Jan Jacob Vogelaar
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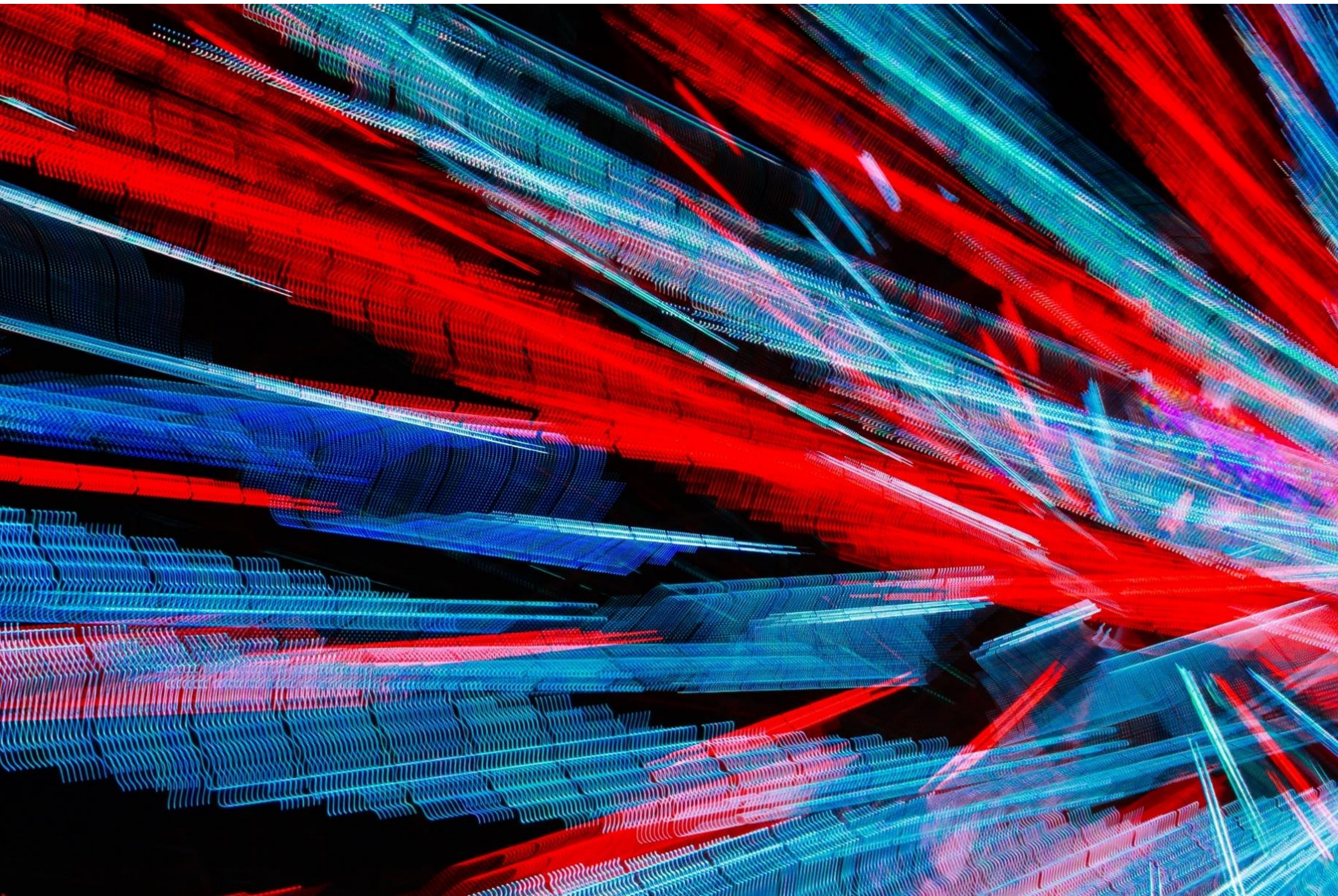
A matter of market failure?

Understanding why provincial governments in the Netherlands establish governmental venture capital funds.



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Colophon

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Student information
J.J. (Jan Jacob) Vogelaar
Student number: 4091833

Master Human Geography (track: Economic Geography)
Faculty of Geosciences, Utrecht University

Supervision
Prof. dr. Ron Boschma (first supervisor)
Prof. dr. Erik Stam (second supervisor)

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Abstract

Increasingly, governments intervene in the venture capital market through the establishment of governmental venture capital funds (GVC funds). Government intervention through GVC funds is often legitimised by perceived funding gaps. However, the rationale of these GVC funds in actually addressing these gaps, is controversial. In line with this controversy, this study researches why provincial governments in the Netherlands establish GVC funds. Based on a literature study combining insights from venture capital and policy diffusion literature, five theoretical motives for intervening as such are identified. These motives are tested through an analysis of venture capital investment data and in interviews with experts and practitioners. The study concludes that a combination of regional market failure motives, policy diffusion mechanisms and wealth differences, explain why provinces in the Netherlands establish GVC funds.

Key words: *Venture capital, GVC funds, capital market failure, regional funding gaps, policy diffusion, regional economic governance.*

Preface

This thesis marks the end of my Master degree in Economic Geography at Utrecht University. In the past year, and during the process of this thesis in particular, I got the opportunity to enhance my knowledge about regional economics, regional economic governance and venture capital. In a broader sense, this thesis marks the end of my academic career at Utrecht University and my life as a student in Utrecht. A number of people are to be acknowledged for making those five years both academically challenging and great fun.

First of all, I would like to thank my supervisors Ron Boschma and Erik Stam for their advices, critical reflections and guidance throughout this process. Ron encouraged me to limit the scope of my thesis and provided me with valuable feedback during the process. Erik's suggestions helped me in sharpening my conceptual framework in particular. Tom Overmans, who introduced me to Utrecht University's regional economic governance research team in the first place, deserves another note of thanks. I also wish to thank my respondents and the Nederlandse Vereniging voor Participatiemaatschappijen. I would not have been able to carry out my research without their cooperation. Felix Zwart of the NVP deserves a word of thanks in particular, for providing and reorganising the data I requested. Lastly, I would like to thank James Allan, Jasper Gruiters, Maxime Dekkers for reviewing pieces of my draft versions.

Secondly, I am grateful for the opportunities I got at KWINK groep. I could not have wished for a better place to start my professional career. I will definitely miss the wonderful team, the lively discussions and -of course- the 'broodjes vegetarische bal' on Fridays. A special thanks goes to Jakar Westerbeek, who tutored and coached me during my 1,5 years at KWINK groep. Also, I would like to thank Paul van Dijk, with whom I had refreshing discussions about the 'regional economic governance landscape' in the Netherlands. Paul's ideas helped me greatly in seeing the relevance of both my research topic and my results.

Last, but definitely not least, I would like to thank my friends and family who supported me during this process and throughout my academic career as a whole. Some people deserve a particular note of thanks. I thank Bart van Santen, Berend Mutsaers, Boban Braspenning, Duco Vermeer and Jasper Oudshoorn for the great fun and endless discussions we had, sometimes about politics, but most of the time about nothing. Another thanks goes to Fabian Brull, Femke Boonen, Peter Vree and Pieter Ottink, who I met during the Netherlands-Asia Honours Summer School and with whom I travelled through Russia, Mongolia and China. It was during a four-day hike along lake Baikal when Peter and I discussed the legitimacy of regional economic policies in the Netherlands: a research topic was born. Another thanks goes to Bart Heuts, Jasper Gruiter, Maxime Dekkers and Siem Poelman with whom I, independent of each other, have travelled different parts of the world. To Bart van der Meer, Daan den Hartog and Tim Draijer, who I have known for almost 20 years, I would like to say: Amersfoort is never far away. Lastly, I particularly thank my parents for their support. Their engagement has been an important driver for me during this process.

Jan Jacob Vogelaar

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List of abbreviations

BOM	Brabantse Ontwikkelingsmaatschappij (Regional Development Agency Brabant)
CBS	Centraal Bureau voor de Statistiek (Statistics Netherlands)
EBU	Economic Board Utrecht
GVC	Governmental Venture Capital
IQ	InnovationQuarter
NOM	Noordelijke Ontwikkelingsmaatschappij (Investment and Development Agency for the Northern Netherlands)
NVP	Nederlandse Vereniging van Participatiemaatschappijen (Dutch Association of Private Equity Firms)
PE	Private Equity
PVC	Private Venture Capital
RDA	Regional Development Agency
SME	Small Medium Enterprise
VC	Venture Capital

1. Introduction

Venture capital is widely considered an important source of funding for innovative and entrepreneurial firms (see e.g. Colombo et al., 2016; Cumming and Johan, 2009; Gompers and Lerner, 2001; Lerner and Tåg, 2013; Mason and Harrison, 2003; Samila and Sorenson, 2011). Innovative firms play a key role in the knowledge-based economy as they have the potential to contribute to radical innovations and productivity growth (Audretsch et al., 2008; Schumpeter, 1934; Stam, 2015; Vivarelli, 2013). Hence, venture capital is an important ingredient of what is often referred to as the entrepreneurial economy (Mason and Harrison, 2003; Samila and Sorenson, 2011).

The significance of venture capital has not gone unnoticed in policy circles. Stimulating an active venture capital market has increasingly got the attention of policy makers throughout the world. 'Governmental venture capital funds' (hereafter: GVC funds) emerge as a popular policy instrument in particular (Colombo et al., 2016; Cumming and Johan, 2009; Cumming, 2007; Cumming, 2011; Guerini and Quas, 2016). GVC funds (or governmental private equity funds)[1] provide venture and growth funding to entrepreneurs. Also in the Netherlands there is a growing interest in intervention through GVC funds (Van Dijken and Engbersen, 2015; Birch, 2017; Rekenkamer Oost, 2017; Algemene Rekenkamer, n.d.). Recent reports show that, in the Netherlands, GVC funds are particularly popular among provincial governments (KplusV, 2012). Recent investment data confirms this. In 2017 the value of GVC investment (venture and growth phase) by Dutch GVC funds, amounted to €87 million and, if the trend continues, this amount is growing (NVP, 2018).[2]

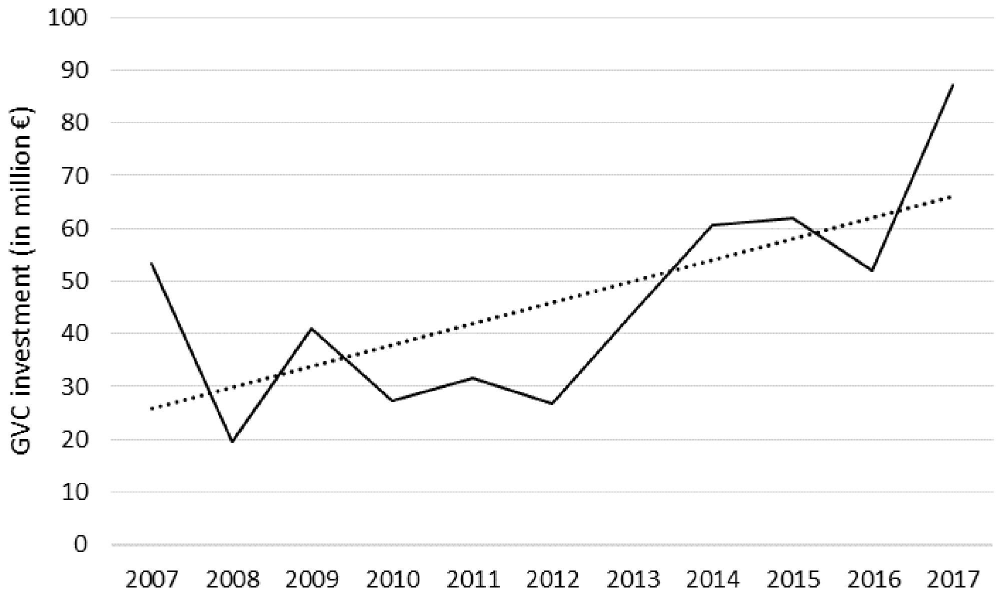


Figure 1. GVC investment in the Netherlands (in million €), 2007-2017 (NVP, 2018).

[1] In this thesis venture capital refers to both entrepreneurial capital for the venture stage -often viewed as 'classic venture capital'- and entrepreneurial capital for the growth stage. This is in line with other scholars, like Martin et. al (2005).

[2] A complete overview of all GVC funds in the Netherlands is, unfortunately, not available. The Netherlands Court of Auditors is currently investigating how many revolving funds the Dutch national government has (Algemene Rekenkamer, n.d.). An elaboration this research project can be accessed through this link: https://www.rekenkamer.nl/actueel/lopend-onderzoek/revolverende-fondsen. The study is planned to be finished late 2018.

Government intervention through GVC funds is often legitimised by perceived funding gaps. However, the appropriateness and rationale of these GVC funds in actually addressing these gaps, is controversial among academics (see e.g. Colombo et al., 2016; Lerner, 2013). This controversy is mainly driven by questions with regards to whether governments are able to effectively promote venture capital markets. Among other things, scholars question whether GVC funds have the ability to make the right investment decisions, due of lacking investment skills and the possible biased investment decisions as a result of political interests (Brander et al., 2010; Colombo et al., 2016). In line with this, different experts, doubt whether the establishment of these GVC funds is always truly evidence-based and thus legitimate from an economic perspective (see e.g. Birch, 2017; Logger and Weijnen, 2017).

The questions about the economic legitimacy of GVC funds are further strengthened by similar questions that have been raised about the economic legitimacy of related economic policies. Earlier, Bosma and Stam (2012) have raised concerns about the 'clear economic rationales' of local policies for high-employment growth enterprises. Bosma and Stam (2012) point out the potential significance of policy diffusion mechanisms like imitation and learning (Dobbin et al., 2007), in explaining why governments adopt certain economic policies. Although Bosma and Stam (2012) say nothing about GVC funds, the comment may be similar: policy diffusion mechanisms could partially explain why governments establish GVC funds.

If these policy diffusion mechanisms indeed are a reason to establish GVC funds, it is highly questionable whether the establishment of GVC funds is legitimate from an economic perspective and, thus, whether it is worth investing considerable amounts of taxpayer's money each year through these GVC funds. For that reason, it is of major societal relevance to investigate whether the establishment of these GVC funds is truly legitimate from an economic perspective or whether it is driven by other -political- factors too. Yet, to the best of the researcher's knowledge, the concept of policy diffusion has not been previously applied on the adaptation of GVC policies by governments– certainly not in combination with an economic perspective. This thesis attempts to address this literature gap by examining why provincial governments in the Netherlands establish GVC funds, combining insights from both strands of literature. Ultimately, to find out whether the establishment of GVC funds is a matter of market failure.

1.2. Research question

This results in the following research question:

Why do provincial governments in the Netherlands establish governmental venture capital funds?

In order to answer this research question, two theoretical and three empirical questions have been formulated.

1.1.1. Theoretical questions

- T1: When is government intervention in the regional capital market through GVC funds legitimised from an economic perspective?
- T2: Which policy diffusions mechanisms may explain why provincial governments establish GVC funds?

1.1.2. Empirical questions

- E1: To what extent is the establishment of GVC funds by provincial governments in the Netherlands legitimised from an economic perspective.
- E2: How do policy diffusion mechanisms explain why provincial governments in the Netherlands establish GVC funds?
- E3: Which other mechanisms explain why provincial governments in the Netherlands establish GVC funds?

1.3. Research aim

By understanding why provincial governments in the Netherlands set up GVC funds from both an economic and a policy diffusion perspective, this study aims to contribute to effective and evidence-based policy making about this topic. As stated above, in 2017 the value of venture capital investments (venture and growth phase) by Dutch GVC funds, amounted to €87 million (NVP, 2018). Therefore, effective policy making is highly relevant from a taxpayer's perspective. Moreover, this study hopes to serve as input for the discussion about whether and when the establishment of GVC funds is desirable.

1.4. Thesis structure

This thesis is structured as follows. Chapter 2 and chapter 3 answer theoretical questions T1 and T2, through discussing the two core theoretical concepts: 1) regional capital market failure and government intervention and 2) policy diffusion. Subsequently, chapter 4 elaborates on the methodological choices that have been made and the implications of these choices. Next, chapter 5 and 6 present the results of the quantitative and qualitative empirical analysis and answer the empirical questions E1, E2 and E3. Based on these results, the research question is answered in chapter 7, the conclusion. The conclusion chapter also reflects on this study as a whole and addresses the implications of the research findings for theory and society. Table 1 presents schematically which research question will be addressed in which chapter.

Table 1. Thesis structure.

Research question	Chapter
Why do provincial governments in the Netherlands establish GVC funds?	Chapter 7.
T1: When is government intervention in the regional capital market through GVC funds legitimised from an economic perspective?	Chapter 2.
T2: Which policy diffusions mechanisms may explain why provincial governments establish GVC funds?	Chapter 3.
E1: To what extent is the establishment of GVC funds by provincial governments in the Netherlands legitimised from an economic perspective?	Chapter 5.

E2: How do policy diffusion mechanisms explain why provincial governments in the Netherlands establish GVC funds?	Chapter 6.
E3: Which other mechanisms explain why provincial governments in the Netherlands establish GVC funds?	Chapter 6.

2. Regional capital market failure and government intervention

In the preceding chapter, two theoretical questions have been formulated. These questions will be addressed in the theoretical part of this thesis, which is divided into two chapters. First, through discussing the existing regional capital market failure and legitimate government intervention literature, this chapter constructs a conceptual framework for understanding legitimate government intervention in the regional capital market and answers theoretical question T1: *When is government intervention in the regional capital market through GVC funds legitimised from an economic perspective?* Also, this chapter gives a general introduction to possibilities for government intervention in the (regional) capital market. Subsequently, chapter 3 discusses the other central theoretical concept: policy diffusion. Therewith, it answers research question T2. Chapter 3 closes with the construction and discussion of a theoretical model that summarises the theoretical motives for the establishment of GVC funds.

2.1. About venture capital

Kortum and Lerner (2001, p. 676) define venture capital as: *"(…) equity or equity-linked investments in young, privately held companies, where the investor is a financial intermediary who is typically active as a director, and advisor or even a manger of the firm."* Two aspects of this definition are of significance in particular. First, investments of venture capital funds are characterized by their *high risk-return ratio*. Generally speaking, venture capital firms provide finance to young firms with a high growth potential. In many cases, these are technology firms that, particularly in their early years, invest heavily in research in development, product development and testing. These investments, often lead to a negative cash flow in their early years. The uncertainty that results from this early growth process, is a major reason why for example banks -which are more risk averse- are not likely to finance these firms in their early years (Mason and Harrison, 2003; Mazzucato, 2015). Secondly, venture capitalists are often characterised by their *active involvement* in the firm they invest in. Venture capital firms usually offer coaching and provide strategic advice to the firms they invest in, with the goal of adding value to their investments (Kortum and Lerner, 2001).

2.2. Market failures and funding gaps in the venture capital market

Like discussed in the introduction, governments intervene increasingly in the venture capital market. Often, government intervention in the venture capital market is said to be legitimised by market failures (Alperovych et al., 2016; Colombo et al, 2016). Market failure in the venture capital market is often referred to as funding gaps.[3] The most elementary definition of a funding gap is probably: a mismatch between supply and demand for funding. However, according to Martin et al. (2005): *"the concept of a 'funding gap' is by no means straightforward (see, for example, Cressy, 2002). So controversial is the notion, and so diverse its definitions, that different authors may arrive at quite opposite conclusions."* This mainly due to the observation that the detection of funding gaps is considered to be problematic, since there is no consensus about how to empirically measure funding gaps. This challenge and the difficulties that come with a certain approaches is discussed more in-depth in the methodology chapter. But first, to understand the complexity of the concept of 'funding gaps' it is important to explain why these gaps occur.

[3] In this thesis the terms 'regional capital market failure' and 'funding gap' are used interchangeably.

2.2.1. Why funding gaps occur

In a neoclassical world where information is symmetric, competition is perfect, agents maximise utility and transactions are frictionless, funding caps or capital market failure would not occur (Klagge and Martin, 2005; Martin et al., 2005). At most, there could be perceived funding gaps on the side of entrepreneurs, as a result of not receiving the funding they applied for. However, from a neoclassical perspective there would be a reason why those entrepreneurs did not receive the funding they applied for. These 'perceived gaps' would, for instance, be the result of bad business plan or of entrepreneurs lacking the right set of skills to successfully manage a firm (Klagge and Martin, 2005). Nevertheless, many scholars (see e.g. Carpenter and Petersen, 2002; Colombo et al., 2016; Martin et al., 2005; Wang and Zhou, 2004) agree that capital markets are by no means perfect. Information is not symmetric, competition is not perfect, agents do not always maximise utility and transactions are not frictionless (Klagge and Martin, 2005). As a result, the market may fail and funding gaps may occur.

In the literature, three major explanations for market failure or funding gaps emerge: 1) moral hazards due to information-asymmetries, 2) incomplete markets and 3) agency problems (Colombo et al., 2016; Martin et al., 2005; Mason, 2009). First, information asymmetries between firms and venture capitalists lead to high transaction costs for venture capitalists: *"Venture capitalists operate within a market environment that is characterised by uncertainty, volatility, and constant changing environment that creates a constant need to update information."* (Martin et al., 2005, p. 1225). In general, due diligence is supposed to overcome this issue of information asymmetries. But, in some cases these transaction costs might be too high to even make it worth analysing a firm. Moreover, the cost of due diligence is not appreciably different for firms requiring an investment of €250.000 or an investment of €5.000.000. As a result firms requiring little money (the smaller tickets) are likely to be disadvantaged. After all, the cost/deal ratio is much higher for these smaller tickets (Martin et al., 2005).

Secondly, it is hard for firms to fully benefit of the returns on their innovations, since knowledge is hard to keep private. As a result, there might be a discrepancy between the potential financial value of an innovation and the financial value a firm actually receives for the innovation. This risk of not fully appropriating the returns on an innovation is an example of an incomplete market and reduces the chances of knowledge-oriented firms to receive funding (Denis, 2004; Mason, 2009).

Agency problems are considered a third explanation for market failures. Agency problems or costs arise as a result of conflicting interest between the venture capitalist and the entrepreneur receiving venture capital funding. Once a firms has received venture capital funding, the entrepreneur is supposed to act in the best interest of the venture capitalists or the shareholders in general. However, once the investment is made, the entrepreneur has an incentive to maximise his own profit, for example through expropriating the made investments (Carpenter and Petersen, 2002; Colombo et al., 2016). Overcoming these potential agency problems often requires contracts, such as debt contracts and agreements about compensation, which is a costly occupation. Agency problems mainly occur when investors do not tend to be actively involved in all strategic firm decisions. Although, venture capitalists are characterised by their active involvement and often have experience in overcoming agency problems, the transaction costs of preventing agency problems may in some cases still be too high to make an investment. Again, especially the firms requiring relatively small amounts of money are likely to suffer from this (Carpenter and Petersen, 2002; Healy and Palepu, 2001).

In addition to the above, many scholars have stressed how more systemic or radical innovations particularly are affected by these market failure mechanisms (see e.g. Bleda and Del Río, 2013; Del Río et al., 2010). For example, because business models are radically different from previous business models, because venture capitalists have experience in other (established) markets and are reluctant about investing in a new unknown market or technology or just because radical innovations do not fit the current regulatory frameworks of governments, making it additionally difficult (see the previous comments about incomplete markets) to financially benefit from the investment (see e.g. Boschma, 2009; Del Río et al., 2010). At the same time, these radical innovations are considered to be crucial for innovation, economic growth and addressing urgent societal challenges (see e.g. Bleda and Del Río, 2013; Del Río et al., 2010; Schumpeter, 1934). Hence, many scholars within the field of innovation sciences -and beyond- consider market failure a valid but insufficient perspective when analysing the barriers for radical innovation. Hence, these scholars stress the importance of taking systemic failures into account in the decision when government intervention is legitimate (see e.g. Bleda and Del Río, 2013; Boschma, 2009; Mazzucato, 2015).

2.3. Regional dimension of capital market failure and funding gaps

The concept of funding gaps and capital market failure becomes more complex when considering its regional dimension. Over the years, several studies have addressed the regional dimension of venture capital investment (see e.g. Cumming and Dai, 2010; Chen et al., 2010; Klagge and Martin, 2005; Martin et al., 2005; Mason, 2007). Different studies have shown that venture capital investment has a clear spatial dimension, by showing considerable spatial disparities between regions in terms of venture capital investment exist. Martin et al. (2005) showed how venture capital investment, both in the United Kingdom and Germany, tends to concentrate in certain regions. Moreover, Chen et al. (2010) document a concentration of both venture capitalists and firms that have received venture capital investment in three metropolitan areas in the United States. Mason (2007) presents evidence for similar concentrations in Canada.

2.3.1. Explanations for the regional dimension of venture capital

This raises the question why venture capital investment has a spatial dimension. Again, the market failure explanations (discussed in paragraph 2.1.) emerge as an important explanation for these regional disparities. There appears to be a relationship between market failures due to information-asymmetries and uneven venture capital investment in particular.

Venture capitalists worldwide tend to concentrate in very few locations (Chen et al., 2009; Mason, 2007). This concentration of venture capitalists offers the first explanation for an uneven distribution of venture capital investment, as there is ample evidence (see e.g. Chen et al., Cumming and Dai, 2010; Florida and Mellander, 2016; Klagge and Martin, 2005; Mason, 2007) that venture capitalists are geographically biased: *"(…) in practice venture capital investing is characterised by spatial biases which favour businesses located close to where the venture capitalists themselves are located."* (Mason, 2007, p. 17). As a result, skilled entrepreneurs with good business plans in regions with an under supply of venture capital, might not receive the funding they need (Klagge and Martin, 2005). A potential explanation for this phenomenon is offered by Zook (2005, p. 81): *"(…) limiting investments to nearby firms produces easier and faster access to an entrepreneur's references."* In line with Zook's (2005) observation, Cumming and Dai (2010) show that the distance between venture capitalists and the firm receiving investment, matters for the eventual performance of the firm receiving venture capital funding. This further endorses the idea that the location of venture capitalists affects their investment decisions. This corresponds to previous comments that given the nature of venture capital investments, relations between investor and entrepreneur are particularly important in venture capitalism (Martin et al., 2005; Mason, 2007). Interestingly enough, however, Martin et al. (2005) conclude that venture capitalists themselves deny that they intentionally discriminate between regions.

The concentration of venture capitalists in certain areas in combination with their emphasis on investing locally, may have an additional effect. Zook (2005) presents convincing evidence that during the early years of the internet industry, access to venture capital was a significant reason for internet businesses to move to San Francisco, where venture capital was widely available. Areas with a relatively high number of venture capitalists may, thus, also attract firms. Accordingly, firms may leave regions where venture capital is lacking (Mason, 2007).

To summarise, empirical evidence demonstrates that venture capital investment has a regional dimension. Based on the existing literature there is reason to believe that this is partially due to the concentration of venture capitalists in combination with venture capitalists' spatial bias. Nevertheless, it is hard to say to which extent this spatial bias leads to regional funding gaps.

2.4. Public policies: filling the funding gap?

Like discussed in the preceding paragraphs, funding gaps have a regional dimension (Martin et al, 2005; Mason, 2007). Governments can intervene in different ways to address these gaps. Dubovik and Steegmans (2017) give an overview of the possibilities governments have to stimulate the funding of firms in general, ranging from the establishment of GVC funds to organising network events where investors meet entrepreneurs. Denis (2004) distinguishes two types over government intervention: policies promoting the development of capital markets and directly supplying public funding. Based on their ideas, an overview of potential ways of government interventions is presented in figure 2.

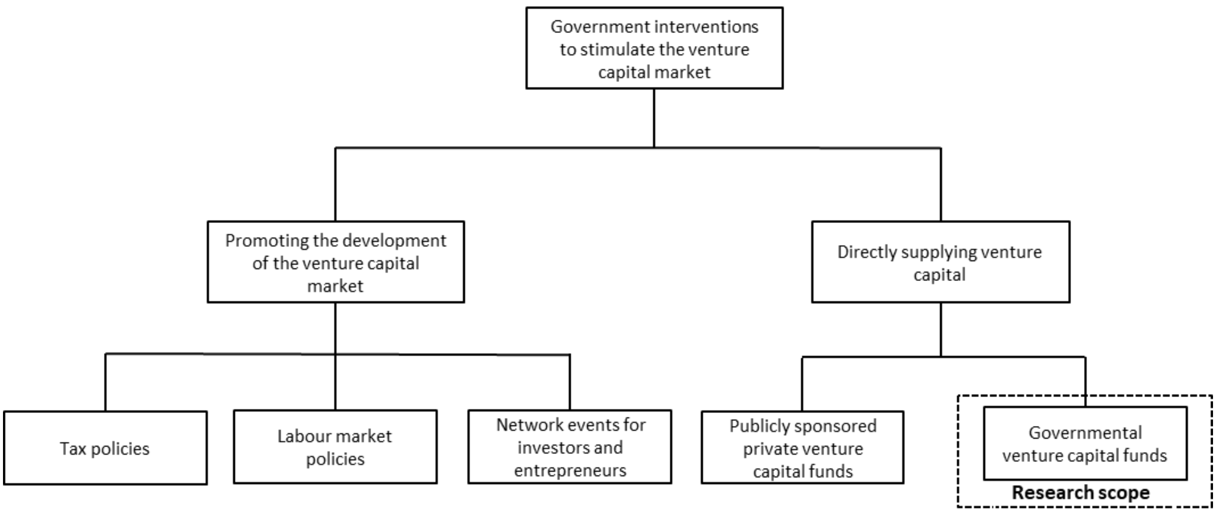


Figure 2. Overview of possible government interventions to stimulate the venture capital market.

2.4.1. Directly supplying venture capital policies

The most straightforward policy option for governments is intervening in the regional capital market directly through supplying VC. With such policies, governments try to 'fill' the perceived 'funding gaps'. There are two common approaches of doing so. First, governments can establish their own, publicly managed venture capital funds: GVC funds. The alternative option is to sponsor private venture capital funds (hereafter: PVC funds) with public money: publicly sponsored PVC funds (Denis, 2004; Dubovik and Steegmans, 2017). This is what Mason (2009, p. 4) describes as *"a capital participation approach"* and includes: *"All public funded venture capital funds where private fund managers make the actual investments. These funds either invest in enterprises or in other already existing PVC funds (fund-to-fund)."* Prominent examples of the first, publicly sponsored PVC funds, are the 'Regional venture capital Funds' in the United Kingdom (Klagge and Martin, 2005) and the 'Seed Capital Scheme' in the Netherlands (Ministry of Economic Affairs, 2015).

In this thesis the focus is on GVC funds. Often, GVC funds have a 'revolving' character, which means that part of the invested money is supposed to come back through dividends. In this, GVC funding differs from subsidies: once subsidies have been granted, the money will not return (Ministry of the Interior and Kingdom Relations, 2013). In the Netherlands GVC funds include -at least- all funds managed by regional development agencies (hereafter: RDAs). A full overview of the included GVC funds in the Netherlands is presented in the methodology chapter. The decision to exclusively focus on GVC funds, is mainly due to a lack of data about publicly sponsored PVC funds. In the methodology chapter (see chapter 4) the implications of this decision are discussed.

2.4.2. Results and impact of GVC funds

In recent years, many empirical studies have been conducted on the impact of GVC funds (see e.g. Alperovych et al., 2016; Dubovik and Steegmans, 2017; Lerner, 2012). So far, there is no general consensus about the performance of these funds. A recent study by Alperovych et al. (2016) suggests that GVC funds can succeed in filling the gap. GVC-backed start-ups have a higher likelihood of receiving a second round of funding, which is an indication of bridging a potential funding gap (Alperovych et al., 2016). On the other hand, several studies conclude that GVC funds underperform, compared to PVC funds (see e.g. Colombo et al., 2016; Dubovik and Steegmans, 2017). Dubovik and Steegmans (2017) demonstrate that GVC funds have a 5.1% lower chance of a successful exit, compared to privately managed funds. However, studies like these should be seen in the light of some restrictions in terms of the comparability of GVC and PVC funds. GVC funds tend to have different objectives than PVC funds, which could partially explain their smaller chances of successful exits (Dubovik and Steegmans, 2017).

Beside these differences in terms of performance of GVC and PVC backed-firms, there are more general concerns about GVC policies. First, the establishment of GVC funds may benefit one region, but at the same time harm another region. It is questionable whether regional GVC funds indeed lead to an overall increase of firms and aggregate economic growth, or just result in a relocation of existing young firms (Stam and Bosma, 2015). Moreover, Stam and Bosma (2015) address the risks of substitution or deadweight effects. According to Stam and Bosma (2015) a properly designed evaluation program is the only way to examine the effects of such policies. Secondly, GVC funds may potentially have a 'crowding-out effect'. According to Colombo et al. (2016) there is evidence that GVC funds may negatively affect the amount of

PVC investment, rather than stimulating it: *"The drawback of these instruments, however, is that they may crowd out rather than stimulate private investments."* (Colombo et al., 2016, p. 11).

2.4.3. Beyond filling the gap

In line with Stam and Bosma (2015), many scholars (see e.g. Mason and Harrison, 2003; Martin et al., 2005), question the effectiveness of such policies in achieving a more equal distribution of the availability of venture capital across regions. Four remarks are particularly relevant in the light of this study. First, the success of GVC funds stands or falls by sufficient experienced fund managers. Successful and experienced fund managers are not at all abundant and *"Using public money to create 'VC' funds which are staffed by managers who lack the value-added skills of venture capitalists will be ineffective."* (Mason, 2007, p. 35).

Secondly, the size of GVC funds may be too small. As a result, these funds can only make a limited number of investments, which may result in a not too diversified and therewith risky investment portfolio. Also, the small size of the funds may prevent these funds from providing second or even third rounds of finance, that a firm may need. This will, again, increase the risk of the portfolio (Mason and Harrison, 2003).

Thirdly, the establishment of GVC funds is driven by the idea that an undersupply of funding causes the perceived funding gap. However, funding gaps may just as well reflect problems on the demand side. A region could, for instance, also have a lack of talented entrepreneurs, with feasible business plans (Mason and Harrison, 2003).

Lastly, Martin et al. (2005, p. 1227) pose that -since the concept of funding gaps is by no means straightforward- simply 'filling the gap' through establishing GVC funds is a somewhat simplistic approach: *"But, as we have seen, the gap idea is not only an elusive notion, it is also a simplification of the dynamics in which low supply and demand may interact to constrain the development of venture capital learning and knowledge in less-favoured regions. Thus, simply establishing a publicly financed regional venture capital fund may be necessary but is unlikely of itself to be sufficient for building up local institutional capacity and boosting local venture capital activity."* Other scholars agree: *"Effective public sector involvement goes beyond simply providing additional pools of venture capital to developing an integrated a functioning regional venture capital industry in which GVC plays a catalytic and developmental role."* (Harrison and Mason, 2000, p. 251). Taking into account other possible government intervention (see also figure 2) is beyond the scope of this thesis. Yet, understanding that GVC funds are no cure-all and should be seen in the light of other policy interventions, is of major importance.

2.5. A conceptual framework for understanding legitimate government intervention in regional capital markets

As discussed in paragraph 2.3., venture capital investment appears to have a considerable regional dimension. Given the economic significance of VC, it is plausible to assume that an uneven distribution of venture capital across regions, may increase regional economic inequalities (see e.g. Martin et al., 2005; Mason, 2007; Mason and Harrison, 2003). This raises the question whether and when governments should intervene and try to solve economic inequality among regions. In other words: when is government intervention in the region capital market legitimate?

2.5.1. Assumptions about legitimate government intervention in regional capital markets

It is important to note this question is to a large extent normative. The discussion about government intervention in a regional capital market is part of a broader discussion about whether economic prosperity should be distributed regionally (see e.g. Glaeser, 2011). Glaeser (2011) is known as an advocate for helping poor people, rather than poor places. On the other hand, several scholars and policymakers have argued that a lack of venture capital in a region, does indeed justify government intervention (Mason and Harrison, 2003; Schwartz and Bar-El, 2007; Tykvová et al., 2012). This thesis adopts a perspective that is related to the latter. Two normative assumptions are made. First, a relatively low amount of PVC investment in a region is considered an expression of a mismatch between venture capital supply and demand, which is considered regional capital market failure (or: regional funding gap). Secondly, regional capital market failure justifies government intervention through the establishment of GVC funds. Hence, intervention through GVC funds is legitimised in regional venture capital markets that see a relatively low amount of PVC investment. Accordingly, in regions that perform well in terms of PVC investment, government intervention through GVC funds is not legitimised.

2.5.2. Limitations

For four reasons, these assumptions are not without controversy and have their limitations. First, an undersupply in PVC investment in a region does not necessarily have to indicate a funding gap. A relative under supply of venture capital investment in a province tells us nothing about: *"(…) whether regional investment shares are demand constrained or supply constrained"* (Martin et al., 2005, p. 1221). In other words, a relatively low amount of PVC investment in a province, may also be an expression of a 'viable investment proposals' or 'skilled entrepreneurs' gap (Martin et al., 2005; Mason and Harrison, 2003).

Secondly, the normative layer of the assumption that an undersupply of PVC investment justifies government intervention can be disputed. Not all scholars would agree with the chosen assumption that an undersupply of PVC investment justifies government intervention. (see Glaeser (2011) and the concerns raised by Stam and Bosma (2015), discussed in paragraph 2.3.

The fact that these assumptions do not respect the complexity of funding gaps, is a third limitation (see also Martin et al., 2005; Mason, 2007). For example, intervention from a government that intervenes heavily through GVC funds because the regional capital market sees relatively little PVC investment, would be considered legitimate according to these assumptions. Nevertheless, as long as there is no demand for this GVC investment this government is not addressing market failures at all. On the other hand, a government intervening heavily in a regional capital market that sees a high amount of PVC investment, might still be addressing funding gaps. For instance, when the demand for venture capital is too high to be provided by private venture capitalists solely. However, according to these assumptions, this intervention would be classified as illegitimate.

Finally, the assumption that funding gaps legitimise government intervention through the establishment of GVC funds, implies that GVC funds are assumed to succeed in 'filling' these gaps. However, like has been discussed in paragraph 2.4.3., several scholars doubt whether this is always the case. Their concerns about the effectiveness of GVC policies relate to the concept of 'government failures' (see Jacobs and Theeuwes, 2005; Keech et al., 2012):

government intervention due to market failures is only legitimate when a government is actually capable of addressing these market failures. Deciding whether governments are in this case capable of addressing market failure, and thus whether they are able to 'fill funding gaps' through the establishment of GVC funds, is beyond the scope of this thesis. Yet, it is important to keep the possibility of government failure in mind when making statements about when government intervention is legitimate.

2.5.3. Conceptual framework for understanding legitimate government intervention in the regional capital market

In accordance with these assumptions a new conceptual framework has been developed. The framework, which builds on insights derived from the existing academic literature discussed in this chapter (see e.g. Martin et al., 2005; Mason and Harrison, 2003; Colombo et al., 2016), allows for more structured analysis of the legitimacy of government intervention in regional venture capital markets. The framework consists of two dimensions. The x-axis and the y-axis are respectively the relative amount of PVC and GVC available in a certain region.

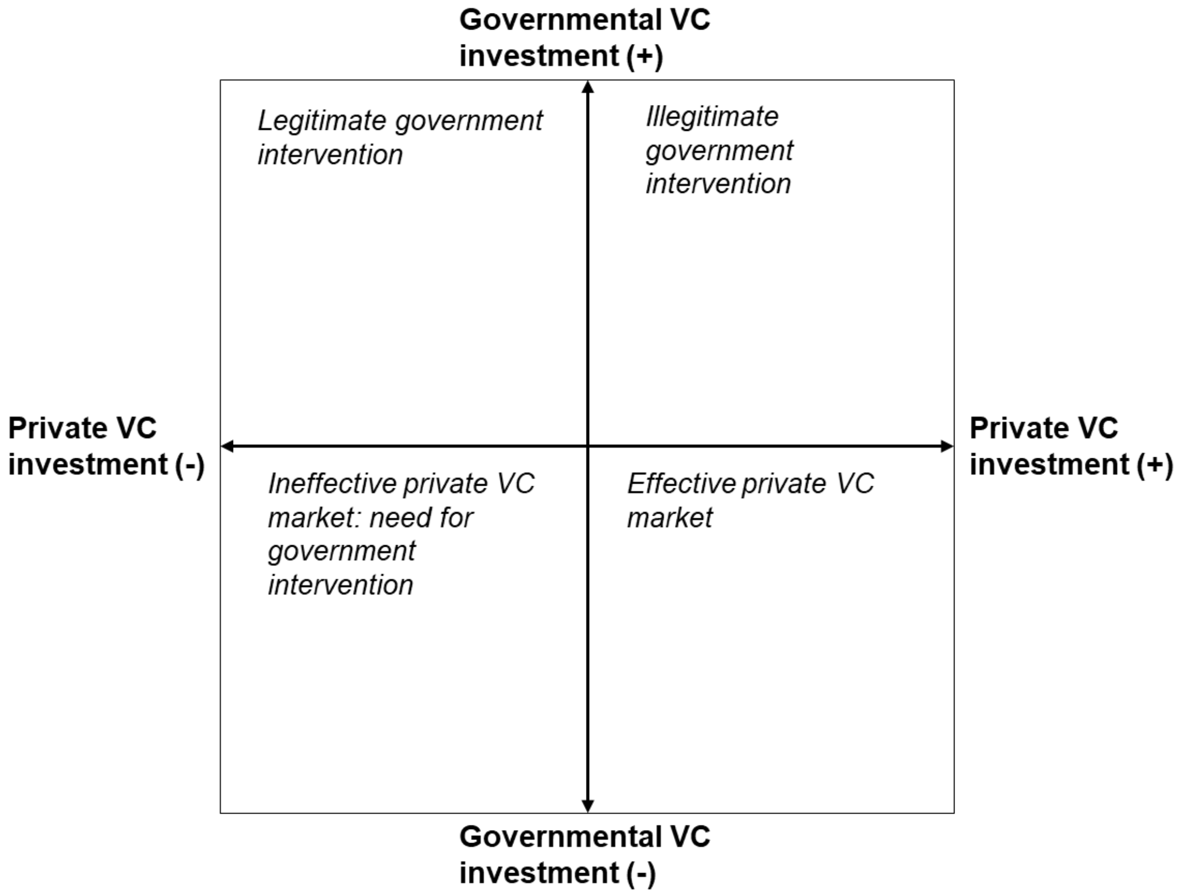


Figure 3. A conceptual framework for understanding legitimate government intervention in the regional venture capital market.

The framework distinguishes four classifications of government intervention in the regional venture capital market. A venture capital market that sees a relatively low amount of GVC investment and a relatively high amount of PVC investment, is considered an *effective private venture capital market.* Government intervention is in this case not necessary, since there is no capital market failure. A regional capital market seeing both a relatively low amount of GVC investment and a relatively low amount of PCV investment, is considered an *ineffective private* *venture capital market*. In such a case, government intervention is needed to address the gaps in PVC. In a capital market that sees a relatively low amount of PVC investment, but a high amount of GVC investment, the government attempts to address market failure are legitimate. For that reason, this is considered *legitimate government intervention*. On the other hand, when a capital market sees a relatively high amount of both PVC investment and GVC investment, the government is intervening in a private capital market that would have been successful without government intervention too. Hence, this is considered *illegitimate government intervention.* The operationalisation of 'a low (-) and high (+) amount of venture capital investment' will be discussed in the methodology chapter.

In this study the framework is constructed for regional venture capital markets. But, given the conceptual character of the framework, it could also be applied on other types of funding, like crowdfunding or bank loans. If the data is available, the framework could even be constructed for different sectors or stages of firm development. Moreover, the framework's scope is not necessarily limited to regional governments, it could be applied on other levels of government too. Lastly, although the conceptual framework lacks a time component, constructing it for different time periods allows for basic longitudinal analysis.

As a final note, the conceptual framework can be useful in understanding legitimate government intervention in the regional venture capital market. However, when applied, the framework should always be seen in the light of the limitations associated with the assumptions underlying the framework, which have been discussed in paragraph 2.5.2.

3. Policy diffusion

Over the past years more and more provinces in the Netherlands have established GVC funds (see also chapter 1). In other words: the policy spreads. From a public policy perspective, the concept of policy diffusion may help in understanding why public policies spread. The theoretical question to be answered in this chapter is T2: *Which policy diffusions mechanisms may explain why provincial governments establish GVC funds?* This theoretical question reflects the aim of this chapter and the goal of policy diffusion literature in this thesis. This study does not specifically aim to improve understanding about diffusion mechanisms itself. Also, it will reconstruct how the concept of GVC funds diffused over time. Rather, the study's aim is to get a better understanding of the establishment GVC funds by provincial governments in the Netherlands, by applying insights derived from policy diffusion research on this phenomenon. Gilardi (2016) argues it is important to make this distinction, as providing a novel insight into the diffusion literature itself has become more and more complicated and: *"(…) requires significant theoretical or methodological innovation."* (Gilardi, 2016, p. 15).

3.1. Introduction and definition

The vastly growing strand of policy diffusion literature (see e.g. Dobbin et al., 2007; Gilardi, 2016; Graham et al., 2013; Maggetti and Gilardi, 2016; Shipan and Volden, 2008; Simmons and Elkins, 2004; Starke, 2013) increasingly aims at understanding why policies spread. Previously, many studies focussed on identifying policy diffusion, rather than on understanding how policy diffuses (Starke, 2013; Wavre, 2016). In other words, many of the current studies analyse how the policies of one jurisdiction (e.g. a province), are influenced by the policies of another jurisdiction (Maggetti and Gilardi, 2016).

A common definition of policy diffusion is the definition of Simmons et al. (2006, p. 787): *"International policy diffusion occurs when government policy decisions in a given country are systematically conditioned by prior policy choices made in other countries."* Several scholars (Gilardi, 2016; Maggetti and Gilardi, 2016) argue that this definition is also applicable to other types of units, such as regions, subnational states and cities. In this study, provinces are the unit of study. This leads to a more tailored definition, based on the more general definition of Simmons et al. (2006): *"Regional policy diffusion occurs when government policy decisions in a given province are systematically conditioned by prior policy choices made in other provinces."*

In line with Schmitt (2014), who states that policy diffusion implies that governments do not implement policies independently, Maggetti and Gilardi (2016) emphasise that policy diffusion is characterised by a certain interdependence of these 'jurisdictions or units'. It is this interdependence that distinguishes policy diffusion from convergence: *"While convergence can be caused by interdependence, it can also result from units reacting to similar, independent pressures, like people opening umbrellas when it starts to rain. By contrast, interdependence is the key, defining component of diffusion."* (Maggetti and Gilardi, 2016, p. 4). Consequently, policy diffusion studies are mainly focussed on the process of diffusion, rather than the outcome, whereas policy convergence studies are much more emphasising the outcomes of the process of diffusion (Gilardi, 2016; Holzinger and Knill, 2005). In other words, the focus is on which processes or mechanisms explain why a certain policy gets adopted by a certain jurisdiction.

3.2. How policy diffuses

Policy diffusion is, thus, a product of interdependence of certain jurisdictions. Scholars have tried to understand the different forms this interdependence can take, which has led to the identification of different contending mechanisms or theories of policy diffusion (Maggetti and Gilardi, 2016). However, a frequently heard criticism on policy diffusion studies is the limited attention that is paid to other potential policy diffusion mechanisms. For that reason the comprehensive literature review of Dobbin et al. (2007) is leading in this study. Dobbin et al. (2007) have reviewed a large body of policy diffusion related literature, from diverse scientific fields such as economics, psychology and political science. According to Dobbin et al. (2007) four significant mechanisms of policy diffusion can be distinguished: economic competition, coercion, learning and imitation. Those different mechanisms explain the diffusion of policies either through a change of ideas or a change of incentives. Generally, economic competition and coercion theorists mention the change of (economic) incentives as the main driver of policy diffusion. Learning and imitation theorists on the other hand, look at changes in ideas to explain policy diffusion (Dobbin et al., 2007).

Prior to discussing those four mechanisms independently, it is important to note that in some cases it is difficult to disentangle the four mechanisms from each other, since there is considerable overlap between the different mechanisms (Dobbin et al., 2007; Meseguer and Gilardi, 2009; Wavre, 2016). This raises considerable empirical challenges. Some examples of these challenges are discussed below. A more extensive elaboration on this overlap and the empirical challenges this raises, can for example be found in studies by Meseguer and Gilardi (2009), Shipan and Volden (2008) and Wavre (2016).

3.2.1. Economic competition

Governments, both on a national and a subnational level, tend to compete with one and other (Dobbin et al., 2007; Gilardi, 2016; Graham et al., 2013). According to Gilardi (2016, p. 10): *"competition occurs when units react to or anticipate one another in the attempt of attracting or retaining resources."* Hence, the competition mechanism has a voluntary character. National governments trying to establish a good business climate through creating favourable tax regimes, is a straightforward example of competition between governments (Graham et al., 2013). There are abundant other examples of policy diffusion as a consequence of economic competition, particularly in the economic policy sphere (Dobbin et al., 2007; Gilardi, 2016). Evidence by Simmons and Elkins (2004), for instance, indicates that countries are more likely to liberalise their international economic policies in a way that is similar to the policies of the countries they compete with. Similar processes take place at a subnational level (Gilardi, 2016). Cai and Treisman (2004) present evidence that states in the United States have been competing to attract investment for over a long time.

There has been quite some debate about whether (sub)national governments competing with each other is a healthy phenomenon (see e.g. Graham et al., 2013). Competition could be a healthy process leading to more effective and efficient policies. An often heard argument against competition between (regional) governments, is that this may lead to a "race to the bottom", in terms of taxes, benefits and regulations (Gilardi, 2016; Graham et al., 2013). In this regard, Bosma an Stam (2012, pp. 7-8) speak about *"locational tournaments in which regions compete for attracting investments by young or established firms."* These and related challenges are discussed thoroughly in chapter 7.

In this thesis, the economic competition mechanism concerns the establishment of a GVC fund with the goal of creating a (more) favourable business climate (see e.g. Graham et al., 2013). As put forward in paragraph 2.3., there is evidence that availability of venture capital in a particular region may attract firms (Zook, 2005). This suggests that economic competition, may be a factor explaining why governments set up GVC funds.

3.2.2. Coercion

The second mechanism of policy diffusion is coercion, a process characterised by one jurisdiction attempting to impose the policy of their preference on another jurisdiction. Coercion is characterised by asymmetric power relationships between the jurisdictions in question. Other than the other mechanisms, coercion is characterised by an involuntary engagement (Dobbin et al., 2007; Waver, 2016). Coercion is often associated with programs of international organisations, which only support countries when they meet certain conditions. The World Bank will, for instance, only lend money to countries that adopt strict financial austerity policies. Through these conditions a country gets the incentive to adopt the policy preferred by the other jurisdiction, the world bank in this case (Dobbin et al., 2007; Graham et al., 2013). The World Bank example, is an example of vertical coercion. But, coercion can also occur horizontally, as long there is an asymmetric power relationship between the two jurisdictions. There are, for instance, abundant examples of first world countries trying to influence the adoption of democracy-related policies in third world countries, through sanctions (Graham et al., 2013).

Dobbin et al. (2007) summarise three types of coercion: conditionality, policy leadership and hegemonic ideas. The World Bank example, is a form of conditionality. Conditionality occurs when one powerful jurisdiction sets conditions for another jurisdiction. The second form of coercion is Policy leadership, a process in which powerful jurisdictions influence weaker jurisdictions without intending to do so. Powerful jurisdictions function as a role-model for weaker jurisdictions (Gruber, 2000). Policy leadership has some overlap with the imitation mechanism which will be further elaborated on in paragraph 3.2.4. The third form of coercion operates through hegemonic ideas. Dominant actors influence less dominant actors through ideational channels: *"The thrust is that dominant ideas become rationalized, often with elegant theoretical justifications, and influence how policy makers conceptualize their problems and order potential solutions."* (Dobbin et al., 2007, p. 456).

There is an ongoing debate about whether coercion should be considered a form of policy diffusion. Critics point out that diffusion as a result of coercion is not voluntary. According to Maggetti and Gilardi (2016): *"(…) diffusion implies that no central actors are coordinating the spread of a policy."* Proponents, on the other hand, consider coercion a form of persuasion and for that reason consider it to be a form of policy diffusion (Dobbin et al., 2007). Following the line of reasoning of the latter, the coercion mechanism is considered a policy diffusion mechanism.

3.2.3. Learning

The third mechanism is the learning mechanism. If one jurisdiction adopts a policy because the policy has been successful in another jurisdiction, it is considered to be a learning process (Dobbin et al., 2007; Gilardi, 2016; Graham et al., 2013). This implies two crucial things. First, it implies that the success of a policy can be objectively determined. Clearly, determining whether a policy is successful can be quite difficult. In particular when you take the arguments of complexity theorists into consideration, who question the 'dominant causality paradigm' which is present everywhere in governmental thinking (In ‘t Veld, 2010; Teisman, 2005). Taking note of this complexity, Gilardi (2016) adopts a rather broad definition of success. He distinguishes three different definitions of success: success related to 1) policy goals, 2) challenges of its implementation and 3) its political support.

Secondly, learning implies that these determined successes are actually taken into consideration by policy makers in another jurisdiction (Shipan and Volden, 2012). Wavre (2016, p. 54) describes it accurately: *“The result of the learning mechanism is an adapted model, sometimes originating from different sources, to best suit the domestic context. Thus, learning includes a notion of involvement of the policymaker with several models, where the policy abroad is assessed in terms of its potential for domestic success.”* At the same time, Wavre points out this is an *‘ideal-type of learning’*, which requires a context where information flows freely. Clearly, this is not always the case (Meseguer and Gilardi, 2009; Wavre, 2016). Consequently, often concessions are made in the number of other related programmes, projects or -in this case- GVC funds that is reviewed (Dobbin et al., 2007). In this regard Meseguer and Gilardi (2009, p. 530) speaks of *“bounded learning”*. Bounded learning comes with risks, since it may lead to the adoption of policies that not primarily suit the policy goal. Simply put, it may lead policies that are either non-functional, not-suitable or inefficient (Meseguer and Gilardi, 2009; Wavre, 2016).

The concept of bounded learning is related to the imitation mechanism (see paragraph 3.2.4.). For example, when governments are mostly focussed on ‘learning’ from the top-performing governments in the field. According to Wavre (2016, pp. 54-55), in that situation, bounded learning is: *“More heavily based on the successful countries and the act of adoption rather than the efficiency and lessons drawn from other countries.”* Again, with the risk of bad policies. Moreover, the learning mechanism in general is related to the imitation mechanism too. Gilardi’s (2016) third definition of success emerges to be close to imitation in particuar. After all, a policy concept that is successful in attracting political support -regardless of whether it succeeds in achieving policy goals-, is likely to be imitated.

3.2.4. Imitation

“It is the symbolic rather than the informative value of a particular experience that attracts the attention of emulators.” With these words Meseguer and Gilardi (2009, p. 531) describe the imitation mechanism. The imitation mechanism, also referred to as emulation or constructivism, is the fourth mechanism of policy diffusion (Dobbin et al., 2007; Gilardi, 2016; Graham et al., 2013). From an imitation perspective understanding why a certain policy gets accepted is crucial in understanding why policies spread. Like competition and learning, imitation is characterised as a voluntary act (Wavre, 2016). Gilardi (2016, p. 10) gives an accurate description of the conceptualization of imitation mechanism:

“The conceptualization of this mechanism implies that units have to conform to their normative environment. Thus, some policies will enjoy high acceptance, regardless of whether they “work” or not. Another way to see this mechanism is that the “burden of proof” changes over time as a function of social acceptance. When considering a radical policy innovation, the burden of proof rests on its advocates, but when it becomes widely accepted, it is the opponents of the policy who have to make their case compellingly to prevent its adoption.”

The imitation mechanism is related to the concept of isomorphism. DiMaggio and Powell (1983) argue that in some cases organisations mimic each other, because it is the safest thing to do in addressing uncertainty. Furthermore, Gilardi mentions *“the “burden of proof” changes over time as a function of social acceptance.”* That is to say, an increase in popularity is likely to result in an increase in adoption of the policy (Wavre, 2016). As stated in paragraph 3.2.3., the imitation mechanism is related to the learning mechanism. There are, however, some essential differences. Other than in the learning mechanism, a jurisdiction is not interested in learning from other jurisdictions, but is rather copying or imitating the perceived leader or leaders. For that reason, a policy in one jurisdiction can even be adopted in another jurisdiction when there is no proof of its success. Another considerable difference is that the country that adopts the diffusing policy, is mainly oriented towards this perceived leader, rather than towards the policy itself (Dobbin et al., 2007; Shipan and Volden, 2012; Wavre, 2016). Clearly, this focus on the *“symbolic rather than the informative value”* (Meseguer and Gilardi, 2009, p. 531), may lead to risks similar to the risks that come with bounded learning (see paragraph 3.2.3.).

3.3. Theoretical model

To summarise, this chapter has discussed four mechanisms of policy diffusion that might have explanatory value for understanding why provincial governments in the Netherlands establish GVC funds: economic competition, coercion, learning and imitation. By doing so, it answered theoretical question T2*: Which policy diffusions mechanisms may explain why provincial governments establish GVC funds?* As stated previously, this study aims at increasing understanding of why governments establish GVC funds, rather than at improving the understanding about the different policy diffusion mechanisms. Hence, in this thesis, the different diffusion mechanisms serve as theoretical factors or motives that could explain why provincial governments in the Netherlands establish GVC funds.

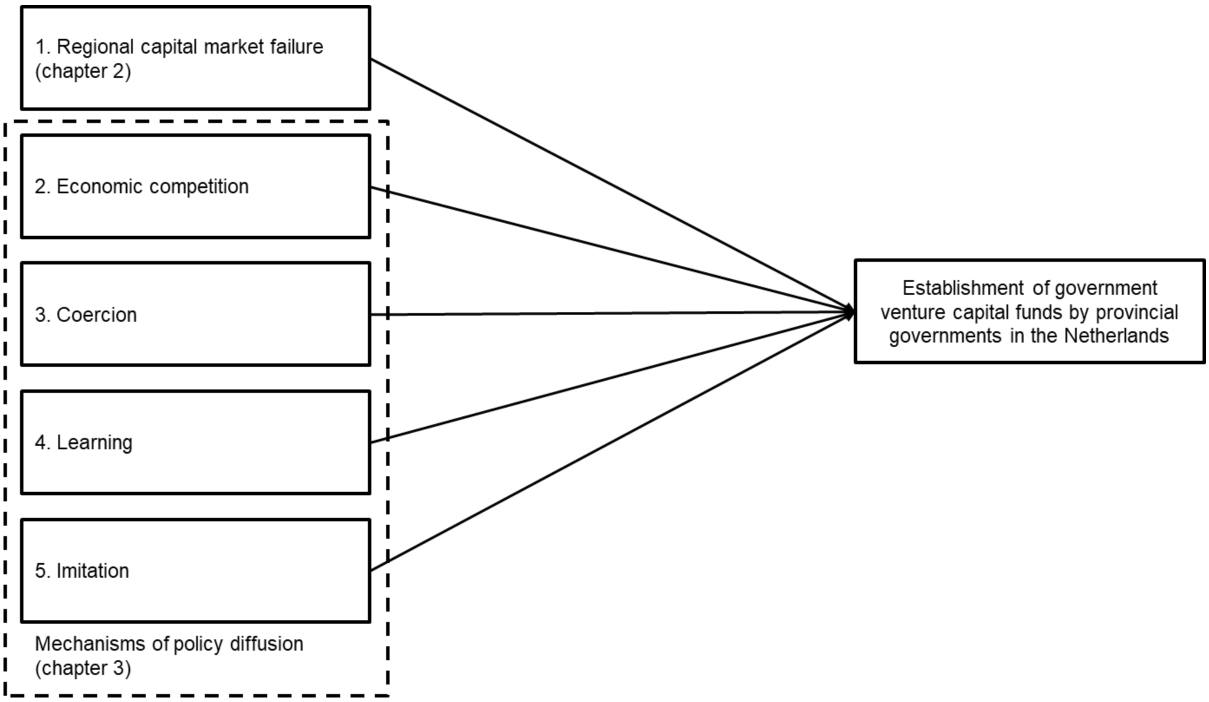


Figure 4. Theoretical model: motives for the establishment of GVC funds by provincial governments in the Netherlands.

In addition, chapter 2 has addressed the other theoretical question T1: *When is government intervention in the regional capital market through GVC funds legitimised from an economic perspective?* Based on the literature a conceptual framework for understanding legitimate government intervention in the regional venture capital market was constructed. When combining these results, five key motives emerge that might explain why provincial governments in the Netherlands establish GVC funds: 1) regional capital market failure, 2) economic competition, 3) coercion, 4) learning and 5) imitation. Based on these factors a theoretical model with motives for the establishment of GVC funds by provincial governments in the Netherlands, has been constructed (see figure 4). The next chapter discusses how these motives will be measured.

4. Methodology

This chapter discusses the methodological choices that have been made in this study and the implications these choices have on the study's validity, reliability and suitability. First of all, the research strategy and research design are described. Next, the data collection of both the quantitative and the qualitative data is discussed. Finally, the analysis strategy is explained.

4.1. Mixed-methods strategy

This thesis has tried to explain why provincial governments in the Netherlands establish GVC funds, both from an economic and a policy diffusion perspective. The central research question was:

Why do provincial governments in the Netherlands establish governmental venture capital funds?

A mixed-methods research strategy has been applied to conduct the empirical research, in order to answer this research question (Bryman, 2016). Through interviews with a selected group of practitioners and experts, data was gathered about to which extent the five theoretical motives (see paragraph 3.3.) affect the establishment of GVC funds by provinces in the Netherlands. Additionally, to gain a better understanding of the competition mechanism, a descriptive statistics strategy was applied. The descriptive statistics aimed at increasing understanding about the regional capital market motive. The analysis included an analysis of the regional capital market situation of the twelve provinces in the Netherlands and an analysis of the relationship between PVC investment and regional government intervention through the establishment of GVC funds.

4.2. Research design: comparative case study

This study has tried to explain a certain phenomenon in the Netherlands, through comparing different provinces with each other. Consequently, the research design is regarded a comparative case study. Since the study focusses on understanding why provinces establish GVC funds, the twelve provinces in the Netherlands were the central cases (Bryman, 2016). All provinces were included in the quantitative part of the study. The fact that only twelve cases were included in the 'sample' is a limitation, as it does only allow for descriptive statistics. At the same time, the sample was exhaustive, since all potential cases were represented in the sample. Due to time limits, the qualitative part concentrated on four of these twelve provinces: Gelderland, Utrecht, Zeeland and Zuid-Holland. The decision to analyse these four provinces more in-depth, was motivated by the results of the descriptive statistics, which indicated that those four provinces faced considerable differences in terms of PVC and GVC investment. This 'variation sampling' allowed to get a comprehensive picture of the research context, even in the limited time period in which this study has been conducted (Bryman, 2016).

The choice to exclusively focus on the Netherlands, has negatively affected the external validity of the results of this thesis (Bryman, 2016; Van Thiel, 2007). After all, the regional economic governance context in the Netherlands is different from regional economic governance contexts in other countries. To know whether the motives for the establishment of GVC funds that apply in the Netherlands are also applicable in other countries, research in other countries is needed.

4.3. Quantitative data and sample

As stated previously, both quantitative and qualitative research methods have been applied to answer the research question. Chapter 2 has constructed a conceptual framework for understanding legitimate government intervention in the regional venture capital market (see paragraph 2.5.). The framework consists of two dimensions: 1) the relative amount of PVC in a region and 2) the relative amount of GVC available in a region. A relatively low amount of venture capital investment is labelled as a '-' and a relatively high amount of venture capital investment is labelled as a '+'. This raises the question how these should be operationalised.

4.3.1. Location quotients

In this thesis location quotients have been calculated to get an impression of the relative amount of venture capital investment per province and, thus, to get an impression of the extent of regional capital market failure or the existence of regional funding gaps (see assumptions in paragraph 2.5.). Location quotients are a commonly used, but quite unsophisticated, way to detect regional funding gaps (Martin et al., 2005; Wray, 2011). That is, the *"Region's actual amount of invested venture capital investment is compared with that 'expected'- for example, on the basis of its share of firms, new firms or GDP."* (Martin et al., 2005, p. 1218). GDP per province is considered to be a problematic and inappropriate measurement in the Netherlands (Paul, 2017), mostly because many people work in the Randstad, but live somewhere else. Consequently, in this thesis location quotients have been calculated on the basis of the provincial share of firms. This data is publicly available on the website of the Statistics Netherlands. This is a common approach (see e.g. Martin et al., 2005; Mason, 2007), but it has its limitations: *"Regional shares of firms tell us nothing about the nature of those firms, in terms of their need for risk capital, their expansion plans, sectoral specialisation, and so on."* (Martin et al., 2005, p. 1220).

Location quotients give an indication of the relative amount of the supply of venture capital. A location quotient higher than unity indicates that the supply of venture capital in a province is higher than the national average. Accordingly, a location quotient lower than unity indicates that the supply of venture capital in a region is lower than the national average. In this study the assumption is made that a location quotient lower than unity, indicates regional venture capital market failure. This justifies government intervention through the establishment of GVC funds (see also the conceptual framework for understanding legitimate government intervention in the regional venture capital market, in paragraph 2.5.). Although location quotients give an impression of the extent of regional capital market failure, location quotients have numerous general restrictions (some of these restrictions have already been addressed more in-depth in paragraph 2.5.).

First, location quotients do not tell us anything about whether amount of the regional venture capital investment is due to constraints in demand or supply (Martin et al., 2005). To put it differently: whether there is indeed a funding gap, or just a lack of viable business plans or skilled entrepreneurs. Location quotients do not take the demand side of venture capital investment into account, which forms a second restriction. A final restriction is that location quotients are relative values. This means that even when a province has a low PVC investment location quotient, due to a relatively low amount of PVC investment compared to the average in the Netherlands, the province may in fact perform fine in terms of meeting the demand for venture capital. And vice versa, a province with a high location quotient, due to a relatively high amount of PVC investment compared to the average in the Netherlands, may still fail in meeting the demand for venture capital in that particular province.

4.3.2. Calculating location quotients

In the data a distinction is made between venture capital and growth capital. The NVP (2018) adopts the following definitions for those types of capital:

- Venture capital: Funding provided to support the pre-launch, launch and early stage development phases of a business.
- Growth capital: Funding provided to expand an existing company.

In accordance with this, the provincial PVC and GVC location quotient have been calculated for three ‘types of capital’: 1) venture capital, 2) growth capital and 3) the total capital investment (a combination of venture and growth capital). Consequently, the formulas for calculating the provincial quotients are as follows:

$$\textbf{Location quotient PVC investment} = \frac{\textit{Total amount of PVC (growth, venture or total) investment (€) in province X in period Y / Total number of firms in province X in period Y.}}{\textit{Total amount of PVC (growth, venture or total investment) (€) in the Netherlands in period Y / Total number of firms in the Netherlands in period Y.}}$$

$$\textbf{Location quotient GVC investment} = \frac{\textit{Total amount of GVC (growth, venture or total) investment (€) in province X in period Y / Total number of firms in province X in period Y.}}{\textit{Total amount of GVC (growth, venture or total) investment (€) in the Netherlands in period Y / Total number of firms in the Netherlands in period Y.}}$$

The location quotient has been calculated for two different time periods of 5 years: 2008-2012 and 2013-2017. Calculating location quotients over a period of at least four years is recommended, as the provincial investments may fluctuate greatly from year to year (Martin et al., 2005). In the case of the Netherlands it is particularly relevant to calculate the location quotients over a period of at least 5 years, because in some Dutch provinces there were no investments at all for a continuous period of three years.

4.3.3. PVC and GVC investment data

PVC and GVC investment data from the NVP (2018) served as input for the calculation of location quotients. This data is publicly available on the NVP’s website. Initially the dataset made no distinction between GVC and PVC investments on a provincial level. On request of the researcher, the NVP has restructured the data which gave insight into the differences between GVC and PVC investment per province in the Netherlands (NVP, 2018). The definition of a GVC fund (see paragraph 2.3.), has consequences for the calculation of the total amount of investment per province per year in the Netherlands. Table 2 presents which GVC funds were included to calculate the total amount of GVC investment per province. To the best of the researches knowledge, the selection covers of the most important organisations. Nevertheless, some smaller GVC funds might not be represented in this selection.

Table 2. Overview of fund managers of which investments are included in the calculation of the total number of GVC investment per province.

Name fund	Location of headquarters
Beheer Flevoland Participaties BV	Flevoland
Brabantse Ontwikkelings Maatschappij / BOM	Noord-Brabant
Groei- en Ontwikkelingsfonds Noord-Holland B.V	Noord-Holland
InnovationQuarter	Zuid-Holland
NV Industriebank Liof	Limburg
NV NOM / NOM Finance	Groningen
ODENH	Noord-Holland
PPM Oost / Participatiemaatschappij Oost-Nederland	Gelderland
Wadinko CV	Overijssel
Van Reekum Participatie Fonds Beheer B.V	Gelderland
PDENH (Participatiefonds Duurzame Economie Noord-Holland)	Noord-Holland

Similar challenges come with calculating the amount of private investment per province per year in the Netherlands. The types of PVC funds included in the NVP (2018) dataset are:

- Private equity funds making direct private equity investments;
- Mezzanine private equity funds;
- Co-investment funds;
- Rescue / turnaround funds.

The types of private investment funds excluded in the NVP dataset are:

- Infrastructure funds;
- Real estate funds;
- Distressed debt funds;
- Primary funds-of-funds;
- Secondary funds-of-funds;
- Investments of business angels.

The NVP dataset has several limitations. A first worth-mentioning restriction of the dataset, is the fact that private venture and growth capital, may in some cases still be partly funded by the Dutch national government or the European Union. Both institutions have several financial policy instruments to fund PVC funds, like the ‘Seed Capital Scheme’ and instruments of the European Investment Fund (European Investment Fund, n.d.; Ministry of Economic Affairs, 2015). With the Seed Capital Scheme, for instance, the Dutch government grants capital to PVC funds. Consequently, the dataset with private investments becomes more blurred. Secondly, the dataset does not reflect potential sectoral differences. The demand for venture capital is likely to differ per sector. After all, venture capital is mainly considered to be an important type of funding for innovative firms, which concentrate in certain sectors (Lerner and Tåg, 2013; Martin et al., 2005; Samila and Sorenson, 2011). A third limitation is associated with the types of PVC funds included in the NVP dataset. Among other things, data about informal venture capital investment is lacking. Yet, other studies have stressed the importance of taking informal venture capital into account too, as it is considered an important source of funding for innovative firms (see e.g. Mason and Harrison, 2002).

4.3.4. Constructing the regional venture capital quadrant

Using the PVC and GVC location quotients of each province, several 'regional distribution of venture capital investment by stage' tables have been constructed. Like mentioned previously, these tables have been calculated for two time-periods and three stages of capital: venture capital, growth capital and the total amount of capital. Based on these tables, and taking the 'conceptual framework for understanding legitimate government intervention in the regional venture capital market' as a starting point (see paragraph 2.5.), six regional venture capital quadrants (see annex V) have been constructed. To get a better impression of the direction and strength of the relationship between the relative amount of GVC investment and PVC investment in a certain phase and a certain period, a trendline was drawn through the regional venture capital quadrants and the slope gradient of the trendline was calculated. A positive slope gradient indicates that the relative amount of GVC investment increases, when the relative amount of PVC investment increases. Accordingly, a negative slope gradient indicates that the relative amount of GVC investment decreases, when the relative amount of PVC investment increases. The height of the slope gradient indicates how much the relative amount of GVC investment increases or decreases, in relation to the increase or decrease of the relative amount of PVC investment. Microsoft Excel software was used to perform this analysis. Next, the tables and the regional venture capital quadrants have been analysed (Field, 2013).

4.4. Qualitative data and sample

In addition to the descriptive statistics, qualitative research methods have been used. In total, interviews have been conducted with 14 respondents. The respondent sample consisted of both practitioners and experts in the field of provincial GVC funds (see annex I). Furthermore, 13 documents have been analysed to gain a better understanding of the research context (see annex II).

A major reason to use qualitative research methods, is the complexity of 'measuring' policy diffusion mechanisms. Several scholars have stressed the empirical challenges that come with policy diffusion research (see e.g. Gilardi, 2016; Meseguer and Gilardi, 2009; Wavre, 2016). Qualitative research methods are particularly suitable for understanding complex mechanisms and respect the complexity and heterogeneity of the different policy diffusion mechanisms. Moreover, the qualitative research strategy fits the explorative character of the study. At the start of the study, little was known about the policy diffusion mechanisms in a regional economic governance context. Consequently, quantifying these mechanisms in the regional economic governance context, would have been rather complicated (Bryman, 2016; Field, 2013).

4.4.1. Interview data

Part of the qualitative data was gathered through semi-structured interviews. The interviews were structured around a number of topics (see annex III for the topic list). The motives identified in the theoretical model discussed in paragraph 3.3., served as input for the topic list. The interviews gave an impression of what role the different motives have played in why provincial governments establish GVC funds. The semi-structured nature of the interviews allowed for systematically testing the five diffusion mechanisms, whilst allowing other factors, motives or suggestions to be brought up by the respondent (Bryman, 2016).

Interviews were conducted with both practitioners and experts in the field of venture capital policies. In this regard, practitioners are those people directly involved in the regional economic policymaking or policy execution process. To represent both the policymakers and the policy executors, interviews have been conducted with regional economic policy makers and directors of the RDAs. Initially, the expectation was that policy makers would have more insight into the decision-making process within the provincial government. The directors of RDAs were expected to have more knowledge about the actual investment decisions of the GVC funds. Hence, they were expected to have more insight into whether the GVC funds are actually addressing market failures. In addition one interview with a provincial executive was conducted. This interview contributed to the researcher's insight into decision-making process within the provincial government on a strategic level. Experts, on the other hand, were those respondents who were not directly involved in regional economic policymaking or policy execution processes, but who do have knowledge of the topic. Since the experts did not have a regional interest themselves, the experts were expected to be able to observe the reasons for the establishment of GVC funds more objectively. The experts were identified and selected after carefully analysing several reports and articles about regional economic governance and GVC policies in the Netherlands. Table 3 gives an overview of the types of respondents consulted.

A detailed list of all respondents can be found in annex I. All selected experts and practitioners have been contacted through e-mail and nearly all of them agreed to participate in an interview. Like motivated in paragraph 4.2., due to limited time and resources, the sample of respondents consisted of practitioners from four different provinces in the Netherlands: Gelderland, Utrecht, Zeeland and Zuid-Holland.

Table 3. Overview of respondents (for a detailed list of all respondents, see Annex 1).

Background	Number of respondents
Practitioners (9 in total)	
Provincial executive (Gedeputeerde Staten)	1
Director of Regional Development Agency	4
Policy maker	4
Experts (5 in total)	
Professor economics of sub-national governments	1
Policy maker Ministry of Economic Affairs and Climate Policy	1
Consultant	3

4.4.2. Policy documents

Besides interview data, 13 policy documents have been analysed. A full overview of the analysed documents can be found in annex II. The analysed documents can be divided into three categories:

- Policy evaluations, both evaluations of regional GVC funds and overarching evaluations.
- Ex-ante assessments of the regional access to funding.
- Other documents, including reports and parliamentary documents.

The documents were mostly used to get an impression of the research context.

4.4.3. Qualitative data analysis

All interviews, except for one, have been recorded and transcribed. Subsequently, all interview transcripts and documents have been coded using Nvivo software, using a coding tree (see annex IV). Analysing the interview data using Nvivo, contributed to analysing the qualitative data in a structured manner. Since the documents merely served as context sources, the documents have not been coded. The combination of two types of qualitative data and descriptive statistics, contributed to the internal validity of this thesis, as this triangulation helped in gaining a more comprehensive picture of the role the different theoretical motives play in why provincial governments set up GVC funds (Bryman, 2016).

5. Quantitative results

This chapter attempts to get a deeper understanding of the role of regional capital market failure in explaining why provincial governments in the Netherlands establish GVC funds. In order to do so, this chapter analyses the relationship between the amount of GVC and PVC investment in these provinces. The conceptual framework for understanding legitimate government intervention in the regional venture capital market' (see paragraph 2.5.) serves as a starting point for this analysis. By doing so, this chapter answers empirical question E1: *To what extent is the establishment of GVC funds by provincial governments in the Netherlands legitimised from an economic perspective?*

5.1. Location quotients

In the following paragraphs the location quotients of venture capital investment (in Euros) will be presented for each province. The location quotient is calculated as the share of the national venture capital investment of each province in a particular period, divided by the share of the total number of firms in the Netherlands of each province in the same period. In this case, location quotients have been calculated for the twelve provinces in two different time periods: 2008-2012 and 2013-2017. The methods chapter (see chapter 4) has discussed this calculation and its limitations more profound. A location quotient higher than unity (bold in tables 4, 5, 6 and 7), indicates a relative over supply of either GVC or PVC investment (in Euros). Accordingly, a location quotient lower than unity is an indication of a relative under supply (Martin et al., 2005).

5.1.1. Regional distribution of PVC investment

Table 4 and 5 present the regional distribution of PVC investment by stage in the Netherlands for the periods 2008-2012 and 2013-2017. First, the table indicates that, in absolute numbers, PVC investment turns out to have considerable regional dimension. In both time periods, at least 69% of all PVC investment is concentrated in the Randstad provinces: Utrecht, Noord-Holland and Zuid-Holland. Also when looking at the location quotients, which are relative values, the Randstad provinces outperform the more rural provinces in terms of the relative amount of PVC investment. In both periods, the three Randstad provinces emerge with private investment location quotients well above unity. This is especially the case for venture investments, what is often referred to as 'classic venture capital' (Martin et al., 2005). The more rural provinces on the other hand, like Drenthe, Friesland, Groningen, Limburg and Zeeland see a relatively low amount of total venture capital investment in particular. The location quotients of some of these provinces, Groningen in particular, turn out to be more volatile than the location quotients of the Randstad provinces.

Both the absolute and the relative numbers (location quotients), indicate a concentration of PVC investment in the Randstad. This concentration might be partially explained by the spatial bias of venture capitalists (see e.g. Mason, 2007) in combination with the fact that many venture capitalists concentrate in the Randstad provinces (Vrolijk and Wester, 2012). Furthermore, the 'regular' limitations of the calculation of location quotients apply and may be of influence. Possibly, certain sectors with a higher demand for venture capital are overrepresented in the Randstad provinces. These sectoral differences are not reflected in the location quotients, since these have been calculated on the basis of the provincial share of firms (see paragraph 4.3.). Finally, considerable differences per stage (venture and growth) per province exist. Some provinces do quite well in terms of the PVC venture location quotient, while at the same time having a PVC growth location quotient far below unity. Noord-Brabant, for instance, appears to have a relatively high amount of venture investment (location quotient of 1,17) but low growth investment (location quotient of 0,59) in the 2008-2012 period.

Table 4. Regional distribution of PVC investment by stage in the Netherlands, 2008-2012.

Province	Percentage			Location quotient		
	Venture	Growth	Total	Venture	Growth	Total
Nederland	100,00%	100,00%	100,00%	1,00	1,00	1,00
Drenthe	0,38%	0,00%	0,13%	0,13	0,00	0,04
Flevoland	0,64%	1,78%	1,37%	0,25	0,70	0,54
Friesland	0,13%	0,22%	0,19%	0,03	0,05	0,05
Gelderland	1,20%	8,63%	5,98%	0,10	0,72	0,50
Groningen	1,65%	2,84%	2,41%	0,49	0,85	0,72
Limburg	0,60%	2,99%	2,14%	0,09	0,46	0,33
Noord-Brabant	17,56%	8,80%	11,92%	**1,17**	0,59	0,79
Noord-Holland	30,56%	24,68%	26,78%	**1,54**	**1,25**	**1,35**
Overijssel	2,79%	7,51%	5,83%	0,48	**1,29**	1,00
Utrecht	16,16%	10,12%	12,28%	**2,01**	**1,26**	**1,53**
Zeeland	1,18%	0,18%	0,54%	0,48	0,07	0,22
Zuid-Holland	27,15%	32,25%	30,43%	**1,56**	**1,85**	**1,75**

Table 5. Regional distribution of PVC investment by stage in the Netherlands, 2013-2017

Province	Percentage			Location quotient		
	Venture	Growth	Total	Venture	Growth	Total
Nederland	100,00%	100,00%	100,00%	1,00	1,00	1,00
Drenthe	1,55%	2,76%	2,35%	0,55	0,98	0,83
Flevoland	0,61%	0,15%	0,30%	0,24	0,06	0,12
Friesland	0,08%	0,20%	0,16%	0,02	0,05	0,04
Gelderland	3,41%	4,63%	4,22%	0,29	0,39	0,35
Groningen	0,78%	0,00%	0,27%	0,25	0,00	0,09
Limburg	1,84%	0,34%	0,85%	0,29	0,05	0,14
Noord-Brabant	6,79%	11,72%	10,05%	0,46	0,80	0,69
Noord-Holland	41,79%	42,43%	42,21%	**2,06**	**2,09**	**2,08**
Overijssel	1,74%	2,03%	1,93%	0,31	0,36	0,35
Utrecht	20,63%	5,72%	10,79%	**2,43**	0,67	**1,27**
Zeeland	1,54%	1,74%	1,68%	0,63	0,71	0,68
Zuid-Holland	19,23%	28,28%	25,21%	**1,07**	**1,58**	**1,41**

5.1.2. Regional distribution of GVC investment

The regional distribution of GVC investment by stage in the Netherlands for the periods 2008-2012 and 2013-2017 is presented in table 6 and 7. Like PVC investment, in absolute numbers GVC investment appears to have a considerable regional dimension (see paragraph 5.1.1.). However, other than with PVC investment, which appears to be Randstad oriented, GVC investment is more oriented towards four rural provinces. In the 2008-2012 period Gelderland, Limburg, Noord-Brabant and Overijssel account for 71,6% of all GVC investment. In 2013-2017 this percentage is 53,2%, which is substantially lower. Yet, still a considerable amount of GVC investment concentrates in the four mentioned provinces. The GVC investment location quotients tell a somewhat different story. GVC investment is -again- found to be distributed unevenly across regions and tends to concentrate in rural provinces. Taking into account the GVC total location quotients of both time periods, five provinces emerge with particularly high location quotients: Flevoland, Gelderland, Groningen, Limburg and Overijssel. Thus, three out of four provinces that see a lot of GVC investment in absolute terms, also emerge with location quotients well above unity. Interestingly enough, Noord-Brabant which accounts for around 10% of the total amount of GVC investment in both time periods, has a PVC location quotient below unity in both time periods.

Table 6. Regional distribution of GVC investment by stage in the Netherlands, 2008-2012.

Region	Percentage			Location quotient		
	Venture	Growth	Total	Venture	Growth	Total
Nederland	100,00%	100,00%	100,00%	1,00	1,00	1,00
Drenthe	2,82%	0,83%	2,14%	0,94	0,28	0,72
Flevoland	6,88%	1,08%	4,89%	**2,70**	0,42	**1,92**
Friesland	2,00%	2,11%	2,04%	0,50	0,53	0,51
Gelderland	30,85%	23,84%	28,45%	**2,58**	**2,00**	**2,38**
Groningen	5,01%	2,94%	4,30%	**1,50**	0,88	**1,29**
Limburg	17,71%	27,85%	21,18%	**2,70**	**4,25**	**3,23**
Noord-Brabant	12,73%	4,15%	9,80%	0,85	0,28	0,65
Noord-Holland	1,69%	8,52%	4,02%	0,09	0,43	0,20
Overijssel	11,87%	12,76%	12,17%	**2,03**	**2,19**	**2,09**
Utrecht	3,99%	14,77%	7,67%	0,50	**1,83**	0,95
Zeeland	0,00%	0,00%	0,00%	0,00	0,00	0,00
Zuid-Holland	4,46%	1,15%	3,33%	0,26	0,07	0,19

Table 7. Regional distribution of GVC investment by stage in the Netherlands, 2013-2017.

Region	Percentage			Location quotient		
	Venture	Growth	Total	Venture	Growth	Total
Nederland	100,00%	100,00%	100,00%	1,00	1,00	1,00
Drenthe	2,37%	15,83%	7,25%	0,84	**5,59**	**2,56**
Flevoland	2,68%	4,05%	3,18%	**1,05**	**1,58**	**1,24**
Friesland	3,96%	4,47%	4,15%	0,99	**1,12**	**1,04**
Gelderland	18,86%	6,99%	14,55%	**1,58**	0,59	**1,22**
Groningen	6,31%	9,44%	7,45%	**2,02**	**3,02**	**2,38**
Limburg	11,94%	3,96%	9,04%	**1,91**	0,63	**1,45**
Noord-Brabant	11,11%	8,27%	10,08%	0,76	0,57	0,69
Noord-Holland	6,92%	2,97%	5,49%	0,34	0,15	0,27
Overijssel	13,02%	31,15%	19,60%	**2,33**	**5,58**	**3,51**
Utrecht	6,20%	5,71%	6,02%	0,73	0,67	0,71
Zeeland	0,42%	0,00%	0,27%	0,17	0,00	0,11
Zuid-Holland	16,21%	7,17%	12,93%	0,90	0,40	0,72

The disparities in terms of GVC investment, both in absolute and relative terms, are even higher when looking at the two stages of investment independently. In the 2013-2017 period, for example, Drenthe and Noord-Brabant have an extraordinarily high GVC growth investment location quotient of over 5,5. These location quotients are substantially higher than in the previous period -this goes for Drenthe in particular, which has a public growth venture capital investment location quotient of 0,28 in the 2008-2012 period. It is hard to say what explains these unusually high location quotients.

Another interesting finding is that the GVC investment location quotient emerges to be particularly low in two provinces: Zeeland and Noord-Holland. The low location quotient in Noord-Holland is likely due to the fact that Noord-Holland is one of the few provinces that does not have a RDA. Zeeland, on the other hand, does have an RDA. However, this RDA does not have access to high amounts of funds. With a GVC investment location quotient of 0,19 in the 2008-2012 period, Zuid-Holland has a low location quotient in this period too. However, the public investment location quotient of Zuid-Holland experiences a substantial increase in the 2013-2017 period. It seems plausible that this is due to the fact that Zuid-Holland established its own RDA in 2014: InnovationQuarter.

Finally, the GVC location quotient of Utrecht is interesting in particular. In both time periods a small but substantial amount of all GVC investment is made in Utrecht. This is remarkable, since Utrecht is one of the few provinces that does not have a RDA. Also, as shown in table 2 in paragraph 4.3.3., none of the included GVC funds are located in Utrecht. The only explanation for this, would be that that GVC funds of other provinces have invested in firms in Utrecht.

5.2. Relationship between the relative amount of GVC and PVC investment

Paragraph 5.1. has presented evidence that in both time periods considerable regional disparities exist in terms of venture capital investment. Both GVC and PVC investment appear to have a considerable regional dimension. Although this gives an impression of the regional differences, this does not completely answer empirical question E1. To answer this question, it is of necessary to understand the relationship between the relative amount of GVC investment and the relative amount of PVC investment in provinces in the Netherlands, as this allows for discovering a general trend. The conceptual framework for understanding legitimate government intervention in the regional venture capital market (see paragraph 2.5.) constructed in chapter 2, allows for such analysis. On the basis of both the GVC and PVC total location quotients for the periods 2008-2012 and 2013-2017, two regional venture capital quadrants have been constructed (see figure 5 and 6).

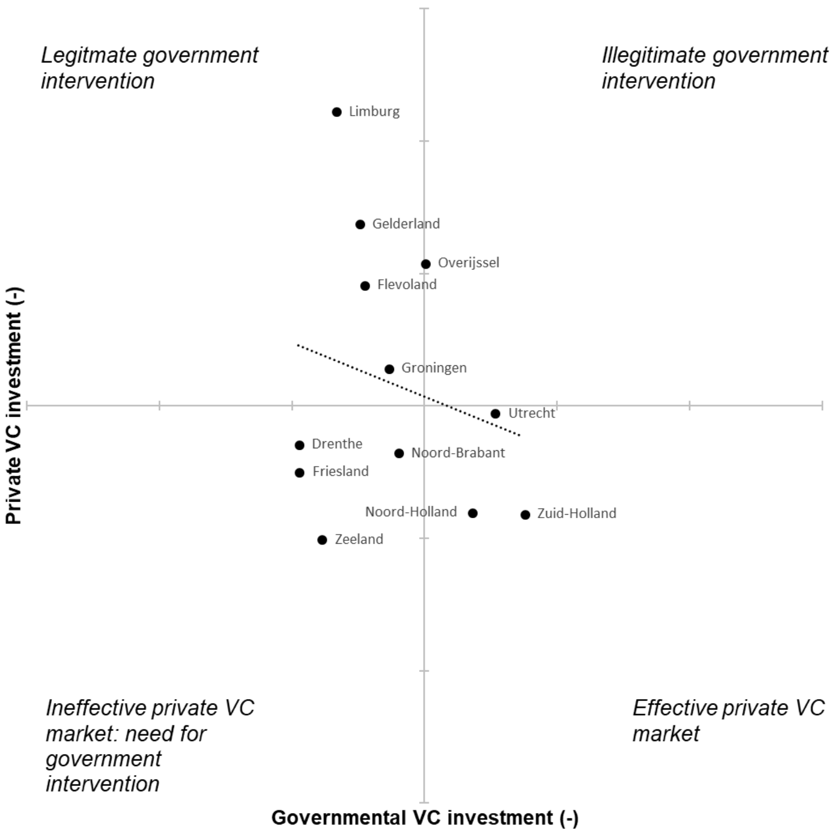


Figure 5. Regional venture capital quadrant total investment, 2008-2012.

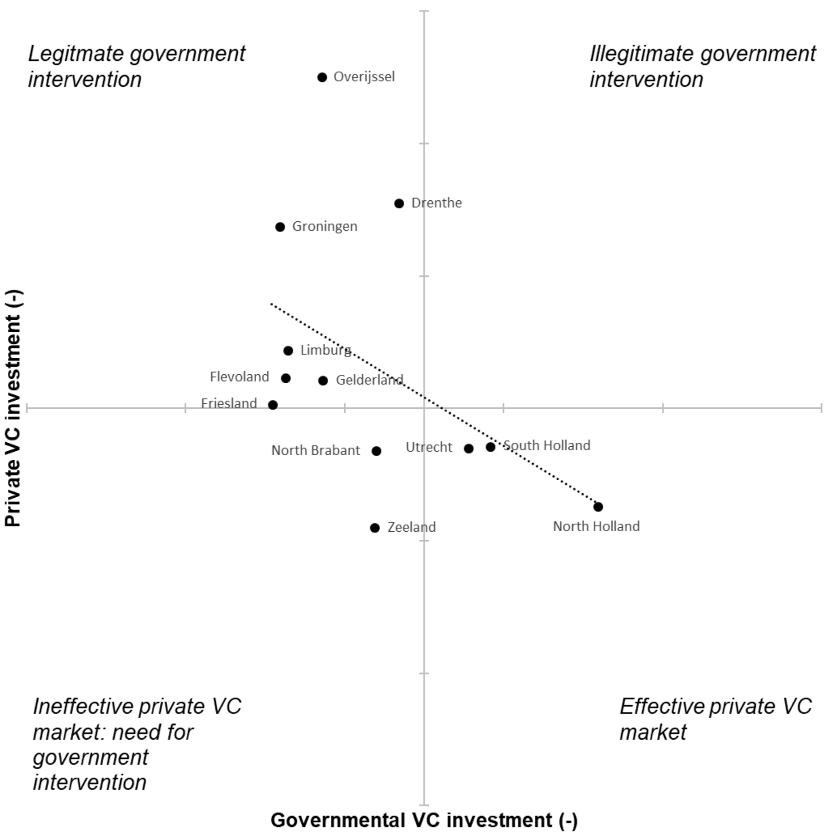


Figure 6. Regional venture capital quadrant total investment, 2013-2017.

5.2.1. Analysis

The first and most important observation when analysing both regional venture capital quadrants (see figure 5 and 6), is that both quadrants show a similar trend. There seems to be a negative relationship between the relative amount of PVC investments and the relative amount of GVC investment. In general terms, when the relative amount of PVC investment increases, the relative amount of GVC investment decreases. This suggests that governments – at least partially- intervene in accordance with their regional economic situation. Also, this suggest that government intervention is in general legitimate. Furthermore, according to the classifications in the conceptual framework, the regional venture capital quadrants indicate that most provincial governments either intervene legitimately in a not well-functioning regional venture capital market (with a PVC total location quotient below unity), or have a regional PVC market that is effective in itself. Finally, the fact that the regional venture capital quadrant has been constructed for two time periods allows for a basic longitudinal analysis. In general, there is quite some relocation within the quadrants over the two time periods. Most provinces are relocated quite a bit in the 2013-2017 period. At the same time, most provinces remain in the same quarter or classification. Friesland and Drenthe are the only provinces that relocate from 'ineffective PVC market: need for government intervention' to 'legitimate government intervention'. Perhaps, the financial crisis which coincides with the 2008-2012 time period, has motivated these provinces to intervene in the regional venture capital market. However, as the regional venture capital quadrants are constructed using relative values (location quotients), it is not easy to say whether this is indeed the case.

Besides these general findings, some interesting findings on level of individual provinces emerge. Based on the trend, you would, for example, expect the relative amount of GVC investment in Zeeland to be higher than in Utrecht. After all, Utrecht performs a lot better in terms of PVC investment than Zeeland. However, this is not the case. Another interesting case is Overijssel. The province appears to intervene quite drastically in its economy. In both time periods however, this intervention seems to be more justified in provinces in which the PVC investment location quotient severely lower, such as Friesland. A last noteworthy case is Zeeland. Zeeland performs quite badly both in terms of the relative amount of GVC investment and the relative amount of PVC investment. The venture capital investment data does not indicate what causes this. Some of these from an economic perspective remarkable cases, might be explained due to other, not necessarily economic, factors. The next chapter discusses these potential other factors.

5.2.2. Analysis per stage

In addition to the two total capital regional venture capital quadrants that have been discussed in paragraph 5.2.1., four additional regional venture capital quadrants have been constructed per stage (venture or growth) and period (2008-2012 and 2013-2017). This has resulted in four additional regional venture capital quadrants, which can be found in annex V. Those four quadrants will not be discussed in detail. But, to give and impression of the strength and relationship between the relative amount of GVC and PVC investment in all quadrants, the slope gradient has been calculated. A positive slope gradient indicates that the relative amount of GVC investment increases, when the relative amount of PVC investment increases. Accordingly, a negative slope gradient indicates that the relative amount of GVC investment decreases, when the relative amount of PVC investment increases (see also paragraph 4.3.). The height of the slope gradient indicates how much the relative amount of GVC investment increases or decreases, in relation to the increase or decrease of the relative amount of PVC investment.

Table 8. Overview of slope gradients of trend lines of the different regional venture capital quadrants.

	Venture	Growth	Total
2008-2012	-0,85	0,12	-0,41
2013-2017	-0,45	-0,66	-0,73

The results show that in five out of six regional venture capital quadrants, including the two total capital regional venture capital quadrants discussed in de preceding paragraph, there is a negative relationship between the relative amount of PVC investment and the relative amount of GVC investment. One way of understanding this is that when there is more venture capital available in the private capital market, there appears to be less government intervention through the establishment of GVC funds. In contrast to these five regional venture capital quadrants, the regional venture capital quadrant for growth capital in the 2008-2012 period shows a slightly positive trend: the relative amount of GVC investment slightly increases when the relative amount of PVC investment increases. Also, two of the provinces end up in the 'ineffective government intervention' quarter of this quadrant. It is hard to say why this quadrant shows a contradicting trend. The factors that will be discussed in the next chapter might partially explain this.

5.3. Conclusion

This chapter analysed the venture capital investment data in two steps. First, it has analysed the regional distribution of PVC and GVC investment over provinces in the Netherlands. Secondly, the relationship between the relative amount of GVC investment and PVC investment in provinces in the Netherlands has been analysed, through constructing and discussing six regional venture capital quadrants. Several key findings become clear from the analysis.

First of all, the data indicates that venture capital investment has a considerable regional dimension. Both PVC and GVC investment are distributed unevenly over space. The uneven distribution of venture capital investment in general, corresponds to the findings of previous studies in other countries which found similar uneven patterns (see e.g. Mason, 2007; Zook, 2005).

PVC investment tends to concentrate in the Randstad provinces. This could be due to the spatial bias of venture capitalists (see e.g. Mason, 2007) in combination with the fact that many venture capitalists concentrate in the Randstad provinces (Vrolijk and Wester, 2012). Also, the limitations of location quotients in general, discussed in paragraph 4.3. and 5.1. might partially explain this high concentration of PVC investment. Given the significance of venture capital investment for regional economic growth, the regional disparities in the concentration of PVC investments might contribute to further regional economic inequality (Mason and Harrison, 2003).

GVC investment on the other hand, appears to be more oriented towards rural provinces. Flevoland, Gelderland, Groningen, Limburg and Overijssel emerge with a high concentration of GVC investment in particular. In absolute numbers, Gelderland, Limburg, Noord-Brabant and Overijssel account for a large amount of the total GVC investment in both time periods (respectively 71,6% and 53,2%). This is likely to be partially explained by the amount of PVC investment in these provinces (see figure 5 and 6), but may also be a result of considerable wealth differences that exist between provinces. This will be discussed more in-depth in paragraph 6.7.

Secondly, there appears to be a negative relationship between the relative amount of PVC investment and the relative amount of GVC investment. In five out of six regional venture capital quadrants, when the relative amount of PVC investment increases, the relative amount of GVC investment decreases. Only the regional venture capital quadrant for growth capital in the 2008-2012 period shows a contradictory trend. Hence, although there is little idea about the precise strength of the regional capital market failure motive in explaining why governments establish GVC funds, the regional PVC market is likely to partially explain why governments establish GVC funds. Regarding empirical question E1, the general trend suggests that government intervention is in general legitimate. This implies that regional capital market failure, is of importance in explaining why governments establish GVC funds.

It may be argued that this is a promising trend, since this implies that rational regional economic arguments are taken into account in the decision-making processes about intervention through GVC funds. At the same time, some provinces seem to intervene in a way that is ‘not appropriate’ according to their regional capital market situation. Some provinces in which government intervention through the establishment of GVC funds is necessary, according to the conceptual framework for legitimate government intervention (see paragraph 2.5.), do not do a lot in terms of GVC investment. Zeeland is the most evident example of this. From this it can be concluded that the regional economic situation does not at all tell the full story in explaining why governments intervene in the regional PVC market through the establishment of GVC funds. The next chapter presents other empirical explanations for why governments establish GVC funds.

6. Qualitative results

Chapter 5 has presented evidence that suggests a negative relationship between the relative amount of GVC investment and the relative amount of PVC investment in provinces in the Netherlands. Hence there is reason to believe that the regional PVC market is likely to -at least partially- explain why governments establish GVC funds and, thus, that regional capital market failure is of importance in understanding why provincial governments in the Netherlands establish GVC funds. Yet, the venture capital investment data also shows that the relationship between PVC and GVC investment is by no means perfect. Moreover, not all provinces intervene in accordance with their regional capital market situation. Consequently, it is likely that other motives are of importance too, in explaining why governments establish GVC funds.

To gain good understanding of these motives, interviews with a broad variety of experts and practitioners have been conducted (an overview of all respondents can be found in annex I).[4] From the interview data different explanations emerge for why provincial governments in the Netherlands establish GVC funds. First, this chapter discusses these explanations and relates them to the five theoretical motives for the establishment of GVC funds, that have been identified in the theoretical part of this thesis: 1) regional capital market failure, 2) economic competition, 3) coercion, 4) learning and 5) imitation (see paragraph 3.3.). Next, other factors that explain why provincial governments in the Netherlands establish GVC funds are addressed. By doing so, this chapter answers empirical question E2 and E3:

- *E2: How do policy diffusion mechanism explain why provincial governments in the Netherlands establish GVC funds?*
- *E3: Which other factors explain why provincial governments in the Netherlands establish GVC funds?*

6.1. Regional capital market failure

Besides the quantitative analysis in chapter 5, the respondents have also been asked what role market failure plays in the decision to establish a GVC fund. A first noteworthy finding, is that 'market failure' is, without a doubt, the most frequently mentioned reason by practitioners to establish a GVC fund in their own province: *"Because capital generally tends to focus on less risky segments, both in terms of sectors and in terms of financing phase. And with that, if you do not put public money into the system, many promising innovations cannot reach the stage of market introduction and cannot continue to grow."* – director RDA.[5] Most answers given by respondents are of similar nature: *"Market failure is the only reason for governments to intervene."* - Policy advisor.

In line with this perspective, many respondents point out the importance of ex-ante capital market assessments, in order to demonstrate market failure. Other than the venture capital investment data analysis in chapter 5, those ex-ante capital market assessments include both an analysis of the supply and the demand side of entrepreneurial capital in a particular province. Such reports provide insight into the funding gaps in different stages of firm development in a province (an example of the results of such an assessment can be found in annex VI). The focus on these assessments is in some cases driven by the fact that these

[4] Since all interviews have been conducted in Dutch, the quotes in this chapter were originally in Dutch, but have been translated to English by the researcher.
[5] If possible, citations have been anonymised.

assessments are a requirement for applying for funding from European institutions, such as the European Investment Fund: *"Those capital market assessments were mainly introduced by the European Commission that wanted to utilise European funds to set up GVC funds. Then, it is just a requirement that you have to meet."* – Expert. Statements of different practitioners confirm this view: *"It was also a requirement from Europe. In order to receive ERDF funding, market failure has to be demonstrated."* – Policy advisor.

Although many respondents stress the importance of carrying out an ex-ante capital market assessment prior to establishing GVC funds, respondents also point out the limits of these assessments: *"Of course you can do an ex-ante capital market assessment in advance, but the proof of the pudding is in the eating. So it is not until the moment you establish a fund, when you know whether you actually had a market failure problem."* – Director RDA. Ex-ante capital market assessments only provide insight into the (regional) capital market on one moment in time. Hence, these assessments have value, but are no panacea either. Moreover, those studies are said to have limitations in terms of methodology. The size of the demand for capital is determined by analysing perceptions of entrepreneurs. Some studies have, however, indicated the perceptions may be biased. As these perceptions may *"(…) be partly a result of the poor quality of some investment proposals and their lack of 'investment-readiness'."* (Martin et al., 2005, p. 1224). One expert addresses another risk of ex-ante assessments: *"So, in that you see that market failure is sometimes considered to be merely a tick in the box. If market failure is demonstrated, then everything is allowed. However, I think this view should be nuanced."* – Expert. This raises the impression that, in some cases, proving market failure is more or less a necessary evil or just a check in the box to legitimise the establishment of GVC funds. Lastly, one of the experts puts the importance of these ex-ante assessments in perspective: *"But there is always a need for government funds, especially in the more difficult market segments and the more difficult life phases of innovative companies."* – Director RDA.

In summary, many respondents emphasise the importance of ex-ante capital market assessments and nearly all practitioners are convinced of the relevance of their own provinces' GVC funds in terms of addressing regional capital market failures. Nevertheless, different respondents present examples of GVC funds that have been established without carrying out a proper ex-ante assessments prior to the establishment. This raises the question whether these GVC funds are actually addressing market failure. According to some respondents this is not always the case: *"In this, I am a bit careful. Because I don't want to give the impression that I have comments on colleagues. But, if you look at the size of the funds of some of the RDAs, (…) I do not always have the impression that these funds are addressing market failures."* – RDA director. Interesting is however, that most practitioners are sceptical about GVC funds that have been established by other provinces in particular. Only one of the practitioners gives an example of a fund in his own province which was established as a result of -what he describes as- 'political opportunism': *"That was an example of political opportunism. In all honesty, our RDA had just started and we have neglected to assess whether we were indeed addressing a demand for capital."* – Director RDA. Political opportunism will be discussed more extensively in paragraph 6.4.

6.1.1. Market failure: the case of Zuid-Holland

According to the conceptual framework for understanding legitimate government intervention in the regional venture capital market (see paragraph 2.5.), a lot of government intervention through supplying GVC funding in a province that performs well in terms of PVC investment, is classified as illegitimate. As has been discussed in the preceding chapter and as has been shown in figure 5 and figure 6, none of the provinces in the Netherlands is classified as such. However, some provincial governments do put considerable effort in the establishment of GVC funds, even if there is relatively much PVC available. In this regard Zuid-Holland is an interesting case in particular.

Zuid-Holland is among the two top performing regions in terms of PVC investment in both periods, Zuid-Holland has recently (in 2014) set up its own RDA, named InnovationQuarter. In the interviews, the practitioners of Zuid-Holland have been confronted with the fact that Zuid-Holland already is one of the top performing regions in terms of PVC investment and asked why they consider government intervention necessary after all. In response, one of them stresses the importance of taking sectoral differences and differences in terms of phase into account:

"What you see, of course, is that in the relatively early phases, relatively much private funding is available for companies that reach the stage of market introduction quickly. That goes in particular for IT companies, platforms et cetera. But, when it comes to high tech, clean tech, to a lesser extent life sciences and a number of similar sectors, which are more capital intensive and require a longer development time, then you see that there is still relatively little private funding going to these sectors. Especially in the early phase. Which is logical, because the payback period on these investments is long and the risks are high." – Practitioner Zuid-Holland.

In other words, this RDA director argues that even in provinces which see a relatively high amount of PVC investment, the market may fail and sector or phase-specific funding gaps may occur. Thus, according to this practitioner, in some cases government intervention through the establishment of GVC funds is also legitimised in provinces with a PVC total location quotient above unity. This is perspective is confirmed by an expert, who argues that in certain stages of firm development, government intervention always legitimised. Also, in provinces that perform well in terms of PVC investment. At the same time, with this statement the respondent highlights one of the limitations of the conceptual framework: the concept of regional capital market failure is more complicated than the framework suggests. This limitation will be discussed more in-depth in chapter 7.

6.1.2. Conclusion regional capital market failure

Coming to a conclusion, regional capital market failure is said to be an important motive for the establishment of GVC funds. In order to determine whether there is a funding gap, an ex-ante capital market assessment is considered an important instrument. Yet, these assessment are no panacea either due to methodological limitations. Moreover, these assessments are not always carried out prior to the establishment of GVC funds according to the respondents. Hence, there is reason to believe that regional capital market failure is not the only factor which explains why provinces establish GVC funds. This is in line with conclusion of chapter 5.

What the emphasis on the perceived importance of ex-ante capital market assessments, however, does reflect, is that the concept of funding gaps and regional capital market failure is not straightforward. Furthermore, it shows that, in line with the literature (Martin et al., 2005), taking into account the demand side of venture capital investment is considered crucial in understanding when the market fails. Moreover, it highlights that the exclusive focus on the supply side of venture capital is a substantial limitation of this study. This limitation will be discussed more detailed in paragraph 7.4.

6.2. Economic competition

The first theoretical motive derived from the policy diffusion literature, is economic competition. Economic competition concerns the attempts of governments to create a (more) favourable business climate than other governments. This is the case if governments establish GVC funds in an attempt to enhance the regional business climate. Nearly all respondents agree that economic competition between regions in terms of attracting firms, exists: *"I know the examples where this happened. Where companies decided to start in Groningen and not in this province, because Groningen provided a multi-million loan."* – Director RDA. This corresponds to the Zook's (2005) evidence that access to venture capital can be a considerable pull-factor for firms.

This raises the question whether regional differences in business climates and competition between regions, do motivate the establishment of GVC funds. According to one of the experts, it does: *"Yes, the business climate between regions naturally also plays a role. (…) If you have such a government fund in your region, you have a competitive advantage over other regions."* One practitioner partly agrees: *"It's always an argument that comes into play somewhere."* – Director RDA. Though, most practitioners do not fully agree with this statement and deny that the establishment of GVC funds in their province was driven by considerations about the regional business climate. At most, they consider regional GVC funds a 'basic requirement' all regions should have to create a level playing field: *"A level playing field. If you do not have it, your region is less interesting."* – Policy advisor. Another respondent elaborates further on these dynamics: "*In our province, the line of reasoning was that, we saw companies leaving the province because they could not get funding here. And they did indeed go to Eindhoven, Wageningen or somewhere else."* – Director RDA. Furthermore, one of the RDA directors adds that the RDAs have what he describes as a 'gentlemen's agreement': *"I mean we have a gentlemen's agreement with each other as RDAs that we do not invest in companies in each other's province. And, if a company from Gelderland contacts us, we refer them to Oost NL."* Another practitioner places this in perspective by stating that, in the end, RDAs do have the explicit goal to increase the number of firms in their own region. To put it differently, they have to compete to achieve their goals.

Another policy advisor agrees that a level playing field is desirable. At the same time, he puts the importance of the contribution GVC funds to the regional business climate into perspective by arguing that access to funding is only one element of the regional economic ecosystem: *"Actually, we always consider innovation funding to be an element of an ecosystem. And that ecosystem, consists of more than just funding. (…) And, in that sense it is important that there is such an ecosystem in competition with other regions."* The director of one of the RDAs, adds that governments only have limited possibilities to utilize GVC funds for regional business climate purposes, because of 'state aid regulations': *"At the same time, it is also the case that if you provide funding it must be in conformity with the market, otherwise you will have problems with state aid. So, in that sense it can only be utilized as a competitive tool to a limited extent."*

6.2.1. Conclusion economic competition

This paragraph has discussed the economic competition mechanism. The results indicate that there is some economic competition between provinces in terms of creating a (more) favourable business climate. This suggests that the establishment of GVC funds may also be an attempt to enhance the regional business climate. However, this is not considered to be an important driver by most respondents.

6.3. Coercion

Like described in paragraph 3.2.2., the coercion mechanism is characterised by one jurisdiction attempting to impose their preferred policy on another jurisdiction. The interview data indicates that the national government of the Netherlands -in this case represented by the Ministry of Economic Affairs and Climate Policy- has policies that, at least to some extent, coerce provinces in the Netherlands to establish GVC funds. The functioning of these coercive mechanisms will be discussed below.

6.3.1. The coercive effect of available capital

Several respondents observe a renewed interest of the Dutch Ministry of Economic Affairs and Climate Policy in the regional level as a level to organise economic policy. A recent expression of this, is the planned establishment of Invest NL. Invest NL will be equipped with 2,5 billion Euros and has the goal to contribute to financing societal challenges, such as the energy transition (Netherlands Investment Agency, n.d.). With the establishment of Invest NL a considerable amount of capital becomes available. In many cases, establishing a regional GVC fund alongside with Invest NL, is the way to access these funds. Hence, if governments want to benefit from the available capital, either a new GVC fund has to be established or an existing GVC must be expanded.

According to some respondents, the availability of funds like Invest NL has a coercive effect: *"The first response of governments, also in this province, was: we want to access that money."* - Policy advisor. One of the experts, agrees: *"Besides, it is just the opportunistic reality that all of sudden there is capital available they can access."* One of the RDA directors confirms this and points out the negative aspects of this mechanism: *"That is a fairly natural response from governments, to access the money first before deciding what to do with it. (...) But, unfortunately that is reality."* Although many respondents recognise the coercive power of available capital, there is general consensus among all respondents that establishing a GVC fund for the sole purpose of getting 'a piece of the Invest NL pie', is a negative mechanism in itself: *"Invest NL is not a goal in itself. Enhancing the regional economic situation should be the priority, rather than accessing the available funds."* - Policy advisor. According to one expert, the coercive effect of the availability of funding is even further enhanced by the political system of provinces in the Netherlands: *"I think that the establishment of Invest NL, and the announcement that they want to do a lot in cooperation with those regional players, will definitely have an effect on those players who do not yet have a structure in which they can collaborate with Invest NL. It will definitely get on their nerves when there is this big pot of available, which they cannot access. There is not a single provincial parliament that finds that acceptable."*

These results suggest that accessing the funds because they are available may prevail over accessing the funds because of concrete indications of market failure or funding gaps. Thus, the availability of funds seems to be a factor in explaining why provincial governments in the

Netherlands decide to establish a GVC fund. When confronted with this mechanism, some practitioners slightly nuance this perspective. One of the policy advisors states that the availability of these funds, rather than that it coerces provincial governments to access the money, it stimulates provincial governments to see whether there are any latent ideas that could now be executed given the available funding. It is debatable whether this attitude is necessarily negative. After all, a latent GVC fund idea, may still be a relevant GVC fund. In line with this, two other practitioners argue that accessing these Invest NL funds is not a goal in itself. Rather, provincial governments seek for ways to 'optimise compliance' with these funds One respondent gives a colourful description of this phenomenon: *"So, if you want to go on holiday as a student and your father says: well you know what, I'll give you €500 if you come back from Spain and bring me a good bottle of Rioja. Then you may not need the money, but it is very smart to think about it."*

6.3.2. Coercion: the case of Utrecht

Some respondents state that such coercive mechanisms above all apply to regions that have relatively little GVC compared to the other provinces. An example of such a region is Utrecht. Utrecht is one of the few provinces in the Netherlands without a RDA. Moreover, as the quantitative results in the preceding chapter show, Utrecht has seen relatively little investment through GVC funds in recent years. Interviews with representatives of the Province of Utrecht indicate that Utrecht currently examines the possibilities to establish their own RDA too.[6] A director of another RDA thinks that the available Invest NL capital funding affects this decision making process: *"But, I have the feeling that politically the argument plays a role in Utrecht. They want to be a more full-fledged counterpart for Invest NL by setting up a RDA."* One of Utrecht's representatives confirms this, albeit implicitly: *"What is true: without an RDA, Invest NL won't let you in. They won't allow even you coming up the escalator."*

Moreover, another representative of Utrecht states that the availability of funding is the major reason for Utrecht to examine whether there is a funding gap and, thus, whether there is a reason to establish a more GVC funds in Utrecht: *"In fact, because we do not yet have a real sense of urgency to establish governmental funds in Utrecht, the establishment of Invest NL and the fact that Invest NL has about half a billion Euros available for the province Utrecht, is a reason to say: we need to make sure our business development capacity complies with these funds. To be able to access the funds of Invest NL."* At the same time he opposes the idea that addressing market failure is subordinate to accessing the Invest NL funds. Rather, the availability of the Invest NL funds is a reason to analyse Utrecht's regional capital market: *"So we are now currently investigating whether there is a deal flow to generate."*

6.3.3. Avoiding the 'Regeling Schatkistbankieren'

Another factor that supposedly has a coercive effect, is the 'Regeling Schatkistbankieren' for decentral governments. This regulation obliges provincial governments in the Netherlands, to store their undesignated liquid capital at the Dutch Ministry of Finance (Investico, 2015). Different respondents state that the implementation of this regulation was an important driver of the establishment of GVC funds, since the establishment of GVC funds was quickly found

[6] One respondent rightly points out that the establishment of a RDA is not necessarily the same as the establishment of a GVC fund together with Invest NL. A RDA comprises more than GVC funds only. However, when Utrecht establishes a RDA, it is likely that this comes with additional GVC funds in Utrecht.

to be a creative way of avoiding the relatively bad -according to different experts- conditions of storing liquid capital at the Ministry of Finance: *"(…) as a result of which many wealthy governments have started looking for alternatives. Well this was one of those alternatives, just to avoid The Hague."* In that sense, the implementation of this regulation has had -and still has- a coercive effect on provincial governments to establish GVC funds.

6.3.4. Conclusion coercion

Coming to a conclusion, two vertical coercive mechanisms seem to play a substantial role in explaining why provincial governments establish GVC funds (Graham et al., 2013). First, the availability of capital, currently influenced by the approaching establishment of Invest NL. This phenomenon seems to apply in particular to provinces with relatively little GVC funds. Secondly, the 'Regeling Schatkistbankieren' has coerced provinces to seek other ways to spend their capital. The establishment of GVC funds was a creative way of doing so. The two sources of coercion are not easily linked to one of the three types of coercion Dobbin et al. (2007) distinguish: conditionality, policy leadership and hegemonic ideas. The coercive power of available capital can to some extent be linked to the concept of conditionality. To access the funds of Invest NL, provinces have to establish a GVC alongside with Invest NL. The coercive power of the 'Regeling Schatkistbankieren' could be considered a form of conditionality too, albeit an unintentional form of conditionality.

6.4. Learning

When one province establishes a GVC fund, because it has been successful in another province, it is considered to be a learning process. According to the literature, learning assumes a certain degree of success. Three types of success are distinguished: success related to 1) policy goals, 2) challenges of its implementation and 3) its political support. This paragraph discusses how the learning mechanism works in this regard.

6.4.1. Learning in terms of achieving policy goals

The first and most straight forward type of success, is success in terms of achieving policy goals. If policy goals are achieved in jurisdiction X, it might work in jurisdiction Y too. Numerous experts do, however, argue that it is rather difficult to define whether the currently established GVC funds have been successful so far: *"But I would that for most of the instruments in the Netherlands, we are still so early in 'the race', that you cannot really say something about the success of those funds."* – Expert. According to several respondents it takes at least 10 years to define whether the funds have been successful. Since a large part of the current GVC funds has been established in recent years, it is difficult to determine whether these funds are successful. The difficulties that arise in terms of determining success, may involve risks: *"Furthermore, it takes a while before you know whether the fund was successful. So, it is easy to stay positive."* – Expert. That is to say, there may be a difference between the perceived success of the GVC fund and the actual success in the long run.

About half of all practitioners confirm this. One of the consulted policy advisors, speaks of 'Excel wisdom' in this regard: *"We are very honest about this, also to the Provincial Executives and the provincial parliament. We have presented them documents, but with the disclaimer: 'yes, it is Excel wisdom'."* The other half of the practitioners disagrees and emphasises the recent studies and evaluations that have been conducted: *"Our RDA has been evaluated several times already, also by several courts of auditors. It functions properly."* – Policy advisor. To judge whether this evaluation study and similar evaluation studies have been carried out properly is beyond the scope of this thesis. However, it is noteworthy that also this report identifies challenges in terms of reporting about the societal and financial return of these funds. Another point of view is presented by the policy advisor of another province, who shifts the burden of proof: *“Well, I think, because the trend started 10 or more years ago and, of course, as a government you do not continue working in a way that does not work.”* This argument is interesting in the light of Gilardi’s (2016, p. 10) statement about the imitation mechanism that: *“the “burden of proof” changes over time as a function of social acceptance”*. Hence, in the light of this perspective, this might be an indication of imitation, rather than of learning.

As determining whether the argument of the policy advisor holds is rather complicated and outside the bounds of this thesis, it is hard to say whether this an expression of learning or imitation. However, what does become clear from the interview data, is that the respondents have different perspectives on (the need for) determining the success of GVC funds. There is no general consensus about the results or return of GVC funds.

6.4.2. Learning in terms of overcoming challenges of its implementation

Like discussed in paragraph 6.4.1. several respondents, both practitioners and experts, agree that it is hard to determine whether GVC funds are successful. Thus, learning in terms of achieving policy goals appears to be rather complicated. Still, many respondents argue that they learn from each other. This is an indication that learning in terms of overcoming challenges of its implementation takes place.

One of the interviewed RDA directors describes what the process in his province looked like, prior to the establishment of a GVC: *“Of course, we go to Brainport, we go to Delft, I have been to San Francisco, I have been to Shanghai, to see what happens there. In order to see what instruments are used there and to see which instruments could be useful in the light of our ecosystem and in what way.”* This gives the impression that respondents merely learn from each other in terms of inspiration. Different experts confirm this. Another expert points out the risks of such an attitude: *“I do not see that they learn a lot, but maybe I miss that. They are mainly occupied with their own things and focus on the success stories.”* The focus on success stories, which this expert observes, is associated to what is in chapter 3 defined as ‘bounded learning’ (Meseguer and Gilardi, 2009). The difficulties that arise in terms of defining the success of GVC funds at this point, seems to contribute to a situation in which learning is bounded to focussing on the perceived top-performers, like San Francisco and Brainport. Like stated in paragraph 3.2.3. this may lead to the adoption of policies, GVC funds in this case, that not primarily suit the policy goal (Meseguer and Gilardi, 2009; Wavre, 2016).

Moreover, most practitioners state they consult policy advisors of other provinces prior to implementing their GVC fund. An exemplary example of this is the Province of Utrecht which is, like described in paragraph 6.2., considering to establish a RDA: *“Soon we will go to Innovation Quarter, to see how it goes there. We go there by bus, with the administrators of Utrecht, Hilversum, Amersfoort, EZ and probably also with the directors of some companies.”* – Practitioner Province of Utrecht. Other practitioners give similar examples. One of the consultants suggests that this implementation learning is largely due to the efforts of consultancy firms which facilitate this process: *“I have advised Zuid-Holland, I know how it works there, so for god’s sake, let’s not come up with all new ideas in Noord-Holland. So, we took care of that.”* Another expert summarises it quite accurately by saying it is more learning ‘how’ to do it, than learning ‘why’ to do it.

6.4.3. Learning in terms of gaining political support

The phenomenon of bounded learning discussed in paragraph 6.4.1., is related to another dimension of learning: learning in terms of gaining political support. The interview data indicates that the 'political appeal' of the concept of GVC funds is an important driver of why governments imitate each other. Hence, there emerges to be a blurred boundary between this learning mechanism and imitation. For that reason, this learning mechanism will be discussed in paragraph 6.5.

6.4.4. Conclusion learning

From the interview data it becomes clear that although learning occurs, it mainly occurs on an implementation level. Learning in terms of achieving policy goals emerges to be complicated. This is mainly due to the widely shared notion that -at this point- it is hard to define whether GVC funds have been successful. According to one of the experts this will change when more is known about the success of GVC funds in achieving policy goals: *"Learning will naturally play a much more central role in the coming years."*

6.5. Imitation

From an imitation perspective, understanding why the concept of GVC funds gets accepted by provinces is crucial in understanding why a certain policy gets adopted. This paragraph discusses to what extent respondents recognize the influence of the imitation mechanism and identifies three key factors which explain why governments imitate each other.

6.5.1. The (implicit) recognition of imitation: virus, hip and copycats

Many respondents refer to the imitation mechanism in the interviews, either consciously or subconsciously. Words like: 'virus', 'hip', 'copycat' and 'me too', are used to describe diffusion GVC funds. Moreover, most experts agree that imitation is a significant factor in explaining why provincial governments establish GVC funds: *"These regions see each other in all kinds of IPO meetings. Moreover, the regions see each other at all levels, the civil servants see each other, the provincial executives see each other, they see what the national government does, they see what Europe does. So yes, it's a kind of virus that goes around."* – Expert. In line with this, another expert gives an example of a conversation he had with a province a while ago: *"(...) Besides, there is also the imitation effect. Because I hadn't been at the province for 5 minutes, and representative said: 'everyone has it, except for us'. So, imitation also plays a role for sure."* These citations show that provincial governments are indeed looking at each other when it comes to venture capital policies. Yet, as mentioned in paragraph 6.1., nearly all practitioners deny that the establishments of GVC funds in their province is or was driven by imitation mechanisms. Partially, this might be explained by a social desirability bias which will be discussed more in-depth in paragraph 7.4.

In line with this, one of the RDA directors states that the support for these policies has grown: *"Yes. apparently the time is right, whatever that may mean. Apparently, support for these kind of intervention has grown."* Noting that there is clear support for the concept of GVC funds, the question raises how the concept got accepted in the first place. Three key factors explaining why governments imitate each other, emerge from the interview data: the appeal of the concept has on policy makers and politicians, dealing with uncertainty and benchmarks between governments.

6.5.2. Appeal: the GVC fund as policy panacea

A factor that definitely contributes to the support for these funds, is the great appeal the concept has on policy makers and politicians. This appears to be due to its attractive characteristics. Other than with subsidies, the money is often meant to revolve (see also paragraph 2.4.1.), meaning it can be reinvested: *"Revolving means that at least part of the money can be used again."* – Policy advisor. It is due to these characteristics that convincing the provincial parliament to establish a GVC fund, is easier: *"I understand that it helps for the sales pitch, so to say. (...) There is also no one against it. The starting points are also easy to accept and imitate: you have financial resources and if you organise it properly, those resources might revolve for one hundred percent."* – Expert. At the same time this observation, marks how closely related the imitation mechanism is to the political dimension of learning, in which success is defined as gaining political support (see paragraph 6.4.3.). One expert summarises this tension quite accurately: *"Learning in the sense that it is relatively easy to get political support for policies that do not 'cost' anything."*

Some respondents address the risks that come with this popularity: *"Of course it sounds like the goose with the golden eggs. (…) it does not cost anything, you do not have to include it in the budget, which is also a big advantage if you want the provincial parliament to approve it. (...) Someday it may go wrong. But, well, let's worry about that when we get there."* – Expert. In line with this, one of the RDA directors stresses that GVC funds are not the solution for everything: *"On the political and policy side, revolving funds sometimes seem to be a solution for everything. That is of course not true at all. I mean, you have certain types of innovative developments that cannot be financed through revolving funds at all. In these cases you just need old-fashioned subsidies. But it seems popular at the moment to establish revolving funds."* These citations indicate that the appealing characteristics are of considerable significance in explaining why provincial governments imitate each other and establish GVC funds. According to several respondents, this is not without risk. Due to these appealing characteristics, GVC funds may seem to be the solution for everything. Yet, respondents indicate that GVC funds are not always the appropriate policy instrument. The potential (societal) implications of mechanisms like these will be discussed more in detail in paragraph 7.6.

6.5.3. Dealing with uncertainty

A second explanation for why governments imitate each other is given by one of the experts. He argues that imitation is driven by a certain desire for 'safety': *"If all provinces do it, except for yours, you have something to explain. This will raise questions. (…) The easiest thing to do is to simply do what everyone else does. Then you cannot go wrong. (…) Accordingly, you can conclude that they do not know what they are doing. Just the fact that everyone does the same. Because on the one hand they say: each region is unique. But in the end they all do the same."* To put it differently, the safest thing to do for governments, is to do what everyone else does. And if the whole GVC fund project fails, who is there to blame? This corresponds to the argument of DiMaggio and Powell (1983) that mimic behaviour is sometimes an attempt deal with uncertainty.

6.5.4. Benchmarks and the feeling to be 'behind'

According to one expert, benchmarks are a final explanation for why governments imitate each other. Benchmarks are often associated with competition. Yet, according to this expert, benchmarks play a noteworthy role in explaining why governments imitate each other, as benchmarks are an important instrument for regions to compare their own situation to the situation of other provinces. These comparisons may lead to imitation: *"It's mainly imitation. They have arranged it and we have not arranged it, so we are lagging behind."*

6.5.5. Conclusion imitation

Coming to a conclusion, imitation appears to play a considerable role in explaining why provincial governments in the Netherlands establish GVC funds. The interview data suggests that imitation is driven by three key factors: the appeal of the concept has on policy makers and politicians, the idea that doing what everyone else does is always the 'safest' and benchmarks between governments. In this, the appeal of GVC funds on policy makers and politicians seems to be influential in particular, as this is pointed out by a diverse group of respondents.

6.6. A set of mechanisms

So far, the different theoretical motives for the establishment of GVC funds have been discussed independently. The results do, however, indicate that it makes little sense to see the mechanisms as separate mechanisms. Respondents give various examples showing that it is not due to one mechanism that provinces establish GVC funds, but rather due to a set of mechanisms that occur simultaneously. One of the RDA directors argues that demonstrating the existence of a funding gap is not enough to establish a GVC fund. Obviously, a government also needs the appropriate financial means to 'fill the gap': *"Whether it is popular also depends on whether governments have financial resources to establish those funds. You have to have a need somewhere, but you also have to have the financial resources."* An expert gives another example which indicates that several diffusion mechanisms take place simultaneously: *"And besides, it is just opportunistic reality that there are funds they can suddenly access [coercion] and in addition there is also the imitation effect [imitation].* Another RDA directors gives a third example is. He argues that due to the renewed interest of the Dutch Ministry of Economic Affairs and Climate Policy in the regional level as a level to organise economic policy, the provinces are in a sense coerced to learn: *"There has also been a shift from the national government that policies are increasingly made at the regional level. That also creates a kind of obligation for the region, then you have to know what you are talking about. So you have to organise your economic monitoring properly."* These citations demonstrate that the different motives may affect the decision-making process about setting up GVC funds simultaneously. The different motives may even influence each other. Hence, the motives should be seen as a set of motives, rather than as five independent motives.

6.7. The sale of the energy companies

Besides the motives for the establishment of GVC funds discussed in this paragraph, there appears to be one other important context factor which explains why provincial governments in the Netherlands establish GVC funds. In 2009, several Dutch provinces sold their shares in the energy companies Nuon and Essent. This resulted in a total profit of at least 13 billion euros. Some provinces had more shares in these energy companies than others. As a result, there are considerable differences in the wealth of provinces in the Netherlands (CBS, 2015). Table 9 gives an overview of the differences in wealth. The table shows that Gelderland, Noord-Brabant, Overijssel, Limburg and Friesland are the wealthiest provinces with an equity of at least €1.5 billion.

Table 9. Wealth per province in the Netherlands, 2014.	
Province	Wealth in billion euros
Gelderland	4,7
Noord-Brabant	3,0
Overijssel	1,8
Limburg	1,7
Friesland	1,5
Groningen	0,9
Noord-Holland	0,8
Zuid-Holland	0,5
Drenthe	0,4
Utrecht	0,4
Zeeland	0,1
Flevoland	0,1

These wealth differences have -at least for the wealthier provinces- turned out to be a considerable explanation for why provincial governments have established GVC funds over the years: *“It is no coincidence that Gelderland, Overijssel and Noord-Brabant have the most extensive government fund structures in the Netherlands. These are the three provinces that have earned the most money by selling their shares in the energy companies.”* – Expert. As a result, and taking into account the coercive effect of the ‘Regeling Schatkistbankieren’ (see paragraph 6.3.3.), the wealthier provinces were seeking ways how to wisely invest these ‘energy billions’: *“(…) specifically the provinces that together received a revenue of €22 billion from the sale of Essent and Nuon. The availability of that money means that they can just search for opportunities to spend the money.”*- Expert. Another expert argues that this seeking for ways how to wisely invest these ‘energy billions’ is furthermore triggered by the fact that provinces have few tasks anyway: *“And they do not have so many tasks, of course. What responsibilities do they have? So they have always been a government level looking for a problem, to legitimise their right of existence.”*

The wealth differences in table 9 seem to a large extent in accordance with the story the GVC investment data tells (see table 6 and 7). Table 6 and 7 indicate that in absolute numbers, Gelderland, Limburg, Noord-Brabant and Overijssel account for over 70% of all GVC investment in the 2008-2012 period and over 50% of all GVC investment in the 2013-2017 period. As these four provinces emerge as the wealthiest provinces in table 9, this is likely to explain why these provinces spend considerable amounts of money on GVC funding.

6.8. Conclusion

Coming to a conclusion, the interview data indicates that different motives explain why provincial governments in the Netherlands establish GVC funds. There is evidence that each of the five theoretical motives for the establishment of GVC funds by provincial governments (see paragraph 3.3.), plays a role.

First, *regional capital market failure* is said to play an important role in explaining why provincial governments establish GVC funds. Many respondents, both expert and practitioners, argue that addressing market failure is the most important and legitimate reason to establish GVC funds. Secondly, the establishment of GVC funds can be an attempt to enhance the regional business climate. This is regarded a form of *economic competition.* Although some respondents argue this plays a role, most respondents argue this of little importance in explaining why provincial governments establish GVC funds. Thirdly, respondents state that in several ways provincial governments are *coerced* to establish GVC funds. Both the availability of capital and the 'Regeling Schatkistbankieren' have a coercive effect on provincial governments in the Netherlands to establish GVC funds. The results moreover suggest that in some cases accessing the funds because they are available, prevails over accessing the funds because of a concrete indication of market failure. Fourthly, the data demonstrates that *learning* mostly occurs on an implementation or political support level. Learning in terms of achieving policy goals emerges to be more complicated. This is mainly due to the generally accepted consensus that -at this point- it is hard to define whether GVC funds have been successful. Fifthly, there is evidence that provincial governments *imitate* other governments when it comes to the establishment of GVC funds. This imitation appears to be driven by three key factors: the appeal of the concept has on policy makers and politicians, the idea that doing what everyone else does is always the 'safest' and benchmarks between governments. Particularly the 'political appeal' of the concept emerges as a reason why provincial governments imitate each other. Finally, the results show that the four mechanisms should not be considered independent mechanisms. Rather, the five theoretical motives for the establishment of GVC funds, should be seen as a set of motives that stimulate the establishment of GVC funds simultaneously. This answers empirical question E2.

Furthermore, answering empirical question E3, the interview data indicates that the sale of the provincial shares in the energy companies Nuon and Essent has played, and still plays, a considerable role in explaining why provincial governments establish GVC funds. Some provinces benefited substantially from this sale. The wealth differences (see table 9) correspond to the differences in GVC funding that emerge from the GVC investment data (see table 6 and 7). Hence, it is likely that the sale of the energy companies has stimulated the wealthier provinces to set up GVC funds.

7. Conclusion and reflection

Since venture capital is considered an important ingredient of the entrepreneurial economy, governments throughout the world increasingly intervene in the venture capital market. GVC funds emerge as a popular instrument in particular (see e.g. Colombo et al, 2016). Intervention through GVC funds is often said to be legitimized by capital market failure. However, these arguments are controversial as different experts have questioned the 'clear economic rationales' of these policies and pointed out the possible explanatory value of policy diffusion mechanisms in explaining why governments set up GVC funds (see e.g. Birch, 2017; Logger and Weijnen, 2017). To understand whether these concerns are justified, this study analysed why governments establish GVC funds, both from an economic and a policy diffusion perspective. Ultimately, to find out whether the establishment of GVC funds is a matter of market failure. The central research question was:

Why do provincial governments in the Netherlands establish governmental venture capital funds?

Based on the research findings, it can be concluded that there is not one unambiguous reason why provincial governments in the Netherlands establish GVC funds. Rather, the data indicates that the five theoretical motives (identified in paragraph 3.3.) in combination with the results of the sale of the energy companies Nuon and Essent, explain why governments intervene as such. The following three paragraphs will elaborate on this conclusion.

7.1. The importance of market failure arguments

The interview data exhibits a general consensus that, generally speaking, market failure is considered the most important reason to establish GVC funds. This corresponds to the line of reasoning that was adopted in this thesis (see chapter 2). The PVC and GVC investment analysis per province in the Netherlands demonstrates that the relative amount of GVC investment per province increases when the relative amount of PVC investment decreases. This indicates that regional capital market failure partially explains why provincial governments establish GVC funds. In the light of the conceptual framework for understanding legitimate government intervention in the regional venture capital market (see paragraph 2.5.), this suggests that government intervention in the regional capital market through the establishment of GVC funds is in general legitimate. This is a promising trend, as it implies that rational regional economic arguments are taken into account in the decision-making processes about setting up GVC funds.

At the same time, the relationship between the relative amount of PVC and GVC investment is by no means perfect and there are provinces that do not intervene in accordance with their regional capital market situation. Hence, the regional capital market situation does not in all cases explain how and why governments intervene. This conclusion is further supported by the interview data. Several respondents question the appropriateness and effectiveness of other provinces' GVC funds in actually addressing market failures. Moreover, in line with the perception that market failure should be the key motive to establish GVC funds, many respondents stress the importance of ex-ante capital market assessments to demonstrate market failures. At the same time, anecdotal evidence is presented of GVC funds that have been set up without carrying out such an ex-ante capital market assessment in advance.

From this it can be concluded that market failure related motives are not the only reason to establish GVC funds. Other motives do also explain why provincial governments in the Netherlands set up GVC funds.

7.2. Beyond market failure

In line with the conclusion that the establishment of GVC funds is not exclusively built on regional capital market failure arguments, the interview data presents evidence that all four identified policy diffusion mechanisms (see chapter 3) also affect the establishment of GVC funds. First, the establishment of a GVC fund may be an attempt to enhance the regional business climate, which is regarded a form of the economic competition mechanism. Secondly, the availability of funding and the 'Regeling Schatkistbankieren' emerge to have a substantial coercive effect on provincial governments to establish GVC funds. Thirdly, governments learn from each other. Yet, this learning mainly occurs on an implementation level. Fourthly, the interview data suggests that provincial governments imitate each other. The appeal the concept of GVC funds has on politicians and policy makers emerges as the most important driver of this imitation.

Moreover, from the interview data it can be concluded that the different motives do not occur independently. Rather, the motives affect the decision to establish a GVC fund simultaneously and may even influence each other. Finally, from the interview data an additional 'mechanism' emerges. The sale of the provincial shares in the energy companies has played and still plays a considerable role in explaining why provincial governments set up GVC funds. Some provinces benefited substantially from this sale, resulting in considerable wealth differences between provinces. This sale has stimulated the wealthier provinces' spending on intervention through GVC funds.

7.3. Towards a new model for understanding why provincial governments in the Netherlands establish GVC funds

To summarise, the conclusions based on the empirical analysis show that a combination of different motives explains why provincial governments in the Netherlands set up GVC funds. There is proof that all five motives for the establishment of GVC funds, which had been identified based on a thorough literature study (see paragraph 3.3.), together affect the establishment of GVC funds by provincial governments in the Netherlands. In addition, the sale of the energy companies has stimulated the wealthier provinces to establish GVC funds. Based on this conclusion, the theoretical model constructed in paragraph 3.3. has been updated (see figure 7). The increased wealth of some of the provinces, due to the sale of the energy companies Nuon and Essent, has been added as a sixth motive explaining why provincial governments in the Netherlands establish GVC funds. At this point, there is little idea about the strength of the different motives. To gain insight into these differences, more research is needed (see paragraph 7.5.)

This conclusion has answered the central research question, whilst at the same time raising new questions. However, coming back to the title of this thesis, one thing is for sure: the establishment of GVC funds by provincial governments in the Netherlands is not just a matter of market failure. In retrospect 'Also a matter of market failure', might have been a more suitable title.

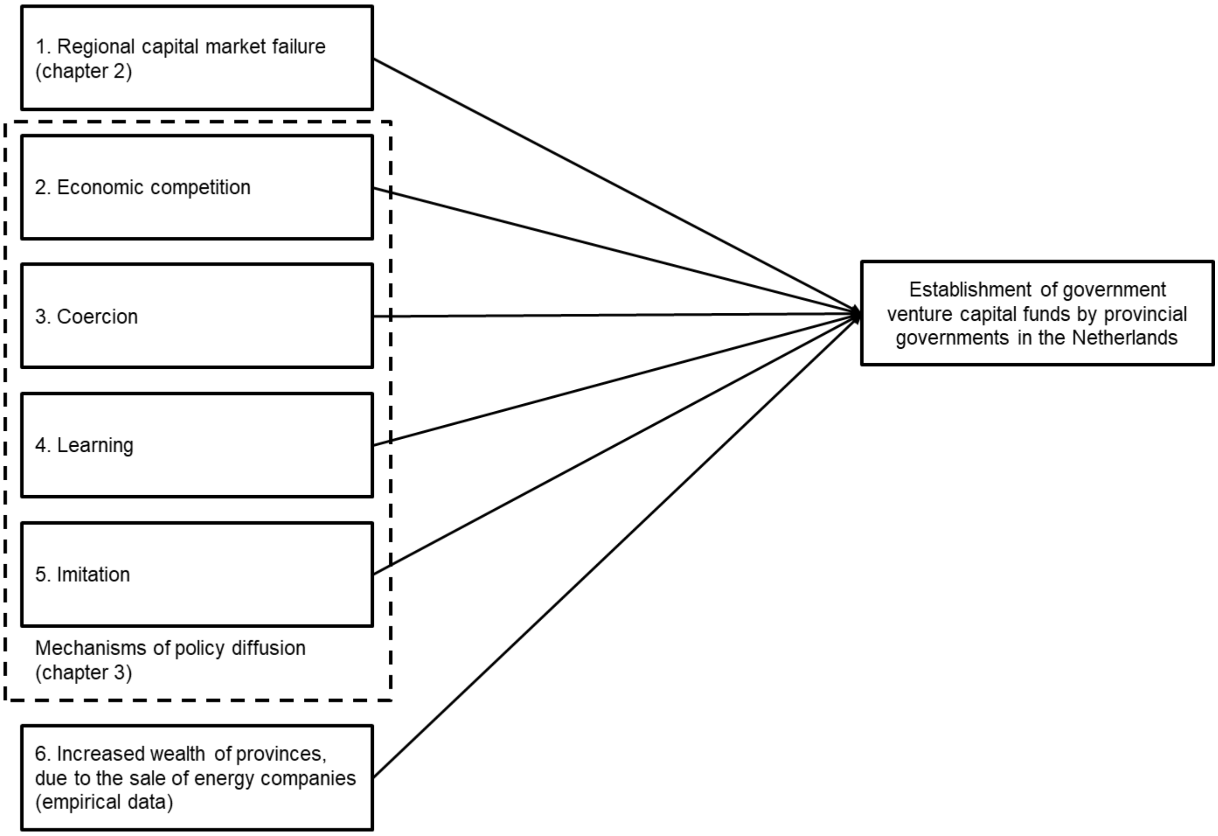


Figure 7. Motives for the establishment of GVC funds by provincial governments in the Netherlands.

7.4. Limitations

The conclusion of this thesis should be seen in the light of different methodological and empirical limitations. Unmistakably the biggest methodological limitation of the quantitative analysis was the focus on the supply side of venture capital investment only. The calculation of location quotients does by no means respect the complexity of regional venture capital markets. An alternate research method, which does respect this complexity, would be to systematically perform a structured regional capital market analysis for all provinces in the Netherlands which also takes the demand side of venture capital into account. Carrying out such a regional capital market analysis, would be the best way to get an impression of the provincial funding gap, since the concept of funding gaps is based on a mismatch between supply and demand (see e.g. Martin et al., 2005). However, as put forward by different respondents in paragraph 6.1.1., a regional capital market analysis has its limitations too. Like a location quotient, it is a snapshot of one moment in time. The actual situation may, even on short term, be subject to change. Another, -less time consuming, but also less sophisticated- method to take account for the demand side of venture capital investment, would be to analyse how many GVC funds in the Netherlands are truly established after carrying out a properly executed ex-ante capital market assessment in advance.

The decision to limit the scope of this thesis to venture and growth capital is a second methodological limitation. Although venture capital is considered an important source of funding for innovative firms, other types of funding, like crowdfunding, are proven to be significant sources of funding too (see e.g. Agrawal et al., 2011; Bruton et al., 2015). Due to lack of time and resources, these types of funding have not been taken into account in this study. A comprehensive regional analysis taking into account all different types of funding (such as: microcredits, crowdfunding, bank loans etc.) would be a relevant addition to this analysis.

Finally, during the interviews it became clear that some practitioners found it quite hard to reflect critically on the GVC funds in their own province. Possibly, this is the result of a social desirability bias: respondents give the ‘correct’ answers (Bryman, 2016). That is, the consulted respondents did not really have an incentive to critically reflect on the decisions in their own province. A policy advisor has no reason to criticize his ‘own’ funds, by arguing those funds are partially established because of political opportunism. Stressing the economic value of those funds is without doubt ‘safer’. As noted in chapter 6, practitioners were usually more critical about the economic significance of other provinces’ GVC funds. Hence, asking them about other provinces usually helped in avoiding this lack of critical reflection.

7.5. Theoretical implications and suggestions for future research

This study is a valuable addition to the existing venture capital literature in two ways. First, this study presented evidence that other policy mechanisms are of value in explaining why provincial governments in the Netherlands establish GVC funds. Hence, these mechanisms are well-worth taking into account, when studying government intervention in the venture capital market in the future. That is not to say that the conclusions of this study do necessarily apply in other contexts (e.g. countries or related policy fields) too. As a matter of fact, the stimulating effect of the sale of the energy companies is a motive that is specific for the context of the Netherlands. Rather, the conclusions of this study could serve as a starting point for future research projects on this topic.

Secondly, the study has constructed an innovative framework for understanding legitimate government intervention in the regional capital market. To the best of the researcher’s knowledge, it is the first conceptual framework that combines the relative amount of GVC and PVC investment. This framework allows for systemic analysis of (regional) venture capital markets and can thus be a valuable addition to future research on government intervention in the venture capital market. The applicability of the framework is not limited to regional venture capital markets. It could, for instance, also be used to compare the differences in terms of PVC and GVC investment between regions in Europe.

Finally, although contributing to the policy diffusion literature was explicitly not the goal of this study, the results may be of relevance for policy diffusion theorists too. The interview data provides novel insight into the reasons underlying the policy diffusion mechanisms. The imitation mechanism, for example, emerges to be driven by political appeal, benchmarks and as a way of dealing with uncertainty. These findings may contribute to increasing understanding of the different policy diffusion mechanisms.

7.5.1. Suggestions for future research

By addressing the limitations of this study, paragraph 7.4. has already presented some suggestions for future research. A more comprehensive analysis of the regional capital markets of provinces in the Netherlands, through considering the demand side of venture capital and including other sources of funding (e.g. crowdfunding), would be a valuable addition to the findings of this thesis. Besides the suggestions that emerge from this thesis’s limitations, there are two other literature gaps that deserve attention in the future.

First, the results of this study indicate that six motives are of value in explaining why provincial governments in the Netherlands establish GVC funds (see figure 7). However, based on the current data there is little idea about the precise strength of the different mechanisms. In the light of this study's research aim (paragraph 1.3.), it would be interesting to know how significant the policy diffusion mechanisms are compared to market failure motives, in explaining why provincial governments set up GVC funds. In recent years, several scholars have done valuable suggestions for improving measurement of policy diffusion mechanisms (see e.g. Gilardi, 2016; and Maggetti and Gilardi, 2016). In combination with these studies, this thesis could serve as a starting point for a quantitative research project which investigates the strengths of the relationships between the different motives and the establishment of GVC funds.

Secondly, the results show that both in absolute and relative numbers (location quotients) PVC investment has a clear spatial dimension (see chapter 5). PVC investment tends to concentrate in the Randstad provinces: Noord-Holland, Utrecht and Zuid-Holland. This raises the question how these regional differences can be explained. A methodological explanation for these differences, might be the fact that location quotients have been calculated based on the provincial share of firms. It is well possible that the Randstad provinces have a firm population that just requires more venture capital funding. On the other hand, evidence from other countries shows that this might be partially explained by what Klagge and Martin (2005) describe as a 'spatial bias': venture capitalists appear to invest significantly more in firms within their own immediate region (see also Martin et al., 2005). To the best of the researcher's knowledge, the bias of venture capitalists in the Netherlands has never been studied before. This would be a relevant addition to the existing literature about venture capital investment in the Netherlands.

7.6. Implications for society and recommendations for policy makers

Given the considerable amount of public money that is invested through GVC funds annually (NVP, 2018), the aim of this thesis was to contribute to effective and evidence-based policy making about this topic. In line with this aim, four implications for society are formulated.

7.6.1. A plea for ex-ante assessments

The first and most meaningful implication emerges from the conclusion that different factors explain why provincial governments establish GVC funds. The trend of the relationship between the GVC investment and PVC investment is hopeful from a societal perspective, as it suggests that governments intervene -to some extent- in accordance with their regional economic situation. At the same time, this study demonstrates that government intervention in the regional venture capital market is not exclusively a matter of market failure. Policy diffusion mechanisms play a considerable role too. To put it differently, not all provincial GVC funds in the Netherlands seem to be established in an attempt to address market failure. These findings suggest that in some cases accessing the funds because they are available prevails over accessing the funds because of a concrete indication of market failure. Also, the results present anecdotal evidence of GVC funds that have been established without carrying out a proper ex-ante assessments prior to the establishment. From a theoretical perspective, this is an interesting finding. From a normative perspective however, this is highly controversial and comes with serious risks for society. In this, I agree with Gilardi and Wasserfallen (2017, p. 17), who state that: *"(…) It is certainly a problem when fact-based diffusion becomes more* *difficult."* (Gilardi and Wasserfallen, 2017, p. 18.). GVC funds that are not based on a proper ex-ante capital market assessment may not be able to invest their money properly or, even worse, make wrong investment decisions (see also Colombo et al., 2016). Eventually, this may lead to considerable financial losses of taxpayer's money. Given these considerable implications, I recommend all governments to carry out an ex-ante capital market assessment prior to the establishment of a GVC fund. Although these assessments have their limitations too (see paragraph 6.1.1. and 8.1.), it is the only way to get an impression of the economic significance of a to be set up GVC fund. Perhaps, the Ministry of Economic Affairs and Climate Policy should claim a role in supervising whether these assessments are indeed (properly) carried out.

7.6.2. The role of the provincial parliament in reviewing GVC policies

In line with the previous implication, a second societal risk is related to the learning mechanism. Many of the respondents agreed that it is hard to determine whether the already existing GVC funds have been successful so far. Since it takes time to be able to say something about the performance of the firms that received venture capital financing from a GVC fund, a proper evaluation can only be carried out after a considerable period of time. Given the high amount of public money that is invested through GVC funds (NVP, 2018), this is a considerable risk. Governments may take significant financial risks associated with these policies. Although risks are not necessarily a reason to not establish GVC funds, the question raises whether the members of the (provincial) parliaments are aware of these risks. After all, it is their democratic responsibility to review the provincial government's decisions. If they lack the appropriate tools, skills or information to do so, the democratic legitimacy of these policies may be at stake.

7.6.3. Should GVC funding be a regional matter?

In recent years, there has increasingly been a public debate about the question whether the provincial level is indeed the suitable and desirable level to organise GVC funding policies (see e.g. Kremers, 2016; Studiegroep Openbaar Bestuur, 2016). This is a difficult multifaceted question, which cannot be fully answered on the basis of this study's findings. Though, insights of this thesis may contribute to this discussion in two ways.

First, the diffusion of the concept of GVC funds is associated with risks in terms of fragmentation. After all, this diffusion -regardless of what drives the diffusion- is likely to contribute to a further fragmentation of the 'public funding landscape' in the Netherlands. It is questionable whether this is desirable for entrepreneurs in the end. Moreover, a high degree of fragmentation may lead to races to the bottom or local tournaments between provinces or even municipalities. This is a considerable risk in particular considering that several experts have argued the financing landscape in the Netherlands already is too fragmented (Kremers, 2015; Kremers, 2016; OECD, 2014). Furthermore, often the local or regional GVC funds are regionally constrained. Simply put, the GVC fund of province X is not allowed to invest in an innovative firm in province Y. Some respondents argue that these geographical or legal boundaries, are not necessarily logical boundaries from an economic perspective.

Fragmentation is not only a potential risk in itself, it comes with other risks too. In the theoretical chapter Mason (2007, p. 35) has been cited, who states: *"Using public money to create 'venture capital' funds which are staffed by managers who lack the value-added skills of venture capitalists will be ineffective."* (Mason, 2007, p. 35). Although this challenge is not within the scope of this thesis, it is a challenge that several respondents have addressed. Naturally, this becomes more of a substantial risk when the degree of fragmentation increases. The risks associated with fragmentation, would be an argument for national over regional policies. At least, it would be an argument for a certain degree of coordination from the Ministry of Economic Affairs and Climate Policy. Therefore, I encourage the Ministry of Economic Affairs and Climate Policy to monitor and -if necessary- intervene in these developments. At the same time, I am aware of the difficulties in terms of governance, associated with such intervention. Particularly, when taking into account the renewed interest in the region as a government level to organise economic policies (see e.g. Studiegroep Openbaar Bestuur, 2016) and the increased wealth of the provinces as a result of the sale of the energy companies Nuon and Essent (CBS, 2015).

On the other hand, the results of this study show that considerable regional disparities in PVC investment exist. In recent years, other studies have also pointed out that considerable differences between provinces in the Netherlands exist, for example in terms of employment opportunities and productivity (Stam et al., 2016; Studiegroep Openbaar Bestuur, 2016). This idea is confirmed by most practitioners, who emphasise the unique characteristics of their region. Given these regional differences, GVC policies which carefully respect these differences, seem desirable too.

In conclusion, the question which governance level is the most appropriate for organising GVC policies, is not easily answered. Risks in terms of fragmentation are an argument in favour of certain degree of national coordination. On the other hand, organising GVC policies regionally, allows for regional differentiation and may thus be a way of organising GVC policies in a more responsive and adaptive way.

7.6.4. Appreciate the complexity of regional economic policies

Finally, the role of GVC funds for regional economic development, should be regarded in the right perspective. Like stated by several scholars (see e.g. Harrison and Mason, 2000; Martin et al., 2005) effective public sector intervention in the regional economy goes beyond 'filling the gap', through supplying GVC funding. This idea is related to the concept of entrepreneurial ecosystems (see e.g. Alvedalen and Boschma, 2017; Stam, 2015; 2018). A well-functioning entrepreneurial ecosystem consists of more elements than access to entrepreneurial finance alone. This perspective is confirmed by some of the respondents, several of whom repeatedly emphasised the importance of seeing the establishment of only GVC funds as one part of their ecosystem (see paragraph 6.2.). Other interventions, like organising networks and supplying business development capacity were considered important factors too. I can only confirm this and encourage policy makers and politicians to always see the establishment of GVC funds in the light of other policy interventions: appreciate the complexity of regional economic policies.

References

Agrawal, A. K., Catalini, C., & Goldfarb, A. (2011). *The geography of crowdfunding.* National bureau of economic research.

Algemene Rekenkamer. (n.d.). Revolverende fondsen. Retrieved June 24, 2018, from: https://www.rekenkamer.nl/actueel/lopend-onderzoek/revolverende-fondsen.

Alperovych, Yan & Groh, Alexander & Quas, Anita. (2016). When Can Government Venture Capital Funds Bridge the Equity Gap? *SSRN Electronic Journal.* 10.2139/ssrn.2718061.

Alvedalen, J., & Boschma, R. (2017). A critical review of entrepreneurial ecosystems research: towards a future research agenda. *European Planning Studies*, *25* (6), 887-903.

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing, 23*, 687–698.

Birch. (2017). *Openbaar Bestuur in Regionale Ecosystemen voor Ondernemerschap*. Retrieved from: https://kennisopenbaarbestuur.nl/rapporten-publicaties/openbaar-bestuur-in-regionale-ecosystemen-voor-ondernemerschap/.

Bleda, M., & Del Rio, P. (2013). The market failure and the systemic failure rationales in technological innovation systems. *Research policy*, *42*(5), 1039-1052.

Boschma, R. (2009). Evolutionary economic geography and its implications for regional innovation policy. *Papers in Evolutionary Economic Geography*, *9*(12).

Bosma, N. and Stam, E. (2012) Local Policies for High Employment Growth Enterprises. Organisation for Economic Co-operation and Development (OECD). Retrieved from: http://www.oecd.org/cfe/leed/Bosma-Stam_high-growth%20policies.pdf.

Brander, J. A., Egan, E., & Hellmann, T. F. (2010). Government sponsored versus private venture capital: Canadian evidence. In *International differences in entrepreneurship* (pp. 275-320). University of Chicago Press.

Bruton, G., Khavul, S., Siegel, D., & Wright, M. (2015). New financial alternatives in seeding entrepreneurship: Microfinance, crowdfunding, and peer-to-peer innovations. *Entrepreneurship Theory and Practice*, *39*(1), 9-26.

Bryman, A. (2016). *Social research methods*. Oxford university press.

Cai, H., & Treisman, D. (2004). State corroding federalism. *Journal of Public Economics*, *88*(3-4), 819-843.

Carpenter, R. E., & Petersen, B. C. (2002). Capital market imperfections, high-tech investment, and new equity financing. *The Economic Journal*, *112*(477), F54-F72.

Centraal Bureau voor de Statistiek. (2015, November 3). Gelderland rijkste provincie [Blog post]. Retrieved July 15, 2018, from: https://www.cbs.nl/nl-nl/nieuws/2015/45/gelderland-rijkste-provincie.

Chen, H., Gompers, P., Kovner, A., & Lerner, J. (2010). Buy local? The geography of venture capital. *Journal of Urban Economics*, *67*(1), 90-102.

Colombo, M. G., Cumming, D. J., & Vismara, S. (2016). Governmental venture capital for innovative young firms. *The Journal of Technology Transfer*, *41*(1), 10-24.

Cumming, D. J. (2007). Government policy towards entrepreneurial finance: Innovation investment funds. *Journal of Business Venturing*, 22, 193–235.

Cumming, D. J. (2011). Misinforming the public about public policy towards venture capital. *Venture Capital An International Journal of Entrepreneurial Finance*, 13(1), 99–102.

Cumming, D., & Dai, N. (2010). Local bias in venture capital investments. *Journal of Empirical Finance*, *17*(3), 362-380.

Cumming, D. J., & Johan, S. (2009). Pre-seed government venture capital funds. *Journal of International* Entrepreneurship, 7, 26–56.

Del Río, P., Carrillo-Hermosilla, J., & Könnölä, T. (2010). Policy Strategies to Promote Eco-Innovation: An Integrated Framework. *Journal of Industrial Ecology*, *14*(4), 541-557.

Denis, D. J. (2004). Entrepreneurial finance: an overview of the issues and evidence. *Journal of corporate finance*, *10*(2), 301-326.

Dijken, K. (van), & Engbersen, R. (2015). *Provincies pakken de ruimte*. Retrieved from: https://www.platform31.nl/publicaties/provincies-pakken-de-ruimte.

DiMaggio, P., & Powell, W. W. (1983). The iron cage revisited: Collective rationality and institutional isomorphism in organizational fields. *American sociological review*, *48*(2), 147-160.

Dobbin, F., Simmons, B., & Garrett, G. (2007). The global diffusion of public policies: Social construction, coercion, competition, or learning?. *Annual Review of Sociology*, *33*, 449-472.

Dubovik, A., & Steegmans, J. (2017). *The Performance of Publicly Managed Venture Capital Funds* (No. 355). CPB Netherlands Bureau for Economic Policy Analysis.

European Investment Fund. (n.d.). Venture capital. Retrieved May 28, 2018, from: http://www.eif.org/what_we_do/equity/venture/index.htm.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.

Florida, R., & Mellander, C. (2016). Rise of the startup city: The changing geography of the venture capital financed innovation. *California Management Review*, *59*(1), 14-38.

Gilardi, F., & Wasserfallen, F. (2017). Policy Diffusion: Mechanisms and Practical Implications. In *Governance Design Network (GDN) Workshop, National University of Singapore, Singapore, February* (pp. 1-18).

Gilardi, F. (2016). Four ways we can improve policy diffusion research. *State Politics & Policy Quarterly*, *16*(1), 8-21.

Glaeser, E. (2011). Triumph of the city: How our greatest invention makes us richer, smarter, greener, healthier, and happier. Penguin.

Gompers, P., & Lerner, J. (2001). The venture capital revolution. *Journal of economic perspectives*, *15*(2), 145-168.

Graham, E. R., Shipan, C. R., & Volden, C. (2013). The diffusion of policy diffusion research in political science. *British Journal of Political Science*, *43*(3), 673-701.

Gruber, L. (2000). *Ruling the world: Power politics and the rise of supranational institutions*. Princeton University Press.

Guerini, M., & Quas, A. (2016). Governmental venture capital in Europe: Screening and certification. *Journal of Business Venturing*, *31*(2), 175-195.

Harrison, R. T., & Mason, C. M. (2000). The role of the public sector in the development of a regional venture capital industry.

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of accounting and economics*, *31*(1-3), 405-440.

Holzinger, K., & Knill, C. (2005). Causes and conditions of cross-national policy convergence. *Journal of European public policy*, *12*(5), 775-796.

Investico. (2015, March 16). Provincies en rijk steggelen om energiemiljarden. Retrieved July 17, 2018, from: http://www.platform-investico.nl/artikel/provincies-en-rijk-steggelen-om-energiemiljarden/.

Jacobs, B., & Theeuwes, J. (2005). Innovation in The Netherlands: the market falters and the government fails. *De Economist*, *153*(1), 107-124.

Keech, W. R., Munger, M. C., & Simon, C. (2012). Market failure and government failure. In *Public Choice World Congress, Miami*.

Klagge, B., & Martin, R. (2005). Decentralized versus centralized financial systems: is there a case for local capital markets? *Journal of Economic Geography*, *5*(4), 387-421.

Kortum, S., & Lerner, J. (2001). Does venture capital spur innovation?. In *Entrepreneurial inputs and outcomes: New studies of entrepreneurship in the United States* (pp. 1-44). Emerald Group Publishing Limited.

KplusV. (2012). *Revolverende fondsen in Nederland. Oude wijn in nieuwe zakken of een baanbrekende aanpak?*. Retrieved from: https://www.scribd.com/document/123758079/KplusV-whitepaper-revolverende-fondsen.

Kremers, J.J.M. (2016). *Een Nederlandse Financieringsinstelling voor Economische Ontwikkeling: Het Duitse KfW als inspiratiebron.* Sociaal Economische Raad.

Kremers, J.J.M. (2015). *Nederlands Investerings Agentschap voor EFSI: Opstart en verdere vormgeving.* Nederlands Investerings Agentschap.

Lerner, J. (2012). The boulevard of broken dreams: Why public efforts to boost entrepreneurship and venture capital have failed—And what to do about it. Princeton: Princeton University Press.

Lerner, J. (2013). The boulevard of broken dreams: innovation policy and entrepreneurship. *Innovation Policy and the Economy*, *13*(1), 61-82.

Lerner, J., & Tåg, J. (2013). Institutions and venture capital. *Industrial and Corporate Change*, *22*(1), 153-182.

Logger, B., & Weijnen, P. (2017, March 29). De overheid als durfkapitalist. *De Groene Amsterdammer*, *141*(13). Retrieved from: https://www.groene.nl/artikel/de-overheid-als-durfkapitalist.

Maggetti, M., & Gilardi, F. (2016). Problems (and solutions) in the measurement of policy diffusion mechanisms. *Journal of Public Policy, 36*(1), 87-107.

Mason, C. (2007). Venture capital: a geographical perspective. *Handbook of Research on Venture Capital, Edward Elgar, Cheltenham*, 86-112.

Mason, C. M. (2009). Public policy support for the informal venture capital market in Europe: a critical review. *International small business Journal*, *27*(5), 536-556.

Mason, C. M., & Harrison, R. T. (2002). Is it worth it? The rates of return from informal venture capital investments. *Journal of Business Venturing*, *17*(3), 211-236.

Mason, C., & Harrison, R. T. (2003). Closing the regional equity gap? A critique of the Department of Trade and Industry's regional venture capital funds initiative. *Regional studies*, *37*(8), 855-868.

Martin, R., Berndt, C., Klagge, B., & Sunley, P. (2005). Spatial proximity effects and regional equity gaps in the venture capital market: evidence from Germany and the United Kingdom. *Environment and Planning A*, *37*(7), 1207-1231.

Mazzucato, M. (2015). *The entrepreneurial state: Debunking public vs. private sector myths* (Vol. 1). Anthem Press.

Meseguer, C., & Gilardi, F. (2009). What is new in the study of policy diffusion?. *Review of International Political Economy*, *16*(3), 527-543.

Ministry of Economic Affairs and Climate Policy. (2015). *De Oogst van 10 jaar Seed Capital 2005-2015*. Retrieved from: https://www.rvo.nl/sites/default/files/2016/11/De-Oogst-van-10-jaar-Seed-Capital-2010-2015.pdf.

Ministry of the Interior and Kingdom Relations. (2013). *Praktijkervaringen met Revolverende Fondsen (mede op basis van EFRO)*. Retrieved from: https://www.rvo.nl/sites/default/files/2014/01/Handreiking%20Q&A%20Revolverende%20Fondsen%20EFRO.pdf.

Netherlands Investment Agency. (n.d.). NIA en Invest-NL. Retrieved from: https://www.nederlandsinvesteringsagentschap.nl/organisatie/nia-en-invest-nl.

Nederlandse Vereniging van Participatiemaatschappijen. (2018, May 4). Regional Figures for Venture and Growth [Dataset]. Retrieved from: http://www.nvp.nl/pagina/ondernemend%20vermogen/.

OECD (2014), OECD *Reviews of Innovation Policy*: Netherlands 2014, OECD Publishing. Retrieve from: http://dx.doi.org/10.1787/9789264213159-en.

Paul, L. (2017, December 6). EU Regional Policy: a critical review [Lecture presentation]. Utrecht University.

Samila, S., & Sorenson, O. (2011). Venture capital, entrepreneurship, and economic growth. *The Review of Economics and Statistics*, *93*(1), 338-349.

Schmitt, C. (2014). The diffusion of privatization in Europe: Political affinity or economic competition?. *Public Administration*, *92*(3), 615-635.

Schumpeter, J. 1934. Capitalism, socialism, and democracy. New York: Harper & Row.

Schwartz, D., & Bar-El, R. (2007). Venture investments in Israel—a regional perspective. *European Planning Studies*, *15*(5), 623-644.

Shipan, C. R., & Volden, C. (2008). The mechanisms of policy diffusion. *American journal of political science*, *52*(4), 840-857.

Simmons, Beth, Frank Dobbin and Geoffrey Garrett. (2006). “Introduction: The International Diffusion of Liberalism.” *International Organization 60*(4):781–810.

Simmons, B. A., & Elkins, Z. (2004). The globalization of liberalization: Policy diffusion in the international political economy. *American political science review*, *98*(1), 171-189.

Stam, E. (2015). Entrepreneurial ecosystems and regional policy: a sympathetic critique. *European Planning Studies, 23*(9), 1759-1769.

Stam, E. (2018). Measuring entrepreneurial ecosystems. *Entrepreneurial Ecosystems* (pp. 173-197). Springer, Cham.

Stam, E., & Bosma, N. (2015). Local policies for high-growth firms. *Oxford Handbook of Local Competitiveness*, 286-305.

Stam, E., Romme, A. G. L., Roso, M., van den Toren, J. P., & van der Starre, B. T. (2016). Knowledge triangles in the Netherlands: an entrepreneurial ecosystem approach.

Starke, P. (2013). Qualitative methods for the study of policy diffusion: Challenges and available solutions. *Policy Studies Journal*, *41*(4), 561-582.

Studiegroep Openbaar Bestuur (2016). Maak verschil. Krachtig inspelen op regionaal-economische opgaven. Retrieved from: https://www.rijksoverheid.nl/documenten/rapporten/2016/03/15/rapport-maak-verschil.

Teisman, G. R. (2005). *Publiek management op de grens van chaos en orde: Over leidinggeven en organiseren in complexiteit*. Academic Service.

Thiel, S. (van). (2007). Bestuurskundig onderzoek: een methodologische inleiding. Bussum: Coutinho.

Tykvová, T., Borell, M. and Kroencke, T. (2012). Potential of venture capital in the European Union. Tech. rep., Directorate-General for Internal Policies, European Parliament. Retrieved from: http://www.europarl.europa.eu/studies.

Veld, R. (in 't). (2010). Kennisdemocratie: opkomend stormtij. Academic Service.

Vivarelli, M. (2013). Is entrepreneurship necessarily good? Microeconomic evidence from developed and developing countries. *Industrial and Corporate Change*, *22*(6), 1453-1495.

Vrolijk, H., and Wester, K. (2012). *Durfkapitaal blijft in de Randstad*. Retrieved from: https://geografie.nl/sites/geografie.nl/files/Vrolijk%20%26%20Wester%20-%20Durfkapitaal%20blijft%20in%20de%20Randstad.pdf.

Wang, S., & Zhou, H. (2004). Staged financing in venture capital: moral hazard and risks. *Journal of Corporate Finance*, *10*(1), 131-155.

Wavre, V. L. (2016). Mechanisms of policy diffusion in the telecommunications sector; Universal Service Obligation and Spectrum Management in Morocco, Egypt and Jordan.

Wray, F. (2011). Rethinking the venture capital industry: relational geographies and impacts of venture capitalists in two UK regions. *Journal of Economic Geography*, *12*(1), 297-319.

Zook, M.A. (2005) *The Geography of the Internet Industry*, Oxford: Blackwell Publishing.

Annexes

Annex I – List of respondents

No.	Name	Job title	Organisation	Date interview
1.	Coos Santing	Policy advisor	Ministry of Economic Affairs and Climate Policy	01-05-2018
2.	Edwin Netjes	Consultant	KplusV Consultancy	01-05-2018
3.	Luc van Aart	Consultant	ERAC Consultancy	15-05-2018
4.	Maarten Allers	Professor economics of sub-national governments	University of Groningen, Faculty of Economics and Business	15-05-2018
5.	Rinke Zonneveld*	Director	InnovationQuarter	17-05-2018
6.	Laura Vis	Policy advisor	Province of Zuid-Holland	24-05-2018
7.	Ton van Mil*	Director	Economic Board Utrecht	30-05-2018
8.	Pim van den Berg**	Provincial Executive (Gedeputeerde Staten)	Province of Utrecht	31-05-2018
9.	Michiel Linskens**	Policy advisor	Province of Utrecht	31-05-2018
10.	Damo Holt	Consultant	RebelGroup	01-06-2018
11.	Bert Ravelli	Policy advisor	Province of Gelderland	04-06-2018
12.	Dick ten Voorde*	Director	Economische Impuls Zeeland	05-06-2018
13.	Peter van Vooren*	Policy advisor	Province of Zeeland	06-06-2018
14.	Marius Prins*	Director	Oost NL	12-06-2018

*Phone interview.

**Group interview.

Annex II – Analysed documents

No.	Name of document	Organisation / author	Type of document (evaluation, ex-ante assessment, other)	Province	Publication date
1.	Balanceren tussen maatschappelijk en financieel rendement.	Bart Teulings	Evaluation	Noord-Holland	October 24, 2013
2.	Bedrijven die het vermogen hebben door te groein. – Financiering innovatief MKB in RIS-3 sectoren in de Noordvleugel.	Rebel and Panteia	Ex-ante capital market assessment	Flevoland, Noord-Holland and Utrecht	
3.	Bij revolverende fondsen fungeert de overheid als bank – in: ESB.	Wout Verheij and Nynke de Witte – researchers at the Algemene Rekenmaker (Netherlands Court of Audit)	Evaluation	n/a	April 5, 2018
4.	Een andere manier van werken – De relatie van de provincie met de EBU.	Randstedelijke Rekenkamer	Other	Utrecht	April, 2018
5.	Evaluatie van de Regionale Ontwikkelingsmaatschappijen (ROM's).	Ecorys	Evaluation	n/a	May 2, 2016
6.	Kamerbrief over Kapitaalstorting Investeringsfonds Zeeland B.V.	Ministry of Economic Affairs and Climate Policy	Other	Zeeland	April 25, 2018
7.	Kansen in een topregio; versterking van het Utrechtse ecosysteem.	PwC	Other	n/a	March, 2018

8.	Kapitaalmarktonderzoek Oost-Nederland.	Rebel and Panteia	Ex-ante capital market assessment	Overijssel and Gelderland	March 24, 2017
9.	Kapitaalmarktonderzoek Zeeland.	KplusV	Ex-ante capital market assessment	Zeeland	
10.	Openbaar Bestuur in Regionale Ecosystemen voor Ondernemerschap.	Birch	Other	n/a	September 22, 2017
11.	Praktijkervaringen met Revolverende Fondsen (mede op basis van EFRO).	Ministry of the Interior and Kingdom Relations,	Other	n/a	November 13, 2013
12.	Revolverende fondsen Overijssel - Nota van bevindingen	Rekenkamer Oost	Evaluation	Gelderland and Overijssel	January, 2017
13.	Verslag van een algemeen overleg (kenmerk 32637) – February 22, 2018.	Tweede Kamer der Staten Generaal (Dutch House of Representatives)	Other	n/a	March 27, 2018

Annex III – Topic list

All interviews have been conducted in Dutch. For that reason, the topic list is in Dutch too.

1. Introductie

- Dankwoord
- Kennismaking
- Introductie onderzoek
- Praktisch: opnemen & bij voorkeur niet anonimiseren

2. Opkomst publieke venture capital fondsen

- Herkent u de trend?
- Waarom gebeurt dat?
- Waarom moet het op regionaal niveau?
- Kunt u het verklaren?

3. Redenen ontstaan publieke venture capital fondsen

- Waarom doen overheden dit?
- Vaak 'competitie argument'. Is er een economische aanleiding voor dit beleid?
- Is het er een discrepantie tussen het gecommuniceerde doel en het daadwerkelijke doel?

4. Activiteiten provincies

- Hoe kijkt u aan tegen dat beleid?
- Doen provincies hetzelfde?
- Waarom is dat?

5. Gericht factoren toetsen

- Marktfalen
  - Financieel marktfalen
- Competitie
  - Vestigingslocatie
    - Race to the bottom?
  - Voorbeelden?
- Dwang
  - Beleid InvestNL
  - Aansluiten op EZ gelden
  - Dwingende werking van de beschikbaarheid van geld
  - Voorbeelden?
- Imitatie
  - Hip / populair concept
  - Welke factoren beïnvloeden dat
  - Voorbeelden?
- Leren
  - Leren van andere overheden
  - Waar blijkt dat uit?
  - Voorbeelden?
- Zijn er nog andere verklaringen die een rol spelen?
  - Bijvoorbeeld: verschillen tussen partijen in: kennis, geld, sectoren.

6. Algemene reflectie

- Hoe ziet u de toekomst van publieke venture capital fondsen in Nederland?
- Wat zijn kansen, verbeterpunten en risico's voor het financieringslandschap in Nederland?

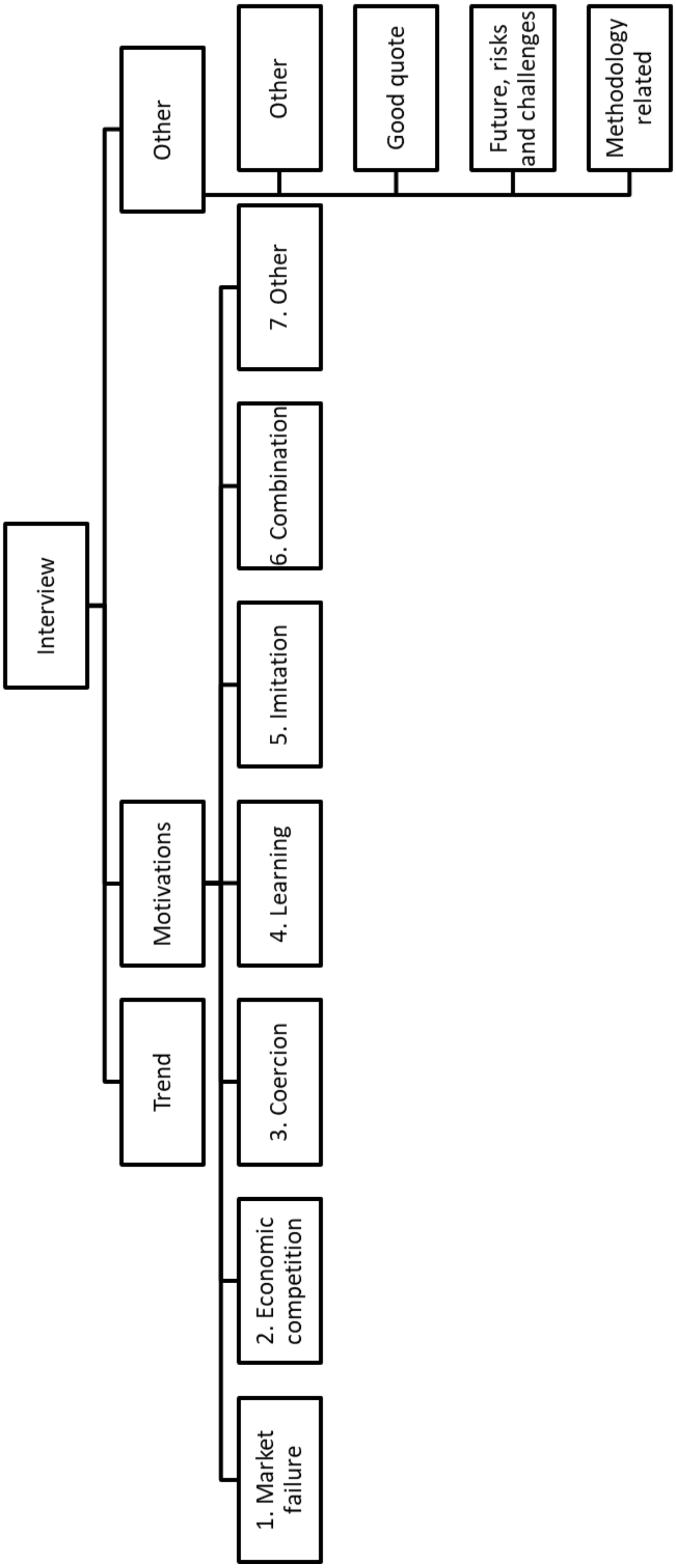
7. Toelichting venture capital data

- Toelichting framework
- Tijd component

8. Afsluiting

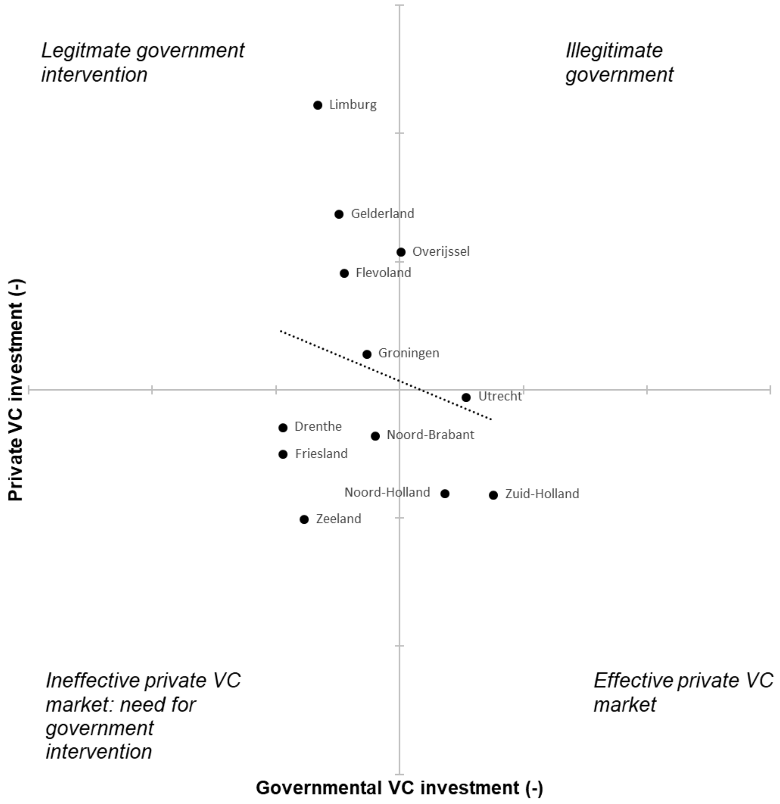
- Vragen / opmerkingen
- Vervolgstappen onderzoek
- Anonimiseren
- Dankwoord

Annex IV – Coding tree

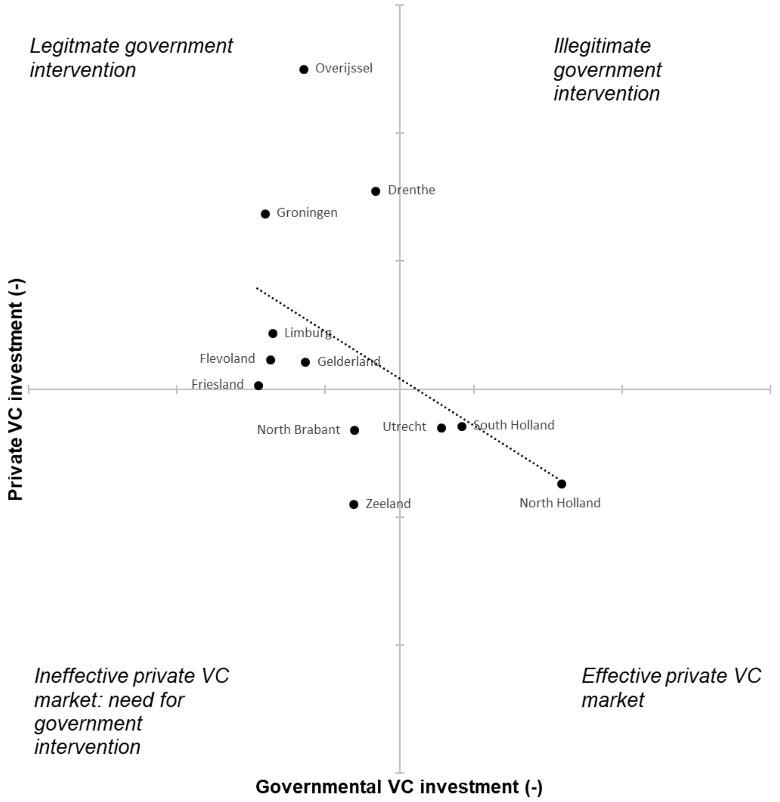


Annex V – Regional venture capital quadrants

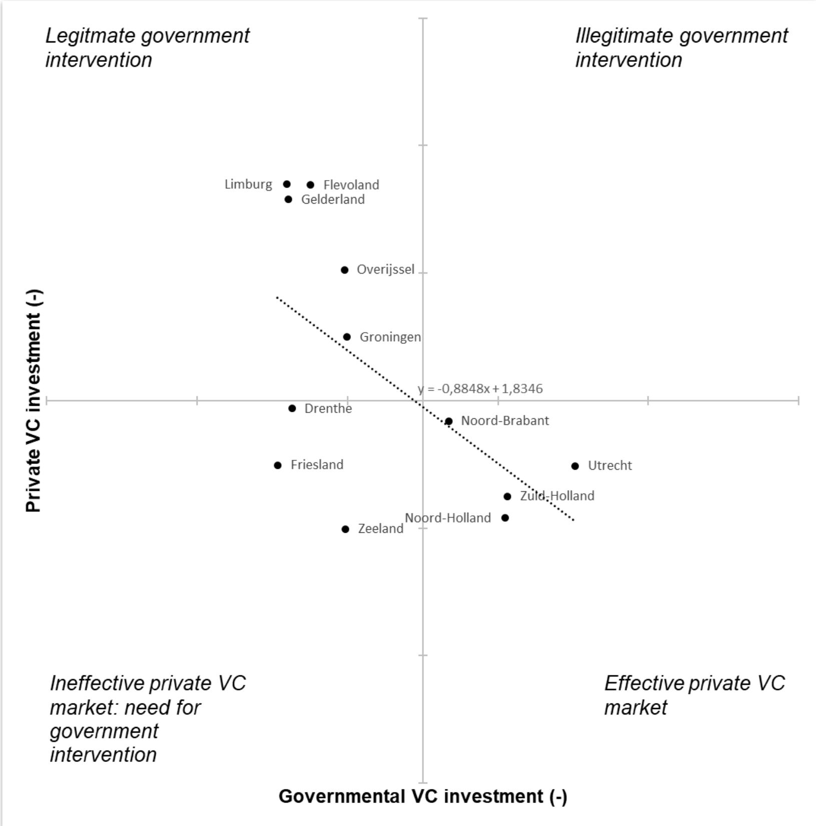
Regional venture capital quadrant total investment, 2008-2012.



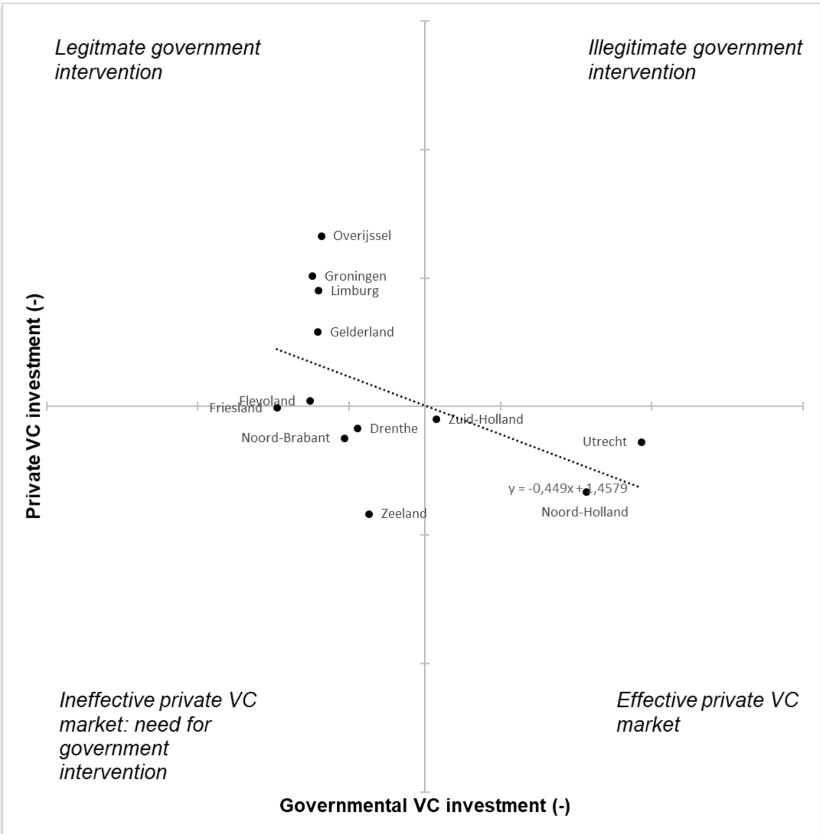
Regional venture capital quadrant total investment, 2013-2017.



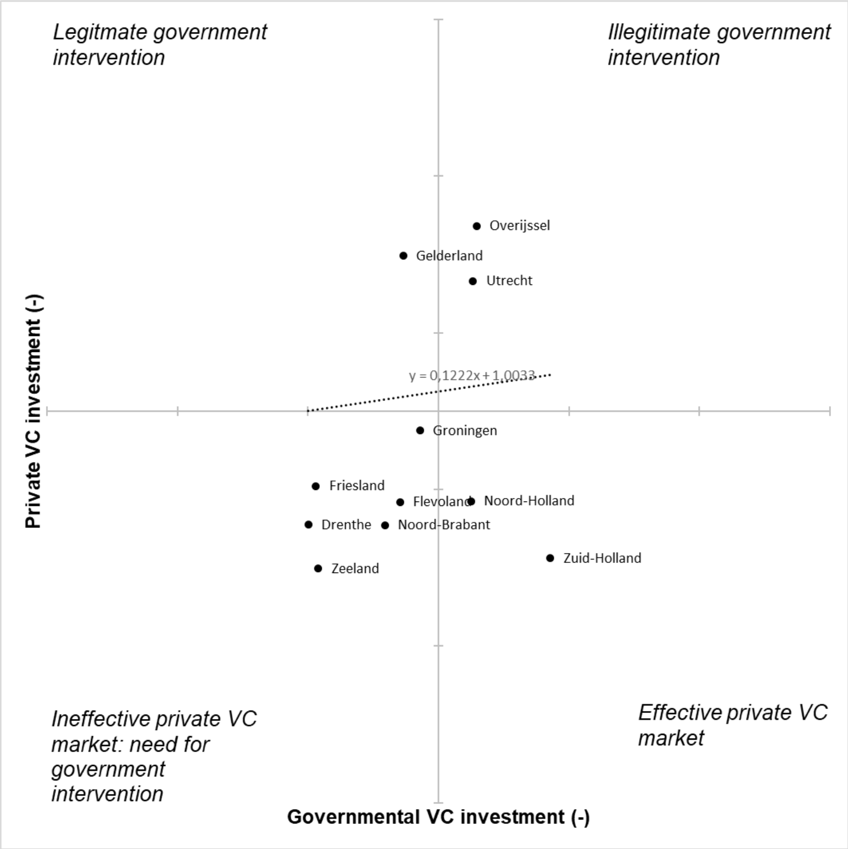
Regional venture capital quadrant venture investment, 2008-2012.



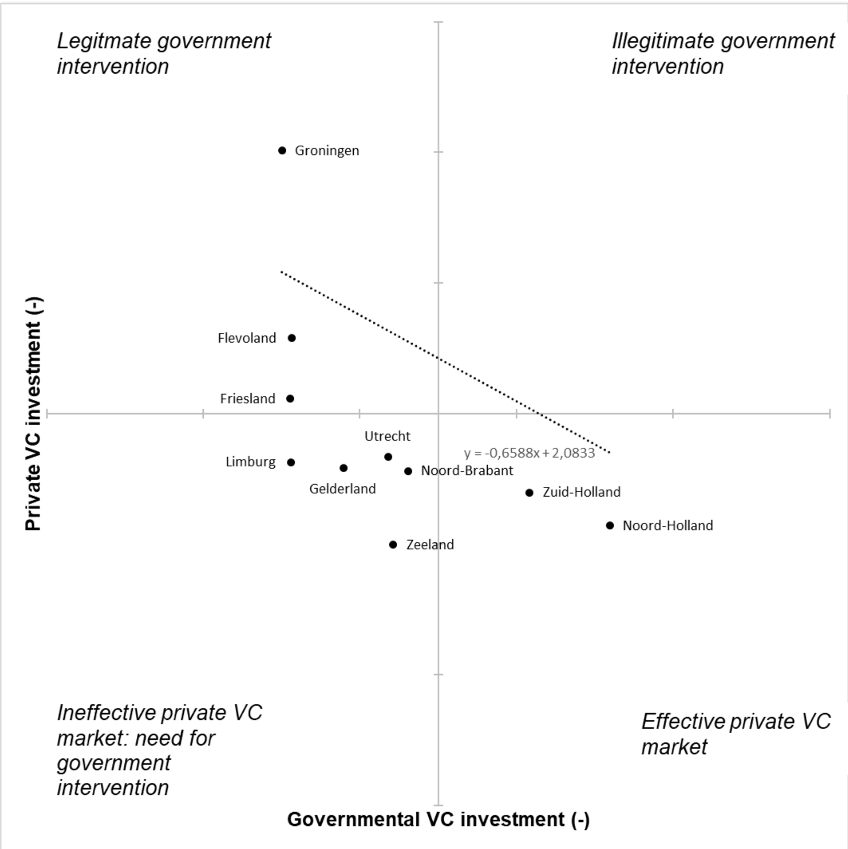
Regional venture capital quadrant venture investment, 2013-2017.



Regional venture capital quadrant total growth investment, 2008-2012.



Regional venture capital quadrant total growth investment, 2013-2017.



Annex VI – Results ex-ante capital market assessment Province of Zeeland