GERMANY	10,11 %	10,40 %	10,81 %	11,55 %	16,47 %
UNITED KINGDOM	6,75 %	7,02 %	8,27 %	9,55 %	24,37 %
UNITED STATES	13,60 %	13,58 %	15,77 %	17,66 %	35,97 %

Table 4 Health expenditures as percentage of GDP in a selection of countries. \*Estimated values based on previous growth. Source: own calculations based on data from The World Bank (2014).

If the health expenditures in the western world keep growing at the same pace as they have done over the past twenty years, their share of national GDP in 2050 will be around 15 percent in Europe and a staggering 25 to 35 percent in the United Kingdom and the United States. It stands clear that if no new innovations or methods are developed for the healthcare sector, the healthcare system will quite quickly become unbearable for the western societies. Hence, a new approach that reduces costs, but does not reduce health, is urgently needed. With healthcare costs on the rise (something that the national policies have not been able to tackle, nor seem fit to do so) the developing EER regions will have to find innovative ways to ease the burden of decreased national financial support. It seems obvious that one main approach, is to reduce the need of healthcare by preventive solutions and clever diagnostics that allow for timely interventions. For the EER of

Kvarken, however, this threat to public and private finances presents an opportunity to be leading the development of regional policies that effectively combat the effects of outdated healthcare politics.

Why, then, are healthcare costs such an important issue for the ILE? When an ILE business is paying an employee, say, €100 in salaries, the company is obliged to pay an additional 30 percent in social benefits. This totals to €130. The employee, on his part, pays roughly 30 percent in income tax, out of which 65 percent goes to the local administration. When the employee is using his salary as a consumer, he pays on average a further 24 percent in value added tax (VAT) on his purchases.<sup>4</sup> Therefore, out of the €130 paid out by the employing company, essentially only about €50 contributes towards the purchasing power of the employee. Hence, increasing public costs is further diminishing the already scarce purchasing power of the region.

The other side of the problem is that a poorly working and expensive healthcare system makes it hard for ILE businesses to attract high level employees. First, budget cuts that cripple the healthcare system makes it less attractive to live in the affected area. Second, higher taxes, which do not produce any visual benefit for the individual (but are rather used on e.g. maintaining an outdated administrative system), repel potential applicants. Third, health issues are growing in importance on a subjective level in the society. If the health of a population is poor, it signals a strong negative message to the inhabitants, but also to people thinking about relocating to the area.

In sum, there are large savings to be had in the healthcare sector if the entire Kvarken region decides to integrate its functions. But even now savings could be had if local processes were streamlined so that the health personnel would be used more efficiently. For instance, doctors use nowadays, on average, half of their time filling in reports and doing administrative work when they, in fact, should be caring for the sick. In this context, the Kvarken region should take initiative and start exploiting the savings that are already attainable in order to develop world leading knowledge in healthcare issues.

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<sup>4</sup> The 24 percent excludes some goods and services that have a lower VAT and some other specific consumption taxes, such as the alcohol tax.

### 5.3 A new cultural economy

Culture, and cultural activities in particular, could play a substantial role in creating new wealth within the ILE. Culture attracts people and an integrated EER in the Kvarken region would increase the potential for cultural activities on entirely new levels. Typical examples include the organizing of bigger events, concerts, exhibitions and lectures that bring together local actors as well as actors from outside the region. As any organizer would know, the difference between an event with hundreds of visitors and thousands, is huge. At the moment, however, the population in Vaasa is not numerous enough to sustain larger facilities. To name one example, the opera is currently limited to only 300 paying customers which severely limits arrangements and the quality of the performances. However, if Vaasa had a 2,000 people facility and the population structure to support it, it would be economically feasible to arrange completely new types of cultural events of much larger magnitude. In this respect the new ferry would help solve the quality problem of cultural and sporting events, by increasing the potential visitor streams by the double. While event organizers may expect economic successes on entirely different levels from before, the combined effect on the cultural and sports sector amounts to €10 million annually. Moreover, the ferry itself should be equipped with a venue for up to 400 people that would serve as a natural meeting point between the two sides of the strait. Events that drive closer integration could be organized on-board in order to facilitate the engagement with parties on either side. This would hugely contribute towards closing the physical and mental gap between organisations and people in the region.

One must also recognize the importance of the so called third sector, including NGOs, clubs and societies of different sorts, in the cultural life of a region and its effect on the economy. Take Meteorita in Vaasa as an example. Meteorita provides a modest, but highly qualitative, venue for bird watchers, astronomers and others who have an interest in those subjects. They also organize events and run a museum detailing the history of the surrounding crater. Every year 10,000 visitors, of which many are foreigners, visit the site, but still the total cost to the local government is only €0.1 per visitor. Albeit the low cost is made possible by the local activists and some donations, its cost efficiency is unbeatable in

most comparisons. Most importantly, however, it is a concept that works and that provides education in an engaging environment to the general public who wants to learn more about their surroundings.

The potential of Meteorita and other similar projects is huge and could be developed to include subjects central to the development of the ILE (an example of which is the living lab on-board the ferry as proposed earlier). Meteorita is also a great example of the huge potential the third sector may have in the creation of educational, healthcare, social and security services. The new ecosystem should aim to bring the third sector engagement to new levels and lead the way in this new type of societal development. Economically there is no reason not to. By focusing on parties that clearly create an added value for the society, the benefits would be in the tens of millions a year considering that the operational costs are only at a fraction of other similar publicly run services. Apart from the savings it would create, these kinds of activities run, by local activists also strongly promote social participation that increases the quality of life across the board.

While cultural activities can play an important role in creating wealth, cultural habits can also play directly into the economy. Prominent examples of this include the market for locally produced food where changes in consumption behaviour can have a large direct impact on the local economy. Within the inner region alone, for instance, a monthly increase of €10 per person in local foods spending would imply a retention of wealth within the region in the excess of €100 million per year. We use the word retention because it would not only make the local markets more lucrative, but more importantly, shift consumption away from imported brand products and, hence, retain money within the region. Such a development would also potentially create about 1,000 new jobs in the field.

In the case of the EER, the inner region population of one million arguably provides a sufficient basis for sustaining a well-developed market for local produce. However, while some of the changes in consumption behaviour happen more or less organically, it should also be aided by public policy decisions. For instance, the new ferry should be equipped with the necessary equipment for the efficient handling of fresh produce and, as such, form

a natural link in the inter-regional food distribution chain. Given the potential gains an expanding locally produced foods market would have on the region, such an investment can only be considered money well spent.

#### **5.4 A note on the logistics of the EER**

Figure 15 depicts the importance of the Kvarken link for the entire trans-Nordic logistic chain stretching from the west coast of Norway all the way to the Russian border in the east. Although we agree that the new ferry would, indeed, increase the efficiency of the flow of goods and passenger along the so called Nordic Logistic Corridor, we are hesitant to accept that as a sole reason for investing in the ferry. Most crucially, we want to highlight the issues discussed below.

Besides analysing the possible savings in logistics the new ferry would bring the ILE businesses, we stress the quality factor as a fundamental aspect. When transporting, for instance, fruit or other bulk products, it is not such a great loss if one container happens to arrive late or get lost along the way. It can quite easily be replaced. State-of-the-art equipment, on the contrary, is virtually non-replaceable and can make even slight delays in delivery a costly endeavour for both the manufacturer and the client. In the worst case, but still very real, scenario the manufacturer might end up losing millions worth of future orders, simply because of one missed delivery. Since the ILE of Kvarken is competing on the global level in products with a high degree of specialization, the qualitative aspect of well-functioning logistical connections is of outmost importance. Hence, we want to make anyone concerned with analysing the effects of the ferry aware of the fact, that simple calculations based purely on cargo tons transported is missing the point to potentially devastating effect. Moreover, one missed delivery does not only show up in said manufacturer's order book, but, as described in chapter 3.1., the effects are far wider reaching; essentially affecting the entire EER. For instance, a lost order on €100 million implies roughly €50 million less in tax revenue that could have been spent on e.g. education and healthcare.

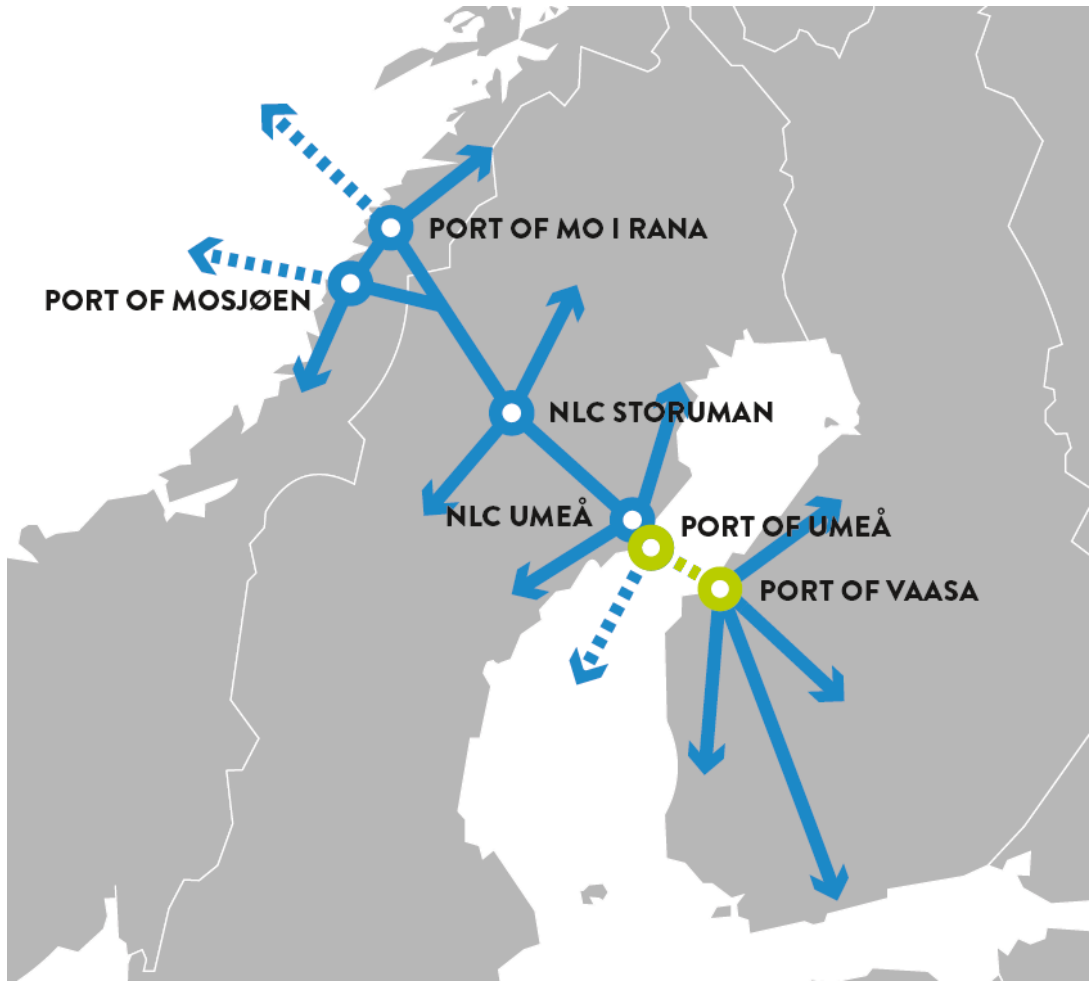


Figure 15 The Kvarken link as part of the trans-Nordic logistic chain. Courtesy of the Nordic Logistic Corridor (2014) project.

One should neither forget the opportunities presented by the Northern Sea route and the preliminary indications of the Chinese government to move 15 percent of China’s foreign trade to the Northeast Passage by 2020. This implies that roughly €100 billion worth of cargo traffic will move from the southern to the northern hemisphere, and is likely to increase as others follow and more traffic is gradually diverted northwards. Either way, if the 10 million people residing within the outer region of the EER can tap into even one percent of the €100 billion worth of new traffic, €1 billion of it needs to flow through the Kvarken link efficiently, or it will find other ways to reach around the Scandinavian Peninsula.

## China's New Shipping Frontier

How the new Northern Sea route compares to the traditional Suez Canal route

### NORTHERN SEA ROUTE

Travel time

**35 days**

Dangers

**Icebergs**

Travel window

**July to November**

Container-carrying vessels

**One this year**

### SUEZ CANAL ROUTE

Travel time

**48 days**

Dangers

**Access to Suez Canal under question with upheaval in Egypt**

Travel window

**Year-round**

Container-carrying vessels

**17,000 last year**



Sources: Northern Sea Route Information Office; National Snow and Ice Data Center; Cosco; Lloyd's List

The Wall Street Journal

Figure 16 The northern sea route carrying cargo from Asia to Europe. Courtesy of Wall Street Journal (2013).

As the Northern Sea route is cleared from ice, due to global warming, new ventures appear in the northern hemisphere and many are already searching for the untapped resources that may be hidden under the ice cap. This could very well result in a power shift within Europe where new business and cultural centres could spring up in its northern parts. Some of these new centres could stand to seriously contest the long lasting prominence of cities like London and Paris. If this were to happen, the link between Umeå and Vaasa would grow ever greater in importance. Moreover, the availability of, and hence relatively affordable, space within the EER of Kvarken would make it a good place for businesses and professionals to settle, especially in these modern times of virtual communications.

With regards to the passenger traffic, simply counting the amount of passengers travelling across the strait does not tell us much about the necessity of a new ferry. First, passengers travelling within the region do not add any new monetary wealth to the region (although it certainly adds to the social and cultural integration of the region). Rather, real value is only



added in the case that the regional passenger chooses to travel within the region, instead of spending the money on travelling abroad. However, even in this sense the ferry has only contributed towards the retention of wealth within the region, but not towards the creation of wealth. Second, the ferry only creates real wealth by attracting travellers from outside the region. Hence, it would only seem natural to use the ferry to showcase the cultural and social offerings of the region by, for instance, highlighting local produce on the menus. In the spirit of the ecosystem thinking, the ferry should also be equipped with the necessary logistic facilities for the transport of fresh goods in general, giving local food producers the potential to flourish and develop to new dimensions. Likewise, the ferry would open up for various new modes of cooperation between the tourism economies on both sides of the strait. One notable such example include the World Heritage Sites that could potentially have a lot to gain from closer cooperation. One might even imagine the co-financing and co-operation of a helicopter service (possibly even based on the ferry) that would be used for leisure flights within the heritage sites, but also for rescue missions in the region at large. This is yet another example of how seemingly different functions, in this case the tourism industry and the rescue services, could work together in a natural manner within the ecosystem.

We find it to be beyond doubt that the importance of the new ferry is much higher than what its cargo carrying capacity would lead us to believe. Hence, when designing (a proposal by Wärtsilä is depicted in Figure 17) and developing the new ferry we propose it to be done on three levels. The first level focuses on the technical aspects of the vessel; using state-of-the-art technology to ensure that it exceeds existing requirements with regards to efficiency of performance, including environmental aspects, and passenger safety and comfort. The second level is concerned with its role as part of a broader value chain. How will the ferry contribute towards increased efficiencies in the entire global logistical network, from origin to final destination? How can it be used to create added value for the goods and passengers it carries? As discussed previously, the Kvarken link has the potential to become an important port of entry to European markets for many, predominantly, Asian exporters and being able to cater for the needs of the new logistic

routes will be crucial. As for the business and leisure passengers alike, focus needs to be on offering them a meaningful journey that adds value to the work they do and their lives in general. On the third level the ferry's role within the ecosystem of the EER is to be defined. As discussed previously, the socioeconomic value of the ferry is substantial and of great importance not only for the Kvarken region, but for all of Europe. So one needs to consider what broader effects the ferry will have on the economy and the society at large. How can the ferry be used to increase the integration of the region and how does it serve the ecosystem interests most efficiently?



Figure 17 The three levels of development of the new ferry. Courtesy of Wärtsilä.

In order to understand the true value of the new ferry and to be able to harness that value, it is important to consider all of the three aforementioned levels in its development. Any other attempt will either gravely underestimate its value or simply result in the creation of just another ferry destined for an uncertain future. Either way, the message to policy makers is that it is necessary to look beyond the plain figures of cargo and passenger traffic and instead focus on the qualitative nature of the issue. A true ROI analysis can only be

carried out by realising that the ferry has wider implications for the development of the region than what its load carrying capacity would indicate.

## 6 “THE CERN INITIATIVE”

In short, CERN is an institution for ground-breaking research located in Cern, Switzerland. It is not well understood by many, why so much money has been poured into this highly theoretical work engaging 2,500 researchers and specialists dealing with particle physics. What few realize, though, is that the ecosystem around it is now creating business worth €30 billion per year in the 10,000 companies surrounding CERN. What we introduce here is not a direct copy of CERN, but rather a more focused institution with the ability to annually provide new insight and solutions for practical needs, within the energy cluster and potentially for anyone around the world.

As a case study we propose a solution where the entire EER of Kvarken could be involved, where the same methods are applicable all around the region. The fundamental objectives of the initiative can be categorized in the following four groups:

1. To keep the ILE businesses competitive and at the forefront in the production of goods and services.
2. To attract and nurture a work force that is, in order of importance, interested, committed and competitive.
3. To retain the ILE businesses in the region in the long run by a continuous feed of local innovations from smaller regional businesses.
4. In the case of the energy cluster of Vaasa, to focus on ground-breaking new properties of materials and on issues of conductivity (e.g. magnetism, spin of electrons or information based energy).

A smaller, but still decent sized, “CERN” in the Vaasa region would cost around €0.5 to €1 billion to construct and a further €0.5 billion in operational costs. While this would be a fairly costly endeavour, when compared to the actual CERN and the added value it creates, the initiative would still be a highly viable project. Sizing down the actual value added

created in CERN to the level imagined here, and accounting for the slight difference in scope, we estimate that the initiative would produce 1,000 new companies and start-ups within the energy sector. It would also attract 10,000 professional visitors annually and create a vast international collaboration online. In the long run, €3 billion in annual turnover would be created for the businesses in the field and it would place Vaasa on the map for international investors; creating €100 million annually in the production of goods and services.

There are some hurdles that need to be overcome, however, before the initiative can become a reality. First of which is the initial investment. Within the EER there certainly is enough resources for the initiative to take place, but many in the private sector do not want to commit to such a long term plan, especially in these economic times. The other option would be to look to the public sector which, albeit debt ridden at the moment, does have something the private sector lacks; seaside real estate in the centre of the city. By utilizing even 15 percent of the available seaside real estate for sensible residential developments, the city of Vaasa could easily round up the necessary €1 billion, without overriding private investor interests in the construction and brokerage of the apartments. On top of this money, the city would additionally, most probably, be granted external public and private financing that could be used for the operation of the project in its initial phases.

Through an ecosystem perspective, the above presented is a perfect example of how the public sector can, and indeed should, work intertwined with the private sector on strategic issues of mutual long term benefits. For such a private-public partnership (PPP) to work, however, it is vital to have a proper understanding of the ecosystem and the potential of the ILE. Most often than not, the private sector is too incompetent and too short-sighted for these types of initiatives to take place. Moreover, traditionally seaside real estates have been sensitive, politically charged, issues where the endless debate over environmental and issues of segregation has stilled any progress from occurring. Sadly this has been mostly due to the fact that decision makers have not been able to see the big picture. When we propose an ecosystem solution to this issue, we estimate that the initiative would create more than 50,000 new jobs and billions worth of new exports for the region; simply by

utilising existing human capital and resources of the region. This would boost the public economy and the redistribution of wealth so that even those at risk of segregation could end up living with a seaside view.

On the flip side, one has to consider what happens if the PPP cannot be used effectively to achieve goals of common interests. All the while the emerging economies are pacing ahead, Europe and the successful regions within it are starting to fall behind. Currently, for instance, the governments of China and Japan are actively funding energy related research and while the demand for energy solutions is huge and growing, the EER must act decisively if it is to maintain its position as a world leading producer of in demand solutions.

## 7 THE WARNING EXAMPLE OF A MANUFACTURING GIANT

Detroit, once the ILE of car manufacturing, is bankrupt. 30 percent of its population has no water because of outstanding water bills. How did this happen?

The downfall of Detroit happened remarkably fast; in less than 20 to 25 years the city went from the top to the bottom. Much of the blame lies with the politicians and mainstream economists who pushed for the creation of an unsound consumption based economy where competence and quality were devalued, and replaced by a focus on marketing and financial trickery. Taken together this created a car industry that in the last 20 years became unfocused on technical performance and increasingly more focused on making sure the paintjob was glossy enough. All the while, consumption was kept artificially high through different financing schemes that allowed for the consumers to keep spending above their limits. Towards the end, the headquarters of the car industry essentially turned into financial centres. Meanwhile, the technically oriented Japanese manufacturers, among others, took over most of the market, eventually leading to the collapse of the domestic car industry.

If a lack of understanding of the ILE ecosystem caused the leading region in car industry to collapse in less than 25 years, the same could happen anywhere else. In order to avoid the fate of Detroit, and to survive and prosper in the long run, the EER of Kvarken needs to be determined in its focus to produce a genuinely productive environment for the ILE.

## **8 THE WEALTH CREATING POTENTIAL OF THE NEW FERRY AND ILE POLICIES**

In this report we have talked a lot about the potential effects of the new ferry on the ILE. The reason for this is simple; we strongly believe that a new ferry is crucial for the development of the EER, not only as a logistical link, but, more importantly, as an integrator of the entire region. To summarise what has already been mentioned, the potential effects of the new ferry are the following:

1. A more efficient labour market worth €50 million per year in new wealth, potentially even €100 million in the long run.
2. An increase of €50 million per year in national and international investments that could grow to €100 million in the longer term.
3. A reduction in public costs totalling €200-300 million annually. Of these €50 million would come from the integration of healthcare and educational functions, respectively, and a further €100-200 million could be saved through the development and adoption of new innovations.
4. An increase in annual net exports of existing ILE businesses in the region of €4 billion, potentially doubling over the long term.
5. €20 million annually in new wealth and savings through the inclusion of active cultural policies.
6. An increase in the annual traffic of goods through the Kvarken link worth potentially €1 billion (accounting for the potential of the Northeast Passage).
7. An influx of new visitors and business professionals, and retention of wealth and competence within the region.
8. An invaluable increase in cultural and social understanding.



9. A 15 percent increase in all societal and economic factors in the region, from number of restaurants to GDP. This is also known as the 1.15 effect.
10. The creation of an inter-regional market for local produce worth potentially €100 million per year, creating about 1,000 new jobs.

Furthermore, as the aforementioned effects realise, the inhabitants of the EER of Kvarken would experience the following noticeable effects:

1. A competitive taxation due efficiency increases and new innovations in the public sector.
2. A higher standard of living due to higher GDP per capita growth compared to other regions.
3. A higher degree of internationalisation through the development of state-of-the-art products and services.
4. International recognition for the region's efforts in the reindustrialisation of Europe, and for its advanced and productive use of the private-public relationship (PPP).
5. A more vibrant social life as the region's attractiveness for young regional and international professional grow.

Not only is the new ferry crucial for the implementation of EER policies in the region, but other regions could also learn from the effects it has on integration. Most notably, the increased internationalisation of the region would serve to promote increased social and cultural awareness, and unity among the inhabitants. While the economic impacts would be great, these largely subjective effects contribute immensely towards increased societal security and the promotion of peace. Hence, the developments in the EER of Kvarken could be a demonstration of a key factor in reducing unrest and conflicts in all parts of the world.

The figures presented in this report, and listed above, are not optimistic. We accept that they are highly dependent on the subjective willpower and capability of local authorities

and private businesses to harness the inherent potential residing in the region. It also requires the mental demolition of existing administrative borders and ways of going about public and private business. Nevertheless, the results are attainable and the return on investment (ROI) of the proposed actions are unmatched in Europe. We also stress that the development would not happen on the expense of other regions, rather, a large share of the new wealth created would in the region would, in fact, flow out and spread across the national and European economies.

At the very least, however, the introduction of the new ferry would indicate a 15 percent increase in social and economic factors. Historically speaking, integrated regions have shown a definite developmental advantage over non-connected areas by the factor of 1.15 (also known as the 1.15 effect). Hence, even disregarding the dynamic effects of the ferry, its integrating effect (and the subsequent birth of one larger single population) would imply an increase of at least €1.5 billion in current GDP levels of the core region alone. If the inner region is considered, the combined effect would be the double, up towards €3 billion.

While we have mostly focused on monetary values in this report, the values of more subjective nature (such as cultural, social and environmental values) should not be forgotten. They stand important in their own right and are essential considerations in any serious policy debate. However, a deeper, more meaningful, analysis than the one presented here is beyond the scope of this report and would necessitate a report on its own. One interesting and highly relevant avenue to investigate would be, nonetheless, the positive aspects of 'de-growth;' how to achieve an increased standard of living using parameters going beyond the conventional GDP thinking. Such GDP+ concepts (as we chose to call them) are, by nature, closely related to EER polices and cannot, as such, be overlooked in the future development of the region.

## 9 IS KVARKEN READY?

The short answer to the question posed in the heading of this chapter is: yes and no. Objectively speaking the region possesses all the necessary tools and resources to achieve the vision laid out in this report, but on the subjective side many things still need to happen. The region is still somewhat buried in village level thinking, to a large extent, on part of political and business leaders who are happy to maintain *status quo* in order to protect their own self-interests. On the Finnish side there is also the language question that unnecessarily halts progress from happening. On the whole, however, many of the obstacles boil down to a lack of understanding of the bigger picture and a subsequent petty resistance to any form of change from prevailing circumstances. Luckily though, some actors have started pushing forward and some advances towards a more integrated region have been made; Kvarkenrådet has transcended from being mainly a debating platform to actively pursuing change through noticeable actions, Umeåregionen has paved the way for EER type of thinking and solutions by working independently from national decisions and instructions, and the cities of Vaasa and Umeå have joined forces to keep the sea link alive through a joint venture. All of these are great examples of organisations that through their actions are showing commitment to the Kvarken region and they will play an important part in getting others to join in the development of the region.

Irrespective of some resistance shown on the local level, our research has raised the following five key issues with regards to the development of the EER.

1. Ordinary citizens are happy to hear about real solutions to future needs, especially when it comes to work-related issues. Hence, the dialogue and informational channels between citizens and decision makers must become better.
2. Business leaders and serious public officials are ready to cooperate and work towards a new EER ecosystem, including implementing a closer PPP.

3. The European Grouping of Territorial Cooperation (EGTC) initiative offers great judicial possibilities to create an EER entity, including the core, inner and outer regions.
4. Information, knowledge and understanding of the EER principles and the ecosystem needs to be made available to everyone involved, from citizen to authorities and business leaders. All decisions, whether public or private, should adhere to the regional interests.
5. Future public appointments should be based on the ability and knowledge to work for the Kvarken ecosystem and the ability to make individual contributions. This should precede all political party affiliations and, even, educational merits.

## 10 ROI AND TIMETABLES

The new ferry is a key factor in the establishment of the new EER and an ILE in the region. However, time is of the essence as ILE businesses cannot wait for years to draw up investment policies. Every additional year of waiting for a decision to be made regarding the ferry, postpones the possibilities to build the EER and, with it, a successful ILE. The loss of waiting can, hence, end up in the billions of euros, not only for the region, but the entire European economy. Additionally, local politicians, bureaucrats, private businesses, researchers and citizens need to assimilate a lot of new information in order to form their own perspectives and to adjust them to reflect their own positions of interests. Understanding the relationship between economical important actors, the PPP and the importance of creating a productive environment for an export industry takes time. For instance, understanding the societal role of the ferry can be an overwhelming task for someone who only sees it for the thickness of its hull or the efficiency of its engine. Hence, a lot of effort needs to be directed towards the thorough supply of information on an ongoing basis; a one off campaign will not suffice under any circumstances. Since proper information is the foundation of the entire EER concept, a under par understanding of the societal mechanisms will considerably delay the implementation of any EER polices, not to mention the acquisition of the ferry itself. A modest suggestion would, hence, be that at least 2 percent of the total cost of the ferry (planned at €150 million) should be directed towards the proper education of the necessary target groups (granted that the money is spent wisely and not on too many seminars for the political and bureaucratic elite).

In the same spirit, it would be advisable to establish a Kvarken knowledge centre for the task of preparing and implementing the EER and ILE policies. It is important, however, that it is based on mutual cooperation and that it stays socially, politically and economically neutral to any specific stakeholders in the region. Only this ensures that it stays forceful in its implementations and is able to maintain focus on what is important for

the region on the whole. The last thing the region needs is another purely consultative or even advisory entity.

As for the public sector, the key criteria for any official position with any considerable responsibilities for the region should be the ability to integrate interests within the region. Simply establishing collaborations will not achieve a unified EER and will, hence, be a misallocation of time and efforts. Equally, it lies in the interest of business leaders to take an active role in the strategic development of the EER and the implementation of ILE policies. It is advisable to use direct personal involvement (as opposed to appointing committees to do the work for you) and, in any case, to avoid mixing short-sighted company interest with the strategic long term interests of the region.

If the willpower exists and the work is done to materialize the visions laid out in this report, the results would be highly rewarding for the region. As visualised in Table 5, even slight yearly growth will have great results for the region within one generation.

<b>YEARLY GROWTH</b>	<b>CUMULATIVE GROWTH IN 2065</b>
1 %	64 %
3 %	438 %
5 %	1147 %

Table 5 The cumulative growth in 2065 given three annual growth rates.

## REFERENCES

- Nordic Logistic Corridor, 2014. *Factsheet*. Vaasa/Umeå: Nordic Logistic Corridor.
- Nylén, J., 2014. *Vaasa kaupunkiseutuvertailussa*. Vaasa: Kaupunkikehitys.
- Official Statistics of Finland (OSF), 2014a. *General government deficit and debt*, Helsinki: Statistics Finland.
- Official Statistics of Finland (OSF), 2014b. *Financial accounts*, Helsinki: Statistics Finland.
- Official Statistics of Finland (OSF), 2014c. *Regional Account*, Helsinki: Statistics Finland.
- Teittinen, P., 2014. Nobel-palkittu Joseph Stiglitz: Euroopan tulevaisuus on musta. *Helsingin Sanomat*, 31 August.
- The Economist, 2014. *Business in Nigeria: Africa's testing ground*. [Online] Available at: <http://www.economist.com/news/business/21613341-make-it-big-africa-business-must-succeed-nigeria-continent-largest-market-no> [Accessed 1 September 2014].
- The Swedish Ministry for Foreign Affairs, 2012. *Översiktstabell exportsiffror*. Stockholm: Government Offices of Sweden.
- The Swedish Ministry for Foreign Affairs, 2014. *Karta: Exportutveckling 2009- 2013*. Stockholm: Government Offices of Sweden.
- The World Bank, 2014. *World Development Indicators*, s.l.: The World Bank Group.
- Wall Street Journal, 2013. Ship Travels Arctic From China to Europe. *Wall Street Journal*, 19 August.

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