SUPPLY - DEMAND APPLICABILITY ON ESI FUNDS IN ROMANIA

BŰKFEYES-RÁKOSSY Zsombor*

Abstract. *This paper applies theory of supply and demand on European Structural and Investment Funds. The question of low absorption rate in Romania is explained by using comparative statistical data from the National Rural Development Programme. The study also shows the characteristics of supply and demand in ESI Funds, it comes up with a possible solution to increase the country's absorption rate in the future and it creates the premises of methodology for future studies on supply-demand applied to EU funds.*

Keywords: *European Structural and Investment funds, National Rural Development Programme, absorption, consultancy*

1. ESI funds supply and demand

Adam Smith's "invisible hand" or the law of supply and demand are the foundation of the free market economy. Kwat (2018) enumerates and describes seven top applications of supply and demand: 1. Application on Farm Products 2. Price Control 3. Black Market 4. Consumer's and Producers' Surplus 5. Minimum Wage Legislation 6. Subsidy 7. Taxation. All these applications are available and valid under perfect competition. Unfortunately, as George Soros' (2013) reflexivity theory claims, the individuals involved in economic activity are not whole rational and are not self-correcting themselves because their decisions are not based on reality, but on their perception of reality. The actions that result from these perceptions have an impact on reality, which then affects individuals' perceptions and thus the equilibrium. Regardless of a free market under perfect competition or a reflexive market, is it possible to apply the law of supply and demand on the European Structural and Investment Funds (ESI)?

Romania started to benefit from European funds soon after the fall of communism. During the 2014-2020 programming period, Romania has allotted in total from the EU roughly 43 billion € (Ministerul Fondurilor Europene 2018). The European Commissioner for Regional Policy, Corina Crețu, declared on 5th of December that in the following programming period (2021-2027) the allotted amount through Cohesion Policy will be 27 billion €, which means +8% compared to 2014-2020 (Reprezentanța Comisiei Europene în România 2018). These external funds should be resources that are completing the national spending on investments and not substituting those (Del Bo et al. 2016). At this point of the paper one does not have sufficient data to establish whether this sum means much, little or enough for the country. The only relevant quantitative indicator which can set the optimal allotted sum to a country is the rate of the absorption at the end of a programming period. Of course, a high absorption rate is important, but, likewise, the following aspects are essential: the qualitative aspect, the quality of the projects, the excellence of the projects, the right projects for the real needs, the success of the project

* PhD Student in International Relations and European Studies, Faculty of European Studies, Babeș-Bolyai University, Cluj-Napoca, Romania. E-mail: brzs@mail.com

implementation in achieving the objectives (Matei and Săvulescu 2015). Due to the fact that Romania is still in the middle of the 2014-2020 programming period and, also, because the country will be able to claim payments until the end of 2023, one can refer only to the latest statistics related to the absorption rate.

Statistics released on 1st of December 2018 by the Ministry of European Funds (2018) show that Romania has a current absorption rate of European Structural and Investment Funds of 17.14% and an effective absorption rate of 15.16%[1]. The pace of growth shown in the last 10 months will not be sufficient to absorb the available funds which leads to two questions: does more than 30 billion € ESI funds mean a lot, little or enough for Romania and, if it means little or enough, what is the explanation and the cause of this slow and poor absorption rate? The present research tries to explain the slow absorption rate by using and applying the supply and demand theory on the 4th Axis of the National Rural Development Programme (NRDP), it highlights the characteristics and effects of supply-demand and, last but not least, points out a possible and feasible solution to increase absorption.

2. National rural development programme

The National Rural Development Programme is the best performing Programme until now in 2014-2020 programming period in terms of absorption in Romania. Comparing for instance the effective absorption rate of NRDP (35.92%) with the Regional Operational Programme (ROP) (3.20%) one can see how huge the discrepancies between the two programmes are. The Programme offers financing for agriculture mainly, but it also has sub-measures for Public Entities to finance education, culture and infrastructure or it had in the last few years financing for the non-agricultural sector as well. The Managing Authority of the NRDP had a different approach to other Authorities regarding the launch of calls: The Agency for Rural Investment Finance (ARIF) launched calls yearly starting since 2015, while the Managing Authority of ROP, for example, decided to launch one single call for each Funding Priority. The main reason of the difference that exists is caused by this approach, but how does supply and demand work in this case and how does it affect the absorption rate?

A financing opportunity has a great chance to have an absorption rate of 100% if the demand is high, regardless the supply. However, the overall absorption rate of a Programme is only influenced partly by the demand alone and the difference can be made by taking into consideration both supply and demand. Capello and Perucca (2017) argue that instead of taking into account the supply and demand, one should consider the supply and the potential demand, which means both the demand fulfilled by the current supply and the portion of demand that is unmet. For example, if the NRDP has a total allocation of 100.000.000 €, which has a supply of 10.000.000 € for young farmers and those farmers have a demand of 50.000.000, it still means that the absorption rate is 10% (the maximum amount of supply) and not 50% (the actual demand). If the Authorities are able to make a correlation between the supply-demand, the absorption rate could grow rapidly.

The difference between the classic supply-demand theory and the one applied to European funds is that on the X Axis the Figure presents the chances to be selected for financing in percentage (price), while the Y Axis presents the allocation, the quantity of available money for financing. Interpreting Figure 1 based on the aforementioned example, one can see that if the allocation is 5 million €, then one has 10% chances of

[1] Comparatively, on 2nd of February 2018 the current absorption rate was 11.81% and the effective absorption rate was 10.07%.

success or 1 out of 10. However, if the Authority decides that the allocation will be increased to 40 million €, the applicants will have chances of 80% or 8 out of 10. The same interpretation applies for the Demand: if the demand is for 50 million € and the Authority decided to spend 10 million € for young farmers, then the chances are 20% or 2 out of 10. The equilibrium point (30 million €, 60%) does not suggest that the amount of available money for financing should be the same as the amount of demanded financing, but it shows that an allocation equal to the one presented in the equilibrium point is probably the most efficient and the healthies for competition.

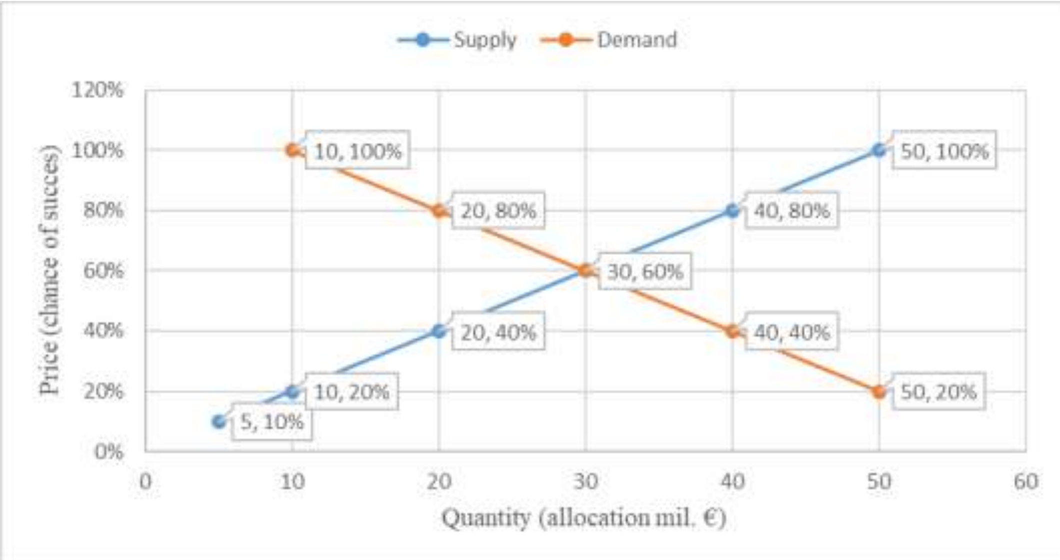

Figure 1. Ideal situation of supply and demand on ESI Funds

3. NRDP 4.1 and 4.1A Sub-Measures

For better understanding the NRDP 4.1. and 4.1a sub-measures are analyzed in the following rows. The 4.1 sub-measure has two major interventions: agriculture (vegetal and zootechnical sector), while 4.1a is dedicated to pomiculture. These two intervention schemes have almost the same conditions, except the final product the applicant will obtain and the fact that for the pomiculture the financing intensity can be increased perhaps a little bit easier. In these conditions, the statistics that are published in real time on www.afir.info and which are presented in Table 1, demonstrate a significant discrepancy between the supply and the demand for these two opportunities.

On one hand, totalizing the allocation and the requested amount for NRDP 4.1 one can see that the coverage was 259%, which practically means that only 1 out of 2.5 project was financed. On the other hand, the pomiculture sector had a coverage of 137%, which means that taking into consideration the rate of rejection every project was or could have been financed. One of the limits of these numbers and data is that projects that were not selected for financing in 2016 could appear as submitted in 2017 or 2018 as well. Another limit of the table when one correlates supply and demand under perfect competition theory with the NRDP is the insufficiency of the presented information and the lack of contextual description.

Table 1. Discrepancies between NRDP 4.1 and NRDP 4.1a

Sub-measure	Year	Allocation	Value of submitted projects	Remaining funds until submission ends	Coverag e
4.1 (Family farm)	2016	10,000,000	6,906,169	5,093,831	69%
	2017	32,000,000	63,067,595	932,405	197%
	2018	59,000,000	88,654,124	-	150%
4.1 (Vegetal)	2016	75,000,000	185,508,649	-	249%
	2017	79,000,000	456,819,117	-	578%
4.1 Vegetal (Mountain)	2018	26,000,000	11,816,021	27,183,979	45%
4.1 Vegetal (Non-Mountain)	2018	53,000,000	80,045,660	-	151%
4.1 (Mountain)	2016	40,000,000	49,808,340	-	125%
	2017	14,000,000	47,462,714	-	339%
4.1 (Zootechnical)	2016	75,000,000	150,032,426	-	200%
	2017	60,000,000	121,431,057	-	202%
4.1 (Zootechnical) (Mountain)	2018	54,000,000	81,012,177	-	150%
4.1 (Zootechnical) (Non-Mountain)	2018	111,000,000	435,076,301	-	392%
4.1a (Orchards)	2016	65,586,064	78,816,241	-	120%
	2017	95,000,000	99,934,863	90,065,137	105%
	2017/II	85,000,000	170,457,771	-	201%
4.1a (Seeding)	2017	5,000,000	155,966	5,844,034	3%
	2017	5,000,000	0	10,000,000	0%

***Source*:** (Agency for Rural Investment Finance 2018)

Figure 2, 3, 4 and 5 are used to explain the background of lack or growth of interest of applicants for certain project in certain periods. In 2017 the chances of being financed on NRDP 4.1 were 1.7 to 10, while in 2018 there are 66% chances to obtain the grant. The difference in this case is not due to supply and demand, which remains probably the same, but due to the fact that in 2017 the minimum score that a project had to meet was lower than in 2018 before the end of the submission period. The rule is to close the submission period when the value of the submitted projects reaches 150% (in 2018) or 200% (in 2017) of the budget allocation. This rule is completed by another one which sets that the Authority cannot close the session in the first 5 days after the quality threshold drops. In 2017 for example, the session ended after +the 5^{th} day of the second month (June) because the quality threshold went down from 75 to 55. The competition would have been the same in 2018, but the submission period ended in the first month with a quality threshold of minimum 90 points. In this circumstances, the background information explains why in 2017 there were projects with a total financing value of 456 million €, while in 2018 there are request for only 80 million €. In addition, there is also a level of demand that is unknown because projects with low scores were never submitted and their number is not measured in anyway.

Figure 2. National Rural Development Programme 4.1 – Vegetal Sector 2017 Supply-Demand
Source: (Agency for Rural Investment Finance 2018)

Figure 2 shows that individuals who have applied for financing on this opportunity with an allocation of 79.000.000 € had only 17% chance to obtain the grant. It is also displayed that the necessary sums in order to finance everybody were over 456.000.000 €. The equilibrium or the ideal allocation for this session would have been between 232.000.000 € and 310.000.000 €.

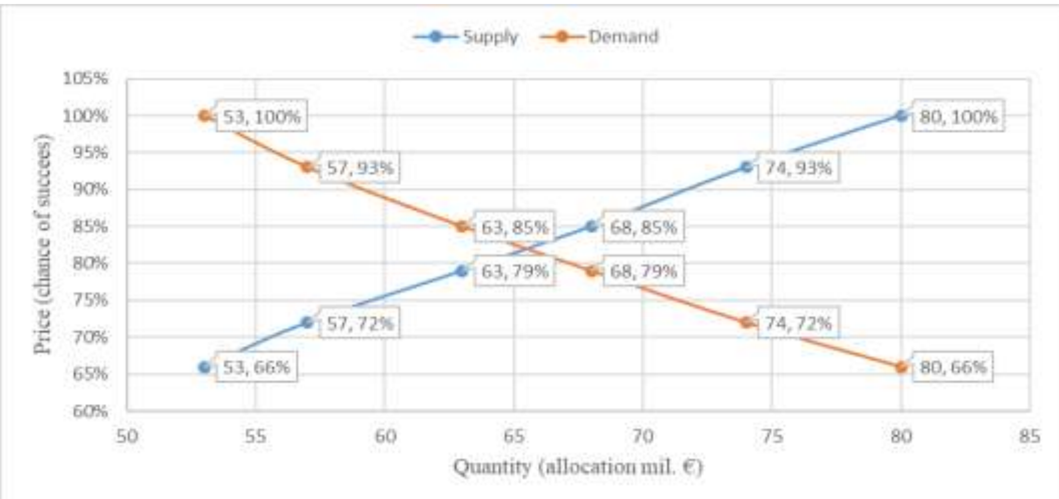

Figure 3. National Rural Development Programme 4.1 – Vegetal (Non-Mountain) Sector 2018 Supply-Demand
Source: (Agency for Rural Investment Finance 2018)

Figure 3 seems more equilibrated: the applicants have better chances to obtain the grants and the equilibrium point is determined within a difference of 5 million €. The characteristics that this funding session kept from one year to another are the following:

- Demand was high since the first year;
- Supply was never enough: many applications did not obtain the financing and a significant number of applications were not even submitted;

- Demand was limited in the last year by closing the submission period early;
- Easy predictability from the above related information how would a next call look like;
- High demand can create its own supply: the call from 2018 happened as a result of huge lobby.

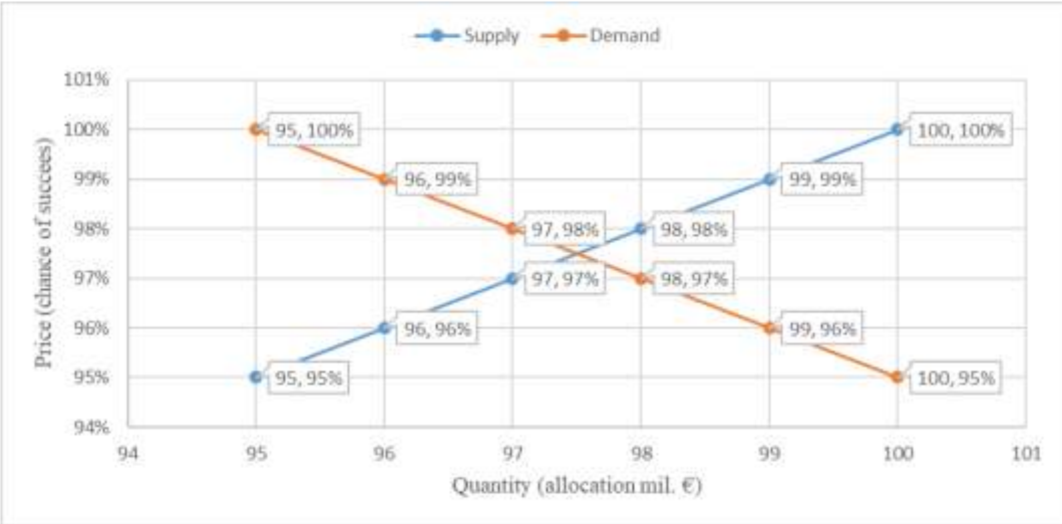

Figure 4. National Rural Development Programme 4.1a – Orchards Sector 2017 I Supply-Demand
Source: (Agency for Rural Investment Finance 2018)

There were two calls for the NRDP 4.1a Orchards sub-measure in 2016 and 2017 that barely exceeded the financial allocation with a very low quality threshold. The first call of 2017 is presented by Figure 4 which shows that every applicant had chances of at least 9.5 out of 10 to be selected for financing. Practically, in the first two calls, every applicant with an eligible and correct project which reached the minimum score was financed. The interesting turn came after the second session when there were rumors in the market that the NDRP 4.1 (a sub-measure with huge success and interest as it was presented) has exhausted its funds and will be no next session until post-2020. Also, at the same time, other important sub-measures of the Programme were in the same situation as the 4.1[2]. It seemed at that time, both for the market and for the consultancy companies, that the NDRP begins to become an uninteresting Programme, with few opportunities. Then, the second session of 4.1a for 2017 was launched and things have changed:

[2] For example, the NRDP 6.2 or 6.4 sub-measures exhausted their allocation as well in 2017.

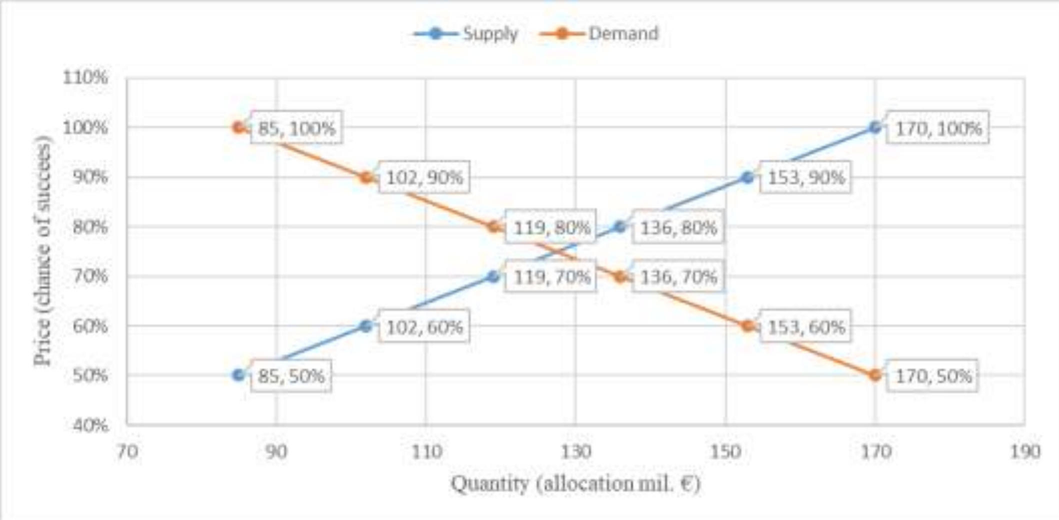

Figure 5. National Rural Development Programme 4.1a – Orchards Sector 2017 II Supply-Demand
Source: (Agency for Rural Investment Finance 2018)

The interest doubled for pomiculture and in 2017th second call the applicants had only 50% chances to be lucky. Moreover, in the session which is prepared for early 2019 the consultancy companies expect that the allocated funds will be exhausted in the first 5 days and the call will be closed very fast. What are the characteristics one can observe and what did determine such a growth in the interest of applicants on NDRP 4.1a? The characteristics are:

- Even tough demand was low in the first two sessions, it was created with time and it rapidly grew.
- Demand can be created by constant available supply and the lack of other alternatives (in our case – no more NDRP 4.1 or NDRP 6.2 and 6.4)
- The market and the Authorities need time in order to adjust to the actual supply and demand. Both of them are trying to adapt, conscious or not, yet there is a dephasing between the supply and demand.
- Usually analysis like the one in present paper can be made after the call is closed. However, the behavior of one actor on the market can easily predict what will be the demand for certain calls. This actor is formed by consultancy companies for the following reason: where the consultancy companies see a great deal, a good business opportunity, the demand will be high, while, where they see poor chance to earn, the demand will be low. This is the case of NDRP 4.1a: when the consultancy companies had no more NDRP 4.1, they made the shift and started to make noise around NDRP 4.1a.

4. Conclusions

The principles of supply and demand theory can be applied to European funds with some differences and annotations. A country found under rapid development such as Romania needs the allotted financing from the European Union to reduce disparities within the country and between the country and the rest of the EU. Even though the support is necessary and urgent, Romania is facing difficulties in absorption. The supply side of absorption capacity can be determined basically by three factors: macro-economic, financial (co-financing) and administrative absorption capacity, while the demand is fixed by the ability of the applicants to develop projects (Šumpíková, Pavel and Klazar 2014).

Analyzing the National Rural Development Programme, the one which performs the best until now in matter of absorption, under the magnifying glass of supply-demand, one can conclude that, despite the fact that there is delay in absorption of funds, it is not caused by the lack of applications or interest, but on the inappropriate resource sharing. The NRDP is performing the best because the Authority decided to launch call's year by year, fact that allowed an easier adaptation to the expectations and the needs of the market. At the same time, the market had sufficient time to adapt to the supply of available European funds. Changing the initial plan is not bad in itself knowing the fact that the worst thing that can happen for Romania is to not absorb at all part of the available funding.

In order to illustrate the supply and demand graph one has to change the X Axis from price to percentage of chances of obtaining the financing, while on the Y Axis it remains a matter of quantity which in other words is the budgetary allocation. The equilibrium point is represented by an allocation which allows sufficient projects to be selected in order to keep a good quality threshold, a high and relevant score which automatically lead to an efficient use of public money and to the achievement of Programme objectives.

The supply and demand graph of European funds can inform one (especially the Authorities) about the need for funding on future calls and it also demonstrates that high demand sometimes can create its own supply and supply in conjunction with lack of better alternatives can create demand in time. The EU funds market is not one which runs under perfect competition, but a reflexive one because the consultancy companies and the applicants base their decision on their perception of reality, which sometimes modifies the success and the absorption rate of certain programmes. In other words, where the consultancy companies identify a good business opportunity, the call for proposals is blooming. The possible solution in the attempt to increase the absorption rate is even a better and stronger dialogue between the Authorities and the market (represented mainly by consultancy companies). The consultants are similar to animals before an earthquake: they feel the opportunity or the `danger` and they only enter competition where they already know that their customers have sufficient incentives to apply. One can bet that on a call where the consultancy companies are not making marketing campaigns the absorption will be close to zero. The other bet is the one mentioned in the presented paper about the future call (early 2019) of NRDP 4.1a where the consultants claim that the call will be closed after the first five days[3].

Other uses or applications of the supply-demand principles on EU funds can be discovered by future research. A topic that will be actual in 2019-2020 is the comparison of the first and second call for Regional Operational Programme 2.2 – funding for SME's. Did the Authorities learn from the first call, does the supply-demand principle offer good predictions about the second call or how does the ROP 2.2 (which had a huge success in the first call) compare to ROP 1.1C (which was a poor call), are all questions that are awaiting answers and that could lead in the end to a better understanding of Romania's absorption and the way EU funds work.

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[3] Of course this bet exists if the quality threshold in the first month is 40 or close to 40.

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