Competent national institutional regimes and sectoral variety?

The case of public private partnership in Dutch vocational education


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Abstract
Since Hall and Soskice (2001) there has been a growing academic tradition to analyse the relationship between national institutions and innovation. Nevertheless, within countries striking differences exist between sectors which may affect their innovative performance. Sectors vary in their innovative competitiveness, the organisation of the sector and the manner in which their innovation systems function optimally. The domains of innovation and social partners have gained a greater role in the world of vocational education, which increases the rules to which vocational education should adhere. Dutch government gave room for regional public private partnerships on vocational education by way of specific institutions. We examine four cases which vary on two axis, the distance to the international frontier (or the extent to which the region hosts a complete innovation system) and the extent to which businesses are physically clustered or geographically concentrated: the Top Sector Agri-food, the Top Sector Creative Industry, the Top Sector High Tech Systems and Materials in Twente and the Manufacturing Industry in North Holland North. We describe the extent of PPP-agreements on vocational education, from intense (high tech region Twente) to low (creative sector). To explain the variation a third factor should be taken into account: the level of organisation of the industry in administrative networks which enables and facilitates agreement with other parties such as educational institutions and (local) governments.
1. Introduction

Since Hall and Soskice (2001) there has been a growing academic tradition to analyse the relationship between national institutions and innovation. Nevertheless, within countries striking differences exist between sectors which may affect their innovative performance. Sectors vary in their innovative competitiveness, the organisation of the sector and the manner in which their innovation systems function optimally.

At the same time national governments aim to strengthen their innovativeness through national policies and new institutions. In this paper we focus on vocational education. New and existing institutional regimes influence vocational education and its role in innovation; furthermore institutions function in the presence of sectoral variation. Vocational education is a focal point when it comes to institutions; in many countries vocational education operates where three institutional regimes intersect: education, labour relations and more recently innovation. The domains of innovation and social partners have gained a greater role in the world of vocational education, which increases the rules to which vocational education should adhere.

In the Netherlands, the world of education has traditionally been dominated by government and politics. On the field in and around the labour market for decades on a fine-tuning system of 'coordinated decentralization' (Traxler, 1995) exists with new forms of adaptive and reflexive governance (Van der Meer et al., 2003). On the field of innovation, only recently the first institutional regimes have been imposed in the form of top sectors (Van den Toren et al., 2012). Currently these regimes in the domains of innovation and education are interwoven in a national Technology Pact (Techniekpact), with strong focus on the regional aspect.

In the period 2010-2013 the regimes of labour market, education and innovation have facilitated public private partnerships in Dutch regions and sectors. Also specific instruments are built to realise public private partnerships on vocational education. In this paper we will first describe these three regimes and the institutional constraints and stimuli that facilitate agreements on public private partnership. Secondly, we will describe how these institutions work out in four different cases. Our central question is: can these ‘beneficial constraints’ (Streeck 1997) have impact on sectors and regions with strong variety.

2. Theoretical perspective 1: international competition drives variety and clustering

Since Porter (1990), we know that competitiveness is dependent on national and regional factors. The competitiveness of sectors and regions, according to Porter is determined by four factors, namely factor conditions, demand conditions, related and supporting industries and firm strategy, structure and rivalry. Firstly a sector or region can have local (production) factors, such as labour, proximity to raw materials and infrastructure, which gives them an advantage over other companies and / or regions. Second, the home market of a sector or region may contribute to the international competitiveness of a cluster. Challenging customers can stimulate innovation and quality improvement. Thirdly, the presence or absence of supplier and related industries determines the international competitiveness. Finally, the economic order is determined by the market conditions and the degree of rivalry. When major competitors are located in the same region, domestic or local rivalry is an important condition that determines the competitive advantage. Although, it is important to mention that besides competition cooperation between rival companies also takes place in clusters. "A cluster is a geographically proximate group of inter-connected companies and
associated institutions in a particular field, linked by commonalities and complementarities’ (Porter, 2000).

Powell (2002) states that different countries may serve as favourable locations for specific industrial clusters, such as the British publishers, the automotive industry in Japan, Swiss watches and the Italian design and fashion industry. In some sectors due to specific patterns of knowledge and industrial cooperation more diverse forms of innovation networks have emerged, such as biotechnology or information technology. In other sectors, such as infrastructure, media industry and the insurance market more homogeneous and highly specialized (knowledge) exchange occurs (Rammert, 2006).

Companies generally do no operate as stand-alone businesses but interact and cooperate with other companies in clusters and innovation systems. Companies that are part of clusters as well as companies from related industries benefit from the localization externalities that are present in clusters. Furthermore, companies are part of an innovation system which is characterised by the presence of technology of the companies that are on the frontier of innovation (Bartelsman, Haskel & Martin 2008).

In the literature, two types of cluster effects are distinguished: cluster effects between companies in the same sector (Marshall externalities) and cluster effects between companies from different (complementary) sectors (Jacobs externalities). Marshall (1890) refers to localization benefits resulting from regional concentrations of firms in similar sectors (specialised clusters). Co-location of complementary activities also leads increasing returns to scale and production, infrastructure benefits and the availability of specialised labour force. Jacobs (1969) emphasises the importance of a diversity of sectors within a region, since heterogeneous knowledge spill overs are crucial to innovation. The presence of heterogeneous knowledge, ideas, expertise, and diverse cultural and political institutions in urban areas create suitable incentives for start-ups and business growth. Moreover, economic activities which are embedded in networks of regional innovation systems are less likely to be taken over by emerging market (such as China and India) than isolated activities or technologies (WRR, 2008).

3. Vocational education in the Netherlands

Traditionally vocational education is part of the education domain that is tightened strongly to government. Vocational and Education and Training (VET) colleges (in Dutch: ROCs) traditionally operate merely in the field of education and have a strong regional orientation and function. In the Netherlands the vocational education sector consist of 70 VET colleges varying from multidisciplinary to agricultural and specialised colleges. Their primary task and ambition is to prepare people for occupations that suit their interests and skills and which provide them with job opportunities.¹ VET is the main supplier to the labour market (40 percent of the Dutch working population) and is often regarded as the ‘foundation of the economy’ and the ‘backbone of society’. In the Dutch vocational education there are two main routes: BOL and BBL. The school-based option with full-time education is called the BOL system and the work-based pathway, offering a combination of work and study, is called BBL. Companies and organisations play an important role in education as a place for internships and employers for BBL apprentices. These relations contributes to the match between education and necessary skills and competences of future employees.

¹ Source: MBO Raad/Netherlands association of VET colleges
VET colleges are held accountable to their supervisory board and the Dutch Inspectorate of Education. Furthermore, ROCs can only offer courses that are part of the so-called qualification structure which is determined by the Ministry of Education. At the moment, the qualification structure is undergoing extensive remodelling towards competence-based learning in order to meet society’s needs for modern and flexible employees. The ‘Foundation of Vocational Education and Labour Market’ (Stichting Samenwerking Beroepsonderwijs Bedrijfsleven) plays an important role in advising the Minister of Education on subjects that concern education and trade such as the qualification structure.

Vocational education is also part of labour market policy and labour conditions that belong to the domain of social partners. Social partners traditionally participate actively in the development of policy. Social partners (employers organisations and trade unions) are involved in the description of the qualifications and examination criteria. The administrative role of social partners will soon be limited due to the fact that in 2016 the current seventeen knowledge centres will be merged into a single national knowledge centre. Since the 1980s, many collective labour agreements in the Netherlands have included sector-specific training agreements in the form of sector training funds (O&O fondsen). Training agreements are defined in the stipulations of the collective labour agreements and are implemented by the administration of these sector training funds (Van der Meer & van der Meijden, 2013). The boards of these training funds consist of representatives of trade unions and employers organisations who outline the policies. The role of these funds varies greatly for individual sectors.

Recently, innovation has become an important policy domain, also in the Netherlands. In the Netherlands nine so called top sectors have been identified by the Dutch government. The Dutch top sector policy is aimed at the economic sectors that are the most important to the international competitive position of the Netherlands. In all nine top sectors top teams are formed. Each top team consists of an innovative SME entrepreneur, a scientist, a civil servant and a chairman from the sector. Since 2011 the top teams become players in the field of vocational education. The top teams formulate ambitions from the perspective of competitiveness and innovation. The top teams, based on input from scientists and companies, mapped out the various opportunities and challenges. They presented action plans detailing their ambitions, what they advise and a plan of approach. Part of these action plans are innovation contract which bring together public and private parties to build critical mass around research and innovation areas. The commitment of companies and scientists is crucial for additional funding and resources. This has led to the increased need for administrative organisation, either through the existing relations with business organisations or by creating similar structures. Research has shown that the presence of existing networks is crucial for the performance of innovation systems (Musiolik et al., 2012). Since 2012 top sector instated human capital work groups of which the primary task is to develop human capital agenda’s (HCA). These HCAs include objectives on the quality and quantity of vocational education.

4. Theoretical perspective 2: Threefold policy systems drive multiple institutions
In combination with national policies and institutions, a complex institutional regime is arising in which businesses and education are requested to coordinate with one another and not merely coexist. Streeck (1997) argues that voluntaristic choices of actors are formed by a variety of normative and institutional constraints; also referred to as beneficial constraints. Despite the fact that institutions may be perceived as an imposition, at the macro level institutional mechanisms can be effective. As a consequence of threefold policy systems different institutions are built onto each
other and influencing regional practise. The combination of traditional and new institutions can be summarized in this way.

In the traditional system schools have a lot of freedom within boundaries given by law

1. Basic principles so far is that students have freedom of educational choice and that VET colleges generally provide any student with an education.
2. There are 42 VET colleges (and 11 agricultural VET colleges) that are formally autonomous, with executive boards and supervisory boards to safeguard accountability.
3. The social partners traditionally have role in determining the qualifications in vocational education. They are involved in curriculum development and determining examination criteria due to their administrative role in the knowledge centres. This role and collective agreements allow social partners to frame practical vocational education.
4. VET colleges provide BOL and BBL pathways to students in the region. vocational education to students in their region. By providing education that meets the needs of students, their parents and employers earn a degree and enter the workforce or maintain their jobs. find or maintain students are able to education pupils can obtain an MBO diploma in three years and find a job Be it retained. Many VET colleges also have committees that are responsible for the content of the curriculum.
5. Employers have an influence on the level of participation of pupils in the BOL and BBL, respectively, because they provide internships and training days for students.
6. Employers who take part in providing BBL pathways have some additional expenses for which they are compensated.
7. VET colleges are under supervision of the Dutch Inspectorate of Education and are assessed based on the quality of education, graduation rates and dropout.

New institutions stimulate public private cooperation by additional incentives

8. Since 2010, vocational education is increasingly involved in innovation. For the nine so-called top sectors specific top teams were formed. They control vocational education from the perspective of competitiveness and innovation.
9. The share of the resources that VET colleges receive is dependent on whether they meet certain requirements.
10. Since 2011 the top teams have become an important player in the domain of vocational education. Furthermore, human capital agendas have been developed per top sector.
11. Innovative developments are fast-paced and in order to progress in vocational and higher education educational institutions were given the opportunity to apply for a Centre of Innovative Craftsmanship (CIV) respectively a Centre of Expertise (CoE) proposal in 2010 and 2012.
12. Companies can influence vocational education when they participate in such centres, and when time and financial resources committed.
13. When agreements are reached between vocational education they can appeal for public funding provided by Ministry of Education.
14. After funding is granted flexibility and adaptation to changing market conditions is expected. Annually the progress of the centres is monitored by an external audit committee.

In this paper we focus on the new Centres for Innovative Craftsmanship. In the Netherlands vocational education since 2010 is persuaded by the possibility to reach a regional agreement on public private partnership, followed by public investments from national government. There are now seventeen CIVs (and 21 CoEs). The CIVs promote and stimulate innovation in vocational education. bring innovation in the school: students solve real questions and work at innovative solutions. In these centres companies are involved and provide additional funding on top of funding provided by
the Science and Technology Platform, which performs on behalf of the government. Vocational and higher educational institutions have the freedom to participate and select partners from the industry. When firms bring in at least 1 million euros, government invests 2 million euros. This institutional constellation makes it necessary to bring in a new element in our analyses. Dutch government trusts on local partners to organize and negotiate and agree on behalf of their members. To explain the variation on local level a third factor should be taken into account. The level of organisation of the industry in administrative networks which enables and facilitates agreement with other parties such as educational institutions and (local) governments. VET colleges are expected to have close relations with companies and organisations and to reach agreements. Research on cooperation and coordination has found that cooperation can be stimulated or reinforced when this results in better outcomes or higher revenues. Schmitter and Streeck (1981/1999) introduced the teams logic of membership versus logic of influence: when companies are willing to unify, collective agreements can be reached, which individually could not have been negotiated. The logic of goal formation en effective implementation are important functions which provide benefits to the collective.

In highly organised sectors, traditionally industrial in nature, mutual trust occurs which enables companies to act collectively and invest in public-private partnerships. In their study on Varieties of Capitalism (2001) Hall & Soskice state that nations vary in the extent to which they seek out partnerships and collaboration.

Hall and Soskice based their Varieties on the differences between countries. However this approach is also applicable to the differences between sectors, due to the fact that they vary in the level or organisation (Traxler, Brandl & Pernica 2007). Even within a given economic system, some sectors vary in their ability to organize the conditions for innovation (Crouch, Schröder & Voelzkow 2009). Our expectation is that in a highly organized sector companies can be persuaded to coordinate with and invest in vocational education easily. However, this can also lead to what is referred to as closed shop. This form of collaboration is especially good for incremental innovation. To encourage more radical innovation – which comprises a smaller share of all innovation - an appeal is often made to innovative SMEs. However, innovative SMEs cannot be effective when the share of large companies is relatively small. Large companies seem to be more successful at reaching agreements than smaller companies. Large companies, especially multinationals, are adequate in building their own networks, both regionally as well as internationally. In addition, large firms have a larger resource base and possess the capacity to do this because they have more resources and maintain their relations with the government and politics, which ultimately contributes to finding public funding.

5. Research model

Policy interventions are intended for working in new forms of co-creation. However, their effectiveness is strongly influenced by the nature of technology, innovation and employment. To explore the combination of economic reality and a mixture of regulations, we select four cases that are representative for economic variety. We look at two indicators.

First of all, sectors have diverse dominant competitive and innovation strategies. These strategies for the large part determine the frontier of innovation, either the frontier is founds in the Netherlands, or otherwise beyond the national borders. When the frontier is located within the own nation, companies benefit from a more complete national innovation system.
Secondly, often innovation is concentrated in a regional in the form of an innovation cluster. Some technologies and innovative systems require and create a strong clustering. The extent of geographical clustering varies per sector and region.

The international orientation or the extent to which the companies operate internationally as well as the similar classification of open and closed sectors of Iversen (1999) is an important indicator of the distance to the frontier of innovation. Di Giovanni and Levchenko (2009) found that open sectors frequently deal with high volatility, differ from the local economy and are more specialized in nature than closed sectors. Furthermore, for the survival of Western economies can only survive in the presence of open sectors with an international character is dependent on the availability of sufficient highly skilled workers (Iversen, 1999; Visser, 2003). This is also visible in the ranking of international competitiveness of regions. The Netherlands Environmental Assessment Agency (PBL) (Raspe et al., 2012) base their competitor benchmark on thirty indicators including agglomeration advantages, network orientation, internationalization, accessibility, labour and workforce, knowledge and quality of life. The twelve Dutch provinces were benchmarked against 256 European regions of which four have a top 10 position, as visible in table 1. The variation in competitiveness of regions has consequences for vocational education, with its strong regional orientation and focus, and places higher demands on vocational education.

| Table 1: Regional Competitiveness: Dutch regions within 256 European regions |
|---------------------------------|------|------|------|------|------|------|------|------|
| Agriculture | Food | Materials | Hightech | Chemical industry | Energy | Logistics | Corporate services |
| Groningen | 35 | 60 | 175 | 179 | 146 | 17 | 68 | 108 |
| Friesland | 16 | 28 | 210 | 188 | 156 | 57 | 127 | 114 |
| Drenthe | 33 | 111 | 194 | 197 | 141 | 59 | 205 | 131 |
| Overijssel | 12 | 27 | 144 | 129 | 41 | 28 | 59 | 33 |
| Gelderland | 6 | 10 | 66 | 79 | 24 | 15 | 40 | 65 |
| Flevoland | 67 | 97 | 228 | 215 | 150 | 114 | 226 | 148 |
| Utrecht | 25 | 20 | 112 | 120 | 85 | 37 | 27 | 14 |
| Noord-Holland | 5 | 7 | 46 | 50 | 17 | 12 | 6 | 4 |
| Zuid-Holland | 1 | 4 | 29 | 26 | 10 | 5 | 5 | 12 |
| Zeeland | 43 | 51 | 206 | 195 | 181 | 106 | 140 | 154 |
| Noord-Brabant | 3 | 1 | 31 | 21 | 5 | 6 | 19 | 29 |
| Limburg | 11 | 23 | 68 | 88 | 32 | 23 | 44 | 42 |

We examine four cases which vary on two axis, the distance to the international frontier (or the extent to which the region hosts a complete innovation system) and the extent to which businesses are physically clustered or geographically concentrated: the Top Sector Agrifood, the Top Sector Creative Industry, the Top Sector High Tech Systems and Materials in Twente and the Manufacturing Industry in North Holland North. We made case studies for each case by looking at figures and
document and by conducting interviews with representatives of business sector and education sector.

To explore the extent to which public private partnership has come up, we especially look at the so called Centres of Innovative Craftsmanship (CIVs, at VET sector). Since 2010 VET’s and HBO schools can gather a consortium, build a centre and apply for a public investment. The Centres of Innovative Craftsmanship were assigned by an expert committee set up by the Platform of Science and Technology (Platform Bèta Techniek), a publicly funded private organisation that operates independently of the organized industry and education. Also Universities of Applied Science (HBO in Dutch) can realise Centres of Expertise (CoE). In 2012 the Centres of Expertise were selected by the Commission Van Vught (installed by government) as part of the performance agreements between individual universities for applied science and the Minister of Education.

Some regions didn’t realize an agreement on a proposal and some proposal weren’t good enough to realize public funding. What are helpful factors to realize public private partnership and what is hindering this co-makership? We will explore this question in four case studies.

6. Four case studies
The core elements of the four case studies are summarized in table 2. We see a lot of economic and organisational variety. We focus on competitiveness, export, labour share, the extent and way business, knowledge providers and labour are organized.
The top sector *Agrifood* is one of the sectors in which the Netherlands has a strong international position. To ensure proper international competition, it is important that the sector remains innovative and increases scale and productivity. In order to compete internationally high ambitions are set, while production in the Netherlands still takes place in many small companies. Regional
cooperation between the industry and agricultural VET colleges are necessary to ensure sufficient labour force. It is challenging for VET colleges to match the content of the education with the needs of companies, however in several regions VET colleges have succeeded in doing so. Specialisation, which is often necessary in order to continue family businesses, require students to travel long distance for specialised education. Reaching agreements between industry and VET colleges is difficult since there is no natural concentration of innovation and innovative companies. At present, a nationwide CIV with regional meetings points for specialisations has been realised in 2013. This centre with national coordination and regional hot spots is considered a new organisational form for centres.

The creative industry is characterized by many small companies and dispersed activities. At the same time regional concentrations such as Amsterdam, Eindhoven, Utrecht, Arnhem, Hilversum and Rotterdam have been identified. The creative industry consists of several smaller sub-sectors. Regarding the cooperation between vocational education and industry, it is important that there is sufficient interaction between parties from different regions. Particularly in an industry with many small businesses and self-employed individuals. The creativity of individual professionals is an important source of innovation, but hinders the organisibility. There is no national orientated centre that facilitates the partnership between vocational education and industry. A VET college in Amsterdam initiated an independent CIV (without funding from the government) but have not succeeded in meeting formal requirements.

Traditionally the high tech industry in Twente is a strongly interconnected industry with a recognizable profile, which are dominated by a few innovative companies in the metal and electrical engineering industry. Furthermore, the presence of medium sized as well as large companies which have entered in partnerships with VET colleges without the fear of competition. In particular, so called shared training companies in recent years have provided a strong basis for ‘networking’. As a result, the region benefits from the opportunities enabled by public private partnerships. The Centre of Innovative Craftsmanship has a broker position in networks. The CIV in Twente has developed an agenda for innovation and strategic human capital policy.

The manufacturing industry in North Holland North mainly consists of SME companies which supply to the rare OEMs in the region (such as Tata Steel and Boon), OEMs elsewhere and to local consumers. The manufacturing industry is expected to offer flexibility and deliver high quality products. In the coming years, the industry will be confronted reduced production and growth. However, because there are many small and dispersed companies in the region operate the visibility and accessibility for technical students is limited. In addition, young people are unaware career opportunities in engineering. Also, the companies in the region have varied profiles and expertise which hinders the organisability. Also, companies have not entered in partnerships with educational institutions such as CIVs, partly due to the fact that no clear regional strategy has been defined. At present, several trade associations have launched a Technology Council to take on this role.

The economic configuration of each case is visible in three maps of innovation in the three sectors. We build three maps for the three sectors at stake in our study (see annex 1). We can conclude that the logics of ‘beneficial constraints’ apply to vocational education. Freedom to negotiate within boundaries stimulates cooperation: 72 coalitions agreed on a proposals, 38 proposal were funded.

To get an insight in the way public private partnership is brought to the region, we also made an overall network visualisation. In the network visualisation the Centres of Innovative Craftsmanship
(CIVs) and Centres of Expertise (CoE’s) and the educational partners are visualised. Of the four cases, two are part of the complete network of CIV’s and CoE’s (see annex 2).

7. Analysis
The factors which have been identified before appear to influence the level of co-makership. Economic and technological factors explain a lot of the variety. This is summarized in table 3.

Table 3: Explanation of public private partnership

<table>
<thead>
<tr>
<th></th>
<th>Agrifood</th>
<th>Creative Industry</th>
<th>HTSM-Twente</th>
<th>Manufacturing Industry NHN</th>
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<tbody>
<tr>
<td>Status PPP:</td>
<td>●●●●</td>
<td>●●●●●</td>
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<tr>
<td>Important variations</td>
<td>Innovative areas of interest are pursued by nationwide</td>
<td>There are currently no agreements on a strategic level. Many graduates become individual business owners, education cannot assume big role business.</td>
<td>One dominant sector (Metaaltechniek) that is able to reach agreements with VE. Centres of innovative craftsmanship serve as platform</td>
<td>Dispersed industry and education. Few formal agreements at the strategic level</td>
</tr>
<tr>
<td>Role of VE</td>
<td>Focus up till now: Responsibility for general education Ambition: stimulating innovation</td>
<td>Focus up till now: coping with changing demands and dynamics Ambition: providing a buildings block for innovative clusters</td>
<td>Focus up till now: coping with changing demands Ambition: optimalising the relations with focal points of innovation</td>
<td>Focus up till now: responsibility for general education Ambition: facilitating dynamics</td>
</tr>
<tr>
<td>Next step</td>
<td>Macro efficiency</td>
<td>Several lead actors</td>
<td>Intersectoral en intertemporal agreements. Relations with highly innovative SME’s</td>
<td>Upcoming boards with diverse members (Techniekraad). Opportunities to set up centres smaller than centres of innovative craftsmanship</td>
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<tr>
<td>Influenced by:</td>
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<tr>
<td>- Competitive strategy</td>
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<td>-</td>
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<td>- Demographics and clustering</td>
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<td>- Organisability</td>
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The visualisation is based on stress minimization. Stress minimization, an instance of a family of dimension-reduction techniques referred to as multidimensional scaling (MDS), is our preferred method to obtain a general-purpose layout for networks. The main idea is to compute a layout such that graph-theoretic distances (i.e., shortest-path lengths) between nodes are represented as good as possible, where more weight is placed on representation error with respect to shorter distances than larger ones. The method usually meets the general criteria mentioned above, and yields better results than spring embedders in most cases.
The sector agrifood includes many small companies spread across the country. For this sector, a collective educational infrastructure is of great importance. The presence of many small sector organisations leads to scale problems and hinders labour mobility. The top sector creative industry includes both the well-organized graphics industry as well as new companies such as gaming and design firms. Also a large number of independent business owners. In this sector regional concentration and specialisation of companies and educational institutions occurs. In the top sector High Tech Systems and Materials (HTSM) sector several regional concentrations of companies from diverse sectors in which cross sectoral mobility and institutions are crucial. The Twente region is considered such a cluster. In North Holland North region many small technological companies operate in the manufacturing industry. Due to the large geographical distance the visibility and accessibility of these firms is low, which hinders the cooperation and coordination with education.

The table below provides an overview of the four cases which were studies.

Two of the studied cases (HTSM in Twente and the Creative Industry) are clusters formed by specialised and knowledge intensive suppliers which benefit from solid investments in vocational education. However, these necessary investments do not automatically take place. In Twente the presence of large companies is beneficial, whilst the lack of these companies appears to be problematic for the Creative Industry. Physical concentration seems to have a larger impact of co-makership than the nature of the competitive strategy.

In comparison to economic and technological factors this third factor appears to have a stronger influence. The level of organisability of companies and education determines the ability to connect and become part of clusters and new structures. Twente can be considered a highly organises cluster which reinforces public-private partnerships. The creative industry and manufacturing industry are less organised which complicates the formation of public-private partnerships. A traditionally highly organised sector such as agrifood contributes to reaching public-private agreements and co-makership. Despite the fact that the economic and physical conditions are suboptimal in this sector.

8. Conclusions and perspective

The findings of this research are based on exploratory case studies. The small number of cases results in a low external validity which affects the generalizability of the findings. However, this study provides insight in the underlying assumptions of institutional regimes and how the various institutional preconditions influence policy. The economic and technological position differs greatly for sectors and regions en therefore lead to different outcomes. However, other determinant can be taken into account. The level of organisation of companies can enhance or diminish the economic and technical position. This places the current and future development of vocational education in perspective.

Vocational education can contribute to the labour market dynamics and innovation. However the way in which this can be realised has not yet been determined in the Netherlands were we see institutional spaghetti. The logics of ‘beneficial constraints’ apply to vocational education. Freedom to negotiate within boundaries stimulates cooperation: 72 coalitions agreed on a proposal, 38 proposal were funded.

The mainstream model of public private partnership presumes agreements with highly organised and specific industry can work effectively. So an important condition is the organisability of companies and VET colleges, but what happens when this is not the case? A second important condition is that vocational education is considered part of the regional innovation system with an identifiable focus—but what happens when the system is incomplete? In that case vocational education than has to become in itself a building block of the innovation system.
Literature


Annex 1

Clustering HTSM: strong hotspots
but what if you’re outside?
Creative Industry: several hotspots – but weak

Clustering Agrofood: dispersed
Annex 2: Centres and their network

Achieved PPP’s in MBO (CIV’s) and HBO (CoE)

VET/BO: In 2010 7 proposals, 4 selected, in 2012 28 proposals, 13 CIV’s selected
UAS/HBO: In 2010 7 proposals, 4 selected, in 2012 40 proposals, 17 CoE’s selected