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ANALYSIS OF CURRENT ACCOUNT DEFICIT-GDP GROWTH-INTEREST RATES INTERACTION WITH ARDL TEST IN TURKIYE

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ABSTRACT

In this article, the relationship between the current account deficit, GDP and interest rates was tried to be determined between 2000-2022 in Turkiye. The study was carried out in two dimensions. In the first dimension, the possible effects of changes in GDP and interest rates on the current account deficit were depicted and examined on a macroeconomic level with the help of data between 2000-2022. Following this analysis, an ARDL test was conducted on the relationship between GDP, consumer loan interest rates and current account deficit. It has seen from the result of research that, in the case of Turkiye as a developing economy in the period examined, GDP growth had a negative effect on increasing the current account deficit. On the other side, it has been detected from the result of research that a positive relationship between interest rates and current account deficit.

Keywords: Current Account Deficit, Economic Growth, Interest, GDP, ARDL, Balance of Payments
JEL Clasifications: F40, F41, F43, E2, E6

1.INTRODUCTION

Turkiye, which entered the process of opening up to the outside world in the 1980s tended to integrate into the global economy in the 1990s. As a result of the process that started with the transition to convertibility after the amendment of the Law on the Protection of Turkish Currency, the country's economy has gradually become a part of the global economy. Although the economic plane and economic policies have changed in the process of change, the problem that the country's economy has constantly faced from past to future has been the persistence of the current account deficit in the balance of payments and the problem of the sustainability of this deficit. In the cause of the cronical position of the current account deficit, efforts were made to provide external financing to the country through economic policies by governments. With this activies goverments targeted to prevent the current account deficit from disrupting economic growth.

In the long-term industrialization process of the country, the increasing population's pressure and the weakness of the industrialization rate, and the inability to provide backward connections in terms of vertical integration in industrialization, dependence on imports in the supply of energy (oil), the weakness of the country's export opportunities, lead to dependence on imports. This import obligation has created problem of the current account deficit. This problem is not a temporary problem, but a chronic problem. To this negativity, it is necessary to add the inability to produce technological products and the thus, necessity to import technology related products. At this point, it can be said that while the

current account deficit is an obstacle to economic growth in the country's economic development process. This is such a cycle that increasing of the GDP also causes (permanently) increase of import and the current account deficit to become a chronic one, as it increases imports.

2.CURRENT ACCOUNT DEFICIT-GDP GROWTH RELATIONSHIP

In the economic literature, many economists, from A. Smith to Heckscher-Ohlin, from H.Mynt to H.B.Chenery and Anne Krueger, have studied on the foreign trade and economic growth and argued that foreign trade supports economic growth. Taking this point of view one step further, it can be said that an increase in the size of a country's current account transactions may have positive effects on economic growth, under the influence of the interaction that will arise.

Of course, in the export-import relationship, it is important that the compense ratio of export to import can ensure sustainable of the foreign trade. And on a large scale, the other face of the ensuring of sustainable of the foreign trade is the current account balance deficit is sustainable. This is important because in cases where the current account deficit is unsustainable, the obligation of countries to finance this deficit increases by operating the financial and capital account of the balance of payments, offering attractive conditions for short-term capital movements and/or increasing foreign borrowing.

This situation may bring about trend differences/changes in the balance of payments and balance of payments items (especially finance and capital account sub-items) under the influence of foreign trade. These changes may lead to significant changes on the macroeconomic level and may cause the macroeconomic balance to move to a different point over time. This situation is not surprise. Because the balance of payments essentially consists of two main active accounts, the current account and the finance and capital account, and the finance and capital account plays an active role in maintaining the imbalance of the current account.

In the finance and capital account, which consists of direct investments and portfolio investments and also other investments and reserve assets accounts as sub-items, especially portfolio investments (short-term capital movements) emerge as items that can create a change effect on the macroeconomic level. In an environment where economic policies also affect these capital movements, differences may occur in the macroeconomic balances of countries (from consumption to production to financial markets and prices).

Here, in the context of finance and capital account, while talking about financial capital movements, we must say that the phenomenon of financial liberalization, which started in the world economy in the 1980s, played an important role in the differentiation of the macroeconomic balances. In the financial liberalization process, financial markets and credit possibilities have developed. At the effect of new financial possibilities, sustainability possibilities of the current account deficits of the countries has increased in this process (in the global economic conditions). In here, it can also say that the ease of finding funds that comes with financial liberalization encourages, especially developing economies to live in foreign trade imbalance/increase current account deficits (instead of resolving the existing imbalance with effective economic policies).

In general, it is argued in the economic literature that economic growth can be sustained if the ratio of current account deficit to GDP can be kept at 3.5-5%. In particular, the generally accepted risk/problem limit is the 5% current account deficit/GDP ratio. This rate may be 3.5-4% for some countries, depending on the economic structure's bad economic conditions of the countries[1]. This ratio, which is effective in the sustainability of growth, has begun to be rapidly exceeded over time for developing economies in an environment where financial liberalization (Hepaktan and Çınar, 45-46).

[1]E. Uygur states that the 5% limit figure may not be valid for every country, in some cases this ratio is not significant (it should go down to an even lower value (3.5-4%)) (Uygur, 2012:29/1).

When the globalization process is examined at this point, it can be seen that, especially 1990s, (for most developing countries) have become years in which it is debatable current account deficits at the point of creating acute crises (Altunöz, 2014:116). Here it is necessary to examine the reasons for the current account deficit. At this point, it is necessary to focus at foreign trade. Because it should be noted in here that the basic item (goods) in the current account balance, which is one of the most basic items of the balance of payments, is the foreign trade balance. Of course, in addition to the foreign trade account, the current transactions account also includes the services account, investment income account and current transfers account.

As a sub-balance item of the balance of payments in an economy, if foreign exchange revenues exceed foreign exchange expenditures in the current account balance, a "current account surplus" occurs, and if expenses exceed revenues, a "current account deficit" occurs. In a sense, it can be said that the current account balance reveals the position of an economy in earning and spending foreign currency. Therefore, the current account surplus situation reveals the "foreign exchange surplus" situation of an economy, and the current account deficit reveals the "foreign exchange necessery" situation. At this point, it should be noted that, "in the sense of being the main influencer", behind the current account surpluses and current account deficits in an economy lies the foreign trade balance, that is, export and import items.

When we emphasize the importance of the foreign trade balance here, we also say that the reason for the current account deficits, which are seen as the main source of problems in economies, is "the inability of exports to meet imports". Import volume may be big scale or small scale. But in here important thema, ensure/finance of sustainability of import in existing compense ratio of export to import. When we look in this side, export capability of a country are first catalyst. Because this determination is largely important in understanding the current account deficit phenomenon. At this point, it can be said that in the foreign trade imbalance, which is of great importance in affecting the current account deficit, exports are one of the two factors that create the foreign trade deficit (the other is imports). And in the weakness of exports, production problems (supply inelasticity, technical weakness, factorial problems, underdevelopment of production sectors, etc.) and marketing (market and/competition/distribution/presentation negativities) inadequacies are important factors. Due to these negativities, countries, especially developing economies (not only developing economies but also some of the developed countries face foreign trade deficits), may find themselves in a problematic situation in meeting their imports with their exports. This problematic situation may be valid for the short term, but it may also be valid for the long term (chronically).

For example, industrial production (industrial sector) in a country may have an import-dependent structure because it cannot realize backward connections in intermediate and investment goods. In this case, of course, industrial production increase/growth will necessarily mean import increase. In this case, if the country does not have the foreign currency to easily provide (in the sense of high dependence on imports), this may negatively affect production/GDP. This situation may negatively affect both domestic consumption and exports in economic cycle.

Although the first element in making the foreign trade deficit and therefore the current deficit sustainable (without using the financial capital account) is the export item (exports compense to imports), imports are also a decisive factor in some cases. Especially, in terms of importance, import may put it instead ahead of exports in conditions most of the imports are unavoidable (production related imports) and chronic for countries. This point is important. Because if import is unavoidable, this condition may determine the foreign trade imbalance and inhere current-account deficit. Here, we want to say that in cases where imports have a higher increasing trend than exports, foreign trade deficit and therefore current account deficit will be inevitable.

Different answers can be given to the question under what conditions this situation may occur. Example, high GDP growth may occur under the influence of demand-increasing economic policies followed in the country. In such a case, this high growth rate will create a need for more imports in the industrial sector with high import dependency. This means that economic growth fuels the increase in imports[2]. In this case, the increase in foreign trade deficit due to economic growth may increase the current account deficit. This situation is frequently experienced in many countries where import dependency in the industrial sector is high. GDP growth in these countries supports cronically the increase in imports with the effect of production related imports.

The high level of imports does not arise only due to the input needs of the industrial sector (production related with import). Especially in today's world of technology-intensive products, the current level of industrialization in countries has not developed enough to meet the technology-included products consumption demands in the relevant countries. This situation, especially caused by the technological gap (Lets remember in here, M.V.Postner's technological gap theory and R. Vernon's Product Cycles Theory, for 1960s) , can make imports mandatory for many countries today. Because in today's technology-intensive production world, the industrial structures of the relevant countries may be inadequate in R&D and technological development. In this case, when there is demand for these products within the country, the necessity of importing arises. In addition, if there is no or weak energy production, increasing GDP growth will lead to an increase in energy demand and therefore an increase in imports, thus increasing the current account deficit. It is necessary to add to this the effect of the relative increase in energy prices,too.

At this point, it can be said that in cases where GDP growth isnt be greater than the current account deficit growth or if the current account deficit growth is greater than the GDP growth, GDP growth will negatively affect the current account deficit. As GDP grows, in the context of increased incomes, an increase in demand will come to the fore, which (considering the facts mentioned above) will put pressure on imports. However, it can be said here that if the GNP growth is greater than the growth of the current account deficit, the current account deficit/GDP ratio will decrease. And if the GNP growth is less than the growth of the current account deficit, the current account deficit/GDP ratio will increase. P. R. Krugman and M. Obstfelt revealed this situation directly in the relationship between disposable income change and import change (Krueger and Obstfelt, 2003:434-436).

The industrial sector is highly dependent on imports to carry out production in Turkiye. This has caused the country to live with a long-term and chronic current account deficit problem. In this condition, when GDP growth accelerated, high growth rates negatively affected the current account deficit. The negative interaction between GDP and Current-account deficit are caused from the "forced import situation" of determined by production-related imports at the weakness of industrialization and from the increase in energy imports, from increase in technological products's imports due to the weakness of technological development[3]. At the same time, another structural reason is the chronic high level of consumption relative to savings in the savings-consumption relationship. High consumption tendency results in low savings. Both before and in the 2000s, the high consumption in Turkiye has meant that domestic savings were not sufficient for investments. From the early 2000s to 2011, domestic demand has been extremely vibrant, also under the influence of the economic policies followed in

[2]Some economists put forward the view that high economic growth after the 2001 crisis in Turkiye is the reason for the current account deficit (Hepaktan and Çınar,46).

[3] In here, we must say that rapid population growth before 2000s had become one of causes of current-account deficit causes in Turkiye in long period, too. Because,the rapidly increase of population effected cronically increase of imports at the conditions of weakness of industry (the inability of the existing industry to meet consumption demands).

Turkiye. So much so that domestic savings rates dropped from 23% in 1992 to 12.8% in 2011. Despite this decrease in domestic savings, the ratio of investments to GDP in Turkiye was 23.1% in 2011 (Altunöz, 2014:120). This situation clearly suggests that, on the one hand, the increasing consumption demand (due to insufficient production of the industrial sector) directed towards imports (chronically import increasing trend). And on the other hand, the decreasing savings/GDP ratio under the influence of increasing consumption brought about a tendency towards foreign savings (foreign capital movements) in the financing of investments.

3. EFFECTS OF INTEREST RATES ON MACROECONOMIC EQUILIBRIUM AND BALANCE OF PAYMENTS

In macroeconomic analysis, interest rates have the power to affect macroeconomic balance, both by affecting the credit volume and by affecting other variables in the economy. This influence occurs especially by influencing the decisions of consumers, producers and investors. This influence occurs especially by affecting the prices of goods and services in the economy and markets and the predictions of possible resource distribution in the future. Therefore, when interest rates change in an economy, consumption, production and investment decisions are reconsidered/replanned by consumers and producers/entrepreneurs. This is a dimension and indicator of the impact of interest rates on the economic level. In fact, this effect can be understood much more easily when we go to the definition of interest. According to classical economists, interest is the reward for giving up consumption. According to J.M. Keynes, interest is the price of giving up liquidity. In both cases, it is clear that interest has to affect/change the balances in the economy.

The effectiveness of interest rates in economic life does not only occur in domestic economic functioning. For example, through credit expansion under the influence of interest rate decline, It affects both the macroeconomic plane and the balance of payments in terms of financing the purchase of imported products (and thus, affecting the import demand/amount), and affecting capital movements. Reducing interest rates as a cost of using credit in an economy encourages individuals and institutions to spend and to spend more on domestic products and/or (as well as) imported products (vice versa).

At this point, it can be said that -assuming other conditions as constante (ceteris paribus)- a decrease in interest rates will increase consumption and investment expenditures. In this case, a decrease in interest rates may increase the demand for imported products by increasing the credit demand and therefore the loan volume, in an environment where the exchange rate and domestic substitute product prices remain the same. This may negatively affect the foreign trade balance, and therefore the current account balance/current account deficit (if export isn't increase like import). However, it should also be noted here that a decrease in interest rates may also increase real investment expenditures for production. In such a case, the real investment increase that may occur with the decrease in interest rates has the potential to increase production in the country after a period (t+1). However, under all circumstances, there will be a temporal incompatibility problem between the increase in spending and the increase in production. And at this point, the increase in credit utilization that may come with the decrease in interest rates may have a negative impact on foreign trade and therefore on the current account deficit in the current period.

Rising interest rates means rising credit costs. Rising credit costs will deter individuals and institutions from spending more and will negatively affect credit demand/volume, when the need for credit utilization is flexible. If other factors are taken as constant (Ceteris paribus), it can be said that an increase in interest rates will reduce consumption demand and investment demand/expenditures. In this case, the increase in interest rates may be effective in restraining/reducing the demand not only for domestic products but also for imported products in an environment where the exchange rate does not decrease or remains constant, that is, other conditions being constante. This cycle reveals the connection/interaction between interest rates and the current account deficit. In this surround, we can

say that rising loan interest rates may positively affect the reduction of the current account deficit (vice versa). This interaction (and cycle) in the context of the effect of an increase in interest rates deterring import demand by narrowing the credit volume, and a decrease in interest rates encouraging the demand for imported products by supporting an increase in credit volume. It should be noted here that, ofcourse, not only the interest rate but also the real exchange rates, inflation, conjuncture fluctuations in the world economy and the country's economy, speculative capital movements, changes in net foreign assets, fiscal and monetary, exchange rate policies. It must be admitted that all of them are important in terms of affecting the credit volume and therefore the import demand. Because, these factors with interaction may effect to current-account deficit. However, in the article, our variables (our constraint) are GDP and interest rate against the current account deficit.

4. MACROECONOMIC DEVELOPMENTS IN TURKIYE: 2000-2022 PERIOD

Turkiye opened its economy to the outside world after the January 24.1980. With the decision no. 32 on 11 August 1989, convertibility was introduced and capital movements were liberalized. This process has gradually brought the country's economy into the global system. Opening up to the outside world and subsequently participating in the global economy has meant an increase in the share of the outside world in the country's economy at the macroeconomic level. Especially, after the liberalization in Turkiye, has increased foreign trade and capital movements.

In globalisation process, while external trade and capital movements increase, chronical problems not rehabilitated and continued. Especially in the presence of structural problems of the industry, imports's growth rate increased more than export growth rate and compense ratio of export to import was created problems for some years at the point of sustainability of imports and macro economic equilibrium. The clear expression of this is that the current account deficit had increased to high levels in this period. Therefore, the problem of obtaining foreign currency has increased gradually over time[4]. So much so that, while the current account deficit/GDP ratio was approximately 3.5% in 1993, it increased to approximately 5% in 2000 and paved the way for the crisis (Altunöz, 2014:117[5]) . While this rate was 1.9% in 2001, it was -10.5% in 2011. (This rate is -5% in 2014 and +5.3% in 2022).

The 1990s and the 2000s, governments were implemented demand-oriented expansionist economic policies in most years in Turkiye. Particularly by taking advantage of the abundant liquidity opportunities in the world economy, hot money was drawn into the country by giving high real interest rates through hot money policies, and at the same time, privatization revenues were used to finance the current account deficits. It can be said here that the most important reasons for the high current account deficit in Turkiye's economy in the 1990s and early 2000s were: high GDP growth rates, domestic savings deficit and overvaluation of the national currency (Hepaktan and Çınar,46).

An excess (current account surplus) or positive development in the current account balance in an economy meants the country's foreign exchange earning activities to increase, while a current account deficit meants a relative decrease in foreign exchange earning activities. If there is increase in current-

[4]When economic growth increase current account deficit has increased in Turkiye. GDP growth has effected negatively to Current-account balance. Because, increasing in GDP has increased imports of investment goods, technology, raw materials and intermediate products. In many other developing countries such as Turkiye, there is a vicious circle created by low national income level and high population growth rate. This cycle brings low per capita income; Low per capita income causes the savings rate to be low and, accordingly, investments to remain insufficient (Hepaktan and Çınar, 46-47).

[5] In the Turkish economy, after 2001, a new stabilization program was put forward as a solution to the crisis and positive reflections emerged on the economy with the measures implemented. After the After crisis, the "Transition to a Strong Economy Program" was put into practice and with this program, important changes in the economy came to the fore. In this program, which was created to eliminate macroeconomic instability, policies aimed at maintaining growth and ensuring public sector balance were put forward and were successful in these goals to some extent (Yalman, Koşaroğlu and Işık, 2023:59-60).

account deficit, therefore the capital movements to increase as portfolio or debt to the country for financing to current-account deficit.

In Turkiye, after 2001, in the period until the end of 2010, a high interest-low exchange rate policy was implemented and TL became valuable against foreign currency (Karagöl, 2013:12-13). This situation caused the export-import imbalance, and therefore the foreign trade deficit and current account deficit, to increase rapidly. It can be said that the policy of keeping the TL valuable is beneficial in reducing inflation and reducing the country's total debt burden. However, the relative value of TL reduced the international competitiveness of the country's production, made imports relatively cheaper, while negatively affecting exports and playing a role in increasing the current account deficit (Karagöl, 2013:12-13).

For this reason, the current account deficit occured at high levels in this period. However, it should be noted here that the current account deficit is a long-term structural problem for the country's economy, not only in the 2000s but also before. Clearly, in an economy where structural problems have long-term persistence, there will be difficulties and problems in economic growth. We can say that these structural problems will cause to lower production and less exports and more imports in economic cycle.

The most fundamental structural problem of the Turkish economy has been structure of industry in high level import exigence. The imports are mainly in the form of intermediate and capital goods. This situation show to be the weak backward linkages structure of the industrial sector. This structure produces chronically import need. Such a industry explains the effect of GDP growth on increasing the current account deficit (the negative interaction between growth and the current account deficit). When examined data of GDP and current-deficit, it can be seen that in periods when Turkiye's GDP exhibited high growth rates, the current account deficit was negatively affected by this high growth. In the opposite case, that is, when GDP growth slows down or in periods of economic stagnation (especially after crises), it is seen that the current account deficit decreases. Not only the industry's dependence on imports, but also the "hot money policy" followed in this period was effective in the current account deficit reaching high levels in the 2000-2010 period. In a way, this period meant a period of growth based on external resources (borrowing or short-term capital movements).

Table 1: Turkiye's GDP Growth and Development of Key Macroeconomic Data (2000-2022, %)

Years	GDP (Billion $)	GDP Groth %	Per Capita GDP ($)	GDP Yearly Changing (2009 base)	Household Consumption Changing (2009 Base,%)	Government Consumption Change 2009 Base,%)
2000	274.29	6.93	4.260	7,0	4,4	5,1
2001	201.75	-5.75	3.530	-5,9	-6,7	4,9
2002	240.25	6.45	3.540	6,4	3,8	0,1
2003	314.60	5.76	3.900	6,0	8,4	5,7
2004	408.87	9.80	5.210	9,5	9,3	0,5
2005	506.31	8.99	6.750	9,1	6,3	6,5
2006	557.08	6.95	7.790	7,0	3,9	3,7
2007	681.32	5.04	8.840	5,1	5,2	10,3
2008	770.45	0.82	9.730	0,7	0,4	7,1
2009	649.29	-4.82	9.520	-4,8	-3,9	3,1
2010	776.97	8.43	10.370	8,6	11,2	8,3
2011	838.79	11.20	11.200	11,0	11,8	1,7
2012	880.56	4.79	11.860	4,8	3,1	1,1
2013	957.80	8.49	12.500	8,7	7,9	6,7
2014	938.93	4.94	12.480	4,9	3,0	8,1
2015	864.31	6.08	11.860	6,0	5,1	3,2
2016	869.68	3.32	11.090	3,3	3,8	3,8
2017	858.99	7.5	10.850	7,5	5,8	9,2
2018	778.48	2.98	10.470	3,1	0,8	5,4
2019	759.93	0.78	9.690	0,9	1,6	5,7
2020	720.29	1.94	9.080	1,7	2,8	3,8
2021	819.03	11.35	9.920	11,8	16,0	2,2
2022	905.99	5.57	10.590	5,3	18,6	3,2

Data Source: https://www.macrotrends.net; https://tradingeconomics.com; https://wits.worldbank.org; https://data.tuik.gov.tr/Bulten/Index?p=D%C3%B6nemsel-Gayrisafi-Yurt-%C4%B0%C3%A7i-Has%C4%B1la-III.-%C3%87ceyrek:-Temmuz---Eyl%C3%BCl,-2023-49663&dil=1

After the 2001 crisis, stabilization programs were implemented and as a result of these programs and the influence of the increased independence of the Central Bank of the Republic of Turkiye, inflation was brought under control. However, despite these positive developments, the current account balance was negatively developed in this period (Altunöz,2014:116/119). So much so that, while the current account deficit/GDP ratio had a positive value of 1.9% in 2001, when there was an economic contraction, it had a deficit again in 2002, and this deficit continued thereafter, rising to 10.5% in 2011.

Apart from the structural problems of the industry, exchange rate policy and other economic policies, and the conjuncture effects of the world economy, it is also necessary to emphasize here that Turkiye's chronic energy problem and its impact on imports. These are important. Because these factors caused the current account deficit to reach high levels in this period. Because Turkiye imports energy, which is the basic input required for production, especially in the 2000-2010 period examined, both increased imports in the process of production and increased the production costs of the industrial sector that uses oil as an input. From this negative conditions, it affected not only production for domestic consumption but also production for export. Of course, this developments had a negative impact on the current account deficit between 2000 and 2010. In here, we must say that approximately 44 percent of Turkiye's total energy use came from oil, and 90 percent of this is met through imports. For example, the ratio of energy imports to total imports was 21% as of 2010 (Karagöl, 2013:13-14).

Table 2: Turkiye's GDP Growth and Foreign Trade Balance, 2000-2022

Years	Current-Account Deficit (Million $)	Current-Account Deficit/(CA) GDP	External Trade Deficit (Billion$)	External Trade Deficit/GDP	FDI/GDP	FDI (Billion $,Net Position)	Portfolio Investment, (Net Position) (Billion $)	Stock Exchance-Shares (net)	i (%,Need Credite)	Currency 1 USD=TL
2000	-9.920	-3.7	-7.11	-2.59	0.36	56.0	0	0	43.40	0.63
2001	3.760	1.9	9.06	4.49	1.66	56.0	546	49	59.00	1.23
2002	-6.260	-.0.3	5.35	2.23	0.45	66.7	804	40	58.30	1.52
2003	-7.554	-2.5	-0.67	-0.21	0.54	79.5	1.948	53	45.92	1.50
2004	-14.198	-3.7	-6.45	-1.58	0.68	93.7	920	108	31.60	1.43
2005	-20.980	-4.6	-12.10	-2.39	1.98	115.8	718	89	24.61	1.35
2006	-31.161	-6.1	-22.13	-3.97	3.62	153.4	3.111	150	23.85	1.44
2007	-36.946	-5.9	-27.74	-4.07	3.24	183.2	2.007	77	22.88	1.31
2008	-39.425	-5.8	-26.32	-3.42	2.58	198.2	1.938	58	21.67	1.30
2009	-11.360	-2.3	-0.30	-0.05	1.32	195.5	1.907	219	19.02	1.56
2010	-44.620	-6.5	-33.40	-4.31	1.17	200.0	2.230	372	13.52	1.51
2011	-74.402	-10.5	-61.37	-7.32	1.93	195.4	1.750	279	15.21	1.68
2012	-47.278	-6.1	-36.18	-4.11	1.56	231.0	1.320	324	17.62	1.80
2013	-55.092	-6.8	-47.33	-4.94	1.42	244.6	1.003	362	13.33	1.91
2014	-38.020	-5.0	-31.50	-3.36	1.42	250.2	1.505	493	15.63	2.20
2015	-26.625	-3.8	-17.51	-2.03	2.23	229.0	1.574	598	15.96	2.73
2016	-26.668	-3.8	-18.80	-2.16	1.59	235.7	1.284	497	17.29	3.03
2017	-39.955	-5.5	-31.63	-3.68	1.30	249.5	1.153	448	17.64	3.66
2018	-20.151	-3.5	-1.94	-0.25	1.60	247.6	1.142	380	26.84	4.83
2019	10.796	1.4	17.98	2.37	1.26	270.1	1.594	521	23.84	5.69
2020	-31.888	-4.5	-25.14	-3.49	1.07	254.9	1.893	1.55	15.78	7.03
2021	-72.320	-0.9	-1.87	-0.23	1.63	287.9	2.313	1.469	23.50	8.91
2022	-48.751	5.3	-42.67	-4.71	1.45	308.4	2.758	1.176	30.93	16.62

Data Source: https://www.macrotrends.net; https://tradingeconomics.com; https://wits.worldbank.org/Country Profile/en/ Country/TUR; https://evds2.tcmb.gov.tr; https://tr.tradingeconomics.com/turkey/current-account-to-gdp,www.tuik.gov.tr.

Between 2011 and 2022 -if the years 2019, 2021 and 2022 are excluded- it is necessary to talk about an economy that lives with relatively little more higher current account deficits compared to the 2000-2010 period. As can be seen from the chart above, while the current account deficit GDP ratio was -6.1% in 2012, it was -3.8% in 2015-2016 and -3.5% in 2018. The average current account deficit in the 2000-2010 period is 3.59%. In the 2011-2022 period, this rate (included 2019 and 2022) is 3.64%.

In 2000-2022 period, high GDP growth rates have resulted in a high current account deficit under the influence of the exchange rate and economic policies and in the effects of other factors (import based industry and etc). In a sense, while economic growth was high in this sub-period, high current account deficit/GDP ratios emerged as a price. This situation shows that the Turkish economy has a fragile structure in the face of possible crises, under the influence of the foreign trade structure.

The reason for this fragility is that economic policy targets are based on economic growth and, on the other hand, the structural features that will ensure the continuity of stability are weak. At this

point, it can be said that when growth-targeted policies were taken to the center, the costs of growth were neglected in the short, medium and long term, and as a result, important indicator problems such as inflation, current account deficit and also unemployment were negatively affected (Yalman, Koşaroğlu and Işık, 2023:81). The period of 2020 and beyond (especially the years 2020-2021 refers to a special period. This time period is the period of the Covid19 pandemic. Due to the Covid19 pandemic, not only Turkiye but also the entire world economy was badly affected. In this process, governments tried to reduce the effects of the economic crisis caused by the Covid19 virus pandemic all over the world.

In this context, activities carried out and significant financial support packages had been announced. So much so that, due to the increase in economic uncertainties under the influence of the Covid19 pandemic, countries reshaped their monetary and fiscal policies to support their economies. In this period, it aimed to sustain social and economic life rather than maintaining economic balances. This meant that micro deviations in macroeconomic balances are relatively acceptable by economic managements (and societies) in this period. In Turkiye, social and economic measures taken in order to reduce the negative effects of the pandemi, too. For example, in this context, the Turkish Central Bank was taken measures to limit the negative effects of the Covid19 epidemic and to reduce production and employment in the economy. In order to reduce the negative effects of consumption, the "Economic Stability Shield" package was announced (Danacı,2022:101). Although the current account deficit/GDP ratio in Turkiye was as high as -4.5% in 2020 under the influence of the negative developments, this ratio decreased in the following years and became -0.9% in 2021 and 5.3% in 2022.

5. ECONOMETRIC ANALYSIS OF THE INTERACTION BETWEEN CURRENT ACCOUNT DEFICIT, INTEREST RATES AND GDP IN TURKIYE

5.1.Survey Of Studies On Current Account Deficit, GDP, Interest Rates

Since the current account deficit is an important problem in economies, it has been an area of intense interest to economists. At this point, it is a subject of examination in econometric analyses. When we look at the literature at this point, we see that there are many studies. For example, in a study conducted by S.K.Depren (2021), an econometric model was established by taking into account quarterly data for the period between January 2006 and June 2018 to determine the factors affecting the current account deficit in Turkiye. In the study, Multivariate Adaptive Regression Splines (MARS) method was applied with 11 macroeconomic indicators. As a result of the study, it was determined that economic growth, exchange rate, interest rates (need and vehicle loans) and inflation affected the current deficit in Turkiye (Depren,2021:426/438-439).

In the econometric study conducted by Altunöz (2014) covering the periods 1994:04-2013:04, Johansen cointegration test was used using VAR analysis for the econometric test of the sustainability of the current account deficit in Turkiye. In Altunöz's study, it is found a cointegration relationship between the series in all periods. Another conclusion reached in this study is that although there are deviations in the short term, these deviations disappear in the long term. According to Altunöz's econometric model, Turkiye's current account deficit problem is poorly sustainable (Altunöz,2014:130).

In the a study conducted by Bayraktutan and Demirtaş (2011), the determinants of the current account deficit were tested using the panel data analysis method, using data from 19 developing countries for the period 1980-2006. In these countries studied, it was determined that the increase in GDP growth rate, investments and public expenditures increased the current account deficit, while the improvement in the terms of foreign trade, the openness rate, the world growth rate and the increases in world interest rates had a decreasing effect on the current account deficit (Bayraktutan and Demirtaş, 2011:24). -25).

A research was conducted by Hepaktan and Çınar using unit root tests, cointegration tests and long-term coefficients with GDP and current account balance panel data for OECD countries in the

period 1975-2008. As a result of the this econometric study, a cointegration relationship between GDP growth and current account balance and statistically significant long-term coefficients ranging (negative) between -0.2 and -0.4 were reached (Hepaktan and Çınar, 43/56).

In the study conducted by Cesur and İrez (2019), the relationship between GDP growth and current account deficit was examined with the VAR model and impact-response analyzes for the years 1990-2017. In this study, the relationship between the current account deficit and economic growth was determined with annual data between 1990 and 2017. Since the variables are time series, their stationarity was investigated. Whether the variables were stationary or not was determined by the Extended Dickey Fuller test. According to the research results, a one-unit shock in exports and imports does not affect growth, on the other side, while a one-unit shock in growth caused an increase in imports, it had a negative effect in the second period and remained stable in the third period. In the Granger Causality test, it was determined that there was a bidirectional causality relationship between growth and current account deficit. The research result showed that as economic growth increases, the current account deficit grows (Cesur and İrez,2019: 100-101).

The relationship between economic growth and current account deficit was analyzed by Altıntaş, İnal and Torusdağ for Turkiye, for the period 1995-2014. Two variables were used in the model: Gross domestic product and Current account deficit data. Time series data regarding the variables were tested with the ADF unit root test and it was observed that the variables were stationary at their first difference values. In order to determine the causality relationship between the variables, the Toda-Yamamoto causality test was applied and while a causality from the current account deficit to GDP growth, that is, to the gross domestic product per capita, could not be achieved, it was determined that there was a one-way causality from GDP growth to the current account deficit (Altıntaş, İnal and Torusdağ, 41).

In another study conducted by Erkılıç (2006) by establishing a VAR model, the following findings were obtained: The previous period's current account deficit, domestic growth rate, and real exchange rate are the most important variables that statistically explain the determinants of the current-account deficit in Turkey. The effect of the growth of seven developed countries and fifteen member countries of the European Union on the current account deficit was found to be weak. In all estimation results, the relationship between GDP growth and current account deficit was found to be significant (Erkılıç, 2006:97).

An econometric study was conducted by Akçayır and Albeni (2016) to determine the effect of credit expansion on the current account deficit in Turkey. For the econometric analysis, data on the ratio of quarterly credit volume to GDP and the ratio of current account deficit to GDP for the period 1992Q1-2014Q3 were used. Toda-Yamamoto (1995) and Dolado-Lütkepohl (1996) causality tests were used to determine the causality relationship between these series. For cointegration, Pesaran et al. the bounds testing approach developed by (2001) was used. Long and short term relationships between the series were examined using the ARDL (Autoregressive Distracted Lag) method based on the bounds test approach. As a result of the econometric analysis, cointegration and bidirectional causality relations were detected between the series, and it was determined that the domestic total credit volume expansion increased the current account deficit less than the expected level (Akçayır and Albeni, 2016:557).

In a study conducted by Şahbaz (2011), whether the current account deficits are sustainable was tested in Turkey. In his study, Şahbaz tested the sustainability of current account deficits in Turkey with monthly data for the period 2001:3-2011:4, using the intertemporal model developed by Husted (1992). In the application of Johansen cointegration analysis, a long-term cointegration relationship was observed between export and import series in the Turkish economy in the examined period, and as a result, empirical findings showed that the current account deficits in Turkey were sustainable in the long term (Şahbaz, 2011:411/428).

In a study conducted by Ateş and Saygın (2014), the relationship between credit volume and current account deficit was examined in Turkey. In this study, it was tried to determine how the current account deficit was affected by the increase in credit volume. In this context, with the help of quarterly data for the period 1998:1-2013:1, long-term relationships between the current account deficit and total loan size variables were analyzed with the Vector error correction model. Additionally, causality relationships between variables were tried to be determined. In the study, it shows that the increase in credit volume increases the current account deficit, but it was determined that this increase had a limited effect (Atış and Saygılı, 2014:129/138-139).

In a study by Kılıç conducted in 2015, he examined the relationship between loans and the current account deficit and found that there was a one-way relationship from consumer loans to the current account deficit. This study aimed to test the relationship between the current account deficit and consumer loans in Turkiye and its important sub-components: housing loans, consumer loans, vehicle loans and individual credit cards. In the study, using quarterly data for the period 2004:Q4 - 2014:Q3, the relationship between the current account deficit and consumer loans, housing loans, consumer loans, vehicle loans and individual credit cards was analyzed with cointegration and Granger causality test. According to the analysis results, there is a long-term relationship between the current account deficit and total consumer loans, vehicle loans, housing loans, consumer loans and individual credit cards in Turkiye (such that the current account deficit is sensitive to increases in the amount of consumer loans used). And according to result of research, from consumer loans to current-deficit there is a one-way causality relationship (Kılıç, 2015:417-418).

Yalçınkaya and Temelli examined emerging market economies such as BRICS and MINT in their study using Panel Unit Root Test and Cointegration test. The existence/how of relationships between economic growth and current account balance in these countries and the direction of these relationships were analyzed within the framework of panel data for the period 1992-2013. As a result of the study, it has been determined that GDP growth has a significant impact on the current account balance in both BRICS and MINT countries in the short and long term. In this study, it seen that as the economic growth rate changes, the current account balance changes in a way that creates a deficit or surplus depending on the country's economic condition. In the study also concluded that the current account deficit in MINT countries is a more important problem on the stability of sustainable growth rates in the long term compared to BRICS countries (Yalçınkaya and Temelli, 2014:201/218-219).

In Çakırel's study (2020) to determine the causes of the current account deficit in Turkiye, was examined stationarity using both traditional and structural break methods and then created the VAR Model. As a result of the study, for the Turkish economy, where high current account deficits were experienced for years, in the period 1994-2017, the current account deficit determinants were found being Portfolio Investments, Economic Growth, Oil Prices and Foreign Growth variables (Çakırel,2020:98).

In the ARDL test conducted by Bolkol and Türkönder (2022) to determine the relationship between current account balance and GDP growth, it was observed that there was a significant, mutually negative relationship between real GDP growth and current account balance - both in the short and long term. In this research, it was determined that positive increases in GDP growth have a negative impact on the current account deficit. In this research by Bolkol and Türkönder, it was seen that economic growth negatively affected the current account balance both in the long term and in the short term. In other words, economic growth led to an increase in the current account deficit both in the short term and in the long term and the current account balance also was a negative impact on economic growth both in the short term and in the long term. (Bolkol and Türkönder,2022:149).

5.2. Testing The Current Account Deficit-GDP-Interest Rates Relationship Wıth ARDL Analysis

In this study, ARDL analysis was conducted to determine the interaction between GDP and interest rate variables and the current account deficit. Here we have 3 variables: current account deficit, GDP and interest rate. The current account deficit is shown with the symbol Ca, national income (GDP; GDP) with y, and the interest rate with i. The ARDL test we used was proposed by Mohammad Hashem Pesaran and Yongcheol Shin in 2001. Here, firstly descriptive statistics (Table 3), after correlation matrix (Table 4) and graphs (Figure 1) and Unit Root Test Results (ADF) (Table 5) are presented[6].

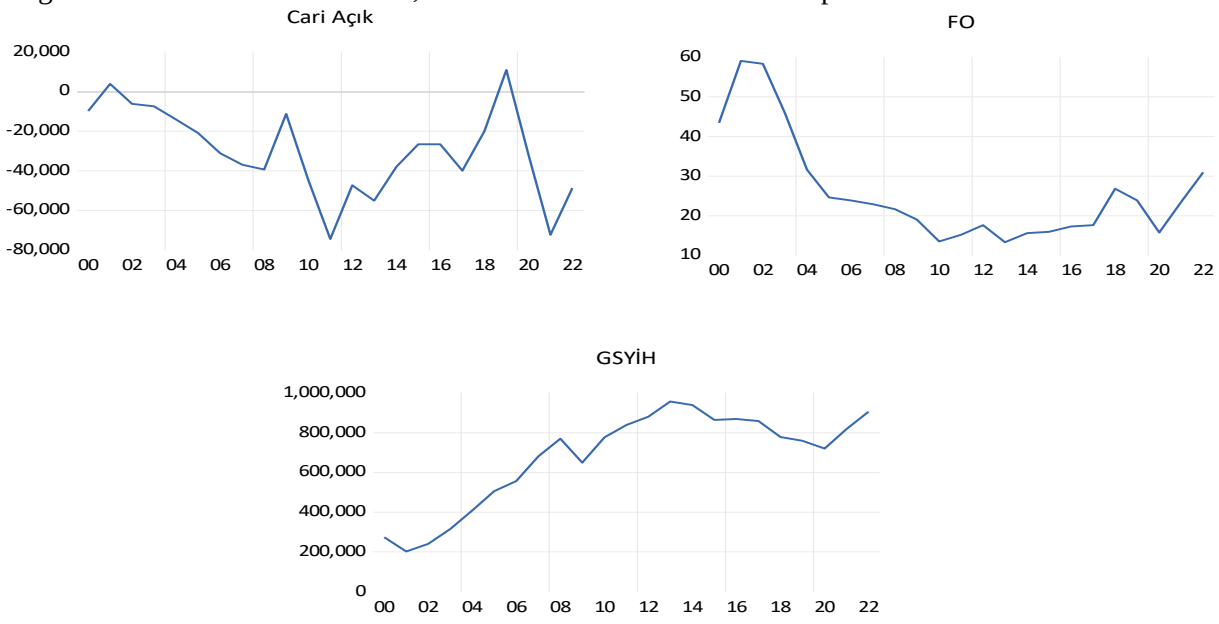
Table 3: Descriptive statistics

	CA	i	y
Mean	-29957.30	25.97130	677128.7
Median	-31161.00	22.88000	770450.0
Maximum	10796.00	59.00000	957800.0
Minimum	-74402.00	13.33000	201750.0
Std. Dev.	21985.58	13.38987	239041.9
Skewness	-0.204267	1.407287	-0.813622
Kurtosis	2.600104	3.914796	2.296917
Observations	23	23	23

Table 4: Corelation Matrix

		CA	**i**	**y**
CA	coefficient	1.000000		
	p	-----		
i	coefficient	0.597365	1.000000	
	p	0.0026	-----	
y	coefficient	-0.670717	-0.867176	1.000000
	p	0.0005	0.0000	-----

Figure 1: Current Account Deficit, GDP and Interest Rate Trend Graphs



Dickey and Fulley unit root test[7] was performed to determine whether there was stationarity in our model. Looking at Dickey and Fuller's articles, it can be seen that Dickey and Fulley established three types of regression models and produced three types of test statistics for them. Threshold values of the ADF test statistic are also tabulated by Dickey and Fulley. However, it should be noted here that

[6] The stationarity test based on the correlogram is carried out with the help of autocorrelation coefficients and partial autocorrelation coefficients of the series (Sümer,2013:270).
[7] About for Dickey-Fulley test and Augmented Dickey-Fulley test detail, Sümer, 2013:274-278.

MacKinnon (1991) expanded these tables created by Dickey and Fulley in his article. The tables currently obtained in computer econometrics programs are the tables obtained in MacKinnon's article (Uğurlu, 2023:46-47).

In here, result of the ADF Dickey-Fulley root test, the at level H0 hypothesis cannot be rejected for any variable in all three models. This shows that both variables contain unit roots. In this context, we can say that, at first difference, it can be seen that all variables are stationary. That is, all series are I(1)[8].

Table 5: Unit Root Test Results Table (ADF)

Null Hypothesis: the variable has a unit root

At Level				
		CA	FO (i)	GDP (y)
With Constant Model	t statistic	-2.5532	-1.5400	-1.4537
	P value	*0.1174*	*0.4952*	*0.5375*
		a.d.	a.d.	a.d.
With Constant &Trend Model	t statistic	-2.8053	-1.9532	-1.1598
	P value	*0.2099*	*0.5901*	*0.8941*
		a.d.	a.d.	a.d.
Without Constant &Trend	t statistic	-0.1249	-1.0532	1.2153
	P value	*0.6282*	*0.2545*	*0.9373*
		a.d.	a.d.	a.d.
At First Different				
		d(CA)	d(FO)	d(GDP)
With Constant Model	t statistic	-5.6460	-2.1909	-3.9298
	P value	*0.0002*	*0.2154*	*0.0074*
		***	a.d.	***
With Constant & Trend Model	t statistic	-5.5004	-5.6242	-4.3003
	P value	*0.0014*	*0.0011*	*0.0140*
		***	***	**
Witout Constant&Trend	t statistic	-5.6725	-2.2900	-3.3576
	P value	*0.0000*	*0.0248*	*0.0019*
		***	**	***

Notes: a: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (no) Not Significant ,
b: Lag Length based on SIC, c: Probability based on MacKinnon (1996) one-sided p-values.

Our baseline model is :

$$CA = f(i, y)$$

$$CA_t = \alpha_0 + \sum_{q=1}^{p1} \alpha_{1q} \Delta CA_{t-q} + \sum_{q=0}^{p2} \alpha_{2q} \Delta i_{t-q} + \sum_{q=0}^{p3} \alpha_{3q} \Delta y_{t-q} + \beta_1 CA_{t-1} + \beta_2 i_{t-1} + \beta_3 y_{t-1} + \varepsilon_t$$

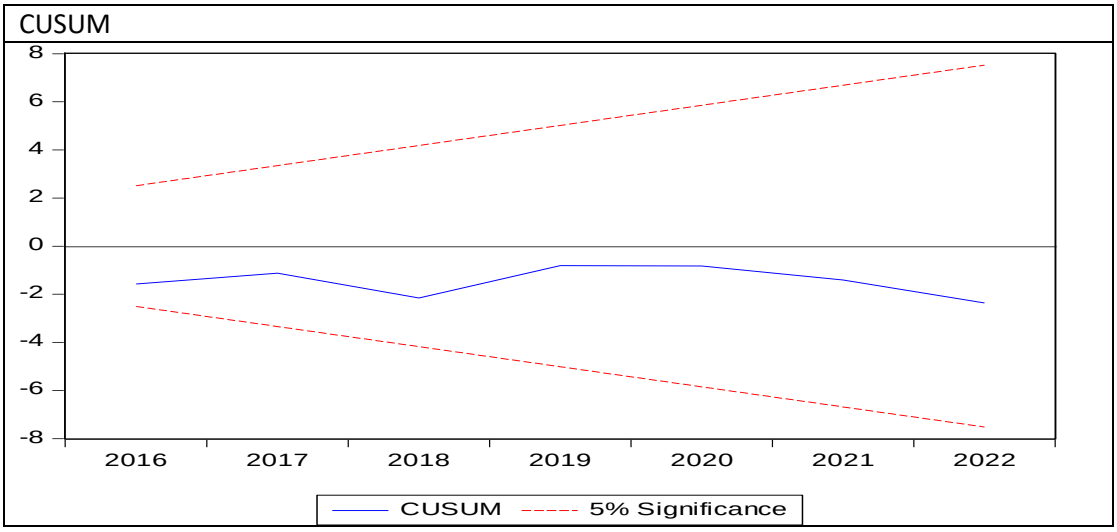
[8] It is important to be able to clearly detect regressions in the I(1) case in economic time series. Because, the effect of independent variables I(1) on the dependent variable with different intern-relations. In this context, taking the difference of the I(1) variable at all times also limited the scope of some problems. The deterioration of the structure of the series and the loss of existing relationships were among the emphasised problems. The concept of cointegration was introduced by Engel and Granger (1987) with these thoughts in mind (Sümer, 2013:268).

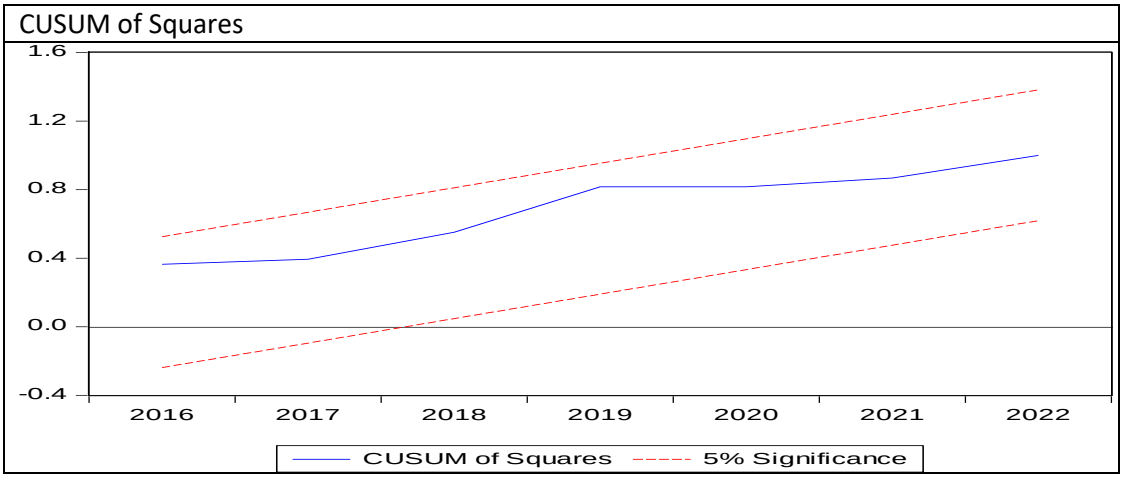
Table 6: Results of the long-run test

Variables	**ARDL(3,2,4)**
y (,GDP,GSYİH)	-0.034 (-0.846)
i,(Interest Rate,FO)	1569.76** (2.26)
Constant	-35819.63
ECT	-1.96*** (-5.39)
F-Bounds	8.88*** Upper Bound of 1%: 3.35
Prob. $\chi^2{}_{ARCH}$	> 0.05
CUSUM	Fully stable
CUSUMSQ	Fully stable
Results	cointegrated

Here, the value obtained was -1.96. It is statistically significant with a 99 percent confidence interval. Although error terms (ECT) are generally accepted to be between -1 and 0, they are also seen normal value to -2 (according to Mohammad Hashem Pesaran). ARDL bound test was performed. The ARDL bound test result (while the 1% bound test was 3.35) was 8.88 in the analysis and is a statistically significant value. It meets the table criteria. These results show that this model is cointegral and shows that long-term variables are related to each other. Correlation tests were examined here and it was seen that there was no correlation problem. Afterwards, the CUSUM test was performed and there was no problem here either. In the CUSUM and CUSUM Squares tests, the blue line was between the two red lines. As a result, according to the ARDL test, it can be said that there is a long-term relationship between the variables.

Figure 2: CUSUM and CUSUM of Squares





The coefficients of the variables are written in the table above. According to these coefficients, in the ARDL test, it was seen that GDP growth negatively affected the current account deficit. According to this result, it can say that a positive change in one variable causes a negative effect on the other dependent variable. On the other hand, according to the ARDL test result, a positive relationship was found between the interest rate and the current account deficit. The relationship between interest rate and current account deficit was found to be significant at 90%, and the relationship between current account deficit and GDP was found to be significant at 55%. The result of the constant term is not statistically significant.

Cointegration analysis suggests that even in cases where the series of economic variables are not stationary and the variables show imbalance, there may be a stationary linear combination between the time series variables at some point and a long-term relationship may exist. And this situation can be determined econometrically. When looked at from the cointegration dimension, there is generally a relationship in the literature that an increase in GDP increases the current account deficit. In here, we must say that this situation is related with countries's economic development and industry conditions.

In our study, it was observed that GDP growth in Turkiye in the 2000-2022 period negatively affected the current account deficit and increased the deficit over time. A positive relationship was found between the second variable, interest rates, and the current account deficit. In general, it is observed that the current account deficit increases as the GDP increases in countries in the economic development process that have not fully established their industries backward and forward connections. This effect of GDP growth on the current account deficit, although there are other reasons, is due to the increase in the demand for intermediate and investment goods, (as well as the demand for consumer goods). Bayraktutan and Demirtaş (2011), who conducted research on this subject, also found this in their research focusing on 19 countries,too (Bayraktutan and Demirtaş, 2011:12).

In some countries, GDP growth may be higher than the current account deficit growth, and in this case, GDP growth may affect the current account deficit not negatively but positively. For example, Hepaktan and Çınar determined this for OECD countries in their econometric study. In their research, Hepaktan and Çınar revealed the cointegration relationship between growth and current account balance in OECD countries and, in terms of coefficients, a 1% increase in GDP in OECD countries resulted in a decrease between -0.2% and -0.4% in the current account balance (Hepaktan and Çınar,43/56). This situation in OECD countries shows that GDP growth is higher than current account deficit growth.

Table 7: VEC Granger Causality/Block Exogeneity Wald Tests,(2000-2022, Obs.:19)

Dependent variable: D(CA)			
Excluded	Chi-sq	df	Prob.
D(i)	18.26235	3	0.0004
D(y)	11.07597	3	0.0113
All	21.66337	6	0.0014
Dependent variable: D(i)			
Excluded	Chi-sq	df	Prob.
D(CA)	33.76342	3	0.0000
D(y)	3.478828	3	0.3235
All	44.59341	6	0.0000

Table 7 shows the Granger causality test results based on VEC for both analyzed variables (Lag criteria are presented in the appendix[9]). According to these results, a causal relationship was found in all variables except the Dy variable. So GDP is the cause of CA, CA is the cause of i. At this point, it can be said that GDP growth negatively affects the current account deficit and there is a positive relationship between the increase in the current account deficit and the increase in interest rates.

6.CONCLUSION

In Turkiye's economic development process, starting from 1923, governments have had a basic industrialization goal - even though they had different economic policy choices. In the 1920s, the country's industrial GDP rate was only around 9-10%. The industrialization target was tried to be realized in accordance with the plans after 1963, and by the end of the 1970s, an industry/GDP ratio reaching 25% was achieved. However, the main problem in this process was that vertical integration in industrialization could not be achieved and therefore production was only possible through imports, and this was a chronic situation. In this negativity, the rapid increase of the population, the weakness of industrial-capital accumulation and entrepreneurs from the past, the inability to effectively implement economic policies, etc. the reasons were decisive.

These negativities has been a permanent and determining structural factors on macroeconomic balances in the country's economic development process. So much so that, in line with the industrialization target (in this industry structure), the increase in GDP growth meant that the country's imports automatically and necessarily increased. And same structure has continued in 2000s. Aside from the effect of the increase in demand for final imported products, the increase in imports brought about by GDP growth has caused the current account deficit to have a continuous (chronically) increasing trend in an environment where exports cannot be increased as much as imports. In a sense, the country's GDP increase positivity/success meant the current account deficit increase negativity/failure. The negative response to GDP growth was the current account deficit growth.

In this structural negativity, the increase in consumer loans facilitated the increase in import demand, both in terms of final product demand and in terms of facilitating the demand for imported inputs from businesses,too. Low interest rates supported loan demand. Increasing loans have facilitated imports in terms of financing. For example, credit expansion leading to the rapid increase in imports can also be seen at the conditions of before 2001 crisis. At this point, a connection can be established between the increase in the current account deficit and the increase in credit ((especially in environments where the exchange rate is kept relatively constant (compared to inflation and interest rates)). In the context of Turkiye's data between 2000 and 2022, what is seen from the ARDL test is that there is a

[9] An appropriate lag length should be determined for the Granger causality test. In this context, as can be seen in the table attached below, three lag results of FPE, AIC, HQ and SIC, which we also used in the unit root test, were achieved. Here the estimated vector is multiplied by the inverse sign of the coefficient of the relevant endogenous variable and normalized. As a result, normalized coefficients show a long-term cointegrated relationship. (Chen, 2021:1; Baum, 2013:47).

positive relationship between interest rates and the current account deficit. As a finally result it can be said that as a developing economy Turkiye should give importance primarily to ensure vertical integration in industry and secondly focuse on Research-Development in order to achieve a growth that does not disrupt macroeconomic balances and does not condemn it to debt.

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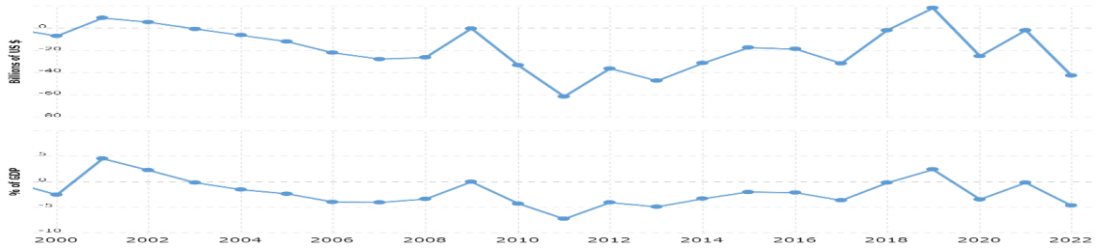
APPENDIX

Add-Table 1: Delay Determination Critters

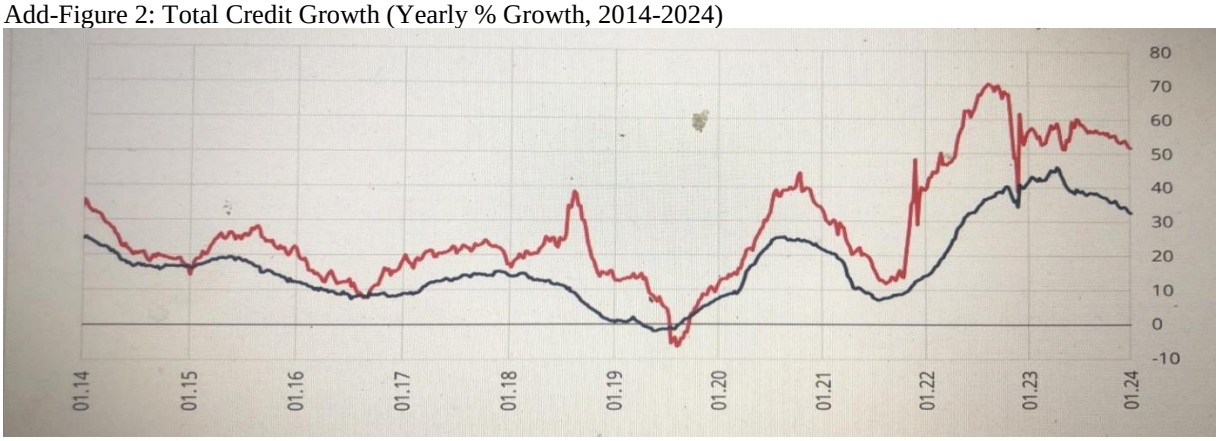
Lag	LogL	LR	FPE	AIC	SIC	HQ
0	-520.9682	NA	1.80e+20	55.15454	55.30367	55.17978
1	-487.0123	53.61455	1.33e+19	52.52761	53.12410	52.62856
2	-466.9154	25.38548*	4.52e+18	51.35952	52.40337	51.53618
3	-452.1402	13.99761	3.14e+18*	50.75160	52.24282*	51.00397*
4	-443.0268	5.755798	5.45e+18	50.73967*	52.67825	51.06775

Add-Figure 1: Foreign Trade Deficit (Billion $ and Percentage of GDP)



Data Source: www.worldbank.org; https://www.macrotrends.net

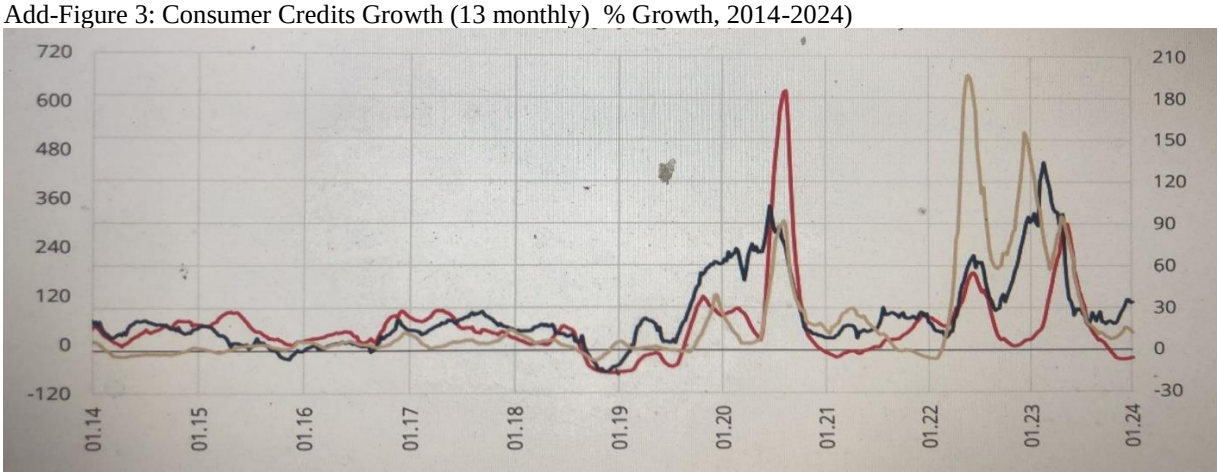
Add-Figure 2: Total Credit Growth (Yearly % Growth, 2014-2024)



Source: TCMB, "Temel Ekonomik Gelişmeler", Şubat,2024, (Ankara, 60), ,p.56. https://www.tcmb.gov.tr/ wps/wcm/connect/4f205aec-e764-458d-99b9-49823c788e6c/Temel+Ekonomik+Geli%C5%9Fmeler_Ocak. pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-4f205aec-e764-458d-99b9-49823c788e6c-olUhzH6

*Up-graph line(red):T. Credit Growth,Down-graph line(black):T. Credit Growth(Cleaned Currency Effect).

Add-Figure 3: Consumer Credits Growth (13 monthly) % Growth, 2014-2024)



Source: TCMB, "Temel Ekonomik Gelişmeler", Şubat,2024, (Ankara),p.60, https://www.tcmb.gov.tr/wps/ wcm/connect/4f205aec-e764-458d-99b9-49823c788e6c/Temel+Ekonomik+Geli %C5%9Fmeler_ Ocak.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-4f205aec-e764-458d-99b9-49823c788e6c-olUhzH6. *Lelf first Up-graph line (red):Housing Credits, Left-second graph line(Brown): Vehicle Credits, Left-third graph line(black): Need Credits.