

Effects of Public-Private Partnerships Investments on Economy: A Case Study for Turkey¹

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Abstract

In countries with low and middle income in the world, fast-growing population and urbanization result in the need of improving economic and commercial activities together with the infrastructure investments. However, with the current budget constraints, the difficulty of meeting these infrastructural investments by the public alone has led to the development of models in which the public and private sectors cooperate. The main objective in the Public and Private Partnership (PPP) model is to finance and construct the project through the private sector. Thus, there will be no obligation to the government budget on the project financing expense and it will be possible to use limited public expenditures in other areas (Alagöz ve Yokuş, 2017:115). In our country, especially after 2010, PPP investments have entered a rapid growth trend. Within PPP, during the period of 1986-2009, around \$ 13.7 billion were invested for 108 projects and \$ 44.8 billion were invested for 105 projects in the period of 2010-2017 (July). Considering Çanakkale 1915 bridge (2.8 billion dollars), Karapınar Solar Power Plant (1.3 billion dollars) and the 2 Nuclear Power Plants (NPP) costed 40 billion dollars in total investment which are not included in the Ministry of Development PPP inventory records, these PPP projects are getting more and more important for economic balance. In addition to the existing projects, it is obvious that the economic effects of PPP investments will be great when many infrastructural investments such as Kanal İstanbul, 3rd nuclear power plant, Istanbul 3rd Bosphorus tunnel are considered. On the other hand, an average 75% foreign currency credit was used for project financing for PPP investments. It is necessary to analyze the effects of external economic balances on the future turnover due to parameters such as the size of the PPP investments, it's not existing in public budget, and the use of foreign exchange credits (Alagöz ve Yokuş, 2018). The question whether PPP investments with external sources will negatively affect sustainability or the external economic balance of our country is a critical question.

JEL Codes: E20, E22, F21, L32

Keywords: Public-Private Partnerships, macroeconomic indicators, foreign direct investments

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Kamu Özel İşbirliği Yatırımlarının Ekonomik Etkileri: Türkiye Üzerine Bir Çalışma

Özet

Dünyada düşük ve orta düzey gelire sahip olan ülkelerde, nüfusun hızlı artışı ve onun getirdiği hızlı şehirleşme, altyapı yatırımlarına olan ihtiyacı beraberinde getirmektedir. Fakat varolan bütçe sınırlılıkları ile bu altyapı yatırımlarının tek başına kamu tarafından karşılanmasının güçlüğü, kamu ile özel sektörün işbirliği yaptığı modellerin geliştirilmesine sebep olmuştur. Kamu özel İşbirliği (KÖİ) modelinde ana hedef, projenin finansman ve yapımının özel sektör vasıtasıyla gerçekleştirilmesidir. Böylece, devlet bütçesine proje finansman giderine ilişkin bir yükümlülük oluşmayacak ve sınırlı kamu harcamalarının diğer alanlarda kullanılmasına imkan sağlanacaktır (Alagöz ve Yokuş, 2017:115). Bu bağlamda Türkiye’de özellikle 2010 yılısonrasında KÖİ yatırımları hızlı bir artış eğilimindedir. KÖİ kapsamında 1986-2009 döneminde 108 proje için yaklaşık 13,7 milyar dolarlık milyar bir yatırım yapılırken, 2010-2017 (Temmuz) döneminde 105 proje ve 44,8 milyar dolarlık bir yatırım gerçekleştirilmiştir. Buna ilaveten Çanakkale 1915 köprüsü (2,8 Milyar dolar), Karapınar Güneş Santrali (1,3 Milyar dolar) ve Kalkınma Bakanlığı KÖİ envanter kayıtlarında yer almayan toplamda yaklaşık 40 milyar dolarlık yatırım bedelli 2 adet Nükleer Güç Santralleri (NGS) de bulunmaktadır. Mevcut projelere ilave olarak, yapılması planlanan Kanal İstanbul, 3. nükleer santral, İstanbul 3. Boğaz tüneli, gibi bir çok alt yapı yatırımının da yapılması düşünüldüğünde, KÖİ yatırımlarının ekonomik etkilerinin de daha önemli hale gelmektedir. Bunlarla beraber KÖİ yatırımları için proje finansmanında ortalama %75’lik döviz kaynaklı kredi kullanılmıştır. KÖİ yatırımların büyüklüğü, kamu bütçesinde yer almaması ve döviz bazlı kredi kullanılması gibi parametrelerinden dolayı gelecek döneme ilişkin dış ekonomik dengelere etkilerinin analiz edilmesi gerekliliği ortaya çıkmaktadır (Alagöz ve Yokuş, 2018). Dış kaynaklarla yapılan KÖİ yatırımların sürdürülebilirliği veya ülkemiz dış ekonomik dengesini olumsuz etkileyip etkilemeyeceği kritik bir sorudur.

JEL Codes: E20, E22, F21, L32

Anahtar Kelimeler: Kamu özel işbirliği, Makro Ekonomik Göstergeler, Doğrudan yabancı yatırımlar

1.Introduction

The Public Private Partnership model is defined as "Based on a contract, the realization of a balanced distribution of the costs, risks and rewards of the investment and services to the public and the private sector(Kalkınma Bakanlığı, 2016:7). In other words, while Public Private Partnership model was preferred to provide resources of infrastructure investments of countries before, but today this model is foreseen for utilization of entrepreneurship and productivity abilities of private sector and in terms of public sector; the model is used to ensure focusing, directing, auditing, coordination and general planning of investments (Alagöz and Yokuş, 2017:116).

From the beginning of the nineteenth century in the USA, the outcome of the dominant idea of leaving economic activity to the marketplace has enabled to make infrastructure investments by the private sector that made by public sector before. (Emek, 2009a:17). On the other hand approaches similar to the public private partnership model extend back to the Queen Victoria period in England. It is known that central administration and local administration have private sector company make electricity and water distribution networks construction and renewal of these services in the similar model frame in this period. The same model was applied in the 19th century, including transport services in Germany and the Ottoman Empire (Arioğlu and Arioğlu, 1997:4). In 1881, when the Ottoman Empire was unable to pay its debts, "Ottoman Public Debt Administration" was established. In this period, foreign project firms have invested in various sub-services (e.g. operation of mines, railway, electricity, telephone, gas and tramway operation) within the framework of "Build Operate Transfer" model which is similar to Public Private Cooperation model. In addition to incentives envisaged for investment made under this model, additional advantages were given such as revenue sharing and "kilometer warrant" like in railway investments. (ATO, 2009:80).

According to World bank data Brazil have total amount of 510 billion dollars Public Private Partnership Project at the end of 2015 and with this value Brazil have the most Public Private Partnership Project in ten raising countries. India is second with 314 billion dollars and Turkey is third with 161 billion dollars (including nuclear power plants). The World Bank has determined that 41% of the PPP projects of these countries are investment in communications and the electricity sector has a share of 31% of the total (Sönmez, 2016:8).

When we look at recent history of Turkey, it is observed that Public Private Partnership model have been being applied from 1986 until today. In this study The Public Private Partnership model implemented in Turkey will be discussed in two periods that are 1986-2002

and 2003-2017 and the possible economic effects of the Public Private Partnership model will be evaluated by comparing this two period.

2. Public Private Partnership Model

2.1. A General Overview of Public Private Partnership Model

In recent years, the presence of private sector in the provision of infrastructure services has been increasing rapidly all over the world. These differences occurred in the form of Public Private Partnership legislation, financing type of investments (equity ratio, and the use of domestic or foreign resources), project support and incentives, project repayment process, exchange-based profit guarantee, project size, etc. For example, some of the decisive features of the Public Private Cooperation model in the Green Book, which the EU Commission published in 2004 are like this (Emek, 2009a:20); The funding of the project is usually provided by the private partner, and the risk that may arise in the provision of the service is transferred from the public to the private partner and The Commission will be responsible for the fact that the service price is at a reasonable level that consumers can afford. On the other hand, in the case of the PPP models of undeveloped countries, the prices of the services to be offered to the project companies are guaranteed by the contracts in terms of national currency or foreign exchange with inflationary increases and the financial loans used are provided with repayment guarantees, and public regulations (for example, making bridge passes or making connections) are provided so that the service provided will increase consumption and even direct subsidies or grants to weaken competition in the market are provided. However, it is ignored that there are both some advantages and disadvantages that the Public Private Partnership model reveals. Structurally, it is an advantage to realize very different infrastructure investments; the weakening of competition in the market due to the need for high financing and the low equity ownership of companies constitute a disadvantage. In the same way, investing on a budget with an independent manner in terms of public authority, but also ensuring capital flow, increasing employment, etc. are the indirect results which are advantages; the financial burden of the guarantees, incentives and profits, foreign exchange transfers in the economy and the high costs of investments, etc. emerge as disadvantages.

Lastly, when viewed from a society perspective, it is advantageous to provide services that offer better living conditions; direct or indirect exposure of individuals to the high cost of these is a disadvantage (Arıoğlu and Arıoğlu, 1997:6).

2.2. Public Private Partnership Model: Practices in Turkey and the Possible Economic Effects

The World Bank, recommends the Public Private Partnership projects to the "Environment countries" which Turkey is in and encourages and promotes cooperation in this area. From Brazil to Turkey, from South Africa to Russia, public investment in infrastructure in many countries to Argentina, roles like land provider, the satisfactory allocation of natural resources, renters, receiver private sector roles is made to make investments in infrastructure (Sönmez, 2016:7). In this context, since 1986 Turkey has adopted the model of Public Private Partnership Model.

Table 1. 1986-2002 Period Project Contract Value, Investment Value, Business Transfer Right and Number

Years	Contract Value (\$)	Investment Value (\$)	Business Transfer Right(\$)	PPP Number
1986	4.338.719,12	4.338.719,12	0	1
1987	18.496.747,08	18.496.747,08	0	1
1992	16.969.841,47	16.969.841,47	0	1
1993	1.979.071.205,84	1.979.071.205,84	0	3
1994	15.589.951,11	15.589.951,11	0	7
1995	1.345.807.185,00	1.345.807.185,00	0	1
1996	882.399.645,09	865.792.904,94	16.606.740,15	11
1997	831.264.986,64	704.618.770,23	126.646.216,41	9
1998	2.804.007.115,80	2.761.924.992,18	42.082.123,62	11
1999	2.245.618.216,44	1.978.633.828,14	266.984.388,30	12
2000	41.188.792,56	39.009.713,87	2.179.078,69	4
2001	1.417.424.015,11	1.397.247.236,70	20.176.778,41	6
Total	11.602.176.421,26	11.127.501.095,68	454.498.547,17	67

Resource: Ministry of Development, 2016.

* No PPP investment occurred in 1988, 1989, 1990, 1991 and 2002

When Table 1 is examined, from 1986 to 2001, a total of 11.1 billion dollars was realized in Turkey within the framework of Public Private Partnership model of investment. A total of \$ 454.5 million was transferred to these 67 Private Sector Partnership investments. During this period, the financial burden of the total project cost of the contract to Turkey's economy was approximately 11.6 billion dollars. In this period, about 4% of the total investment amount was paid and the business transfer right was obtained.

Table 2. 2003-2016 Project Contract Value, Investment Value, Business Transfer Right and Number

Years	Contract Value (\$)	Investment Value (\$)	Business Transfer Right (\$)	PPP Number
2003	138.528.358,78	61.289.816,64	77.238.542,14	8
2004	563.927.737,72	563.927.737,72	0	6
2005	4.529.690.936,91	501.443.013,11	4.028.247.923,80	4
2006	71.342.127,46	26.583.405,66	44.758.721,80	6
2007	4.727.860.326,81	227.404.906,71	4.500.455.420,10	9

2008	4.443.150.552,02	735.020.641,82	3.708.129.911,21	8
2009	2.666.243.298,10	137.516.403,30	2.528.726.894,80	4
2010	10.087.490.136,16	6.958.396.469,06	3.129.093.667,10	13
2011	3.064.307.238,32	1.813.473.204,92	1.250.834.033,40	15
2012	2.464.959.870,30	2.464.443.750,30	516.120,79	8
2013	67.190.735.656,07	22.650.245.069,60	44.540.490.586,37	36
2014	5.702.733.367,39	2.714.774.088,70	2.987.959.278,69	13
2015	1.243.107.575,30	691.998.471,50	551.109.103,80	5
2016	3.583.229.989,11	2.489.044.201,97	1.094.185.787,00	9
Total	110.477.307.170,45	42.035.561.181,01	68.441.745.991,00	144

Resource: Ministry of Development, 2016

When Table 2 is examined, a total of \$ 42 billion investment has been realized within Public Private Partnership model from 2003 until 2016. It has been pledged to pay \$ 68.4 billion of business transfer rights to these 144 Public Private Partnership investments. During this period, the financial burden that the total contract value of Turkey's economy is about 110.4 billion dollars in realized investment. Projects made during this period will be entitled to a business transfer right by paying up to 162% of the total investment amount.

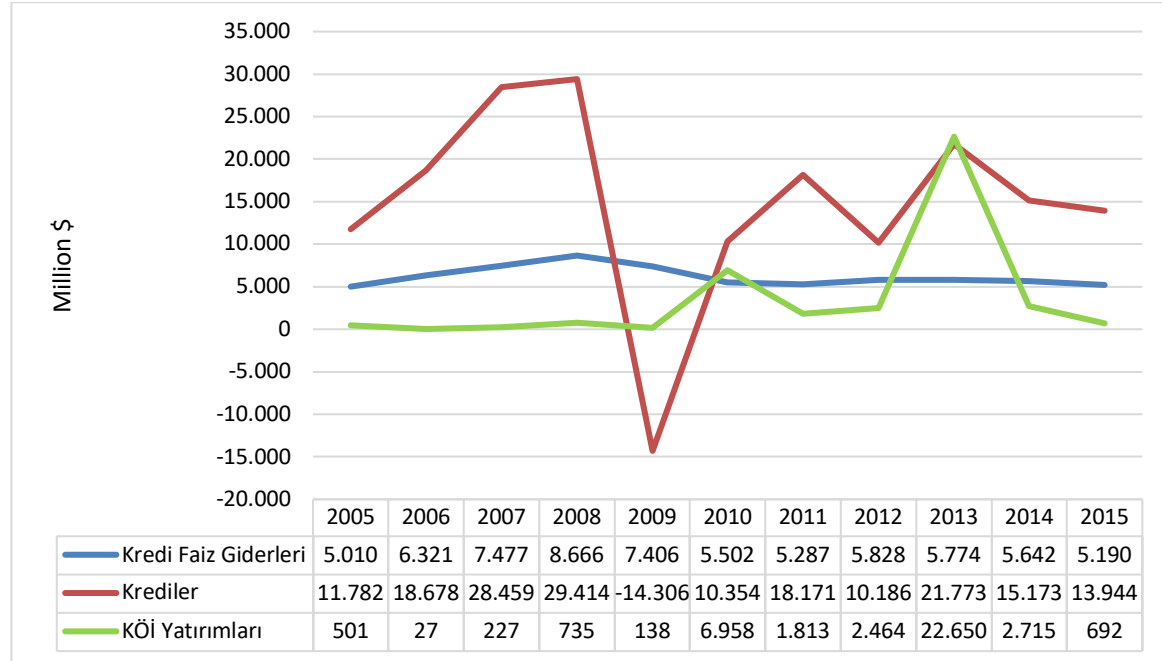
In particular, it is more likely to be "exchange-based profit guarantee" near the end of the Public Private Partnership Investments made in this period and macroeconomic indicators (borrowing, interest and exchange rate priorities) will be adversely affected during the repayment process. For example, in the investment period, it contributes to financing the current account deficit in the short term with the loans obtained for the projects. This positively affects macroeconomic indicators. However, in the long term, in the period of loan repayment and profit transfer, it will be an important factor in the formation of external deficit. For this reason, it is of utmost importance that repayment dates and loan payment amounts are recorded and monitored within the scope of PPP project financing.

In other words, in the period of 2003-2016 Public Private Partnership project contracts were generally signed as foreign exchange. The credits of these infrastructure investments are taken as foreign currency and foreign exchange guarantees are given for project incomes.

Public investment in the private sector increased by about 300% during the period 2003-2016, while project investments increased. Investment projects were used during Turkey's current account deficit financing and it also contributes to the increase in principal and interest payments on the repayments of the project loans and the external deficit. The external deficit created by this loan interest rate will also cause the external financing of the country's economy to deteriorate in the future periods which in turn will lead to higher exchange rates, depreciation

of the TL and deterioration in its domestic economic balances. Interests paid to the credits for the period 2005-2015 from the balance of payments of the Central Bank of the Republic of Turkey and the loans are shown in Figure 1. In addition, the total investment value of Public Private Partnership projects in the same period is tabled.

Figure 1. 2006-2015 Balance of Payments Balance Credit Entry, Interest Payment and Permanent Investment



Resource: Central Bank of the Republic of Turkey (TCMB), 2016.

It is seen that the horizontal interest tendency is observed because the interest payments of the loan under the scope of Public Private Partnership spread on average 4 years delay and 12 years installment payment requirement. When examined on a sectoral basis, foreign exchange credits are mostly concentrated in the manufacturing industry, electricity, gas and water, transportation and construction sectors. Nevertheless, private sector borrowing is particularly intense in Public Private Partnership projects, and there is an increase in the amount of credit usage in Construction and Transport and Storage sectors.

Table 3. Loan Entries and Loan Interest Payouts in Scope of Current Accounts *

Years	Current Account (CİH) (Million \$)	Loan Interest Expenses (Million \$)	Loan Interest Rates /CİH (%)	Credits (Million \$)	Credits /CİH(%)
2005	-20.980	-5.010	24%	11.782	56%
2006	-31.168	-6.321	20%	18.678	60%
2007	-36.949	-7.477	20%	28.459	77%
2008	-39.425	-8.666	22%	29.414	75%
2009	-11.358	-7.406	65%	-14.304	-126%
2010	-44.616	-5.502	12%	10.354	23%
2011	-74.402	-5.287	7%	18.171	24%

2012	-47.961	-5.828	12%	10.186	21%
2013	-63.608	-5.774	9%	21.773	34%
2014	-43.552	-5.642	13%	15.173	35%
2015	-32.278	-5.190	16%	13.944	43%
Mean	-40.572	-6.191	20%	17,793	45%

* No accounts were added to the 2009 data average accounts in the loan data.

Resource: Compiled from Payment Balance of Central Bank of the Republic of Turkey (TCMB).

As can be seen in Table 3, the loans of the current deficit financially finance an average deficit of 45% in 2005-2015. Although there is no separate monitoring and registration system for the loans used in the Public Private Partnership projects within these loans, the Public Private Partnership projects, which are assumed to be carried out within the same period using a loan rate of 75%, correspond to 18% of the total loans on average. In addition, license-free power plants that are not included in the Public Private Partnership inventory and 2 NGS's worth 40 billion dollars increase the size of the incident. For the Private Sector Partnership investments that are not taken into this registry, either loans are used or the FDI is in the current balance within the FDI movements. It is thought that Public Private Partnership projects may lead to negative consequences in the economic sense of being FDI. As, FDI under Public Private Partnership is not a project to reduce the need for foreign exchange; thus it is claimed that it will be effective in the formation of this current deficit with both foreign exchange outflow and profit transfer for the repayment of the loan.

As a result, if this ratio is to be applied every year in the long term and it will be borne by credit interest payment, the balance of payments of Public Private Partnership projects is considered as an important item in future balance sheet formations.

On the other hand, Public Private Partnership investments do not include public debt. However, the fact that the service purchase guarantee is fully provided, increases the responsibility for the payment of debts. It is estimated that approximately 25% of current long-term borrowers from the private sector are composed of loan repayments from PPP projects. Meanwhile, the amount of repayment according to the installment account of Public Private Partnership investments reached \$ 4 billion by the end of 2017, while it was 1.2 billion dollars in 2015. Gross foreign debt between 2018-2023, PPP investments, interest payments and the cumulative sum of profit transfers are expected to increase continuously, and the fragility of macroeconomic indicators is expected to be more intense. This will result in the distortion of the external balance in Turkey's macro-economic indicators. Afterwards, the debt can lead to an additional burden on the public sector and to impair real economic equilibrium.

3. Conclusion

Infrastructure investments, such as energy, transportation, mining, communications, health and education sectors, which require high financing and at the same time high risk, can be done through Public Private Partnership model. However, countries' macroeconomic indicators such as current account deficit, exchange rate, borrowing, inflation and interest rates, and transparency and reliability of the political system, project's financial infrastructure and many other elements contribute to the success of the model. Firstly, when the PPP projects are carried out, the content, definition, standard and quality of the service required should be determined in detail. Secondly, the potential costs and benefits to be incurred should be compared if the project is realized by public funds or private sector participation. Thirdly, if it is decided that the project should be carried out by the PPP method, the risk sharing should be done in order to increase efficiency in the service. Finally, it should be done without weakening the competition in the market (Emek, 2009b: 43).

Public Private Partnership projects in Turkey was held with permission and approval of the High Planning Council during its first period but this was abandoned with an arrangement made in the next period. Problems arise in sharing the transactions carried out under the supervision of ministries with the public in a transparent manner. Foreign exchange-based repurchase guarantees included in Public Private Partnership projects carry risks that may disrupt the external and internal economic balance. The rate of self-existence in Public Private Partnership projects is low. The higher the minimum equity ratio, the more the partners will contribute to the efficient operation of the project company. Also, the lower the ratio of self-existence causes more credit usage (Sönmez, 2016:20-21). Project companies that carry out investments such as power plants and electricity distribution, airports, bridges, highways and city hospitals are protecting themselves against credit and exchange rate risks in the long run (Central Bank of the Republic of Turkey (TCMB), 2016).

While the project firms and financiers protected themselves, the state did not take any precautions or make any policies in the context of the external economic equilibrium.

References

- Alagöz, M. ve Turgut Yokuş (2017). “Kamu Özel İşbirliği (KÖİ) Yatırımları ve Ekonomik İllüzyon Etkisi”. *KMÜ Sosyal ve Ekonomik Araştırmalar Dergisi*. 19 (32): 115-122.
- Alagöz, M. ve Turgut Yokuş (2018). “Kamu Özel İşbirliği Yatırımları ve Dış Borç Ödeme Projeksiyonu”. *Ankara Üniversitesi SBF Dergisi*,73(3).
- Ankara Ticaret Odası. (2009). *Osmanlı Devleti Dış Borçları*. Ankara: Ankara Ticaret Odası.
- Arıoğlu, E. ve Ergin Arıoğlu. (1997). *Enerji Sektöründe Yap-İşlet Devret Modelinin İrdelenmesi*.Yapı Merkezi Raporu.

- Emek, U. (2009a). “Karşılaştırmalı Perspektiften Kamu Özel İşbirlikleri: Avrupa Topluluğu ve Türkiye”. *Rekabet Dergisi*. 10(1), 7-53
- Emek, U. (2009b). “Türkiye’de Altyapı Hizmetlerinin Özel Sektöre Gördürülmesi: Neden, Ne zaman, Nasıl?”, *İktisat, İşletme ve Finans*, 24(284), 9-45.
- Kalkınma Bakanlığı (KBb). (2016). *Dünyada ve Türkiyede Kamu Özel İşbirliği Uygulamalarına İlişkin Gelişmeler 2015*. Ankara: Kalkınma Bakanlığı .
- Sönmez, M. (2016). “Mega Projeler’in Mega Sorunları”. *Tmmob Makine Mühendisleri Odası Bülten Eki*. Ekim. (220), 1-24.
- World Bank Group . (2016). *The State of PPPs Infrastructure Public-Private Partnerships in Emerging Markets & Developing Economies 1991-2015*. World Bank Group.