

LEGISLATIVE FRAMEWORK REGULATING THE SPHERE OF STARTUP ECOSYSTEM IN ARMENIA AND ITS IMPACT ON THE VENTURE CAPITAL MARKET OF ARMENIA

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Introduction. Armenian startup ecosystem and ICT sector in general are rapidly growing. In this context the legislative framework that regulates Armenian ICT sector plays a vital role for the sustainable and continuous growth of Armenian startup ecosystem. We examine the laws and government decisions that motivate entrepreneurs to launch their startups and develop Armenian startup ecosystem. Furthermore, we compile the model of Armenian venture capital market and the impact the government policies can have on the market to find out the optimal policy to implement to further develop Armenian startup ecosystem in the long-term.

Methodology. We use economical and mathematical approaches to design Armenian venture capital market and Armenian startup ecosystem entrepreneurs utility to find out the impact of existing and possible government policies on the long-term sustainable development of Armenian startup ecosystem.

Literature review. In our study we review laws and government decisions targeted to develop Armenian ICT sector and startup ecosystem. In particular, we examine the RA Law on “State Support of Information Technology Sector” [1] and the benefits provided to Armenian ICT sector entrepreneurs by the RA Law on “Profit Tax” [2] and the RA Law on “Income Tax” [3]. Besides, we also review the decision N 399-L of the Government of the RA on “Approval of the procedure for providing state support to IT companies and individual entrepreneurs” [5]. At last, we examine the legislative framework of “Simple Agreement for Future Equity” in USA [6] and UK [7].

Scientific novelty. We examine the laws and government decisions targeted to develop Armenian ICT sector and startup ecosystem. Then we compile the model of Armenian venture capital market with its respective demand and supply curves and consider the impact of the legislative reforms on the model to determine the utility of Armenian startup ecosystem entrepreneurs. We also examine the possible government policy to promote the Armenian venture capital supply by providing benefits to the investors and its impact on Armenian venture capital market and startup ecosystem. At last, by

comparing the existing and possible policies of Armenian startup ecosystem development we find out the most optimal policy to implement in the future.

Analysis. The RA Law on “State Support of Information Technology Sector”, adopted on December 17, 2014, which entered into force on January 9, 2015, was a turning point for the development of the startup ecosystem in Armenia. [1, article 18]. One of the main goals of this law is to increase the competitiveness of IT companies established in Armenia, to attract qualified IT specialists in Armenia, to continuously develop the skills of existing specialists, to support research centers, to carry out quality research work, which can help different actors of Armenian startup ecosystem to make decisions, as well as to develop venture capital market and encourage foreign investments in Armenia's IT sector [1, article 4].

The state support within the framework of the legal regulations of this law is mainly aimed at the development of entrepreneurial entities in the IT sector, which are new to the market or are in the early stages of their life. In addition, it focuses on the development of enterprises or individuals using innovative and state-of-the-art technology, the development of infrastructure and actors supporting the startup ecosystem, in particular startup accelerators and incubators, technoparks and technocenters, as well as on the development of the working environment of organizations and individuals, conducting research in this field [1, article 5]. Startups or early-stage innovative IT companies that apply for the benefits provided under this law must have no more than 30 registered employees [1, article 8].

The law provides tax benefits to IT companies that meet the requirements of the law, which through state support can ensure sustainable and continuous development in the context of the country's startup ecosystem and the overall development of the IT sector. In particular, the RA Law on “Profit Tax” does not recognize as income the revenues from the sales of information technology of IT enterprises that have received a certificate in the manner prescribed by the RA Law on “State Support of Information Technology Sector” for the entire duration of the certificate [2, article 8]. In addition, the above-mentioned Law on “Profit Tax” does not recognize as an expense the expenses related to the receipt of income from the sales of information technology of IT enterprises that have received a certificate in accordance with the RA Law on “State Support of Information Technology Sector” [2, article 11]. These two legal regulations mean that IT companies that have received a certificate in accordance with the RA Law on “State Support of Information Technology Sector” are exempt from paying profit tax or, in other words, a 0% profit tax rate is set for them throughout the entire duration of the certificate.

According to another law, the RA Law on “Income Tax”, for IT enterprises that have received a certificate in accordance with the RA Law on “State Support of In-

formation Technology Sector”, the income tax on salaries paid to their employees during the entire validity period of the certificate is set at 10% [3, article 10].

It is due to these reforms that since 2015 the number of ICT enterprises in Armenia has been growing rapidly. The RA Law on “State Support of Information Technology Sector” encouraged ICT enterprises operating in the shadow to register using the privileges defined by the law, as well as to motivate entrepreneurs, who have not yet entered to the sector, to establish their ICT enterprises and start doing business in the sector. So, the number of ICT enterprises from 2009 to 2021 is presented below.

Table 1 [4] Number of ICT enterprises from 2009 to 2021

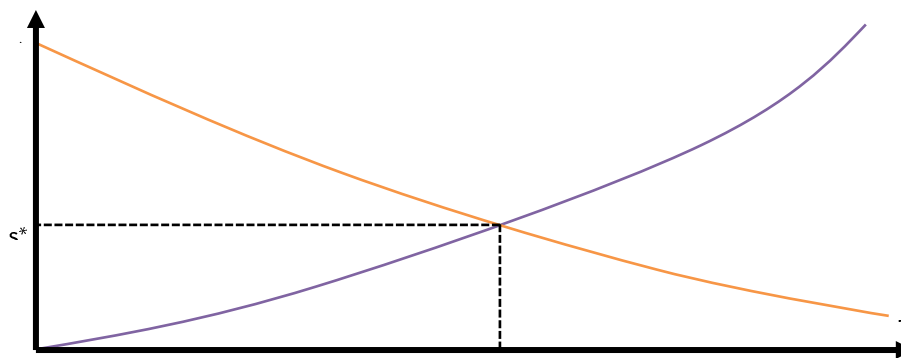
Year	Number of ICT enterprises	Growth rate
2009	649	-
2010	685	5.55%
2011	698	1.90%
2012	695	-0.43%
2013	696	0.14%
2014	700	0.57%
2015	815	16.43%
2016	908	11.41%
2017	1090	20.04%
2018	1728	58.53%
2019	1599	-7.47%
2020	1751	9.51%
2021	1777	1.48%

The presented data show that the enterprises in the field of ICT have almost always increased, registering a rapid growth in some years, and a small one in others. This is a positive phenomenon, which means that the sector is on the path of sustainable development, which shows the full potential of Armenia's ICT sector and startup ecosystem and the opportunities that have not yet become a reality. It should be noted that from 2010 to 2014, the sector was in a relatively more stable period in terms of registration of new enterprises, when the annual growth rate did not exceed 10%. And the annual 10% annual growth rate threshold has been exceeded since 2015, when relatively more new enterprises were established, which, as already mentioned, is explained by new legislative reforms that granted privileges to ICT enterprises.

In the context of the analysis of the legislative framework of ICT sector, the recent decision N 399-L of the Government of the RA on “Approval of the procedure for providing state support to IT companies and individual entrepreneurs” should also be noted, which entered into force in March 26, 2022. [5, article 2]. This decision stipulates that state support is provided to those enterprises and individual entrepreneurs that

operate in the field of ICT, whose number of employees has increased by at least 50 as of March 1, 2022. [5, Appendix, point 3, sub-point 2]. Moreover, each of the at least 50 newly registered employees must not be an employee registered in Armenia during the 6 months preceding March 2022 [5, Annex, point 3, sub-point 3]. In addition, the ICT enterprise or individual entrepreneur claiming to receive the state support provided by this decision should not have a tax liability in excess of AMD 100,000 as of the day preceding the application date [5, Annex, point 3, sub-point 4]. And the state support provided to ICT enterprises and individual entrepreneurs who meet these criteria is the refund of 50% of the income tax paid from the income of the newly registered employees. This income tax refund can be received by the ICT enterprise or individual entrepreneur for the month of March and for the following 11 months, as long as each month meets the above-mentioned conditions [5, Annex, point 7].

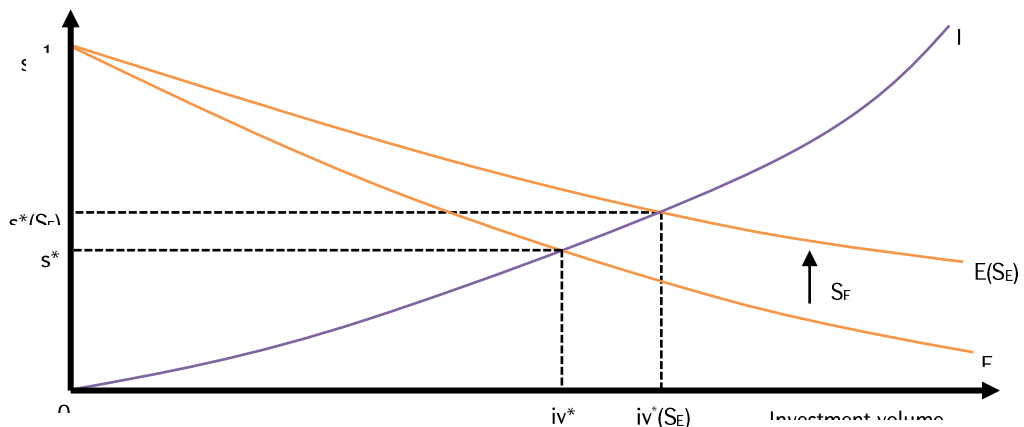
Chart 1. Supply and demand of Armenian venture capital



However, studies show that the RA legislation does not regulate a very important issue, which forces Armenian entrepreneurs to register their startup abroad, particularly in the United States. This is due to the fact that investors in the US invest in startups at an early stage of life by signing a "Simple Agreement for Future Equity", which, for example, in the US [6] and in the UK [7] is regulated, but the legislation of Armenia does not even define what it is. The main reason for signing such agreements is the fact that the value of startups is not yet determined at an early stage of their lives, which makes it impossible for investors to gain the startup's equity share at that stage, but "Simple Agreement for Future Equity" guarantees that in the future, when the value of the startup is determined, the investor will receive the share of the startup's equity within the framework of certain logic specified in the agreement. Therefore, in order to increase the opportunity to attract investments, many Armenian startups are registered abroad, where there are legal regulations on "Simple Agreement for Future Equity", which is an additional guarantee for investors. And if the startup is registered in Armenia, the risk for investors not to receive a share of equity in the future increases, as there are no legal regulations on such agreements in Armenia. If we try to compile the model of demand

and supply of Armenian venture capital, it will look like Chart 1. The vertical axis represents the level of share given to investors, which is designated by variable "s" and can accept the value from 0 to 1. The horizontal axis represents the volume of investments required or offered for each defined level of share, which is denoted by "iv" variable. The "I" curve shows the supply of venture capital in Armenia, and the "E" curve shows the demand. For simplicity, for venture capital supply in the startup ecosystem we will look at traditional venture capital funds and angel investors. Angel investors, in turn, can be of two types. The first type refers to the angel investors who have accumulated their wealth as a result of entrepreneurial activities outside the startup ecosystem of Armenia, and the second type refers to the angel investors who have accumulated their wealth as a result of entrepreneurial activities in the Armenian startup ecosystem. Venture capital funds and the first type of angel investors will be called foreign investors, and the second type of angel investors business investors.

Chart 2. The Impact of Startup Subsidies on Armenia's Venture Capital Market



As Armenian startup ecosystem is still young to have business investors, Armenian venture capital supply includes only foreign investors. In this case, the supply of venture capital becomes always directly correlated relative to the price of capital and it has an upward and right direction. That is, the higher the expected share of potential investments in startups, the greater the desire of foreign investors to invest in startups, hence the higher the supply of venture capital. And when the share equals to 0, the venture capital supply also becomes 0, because then foreign investors have no incentive to invest in startups. At the intersection of supply and demand curves, where the share is equal to "s*", "iv*" volume of investments in the venture capital market of Armenia is confirmed. If we denote the profit generated by the startups by "p" variable and the expenses by "c" variable, then we can calculate the utility of the founders of the startups, which will look like this:

$$U_E = (1-s) \times p - c_E$$

In Armenia, the RA Law on "State Support of Information Technology Sector" has encouraged the creation of new startups, which is a subsidy targeting startup

entrepreneurs. Therefore, the demand curve for Armenia's venture capital has moved upwards.

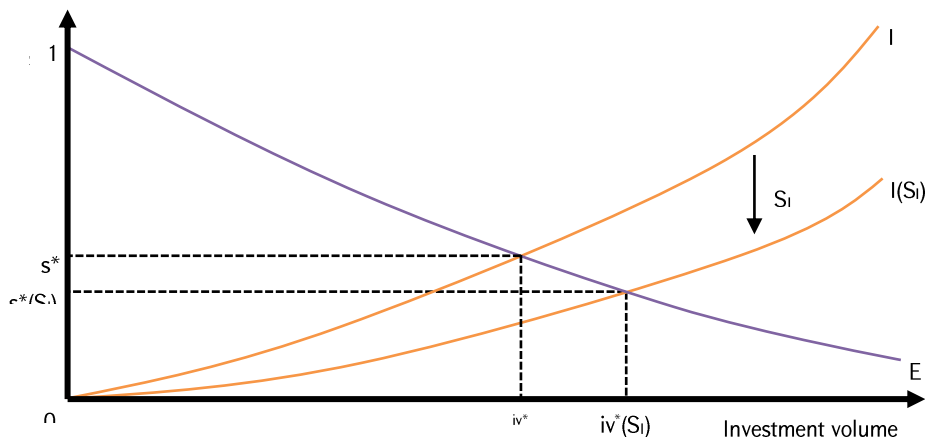
In this case, the general utility of the startup founders in the new equilibrium point has become:

$$U_E = (1-s^*(S_E)) \times p - (c_E - S_E)$$

It is obvious that the founders of startups have increased their utility by the amount of S_E , but as the share of investors in the new equilibrium has increased, it has also decreased by " $(s^*(S_E) - s^*) \times p$ ". Therefore, it is not clear that this subsidy has increased the utility of entrepreneurs in the startup ecosystem of Armenia.

It is worthy to consider the case when the state stimulates the supply of venture capital in Armenia by subsidizing the investments made by foreign investors in the amount of " U_I ". In that case, the supply of Armenian venture capital will move downwards and will look like this:

Chart 3. The Impact of Investment Subsidies on the Armenian Venture Capital Market



As a result, the utility equation of each entrepreneur looks like this:

$$U_E = (1-s^*(S_I)) \times p - c_E$$

The equation shows that in the case of this subsidy, the utility of Armenian startup ecosystem entrepreneurs increases by " $(s^* - s^*(S_I)) \times p$ ".

Therefore, we can state that this subsidy, which, although not directly targeting entrepreneurs in the startup ecosystem of Armenia, is more optimal for their overall benefit. As a result, they accumulate more wealth, which allows business investors to appear in the startup ecosystem of Armenia, who will invest in startups that will be created in the future.

Conclusion. Armenian legal framework related to ICT sector and startup ecosystem development is targeted to motivate the entry of new ICT enterprises and startups which is a policy to promote Armenian venture capital demand. In our model of Ar-

Armenian venture capital market we find out that this policy is not the most optimal for the long-term sustainable development of Armenian startup ecosystem. The policy that gives benefits to external investors of Armenian startup ecosystem is more beneficial for entrepreneurs as it increases their utility in a much higher volume and creates new angel investors in the ecosystem. Besides, Armenian legal framework does not regulate “Simple Agreement for Future Equity” contracts which stimulates investors to make investment in startups acting as a guarantee for investors to receive startup shares in the future.

References

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Legislative framework regulating the sphere of startup ecosystem in Armenia and its impact on the venture capital market of Armenia

Key words: startup, startup ecosystem, ICT, venture capital.

Armenian ICT sector and startup ecosystem are rapidly growing. In this context the government of the RA implements a policy that encourages the entry of new startup to the ecosystem by giving them tax incentives. Particularly, the startups, that have no more than 30 employees, are exempt from profit tax and the income tax for their employees is set at 10% rate. Besides, in case they employ at least 50 employees that were not employed in Armenia from September to February, 2022, they receive 50% refund of the income tax accumulated by newly hired employees for each month for the month of March, 2022 and the following 11 months as soon as they meet the requirements for each month. These benefits stimulate the growth of Armenian venture capital demand which also increases the startup share level controlled by the investors in the equilibrium point of the market. Armenia has not yet implemented the policy to encourage the investment in the market by giving tax incentives to investors of the ecosystem. In that case the new equilibrium point sets much lower level of startup share controlled by the investors which increases the utility of startup entrepreneurs and may guarantee the long-term sustainable development of Armenian startup ecosystem.