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Original scientific paper**

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**FINANCING START-UPS AFTER THE 2008 FINANCIAL CRISIS
IN THE EUROPEAN UNION: OVERVIEW OF PRACTICES IN
SWEDEN**

Abstract

The paper analyses the effect of the 2008 Financial Crisis (FC) on both start-ups levels and capital availability for their formation. Namely, start-ups have gained crucial significance in the post crisis period for the economic recovery through scaling down the excessive levels of unemployment. Despite of major efforts by the European Union (EU) to encourage entrepreneurial activity, the number of start-ups on EU-level has decreased severely in 2008. Availability of financial capital has been recognized as one of the biggest obstacles for new business formation. Sweden has been the only country which has not only shown resilience in terms of higher levels of new business formation, but has also has produced many highly innovative start-ups in the post crisis period. Comparing data from the EU and Sweden on the number of new births and capital availability, we seek to better understand the reasons behind the success of Swedish start-up ecosystem and provide recommendations for increasing entrepreneurial activity in other European countries.

Key words: Financial crisis, SME start-ups, new business formation, European Union, Sweden

JEL classification: G01, 052, M13, G21

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Introduction

The 2008 Financial Crisis is one of the most severe downturns in history. The failure of the financial markets caused contraction of economic activity, bankruptcy of many financial institutions which instantly affected the private sector where major closures of large companies took place laying off aggregate numbers of workers. Unemployment levels rose high, trade plummet and capital markets froze. It was a period of slow economic activity, high risk aversion of business participants and low investment levels.

The 2008 Financial Crisis remembered, not only for its severity, but also for its scope. What started with the bankruptcy of Lehman brothers in the US spread across Europe initiating the “domino effect” among the member countries. The interconnectedness of the financial sector caused cascade of default, contagion, contracting credit and collapsing economic activity in every European country with minor differences in its depth. Ireland, Greece and Spain were the most severely affected countries whose GDP-debt ratios exceeded the 60% limit of the Maastricht agreement.

Given that start-ups commercialize innovative ideas and contribute significantly in the job creation, start-up activity became essential for the economic recovery. Financing has been recognized as major bottleneck for start-ups which has been only emphasized during the 2008 Financial Crisis. Namely, financial crisis have two contrasting implications on the business environment. From one side, high unemployment levels are expected to initiate business formation due to lack of job opportunities. In addition, the lower cost of the capital decreases the opportunity costs for starting a business stimulating entrepreneurship even more. On the other side, the decreased demand, reduced disposable income, and especially the more difficult access to finance diminishes the potential for high rates of start-ups in these conditions (Reynolds et al 1994; Fairlie 2013). After the crisis, the risk aversion of investors was high and banks imposed additional collateral requirements for credit approval especially for start-ups with no history of payments. Finally the Basel III implied higher and stricter capital holdings in banks which limited the amount of capital available for credit (IFF,2014: 25-30). Finance availability especially for startups has become even more challenging which alongside with the decreased demand implies poor chances of survival of startups (Vetter and Kohler 2014: p.2).

The paper at hand aims to provide better understanding of the impact of the crisis on business formation activity through analyzing fluctuations of capital availability for start-ups in the EU. For that reason, it compares and analyzes data from the pre-crisis (2004-2007) and post-crisis period (2008-2012) for better enhancement of changes in behavior both on the financing side and the entrepreneurial side. In addition the paper compares start-up funding on EU level and investments in Sweden. This Nordic country has been recognized as the most resourceful start-up hub in Europe and has attracted majority of the venture capital invested in Europe in the last five years (Davidson, 2015). The question emerges whether the high entrepreneurial activity has caused the flow of venture capital in Sweden in accordance of Kreft and Sobel's theory (2005), rather than models suggesting that increased capital would spur start-ups. The paper further investigates Swedish culture and heritage for better understanding of the high levels of start-up activity and investments in Sweden.

The paper is structured as follows. First, we look into the overall Index of SMEs Access to Finance which is later divided into Equity-finance sub-index (EFI) and Debt-finance-index (DFI). Next, the equity financing is analyzed in more depth where the funding is decomposed at seed/early funding stage and later stage which provides essential insight on start-up financing opportunities. Later, we seek to investigate if fluctuations of capital levels are reflected in the number of start-ups by providing data on the number of new births on EU and Sweden's country level. The analysis shows greater resilience of Sweden which has managed to sustain an increasing start-up activity throughout and after the hit of the crisis. In the end the paper provides recommendations and lessons learned from the Swedish market applicable in other European countries. The conclusion gives closing remarks on the subjects, highlighting the areas for future research and improvements of start-up ecosystem in the EU. Note that the terms new business formation/creation, new births and start-ups have the same meaning and will be interchangeable used throughout the paper.

1. Financial capital availability in the post-crisis period: comparison between EU countries and Sweden

Start-ups have always struggled to find the right type and amount of funding and with the contracting of the market, the availability of real

capital become scarce. In addition to personal funds, entrepreneurs have two main sources of financing: debt-financing and equity financing. Debt financing as source of capital provides SMEs with the needed financial resources mainly through bank loans which can provide both, short-term and long term financing for different purposes (Hisrich et al, 2010: p.313-314). However, the higher capital holdings requirements in banks made debt financing in the form of credits more difficult to obtain. Bulgaria, Ireland and Latvia had highest unsuccessful applications rates of 36%, 27% and 26% respectively in 2010. Bulgaria also had the highest drop in success rate of loan applications from 87% in 2010 to 43% in 2007, followed by Ireland, Denmark and Lithuania. In contrast, highest success rates had Finland, Poland and France (European Commission Report, 2011). Regardless, in 2014, 37% of European SMEs not older than 2 years were accessing funding through credit lines (SAFE, 2014).

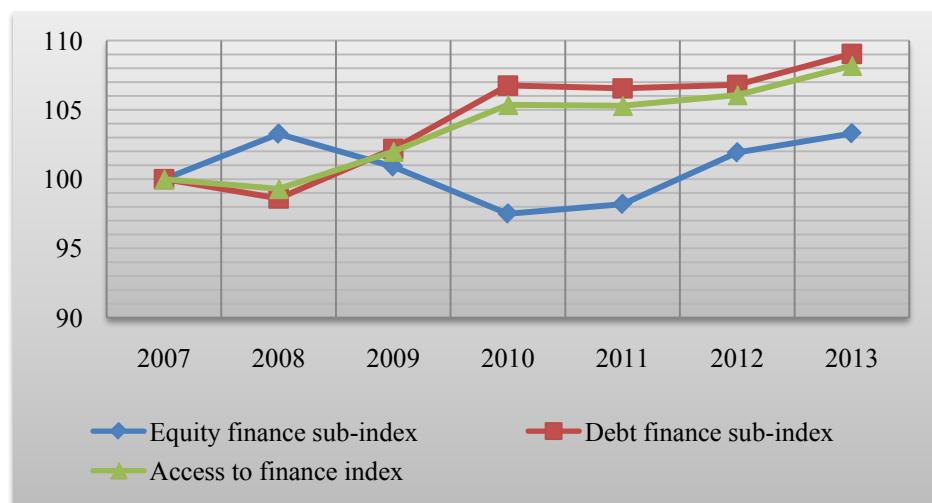
However, the hit of the crisis has not only caused tightening of financial supply but has also resulted in weak financial demand from the private sector. The business environment became risk reluctant environment where entrepreneurs' avoided going further into debt and postponed the realization of their innovative ideas. Namely, SMEs got discouraged by the contracting conditions on the market and the high rejection share of credit applications. Chances for financing young start-ups with no history of payments, significant collateral or proven profitability of the business were even less optimistic. The final outcome was underutilized use of resources which hinders entrepreneurial activity and economic growth (IFF 2014: p.8).

1.1 Index on SMEs Access to Finance

To better understand the fluctuations of the capital available of start-ups the paper presents the Index on SMEs Access to Finance (SMAF) which encompasses the Equity sub-finance index (EFI) and the Debt-sub-finance index (DFI) (Graph 1).

Not surprisingly, the SMAF index hit its lowest point in 2008 at the very outbreak of the Financial Crisis. The two sub-indexes have had divergent patterns. Surprisingly enough the DFI reached its peak in 2008. This emphasizes the importance equity financing has gained during the hardest period of credit tightening.

Graph 1 Index on SMEs Access to Finance, EU-28, 2007 - 2013



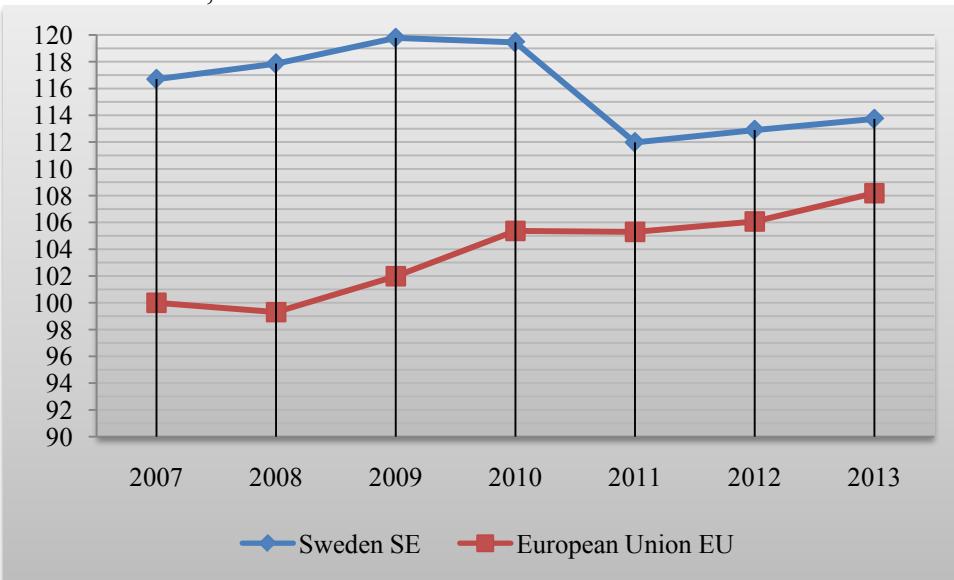
Source: Adapted data from EC:

http://ec.europa.eu/enterprise/policies/finance/data/enterprise-finance-index/index_en.htm# Accessed on 10 August, 2015

However, the index dropped significantly in 2009 before regaining strength in 2010 after which reported a constant incline. In contrast, the DFI was stagnant from 2009 to 2011, but still at higher level in comparison to the EFI index. Note that the DFI takes into account the interest rates on loans and overdrafts which have decreased significantly during the period of 2008-2013. This may have resulted in the increase of the index which does not necessarily reflect the real situation in the economy. As a result the SMAF score in total has increased between 2007 and 2013 (EC, 2013).

In addition, the next graph provides comparison between the SMAF Index on EU-level and Sweden. We can notice that capital availability in Sweden is higher from the very beginning, but has also shown greater resilience in the crisis year of 2008. However, it stagnated in following years before a sharp decline in 2011.

Graph 2 Index on SMEs Access to Finance, comparison between EU-28 and Sweden, 2007 - 2013



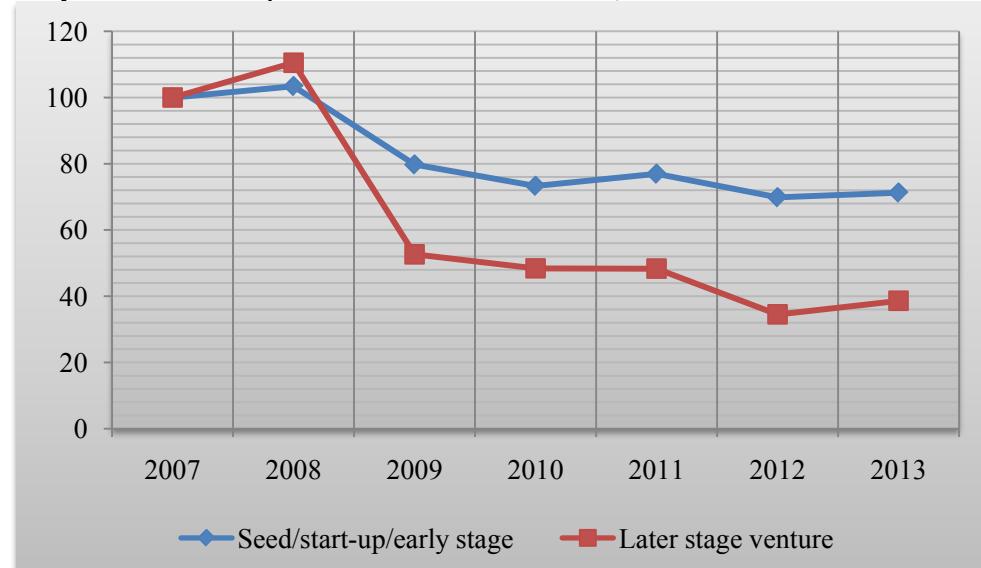
*Source: Adapted data from EC:
http://ec.europa.eu/enterprise/policies/finance/data/enterprise-finance-index/index_en.htm#* Accessed on 10 August, 2015

The later downturn of capital availability in 2011 in Sweden can be explained as a postponed effect of the crisis. Nevertheless, even at its lowest point, the SMAF index in Sweden remained higher than the EU-average level. Although the index gives good general picture of capital levels and funding accessibility, we are also interested in investors' behavior and willingness to fund new ideas in the post-crisis period. For that reason the next article further investigates the venture capital market with focus on equity investments in the early stage of business formation.

1.2 Venture capital market

Private equity has been identified as crucial for enabling start-ups access to finance. After the 2008 financial crisis and the tightening of credit availability its importance for start-up financing has amplified as we saw from Graph 1. For that reason, first we illustrate the situation of the venture capital on EU-level. Surprisingly, the seed and early stage financing held up better than the later stage financing on the venture market (Graph 3).

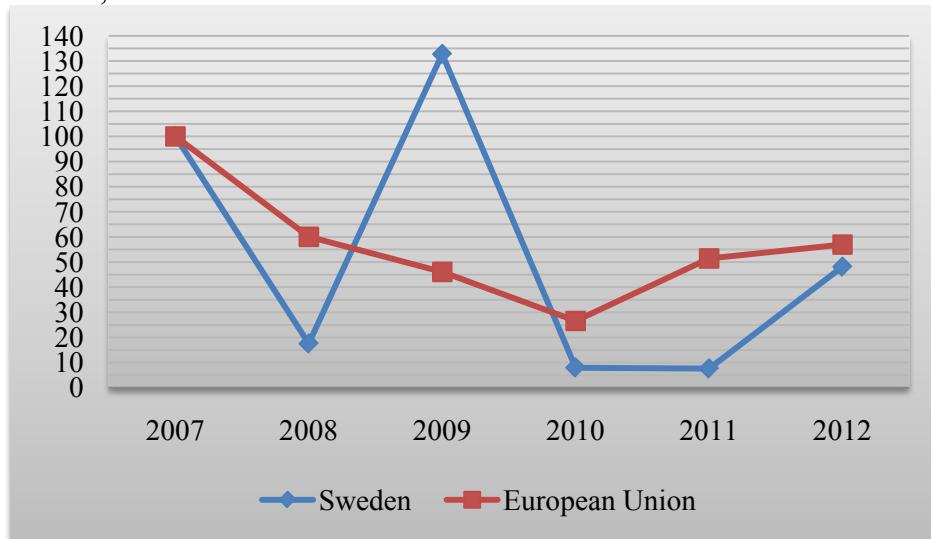
Graph 3 Venture capital investments in the EU, 2007-2013



Source: *OECD, Entrepreneurship at glance, OECD Publishing, 2014: p.22*

Regardless, the venture capital market reported an overall decrease of 50% in investments despite increasing efforts on EU level for directing venture capital investments into new businesses with focus on innovative start-ups.

Graph 4 Early stage equity investments, comparison between EU-28 and Sweden, 2007 - 2012

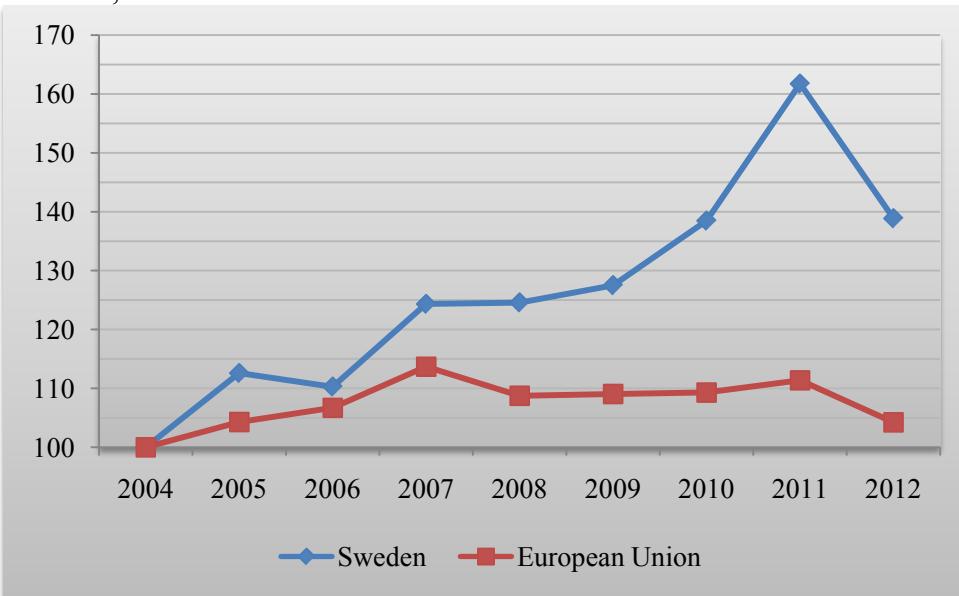


Source: *Adapted data from EVCA (2014). "European Private Equity Activity Data 2007-2013"*, Available at: <http://www.evca.eu/research/activity-data/annual-activity-statistics/>, Accessed on 10 August 2015

However, the situation has been slightly different in Sweden. Namely, the venture capital market in Sweden has experienced major fluctuation during and after the financial crisis reaching its peak in 2009 (Graph 4) when start-up investments on EU-level were plummeting.

One explanation of the 100% increase in Swedish early stage investments can be the booming high-tech startup scene of Sweden which erupted in 2009 and has attracted majority of venture capital investments and business angels. Sweden has been recognized as the second most resourceful tech hub in the world, right after the Silicon Valley with 6.3 billion-dollar tech companies per million people (Davidson, 2015). However, further investigation is needed to better explain the sudden downturn in 2010. Although, as mentioned before this can be a postponed effect from the hit of the crisis.

Graph 5 Number of Start-ups, comparison between EU-28 and Sweden, 2007 - 2012



Source: Adapted data from Eurostat:
<http://ec.europa.eu/eurostat/web/structural-business-statistics/entrepreneurship/business-demography>. Accessed on 10 August, 2015

Nevertheless, we see that investments start to pick up quickly in 2011 at a greater pace in comparison to the EU-average.

The resilience and determination of Swedish entrepreneurs is even more highlighted in the number of new births of enterprises which has experienced a constant rise in the period of 2004-2011. In contrast, start-up levels on average in the EU have been either decreasing or stagnating after 2008(Graph 5).

Graph 5 only confirms the above discussion on success of Swedish start-ups in comparison to the EU average. Scholars have argued that companies operating in small markets away from the epicenter of innovation like the Silicon Valley and physically away from demanding customers are highly disadvantaged. The Uppsala model vouches for gradual international expansion and steady increase of engagement in foreign markets (Forsgren, 2002). In contrast, in today's interconnected and digital world, "Born Globals" are becoming more the rule, rather than the exception. Skype, Spotify and Candy Crush are only few examples of Swedish start-ups which have altered the way we

communicate, exchange information or entertain ourselves and have obtained global presence on the market from the very beginning. Innovative ideas like these have managed to attract one fifth of the total venture capital invested in the EU in the first three quarters of 2012 (EVCA, 2015). The success of Sweden has attracted the attention of investors, entrepreneurs and researchers. Great part of the success lays in cultural characteristics and heritage of engineering which are next explained.

2. Lessons learned from Sweden

The data presented in the above sections confirmed the success of the Swedish start-up ecosystem which has successfully encouraged high number of start-ups, particularly innovative start-ups. The innovativeness and success has attracted even more entrepreneurs and investors in Sweden spurring further the entrepreneurial activity. In other words, the presence of SMEs and developed private sector signals that a particular industry has low entry costs and high margins. Furthermore, high rate of SMEs suggests that regions have positive attitude towards new start-ups and entrepreneurship is perceived as alluring opportunity. Additionally, in condition of increased risk and uncertainty, start-ups are more likely to flourish in such environments.

Note that, the data also showed that investments levels have not been always high in Sweden either, and have experienced major capital contractions in 2008 and 2010 (Graph 4). Regardless, start-up activity has continued to increase throughout the observed period of 2004-2012 (Graph 5). Actually, much of Sweden's success is contributed to cultural characteristics, new trends in technology and their tendency to take advantage of these novelties to create more competitive products and services on a global level. The next section identifies the reasons which have led to the creation of the innovative business environment and highlights the lessons learned from Sweden.

2.1 International perspective

Companies originating from this region have created products and services for the global consumer. Globalization enabled by telecommunication technologies and the internet has been accredited for the convergence of cultures and creation of global consumers which have

similar preferences regardless of country of origin. Swedish companies have capitalized on these global trends and took an international perspective for their start-ups creating products and services for the global consumer. Sweden thrived because of, not in spite of, its small market. Statistics shows that Swedish company expands internationally twice as fast in comparison to a company from another European country with similar population and market to Sweden (Davidson, 2015). Although, proposed by Swedish researchers (Johanson & Vahlne, 1977) the Uppsala model of gradual expansion does not apply here.

2.2 Leading digital economy

The Nordic countries have been recognized as world digital leaders for 2015 by the Digital Economy and Society Index (European Commission, 2015). Sweden takes the second place with 92% of households having broadband internet access and 48% daily usage of social media usage (Statista, 2015). Furthermore, Stockholm and Oslo recently became the two first cities in the world with **publicly available 4G networks**.

Companies have also used this opportunity and introduced novelties on the market which improve the quality of life in Sweden and make products and services more easily available. For example, Selecta, which owns snack machines all over the Stockholm Metro, recently introduced **mPayment**, enabling their customers to get a cold Coke or a sandwich in the middle of the night, even if they do not have cash. As for buying tickets and goods using mobile phones has become mainstream. Actually, Sweden has been recognized as the most **cash-free society** on the planet (Russell, 2014).

2.3 Tech-savvy generation

Sweden's tech-savvy, Facebook-obsessed population and sleek design sense together with its roots in engineering make Sweden the hottest spot for investors hunting the next big thing. Additionally, Sweden is a country known for its early adoption of new technology, both on individual and business level. Technologies enabling the digital transformation of companies are big nowadays in Sweden among which cloud computing has taken a focal point. From one side cloud technologies have initiated new wave of entrepreneurs who have created innovative services and products like the well-known Spotify, KLARNA, eBuilder, and CityCloud among many others. On the other side many

start-ups have used the cloud technologies to overcome initial obstacles such as lack of financial capital and difficulties of finding right talent. The new technologies have provided start-ups **scalable pricing models** which do not require huge start-up investments or extensive tech knowledge lowering the entry-barriers for SMEs (Entreprenörskaps forum, 2012).

4. Conclusion and recommendations

The fluctuations in the number of start-ups and capital presented in this paper illustrated the destructive effect that the FC has exerted on entrepreneurship. Moreover, the crisis has caused excessive credit tightening shrinking the capital available for start-ups. In such conditions private equity has been identified as essential for reviving start-up activity after the crisis. The analysis on EU data showed that regardless of the extensive efforts of the member countries for increasing financial support of start-ups, investment amounts have stayed below pre-crisis levels. Even in the case of Sweden which has attracted majority of the EU venture capital, early stage investments have decreased dramatically in 2008 and 2010. Regardless such trend, start-up activity has continued to grow in this Nordic country. Such course opens a new direction of research in the field of entrepreneurship. Namely, in recessive period where risk aversion prevails additional incentives are required for increase in start-ups creating.

According to Kreft and Sobel (2005), an area with high entrepreneurial activity will cause the flow of venture capital, rather than models suggesting that an increased capital would spur start-ups. Finally, training individuals to be more independent and autonomous by teaching those skills for coping with adversity will create the potential in individuals to become entrepreneurs even in contracting conditions (Krueger and Brazeal 1994). From the example of Sweden we saw that creating a culture for curiosity, early adoption of technology and global perspective of the market can contribute greatly in higher number of entrepreneurs and success of newly formed businesses. Particularly, in the present digital era of interconnected markets, global consumers and cloud technologies, start-ups can leverage these technologies to cuts costs and reach consumers across the globe, as well as recruit top talent in remote locations.

Finally, we argue that potential entrepreneurs will perceive self-employment as an alluring opportunity when witnessing more success stories, as it is the case in Sweden where in a very short period many start-ups gained global presence and success. Policy makers, communities and other influential actors in the economy can help shaping these perceptions in favor of start-ups. Primarily, communities can increase the consciousness of rewards for business formation by publicizing stories of newly founded businesses (Krueger and Brazeal 1994).

According to the entrepreneurial cognition theory, perception and interpretation play a crucial role in circumstances characterized with asymmetric information and uncertainty (Forbes 1999). According to Yates and Stone (1992, cited in Krueger & Brazeal 1994), personal perceptions and interpretations about self-efficacy highly influence the decision for new venture creation in situations with high risk and uncertainty. Namely, if entrepreneurs feel capable of executing task such as the creation of new venture, they would do so, despite the destabilizing effect of the financial crisis. High self-efficacy can help entrepreneurs perceive potential opportunities in the changing environment, instead of postponing the commercialization of their business ideas for better times. Finally, Ajzen's theory for planned behavior identifies perceived feasibility and desirability as crucial for taking entrepreneurial action (Forbes 1999). In this sense, policy makers should not only be looking at the incentives pulling or pushing people to engage with entrepreneurship, but also at the drivers for success and growth of their business. Identifying the main reasons for low survival rates of SMEs will help shaping more effective policies and programs for support of business formation in the EU.

The above discussed conclusion and suggested actions are expected to initiate and nurture more entrepreneurial population referring both to potential entrepreneurs and investors. The result would be higher levels of equity capital and number of start-ups.

References

1. Davidson, L., (2015). How Sweden became the startup capital of Europe, The Telegraph, 28 June, 2015, Available at: <http://www.telegraph.co.uk/finance/newsbysector/mediatechnologyandtelecoms/11689464/How-Sweden-became-the-startup-capital-of-Europe.html>, Accessed on: 14 August, 2015
2. Entreprenörskapsforum (2012). CLOUD COMPUTING Challenges and Opportunities for Swedish Entrepreneurs, Available at: http://entreprenorskapsforum.se/wp-content/uploads/2012/11/N%C3%A4Po_Cloud_Webb.pdf, Accessed on 14 August, 2015
3. European commission (2013). “A recovery on the horizon?”, Final report, Annual report on European Smes 2012/2013, Gagliardi, D., Muller P., Glossop E., Caliandro, C., Fritsch M., Brtkova G., Bohn U., N., Klitou D., Avigdor G., Marzocchi C., Ramlogan R.,
4. European Commission (2015).The Digital Economy and Society Index (DESI), Digital Agenda for Europe, A Europe 2020 Initiative, Available at: <http://ec.europa.eu/digital-agenda/en/desi>, Accessed on 14 August 2015
5. European Commission Report (2011). Statistical annex of European economy [online].Directorate general ECFIN economic and financial affairs. Available from: http://ec.europa.eu/economy_finance/publications/european_economy/2010/pdf/statistical_annex_spring2010_en.pdf, Accessed 5 August 2014.
6. Eurostat database (2014). Available at: <http://ec.europa.eu/eurostat/data/database>, Accessed on 5 August 2014
7. EVCA (2014).“European Private Equity Activity Data 2007-2013”, Available at: <http://www.evca.eu/research/activity-data/annual-activity-statistics/>, Accessed on 5 August 2014
8. Fairlie, W., R., (2013). “Entrepreneurship, Economic Conditions, and the Great Recession”, *Journal of Economics & Management Strategy*, Volume 22, pp. 207–23.1
9. Forbes, D. P. (1999). Cognitive approaches to new venture creation.*International Journal of Management Reviews*, 1(4), 415-439.

10. Forsgren, M. (2002). The concept of learning in the Uppsala internationalization process model: a critical review. *International business review*, 11(3), 257-277.
- 11 Hisrich, D., R., Peters, P., M., Sheperd, A., D. (2010). "Entrepreneurship", McGraw-Hill Irwin, 8th edition, 2010.
- 12 IFF (2013). Restoring financing and growth to Europe's SMEs, Bain & Company, Inc. and the Institute of International Finance, 2013
- 13 Kreft, S. F., & Sobel, R. S. (2005). Public policy, entrepreneurship, and economic freedom. *Cato J.*, 25, 595.
- 14 Krueger, N. F., & Brazeal, D. V. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship theory and practice*, 18, 91-91.
- 15 OECD (2014). *Entrepreneurship at a Glance*, OECD Publishing, http://dx.doi.org/10.1787/entrepreneur_aag-2014-en, Accessed on August, 2015
- 16 Reynolds, P., J. Storey, J. D. and Westhead, P. (1994). "Cross-national Comparisons of the Variation in New Firm Formation Rates, Regional Studies", Vol. 28:4, pp. 443-456
- 17 Russell H. (2014). Welcome to Sweden - the most cash-free society on the planet, The Guardian, Available at: <http://www.theguardian.com/world/2014/nov/11/welcome-sweden-electronic-money-not-so-funny>, Accessed on 10 August 2015
- 18 SAFE (2014). Survey on the Access to Finance of Enterprises, Available at: http://ec.europa.eu/enterprise/policies/finance/data/index_en.htm, Accessed on 5 August 2014
- 19 Statista (2015) Available at: <http://www.statista.com/markets/422/topic/523/sweden/>, Accessed on 14 August 2015
- 20 Vetter, S., Köhler, J. (2014). Business demographics and dynamics in Europe, Deutsch Bank Research, 2014.

