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The EU or national reform program for Turkey: does the political feasibility depend on the EU's absorption capacity?[1]

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Abstract

Concerns of the EU countries on Turkey's membership are summarized by the term 'EU's absorption capacity'. This implies that Turkey may end up as a member of the EU or may not. Even the reform process can abruptly come to an end due to reasons irrespective of the performance of Turkey. In a two-sector model, we show that despite this uncertainty, if before the start of the reform program a 'no' is perceived as less likely, the EU-reform will be supported ex-ante. However, a 'no' at the midst of the EU reform program can block the reform process ex-post, since both of the sectors suddenly find themselves in a position that they should have not accepted beforehand. Moreover, such a situation can render continuing with the alternative national reform program very hard. On the contrary, if the probability of a 'yes' is ex-ante perceived as less likely, the traditional sector opposes the EU reform process. However, if this perception is wrong and the true probability of a 'yes' is high, a reform program which if implemented would have been in the interests of both of the sectors ex-post, will not be implemented.

JEL classifications: D72, O10, O19.

Keywords: Reform, European Union, Turkey's accession.

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1. Introduction

In the December 2004 meeting of the European Council, the European Union (EU) decided to launch negotiations with Turkey to establish a timetable for accession. The EU and Turkey agreed that the negotiations are open ended, i.e., even if Turkey satisfies all the necessary conditions for EU membership, the EU may still have an option of not accepting her membership. The concerns of the EU countries on Turkey's membership are aggregated under the term 'EU's absorption capacity', which combines factors ranging from psychological ones such as the prejudices against Turkey to more rational ones such as the concerns over the Turkish economy's development level and its size. In any case, this implies that at the end of the negotiation process, the outcome may be one of the two qualitatively very different states: Turkey may end up as a member of the EU or may not. Even the negotiation process can abruptly come to an end due to reasons irrespective of the performance of Turkey.

Clearly, "EU's absorption capacity" type arguments create uncertainty regarding the Turkey's membership to the EU.[2] The natural questions then arise are the following: What is the

[2] For example, on December 15, 2008, at 8 pm, searching for "Membership of Turkey EU Sarkozy or Merkel" on Google gave 92700 results. Just four examples from the first ten results explicitly document this uncertainty:

1) "Sarkozy blocks key part of EU entry talks on Turkey" (International Herald Tribune, June 25, 2007; http://www.iht.com/articles/2007/06/25/news/union.php).

Two months later: 2) "French President Nicolas Sarkozy has softened his stance towards Turkey, saying that he would not block negotiations between Ankara and the European Union, despite his long opposition to the country's accession" (EURACTIVE NETWORK, August 28, 2007;http://www.euractiv.com/en/future-eu/sarkozy-softens-opposition-turkey-eu-membership/article-166184).

3) "Signaling a subtle shift in her policy toward Turkey just weeks before Germany takes over the European Union presidency on Jan. 1, Chancellor Angela Merkel indicated Thursday that she supported its eventual membership" (International Herald Tribune, December 14, 2006; http://www.iht.com/articles/2007/06/25/news/union.php).

A year later: 4) "German Chancellor Angela Merkel reiterated on Monday that she and her conservative party were opposed to Turkey being granted full membership of the European Union" (EUBusiness, December 4, 2007; http://www.eubusiness.com/news-eu/1196695023.39/).

This paragraph is from the International Crisis Group Report (2008, pp.4): "Paradoxically, the slowdown in reforms coincided with the opening of EU membership negotiations. This was

impact of this uncertainty on the Turkish citizens' support for the EU reform program? Under which conditions should Turkey continue with the EU reform program instead of reforming the economy according to its own agenda (national reform program)? Our basic aim is to answer these questions.[3]

The effects of various types of uncertainties on reform programs are well documented in the literature on political economy of reforms. For example, Fernandez and Rodrik (1991) show that, if some of the gainers and losers from reform cannot be identified ex-ante, such reforms will lack political support to be implemented. However, should these reforms were adopted they would have received adequate political support. Under these conditions, Wei (1997) emphasizes that a gradual reform strategy will help to overcome resistance to the reform. Wyplosz (1993) shows that the transition phase is difficult: it is certain that some workers will lose from an economically efficient reform[4], but there is an uncertainty regarding who will be affected. Once a reform is implemented, unemployment emerges and since who is unemployed is known by certainty, political difficulties emerge and the continuation of reform can be in jeopardy.[5]

This paper differs from the literature by focusing entirely on uncertainties stemming from the 'EU's absorption capacity' type arguments regarding the Turkey's membership to the EU. We

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partially caused by a growing sense of disappointment and frustration with Europe as senior leaders began to raise their voices against membership. In her 2005 election campaign, German Chancellor Angela Merkel called for the goal of negotiations to be downgraded to privileged partnership. French President Nicolas Sarkozy made opposition to membership a major plank of his 2007 campaign and tried to remove references to Turkey's "accession" from any EU statements. Turkish public support for membership dropped from 65 per cent in 2002 to 49 per cent in 2008."

[3] For the purpose of this paper a reform program is defined as "politically feasible" if it Pareto dominates status quo, i.e. if it is acceptable for both sectors. In a previous paper we analyzed the feasibility of reform in a two-party policy choice game. Under certain conditions specified in the paper we showed that the game has a unique Nash equilibrium at which both parties choose not to change the status quo (Ersel and Özatay, 2007).

[4] See Appendix A for the characterization of the economically efficient reform.

[5] For a critical survey of this literature, see for example, Agenor (2004, Chapters 14 and 17) and Roland (2000, Chapter 2).

do not consider the types of uncertainties discussed in the literature on political economy of reforms. In our model, in the absence of uncertainties stemming from the EU's absorption capacity, provided that some acceptability conditions are met, everybody will gain from the EU reform program which dominates the national reform alternative. More importantly, in a two-sector model, we show that despite these uncertainties, if before the start of the reform program a 'no' is perceived as less likely, the EU-reform is ex-ante acceptable. However, a 'no' during the reform phase can block the reform process ex-post, since both of the sectors suddenly find themselves in a position that they should have not preferred ex-ante. Moreover, such a situation by decreasing the political strength of the incumbent can jeopardize continuation with the alternative national reform program.[6] Then the only remaining option for the policy makers is going back to the status quo. This is a clear loss of (potential) welfare for people living in both sectors, since instead of the EU reform program the government could have chosen the national reform program alternative at the outset. On the contrary, if the probability of a 'yes' is ex-ante perceived as less likely, the traditional sector opposes the EU reform process. However, if this perception is wrong and the true probability of a 'yes' is high, a reform program which if implemented would have been in the interests of both of the sectors ex-post, will not be implemented.

The plan of the paper is as follows. In the following section we set our model and then discuss the basics of the EU and national reform programs. The national reform program has important differences than the EU program. First of all, the positive externality created through the EU membership is no longer available. Second, given the absence of this externality, in order to decrease burden of the reform, reformers can choose to follow a program that aims partially restructuring the traditional sector, which was not an option in the EU program. Third, there is no

[6] The mechanism which may lead to this result is not discussed.

uncertainty regarding the decision of the EU. The third section briefly discusses two alternative schemes to finance the burden of reforms. While other alternative schemes can be designed, it suffices to consider only two schemes to show the impact of the 'EU's absorption capacity' type arguments on the acceptability of the reform programs. The fourth section provides the acceptability conditions under the EU reform program for the debt financing case. We also discuss whether the conditions for the traditional and modern sectors[7] are mutually compatible. The fifth section documents similar conditions for the national reform program. In the sixth section we discuss under which conditions the EU reform program is preferable to the national reform alternative. The seventh section is for the tax financing case. The final section concludes.

2. The model

We consider a two-sector, two-period economy. The sectors are labeled as modern (M) and traditional (T). The modern sector is assumed to have the capacity of adjusting itself to the EU production standards and institutional norms, or for the sake of simplicity, it has already adjusted. Traditional sector, on the other hand, can only adjust itself to the EU standards and norms after a major and costly restructuring. Therefore people affiliated with these sectors have different concerns and therefore different attitudes concerning economic reform programs. These differences are assumed to be reflected in their 'acceptability conditions" The first period[8] (t=1) is the reform period. Both sectors produce the same output, but employ different technologies. The total output of the modern sector is as follows:

$$Y_{M,t} = \theta_{M,t}\lambda \tag{1}$$

[7] In this paper the term "sector" stands for "people affiliated with the sector".
[8] The length of the first period depends on time required for relocating and training of ex-traditional sector people.

where $\theta_{M,t}$ is a productivity variable which is a function of technology, human capital and the institutional structure prevailing at the beginning of period *t* in the modern sector, λ is the share of total labor supply employed in the modern sector. Total labor supply is assumed to be fixed and is normalized to L=1.

The traditional sector, on the other hand has the following production function:

$$Y_{T,t} = \theta_{T,t}(1-\lambda)\,. \tag{2}$$

By construction, the productivity level in the modern sector is greater than that of the traditional sector:

$$\theta_{M,t} = \alpha\theta_{T,t}; \alpha > 1. \tag{3}$$

2.1 The EU reform program

The EU reform program envisages two reforms. The first reform is the modernization of the economy by the full application of the EU norms (for example environmental standards) in the production. This necessitates ceasing the production activity in the traditional sector and transferring the labor of this sector to the modern sector. This transfer can only be accomplished by raising the skill level of the labor force of the traditional sector. This requires investment in human capital. Suppose that this activity costs *c* (c>0) per employee transferred. It is assumed that during the transition period, workers in the traditional sector become unemployed. The second reform focuses on the labor market. Modern labor market institutions should cover all unemployed. Therefore those who are unemployed should be compensated according to "EU norms". The unemployment benefit per unemployed is η (η>0). All of the reforms are completed in the first period and the economy starts to the second period with the modern sector only, which now also

covers the transformed pre-reform traditional sector. This means that $\lambda=1$ at the end of the reform process.

The traditional sector is not able to finance the expenditures necessary for the transformation, i.e. human capital investment and unemployment compensation. This is undertaken by the government in the first period. The amount of government expenditure for such a transformation is

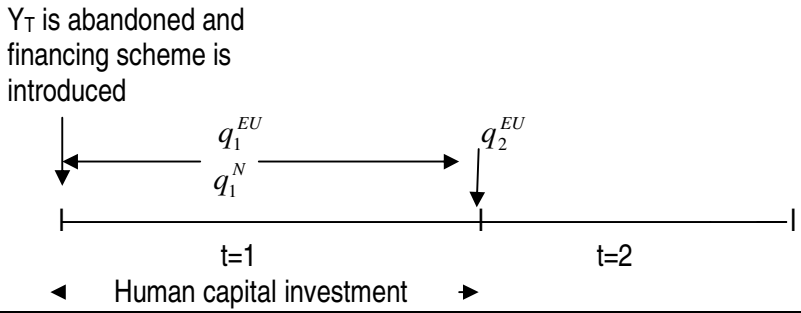
$$G_1^{EU} = (c+\eta)(1-\lambda), \tag{4}$$

where the superscript *EU* stands for the EU program. This expenditure is financed through alternative schemes which are discussed in the third section.

If Turkey joins to the EU, it is expected that the country will enjoy some extra benefits from being in the union, for example due to better access to international markets, lower transaction costs and the implied gains from trade. Let *z* denote per capita extra benefit from accession (z>0). The 'EU's absorption capacity' type arguments, on the other hand, create uncertainty regarding the Turkey's membership to the EU. It is assumed that even in the first (reform) period, there is such a probability $(1-q_1^{EU})$. Note that the abandoning the traditional mode of production and the selection of the financing structure occurs at the beginning of the first period, before observing the decision of the EU. If a sudden stop due to the EU's decision realizes, there are two possibilities in front of the reformers: either switching to the national reform program, or turning back to the status quo. For the sake of simplicity we assume that the latter option is costless. Let the probability of

choosing the national reform alternative be q_1^N.[9] If there is not any sudden stop, the reform process is completed in the first period, at the end of which the EU gives its final decision. The probability of receiving a 'yes' from the EU is q_2^{EU}. The timing of events is shown in Table 1 and EU's reactions are illustrated in Figure 1.

Table 1: The Timing of Reforms and Events in the EU Reform Program



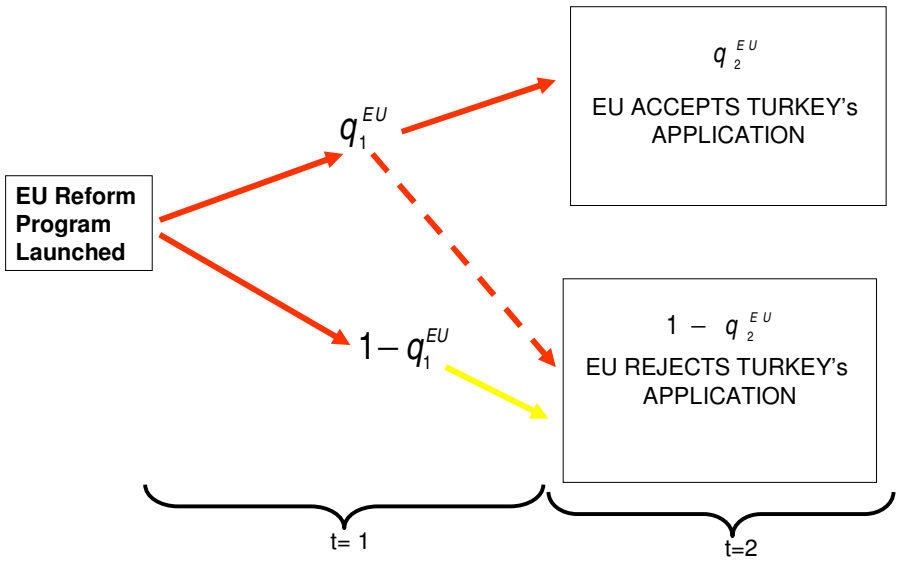


Figure 1. Illustration of EU's Reactions and Time Periods

[9] Since $0 \le q_1^N \le 1$, this is more general than setting-up the model without the alternative of switching to the national reform program. In what follows, we will discuss how our results change if $q_1^N = 0$.

2.2 The national reform program

The political economy of the national reform program is completely different from the EU reform case. First of all, the extra benefit created through the EU membership is no longer available (z=0). Second, the EU decision concerning Turkey's accession becomes irrelevant and therefore it does not create any uncertainty. Third, the reformers may opt to a more gradual reform strategy or a partial reform program while keeping the length of the reform process intact.

The partial restructuring strategy may also create its own uncertainty. For example, consider a situation where only a part of the production in the traditional sector is terminated. Suppose that which part of the traditional sector will be subjected to transformation is not known a-priori by the public. Under this situation ex-ante and ex-post acceptability conditions of the national reform program will be different.[10] In what follows we will abstract from this uncertainty but keep the partial reform advantage of the national reform process by assuming that working hours of the traditional sector is restricted.[11] This effectively means that δ^N of the labor force ($0 < \delta^N \leq 1$) of the traditional sector becomes unemployed due to the national reform program and subject to human capital increasing training program.[12] The superscript *N* is for the national program. Consequently, the necessary government expenditure for the transformation of a portion of the labor force of the traditional sector to the modern sector is

$$G_1^N = \delta^N (c + \eta)(1 - \lambda). \tag{5}$$

[10] However, similar set-ups are designed by various researchers: for example, Fernandez and Rodrik (1991, pp.1146) concludes "that there are reforms which, once adopted, will receive adequate political support but would have failed to carry the day ex ante". See also Wyplosz (1993) and Wei (1997).

[11] The reason that we do not model such an uncertainty is that we want to focus on the uncertainty surrounding the EU reform process only.

[12] The introduction of the partial reform strategy as an option is not only for the sake of completeness. Such a strategy may be appealing for a government that wishes to reduce the burden of the transformation on the existing generation. Note that if $\delta^N = 1$ then we have a full national reform as in the EU alternative.

3. Alternative financing schemes

It suffices to consider two alternative financing schemes to show the impact of the 'EU's absorption capacity' type arguments on the acceptability of the reform programs: debt and tax financing.

3.1 Debt financing

In both of the reform programs, at the beginning of the reform period (t=1), the government introduces a borrowing (saving) scheme for the modern sector to finance the necessary government expenditures given by Equation (4) for the EU reform program and by Equation (5) for the national reform program:

$$B_1^j = \gamma_{M,1}^j \theta_M \lambda;\ j = EU, N \tag{6}$$

where B_1^j is the real value of debt issued by the government at the start of the reform period. Using Equations (4), (5) and (6), one obtains the required saving rates of the modern sector for both of the reform alternatives as[13]

$$\gamma_{M,1}^j = \frac{\delta^j (c+\eta)(1-\lambda)}{\theta_M \lambda};\ j = EU, N; \delta^{\mathrm{EU}} = 1; 0 < \delta^{\mathrm{N}} \leq 1. \tag{7}$$

The real interest rate on the debt is *r**. The debt is repaid at the beginning of the second period by taxing the ex-traditional sector. Showing the gross real interest rate factor by *R** (*R*=1+r**), the value of the tax (*TX*) that should be paid by each person in the ex-traditional sector at the beginning of the second period is

$$TX_{T,2}^{\ j} = \frac{R^* \gamma_{M,1}^j \theta_M \lambda}{1-\lambda} = R^* (c+\eta);\ j = EU, N\ . \tag{8}$$

[13] An institutional assumption that leads to this result may be as follows: The government determines its borrowing requirement, and leaves the market interest to adjust until it attracts sufficient savings.

3.2 Tax financing

In the EU reform program, the government expenditure that is necessary to transform the traditional sector is financed by taxing the modern sector at the beginning of the first period, before observing any decision from the EU. Noting that $\delta^{\mathrm{EU}} = 1$ and replacing $\gamma_{M,1}^{j}$ in Equation (7) by the required tax rate ($\tau_{M,1}^{EU}$) one obtains

$$\tau_{M,1}^{EU} = \frac{(c+\eta)(1-\lambda)}{\theta_M \lambda}. \tag{9}$$

Note that, as is discussed below, under national reform program, since the modern sector is not compensated in the second period (*z=0*), the tax financing scheme is not supported by the modern sector.

4. Political feasibility of the EU-reform program under debt financing

In order to ascertain the political feasibility of the EU-reform program, its ex-ante and ex-post acceptability should be evaluated. We now turn to this issue.

4.1 Modern sector (ex-ante)

In order the EU reform program be acceptable for the modern sector at the beginning of the reform period, the present value of the expected per capita consumption level should be at least as large as the certain per capita consumption level obtained under the status quo:

$$(1-\gamma_{M,1}^{EU})\theta_M + \beta[\theta_M + R^*\gamma_{M,1}^{EU}\theta_M + q_1^{EU} q_2^{EU} z] \geq (1+\beta)\theta_M, \tag{10}$$

where β is the time-discount factor (the inverse of the time preference factor; $\beta=1/\sigma<1$). The first term is the per-capita consumption level of the first period. The terms in the square brackets respectively are the second period per-capita income, per-capita interest earnings, and the expected per capita extra gain from the EU accession. The right-hand side of the inequality shows the present value of the per-capita consumption level attained when the status quo kept intact.

Simple algebra leads to the following ex ante acceptability condition for the modern sector:

$$R^* \geq \frac{1}{\beta} - \frac{q_1^{EU} q_2^{EU} z}{\gamma_{M,1}^{EU} \theta_M}. \qquad (11)$$

This is the ex-ante acceptable minimum level of the interest rate factor for the modern sector. As the burden of the transformation of the traditional sector ($c+\eta$) increases, that is as the saving rate ($\gamma_{M,1}^{EU}$) increases and as the probability of a 'yes' from the EU (q_1^{EU} and q_2^{EU}) decreases the modern sector people demand a higher yield for the government's debt instrument they hold. This is the impact of the uncertainty stemming from the 'EU's absorption capacity' type arguments on the ex-ante acceptability of the EU reform program for the modern sector people.

4.2 Modern sector (ex-post)

Depending on the realization of the probabilities ex-post three cases can occur.[14] The first two are; i) $q_1^{EU} = 0$ and ii) $q_1^{EU} = 1; q_2^{EU} = 0$. They yield identical results. In these cases the ex-post acceptability condition, using Equation (11a) turns out to be

$$R^* \geq \frac{1}{\beta}. \qquad (11a)$$

This is more stringent than Equation (11a). That is, if modern sector people ex-ante attach non-zero value for q_1^{EU} and q_2^{EU}, they can accept a lower interest rate (given by Equation (11)) than implied by Equation (11a). However, if the EU-reform process abruptly comes to an end due to a negative decision from the EU, then they will lose. Note that β is the inverse of the one plus the time preference factor. Hence this condition implies that the real interest rate on debt should be higher than the time preference factor.

[14] Since q_1^N does not enter to Equation (11) we have only three cases to consider.

The third case is: $q_1^{EU} = 1; q_2^{EU} = 1$.

$$R^* \geq \frac{1}{\beta} - \frac{z}{\gamma_{M,1}^{EU}\theta_M} \tag{11b}$$

It is clear that the right hand side of (11b) gives the lower boundry of the minimum ex-post acceptable level of interest rate for the modern sector. However, since ex ante q_2^{EU} cannot be known by the modern sector, a higher interest rate will be demanded. This clearly puts an extra burden on the traditional sector.

4.3 Traditional sector (ex-ante)

The ex-ante acceptability condition for the traditional sector is

$$\begin{aligned} &\left\{q_1^{EU}\eta\right\} + \left\{(1-q_1^{EU})q_1^{N}\eta\right\} + \left\{(1-q_1^{EU})(1-q_1^{N})\theta_T\right\} + \\ &\beta\left\{q_1^{EU}(\theta_M + q_2^{EU}z - \frac{R^*\gamma_{M,1}^{EU}\theta_M\lambda}{1-\lambda})\right\} + \beta\left\{(1-q_1^{EU})q_1^{N}(\theta_M - \frac{R^*\gamma_{M,1}^{EU}\theta_M\lambda}{1-\lambda})\right\} + \\ &\beta\left\{(1-q_1^{EU})(1-q_1^{N})(\theta_T - \frac{R^*\gamma_{M,1}^{EU}\theta_M\lambda}{1-\lambda})\right\} \geq (1+\beta)\theta_T. \end{aligned} \tag{12}$$

The right-hand side of the inequality shows the present value of the per-capita consumption level attained when the status quo kept intact. The first three curled parentheses are for the expected per-capita consumption levels attained at the first period, respectively when the EU reform program continues, suddenly halts and replaced by the national reform program, and suddenly halts and a reversal to the status quo occurs. Note that the per capita consumption level of the traditional sector in the first two cases is constrained by the unemployment payments (η). The last three curled parentheses show expected present value of the second period per-capita consumption levels with the same ordering of the events as represented by the first three curled parentheses. As in the EU reform program case the fourth curled parenthesis takes care of the impact of the final

decision of the EU on the consumption level ($q_2^{EU} z$). Finally, the per capita tax paid by the ex-traditional sector people to finance the debt service of the government to the modern sector at the beginning of the second period is given by ($\frac{R^* \gamma_{M,1}^{EU} \theta_M \lambda}{1-\lambda}$).

Rearranging terms, the following ex-ante acceptability condition for the traditional sector:

$$R^* \leq \frac{Q\{\eta + [\beta\theta_M - (1+\beta)\theta_T]\} + \beta q_1^{EU} q_2^{EU} z}{\beta \gamma_{M,1}^{EU} \theta_M} \cdot \frac{1-\lambda}{\lambda}, \tag{13}$$

where $Q = [q_1^{EU} + (1 - q_1^{EU}) q_1^N]$. This gives the ex-ante acceptable maximum level of the interest rate factor for the traditional sector. Note that as the probability of a sudden stop increases (a low q_1^{EU}) this condition becomes more demanding, that is the acceptable maximum interest level decreases.[15]

4.4 Traditional sector (ex-post)

Now there are four cases to be considered. The first one is $q_1^{EU} = 0; q_1^N = 0$. By using Equation (13) this yields:

$$R^* \leq 0. \tag{13a}$$

That is if a sudden stop and a reversal to the status quo was certain, the traditional sector would not have accepted the EU-reform program at the outset. But, since such a certainty does not exist, if they attach a non-zero value for q_1^{EU} and q_2^{EU}, they can accept a positive interest rate and ex-post will lose.

[15] Note that if the EU and national reform programs are economically efficient, provided that the real interest rate is greater than or equal to the time preference parameter, then $[\beta\theta_M - (1+\beta)\theta_T] > 0$ (see the discussion in Appendix A1). In what follows it is assumed that this condition holds. In this case, the maximum value of the interest rate factor is greater than zero and hence the EU reform program is feasible for the traditional sector.

The second case is: $q_1^{EU} = 1; q_2^{EU} = 1$. It is clear from Equation (13) that this case gives the maximum value for the maximum ex-post acceptable level of interest rate for the traditional sector:

$$R^* \leq \frac{\{\eta + [\beta\theta_M - (1+\beta)\theta_T]\} + \beta z}{\beta\gamma_{M,1}^{EU}\theta_M} \cdot \frac{1-\lambda}{\lambda}. \tag{13b}$$

However, since this is ex-ante not known, traditional sector will not accept higher interest rates than given by Equation (13) and this will narrow down the feasible interval of interest rates for the ex-ante political acceptability of the EU-reform program, which we discuss in the next section.

The final two cases are i) $q_1^{EU} = 0; q_1^N = 1$ and ii) $q_1^{EU} = 1; q_2^{EU} = 0$. These yield:

$$R^* \leq \frac{\{\eta + [\beta\theta_M - (1+\beta)\theta_T]\}}{\beta\gamma_{M,1}^{EU}\theta_M} \cdot \frac{1-\lambda}{\lambda}. \tag{13c}$$

Depending on the ex-ante attached values for q_1^{EU} and q_2^{EU} this may yield an interest rate factor which is greater or lower than or equal to the interest rate factor implied by Equation (13). This has obvious repercussions on the feasible set of interest rate factors.

4.5 Political feasibility of the EU reform program

Having shown the conditions to be met for the EU reform program to be accepted by each of the sectors, the question that should be answered now is whether there is a set of minimum acceptable interest rate factors for the modern sector which are lower than the maximum acceptable interest rate factors for the traditional sector. If this indeed is the case, then the EU reform program, Pareto dominates the status quo and therefore it is a *"*politically feasible reform program*".*

Consider Figure 2. For the modern sector, ex-ante acceptable minimum levels of interest rate factors corresponding to various values of *z*, when q_1^{EU} and q_2^{EU} are non-zero is shown by the downward sloping solid demarcation line (M^e-M^e). This line intersects the z-axis at point B. The upward sloping solid line is the demarcation line (T^e-T^e) for the ex-ante acceptable maximum levels of interest rate factors for the traditional sector when q_1^{EU} and q_2^{EU} or q_1^N are non-zero. The two lines intersect at point A. In the appendix we show that $z_A < z_B$. Together with the upward slope of (T^e-T^e) and downward slope of (M^e-M^e), this suffices to prove that the EU reform program is ex-ante acceptable by both of the sectors. That is, there is a set of minimum acceptable interest rate factors for the modern sector which are lower than the maximum acceptable interest rate factors for the traditional sector. The area between A, B, and C indicate this feasible region. However, note that the feasible region narrows as these probabilities take lower values (indicated by the area between the dashed demarcation lines and the associated arrows: the area between D, D_1 and D_2).

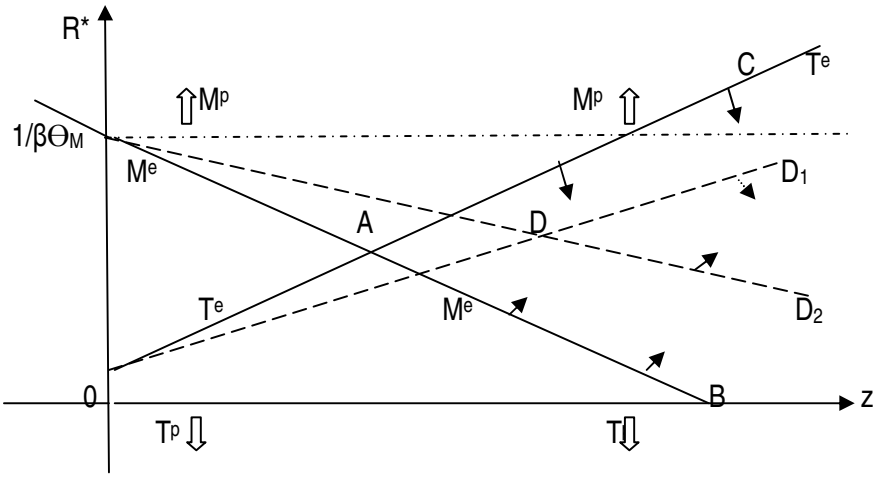


Figure 2: Interest rate factors acceptable for both sectors in the EU reform program

When q_1^{EU} , q_2^{EU} and q_1^N are zero and this fact is known a-priori, no positive interest rate simultaneously satisfies acceptability conditions for both sectors. Therefore the EU reform program is not, ex ante, politically feasible. However, when both sectors attach a non-zero value to these probabilities and accept the EU reform program ex-ante, but a sudden stop occurs ex-post, they both lose. Ex-post acceptable levels of interest rate factors corresponding to this case are shown by the horizontal lines M^p-M^p (the minimum level of interest rate factor for the modern sector) and T^p-T^p (the maximum level of interest rate factor for the traditional sector) and the associated arrows. As clear from these demarcation lines and the associated arrows, the EU program is not feasible under these conditions. Note that there is a threshold level for the level of per capita extra gain from the EU accession (z_A), below which the EU reform program is not politically feasible. Assuming a given z, the higher this threshold level, the smaller is the feasible region.

5. Political Feasibility of the national reform program under debt financing

In this section the problem of political feasibility (as defined in footnote 3) of the national reform program is discussed with reference to the acceptability conditions for the modern and the traditional sectors.

5.1 Modern sector

In the national reform program, by construction, there is no uncertainty. The acceptability condition for the modern sector is given by

$$(1-\gamma_{M,1}^N)\theta_M + \beta(\theta_M + R^*\gamma_{M,1}^N\theta_M) \geq (1+\beta)\theta_M, \tag{14}$$

where the terms in the parentheses on the left-hand side show the present values of the per-capita consumption level in the modern sector in the first and second periods, respectively. The second term in the second parenthesis ($R^*\gamma_{M,1}^N\theta_M$) shows the gross return as of the beginning of the

second period on the government securities held by each of the modern sector. The right hand side is for the present value of the status quo per-capita consumption level. Rearranging gives the following condition[16]

$$R^* \geq \frac{1}{\beta}. \tag{15}$$

5.2 Traditional sector

For the national reform program to be accepted by the traditional sector the present value of the certain per-capita consumption in this sector under the reform should be at least as much as the present value of the per-capita consumption in the status quo:

$$\delta^N \eta + (1-\delta^N)\theta_T + \beta\delta^N \theta_M + \beta(1-\delta^N)\theta_T - \frac{\beta R^* \gamma^N_{M,1} \theta_M \lambda}{1-\lambda} \geq (1+\beta)\theta_T. \tag{16}$$

Note that, as discussed in the second section, we assumed that working hours of the traditional sector can be restricted, which effectively means that only a percentage (δ^N) of the labor force ($0 < \delta^N \leq 1$) of the traditional sector becomes unemployed in the national reform program and receive unemployment benefit. The first term shows this benefit to each people in the traditional sector. Those that remained in the traditional sector have still access to the status quo level of income and therefore the same level of consumption; i.e. the second term. The third and fourth terms are the present values of the corresponding levels of consumption in the second period. The last term on the left-hand side shows the present value of the per-capita taxes paid by the ex-traditional sector people to finance the debt issued by the government and held by the modern sector people. Rearranging Equation (16) yields the ex-ante acceptable maximum level of the interest rate factor for the traditional sector;

[16] Note that this condition simply restates the well known equilibrium condition, i.e. the rate of interest should be at least as high as the rate of time preference.

$$R^* \leq \frac{\{\eta + [\beta\theta_M - (1+\beta)\theta_T]\}}{\beta\gamma_{M,1}^{EU}\theta_M} \cdot \frac{1-\lambda}{\lambda}. \qquad (17)$$

5.3 Political feasibility of the national reform program

The feasible set of interest rate factors which is acceptable to both of the sectors is shown in Figure 3. In the horizontal axis, now we have η –the reform period per capita unemployment benefit for the traditional sector. The horizontal demarcation line labeled as R^*_{min} shows the acceptable minimum level of the interest rate factor by the modern sector. The upward sloping demarcation line labeled as R^*_{max} indicates the acceptable maximum level of interest rate factor for the traditional sector. The feasible set of interest rate factors which is acceptable for both of the sectors is the area between point A and the parts of R^*_{max} and R^*_{min} lines which are respectively at the north-east and east of point A. The proof of the existence of this feasible set is straightforward: $R^*_{min}>0$. The R^*_{max} demarcation line is upward sloping and $\eta_B<0$. These properties suffice to the existence for a feasible set of interest rate factors. The region in the R^*_{max} A R^*_{min} triangle gives the set of politically feasible combinations of R and η.

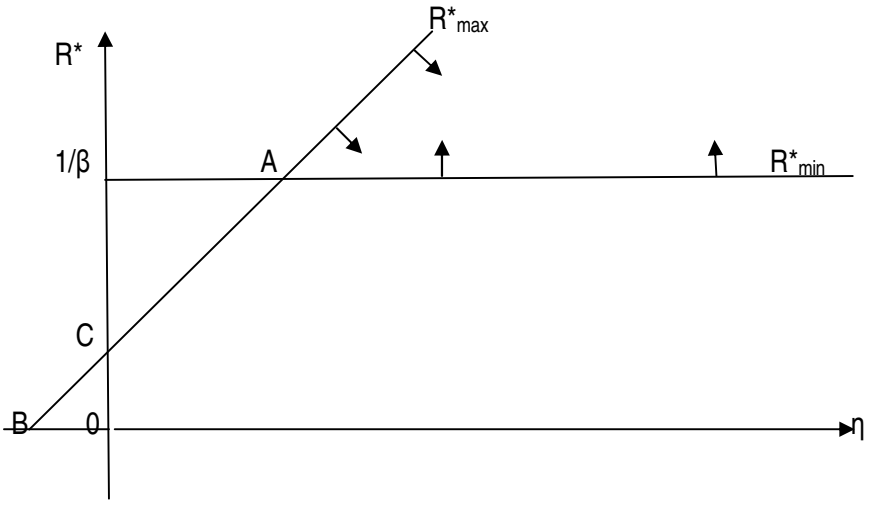


Figure 3: Interest rate factors acceptable for both sectors in the national reform program

6. Debt financing: the EU or the national reform program?

Having shown under which conditions both of the reform programs are politically feasible, i.e. Pareto dominate the status quo, it is now the time to discuss the choice between the EU and the national reform programs. To do so, we compare per-capita consumption levels.

6.1 Modern sector (Ex-ante)

The expected present value of the per capita consumption level as of the beginning of the EU-reform program ($E(c_M^{EU})$) is given by the left hand-side of Equation (10). The left hand-side of Equation (14) gives the present value of the per capita consumption level as of the beginning of the national reform program (c_M^N), which is certain. Subtracting c_M^N from $E(c_M^{EU})$ and noting that $\gamma_{M,1}^N = \delta^{\mathrm{N}} \gamma_{M,1}^{EU}$, one obtains

$$E(c_M^{EU}) - c_M^N = \beta q_1^{EU} q_2^{EU} z + \gamma_{M,1}^{EU}(1-\delta^N)(\beta R^* - 1)\theta_M . \quad (18)$$

Since $(\beta R^* - 1) > 0$ (the real interest rate is greater than the time preference parameter), always $E(c_M^{EU}) \geq c_M^N$ .The equality holds if $\delta^{\mathrm{N}} = 1$ and $q_1^{EU} = 0$ or $\delta^{\mathrm{N}} = 1$ and $q_2^{EU} = 0$. Note that, unless $\delta^{\mathrm{N}} = 1$, even $q_1^{EU} = 0$ or $q_2^{EU} = 0$, still $E(c_M^{EU}) > c_M^N$.

6.2 Traditional sector (Ex-ante)

Re-arranging the left hand-side of Equation (12) one obtains the following expected present value of the per capita consumption level of the traditional sector as of the beginning of the EU-reform program:

$$E(c_T^{EU}) = Q\eta + (1-Q)\theta_T + \beta Q \theta_M + \beta q_1^{EU} q_2^{EU} z + \beta(1-Q)\theta_T - \beta \frac{R^* \gamma_{M,1}^{EU} \theta_M \lambda}{1-\lambda}. \quad (19)$$

The present value of the per capita consumption as of the beginning of the national reform program is given by the left-hand side of Equation (16). Subtracting this term from Equation (19) after some algebraic manipulation one obtains:

$$E(c_T^{EU}) - c_T^N = (Q - \delta^N)\{\eta + [\beta\theta_M - (1+\beta)\theta_T]\} - \frac{(1-\delta^N)\beta R^* \gamma_{M,1}^{EU} \theta_M \lambda}{1-\lambda} + \beta q_1^{EU} q_2^{EU} z \quad (20)$$

The dominance of one of the reform programs to the other for the traditional sector people depends on the values that probabilities in Equation (20) can take. In the appendix we show that when $q_1^{EU} = q_1^N = 0$ or when these probabilities are sufficiently low, then $c_T^N > E(c_T^{EU})$. Otherwise EU program outperforms the national program.

These results show that if, ex-ante, the 'EU's absorption capacity' type arguments lead to perceptions that a sudden stop of the EU-reform process and accommodating decrease of desire to continue with national reform program is highly likely, then the traditional sector will oppose to the implementation of the EU-reform program. However, unless $\delta^N = 1$, the modern sector always prefers the EU reform program.

6.3 Ex-post comparison

We have already noted that $E(c_M^{EU}) = c_M^N$ only when there is full reform in the national program ($\delta^N = 1$) and a 'no' from the EU is received during the reform phase or at the beginning of the second period. It is obvious that, ex-post, modern sector is never worse-off by ex-ante preferring the EU reform program. However, this is not the case for the traditional sector. If by associating a sufficiently high positive probability for a 'yes' from the EU and select to go with the EU program ex-ante, but face an ex-post rejection, then traditional sector will lose. As discussed above, this can jeopardize the continuation of the EU reform program, since the traditional sector will try to block it.

On the other hand, if the traditional sector, ex ante, does not accept the EU reform program by perceiving a very low probability for a 'yes' from the EU, depending on its political power, it may enforce the government to shy away from EU reforms. Obviously this outcome will not be welcome by the modern sector, which always benefits from the EU reform program.

7. Political feasibility under tax financing

As discussed in the third section, tax financing alternative is only valid for the EU-reform program. The ex-ante acceptability conditions can easily be obtained from Equation (11) for the modern sector and from Equation (13) for the traditional sector, replacing $\gamma_{M,1}^{EU}$ by the required tax rate ($\tau_{M,1}^{EU}$) and noting that since there is no debt instrument issued by the government *R*=0*. Consequently, for the modern sector we obtain:

$$z \geq \frac{\tau_{M,1}^{EU}\theta_M}{\beta q_1^{EU} q_2^{EU}} \tag{21}$$

and for the traditional sector the acceptability condition turns out to be:

$$z \geq -\frac{[q_1^{EU} + (1-q_1^{EU})q_1^N]}{\beta q_1^{EU} q_2^{EU}}\{[\beta\theta_M - (1+\beta)\theta_T] + \eta\}. \tag{22}$$

Equation (22) clearly indicates that since the term in the second square brackets is positive, the ex-ante acceptability condition is not binding for the traditional sector. This means that, provided that the modern sector ex-ante acceptability condition given by Equation (21) is satisfied, then the EU-reform program is ex-ante politically feasible .

However, if the modern sector attach a low probability to the continuation of the EU reform program or to a final 'yes' from the EU, they demand a very high value for *z*. This means that under these conditions the ex-ante acceptability of the EU reform has a very low chance, simply because there is certainly an upper bound to *z*. Note further that even the probability of a sudden stop is low

the modern sector can reject the EU reform program ex-ante. This will arise if they perceive that the probability of receiving a final 'yes' from the EU is very low. Hence, the 'EU's absorption capacity' type arguments, ex ante, can lead modern sector people to resist to the EU reform program.

Note that the ex-ante acceptability condition for the modern sector in this case is more demanding than the debt financing case (compare Equation (21) with Equation (11)). Ex-post results are also different: If, ex-post $q_1^{EU} = 0$ or $q_2^{EU} = 0$, the EU-reform program will not be accepted by the modern sector: As indicated by Equation (21), under these conditions, the required level of z goes to infinity.

8. Conclusion

The short answer to the question in the title of the paper is a qualified "yes". To show this, we abstract from other type of uncertainties associated with reform programs which have been well documented in the literature and instead focus only on uncertainties arising from arguments based on "EUs absorption capacity" type arguments.

In our framework it is assumed that Turkey will have some extra benefits if and when the country joins the EU. Under acceptability conditions such an outcome is shown to Pareto dominate the national reform and status quo alternatives. However, this result crucially depends on an exogenous factor, namely, EU's decision to accept Turkey as a member state. It is shown that the uncertainties stemming from the 'EU's absorption capacity' type arguments can jeopardize the ex-ante and ex-post political feasibility of the EU reform program and diminish the significance of its Pareto dominance vis-à-vis other alternatives.

The program is ex ante politically infeasible if EU's declaration of accepting Turkey's membership before its start is perceived as less likely. It is shown that, in this case, the traditional sector will oppose and try to block the EU reform process. However, if this perception is wrong and the true probability of a 'yes' is high, a reform program which if implemented would have been in the interests of both of the sectors ex-post, will not be implemented. This is a clear loss of welfare for people leaving in both sectors, since reformers could have started with the national reform alternative, which is also welfare improving and free of such uncertainties.[17]

Ex-post infeasibility, in this context, means that the rejection of Turkey's membership before the start of the reform program is perceived as less likely, but, at the midst of the implementation phase it turns out to be the case. Ex-post resistance to the EU reform program occurs since both of the modern and traditional sectors suddenly find themselves in a position that they should have not politically accepted ex-ante. Then the country is left with two options, namely switching to national reform strategy or going back to status quo. If conditions for political feasibility of the national reform program is satisfied, it Pareto dominates the status-quo solution.[18]

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[17] If $\lambda > 1/2$, such an outcome can be avoided through democratic mechanism. EU reform program is at least as preferable as the other two alternatives for the modern sector. If the people affiliated with the modern sector constitute the majority, then the chance of getting popular support for adopting EU reform program in a single issue referendum will be high. In order to implement such a proposal it is clear that it should be accompanied by a contingent compensation scheme.

[18] When the acceptability condition is satisfied in one sector but not in the other, the policy maker again may resort to a referendum. The outcome, again, will depend on which sector constitutes the majority and whether some kind of compensation can be given to those who will be negatively affected, in order to prevent a social conflict.

Appendix

A1. Economic efficiency

Both of the reform programs should be economically efficient to be implemented. That is, the present value of the total income as of the beginning of the reform period should be more than that of the no reform case:

$$Y_1 + \rho Y_2 > (1+\rho)Y_o \qquad \text{(A1)}$$

where $\rho = 1/R^*$, Y_0 is income obtained under the status quo, Y_1 and Y_2 are respectively the first and second period incomes attained when the relevant reform program is implemented. For the national reform program:

$$Y_0 = \lambda\theta_M + (1-\lambda)\theta_T,$$

$$Y_1 = \lambda\theta_M + (1-\delta^N)(1-\lambda)\theta_T,\ Y_2 = \lambda\theta_M + (1-\lambda)\delta^N\theta_M + (1-\delta^N)(1-\lambda)\theta_T.$$

Substituting these incomes in Equation (A1) and simplifying gives the following economic efficiency condition for the national sector:

$$\rho\theta_M - (1+\rho)\theta_T > 0. \qquad \text{(A2)}$$

In Section 4.1 we mentioned that the time preference parameter (σ) is the inverse of the time-discount factor (β). If the national reform program is economically efficient, that is condition given by Equation (A2) holds, then when ρ<β (when $r^*>\sigma$): $[\beta\theta_M - (1+\beta)\theta_T] > 0$. That is if the real interest rate is greater than the patience level of the economic agents the term in the square brackets is always positive. Note that we encountered this term in Equations (13, 13b, 13c, 17, 24) when we discussed political acceptability and feasibility of the reforms.

The economic efficiency condition for the EU reform program is less demanding. For this case Y_1 and Y_2 are given by

$$Y_1 = \lambda\theta_M;\ Y_2 = \theta_M + q_1^{EU} q_2^{EU} z.$$

Note that the reform planners, in calculating the economic efficiency, should take the uncertainty arising from the 'too big to absorb' type arguments into consideration. That is why the relevant probabilities enter to Y_2. Substituting these terms in Equation (A1) we obtain

$$(1-\lambda)[\rho\theta_M - (1+\rho)\theta_T] + \rho q_1^{EU} q_2^{EU} z > 0. \quad \text{(A3)}$$

A2. Proof of the existence of the feasibility of the EU reform program

From Equation (11), when R*=0, one obtains the value of *z* at point B as:

$$z_B = \frac{\gamma_{M,1}^{EU}\theta_M}{\beta q_1^{EU} q_2^{EU}}. \quad \text{(A4)}$$

At the point of intersection of the two demarcation lines (M^e-M^e) and (T^e-T^e), that is at point A, equating interest rate factors given by Equations (11) and (13) and re-arranging yields:

$$z_A = \lambda z_B - (1-\lambda)\frac{Q\{\eta + [\beta\theta_M - (1+\beta)\theta_T]\}}{\beta\gamma_{M,1}^{EU}\theta_M}. \quad \text{(A5)}$$

Since $0 < \lambda < 1$ and the term in the curled parenthesis is positive, $z_A < z_B$.

A3. National reform program can outperform the EU reform program for the traditional sector

We consider four limiting cases. The first one is $q_1^{EU} = 1; q_2^{EU} = 1$. Substituting these values in Equation (20) and rearranging one obtains:

$$E(c_T^{EU}) - c_T^N = (1-\delta^N)\left\{\eta + [\beta\theta_M - (1+\beta)\theta_T] - \frac{\beta R^* \gamma_{M,1}^{EU}\theta_M \lambda}{1-\lambda}.\right\} + \beta z \quad \text{(A6)}$$

We know from the political acceptability condition that for the national program to be politically acceptable for the traditional sector the term in the curled parenthesis should be positive (see Equation (17)). Hence, the EU program outperforms the national program.

The second case is $q_1^{EU} = q_1^N = 0$. Plugging these values in Equation (20) yields:

$$E(c_T^{EU}) - c_T^N = -\delta^N \left\{ \eta + [\beta\theta_M - (1+\beta)\theta_T] - \frac{\beta R^* \gamma_{M,1}^{EU} \theta_M \lambda}{1-\lambda}. \right\} \quad \text{(A7)}$$

In this case, for the traditional sector, the national program outperforms the EU program.

The third case is $q_1^{EU} = 0, q_1^N = 1$. In this case the last term in Equation (A6) vanishes, but still the right-hand side is positive and the traditional sector prefers the EU program.

The fourth case is $0 < Q < 1, 0 < q_2^{EU} < 1$. Consider the right-hand side of Equation (20). If $Q < \delta^N$, the first two terms are negative (note that the term in the curled parenthesis is positive. Hence sufficiently low values of q_1^{EU} and q_2^{EU} will make $E(c_T^{EU}) < c_T^N$ and consequently the national program will be preferred.

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