

van Der Laan, Lambert; de Boom, Jan; van Oort, Frank

Conference Paper

Sweet Talking Regions

40th Congress of the European Regional Science Association: "European Monetary Union and Regional Policy", August 29 - September 1, 2000, Barcelona, Spain

Provided in Cooperation with:

European Regional Science Association (ERSA)

Suggested Citation: van Der Laan, Lambert; de Boom, Jan; van Oort, Frank (2000) : Sweet Talking Regions, 40th Congress of the European Regional Science Association: "European Monetary Union and Regional Policy", August 29 - September 1, 2000, Barcelona, Spain, European Regional Science Association (ERSA), Louvain-la-Neuve

This Version is available at:

<https://hdl.handle.net/10419/114810>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Sweet-talking regions

Lambert van der Laan, Jan de Boom & Frank van Oort
Erasmus University; P.O.-box 1738; 3000 DR Rotterdam; the Netherlands
Phone: + 31 10 408 1464; fax + 31 10 408 9161; e-mail: vanderlaan@few.eur.nl

Abstract

Human capital becomes most important for economic development. Traditionally this economic human capital is reflected in the educational level of the labour force or R&D-employment. Increasingly, other knowledge skills become important. These are related to social and cultural capital. Social embeddedness and the giving of meaning to information become crucial for economic progress. Managerial, expressive (verbal and written), artistic, service oriented and persuasive skills reflect this. These skills all use *sweet-talk*.

New regional competitiveness is in the locally based knowledge of economic, social and cultural capital. Economic growth initiatives based on traditional productivity growth and even based on 'high-tech', ICT-intensity or 'high-education' are less fruitful. New kinds of knowledge imply changes for industries with an optimal balance between economic, social and cultural capital.

This paper empirically analyses the importance of sweet-talk in the economy, sectors and macro- and micro-regions in the Netherlands. Besides the theoretical and methodological aspects, also the implications for regional policy are discussed.

Sweet-talking regions

Lambert van der Laan, Jan de Boom & Frank van Oort
Erasmus University; P.O.-box 1738; 3000 DR Rotterdam; the Netherlands
Phone: + 31 10 408 1464; fax + 31 10 408 9161; e-mail: vanderlaan@few.eur.nl

1. From the information towards the knowledge economy

Inter- and intrasectoral shifts resulted in a booming of the information economy. This is based on the generation and handling of information and is measured by, on the one hand, the growth of the quarternary sector, and on the other, the growth of quarternary functions (Van der Laan & Ruesga, 1998). The quarternary sector contains activities like banking, advising, and education. Quarternary functions are present in every sector and contains functions directed at the support and managing of the production. Keyword for these kind of jobs is the 'white-collar function'. The growth of both the quaternary sector and functions leads to a double quarterisation of the economy. The information economy is the result of this process. While countries in North-western Europe already saw a change towards the information economy, some Southern and Eastern European countries are still dominated by manufacturing. Countries like Rumania or Albania are even largely oriented at agriculture. However, demand changes linked to the information economy do not give enough insight into the changes in the production. Although the generation and handling of information will increase further, economic growth becomes increasingly based on communicative and creative abilities. This implies that the meaning of knowledge itself changes (Grossman & Helpman, 1991; Woodall, 1996). It also leads to a change from the information towards the knowledge economy. To understand this, it is useful to distinguish between three kinds of knowledge (Klamer, van der Laan & Prij, 1997; Van der Laan, 1999).

Economic, social and cultural capital

Traditionally knowledge is reflected in *economic capital*. It comprises factual or codified knowledge and how to use it. More knowledge of this kind, often embodied in technological development, is seen as a means for stronger competitiveness and higher economic growth. Particular R&D and the attainment of high educational levels are seen as investments for generating economic capital. Spatially, most economic capital is found in the denser labour market regions of Europe.

Besides economic, *social capital*, the manner how to deal with people, groups and organisations, becomes increasingly important. Particularly communicative capabilities are crucial. Therefore social capital is sometimes also called 'relationship capital' because it reflects the value of the relationships with suppliers, allies, and customers. Social capital is not solely responsible for economic growth. The point is that it becomes more important. This decreases the relative value of 'high-tech' oriented economic capital. In social capital, 'trust' and consensus play a major role (Putnam, 1993; Fukuyama, 1995; Peyrefitte, 1995). There is a positive relationship between trust and economic growth. Regions and countries with higher levels of trust in other people and institutions have shown higher growth. Significant positive relationships are indicated by an analysis of the 'World Values Survey' (Bomhoff, Den Hartog & Lageweg; 1996). According to these authors, in Europe, trust is relatively high in Ireland, Denmark and Norway. Most southern European countries have a lower score.

The third kind of knowledge is embodied in *cultural capital*. It represents the ability to give meaning to information and motivation to behaviour. Also this increasingly determines economic success. Not the amount of information as such gains importance, but

particular the capacity to generate meaningful ideas out of this plenitude of information (McCloskey & Klamer, 1995; Nonaka, Umemoto & Senoo, 1996). Although information pro byte becomes increasingly cheaper, the average quality of it decreases: the information paradox. Skills related to cultural capital are necessary to select out of the mountains of information. Not the reproduction, but the selection and combination of the information become important as a defence against the overkill of information. Within companies cultural capital is sometimes indicated as knowledge assets (Sveiby, 1997). These transform knowledge materials, like data and random know-how, into value-creating qualities. Cultural capital is particularly important for jobs in which convincing other people is central like for consultants, managers and specialists. Because the awareness of the importance of cultural capital just started, no substantial comparative spatial research is available.

The knowledge economy

The information economy together with the emergence of new forms and resources of knowledge leads to the knowledge economy. The increasing importance of knowledge leads to a shift in the basic model of the economy. After the shift from 'economies of scale', towards 'economies of scope', we get the new form of the 'economies of expertise'. It also means a change from an economy based on 'high tech' or 'high educated' towards a 'high touch economy'. Broadly defined knowledge becomes central for economic development. The change also implies that many characteristics of organisations are viewed from a different perspective. The knowledge organisation differs from the classical organisation. Table 1 shows some of these differences.

Table 1 **Characteristics of the traditional and knowledge organisation**

Item	Traditional perspective	Knowledge perspective
People	Generate costs	Generate revenues
Basis for power	Level in the hierarchy	Level of knowledge
Power struggle	Labour versus capital	Knowledge workers versus managers
Main function of management	Control	Counseling
Information	Control-instrument	Means of communication
Production	Workers change physical resources into material products	Knowledge workers change knowledge into immaterial structures
Information flow	Via organisation hierarchy	Via networks
Income	Material (money)	Immaterial (learning, new ideas, new customers, R&D)
Bottleneck in production	Financial capital en human skills	Time and knowledge
Form van productie	Material production (hardware)	Immaterial structures (concepts and software)
Production flow	Via machines, sequential	On basis of ideas, chaotic
Effect of size	Advantages of scale in production	Advantages of scope in networks
Customer relation	One-way via markets	Interactive via personal networks
Knowledge	One of the instruments	Core of the company
Aim of learning	Application of new instruments	Creation of new assets
Value stock exchange based on	Material assets	Immaterial assets
Economy of	Decreasing returns	Increasing and decreasing returns

bron: after Sveiby, 1998. p. 46

Most important difference is that knowledge becomes the key of the organization. Information is not an instrument of control but as an instrument of communication. Production is aimed at immaterial structures. These generate the income. Relations with customers are through interactive personal networks. As a result of these changes, human capital becomes even more crucial for the competitiveness of organisations and regions. Human capital is reflected in the emergence of knowledge labourers: software developers, advertisers, consultants, researchers, etc. R&D and education in the traditional sense is not enough for growth. Technology becomes more 'soft' and increasingly depends on the co-operation between people, i.e. social

and cultural capital. Next to knowledge related to products, processes and logistics, market and organisational knowledge determines the welfare of companies, regions and countries. The development of soft technologies needs the networking within and between companies, trade unions and the government. Technology is generated, diffused and applied with the help of these networks. The knowledge economy implies that immaterial investments become more important. Examples are investments in software, marketing, designing, customer dedication, and quality of relationships. Increasingly, corporations, regions and countries compete with immaterial investments.

In the knowledge economy the content of jobs changes too. Workers do not produce just products in a traditional sense, but increasingly participate in knowledge processes with a strong emphasis on conversation and interaction. Codified knowledge becomes relative less important. Tacit knowledge in which unwritten rules and uses of the business environment is embodied becomes important, as does the embeddedness in social and regional networks. Social and cultural capabilities play a major role. Crucial point of all the changes is that comparative advantages become to a large degree based on networks and knowledge sharing reflecting, next to economic, also social and cultural capital. Social embeddedness and the giving of meaning to information become crucial for economic progress. Tacit knowledge becomes a main factor. By this the importance of the embeddedness of labour in regional networks and immaterial investments increases. High-tech as such certainly does not lead automatically to economic success. Because such a technology-push perspective can have backwash effects on other possible activities, it may even be detrimental to economic growth and competitive strength.

Moreover, besides that 'high tech' isn't the only successful strategy, neither is 'high education'. There is certainly a bias that more knowledge means being higher educated (see Psacharopoulos, 1991). It is supposed that people with only basic formal education do not contribute to the knowledge of an organisation or region. In indices of knowledge, these labourers often get a zero weight while academics get a five-point weight. This bias leads to a denial of the potential role of the less educated in economic growth based on knowledge where next to economic, also social and cultural capital is important. Economic growth based on traditional productivity growth, educational attainment and 'high tech', does not assure enduring competitive advantages which lie in (locally based) knowledge, including relationships and motivation. Regions can become highly productive, irrespective of the educational and sectoral structure (Porter, 1998). New kinds of knowledge mean new chances for all industries. This does not refer to ICT-intensity or high-level educational input, but to all activities with an optimal balance between economic, social and cultural capital. Illustrative for this is a research after the actual comparative manufacturing trade advantages of some European countries (Hinloopen & Van Marrewijk; 1999). It shows that traditional clusters with knowledge sharing are still very successful activities. Not 'high-tech' or 'high-educated' as such are the main drivers of economic growth, but the way in which high and low tech, high and low educated are mixed. This creates new opportunities for economic growth.

2. *Sweet talking*

A main problem is how to define the new forms of knowledge in empirical terms. If the traditional perspective on knowledge gives a limited view on the – regional – structure of the knowledge economy, then alternatives should be proposed. Crucial question is how, next to codified knowledge, also immaterial characteristics of the production, and so social and cultural capital, can be measured.

modeling economic, social and cultural capital

Several alternatives are available. Some of these are elaborated in 'human resource accounting'. (Beuckeleer, 1994; McCloskey & Klamer, 1995; Minne, Herzberg & Reijnders, 1996; Sveiby, 1997; Skyrme, 1998). These models differ in various ways. One difference is whether they have mainly a company internal or external perspective. Another difference is whether knowledge is limited to the higher educated or include all workers with specific competences. *The investment model* is an internal model, which measures the value of knowledge by means of the investments in education, R&D, marketing or software. Knowledge is biased towards higher education. 'High tech' and 'high-ed' embodies better competitiveness and more economic growth. The investments are necessary for accruing knowledge, new ideas and new products. In the *costs model*, labour costs of knowledge workers are included in the balance sheet. Also this model mainly has an internal and 'high-ed' perspective. Costs are assigned to the period or project, in which revenues are generated. In contrast to the cost model, in *the value model*, future possible revenues of knowledge are estimated. This valuing can be static or dynamic. While the static method start from the present employee structure, the dynamic method also incorporates the internal mobility of employees. Also the value model mainly has an internal and 'high-ed' perspective.

The exchange model measures the value of knowledge as the difference between the book value and stock exchange value. This model typically has an external perspective and includes all knowledge, high and low educated, of the company. The book value includes the visible assets and the financial position of corporations. However, the value of the company at the stock exchange can be much higher. This extra value reflects also the non-visible assets as the quality of the customer- and business relations, brand name and image, trust, but also the employee competences. The subtraction of the book value from the exchange value indicates the value of knowledge of the company. Of course, this exchange model can only be used for larger companies with a stock market quotation. *The persuasion model* is an internal model and starts from the perspective that economic transactions are not only based on market prices, but also and particular for the knowledge worker, to a large degree on persuasion. Trust between 'buyer' and 'seller' plays a major role here. Increasingly it is essential to convince others of certain perspectives or ideas. For consultants, teachers, priests and researchers this is even their main job. An additional characteristic of the persuasion model is that it includes the competences of both higher and lower educated knowledge workers. So, also in functions needing lower education, persuasion qualifications can be crucial. It reflects the difference for buying the same quality of tomatoes in shop A where the customer is treated on a personal base and shop B where the customer is just one of many.

For our purpose we need a model which should not be biased for the higher educated, because we think that also in jobs needing lower educational qualifications, social and cultural capital is crucial for competitiveness and growth. Moreover, we need a model that can be used for all activities and, for example, not only those of larger companies with a stock market quotation or only the non-public activities. In comparing the discussed models, it shows that particular the persuasion model fits these demands best. Potentially it can be applied to all jobs, regardless the needed educational level or public/private funding.

sweet talk employment

The persuasion model is operationalized by the sweet talk index. It indicates the degree in which the employment structure is using managerial, expressive (verbal and written), artistic, service oriented and persuasive skills. These are the sweet talk skills reflecting social and cultural capital. The sweet talk index was constructed in five steps. For the *first step* we used a classification of functions. Of all the 1211 functions in the Standard Function Classification in the Netherlands (Standaard Beroepen Classificatie; SBC 1992) of Netherlands Statistics, specific needed skills are known (ARBVO, 1989). Of each of these skills it was evaluated whether they:

- apply to all functions;
- have the same content for all functions;
- differentiate within a combination of functions;
- correlate to other skills needed for the function.

On basis of this evaluation, 11 specific skills were selected (Bakkenist, Spits & Co., 1988; Kooreman; 1990). These skills also differ in the degree in which they need social and cultural capital, the sweet talk skills. Therefore in *a second step* five such skills out of the eleven were selected eventually: managerial, expressive (verbal and written), artistic, service oriented and persuasive skills. Following this, we selected in *a third step*, those functions which demands one or more of these skills and related this to the national Labour Force Survey 1997 (EBB, 1997). This classified each respondent classified as a yes or no sweet talk user. In *a fourth step* we aggregated this individual data to a 'sweet talk index' by branch (two digit classification). The index has a value between and including 0 and 100. In the first case, no one in the branch is using sweet talk skills and in the case of 100. all functions in the branch use one or more of these skills. In *a fifth step*, the index was regionalized by relating the index to a data base which includes all economic activities for 1991 and 1997 at the regional 4-digit zip code level. This could make a sweet talk index made of all regional classifications. Hereafter we discuss the results of this five-step procedure for the national territory, labour market regions and micro-regional living areas.

The Netherlands

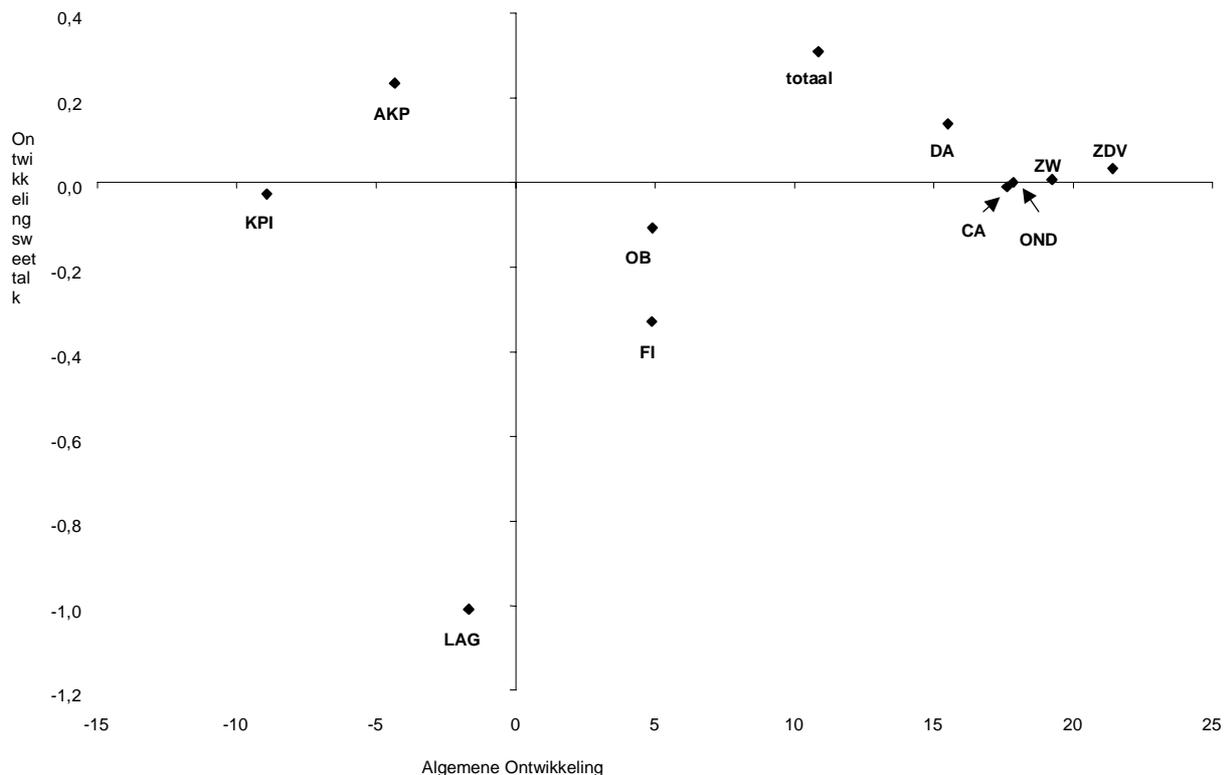
Table 2 Share en development of sweet talk employment by sector in The Netherlands (%; development 1991-1997)

	1991	1997	Development
Total	56.1	57.8	14.2
Labour and capital intensive production	28.1	27.8	-5.4
Knowledge intensive manufacturing	37.4	37.5	-8.7
Distribution	42.8	43.6	17.7
Business services	68.6	69.0	22.1
Agriculture and mining	5.8	5.9	0.0
Consumer oriented activities	64.7	64.6	17.4
Public services	79.7	79.3	4.4
Education	93.0	93.0	17.8
Physical infrastructure	26.2	25.8	3.3
Care and recreation	81.2	81.3	19.4

Table 2 shows for the Netherlands by economic activity the value of the sweet talk-index. In 1997 almost 58% of the total employment uses one or more managerial, expressive (verbal and written), artistic, service oriented and persuasive skills. The economy of the Netherlands is for its larger part oriented at sweet talk. Activities, which as such, have no direct material productive content. The 58 % is more than twice than the 25%, McCloskey & Klamer (1995) found in 1991 for the United States. This means that the economy of 'fried air', as it is sometimes called jokingly, really exists and is important (Jacobs, 1995). The table makes also clear that most sweet talk can be found in education. 93 percent of all activities in this sector are using skills aimed at the convincing of others. Of course, this is explicitly the aim of this sector. Also care and recreational activities and the public services show high values. Physical distribution, labour and capital-intensive production and agriculture and mining have very low values with only about a quarter of all employment.

Table 2 shows also the development of the sweet talk. It is measured as the percentual change in the number of persons in 1997 in comparison to 1991. The percentage for the total of 14.2 % reflects a growth of more than 455.000 persons in the period 1991-'97 in relation tot the starting point of about 3.2 million in 1991. As we regrettably have not yet Labour Force Survey data in 1991 (see step 3 in the procedure), this is a 'projected' development, which only reflects the changing economic structure. We are convinced that using real 1991 data would increase the growth figures because it not only comprises the intersectoral changes in the economic structure, but also the intrasectoral changes related to the content of jobs. Notwithstanding this, table 2 shows that the changing employment structure already led to an increase of 14.2 %. The growth differs by sector. Particularly business services and care and recreation show larger growth. Manufacturing shows a decrease. As indicated this general development in sweet talk reflects partly the general sectoral development of the information economy. If total employment in business services increases, then also the absolute number of persons in the business services with sweet talk skills will grow. To correct for this absolute growth effect, figure 1 shows whether the sweet talk growth was more or less the total (sectoral) growth. It makes, for example, clear that with a total employment of 10.9%, the growth of total sweet talk employment was a factor of 0.xx higher. The sweet talk activities grew with 14.2%. An extra growth of 3.3 percent point. This extra growth is shown in figure 1 as the deviation of the total growth.

Figure 1 The deviation of the growth of the sweet talk employment in comparison to the total sectoral growth (1991-1997)

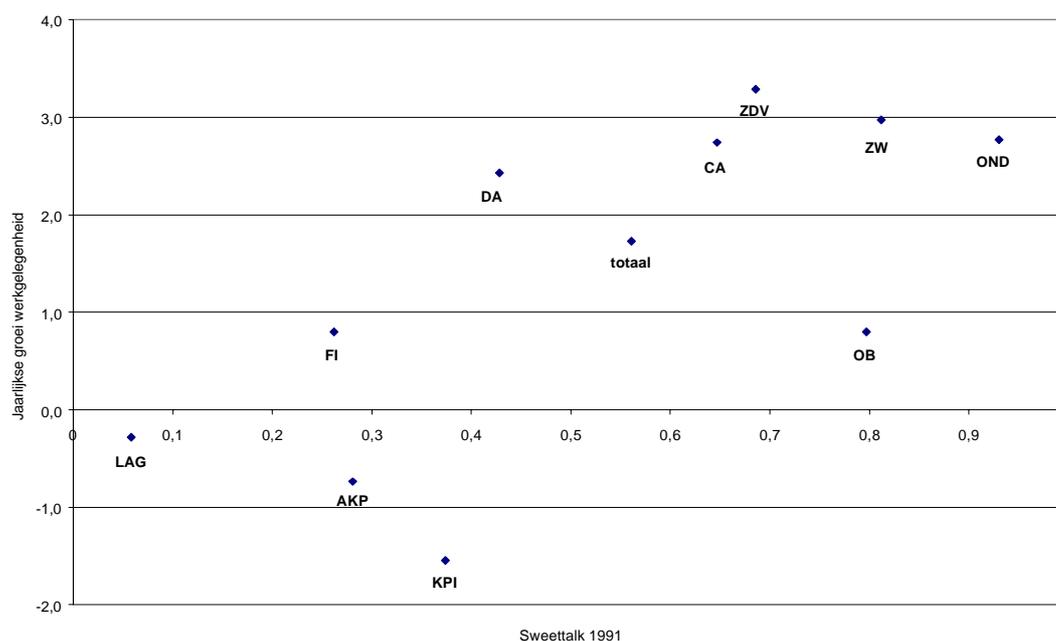


- | | |
|---|-----------------------------------|
| AKP = Labour and capital intensive production | CA = Consumer oriented activities |
| KPI = Knowledge intensive manufacturing | OB = Public services |
| DA = Distribution | OND = Education |
| ZDV = Business services | FI = Physical infrastructure |
| LA = Agriculture and mining | ZW = Care and recreation |

Figure 1 makes clear that the growth of the sweet talk employment has been relatively larger than the total employment growth. This has also been the case for several sectors. These can be found in the right upper quadrant of the figure. In the quadrant down right we find two sectors, in which the growth of the sweet talk stayed behind the total growth of these sectors. These are the public services and the activities linked to the physical infrastructure. In the other two quadrants on the left total employment went down: manufacturing, agriculture and mining. In de labour and capital-intensive manufacturing (AKP) sweet talk activities went down even faster. As both the total and sweet talk employment decreased, the even larger decrease of the sweet talk led to a positive deviation in the figure. A double minus led to a plus. In the sectors in the down left quadrant sweet talk decreased just a little less then the total (KPI) or even increased, as in agriculture and mining.

Is the employment growth related to the starting level of the sweet talk? Figure 2 depicts this relationship for the period 1991-'97. In general there is a positive relationship between the level and growth. More sweet talk means higher growth. The regression-coefficient between both is 0.33(r^2). This value, but also figure 2 indicates that the relationship between level and growth is not straightforward. Positive until sweet talk values of about 70%. After that the curve flattens or even goes down. Relative outliers from this picture are the knowledge intensive manufacturing (KPI) en the public services (OB).

Figure 2 Relationship between the level of sweet talk (1991) and the yearly employment growth (%; 1991-'97).



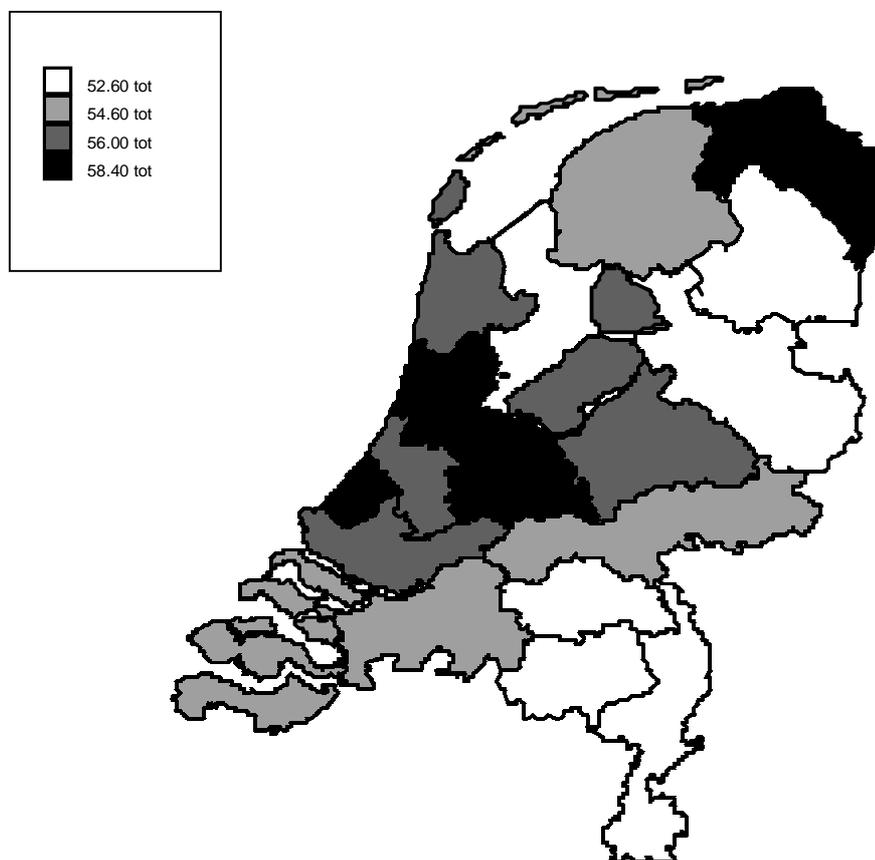
AKP = Labour and capital intensive production
 KPI = Knowledge intensive manufacturing
 DA = Distribution
 ZDV = Business services
 LA = Agriculture and mining

CA = Consumer oriented activities
 OB = Public services
 OND = Education
 FI = Physical infrastructure
 ZW = Care and recreation

Labour market regions

For the labour market regions we use the classification of the regional boards of employment (see van Dijk & de Grip, 1998) In total 18, so called RBA's exist. Figure 3 shows their location and shows quite clear the regional differences in sweet talk between these labour market regions. High values of more than 60% particularly in the Northwing of the Randstad. Low values we find in some Eastern and Southern parts of the country. Leaving the position of Groningen in the North of the country aside, one can notice a center-periphery pattern. There are high sweet talk values in the core regions of the Randstad. The values go down as the distance from this core increases. One has to notices that this is in contrast to the spatial pattern of other indicators of the information economy, like the average educational level of the workforce or the knowledge intensive industries. These show a rather spatial fragmented pattern (van der Laan, de Boom & van Oort, 2000).

Figure 3 Share of sweet talk activities in the total employment of the labour market regions in the Netherlands (%; 1997)



Living areas

A more detailed spatial classification is that of the living areas (Woonverkenningen, 1997). This classification is primarily based on the perception of the consumers on the housing market and completed with objective characteristics like the location, number of inhabitants, density or building period. Five type of regions were selected: central urban, non-central urban, urban fringe, rural centers and rural areas. These areas are quite small and dispersed throughout the country, with a bias of the more urban areas in the West of the country.

At this lower scale of the living areas, spatial differences in sweet talk are even clearer. Table 3 shows that, with almost 70% of all employment, the central urban regions have the highest level of sweet talk. The central urban labour demand consists to a very large degree of managerial, expressive (verbal and written), artistic, service oriented or persuasive skills and which built the core of the urban economy. Also at this spatial level a core-periphery pattern can be noticed. If one gets farther away from the urban centres, sweet-talking diminishes. In this perspective the rural area are indeed most silent.

Table 3 Share and development of sweet-talk employment in the living areas in The Netherlands (%; 1991-1997)

	1991	1997	Development 1991-'97
Total	56.1	57.8	14.2
Central urban	66.3	68.4	1.2
Non central urban	58.8	61.1	17.8
Urban fringe	59.9	60.8	18.3
Rural centres	50.5	52.3	17.2
Rural	44.6	46.4	14.6

However, as far as the development is concerned, the last column of table 3 shows that the growth of sweet talk in the central urban areas stays well behind that of the other areas. The urban fringe shows the largest growth.

Summary and conclusions

A high educational level is not enough in the knowledge economy. Because also other skills are needed, it is crucial for an estimation of the potencies of the space economy, in how far these other skills are present. Those skills become important which are related to personal communication and the selection of information. As such these are not brand new skills, but in the knowledge economy they make the difference between competitive and customer dedicated organisations or regions. This also includes public financed organisations. For both private and public organisations it is about efficiency, quality and innovative power. It also includes, next to the higher, also the lower educated.

On basis of skills related to jobs, we estimated the degree in which sectors and regions are oriented at managerial, expressive (verbal and written), artistic, service oriented and persuasive skills: sweet talk. For the total of employment in 1997, on average about 60% was directed at these sweet talking activities. Some sectors like education or care and recreation activities are even more linked to sweet talk. The growth of these activities was also relative larger than that of the total employment. Particular in the business services showed high growth figures. In general there is a positive relationship between the level of sweet talk and employment growth. Regionally there exists a core-periphery pattern. This can be found at the macro-regional level of labour market regions, but also at the micro-level of living areas. Farther from the core means less sweet-talk. This spatial patterning is quite in contrast to the spatial pattern of other indicators of the information economy, like the average educational level of the workforce or the knowledge intensive industries. These often now show a rather spatial fragmented pattern.

In the knowledge economy the stress is more than ever on people. For being successful, competitive advantages lie in the effective use of their human resources (Pfeffer, 1994; Miles et al, 1997). Knowledge management is one of the key-factors in this. In how far do regional labour market policies mind the growing importance of social and cultural capital? Although there is a greater awareness of social and cultural capital, in general demand-side policies are still quite wholly focused at R&D reflecting economic capital. It leads also to a strong preference for the role of universities and research institutes for economic growth. This perspective mirrors technology-push based starting points in which 'we have marvellous technological solutions but do not know for which problem' (Jacobs, 1999, p. 363). However, high-level technology and research cannot be translated directly into market strength. The latter implies attention for the problems and needs of (possible) users. This leads more effectively to real innovative products and services that offer solutions to economic and social challenges. A bias for high-tech solutions and research is clearly besides the crucial point of knowledge building that stresses its multi-dimensional character. Regional efforts should not only be directed at traditional 'know how', but also at organisational and institutional knowledge in which social and cultural capital play major roles. This should not only be limited to traditional 'high-tech' activities, but at other sectors too. It also needs a different view on skills. Knowledge is still mostly seen in a material and technological way and too often perceived functionalistic as a problem-solving entity and as a building block for competence that can be stored in organisations or regions. However, also lower qualified have a crucial role in knowledge creation

References

- ARBVO (1989), Handleiding voor de functieanalyse. Directoraat-generaal voor de arbeidsvoorziening. Den Haag: SDU
- Bakkenist, Spits & Co. (1998) Arbeid in de greep van de technologie. Rijswijk: ARBVO
- Beuckeleer, K. (1994) Human resources accounting. *Pacioli Journaal*, pp. 14-16
- Bomhoff, E.J., R. den Hartog & I. Lageweg (1996), *Instituties, values, normen en groei* (mimeo), Breukelen: Nyfer.
- CBS (1993) Standaard Beroepen Classificatie 1992. Den Haag: SDU-uitgeverij.
- Dijk, J. van & A. de Grip (1998) Institutions and regional labour markets in the Netherlands. In: L. van der Laan & S.M. Ruesga (1998), *Institutions and regional labour markets in Europe*. pp. 105-132. Aldershot: Ashgate Publishing Ltd.
- EBB (1997), Enquête Beroepsbevolking, Voorburg/Heerlen: Centraal Bureau voor de Statistiek.
- Fukuyama, (1995), *Trust, the social virtues and the creation of prosperity*. New York: Free Press.
- Grossman, G.M. & E. Helpman (1991), *Innovation and growth in the global economy*, MIT Press: Boston.
- Hinloopen, J. & C. van Marrewijk (1999), *On the empirical distribution of the Balassa Index*. Research Memorandum 9902. The Hague: Ministry of Economic Affairs.

- Jacobs, D. (1995), Gebakken lucht- waardetoevoeging in de kennismaatschappij. In: L. van der Geest & J. van Sinderen (red.), *Kracht en zwakte van de Nederlandse economie*, p. 119-142. Rotterdam:Barjestek, Meeuwes & Co.
- Jacobs, D. (1999), Vlaamse Valleien. *Economische Statistische Berichten*, 14-5. p. 363.
- Klamer, A., L. van der Laan & J. Prij (1997), *De illusie van de volledige employment*, Assen: Van Gorcum.
- Kooreman, A. (1990) Herbeoordeling aspecten. Intern rapport. Amsterdam: Gemeenschappelijke Medische Dienst
- Laan, L. van der & S.M. Ruesga (1998), *Institutions and regional labour markets in Europe*. Aldershot: Asghgate Publishing Ltd.
- Laan, L. van der (1999), Labour markets in Europe at the age of new century: knowledge economy and transitional labour. *Tijdschrift voor Economische en Sociale Geografie*, 90-4. p. 428-432.
- Laan, L. van der, J. de Boom & F.G. van Oort (2000) Groepsspecifieke implicaties van regionale arbeidsmarktontwikkelingen. Rotterdam: REGIO-RISBO; Erasmus Universiteit.
- McCloskey, D.N. & A. Klamer (1995), 'One Quarter of GDP is Persuasion', *American Economic Review*, Vol. 85. No. 2. pp. 191-195.
- Miles, R. et al. (1997), Organizing in the knowledge age: anticipating the cellular form. *Academy of Management Executive*. 11. 4. pp. 7-19.
- Minne, B., V.P. Herzberg & J. Reijnders (1996), 'Immateriële investeringen', *Economisch Statistische Berichten*, Vol. 31. No. 1. pp. 106-107.
- Nonaka, I, K. Umemoto & D. Senoo (1996), *From information processing to knowledge creation: a paradigm shift in business management*. *Technology in Society*, 18-2. pp. 203-217.
- Parker, K.P., S. Mullarkey & P.R. Jackson (1994), Dimensions of performance effectiveness in high-involvement work organizations. *Human Resource Management Journal*, 4. pp. 1-21.
- Peyrefitte, A. (1995), *La société de confiance. Essai sur les origines et la nature du développement*, Éditions Odile Jacob: Paris.
- Pfeffer, J. (1994), *Competitive Advantage through People*. Boston: Harvard Business Press.
- Porter, M. (1998), *Clusters and the new economics of competition*. *Harvard Business Review*, nov./dec., pp. 77-90.
- Psacharopoulos, G (1991), *From manpower planning to labour market analysis*. *International Labour Review*, 4. pp.
- Putnam, R.D. (1993), *Making democracy work, civic traditions in modern Italy*, Princeton University Press: Princeton, New Jersey.
- Skyrme, D. (1998) Valuing knowledge: is it worth it? *Managing information*, march, pp. 24-26

Sveiby, E. (1997), *The new organizational wealth: managing & measuring knowledge-based assets*. San Francisco: Berret-Koehler.

Woodall, P. (1996), 'The Hitchhiker's guide to cybernomics', *The Economist*, September 27.

Woonverkenningen (1997) Milieutypen en transformatie; dagelijkse leefomgeving MMXXX. Den Haag: Ministerie van Volkshuisvesting, Ruimtelijke Ordeningen Milieubeheer.