

THE KHALDUN-LAFFER EFFECT OF SUPPLY-SIDE ECONOMICS (**)

Coşkun Can AKTAN (*)

SUMMARY

After the failure of Keynesian economics, due to some economic problems, alternative economic theories and policies appeared in the late 1970's and 1980's. Mainly, Monetarism, Rational Expectations Theory, Public Choice Economics, Neo-Austrian Economics and Supply-Side Economics suggested new remedies for the economic problems.

The supply-side economics, the subject of this essay, focuses on the effects of fiscal policy on incentives and relative prices. This theory and, its popular expression, the so-called "Laffer Effect"- Which I would rather call Khal-dun-Laffer Effect" due to the historical reason- explains the relationship between tax rates and tax revenues.

This essay gives an introductory background of supply-side economics. It also examines the uncertainties of the KL effect and analyzes it with the Gut-mann Effect.

I. INTRODUCTION

Demand-Side Economics(Keynesian Economics), which dominated macro-economic policy after the Great Depression, failed, due to some economic problems, seen during the years 1965 to 1980. The major economic problems in many developed and developing coun-

(*) Dr.,D.E.Ü.I.İ.B.F.Maliye Bölümü

(**) This paper is one of the fruits of research that has been financially supported by Dokuz Eylul University and Center for Study of Public Choice, George Mason University. I gratefully acknowledge the support of these two institutions. Thanks also go to Professor Akira Yokoyama, Orhan Kayalp and Peter Moser for helpful comments. The usual caveat applies.

tries were low economic growth and productivity, stagflation, tax-plotation - a term used to refer to that high tax rates exploit and distort economic units' effort and decisions on investment, saving etc. - the Leviathan excessive government and its consequences such as, increasing budget deficits, heavy debt burden and so on.

After the failure of demand-side economics due to these economic problems, alternative economic theories and policies appeared in the late 1970's and 1980's. Mainly, Monetarism, Rational Expectations Theory, Public Choice Economics, Neo-Austrian Economics and Supply-Side Economics criticized the Keynesian economics and suggested new remedies to the economic problems.

Supply-side economics made a critique of the Keynes' Law, which means that "demand creates its own supply." In contrast, it defended the idea of "supply creates its own demand", popularly known as Say's Law. This economic theory focused on the effects of fiscal policy on incentives and relative prices in order to provide high GNP and government revenues.

In this essay, I examine "supply-side economics" from historical and theoretical points of view. I shall also investigate its most popular expression, the so-called "Laffer Effect."

II. HISTORICAL HERITAGE of SUPPLY-SIDE ECONOMICS

Supply-side economists believe that the basic reason for the low economic growth in the 1970's was high tax rates. They claim that a tight fiscal policy decrease saving, investment and productivity levels in the economy. They remark that high taxes cannot reduce the effective demand in order to solve inflation. On the contrary, high taxes accelerate the inflation process.

Supply-side economists (supply siders) offer low tax rates to increase economic growth and to reduce the rate of inflation. The main economic policy instrument of the supply-side economics is "tax cut." They established a connection between tax rates and tax revenues. Although this idea was popularized under the rubric of "Laffer Curve", in the late 1970's (Wanniski:1978,p.3-17), its origins extend as far back as the 14. century.

In 1371, Muslim philosopher Ibn Khaldun had explained these views in his Muqaddimah. Khaldun believed that high taxes decrease the tax revenues and destroy the economy. He wrote:

"...(A)t the beginning of a dynasty, taxation yields a large revenue from small assessments. At the end of the dynasty, taxation yields a small revenue from large assessments." (Khaldun, 1981, p.230)

He continued:

"When tax assessments and imposts upon the subjects are low, the latter have the energy and desire to do things. Cultural enterprises grow and increase, because the low taxes bring satisfaction, when cultural enterprises grow, the number of individual imposts and assessments mounts. In consequence, the tax revenue, which is the sum total of (the individual assessments), increases." (Khaldun, 1981, p.231)

In the 18th and 19th centuries, many philosophers and economists referred to the tax rate and tax revenue relationship. David Hume stated;

"Exorbitant taxes, like extreme necessity, destroy industry by producing despair; and even before they reach this pitch, they raise the wages of the labourer and manufacturer, and heighten the price of all commodities." (Hume 1955, p.)

Most of the classical economists emphasized the importance of the tax cut for real economic growth in these centuries. Adam Smith wrote in the Wealth of Nations:

"High taxes, sometimes by diminishing the consumption of the taxed commodities, and sometimes by encouraging smuggling, frequently afford a smaller revenue to government than what might be drawn from more moderate taxes. When the diminution of revenue is the effect of the diminution of consumption, there can be but one remedy, and that is the lowering the tax." (Smith, 1976, p.414.)

The thoughts of Adam Smith on taxation, are mostly accepted by the other classical economists, such as J.B. Say, J. Mill and D. Ricardo. J.B. Say's economic thoughts, universally known as "Say's Law", explain that "supply creates its own demand." In other words, Say's Law claims that there cannot be any overproduction of any goods and services in the long-run. Briefly, he focused on "supply" more than "demand". On the other hand, he agreed with Smith on taxation. He wrote:

"Excessive taxation is a kind of suicide, whether upon objects of necessity, or upon these of luxury;... It extinguishes both production and consumption and the tax-payer into the bargain." (Say,1956,p.450.)

Another economist J.R. McCulloch wrote two articles; "Effect of High and Low Taxes on the Revenue" in 1821, and "Comparative Productiveness of High and Low Taxes" in the following year. He focused on low tax rates for real economic growth in these articles. He wrote:

"...[A] reduction of duty has been followed by an increase of revenue...[A]n increase of duty has been followed by a diminution of revenue". (McCulloch, 1975, p.341)

In 1831, Sir Henry Parnell shared the views of the above mentioned economists. He wrote:

"As the effect of [The] very high duties is in some cases to diminish the revenue, and in all to create smuggling..." (Quoted in; Keleher and Orzechowski,1982,p.140).

J. Dupuit also expressed similar ideas:

"If a tax is gradually increased from zero up to the point where it becomes prohibitive, its yield is at first nil, then increases by small stages until it reaches a maximum, after which it gradually declines until it becomes zero again". (Dupuit, 1969,p.278)

As understood, many philosophers and economists emphasized the importance of low tax rates in earlier centuries. Now, I shall explain supply-side economics in theoretical perspective.

III. REDISCOVERY of SUPPLY-SIDE ECONOMICS : CONCEPT and FUNDAMENTAL FUNCTIONS

A. Concept

In the late 1970's Professor Arthur Laffer who was working at the University of Southern California explained the relationship between tax rates and tax revenues on a graph and offered tax reduction for the United States. Some economists such as P.C. Roberts, N. Ture, M. Evans, A. Reynolds, B. Barlett and some journalists-notably, J. Wanniski, I. Kristol, G. Gilder- supported Laffer's proposal and called his views the "Laffer Effect". In the beginning, Laffer hypothesis was

understood as a new theory. Indeed, some supply-side economists expressed that their theory was based on classical economics.

Laffer said; "Supply-side economics is nothing more than classical economics in modern dress"(Hailstones,1982, p.69). Another supply sider, Bartlett, shared Laffer's views. He wrote; "In many respects, supply-side economics is nothing more than classical economics rediscovered"(Barlett,1981,p.1)

Michael Evans who developed an econometric model of supply-side economics defined this policy as "the branch of economics that deals with...factors affecting the productive capacity of the economy" (Evans,1983,p.19-20)

Evans expressed that a balanced supply-side program consists of;

- Tax cuts on both personal income tax and corporate income tax
- A reduction in the amount of public expenditures appropriately with tax cuts.
- Deregulation

Evans also says that a balanced supply-side program which includes these policies can provide high productivity-economic growth and low inflation all together. To Evans and the other supply-siders, tax cut is the most important instrument in these polides.

Thereby, supply-side economics is also known as "supply-side tax policy" or more generally, "supply-side fiscal policy". In this sense, Meiselman's definition might be more correct;"Supply-side economics acknowledges that fiscal policy, but especially the tax component of fiscal policy, affects incentives, economic efficiency and economic growth" (Meiselman,1982,p.44).

Finally, another economist, P.C.Roberts wrote supply-side economics is "a school of thought that emphasizes the effect of fiscal policy on incentives and relative prices"(Roberts. 1984,p.314).

B. Fundamantal Functions

Tax reduction has mainly three functions in the supply-side literature. These are summarized below.

1. Changes on the marginal tax rates affect the relative prices in four ways; (Keleher,1982,p.111)

-The price of leisure versus work.

-The price of current consumption versus future consumption.

-Economic activities in the market economy versus activities in the underground economy.

-The return of investment in the taxable sector versus the return of investment in the tax shelters.

Supply-siders claim that a reduction in marginal tax rates results in high productivity, efficiency and high growth in the economy via changing the relative prices. Marginal tax rates are considered more important than effective tax rates in this theory.

2. The supply-side economics emphasizes "economic growth" and "efficiency of resource allocation". Supply-siders believe that tax cuts provide a high market output and high tax revenue in the long-run. Indeed, supply-side theory is a long term economic policy. Supply-siders accept that "stabilization" and "fair income distribution" are not realized in a short period. These aims can be achieved only in a long time period together with economic growth and efficiency.

3. The third principal of supply side economics is the connection between tax rates and tax revenues. According to this principal, tax rates can be increased up to a point. In other words, if taxes are increased beyond this point -called the maximum revenue point- the process results in an inverse effect on the production and labor supply and consequently economic growth goes down and tax revenues decrease. Supply-siders accept that the reason for the slow economic growth (negative economic growth) in the 1970's in the U.S. and most of other countries is only high marginal tax rates. As noted before they have offered lower tax rates for fast economic growth and higher tax revenues. Now, I shall focus on the third of these principals.

IV. The KHALDUN-LAFFER EFFECT

As mentioned before, A.Laffer explained the relationship between tax rates and tax revenues on a graph in the late 1970's and afterwards this view was popularized under the rubric "Laffer Curve". In this essay, I shall refer to this hypothesis as the "Khalidun-Laffer Effect" as this view was expressed first by Muslim philosopher Ibn Khalidun in the 14th century. This appellation might be more appropriate. (1)

The Khaldun-Laffer effect illustrates that changes on the marginal tax rates affect both total market output and tax revenues. The simple idea can be analyzed better by referring to figure-1.

The right side of figure shows the relationship between tax rate and tax revenues. The left side gives the relationship between tax rates and total market output. If tax rate is zero, tax revenue is also zero, similarly, if tax rate is 100%, tax revenue will be zero. When tax rate is raised a little, this process results in a stimulant effect on the private sector economic activities at first. For example, if tax rate

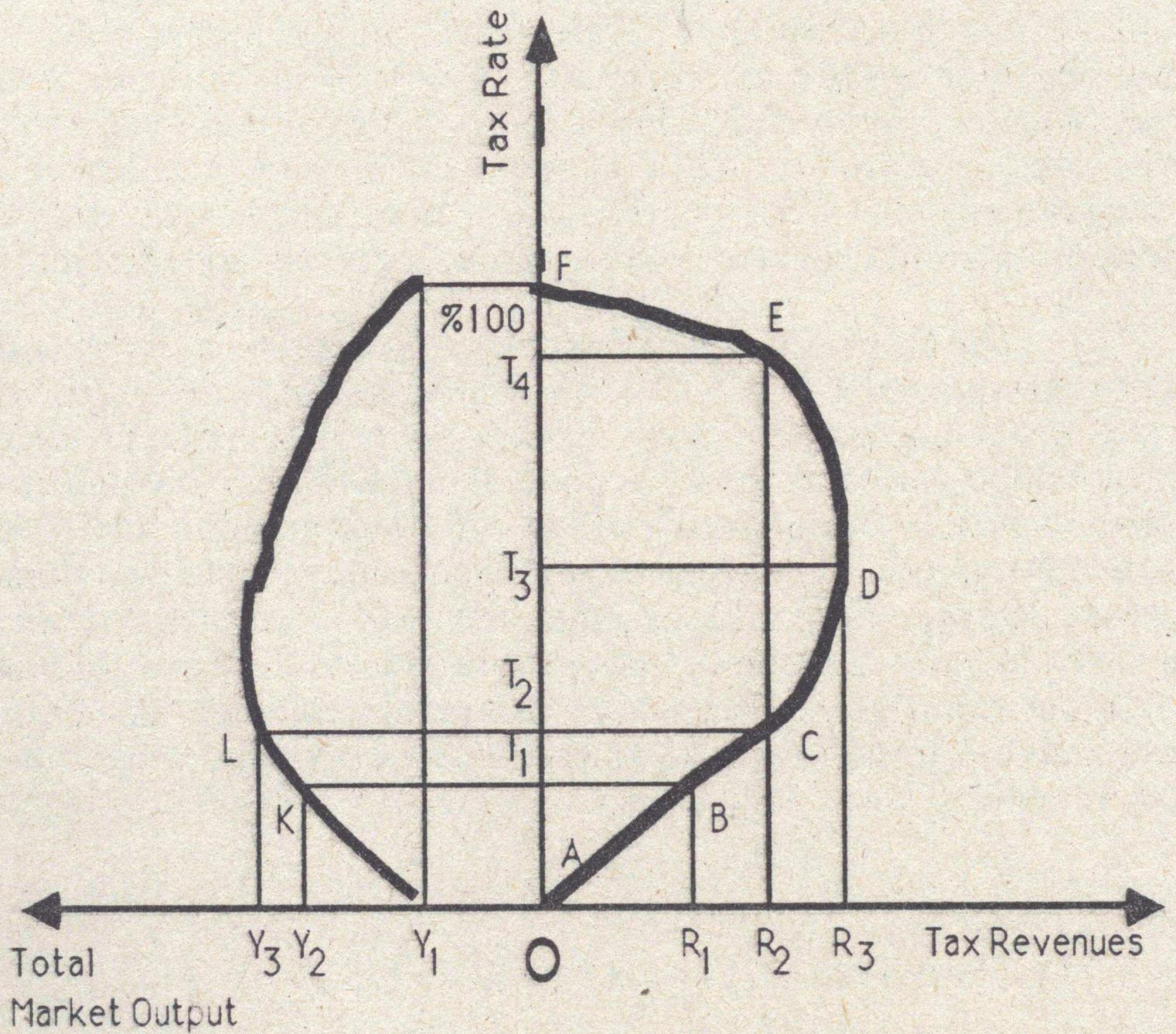


Figure : 1

(1) Roy Adams also Prefers the use of this term instead of "Laffer Effect". See: (Adams, 1981). On the other hand, D.Fullerton states that Laffer Curve can also be called "Smith-Dupuit Curve". See:(Fullerton, 1982).

is T1, total market output increases from Y1 to Y2. As a consequence of this process, tax revenues also increase towards R1. If tax rate is further increased, negative effects emerge. In other words, substitution effect will be greater than income effect. In this case, economic units would rather consume, leisure and work in the underground economy, rather than save, invest and work in the market economy. Government can raise tax rates and collect more revenues until point D, which can be called "maximum tax revenue point". Beyond this point, an inverse process will take place. That is to say, higher tax rate results in lower market output and tax revenues. Suppose that, tax rate is increased to the T4 level, at this rate, government may collect as little as R3-R2.

As understood, the KL curve, shown at the right side of the figure is very similar to the total market output curve, shown on the left. But, total market output reaches a maximum before tax revenues because, low tax rates produce a large incentive effect on economic activities at first.

A. The UNCERTAINTIES of the KL EFFECT

In fact, the Khaldun-Laffer effect rests on the assumption that people will work significantly more when their after-tax wages increase or that they will invest significantly more when their after-tax profit increase. (Miller and Struthers, 1982, p.115)

On the other hand, the KL effect is based on two conditions which are hardly visible. First, current tax rate must be beyond the maximum tax revenue point in order to collect more revenues via tax reduction. In other words, current tax rate must be higher than point D. If tax rate is cut before point D, tax revenues will not increase. In fact, they may decrease, (See, Figure 1). But the crucial question is the determination of that maximum tax revenue point.

Secondly, tax cut must not be too much. If tax rate is cut from point D to B, tax revenues will decrease as well. It is difficult to cut taxes appropriately, because no one knows their exact location on the Laffer curve.

B. TIME HORIZON and HIGH TAX DILEMMA

Time horizon is accepted as an important factor in the supply-side economics. The shape of the KL curve in the short run is different from its shape in the long-run. Buchanan and Lee developed an analysis which examines the relationship between tax rates and tax revenues both in the short and long-run. In their studies, "long-run" is

defined as sufficient time to allow the full adjustments to the tax rate changes for the taxpayers. [See: Buchanan and Lee, July-1982; Also see same authors' : (August-1982) and (1984).]

On Figure-2, the long-run or full-adjustment KL curve is shown as $KL(L)$. At the equilibrium point on this curve, government collects as much as R_2 at the rate and T_1 . From zero to T_1 , government can raise the rate collect more revenues. After maximum revenue point (E), an increase of the rate reduces revenues.

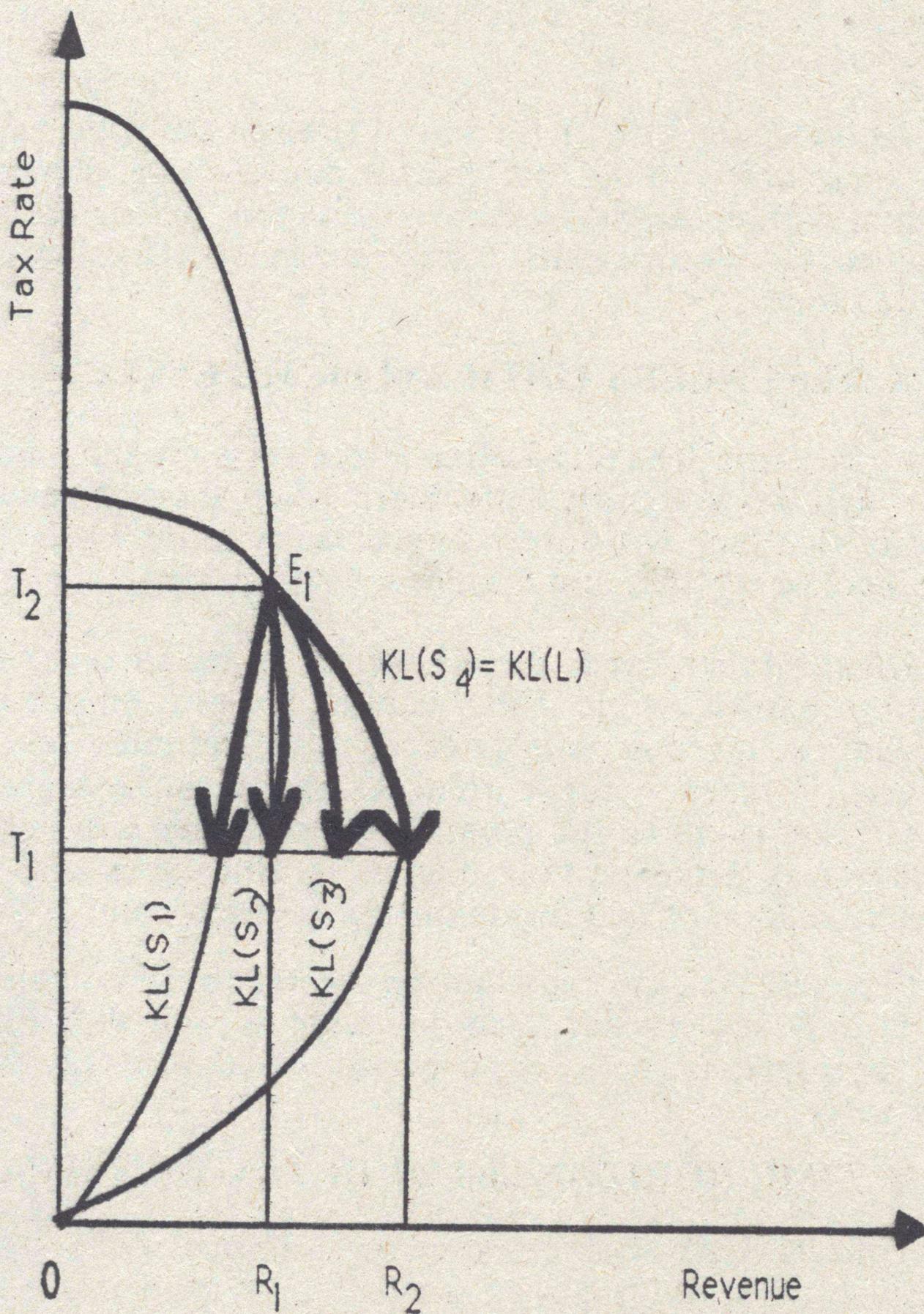


Figure : 2

However, tax rate is often raised beyond point E by the politicians due to some short-run revenue requirements of the government. In this way, "political equilibrium" is established before "taxpayer equilibrium". On the figure, the political equilibrium rate is T2 and equilibrium point is E1 where $KL(S1)$ -which represents the initial short-run KL curve-cuts $KL(L)$.

At this political equilibrium point, political decision makers are aware that a tax cut would increase revenues in the long-run. However, government cannot collect more revenue by simply shifting to the $KL(L)$ [= $KL(S4)$]. Taxpayers will not respond to this rate reduction, because they know that T1 is a temporary tax rate and predict a return to the political equilibrium rate again. In other words, government has to convince taxpayers that new tax rate is not temporary in order to increase its revenues. Buchanan and Lee called this dilemma "high tax trap". (Buchanan and Lee, (1982a) and also see: Brennan and Buchanan, (1985).

On the other hand, both the taxpayer and the politicians can attain the full equilibrium on the $KL(L)$ in sufficiently long period. However, Buchanan and Lee's "how long is the long run" question is a critical, important and difficult to answer. (Buchanan and Lee, 1984, p.291)

V. The KL CURVE and GUTMANN EFFECT

As discussed above, lower marginal tax rates affect the four relative prices positively. Gutmann emphasized the importance of the last two relative prices which refer to working and investing in the market economy instead of the underground economy via tax reductions. According to Gutmann, lower tax rates increase the supply of labor and consequently, provide real economic growth. Furthermore, lower tax rates cause economic activities to shift from underground economy (black economy or subterrenan economy) to the market economy. Gutmann explains that if tax rate is decreased, most economic activities will move to the market economy. Hence, a reduction in tax rates result in high legal output and revenue.

This explanation of the KL effect was denominated the "Gutmann Effect" by Gutmann himself. As shown on the figure, the Gutmann curve is very similar to the KL curve, but purposely skewed to the right to indicate that government revenues are maximized at tax

rates higher than 50 percent. (Gutmann, 1979, p, 65) (See, Figure-3)

Gutmann states that the expansion of the underground economy is a result of tax avoidance and tax evasion. Thereby, politicians are obliged to raise tax rate higher to finance government expenditures in the short run. Government gains two benefits by cutting taxes. First, lower tax rates generate income effect. Second, some underground economic activities shift to the market economy.

As seen on the figure, E(G) represents equilibrium point on the Gutmann Curve. In this case, we have a dilemma, dilemma which Gutmann calls "politician's dilemma". At point E(G), politicians see that a reduction of the tax rates will increase tax revenues. However, it is difficult to cut taxes easily, because, politicians need much revenue to finance expenditures in the short-run (1).

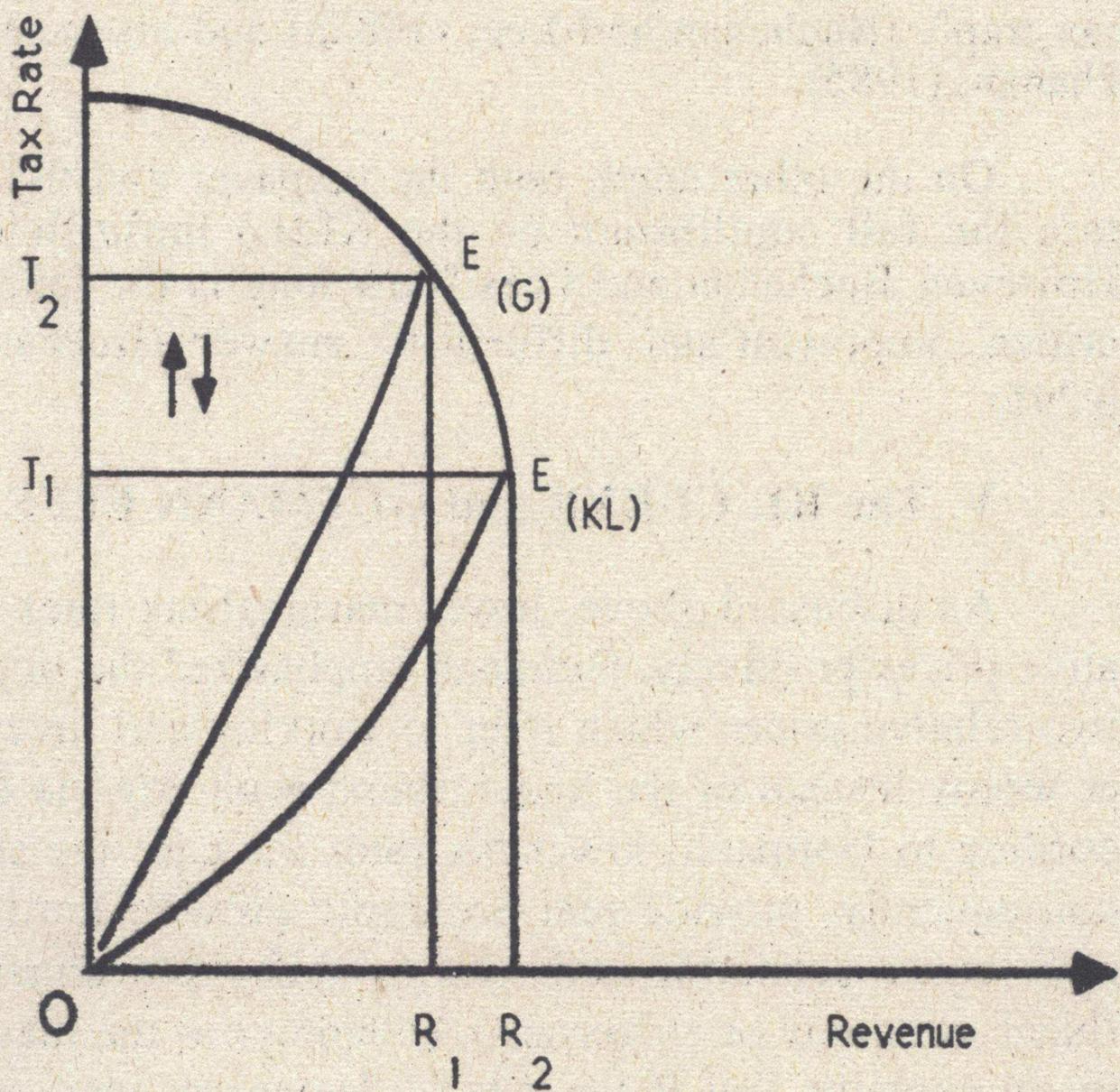


Figure : 3

Now, I shall expand this analysis by asking: What Happens if The KL Effect And The Gutmann Effect Are Combined? Will there be any

(1) It should be noted that this is not full adjustment equilibrium point as I explained under the heading of "high tax trap".

changes on the equilibrium point ? These issues are explained by referring Figure - 4.

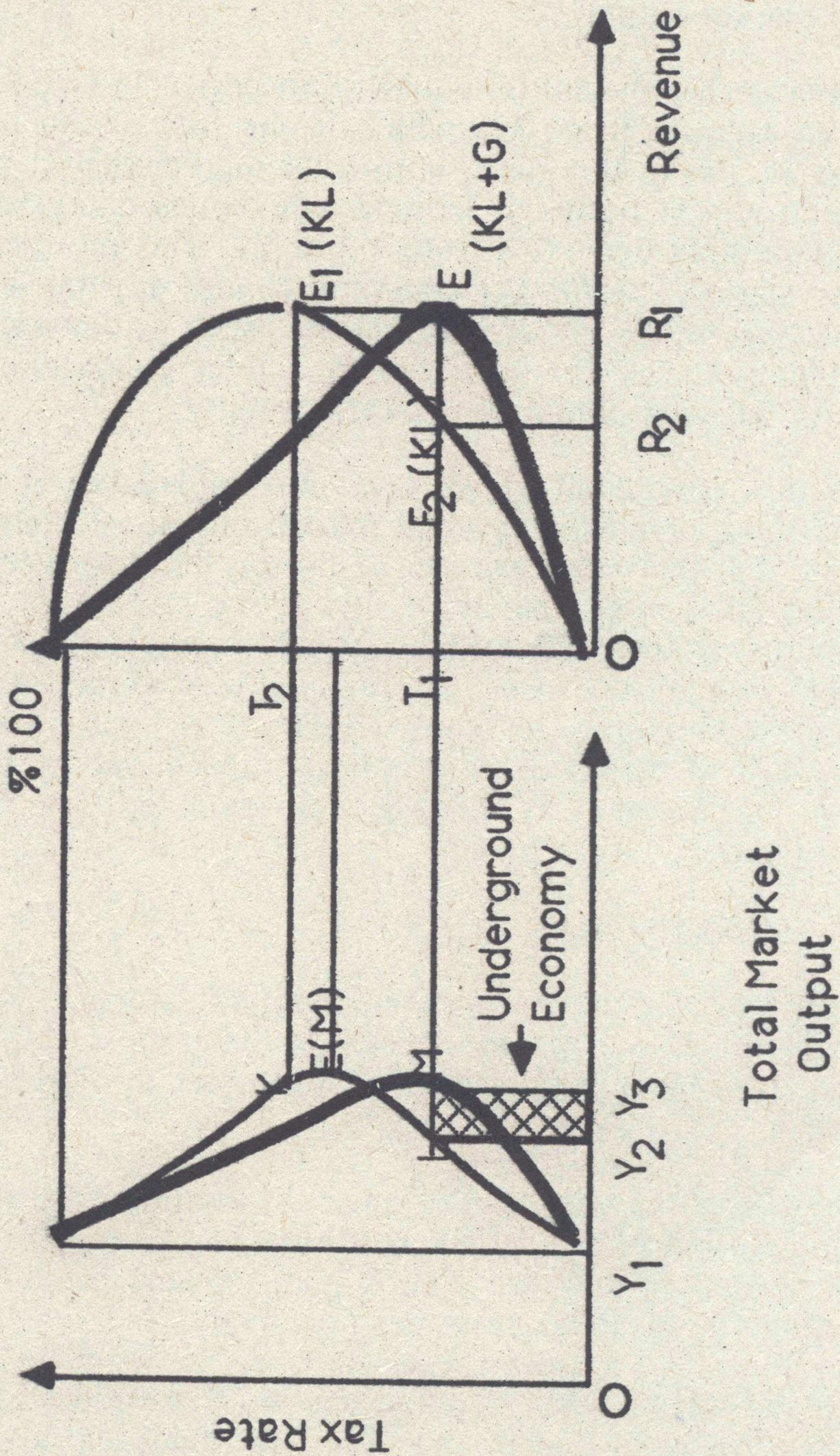


Figure : 4

The left side of the figure reflects the tax rates-total market output relationship, while the right side shows the tax rates-tax revenues relationship. First, I shall examine the relationship between tax rates and total market output.

Assume that the initial equilibrium point (1) is $E_1(KL)$ and tax rate is decreased from T_2 -which is the rate of the maximum tax revenues- to T_1 . In this case, both total market output and tax revenues decrease. On figure 4, while tax revenues decrease from R_2 to R_1 ; market output decreases from Y_3 to Y_2 . This process happens because the size of the market economy cannot expand without provision of certain public goods and services (such as defense, justice, primary education, etc.) In other words, public goods contribute to an increase in the total output of market economy.

On the other hand, if we take into consideration the Gutmann effect, both tax revenues and total market output will increase in spite of the fact that the initial tax rate is not on the positively sloped section of the KL curve. That is to say, at the rate of T_1 , total market output increases from Y_2 to Y_3 and tax revenues increase from R_1 to R_2 . This occurs because many economic activities will take place in the market economy. In other words, tax reduction causes economic activities to shift from the underground economy to the market economy. On figure 4, Y_2LMY_3 represents the size of the underground economy.

VI. CONCLUSION

In this essay, I have examined supply-side economics within historical and theoretical perspectives. As understood, supply-side economics and its most popularized explanation, the KL effect is not a new theory.

The KL effect depends on some assumptions and includes some uncertainties. Indeed, KL effect is a long-run economic policy. In the short-run, a tax cut may not yield higher revenue in all cases. In contrast, it may affect the tax revenues negatively.

The KL effect, first popularized on a simple graph by Laffer, was developed by Buchanan and Lee. They analyzed tax rate-tax revenue relationships both in the short and long-run, and emphasized the importance on full adjustments to tax rate changes and expectations. Their analysis showed that politicians increase tax rates higher in the short run due to the short term revenue requirements of the government. In this case, politicians and taxpayers also, find themselves in a

dilemma, the so-called "high tax trap".

More specifically, fiscal decision-making should take into consideration the following factors :

- The time horizon,
- Expectations about tax rates,
- Current tax rate (that is, the place of the current tax rate on the KL curve before tax cut).

ARZ- YÖNLÜ İKTİSADIN HALDUN-LAFFER ETKİSİ

Keynezyen iktisadın bazı ekonomik sorunlar nedeniyle başarısızlığa uğramasından sonra, 1970'li yılların sonları ve 1980'lerin başlarında alternatif ekonomi teorileri ve politikaları ortaya çıktı. Başlıca, Monetarizm, Rasyonel Beklentiler Teorisi, Kamu Tercihi İktisadı, Neo-Avusturya İktisadı ve Arz-Yönlü İktisat, iktisadi sorunlar için yeni çözüm önerileri sundular.

Arz-yönlü iktisat, teşvik ve görelî fiyatlar üzerindeki maliye politikası etkileri üzerinde durmuştur. Bu teori, daha spesifik olarak, teörinin popüler ifadesi olan "Laffer Etkisi", -tarihsel bir nedene baęlı olarak bunu "Haldun-Laffer Etkisi" olarak adlandırmayı yeęliyorum. -, vergi oranları ile vergi gelirleri arasındaki ilişkiyi incelemektedir.

Bu çalışma arz-yönlü iktisada giriş niteliğindeki bilgileri sunmaktadır.Çalışmada aynı zamanda HL etkisinin belirsizlikleri incelenmiş ve Gutmann Etkisi ile birlikte analiz edilmiştir.

REFERENCES

ADAMS, Roy. D. (1981), "Tax Rates and Tax Collections: The Basic Analytics of Haldun-Laffer Curves", **Public Finance Quarterly**, vol 9, No 4. pp.415-430.

BARTLETT, Bruce (1981), **Reagonomics, Supply-Side Economics in Action**, Connecticut Arlington House Publishers.

BRENNAN, Geoffrey and James M.BUCHANAN (1985), **The Reason of Rules, Constitutional Political Economy**, Cambridge: Cambridge University Press.

BUCHANAN, James M. and Dwight LEE (1982a), "Tax Rates and Tax Revenues in Political Equilibrium: Some Simple Analytics". **Economic Inquiry**, vol xx, No 3, July. pp.344 -354.

------(1982b), "Politics, Time and Laffer Curve", **Journal of Political Economy**, vol 90, No 4. August. pp.816-819.

------(1984), "Some Simple Analytics of Laffer Curve", **Public Finance and Quest for Efficiency**. Proceedings of the 38th Congress of the Int. Ins. of Public Finance, Copenhagen, 1982, Detroit: Wayne State University Press. pp.281-295.

DUPUIT, Jules (1969), "On the Measurement of the Utility of Public Works", **Kenneth Arrow and Tibor Scitovsky, Readings in Welfare Economics**, Homewood, Illinois: Richard D. Irwin Inc.

EVANS, Michael (1983), **The Truth About Supply-Side Economics**, New York: Basic Books Inc.

FULLERTON, Don (1982), "On the Possibility of An Inverse Relationship Between Tax Rates and Government Revenues", **Journal of Public Economics**, vol 19, No 1, October, pp.3-21.

GUTMANN, Peter (1979), "Tax and Supply of National Output", **Financial Analyst Journal**, (November-December).pp.64-66.

HAILSTONES, Thomas J (1982), **Viewpoints on Supply-Side Economics**, Reston, Reston Publishing Company Inc.

HUME, David (1955), **Writings on Economics**, E. Retwein (ed.) Madison : University of Wisconsin Press.

KELEHER, Robert E. (1982), "Supply Side Tax Policy: Reviewing the Evidence", In:Thomas Hailstones (ed).

KELEHER, Robert and William P. Orzechowski, (1982) "Supply-Side Fiscal Policy: An Historical Analysis of A Rejuvenated Idea", Richard Fink (ed), **Supply-Side Economics and Critical Appraisal**,

Maryland: Aletheia Books.

KHALDUN, Ibn (1981), **The Muqaddimah - An Introduction to the History**-5th ed, N.J. Dawood (ed), AND P. Rosenthal (trans), Princeton University Press.

McCULLOCH, John R. (1975), **A Treatise on the Principles and Practical Influence of Taxation and The Funding System**, D.P.O' Brein (ed), London: R.R. Clarck Ltd.

MEISELMAN, David I. (1982), "Is There A Conflict Between Monetarism and Supply-Side Economics", **Supply-Side Economics in the 1980's**, Conference Proceedings, Connecticut: Quorum Books.

MILLER, Preston and Allan STRUTHERS (1982), "The Uncertainties of the Laffer Effect" In: Thomas Hailstones (ed).

ROBERTS, Paul Craig (1984), **The Supply-Side Revolution-An Insider's Account of Policy Making in Washington**- Cambridge: Harvard University Press.

SAY, Jean Babtiste (1956), **A Treatise On Political Economy or the Production, Distribution and Consumption of Wealth**, C.C. Prinsep (trans), Philadelphia: Claxton, Remyes, Haffelfinger.

SMITH, Adam (1976), **An Inquiry Into the Nature and Cause of the Wealth of Nations** E. Cannan (ed), Chicago: University of Chicago Press.

WANNISKI, Jude (1978), "Taxes, Revenues and the Laffer Curve" **The Public Interest** No 50. pp.3-17.