

THE COVID-19 PANDEMIC AND THE EFFECTIVENESS OF FISCAL POLICIES

Murat USTAOĞLU

Abstract

The rapid spread of COVID-19 virus in the world has impacted a great deal upon social and economic life as well, causing elements of uncertainties that threaten the human health. For this reason, some economists argue that global economy is moving fast towards a state of crisis. It is now necessary to assess the efficiency of the fiscal policies to address a potential crisis in the presence of pessimistic scenarios because the structural differences between developing and developed economies affect the efficiency of the fiscal/monetary instruments. To better identify the more effective fiscal policy for Turkish economy, a fiscal multiplier calculation was performed, followed by the trend of change in the multiplier since 1960, concluding that government spending is more effective policy in addressing the approaching crisis. Based on the findings, ideal fiscal policies were recommended.

Keywords: COVID-19, Fiscal Policy, Efficiency, Turkey

Introduction

The coronavirus, first detected in last quarter of 2019, has turned into a dangerous pandemic spreading throughout the entire world (Klein & Wasserman, March 12, 2020). The negative impacts of the virus upon human health are not limited to biological problems alone. The economic reflections of the uncertainties associated with the social life have taken the global economy to the edge of one of the greatest crises in the history of mankind. It is not realistic to be optimistic for the future as evidenced by the predictions on the possible harm to be caused by this crisis. Some economists argue that the world is facing a dramatic crisis, the most devastating one since the 1929 Great Depression; the optimists, on the other hand, expect a milder recession compared to the global financial crisis in 2008. In both scenarios, the economic indicators are not heart-warming.

The news reports from different corners of the world on the spread of the virus exacerbate the situation. Unless a medical solution is achieved shortly, all indicators will confirm the estimates of crisis. In case the pessimistic expectations turn into reality, economic policies consulted with in times of crises will be brought to the fore since structural reforms will not be performed in a very short period of time. The literature is still in a process of discussion over the analysis of the efficiency of monetary/fiscal policies vis-à-vis the economic crises generated by the capitalist economy, what political instruments will be employed, how scarce resources will be used for efficient sectors and fields, how the negative consequences of the crisis will be mitigated, how the crisis will be addressed, how the markets will be revived and what economic policy will make greater effective contribution to the total outcome. Each of these issues requires a thorough analysis and research. Given the difficulty of addressing all these issues in one single work, this paper limits its framework of analysis to the efficiency of fiscal policies. To this end, a brief economic analysis of the crisis is first made, followed by an inquiry into the question as to which option out of two, government spending and tax reduction, will be more appropriate for Turkey by making use of the fiscal multiplier calculation. Relying on the findings, the study proceeds with making policy recommendations to ensure that Turkey overcomes the recession/crisis.

Economic Dimension of the Recession/Crisis

The social distancing, travel restrictions, curfews and other similar radical measures, now implemented in many countries after the declaration of pandemic by World Health Organization on 11 March 2020, have caused serious disruption to the operation of global economy. The negative impacts of the measures upon macroeconomic variables including

labor, investments and total supply/demand have had dramatic impacts in a number of fields and areas, ranging from service sector to manufacturing. Reports by international agencies and institutions draw attention to similar problems. Almost all countries are moving fast towards a state of economic crisis. The macroeconomic estimates, presented in Table 1, announced by the International Monetary Fund (IMF), show the pessimistic expectations on the global economy. Outward economies will most likely experience dramatic hits. Different platforms criticize unrealistic assumptions that social life will be normalized in June and that these indicators are based on such false assumptions. Therefore, there is little hope for the near future. For this reason, the estimate that the world economy will grow by 5.7 pct next year is utterly unrealistic.

Country group	Indicator	2018	2019	2020	2021
World economy*	Change in GDP (%)	3.579	2.898	-3.029	5.796
World economy	GDP USD million	135,762.138	142,005.647	138,352.382	149,128.013
World economy	Inflation	3.616	3.559	2.991	3.289
Source: (IMF, 2020) * Total 194 countries					

Despite some medical achievements in the treatment of the patients, uncertainties associated with the exponential growth of new cases place strong pressures upon outward economies. Global/local public administrations seek to resolve the problems through economic support packages. However, problems in the global supply chain, decline in production and consumption and growing unemployment rates raise economic concerns. Some macroeconomic indicators on the developed and developing nations as well as the EU countries presented in table 2 exhibiting estimates on the 2021 economic outlook confirm the seriousness of the situation. Even in the most optimistic scenario, the EU expects economic shrinkage of 7.1 pct, the developing nations also face a decline of 5.2 pct in economic growth.

Coupled with the growth in inflation rates, high volatility in the currency rates and sharp declines in stock exchanges particularly in the developing countries, these macroeconomic fragilities may lead to something worse than what was experienced in the 2008 financial crisis (Fernandes, 2020). It is necessary to implement integrated monetary/fiscal policies that would effectively address these risks. Otherwise, the global economy and national economies will have to deal with serious consequences of the crisis. It is also fair to argue that countries like Turkey experiencing, in addition to existing problems, high inflation rate and currency deficit, will have to pay a greater price.

Table 2. Macroeconomic indicators by country groups (2018-2021)					
Country group	Indicator	2018	2019	2020	2021
Developed economies*	Change in GDP (%)	2.048	1.626	-6.247	4.460
Developed economies	GDP (USD/million)	40,783.317	42,166.597	39,779.876	42,362.729
Developed economies	Inflation	2.088	1.481	0.531	1.580
Developed economies	Net public debt balance	-3.584	-3.802	-11.952	-6.215
Developed economies	Current balance	-0.367	-0.359	-0.939	-0.903
European Union**	Change in GDP (%)	2.316	1.663	-7.110	4.766
European Union	GDP (USD/million)	19,012.911	19,662.828	18,377.114	19,627.016
European Union	Inflation	1.852	1.442	0.616	1.206
European Union	Net Public Debt balance	-0.407	-0.610	-7.213	-3.395
European Union	Current Balance	3.216	2.900	2.716	2.923
Developing economies***	Change in GDP (%)	3.210	2.055	-5.205	4.153
Developing economies	GDP (USD/million)	9,756.553	10,128.953	9,661.886	10,258.661
Developing economies	Inflation	6.139	6.512	5.068	5.047
Developing economies	Net Public Debt Balance	0.170	-0.770	-6.043	-4.053
Developing economies	Current Balance	1.742	1.446	-0.430	-0.513
Source: (IMF, 2020)					
*Seven countries: USA, Germany, United Kingdom, Canada, France, Italy and Japan.					
** EU members, 27 countries: Germany, Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Croatia, The Netherlands, Ireland, Spain, Sweden, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Poland, Portugal, Slovakia, Slovenia, Romania and Greece.					
*** 16 countries including Turkey: Albania, Belarus, Bosnia Herzegovina, Croatia, Montenegro, Kosovo, North Macedonia, Hungary, Moldova, Poland, Romania, Russia, Serbia, Turkey and Ukraine.					

The grave impacts of the measures taken to prevent the pandemic from spreading upon the economy reduce the likelihood of any improvement in the economic indicators in the near future. The IMF estimates that the stagnation in the markets will further lead to negative growth rates in the global economy raise additional concerns. The views suggesting that pandemic will reshape the social and political structure of many countries are being offered very frequently. Time will tell how justified these views are. However, it is hard not to concur with the criticisms that the existing institutional mechanisms of global economy are unable to address the current situation and offer plausible solutions. It is obvious that something more than what has been followed in the previous crises is needed to recover the global economy. However, given that the Orthodox economic theory does not have a radical solution,

there is no option other than analyzing the measures taken in the previous crises and reformulating them based on revisions. The solution that immediately comes to mind in every case of recession and crisis is to rely on expansive monetary policies in order to make the market mechanism work.

Financial Policies Implemented in Times of Recession and Crisis

The negative economic impacts of the pandemic vary in accordance with the medical measures taken to hold the spread under control. The cancellation of commercial activities and fairs, shutting down of restaurants and hotels as well as many small businesses, cancellation of schooling activities for an indefinite period in a number of countries,¹ termination of production and manufacturing activities, cancellation of public gatherings, conventions and sports events and the negative outlook of the main indicators in financial markets lead to the ineffectiveness of the measures (Morris & Karmin, March 13, 2020). For this reason, it is not easy to offer a realistic estimate on the economic consequences of the pandemic under the current circumstances between the pandemic causes some new problems that present challenges for the policy makers due to the rapidly spreading medical outcomes, its negative effects for open economies, the risk that the low interest rates in advanced countries will undermine the effectiveness of monetary policy instruments and the negative impact of the problems in supply chain upon the supply and demand on a global scale (Fernandes, 2020). Coupled with the uncertainties in connection with the possible extension of the measures, it is hard to make the economic measures work towards an effective solution (Klein & Wasserman, March 12, 2020).

The postponement of the calls by public authorities to revive the economies shows the difficulty of predicting how long the restrictive consequences of the pandemic will remain in place. The existing state of uncertainty is the greatest barrier before the decisive implementation of political measures. On the other hand, the successful management of the crisis by South Korea and China has had positive impacts upon the performance of other countries so far. The near future still holds uncertainties. For this reason, how well the theoretical arguments of the modern economic literature will work in the existing situation is controversial because a new solution is needed to revive the supply and demand that will address the potential crisis to be triggered by the pandemic. But there is yet no panacea. For this reason, the rational thing to do is to benefit from the accumulated experiences for the success of the political suggestions. The solution the Keynesian theory offers for recession and crises is based on tax

1 Currently, the US discusses keeping the colleges closed in Fall 2021 semester, particularly in areas mostly affected by the pandemic.

reductions, public consumption and investment and transfer spending that would presumably revive the markets thanks to increase in the government spending via expansive monetary/fiscal policies. The theory is divided into two main subjects: government spending and tax incentives. Some researchers agree that tax reductions are more effective in reviving stagnated economies whereas some others note that increase in government spending generates better results (Alesina & Ardagna, 2009). Despite some differences in implementation, both are in essence expansive fiscal policies. Empirical findings suggest that the expansive fiscal policies offset the macroeconomic indicators and revive the economic growth in the mid run. The growing government spending and reduced tax rates revive the total demand which will then in the short term address the issues associated with scarce demand (Baldacci, Gupta, & Mulas-Granados, 2009).

Keynes who first offered effective use of fiscal policies to address crises added a new political instrument to the economic theory by arguing that economy should be administered through reliance on tax revenues and government spendings to overcome the 1929 depression; his approach inspired the economists that followed him. According to Keynes who objected the classical thinkers' view that the role of the state and the markets automatically set a full employment balance, the state has to interfere with the effective demand shortage in times of recession and crisis because of the liquidity trap, investment-saving incoherence and wage stickiness. In essence, the Keynesian School attaches some economic missions to the public administration for a solution; these innovative views have been partially successful.

Keynes' views were welcomed in a number of countries after it became evident that the expansive fiscal policies implemented in the US to mitigate impacts of the Great Depression contributed to the solution of macroeconomic problems such as unemployment.² However, it should be noted that even though the new economic policy instrument has been successful in some respects, it has also been criticized for failing to address chronic issues. Despite its shortcomings, the partial success of the expansive fiscal policies whose theoretical foundations were laid down by Keynes made them number one choice in different parts of the world in case of a recession or a financial crisis.

In face of the failure of the classical arguments in response to the chronic issues including unemployment, income inequality and inflation in Europe after the Second World War, economic actors developed interest in alternative solutions (Şen & Kaya, 2015). This interest resulted in a functional finance approach that refuses the impartial finance idea and holds the

2 This is referred to as pumping-pricing policy in the literature.

state responsible for attainment of full employment (Lerner, 1941, 1943). This approach, based on the premise of clarifying the boundaries of the economic role of the state, relies on the argument that priority should be given in the drafting of the economic policies to the efficiency in source distribution, efficiency in income distribution and macroeconomic stability. The role and mission of the state has been reformulated in accordance with the norms specified and explained in Musgrave (1959). This policy has been implemented in different phases in Europe until the 1970s when the neo-liberal currents have gained popularity (Şen & Kaya, 2015). Even though the efficiency of fiscal policies remained controversial, these policies still attracted attention in times of recession or economic crisis.

Data compiled from the research focusing on the role and efficiency of the financial policies implemented in the times of recession and crises offers guidance for policymakers. For instance, Delong and Summers (2012) conclude that in times where interest rates remain low and supply is restricted, the fiscal multiplier is more efficient compared to the regular economic periods, that estimates on the real interest rate in the public borrowing have positive impact upon the future outcomes of the expansive financial policies, that while in stagnated economies, restrictive measures hold the potential of harming some balances, the fiscal policies may lead to reverse outcomes and that certain conditions have to be met in order for the expansive financial policies exceed the performance/cost line. The efficiency of the performance/cost analysis, cited in this research, is possible only when one of three major conditions is met. These conditions are as follows: that the balancing role of monetary policy still remains influential even when the multiplier approximates zero, that the future potential outcome will remain fixed without being affected by the size of the regression period or that the interest rates remain above the average. When one of these conditions sets in, it will be easier for the expected results to take place.

Developing Economies and the Domino Regime

What distinguishes the 2008 global financial crisis from the recent economic crises is sector-based problems that cause a domino effect in the crisis. In general, diversity of the problems that trigger the crises associated with deteriorations in some sectors stays an obstacle before exploiting the outcomes of the experiences acquired from the previous recession/crisis theories (Göndör & Özpençe, 2014). For this reason, it is essential in the current situation to identify the policies that will take the real markets to the state of full employment. A review of the course of the global economy shows that the monetary and financial policies should be integrated properly for the sake of harmony and coherence. It is not a reasonable approach to expect success from detached political instruments (Arestis,

2012; Feldstein, 2009). Fiscal policies hold the potential of affecting monetary variables, other monetary indicators, inflation, interest rates, currency rates and other monetary policies (Leeper & Yun, 2006; Semmler & Zhang, 2004).

One of the most frequently encountered issues among these macro indicators is the issues as obligations of those who implement monetary policies, like inflation, caused by fiscal domination. Unexpected deterioration in inflation will inevitably lead to greater economic problems. The causes of the monetary problems experienced in times of economic crises like inflation should be analyzed properly. Arguing that the root cause of the problems is the monetary/fiscal domination regime where the monetary/fiscal policy authorities act independently and prioritize their own policy areas, Sargent and Wallace (1981) note that particularly the fiscal policy authorities should consider the monetary factors properly in budget design process because when the interest rate become higher than the growth rate, it would become difficult to hold the monetary indicators under control. For this reason, the fiscal budgets focusing on the needs of the public sector are seen as one of the main reasons of the demand inflation rate. It is interesting to note that in recent years, the literature suggests that fiscal policies is one of the factors that trigger inflation (Cevik, Diboglu, & Kutan, 2014; Zoli, 2005).

Another factor that creates problems in terms of general price levels is the impact of financial policies upon borrowing dynamics. As confirmed by a number of studies, it is not realistic to expect that policies without taking note of this impact will become successful in dealing with inflation. With reference to developing economies, Blanchard (2004) and Favero and Giavazzi (2004), based on empirical finding on Brazilian economy, note that the borrowing dynamics deviate the inflation targeting. It is also possible to make a similar comment on the coherence of the monetary and fiscal policies for the Turkish economy. Coherent policies improve the efficiency of the policies and contribute to economic stabilization. Çebi (2012), empirically analyzing Turkish economy, corroborates with these findings. The research which modeled the new Keynesian policies of the small-scale economies identifies accommodation between the structural values and the political parameters for many developed economies. However, despite the efficiency of the fiscal policies upon borrowing stabilization, no finding was cited on its effect upon the outcome deficit. Impacts upon inflation concur with the theoretical arguments suggesting that past inflation affects the future expectations. From this perspective, Turkish economy has attained a certain sense of stability in inflation expectations.

On the other hand, the relative independence of the central bank, done via political instruments in connection with measures taken in the aftermath of the 2001 crisis, enabled policy makers to act consistently in inflation targeting. The fiscal discipline ensuring borrowing stabilization played a huge role in this performance (Çekin, 2013). Aktaş, Kaya and Özlale (2010) uphold that fiscal dynamics play a very important role in the efficiency of the monetary policies. Empirical findings show that the improvements in fiscal discipline will be in line with the expectations on the interest rates. The common agreement among similar studies in the literature confirms that the policies implemented in line with the recommendations by international and national agencies referring to the expansion of money supply will not be sufficient alone and that they should be consistent with the fiscal policies as well.

Difference in Developing Economies and Efficiency of Fiscal Policies

Every economy has its own unique dynamics. Without taking these into consideration, it is fairly optimistic to expect success in economic policies. A policy which succeeds due to the difference of the social and economic dynamics between the developing and developed economies may lead to different outcomes somewhere else. For instance, offering an empirical analysis of the economic problems with reference to fiscal policies, Ilzetzki, Mendoza, and Vegh (2013) note that the positive contribution of the government spending to the total outcome in developed economies is greater than it is in the developing economies, that the economies with low currency volatility employs a greater fiscal multiplier, compared to the economies with fixed currency regime and that the fiscal multiplier follows a negative trend in economies with debt/national product ratio is high.

Barrell, Fic and Liadze (2009) suggest that in the developed economies, tax reductions lead to more efficient results and that the revenue loss will be recovered in public sector after the recovery. However, this study also shows that the findings do not apply to the developing economies. Fiscal policies are cyclical in the developing economies, governed by capital currents and lows, and commodity exports; for this reason, the cyclical fluctuations between fiscal spending and government revenues have the potential of deeply affecting the economy (Kandil & Morsy, 2014).

The efficiency of fiscal policies upon the macro indicators is a controversial debate in the literature. Despite all the disagreements and controversies, literature accounts reveal that when automatic stabilizer, public income-spending balance and taxation are taken into consideration, the empirical findings note that the policies implemented in consistency with

the monetary policies positively impact the macro outcomes. It is not realistic to expect that the fiscal policies implemented without considering the efficiency of monetary policies will generate a solution (Arestis, 2012).³

The problems caused by the differences between economic structures are not limited to these. The structural differences between the developed economies and developing economies in terms of economic dynamics is another factor that present challenges for a solution (Jawadi, Mallick, & Sousa, 2016). This conundrum raises interest in pursuit of alternative solutions. According to some empirical works, fiscal policy-based solutions present more effective outcomes in the developing economies whereas developed economies turn eye to the monetary policies and the relevant responsible institutions in times of a recession or crisis. In the developing nations, the government institutions responsible for fiscal policies take action.⁴ From this perspective, the expansive fiscal policies attract greater attention particularly in developing economies owing to their effects on speedy recovery from recession and on reduction of the loss in the total outcome. (Fetai, 2017). These are not the only differences. The fiscal policy instruments are classified by their efficiency as well. Empirical findings presented by Şen and Kaya (2018) show that the government spending is much more effective in the case of Turkey, compared to the tax reductions. There are many different accounts in the literature pointing out the same premise.

Fiscal Multiplier Calculation for the Turkish Economy

Fiscal multiplier which measures the policy efficiency in face of economic shocks contributes to the development of short-term effective policies. When necessary, trade openness, the stiffness of labor market, the impact of the automatic stabilizers, the currency regime, the debt level, the administration of government spending and revenues, labor cycle and the response of the monetary policy to the fiscal shocks as well as other similar variables are included in the multiplier calculations. While it is calculated in reliance on different methods, fiscal multiplier is a simple indicator reflecting the ratio of the change in revenues to the change in the government spending or tax reduction. It is easy to have access to the variables used in the fiscal multiplier calculations in developed nations, the dataset of some developing nations including Turkey is not appropriate for this. Therefore, the IMF does not

3 For details, see, Romer and Romer (2010), IMF (2012) and Baunsgaard, Mineshima, Poplawski-Ribeiro, and Weber (2012).

4 This does not necessarily mean that the markets pay greater attention to either of monetary policies or fiscal policies.

include Turkey in its fiscal multiplier calculations.⁵ In face of these issues restricting the use of advanced techniques in the multiplier calculations, local indicators are used. The fiscal multiplier calculation, mostly done in the kind of US currency, is the measurement of impact of a one-unit change in the government spending or a one-unit change in the tax revenues upon the GDP on a yearly or quarterly basis (Batini, Eyraud, Forni, & Weber, 2014; Batini, Eyraud, & Weber, 2014). In general, the Central Bank's calculation method is used in the fiscal multiplier calculation in Turkey.⁶

Empirical findings in the literature provide insights on the efficiency of fiscal policies such as government spending and tax reductions. The fiscal multiplier calculation makes it easier to identify which policies contributes to the recovery from the crisis and to the total outcome in the mid and long term. In this way, policy makers will have leverage of reviewing the restricted policy instruments in their hands for effective use. When approached the values presented in table in the Annex 1, the different indicators between government spending and tax reductions offer some important insights for policy makers. The most important one is that government spending is a more effective choice, compared to tax reductions, for developing nations like Turkey, particularly in times of crises.

Conclusion

The health measures taken as part of the Covid-19 pandemic have taken to the global and local economies to the brink of collapse. Some economists hold that the world is moving towards one of the greatest economic crises in the history of mankind. Apart from this, all agree that in case of the scenarios discussed in different platforms, the global economy will inevitably face a huge social and economic devastation. The main factor that distinguishes this potential crisis from others is the possibility of experiencing negative impacts of the measures upon social and economic life. At a time when there is uncertainty as to when normal life will be reinstated, it will be optimistic to expect success from economic and political formulations. Despite all the problems, the experiences compiled from previous crises will help decision makers develop innovative policies that will deal with the impacts of the crisis.

5 Almost every country publishes statistical dataset convenient for the standards it identifies. This, however, serves as an obstacle before the international institutions to run a calculation by their standards.

6 The fiscal multiplier of the Central Bank, also used in the table in Annex 1 in this paper, performed in accordance with the local projection method, has been calculated by the following formula by Özdemir (2016), in conjunction with the data on Turkey compiled from the world development indicators of the World Bank webpage, accessed in April 2020:

$$\frac{\sum_{j=0}^H \Delta Y_{t+j}}{\sum_{j=0}^H \Delta G_{t+j}}$$

To this end, the main principles that countries like Turkey should pay attention to in their fiscal policies can be cited as follows. To begin with, it should be noted that the efficiency of fiscal policies depends on its integration with the monetary policies. Disintegrated and unrelated economic policies and decisions lead to many problems. Policies that do not show a sign of integration will not generate success unless the inconsistencies have been removed. For this reason, it is essential that the relevant institutions will act in coordination in the process of drafting and implementing the economic and political decisions. Another thing that previous crises showed is the efficiency of the monetary policies. Empirical findings confirm that in the times of recession and crisis, the developed economies with low interest rates are unable to implement the monetary policy instruments as a full-fledged solution. The interest rates approximating the zero margin without being reconciled with the market realities lead to dysfunction of the monetary policies in practice. This inevitably makes it harder to benefit fully from the financial policies. For the success of the expansive financial policies, the interest rates should be delicately determined in times of crisis and recession.

On the other hand, the common conviction within the literature is that the fiscal policies are more effective. The efficiency of the policies that can be classified into two main categories, government spending and tax incentives, exhibit different aspects in developed economies. In developing economies, the government spending is more influential in alleviating the impacts of the crisis whereas in developed economies, tax reductions work better. For this reason, it is better for Turkey to focus on government spending with careful consideration of the priorities. Both the households and the real sector should be supported so that they overcome the crisis. A review of the course of the fiscal multiplier since 1960s shows that placing emphasis upon government spending will work better for Turkish economy. Channeling the resources to government spending rather than tax reductions contribute to the recovery process and also to the growth rate in the long term. However, under the current circumstances, the best option is to combine both methods. The government spending should be given weight; but the tax burden of the manufacturers and producers should be alleviated by postponing the tax payments. A number of enterprises are unable to manufacture good and services because of external factors that deeply impact upon social life. For this reason, the producers should be extended support on tax-related issues.

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Appendix 1. Fiscal Multiplier Table for Turkey (1961-2018)

Year	GDP (US/ million)	Government Consumption Spending (US\$/ million)	Gpvernment Spending Multiplier	Tax Income Multiplier
1961	7989	744,4	1,076524699	-0,076524699
1962	8922	877,8	1,166666667	-0,166666667
1963	10356	977,8	1,075000000	-0,075000000
1964	11178	1100,0	1,174603175	-0,174603175
1965	11967	1233,3	1,203389831	-0,203389831
1966	14100	1400,0	1,084745763	-0,084745763
1967	15644	1588,9	1,139344262	-0,139344262
1968	17500	1744,4	1,091503268	-0,091503268
1969	19467	1911,1	1,092592593	-0,092592593
1970	17087	1808,7	1,044972423	-0,044972423
1971	16257	1863,6	0,937929858	0,062070142
1972	20431	2197,9	1,087034732	-0,087034732
1973	25724	2890,5	1,150537634	-0,150537634
1974	35600	3748,1	1,095106184	-0,095106184
1975	44634	4916,2	1,148505868	-0,148505868
1976	51280	5855,6	1,164601374	-0,164601374
1977	58677	7177,0	1,217499804	-0,217499804
1978	65147	7898,9	1,125579826	-0,125579826
1979	89394	10502,9	1,120320303	-0,120320303
1980	68789	7947,3	1,141590932	-0,141590932
1981	71040	6990,7	0,701739157	0,298260843
1982	64546	6418,2	1,096686251	-0,096686251
1983	61678	5790,5	1,280209537	-0,280209537
1984	59990	5000,5	1,879193471	-0,879193471
1985	67235	5053,0	1,007298207	-0,007298207
1986	75728	5746,2	1,088874389	-0,088874389
1987	87173	6819,4	1,103472095	-0,103472095
1988	90853	6916,3	1,027038594	-0,027038594
1989	107143	10010,8	1,234501594	-0,234501594
1990	150676	16515,7	1,175673768	-0,175673768
1991	150028	18632,3	0,234512116	0,765487884
1992	158459	20480,9	1,280814732	-0,280814732
1993	180170	23230,8	1,145036103	-0,145036103
1994	130690	15235,0	1,192745622	-0,192745622

1995	169486	18280,4	1,085184693	-0,085184693
1996	181476	20998,1	1,293111673	-0,293111673
1997	189835	23272,6	1,373801514	-0,373801514
1998	275769	29289,0	1,075283358	-0,075283358
1999	255884	32480,4	0,861702176	0,138297824
2000	272979	32720,7	1,014257221	-0,014257221
2001	200252	25513,3	1,110002434	-0,110002434
2002	238428	30838,1	1,162087828	-0,162087828
2003	311823	39608,5	1,135713337	-0,135713337
2004	404787	50353,9	1,130693470	-0,130693470
2005	501416	61698,6	1,133021251	-0,133021251
2006	552487	71902,4	1,249683999	-0,249683999
2007	675770	91229,0	1,185909886	-0,185909886
2008	764336	104754,3	1,180241057	-0,180241057
2009	644640	101662,2	1,026518051	-0,026518051
2010	771902	115574,2	1,122735310	-0,122735310
2011	832524	114074,7	0,975861783	0,024138217
2012	873982	124388,5	1,331155147	-0,331155147
2013	950579	134265,7	1,148040202	-0,148040202
2014	934186	131641,0	1,190630154	-0,190630154
2015	859797	119320,4	1,198499479	-0,198499479
2016	863722	128133,7	-0,802853237	1,802853237
2017	852677	123525,9	1,715838507	-0,715838507
2018	771350	114397,6	1,126432996	-0,126432996