

Financing of R&D and Innovation with Venture Capital: Case of Turkey

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Research and development (R&D) spending is an indispensable constituent element of the developed economies. R&D is the driver of new processes and products, which can increase economic welfare many times greater than the initial investment in R&D. It is a widely held view that R&D and innovative activities are difficult to finance in a free market. There must be a private sector venture capital industry that is focused on solving the problem of financing innovation for new and young firms. The venture capital market particularly affects investment at seed and start-up stages. Providers of venture capital are formal venture capital funds as well as informal investors, corporate investors and also specialist mezzanine lenders. These financial investors are predominantly institutions, e.g. pension funds and banks. The venture capital community's positive impact on the economy far outweighs its relative size. The venture capital industry drives job creation and economic growth by helping entrepreneurs turn innovative ideas and scientific advances into products and services that change the way we live and work. Under Vision 2023 of Turkey whose main theme has been determined as creation of an "affluent society", Turkey set a target for increasing R&D spending from 1% to 3% of GDP by 2023, one thirds of this to come from the private sector. Venture capital is considered a very effectual financial vehicle in this regard. There is a small number of venture capital funds in Turkey where has a real and serious entrepreneurial ecosystem with accelerators and incubators, universities focusing on entrepreneurship in some way, "high-impact" entrepreneurs, great support from the Turkish government and other public institutions. In this paper, characteristics of venture capital in Turkey will be determined, and then the challenges and opportunities of it will be analyzed through SWOT analysis.

JEL Codes: F 15, F 36, N 15 and O 53

1. Introduction

Turkey is a large emerging market economy. It has shifted rapidly from an economy largely based on agriculture and on an abundant low-skilled labour force (which supported the growth of traditional labour intensive industries such as textiles) towards an industrial economy. Turkey is now a major European automotive producer, a world leader in shipbuilding, and a significant manufacturer of electronics and home appliances (e.g. TV, white goods) (OECD (2012).

Turkish economy is expected to be the 10th biggest economy until 2050. In a projection, Goldman Sachs (2008) suggests that Turkey could overtake most of today's heavyweight European economies within three to four decades. Accordingly, Turkey's GDP will reach \$5.9trn (measured in 2007 US\$) by 2050 and thus become the ninth largest economy in the world; and on a European scale, Turkey could become the third-largest economy after

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Russia and the UK (\$6trn) by 2050, overtaking Italy by the early 2030s, and Germany and France by the late 2040s. In another projection, HSBC (2012) believes that Turkey has an extremely strong long-term story. The combination of strong fundamentals, and the one country in the region with good demographics, should see Turkey maintain a very respectable pace of growth until 2050. Turkey herself has a vision (Vision 2023) of being the 10th biggest economy until 2023. All these expectations are based on dynamic structure and great potential of the Turkish economy.

On the other hand, likewise many other developed and developing countries, a national Technology Foresight Program was carried out in Turkey under the name of Vision 2023. Under Vision 2023 whose main theme has been determined as creation of an "affluent society", Turkey set a target for increasing R&D spending from 1% to 3% of GDP by 2023, one thirds of this to come from the private sector (amounting to 20 bn \$).

Turkey targets to be technologically developed to be able to meet the expectations. It is widely believed that economic developments of many advanced countries were propelled through vigorous entrepreneurial stimulation by policy makers. Economic success of these countries including USA is believed to have begun with entrepreneurial development programs. Key among these programs is the creation of enabling environment for effective development of a venture capital market to provide financial support for entrepreneurs who make research and development (R&D) expenditures which are the driver of new processes and products whose added-value is high. However, R&D and innovative activities are difficult to finance in a free market. There must be a private sector risk/venture capital industry that is focused on solving the problem of finance for technology focused small firms. These firms require intensive periods of R&D and market development, while they have some limits to access to other sources of external finance.

In the following sections, firstly the literature is reviewed, and then details of the methodology used in the text will be given. Existing market of venture capital in Turkey will be described; and the policies and methods to finance the R&D expenditures will be mentioned. And suitability of Turkish economy for venture capital will be evaluated through SWOT analysis.

2. Literature Review

The literature in this paper will be classified as the one about the VC in general; and the other focusing on Turkish VC market.

Kaplan & Schoar (2005) investigate the performance of VC funds and find that, on average, fund returns net of fees approximately equal the return of the S&P 500. Hsu (2004) finds evidence that bigger VCs get better deal terms when negotiating with startups. An additional paper that explores the performance of venture capital investments is Cochrane (2005) and Moskowitz & Vissing-Jorgensen (2002) studies whether venture capital investments behave the same way as publicly traded securities; and they conclude that they do. Hochberg et al. (2007) study how relationships and networks in the VC industry affect performance. Hochberg et al. (2010) examine whether U.S. venture capital

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firms engage in practices designed to increase their bargaining power over entrepreneurs by restricting entry into local VC markets.

Ahlstrom and Bruton (2006) examine what the implications are for venture capital in emerging economies in a research grounded in 65 semistructured interviews with venture capitalists in emerging economies around East Asia. This article draws attention to the impact of networks and changing institutional environments on venture capital in emerging economies.

On the other hand; there is a narrow literature studying the venture capital in Turkey. It can be classified as two main categories: firstly there are some introductory texts written by some professionals including Bosut (2004), Chairman of Turkish Venture Capital and Private Equity Association (TurkVCA), who talks about the potential of Turkish market; Atak (2008) gives some brief information about the risk capital in Turkey in his article in *Business Week Turkey*; Şirvan (2002) evaluates the feasibility of venture capital; and Bayrasli (2012) lists the venture capital firms in Turkey and defines the challenges in her article in *Forbes*.

In the second category represented by some academic studies; Çelikkaya (2007) writes about some exemptions made for venture capital investments in Turkey. Kuğu (2004), and Yiğit and Güner (2008) inventorize the risk capital investments. Aras (2001) attempts to create a finance model of venture capital.

All the publications above attempt to make the inventory of venture capital in Turkey. This paper utilising from these studies aims at making a special SWOT analysis for the Venture Capital in Turkey.

3. Methodology

One of the most popular economic analyses is risk analysis. However, it includes so many dimensions of vulnerability including economic, political, exchange rate, and transfer risk among others that it can be defined and measured in many different ways.

Defining the risk level is a very difficult task. It is not easily quantifiable and the difficulty of its measurement is compounded by the numerous steps involved: i) the identification of the sources of risk; ii) the extrapolation of the risk-event unfolding process; iii) the estimate of the impact on a specific transaction/economic agent; iv) the means/actions undertaken to mitigate the impact before and after the event has occurred. As sources of risks are almost countless, the agents and the transactions involved numerous, the ability of the agents to respond to risks very different, defining “country risk” in one score is so complex, the possibility of summarizing the country risk with a single score seems utterly unrealistic.

There are several single score risk evaluations of Turkish economy made by several international institutions. When we have a look at the some political and economic risks indexes (including *Country Risk* by SACE, *Global PRS Risk Index 2012* by PRS Group, *Turkey Risk Ratings* by Economist Intelligence Unit, *Turkey Country Report* by Euromoney Country Risk, *Political Risk 2013* by Maplecroft, *Turkey Commercial Banking Report* by Business Monitor International, *Turkey Country Report* by the PRS Group, *Turkey*

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Commercial Banking Report by Business Monitor International, *Country Risk* by Coface, *Country Risk Report* by AMB, *Investing in Emerging Markets April 2013* by BlackRock), we can see that Turkey has tolerable medium level risks, a bit riskier than world average.

Although risk analysis is very popular to evaluate the current situation of a country for investment, since it is a risky business because of both the abovementioned difficulties, and quickly-changing conditions in emerging markets, a SWOT analysis attempting to determine the potential of an economy will be a better guide for Turkish economy.

SWOT (**S**trengths, **W**eakness, **O**pportunities, and **T**hreats) analysis is an analytical planning tool which provides information that is helpful in assessing the impacts of major factors (internal and external) on the performance of an entity that could be a company or an industry or even a country or a group of countries with a common objective. Scanning the internal and external environment of an entity is an important part of the strategic planning process. In this context, SWOT analysis is very critical in matching the resources and capabilities of an entity to the competitive environment in which it operates, and, thus, it is an instrumental tool in strategy formulation and policy making. Internal factors, which are attributes of the entity itself, can be classified as Strengths (**S**) or Weaknesses (**W**). On the other hand, external factors, which are attributes of the outside environment and are out of the control of the entity, can be classified as Opportunities (**O**) or Threats (**T**).

4. Venture Capital in Turkey

Venture capital can be defined as independently managed, dedicated capital focusing on equity or equity-linked investments in privately held, high-growth companies. Typically, these funds are raised from institutional and wealthy individual investors, through partnerships with a decade-long duration for young firms. The venture capitalists sell these firms to corporate acquirers or else liquidate their holdings after taking the firms public (Hall and Lerner 2010). A key constraint on the development of spin-outs is reported to be access to venture capital finance (Lockett and Wright 2005).

The venture capital institutions are considered as one of keys for the sustainable economic development because it significantly contributes to funding projects; their growth and development. The venture capital institutions play an effective role in funding corporations as they provide them with funds, expertise and modern methods of administration, organization and merging their money with those of the funding institutions (Kenawy and Abd-el Ghany 2012).

While the first venture firm, American Research and Development, was formed in 1946 and invested in companies commercializing technology developed during the Second World War, it came to Turkey after 1986, with the establishment of Development and Support Fund and Technology Support Agency, as in Europe, where such companies are recent. The European association established the venture capital company in Brussels in 1983. Its profits ranged annually between 250%, 300%. The percentage of financing risk capital estimated 64% of the high-risk projects. All the developed countries have hastened to adopt this method, with varying results among them. Italy, Spain and Germany have failed in this experience (Kenawy and Abd-el Ghany 2012).

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While investment in venture-backed companies only equates to between 0,1 percent and 0,2 percent of U.S. gross domestic product each year, these companies employed 11 percent of the total U.S. private sector workforce and generated revenue equal to 21 percent of U.S. GDP (National Venture Capital Association 2011). However, the experience of venture capital in most of the developing countries is a new one and its contribution to the financing of projects hardly exceeds 10%. In Turkey, where has a real and serious entrepreneurial ecosystem with accelerators and incubators, universities focusing on entrepreneurship in some way, “high-impact” entrepreneurs around the world, great support from the Turkish government and other public institutions (Bayrasli 2012), there is a small number of venture capital funds.

Since the early 2000s, Turkey has devoted increasing importance to investment in science, technology and innovation. Its Science Technology and Innovation (STI) system however remains small. Business Expenditures on Research&Development (BERD) was 0,36% of GDP in 2010, well below the OECD median (as shown in Figure 1 below), and is concentrated in a few medium-high-technology manufacturing industries and knowledge services (OECD 2012).

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bottom-up approaches (including basic, applied and frontier research) are also an option (European Commission 2013).

Under Vision 2023 of Turkey whose main theme has been determined as creation of an "affluent society", Turkey set a target

- To increase R&D intensity to 3%
- To increase business R&D intensity to 2%

Since 2011, a new Ministry of Science, Industry and Technology (MoSIT) is in charge of STI policy design, implementation and co-ordination of R&D and innovation activities. The Scientific and Technological Research Council of Turkey (TUBITAK) and the Turkish Academy of Science (TUBA) are affiliated to the Ministry. Evaluation policy has been reinforced and an interministerial co-ordination board has been set up to review all R&D, innovation and entrepreneurship support schemes under the presidency of TUBITAK.

During the 2009 crisis USD 217 million was earmarked to The Scientific and Technological Research Council of Turkey (TUBITAK) to support STI actors via various grant schemes. TUBITAK's main funding instrument, the Industrial R&D Funding Programme, has increased grants by 10% for certain technology fields (IT, biotechnology, environment-related technologies, advanced materials). A new small business innovation and research support programme was implemented in 2012 (OECD 2012).

In 2011 TUBITAK launched a competitive funding programme to set up regional innovation platforms and co-operation networks at the local level. The law on technology development zones (TDZ) fosters the creation of technology parks. Financial support is provided through tax incentives for land procurement, infrastructure and buildings.

The Law on Supporting Research and Development Activities (No. 5746 issued in 2008), is a policy tool that primarily aims at addressing the need of creating R&D centers with a critical mass. The Law covers technology centers by Small and Medium Industry Development Organization and R&D centers in Turkey, R&D projects, pre-competition cooperation projects and support and incentives with respect to technopreneurship capital. The support that are provided within the framework of the Law no. 5746 include R&D allowance, income tax withholding incentive, insurance premium support, stamp duty exemption and technopreneurship capital subsidy (TUBITAK 2011).

Analyzing the sectors financing R&D expenditure, 45,8 per cent financed by business enterprises (66,5 per cent in OECD, 61,7 per cent in EU), 29,2 per cent by government sector, 20,8 per cent by higher education sector, 3,4 per cent by other national sources and 0,7 per cent by foreign funds (TurkStat 2012). Since the private sector is considered to be the driving force for many improvements, supportive decrees were adopted for increasing the private sector's activities. For example, it has been decided to develop policies to provide R&D intensive start-ups with ready access to finance and complementary mentorship support at all stages of the life cycle of start-ups and to adopt embracing a tailor-made approach. It has also been decided to establish an adequate innovation and entrepreneurship ecosystem to increase the number of R&D intensive start-ups in Turkey.

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Furthermore, governmental organizations will be allowed to participate in venture capital funds in order to increase their effectiveness, especially in the seed funding and start-up capital phases (European Commission 2013).

The overall contribution of high-tech and medium-tech products to Turkey's trade balance was negative for each year over the last decade. Nevertheless, several high-tech and medium-tech industries have improved their contributions to the Turkish trade balance, in particular road vehicles, electrical machinery, apparatus and appliances and machinery specialized for particular industries (European Commission 2013). The venture capital industry drives job creation and economic growth by helping entrepreneurs turn innovative ideas and scientific advances into products and services that change the way we live and work. (National Venture Capital Association 2011).

Without enough venture capital, new ideas or early stage investments are usually self funded by the entrepreneur themselves or through bank loans, which are usually short-term borrowings. Funding the majority of capital investments by short-term bank loans has caused considerable problems both for the companies and for the banks in the past. This was one of the main reasons for the severe crisis (also referred to as the banking crisis) that occurred in 2001. Since the original entrepreneur is usually able to support the company only for a few years - unless it is one of the holding companies or a company large enough to support growth - he/she ends up either quitting or selling the business to another strategic buyer (Deloitte 2007).

We can list the following venture capital firms in Turkey as of 2013: Swissturk Investment Venture Capital is a member of World Venture Capital Group; Burhan Karacam Partnership was established in 2000; Turkven was established in 2000; Vakıf Risk Sermayesi was established by a state bank; İş Risk Sermayesi was established by the biggest private bank of Turkey; Superonline; ilab; Ladybird is of European origin; Actera Partners; and Crea-World. Galata Business Angels is a prominent platform of high net-worth individuals putting money into Turkish start-ups. The Istanbul Venture Capital Initiative (IVCI) was launched in 2007. It is a 160 million Euro fund of funds, backed by TTGV and the European Investment Fund (EIF), as a vehicle to encourage others to take out risk in Turkish start-ups. It has given a number of largely European and some Turkish investors the courage to gamble on Turkish start-ups such as Golden Horn Ventures. 212 Capital Partners, is the latest risk taker to dive into the Turkish entrepreneurship market. Launched this year with a first round fund raised among Turks totaling \$30 million, it is eyeing early stage investments in tech start-ups in e-commerce, gaming and software applications.

German-based Earlybird Ventures, Brussels-based Hummingbird Ventures and Intel Capital, which recently opened an office in Istanbul, should also be mentioned.

In 2013, both national and international venture capital funds have made 74 total investments in Turkey. 57% of these ventures (42 of 74) have been made by national funds (Ekinci 2014).

Existing amount of venture capital in Turkey is calculated as 300 million USD. While Turkey ranks as the world's 13th most attractive destination for Foreign Direct Investment in 2012 (A.T. Kearney 2013), she is the 39th country in The Global Venture Capital and Private

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Equity Country Attractiveness Index of 2011 (Ernst&Young 2013). So it is clear that there are some steps to be taken to increase the share of VC to achieve the target envisaged by vision2023 of Turkey.

5. SWOT Analysis

Table 1: Strengths of the Turkish Economy for Venture Capital Funds

<ul style="list-style-type: none">-The government supports and has policies on liberalisation with an open and liberal investment climate-Strong Government support for technological development-Increasing interest of big international funds like KKR, CVC Kapital, BC Partners-Increasing cooperation between university and industry-Positive discrimination for foreign investors-Official establishments for investment support and advisory-Turkey's overall economic freedom score is higher than the world average-Turkey ranked 71st among 183 countries in doing business report, and 65th in the protecting investors index-governmental organizations will be allowed to participate in venture capital funds.

On the strengths side; we can observe that economic reform –especially of state-owned industries and the finance sector – has broad political support in the government. The government is committed to greater fiscal austerity and clarity going forward in order to mitigate investor concerns. They launched a successful reformist program aiming at breaking decades of corporate mismanagement and ingrained, inflationary expectations. Since 2001, the Turkish government has been implementing a comprehensive investment climate reform program. This program aims to streamline all investment-related procedures and to attract more FDI to the country. Since the early 2000s, Turkey has devoted increasing importance to investment in science, technology and innovation. The Ninth Development Plan (2007–2013) identifies improving science and technology performance as one of the building blocks for greater competitiveness. The new science, technology and innovation strategy document, covering the period 2011-2016, aims to create more output from existing research capacity and to enhance needs-oriented research capacity and defines strategic focus areas for increased science, technology and innovation performance. Supportive decrees were adopted for fostering collaboration between the private sector and universities, and it has been decided to develop policy tools to trigger innovation and entrepreneurship in the universities. Turkey has taken steps to make the taxation system more investor-friendly. The Government views foreign direct investment as vital to the country's economic development and prosperity. Accordingly, Turkey has one of the most liberal legal regimes for FDI in the Organization for Economic Cooperation and Development. Areas open to the Turkish private sector are generally open to foreign participation and investment. Turkey was ranked as the 67th freest economy by the Heritage Foundation's and the Wall Street Journal's Index of Economic Freedom 2011. In the World Bank's Doing Business 2012 report, the country was ranked 71st out of 183 countries. The country was ranked 61st in the starting a business index, 65th in the protecting investors index. In order to increase their effectiveness, governmental organizations will be allowed to participate in venture capital funds, especially in the seed funding and start-up capital phases. In this way it is hoped to reinvigorate venture capital funding in Turkey.

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Table 2: Opportunities of the Turkish Economy for Venture Capital Funds

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| <ul style="list-style-type: none">-High and stable economic growth rates-The cease-fire with Kurdish separatists-Strong banking system-Continued deterioration in global economy |
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Turkish economy has been one of the best-performing economies in last years. It is widely estimated that Turkish economy who is 17th biggest in the rankings will be one of the ten big economies in the coming decades. With the cease-fire in her East with Kurdish separatists, investments can boom, NATO's second biggest army and a defence budget of some TL20bn could well be usefully employed in investments, and the risks of the region will be converted to opportunities. The ongoing economic crisis in Europe may stimulate portfolio investment inflows, since Turkey could manage to avoid a strong contagion effect of the ongoing problems in Europe.

Table 3: Weaknesses and Threats for Venture Capital Funds in Turkey

WEAKNESSES <ul style="list-style-type: none">-No interest of Small and Medium Sized Enterprises-Potential of internal crises-Bureaucracy, a slow judicial system, frequent changes in the legal and regulatory environment-Skills are weak-Corruption (In the 2011 Corruption Perceptions Index, the country is ranked 61st.)-High tax burden (world ranking of 80)-External debt-Balance of payments problems
THREATS <ul style="list-style-type: none">-Tensions between Turkey and neighbours continue to grow

On the weaknesses and threats side; Small and Medium Sized Enterprises most of whom are traditionally working family businesses show no interest in venture capital because they prefer to raise equity capital for growth. There is a high potential of institutional crises between the government and the military, between the government and the judiciary further undermine forward momentum, suspending potential progress in reforms. Investors face excessive bureaucracy, a slow judicial system, high taxes and compliance burden, weaknesses in corporate governance, sometimes unpredictable decisions made at all levels of government, and frequent changes in the legal and regulatory environment. 12% of the adult population has tertiary education, and 13% of employees are in S&T occupations. Turkey has still few researchers (2,9 per thousand employment) but their number has almost tripled in ten years. Corruption is perceived to be a problem in Turkey by private enterprise and the public at large. In the 2011 Corruption Perceptions Index, the country is ranked 61st. This is not good when we take into consideration that corruption is equivalent to a major tax on foreign investors. Turkey had a high tax burden on income with 41,2% tax burden on average annual salary. Turkey's world ranking of 80 means she is still among the top tax collectors. External debt will remain a constant threat, potentially running up rapidly if investment inflows are ever compromised. Balance of Payments constraint is a structural problem for Turkish economy. Turkey was forced to rely on often volatile capital inflows to finance investment and overall economic growth, and accumulate substantial external

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liabilities over the years. Turkey's foreign policy as far as its neighbors are concerned is worrying, and tensions between Turkey and Iran, Syria, Israel, Armenia and Cyprus continue to grow.

6. Concluding Remarks

In order to be able to reach the targets set by Vision2023, Turkey has to be technologically developed. Under Vision 2023, Turkey sets a target for increasing R&D spending from 1% to 3% of GDP by 2023 (amounting to 60 bn \$9, one thirds of this to come from the private sector (20 bn \$). Institutional and legal prerequisites for increasing R&D expenditures are established.

It is widely held that one of the most important financial sources for technology investment is venture capital. However, Turkey still has to rely on government expenditures in technology investments. Existing venture capital in Turkey is estimated as 300 million USD, in which the share of foreign funds is very small.

In this paper, Turkish financial potential for venture capital is analysed through SWOT analysis. When the political, economic and business strenghts and opportunities of Turkey have been compared with weaknesses and threats, it can be observed that the country is attractive for venture capital investments since the positive side in the analysis is stronger than the negative one. That means hopes for Turkey should be much stronger than concerns. So it can be said that the financial market has a high potential of profitability for the venture capital for which all the necessary legal and institutional infrastructure has been made available. However, more empirical findings are required to define the specific problems of venture capital in Turkey. Venture capital productivity, competitiveness, growth and export performance in terms of value added to the economy have to be measured by further studies.

References

- Ahlstrom, David and Bruton, Garry D. 2006, "Venture Capital in Emerging Economies: Networks and Institutional Change", *Entrepreneurship Theory and Practice*, Volume 30, Issue 2, pp. 299–320.
- Aras, Güler 2001, *Kobi'lerin Sermaye Piyasası Yoluyla Fon Sağlama Olanakları; Tezgah Üstü Piyasalar ve Risk Sermayesi Finansman Modeli*, Yıldız Teknik Üniversitesi Yayını.
- Atak, Alper 2008, "Risk Sermayesinin Türkiye Macerası", *Business Week Turkey*, 20 Ocak Issue.
- A.T. Kearney 2013, *FDI Confidence Index*.
- Battelle 2013, *2013 Global R&D Funding Forecast*.
- Bayrasli, Elmira 2012, "Turkey's Entrepreneurial Ecosystem: More Than Just Start-Ups", <http://www.forbes.com/sites/elmirabayrasli/2012/09/19/turkish-entrepreneurial-ecosystem-more-than-just-start-ups/>, viewed 2 May 2013.

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- Bosut, Levent 2004, 'Turkish Private Equity Market', *Venture Capital and Private Equity Yearbook 2003/04*
http://www.turkvca.org/articles/Euromoney_PE_VC_article_by_Turkvca.pdf, viewed 4 April 2012.
- Cochrane, John H. 2005, 'The risk and return of venture capital', *Journal of Financial Economics*, v 75 (1, Jan), pp. 3-52.
- Çelikkaya, Ali 2007, 'AB'ye Uyum Sürecinde Girişim Sermayesi Yatırım Ortaklıklarına Sağlanan Vergisel Avantajların Değerlendirilmesi', *Sosyal Bilimler Dergisi* 2007/1, pp. 241-259.
- Deloitte 2007, *Private Equity in Turkey, A Practical Guide for Turkish Companies and Investors*, https://www.deloitte.com/assets/Dcom-Turkey/Local%20Assets/Documents/turkey-en_cf_PEinTurkey_210607.pdf, viewed 30 November 2010.
- Ekinci, İbrahim 2014, 'Özel Yatırım Fonları Atakta', *Dünya Gazetesi*, 7 February 2014.
- Ernst&Young 2013, *The Global Venture Capital and Private Equity Country Attractiveness Index*.
- European Commission 2013, *Research and Innovation Performance in Turkey: Country Profile*.
- Goldman Sachs 2008, *Global Economics*, Paper No: 175.
- Hall, Bronwyn H. and Lerner, Josh 2010, 'The Financing of R&D and Innovation', in Hall, B. H. and N. Rosenberg (eds.), *Handbook of the Economics of Innovation*, Vol 1, Elsevier-North Holland, pp. 609-639.
- Hochberg, Yael V., Ljungqvist, Alexander, and Lu, Yang 2007, 'Whom you know matters: Venture capital networks and investment performance', *The Journal of Finance*, Vol. LXII, No. 1, pp. 251-301.
- Hochberg et al 2010, 'Networking as a barrier to entry and the competitive supply of venture capital', *The Journal of Finance*, Volume 65, Issue 3, pp. 829–859.
- HSBC 2012, *The World in 2050*.
- Hsu, David H., 2004, 'What do entrepreneurs pay for venture capital affiliation?', *The Journal of Finance*, Vol. LIX, No. 4, pp. 1805-1844.
- Kaplan, Steven N. and Schoar, Antoinette 2005, 'Private equity performance: Returns, persistence, and capital flows', *The Journal of Finance*, Volume 60, Issue 4, pp. 1791–1823.
- Kenawy, Ezzat Molouk and Abd-el Ghany, Mohamed Fathy 2012, 'The Economic Importance of Venture Capital as New Funding Alternative with Reference to the Egyptian Experience', *Journal of Basic and Applied Scientific Research*, 2(4), pp. 3598-3606.
- Kuğu, Tayfun Deniz 2004, 'Finansman Yöntemi Olarak Risk Sermayesi', *Yönetim ve Ekonomi*, Yıl:2004 Cilt:11 Sayı :2, pp. 141-152.
- Lockett, Andy and Wright, Mike 2005, 'Resources, capabilities, risk capital and the creation of university spin-out companies', *Research Policy* 34 (2005), pp. 1043–1057.
- Moskowitz, Tobias J. and Annette Vissing-Jørgensen 2002 'The returns to entrepreneurial investment: A private equity premium puzzle?', *The American Economic Review* (2002), 92, 4 (2002), pp. 745-778.
- National Venture Capital Association 2011, *Venture Impact: The Economic Importance of Venture Capital-Backed Companies to the U.S. Economy*.
- OECD 2012, *OECD Science, Technology and Industry Outlook*, OECD Publishing.

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- Şirvan, Nesrin 2002, *Risk Sermayesi ve Türkiye’de Uygulanabilirliği*. <http://www.umatkenanbingol.com/ekitaplar/ekonemi/risksermayesi.pdf>, viewed 17 June 2012.
- TurkStat 2011, *Research And Development Activities Survey, 2011*, <http://www.turkstat.gov.tr/>, viewed 3 June 2012.
- TÜBİTAK 2011, *Science, Technology and Innovation in Turkey 2010*, http://www.tubitak.gov.tr/tubitak_content_files/BTYPD/arsiv/STI_in_Turkey_2010.pdf, viewed 1 February 2012.
- Yiğit, Mehmet and Güner, Ümit 2008, ‘Dış Ticaret ve Girişimcilik Perspektifinden Türkiye’de Risk Sermayesi’, *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, Sayı: 20, pp. 257-276.