

Louvain School of Management

Risk Analysis of Emerging Countries Case Study: Turkey

**Research Master's Thesis submitted by
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Abstract

The development risks for Turkey are examined in this study through the lenses of economy, socio-political developments, relations with alliances, and information domain. The economic domain carries major risks for Turkey. GDP growth, inflation and unemployment are all worsening. The trends in external debt and current balance shortage, exchange ratio problems, economic mismanagement, and politicization of central bank can lead to major liquidity and debt problems. Energy dependency -especially over reliance to Russian energy- is likely to be a major issue in light of Ukraine crisis and increasing cost of energy. On the socio-political domain, polarization and economic inequalities are eroding trust, and even worse, leaders of main groups view it in their benefit to fuel polarization for the rally under the flag effect. For alliances, Turkey's balancing act for Russia and NATO is not sustainable and likely to come to an end. Turkey-EU relations are to be expected to continue on a more transactional and case-by-case manner, which works well for both sides. On the education domain, Turkey is facing mismanagement due to politically motivated moves on the education system, which will hurt Turkey's development in the decades to come. A combination of the issues above, exacerbated by global shocks can result in a crippling effect, especially considering the social and political unity required to overcome these problems may themselves be compromised.

Foreword

It has been very rewarding and educational to study Turkey in various domains. I have greatly enjoyed the reading and the research process which helped me get a better appreciation for the complexity and interrelatedness of social studies.

I would like to thank Prof. Jean-Christophe Defraigne for his great mentoring and help throughout the project. His direction and guidance made the research much more effective and enjoyable.

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Introduction:

Turkey is a truly unique country at the intersection of continents, cultures, and religions. Approaching the centennial of establishment, Turkish republic has changed immensely in the last century and continues to do so. With a population of 80 million, Turkey has many faces, and carries different importance for Europe, Russia, Muslim world and the Turkish speaking world. Therefore, it is important to understand the past and future trajectory of Turkey's development.

Historically, Turkey's development can be broken down to different periods based on political, social, security and information lenses. On the domestic political domain, Turkey transitioned to multi-party system, witnessed a series of hard and soft coups repeating every decade, and recently transitioned to presidential system. International politics has been almost as turbulent. Even under the relative calm of the Cold War years, Turkey found itself subject to negotiations in Cuban Missile Crisis, conducted a military operation that split the island of Cyprus into two in 1974, and has been involved in every major political development in the region in one way or another, including the recent rapprochement with Russia.

On the economic domain, Turkey transitioned from the initial state centered and controlled development model to free markets approach in late 1980s. Rapid development in 2000s carried Turkey into G20. However, the recent years have witnessed economic mismanagement under unorthodox economic theories, a constantly declining lira and worsening living conditions for the citizens. Turkey's economic situation is of importance, not just for its citizens but for its neighbors and trade partners also.

As for allies, Turkey became an early joiner to NATO which provided the security umbrella against the neighboring USSR. Post Cold War years witnessed a Turkey that has been involved in virtually every NATO operation in one way or the other. Thus, purchasing of major weapon system from Russia was unexpected for everyone and brought about questions about the future of the relations with alliance. EU-Turkey relations, which has been a long history with many twists and disappointments, face new parameters under the new Turkish political regime and ongoing refugee crisis.

Turkey's human capital provides the base for all development, and therefore the state of education and research and development gives indications about what to expect from Turkey's future.

In light of these, it is critically important to analyze the risks to development for Turkey. This study uses a modified PMESI approach where political and social analysis are grouped under socio-political analysis, and military/security analysis are limited to relations with allies. Each chapter is further broken down to analyze the critical issues that constitute a risk or carry great importance for development.

Chapter 1: Economic Risks

Economic risks will be analyzed in three sections: Main Economic Indicators, Monetary risks, and Risks to real economy. The latter two reflect the traditional division of economy: real and financial, while the first part aims to catch the risks through macro indicators.

1.1 Main Macroeconomic Indicators

1.1.1 GDP Growth

Although the GDP growth in Turkey has been following a similar trend to BRIC countries in the long term, what is surprising is the level of volatility. The standard deviation of the annual growth rate since 2010 is 3.03%, which almost approaches the average growth value of 5.49%. In comparison, this level of volatility is not observed in any BRIC countries.

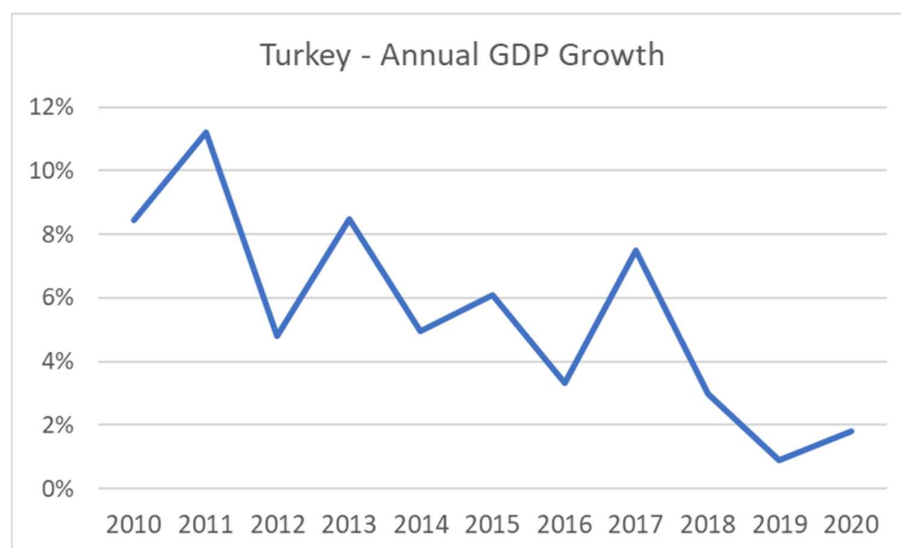


Figure 1: Turkey - Annual GDP Growth(Data: World Bank)

After the decline of growth due to pandemic, 2022 onwards the real GDP growth rate is estimated to be 3.3% by IMF -which might be regarded as not alarming-, however the breakdown of GDP shows that GDP relies heavily on private consumption and more importantly the net exports have an increasingly negative trend as shown in Table 1.

The concerns over the funding of growth in the upcoming years is also shared by the TUSIAD (Turkish Industry and Business Association). In 2022 outlook report, TUSIAD cited the tightening financial conditions in the global front and asserted that it would be difficult for the growth to be supported through investment and export channels in 2022 (TUSIAD, 2021, p.

4). This is worsened by the possible rapid tightening of the monetary policy by the European central bank, which would hurt Turkey as 50% of the Turkish exports are destined for Europe.

	2019	2020	2021	2022	2023	2024	2025	2026
Real GDP growth rate	0.9	1.8	5.8	3.3	3.3	3.3	3.3	3.3
Contributions to real GDP growth								
Private consumption	0.9	1.7	3.4	1.5	1.8	1.9	2.1	2.2
Public consumption	0.6	0.3	0.4	0.4	0.4	0.5	0.5	0.5
Investment (incl. inventories)	-3.8	7.1	-3.3	0.4	1.5	1.4	1.2	1.3
Net exports	3.2	-7.3	5.3	1.0	-0.5	-0.4	-0.5	-0.7

Table 1: Turkey Real GDP Growth Rate Components (IMF, 2021, p. 6)



Figure 2: GDP Growth Rates - Turkey and BRIC countries(Data: Worldbank)

1.1.2 Inflation

The inflation is becoming an Achille's heel for Turkish economy. Turk's, who had lived through the high double digit inflation rates of the 1980's and 1990's, could be facing a Dejavu. Inflation was relatively stable between 2004 and 2016 with an average of 8.27% between these dates.

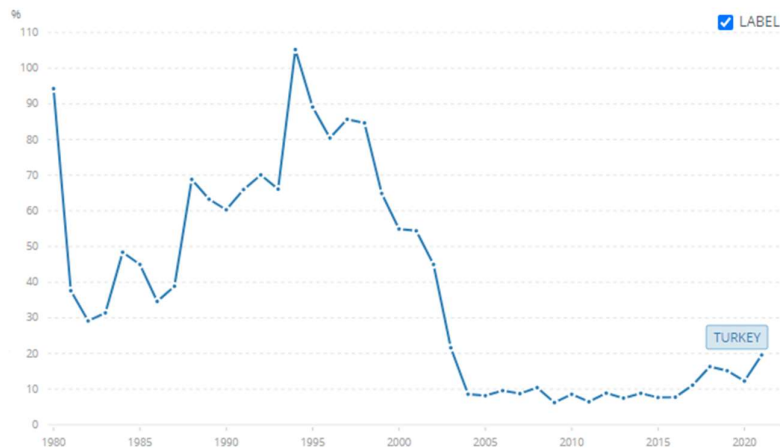


Figure 3: Turkey Inflation, consumer prices (annual %) 1980-2021(Data: Worldbank)

Comparison to BRIC countries at Figure 4 shows the alarming trend for Turkish inflation in the last 6 years. It is not possible to attribute this trend to local developments either. Greece, -being in the same region- has averaged an only 1.5% consumer price inflation in the same period.

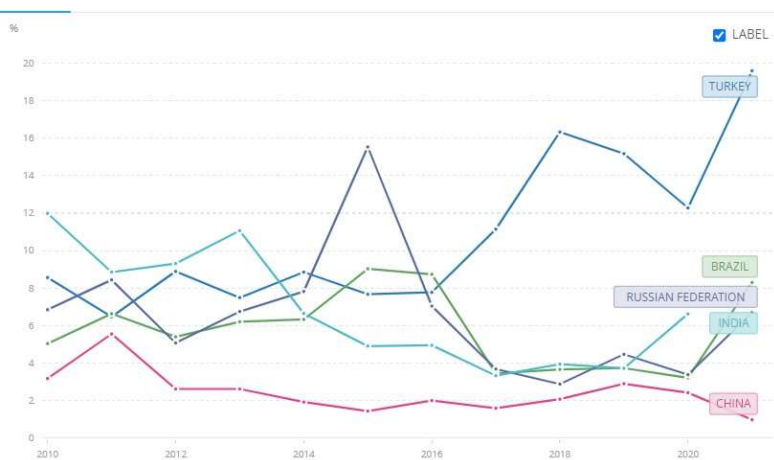


Figure 4: Inflation, consumer prices 2010-2020(annual %) for Turkey and BRIC Countries

Another alarming issue is the fact that the inflation numbers reported by TUIK-TurkStat (The government agency tasked with tracking all statistics including inflation) are disputed by many experts and NGOs. TUIK reported the consumer price index, or CPI, to be 36% in 2021. For the same time period, ENA group -an NGO headed by academics from several Turkish Universities and focuses on measuring inflation using big data- reported the inflation to be 83%. Most recently, March 2022 inflation numbers have a wide discrepancy as ENA group

reports it to be 159.86% (ENA, 2022), while TUIK reports it to be 69.97% (TurkStat T. T., 2022). Metropoll – a leading pollster in Turkey – has reported that 62% of Turks believe the real inflation to be above 100% while an additional 29% believe it to be between 50-100%, which leaves less than 10% of the population that believe the TUIK measurements (Metropoll, 2021). Steve Hanke – an academic from John Hopkins university- has reported an implied inflation (based on monetary readings and exchange rates) rate of 138% for 2021 which is similar to ENA group measurements (Hanke, 2021).

The sources of discrepancy could be as simple as different way of calculation as expressed by ENA. ENA uses an approach similar to the Billion Prices Project¹ and uses web crawling algorithms to collect prices from more than 700 million price points monthly, while TUIK send their experts to street to manually collect price points. However, a more probable explanation is simple gauging of numbers under political pressure. ENA group has faced pressure and is already facing a court case regarding their reporting. More interestingly, a draft law that proposes up to 3 years of jail terms for publishing data on economic indicators that have not been approved by TUIK, is reported in April 2022 (Bloomberg, 2022).

Lastly, the inflationary trend in Turkish economy could not have happened at a worse time, as it will conflate with the upcoming sustained global inflation. The post-Covid supply shortages and related global increase in commodities -especially energy and basic food products- will push the inflation upwards and constitute a big risk for Turkish economy as discussed in imports at section 1.3.2.

1.1.3 Unemployment

Young and qualified labor force has been a historical strength for the Turkish economy. Unemployment is a serious risk for the developing countries for political, social and economic reasons. Politically, a large unemployed force population is a big risk for political instability. Political scientists find a strong correlation between the amount of unemployed youth. Fearon finds that the proportion of males aged 15 to 24 in the population is correlated with outbreak of civil war (Fearon & Laitin, 2003). From an economic perspective, unemployed population lose their purchasing power, which would have a ripple effect starting with the demand side

¹ The Billion Prices Project, MIT & Harvard, 20.05.2022, <http://www.thebillionpricesproject.com/>

of the economy. The long-term unemployment can lead the workers to lose hope and permanently drop out of the work force. The mental effects of unemployment on the individuals affect not only themselves, but their families and the society as a whole.

As it can be seen from Figure 5, Turkish unemployment rate has been on the rise, well before COVID. TUIK reported the unemployment rate in 2021 as 12%, which is a slight decrease from the 13.1% in 2020 (TurkStat T. T., 2022). When the underemployment is included, the overall labor underutilization reaches to 24.4%.

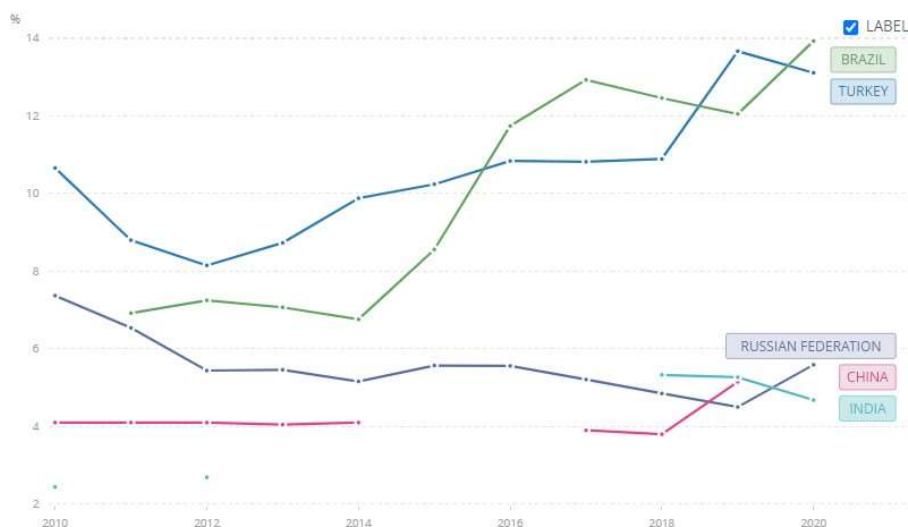


Figure 5: Total workforce unemployment, Turkey and BRIC countries

Several other factors should be also mentioned. The 17.2% of the work force is employed in agriculture sector. The unpaid family members in this sector are not included in the unemployment calculations and are assumed to be employed in the family business. As such, the real unemployment rate that constitute socio-political and economic risk is higher than advertised by TurkStat. The high level of unemployment becomes even more concerning when combined with high level of undeclared work and low labor mobility. Undeclared workers lack the social protection and therefore are extremely vulnerable to economic shocks.

Another indicator that stands out in unemployment profile is the female labor force participation rate. As shown in Figure 6 , this rate is about 35% which is almost one half of Europe. However, historically low employment rate of woman is nothing new to the Turkish society. Besides there is no clear and strong causal pathway between the low female

unemployment rate and economic risk in Turkish economical context. As such this factor cannot be deemed as a strong risk.

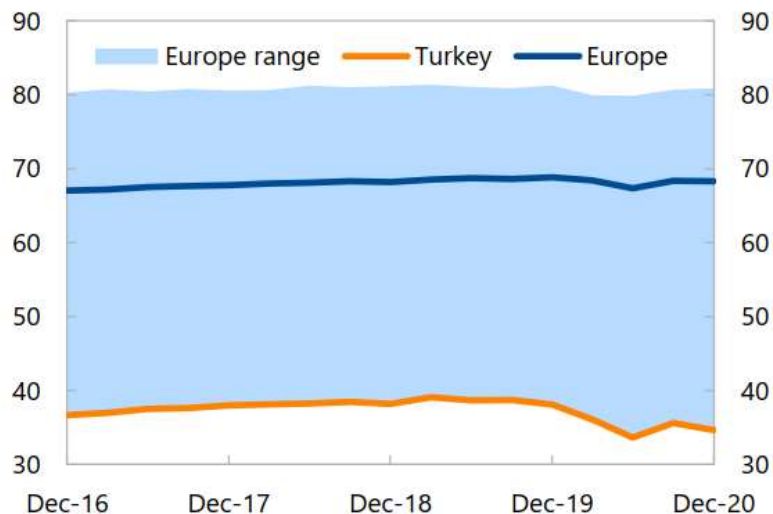


Figure 6: Labor force participation rate - Female (Eurostat and IMF calculations) (*IMF, 2021, p. 34*)

The dependability of the TUIK data aside, Turkish unemployment rate is one of the highest when compared to BRIC countries, only matched by Brazil. What is more concerning is the youth unemployment rate. According to TUIK 22% of the youth in the age group of 15-24 is unemployed, which carry the highest socio-political risk.

Increasing unemployment rate has strong sociological consequences when combined with the mass influx of refugees and increasing anti-migration sentiments among the population.

1.2 Monetary Risks

1.2.1 Debt and Balances

Turkish economic growth in the last 20 years has been significantly fueled by externally funded credit as seen in Figure 7. The global expansionary trends and easy access to money allowed Turkey to maintain high economic growth. The debt incurred by banks and companies were used to keep stimulus going. Debt has also been the main method to finance the large current account deficits. The debt has been approaching to critical levels. The sustainability of the external debt is threatened by liquidity and exchange rate shocks. One third of the external debt is short term which puts stress on short term liquidity.

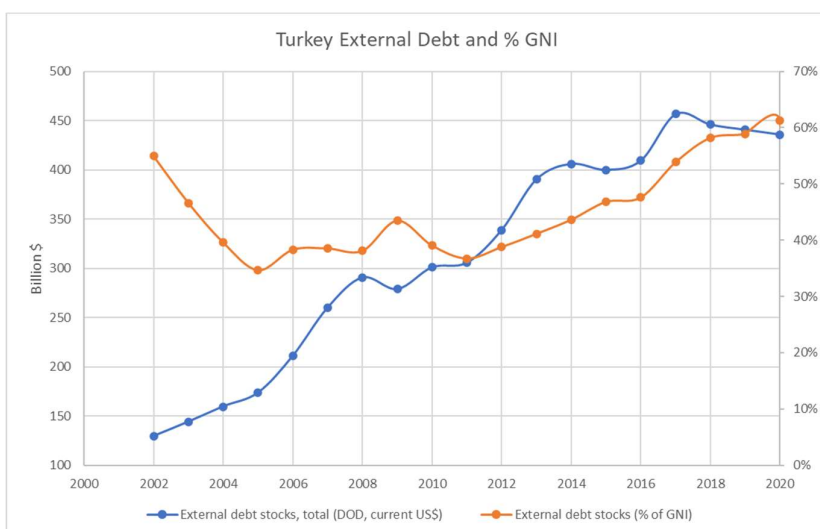


Figure 7: Turkey External Debt and %GNI(Data: World Bank)

To make matters worse, Central Bank reserves are nowhere near assuring. The Central Bank sold \$128 billion in 2019-2020 to save falling lira. Another \$17 billion was sold at the end of the 2021 for the same reason². In order to boost the depleting reserves, Central Bank has turned to currency swaps as seen in Table 2.

Date	Swap with	Amount
June 2021	China ²	\$6 billion
August 2021	South Korea ²	\$2 billion
January 2021	UAE ³	\$5 billion
May 2020	Qatar ⁴	\$15 billion
TOTAL		\$27 billion

Table 2: Turkey Central Bank Swap Deals

The short-term external debt stock has been steadily increasing and has reached to \$130 billion in February 2022⁵. The official reserve assets are reported as \$106.9 billion by Central

² "Turkey's love affair with currency swaps explained", Ragip Soylu, Middle East Eye, 25 January 2022, <https://www.middleeasteye.net/news/turkey-central-bank-swap-deals-love-explained>

³ "Turkey's deal with UAE to build foreign exchange reserves", Associated Press, ABC News, 19 January 2022, <https://abcnews.go.com/Business/wireStory/turkeys-deal-uae-build-foreign-exchange-reserves-82344644#:~:text=ANKARA%2C%20Turkey%20%2D%2D%20Turkey%20and,Turkish%20central%20bank%20announced%20Wednesday.>

⁴ "Qatar offers Turkey relief by tripling FX swap line to \$15 billion", Ali Kucukgocmen, Orhan Coskun, Reuters, 20 May 2020, <https://www.reuters.com/article/us-turkey-qatar-swap-idUSKBN22W147>

⁵ "Short Term External Debt Statistics", Data Governance and Statistics Department, Central Bank of Turkey, March 2022, <https://www.tcmb.gov.tr/wps/wcm/connect/b19b5048-dd64-4075-ae01-47b2fd3ede50/st.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-b19b5048-dd64-4075-ae01-47b2fd3ede50-o011pml>

Bank⁶. As such, the short-term debt is already higher than reserves, even with the help of the swaps. It should be also noted that, in August 2021 Central Bank revised the accounting methods on calculating the short-term external debt, which dropped the external debt by \$25 billion at a single stroke. Much like TurkStat's ever changing ways to calculate inflation, the Central Bank's move can at best be characterized as cosmetic⁷.

Lastly, Turkey's external debt problem could hardly be resolved through increased exports. Figure 8 shows that Turkey's exports and external debt have been increasing in a correlated manner. However, the actual difference between the debts and exports has been increasing in real terms. This trend has been worsened since 2017. This means that the debt incurred is not being utilized in an efficient manner to increase productivity and exports. There is no indication that this trend will change in the future. On the contrary, as Turkey will be having liquidity problems and will have to resort financing debt with debt, this trend may worsen and constitute a risk for the Turkish economy.

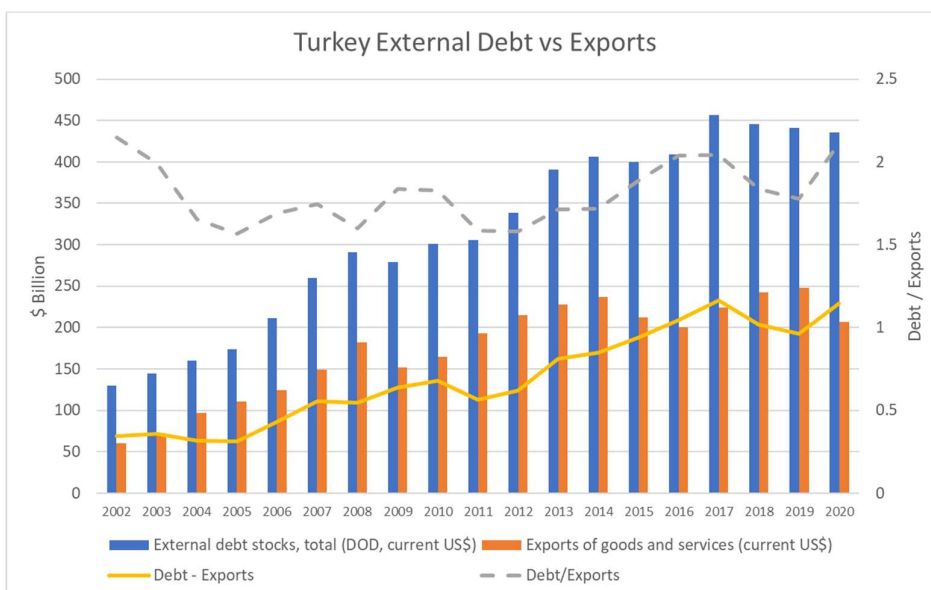


Figure 8: Turkey External Debt vs Exports (Data: World Bank)

⁶ <https://www.tcmb.gov.tr/wps/wcm/connect/EN/TCMB+EN/Main+Menu/Statistics/Balance+of+Payments+and+Related+Statistics/International+Reserves+and+Foreign+Currency+Liquidity>

⁷ "Turkey's external debt drops \$25 billion at a stroke", Mustafa Sonmez, Al-Monitor, 26 August 2021, <https://www.al-monitor.com/originals/2021/08/turkeys-external-debt-drops-25-billion-stroke>

1.2.2 Management of Economy

It is no secret that Turkey has been progressing towards autocracy, especially after 2016. Currently, Turkey is classified as an electoral autocracy by Varieties of Democracies project (V-Dem Institute, 2022) and Freedom house considers Turkey as “Not Free”⁸. The risk to democracy and rule of law has many outcomes and it is important to understand what this means for economy. From Mao to Chavez, history is full of examples for authoritarian leaders that drove their countries to economic crisis with bad decisions.

Literature review shows interesting results concerning the link between political regime and economic performance. Jong-A-Pin and Pierau has analyzed the economic management performance of more than 400 dictators from 76 countries and found an inverse relationship between the age of the dictator and the economic growth (On average, growth decreases 0.12 percentage points for each year as dictator ages) (Jong-A-Pin & Mierau, 2022). Besley and Kudamatsu found that growth is correlated with leadership turnover (Besley & Kudamatsu, 2007). Their analysis of the incentives of leaders to remain in power, shows that those incentives are inversely related with growth encouragement.

It is not to say that economically successful autocracies do not exist in modern times. Lee Kuan Yew ruled over Singapore for 32 years with a heavy hand, however economic success was clearly one of his legacies. As the chairman of the Chinese single party communist regime, Deng Xiaoping inherited a battered China from Mao and enacted the institutions and policies that setup China’s economic growth in the coming decades after him. Debs analyzed the conditions that correlates with economically successful autocratic leaders. He found that the dictators encourage growth when they are either very strong or very weak – and not in between (Debs, 2007). The very strong autocrats do not need to follow populist policies and can afford to follow pragmatic long-term policies. On the other hand, very weak dictators cannot afford to be wasteful and have to strengthen their position by economic success. In between the two ends, lies the autocrats that resort to populist short term policies that hinder growth in the long term. They also have to use economy as a bargaining chip for cooptation or for nepotism to keep up the political support for the regime.

⁸ “Countries and Territories”, Freedom House, <https://freedomhouse.org/countries/freedom-world/scores?sort=asc&order=Total%20Score%20and%20Status>

In light of the discussion above, stellar economic performance cannot be expected from current Erdogan regime. Politically Erdogan regime is not strong enough to afford disregarding popular opinion. The policies followed have to be designed to keep the support from the political base. Besides Erdogan has created a strong cooptation scheme for political rivals and reward system for loyal bureaucrats. Three former party leaders left their parties and joined Erdogan. One of them, former leader of BBP, Yalcin Topcu openly admitted the money offered to him stating "If you had received the offer I received, you would change your religion"⁹. Hakan Atilla – a former executive manager in Halkbank, who refused to cut a deal with US officials and accepted a 32-month prison sentence in the Reza Zarrap case- was awarded with Manager of Istanbul Stock Exchange position after his prison sentence was served and he returned to Turkey. The nepotism and corruption web that is essential for regime survival is also detrimental to economy in general.

Other than political factors, Erdogan's unorthodox personal economic views, and his desire to have direct control over all aspects of economy form a major long-term risk for Turkish economy. Erdogan strongly believes that high interest rates slow down the economy and cause inflation and therefore believes that Central Banks should do whatever is necessary to keep interest rates low. The conventional method of dealing with the inflation is to increase the interest rates. The conventionally accepted causal relationship between inflation and interest rates are reversed in Erdogan's economics. Erdogan claims that "Interest rates are the reason, and inflation is the result"¹⁰.

As such Erdogan has gone to long lengths to enforce his views on the Central Bank, which is theoretically an independent institution. In 2018, Donald Trump announced tariffs for Turkish steel and aluminum products which triggered a rapid drop in lira and ensuing increase in inflation. Central Bank implemented a series of interest rates increases to combat inflation. Interest rates increased from 13.5% in August to 24% in September. Opposing this rate hike, Erdogan pressured head of Central Bank Murat Cetinkaya to reverse the decisions and when

⁹ "Kac saat oldu?", Twitter, 2 February 2016,
<https://twitter.com/kacsaatolduson/status/694608881058746369?lang=en>

¹⁰ "Is Recep Tayyip Erdogan's monetary policy as mad as it seems? ", Economist, 27 January 2022,
<https://www.economist.com/the-economist-explains/2022/01/27/is-recep-tayyip-erdogans-monetary-policy-as-mad-as-it-seems>

he refused, he was forced to resign. His replacement Murat Uysal could only stay 1 year in the position as he was sacked for allowing the lira to plunge¹¹. Uysal's replacement Naci Agbal was sacked even quicker, after a brief four-month period. Erdogan did not shy away from explicitly declaring his direct influence on Central Bank stating that he sacked Cetinkaya because he "was not listening"¹².

In summary, the combination of Erdogan's reliance on kickbacks, nepotism, cooptation, and handing out lucrative contracts to his close circle, with his unorthodox economic theory and direct control over all aspects of economy management including Central Bank clearly constitutes a risk for Turkish economy.

1.2.3 Exchange Ratio

Lira has been one of the main victims of the economic mismanagement in Turkey. The Figure 9 shows that there have been 3 distinct periods in terms of lira's value since 2008. Up until July 2016, there is a stable slight increase. In fact, the EUR/TRY increased from 2.15 at the start of 2008 to 3.17 at the start of 2016. This is 48% increase over the 7-year period which equates to approximately 7% value loss during this period. However, lira takes a dark turn after July 2016. Over the 4.5 years between July 2016 to December 2021 the EUR/TRY has increased from 3 to 10 which equates to 52% annual increase. There is a discontinuity in December 2021, where lira was in a free fall from 10 EUR/TRY to 18 EUR/TRY and eventually settled at 16 EUR/TRY. The 60% drop in value in December 2021 is more than the whole 2008-2016 period.

¹¹ " Turkey's Erdogan ousts central bank governor after steep lira slide ", Orhan Coskun, Nevzat Devranoglu, Daren Butler, Reuters, 7 November 2020, <https://www.reuters.com/article/uk-turkey-cenbank-governor-idUSKBN27N025>

¹² " Erdoğan: Merkez Bankası Başkanı'nı görevden aldık, çünkü laf dinlemiyordu" , Bloomberght, 5 November 2019, <https://www.bloomberght.com/erdogan-merkez-bankasi-baskani-ni-gorevden-aldik-cunku-laf-dinlemiyordu-2237240>

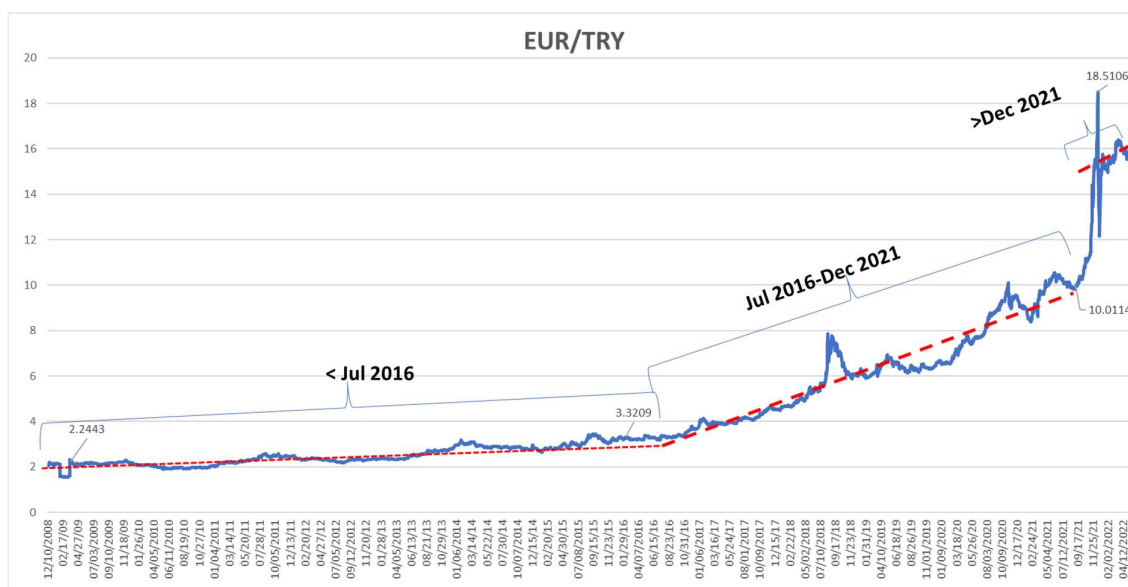


Figure 9: EUR/TRY (Data: WSJ)¹³

Two major incidents in Figure 9 indicates the factors that lead to the misfortunes of lira: Political regime change after the July 2016 incident and Erdogan’s first-hand control of monetary policy in the period leading to December 2021. The link between the political environment and economic development proved to be strong. There was no direct change in the economic structure of Turkey (in terms of real economy) after 15 July 2016, yet socio-political changes, drive towards authoritarianism, and loss of trust to the judicial and financial institutions put lira on a sharper descending path. Clearly, post 15-july regime’s monetary performance did not have the trust either inside or outside the country.

The hidden devaluation in December 2021 can be interpreted as a moment where all the mismanagement of economy caught up and the dire situation could not be hidden any longer. In April 2021, economists questioned the faith of \$128 billion that appeared to vanish from reserves¹⁴. Erdogan upped the ante and declared that the real figure is \$165 billion and was spent to defend the lira. Thus, it became apparent that such large sums were spent to stop the depreciation of lira between 2019 and 2021, yet EUR/TRY still went from 6 in early

¹³ “ Euro/Turkish Lira”, Wall Street Journal, 27 May 2022, <https://www.wsj.com/market-data/quotes/fx/EURTRY/historical-prices>

¹⁴ “ Show us the money: Erdogan pressed over \$128 billion used to support lira”, Ali Kucukgocmen, Tuvan Gumrukcu, Reuters, 14 April 2021, <https://www.reuters.com/world/middle-east/show-us-money-erdogan-pressed-over-128-billion-used-support-lira-2021-04-14/>

2019 to 10 by the time “128 billion” scandal came out. The Central Bank and Erdogan regime used tactics such as “avoiding public debt auctions, failing to publish data on the interventions and showing swaps, or borrowed funds, as assets on its balance sheet”¹⁵ in order to screen the decline in reserves from the public and the experts.

In September 2021, after seeing his four predecessors getting sacked, new head of Central Bank Kavcioglu dropped interest rates in line with “Erdoganomics”. Three members of the Monetary Policy Committee, who were not in line with this policy, were quickly replaced by Erdogan¹⁶. Loss of trust on lira (both at external markets and Turkish public), continued rate cuts and side factors like, Turkey’s placement to the grey list by Financial Action Task Force¹⁷ culminated at the December 2021 currency crisis. Erdogan’s attempt to pull rabbit out of the hat with “protected deposit accounts” scheme managed to settle lira down at a new normal. However, it is apparent from Figure 9 that the December 2021 crisis was a devaluation where lira adjusted itself to the realities of real economics. Exports could not keep up with the constantly increasing debt, and the balance of payment problems could not be hidden anymore through economic smoke and mirrors policies. Protected deposits accounts scheme itself can be viewed as a ticking bomb. The public already questioned why the taxpayers would be covering the losses on the accounts¹⁸, which can also be viewed as a reverse Robin Hood scheme, where the average taxpayer would be paying for the wealthy investor.

In summary, departure from solid economic theory and principles -such as the independence of CBRT-, combined with an underlying political uneasiness have already caused multiple crisis in Turkey. There is no indication that these dynamics will change soon,

¹⁵ “Turks chase missing billions in foreign exchange reserves”, Financial Times, <https://www.ft.com/content/dee218ba-c102-4a2f-8042-e8c8601991cd>

¹⁶ “Erdogan’s central bank overhaul clears way for more rate cuts”, By Daren Butler, Nevzat Devranoglu, Orhan Coskun, Reuters, 14 October 2021, <https://www.reuters.com/world/middle-east/turkeys-erdogan-overhauls-cenbank-mpc-appoints-two-new-members-2021-10-13/>

¹⁷ “Jurisdictions under Increased Monitoring - October 2021”, FATF, October 2021, <https://www.fatf-gafi.org/publications/high-risk-and-other-monitored-jurisdictions/documents/increased-monitoring-october-2021.html>

¹⁸ “Turkish taxpayers outraged at cost of lira protection scheme”, Mustafa Sonmez, Al-Monitor, 7 December 2021, <https://www.al-monitor.com/originals/2022/03/turkish-taxpayers-outraged-cost-lira-protection-scheme#ixzz7UhxSIOrD> “ <https://www.al-monitor.com/originals/2022/03/turkish-taxpayers-outraged-cost-lira-protection-scheme>

and as such strong risks exists for Turkish economy -especially considering the fact that the tools such as reserves that help with fighting these crises have been depleting.

1.3 Risks to Real Economy

1.3.1 Industrial Production

Turkish economy was more reliant on low technology production such as textiles and food processing until the EU Customs Union. Starting in 1996, there has been a shift from low technology products to medium-high technology products such as electronics and automotive. The trend towards medium-high technologies has levelled after the 2008 crisis. It should be also noted that only about 4% of the medium-high technology production is high technology.

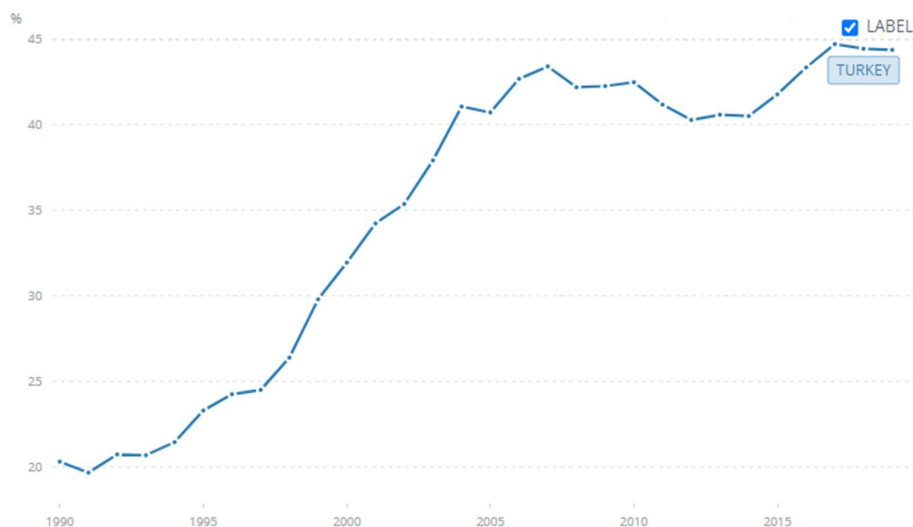


Figure 10: Medium and high-tech exports (% manufactured exports) - Turkey(Data: Worldbank)

The manufacturing sector has undergone an important transformation since the creation of the Customs Union with the EU in 1996. There has been a shift from traditional sectors such as textiles and food processing to medium/high tech industries such as automotive and electronics.

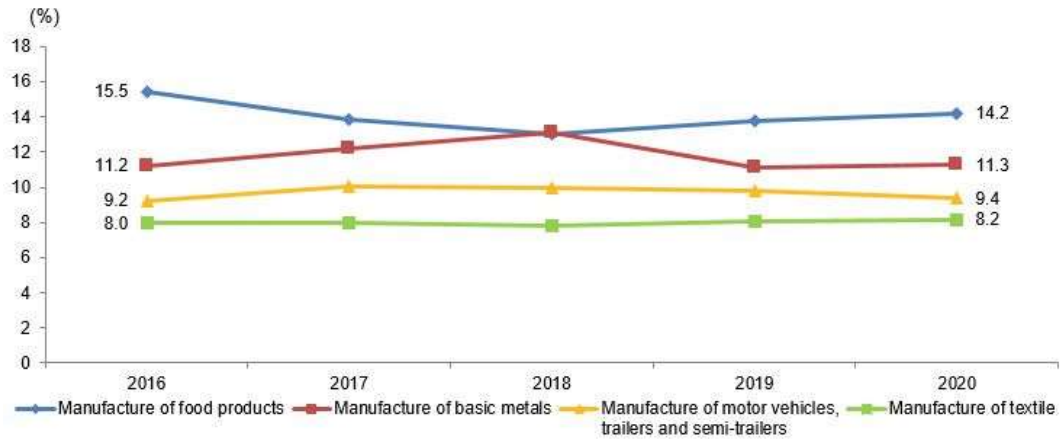


Figure 11: Top four industry divisions with highest sold production share, 2016-2020(Data: TurkStat)

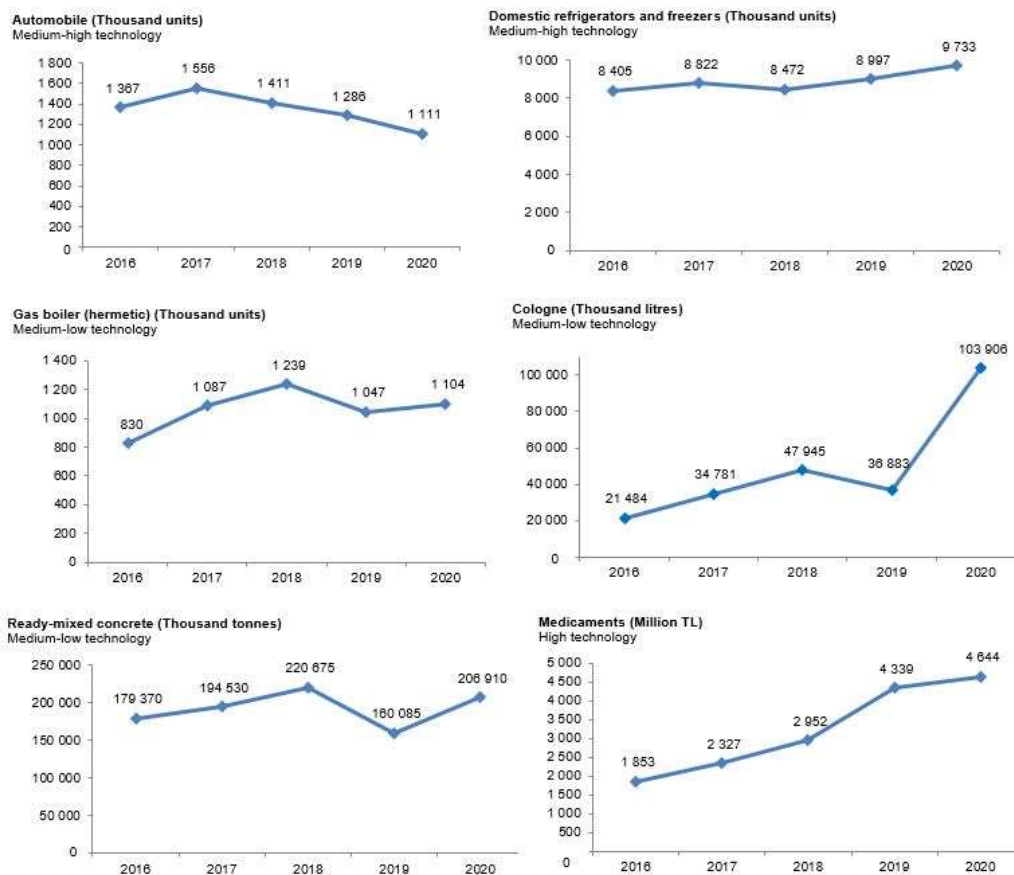


Figure 12: Production of major industrial products (2016-2020) (Data: TurkStat)

Figure 12 and Figure 11 shows the trends in major industrial production items and their contribution to total sold production. It can be observed that there is a visible decrease in

automobile production since 2017. To make matters worse, automobile industry in Turkey has suffered major hits that would affect future production. Volkswagen group had announced selection of Turkey for 1.3 billion Euro plant investment in 2018. However, VW group decided to put the project to hold in late 2019 which put other contenders (Bulgaria, Romania, Serbia) back in the race to attract the plant investment¹⁹. Honda announced closure of its Gebze plant in 2019 and the last production car left the plant in 2021. The closure of the plant was surprising and damaging as Honda's popular Civic line was produced in this plant²⁰ along with spare parts for other models. The plant was home to 2000 workers and was producing 50000 cars/year²¹.

Furthermore, depreciation of lira and inflationary trends will drive internal demand down. When combined with the global chip shortage, the manufacturers may be forced to cutback the production. However, the weak lira could also drive the external sales up and partially make up for losses in the internal markets.

Figure 11 shows that the Europe is the clear market for Turkish produced cars. It can be asserted that, a long-term political crisis with Europe is the largest risk for Turkish automotive industry and would be a major blow.

Lastly, effect of recent Ukraine-Russia crisis should be analyzed. Turkey mainly exports fruits, vegetables, textiles, and automotive parts to Russia. The total share of Russia in Turkish exports is 3% which evaluates 6 billion \$. Considering the fact that Russia has used export licensing as a political carrot and stick in the past^{22,23,24} quite frequently against Turkey, it will not be surprising to witness such a scenario in a larger scale, if Turkish policies irritate Russia.

¹⁹ "Bulgaria, Romania, Serbia competes for VW plant after Turkey put on hold ", Automotive News Europe, 16 October 2019, <https://europe.autonews.com/automakers/bulgaria-romania-serbia-compete-vw-plant-after-turkey-put-hold>

²⁰ "End of an era: Honda stopped production in Turkey! ", Techno Pixel, December 2021, <https://www.technopixel.org/end-of-an-era-honda-stopped-production-in-turkey/>

²¹ "Honda sells Turkish automotive plant to Turkey's Habas Group ", Cenk Can, Eurometal, 29 March 2021, <https://eurometal.net/honda-sells-turkish-automotive-plant-to-turkeys-habas-group/>

²² "Russia lifts ban on some agricultural imports from Turkey ", Daily Sabah, 17 April 2022, <https://www.dailysabah.com/business/economy/russia-lifts-ban-on-some-agricultural-imports-from-turkey>

²³ "Trade dispute: Turkey retaliates against Russia's tomato ban ", Seda Sezer Bilen, Evlaliya Samedova, Deutsche Welle Türkçe, 31 March 2017, <https://www.dw.com/en/trade-dispute-turkey-retaliates-against-russias-tomato-ban/a-38245753>

²⁴ "Vladimir Putin announces Russian sanctions against Turkey ", Lin Jenkins, Guardian, 28 November 2015, <https://www.theguardian.com/world/2015/nov/28/vladimir-putin-calls-for-greater-sanctions-against-turkey>

Perhaps, this dependency along with energy dependency are some of the reasons why Turkey has been hesitant to stand behind the full set of sanctions against Russia.

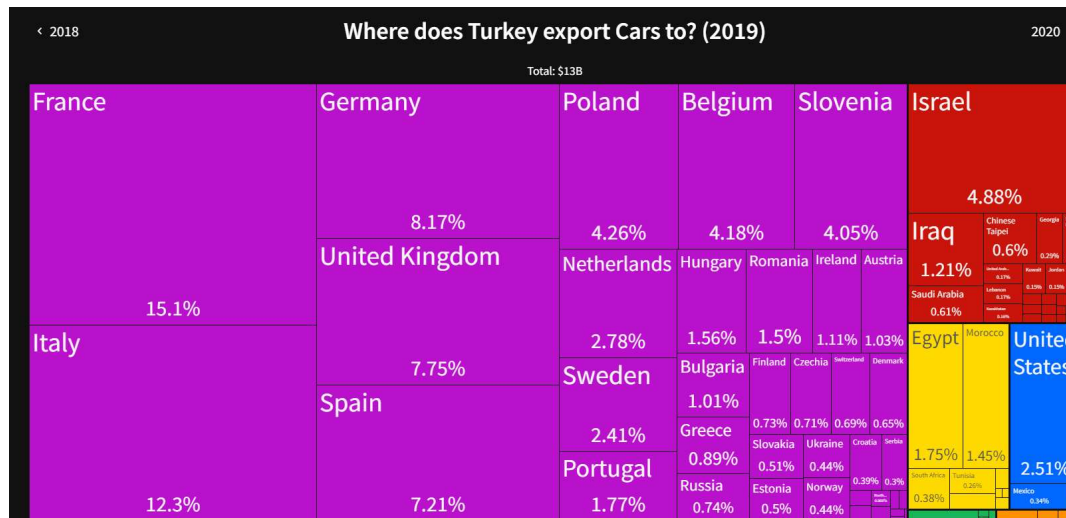


Figure 13: Export Markets for Turkish Automotive Production (Data: OEC)²⁵

1.3.2 Imports

It is important to determine intersection of key Turkish imports and global supply shortage as this analysis can point out to potential risk areas.

Turkey's import areas have been relatively constant in the last 5 years. Machinery (especially automotive) and energy products (gas and oil) are critical industrial imports which is not surprising considering the structure of the Turkish industry and dependence on energy products. 35% of the Turkish imports are from Europe, which makes Europe Turkey's largest trade partner both on the export and the import side.

²⁵ "Where does Turkey export Cars to? ", OEC, https://oec.world/en/visualize/tree_map/hs92/export/tur/all/178703/2019/

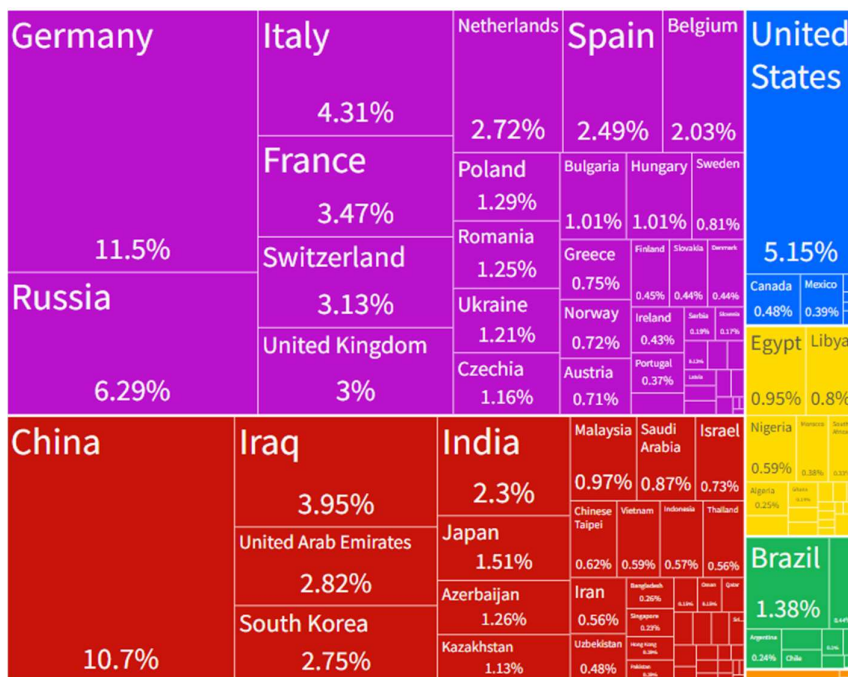


Figure 15: Turkey import countries (2020)(Data: OEC)

Russia has not used energy exports directly as a political weapon yet, however that does not mean that possibility can be disregarded. In a similar situation Europe chose to take rapid measures for diversification (European Commission, 2022). As such, Turkey will have to either make investments to diversify its energy requirements or live with the sword of Damocles when it comes to energy.



Figure 16: Turkish Oil and Gas Import Lines²⁶

²⁶ "The state of Turkey's gas market and reducing foreign dependency ", TRT World, 21 August 2020, <https://www.trtworld.com/magazine/the-state-of-turkey-s-gas-market-and-reducing-foreign-dependency-39084>

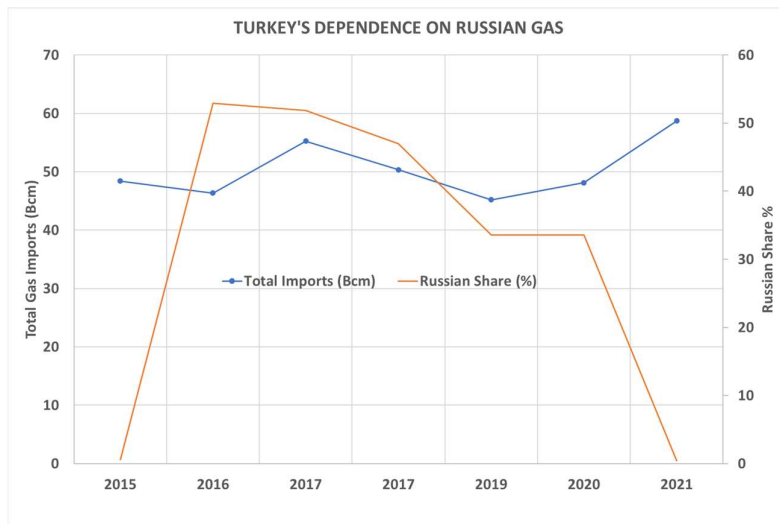


Figure 17: Turkey's Dependence on Russian Gas²⁷(Data: Turkish Energy Market Regulatory Authority)

Another major effect of the Ukraine crisis for Turkey will be increased energy prices. The increasing energy prices put a big dent on the Turkey's current account deficit. As it can be seen in Figure 19 the energy export-import deficit is the main item driving the current account deficit. The current account deficit has reached to 5.15 billion \$ in February 2022 mainly due to increased energy prices²⁸. As the energy prices soar, Turkish economy will be affected directly. TUSIAD estimated the cost of Ukraine-Russia crisis to Turkish economy as 35-40 billion \$, of which 10-14 billion \$ is due to increased oil prices (TUSIAD, 2021, p. 3).

This dire situation will not change in the short term; however, Turkey is investing in renewables to deal with the energy dependency. An IEA report cited Turkey to achieve 5th highest renewable capacity additions in Europe and 15th highest in the world for 2019 (International Energy Agency, 2021).

²⁷ "Ukraine War Complicates Turkey's Gas Challenge ", Andrew Kelly, Energy Intel, 9 March 2022, <https://www.energyintel.com/0000017f-6f8b-d81c-a9ff-ef8bad760000>

²⁸ " Turkey's current account deficit reaches \$5.15 billion in February ", Ali Kucukgocmen; Editing by Ece Toksabay, David Holmes, Reuters, 11 April 2022, <https://www.reuters.com/world/middle-east/turkeys-current-account-deficit-reaches-515-bln-february-2022-04-11/>

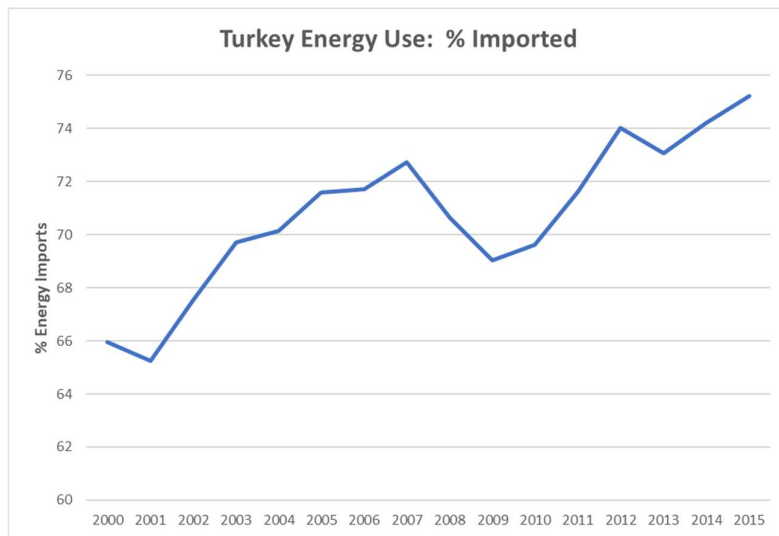


Figure 18: Turkey Energy Use: % Imported(Data: World Bank)

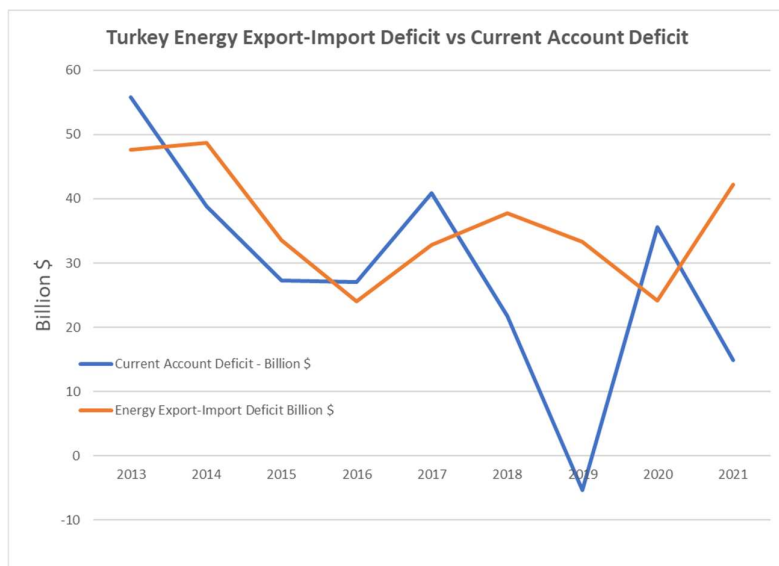


Figure 19: Turkey Energy Export-Import Deficit vs Current Account Deficit(Data: World Bank & Turkish Central Bank²⁹)

²⁹ <https://www.tcmb.gov.tr/wps/wcm/connect/en/tcmb+en/main+menu/statistics/balance+of+payments+and+related+statistics/balance+of+payments+statistics>

Chapter 2: Socio-Political Risks

This chapter analyzes two major socio-political risks identified: Polarization and Economic Inequality. These issues carry great importance as they have cross domain influence and threaten the social fabric and political stability, which could have major detrimental effects to development.

2.1 Polarization

Polarization prevents constructive dialogue and lays the foundations for societal unrest, and yet it is used as a political tool to ensure regime survival by Erdogan regime. To make matters worse, polarization is deeply rooted in Turkey and extends all the way to the beginning of the republic. Polarization is increasingly presenting a risk of social conflict and therefore should be understood well.

To understand the current polarization, it is necessary to understand that a key secularist and conservative split has been dominating the Turkish socio-political life since the establishment. It is no secret that secularist block has been dominant within this divide, even during the early years of the AKP regime. With strong presence in bureaucracy, secularist block had effectively controlled the state mechanism. Even at times, where the democratic process appeared to be on the side of the conservatives, -as in 1955 when Turkey made the first multi part elections with closed-voting and open-counting, which resulted in a landslide conservative victory³⁰-, armed forces intervened³¹ quickly and conducted a “balance reset to the republic”³². The balance reset became a habit that manifested itself every 10 years. It is not a coincidence that all the hard and soft coups Turkey experienced happened while a conservative leaning government was at the office as shown in Table 3.

³⁰ “1954 Turkish general election”, Wikipedia, https://en.wikipedia.org/wiki/1954_Turkish_general_election

³¹ “The military coup of 1960”, Britannica, <https://www.britannica.com/place/Turkey/The-military-coup-of-1960>

³² “Evren'in BiRicik yaveri!”, Time Turk, 12 April 2012, A term used by General Evren put it, in the aftermath of 1980 coup. <https://www.timeturk.com/tr/2012/04/12/bir-hep-evren-in-arkasinda-oldu.html>

Date	Type of Coup ³³	Governing party at the time of coup	Governing party leader	Outcome
27 May 1960	Hard	Democrat Party	Adnan Menderes	Prime minister Adnan Menderes and two ministers were jailed and later hanged.
12 March 1971	Soft	Justice Party	Suleyman Demirel	Government forced to resign. Junta supported government established
12 Sept. 1980	Hard	Justice Party	Suleyman Demirel	All political parties disbanded. Party leaders imprisoned and later released.
28 Feb. 1997	Soft	Well-Being Party (Refah) and Right Way Party (DYP) Coalition	Necmettin Erbakan, and Tansu Ciller	Refah party disbanded. Western working group(Bati Calisma Grubu) established to root out the conservative leaners from the bureaucracy and armed forces.
27 April 2022	Soft	Justice and Development Party (AKP)	Recep Tayyip Erdogan	Letter by Chief of Defense forced the government to resign. AKP retook power after the elections.

Table 3: Coups in Turkey³⁴

With this backdrop, it is no surprise that AKP supporters -especially those over middle age that has gone through a number of coups in their lifetime- are inclined to stick to the party line despite numerous corruption scandals and economic troubles. Conservatives that had gone through the oppressive and militarist-secularist policies³⁵ of post-coup governments would rather suffer economic hardship than to return to that era.

Polarization is not an issue exclusively driven by conservatives. The secularist politics has found it beneficial to use polarizing rhetoric in the past. Erdemandi finds the roots of the secularist polarization at its supporters' ardent view of themselves as the guardians of the Turkey's founding principles, even if it means supporting undemocratic policies such as assimilation of minorities.

It should be emphasized that despite the historical background, it was actually the identity politics on both sides of the spectrum that has led to the current polarization. Leaders

³³ Physical use of hard power is used as the reference to distinguish between hard and soft coup

³⁴ 15 July is not included in this list, as the uncharacteristic nature of the way coup was conducted, continuing fog over actual events and the power grab in the aftermath forms much doubt about the true nature of the events.

³⁵ Conservatives consider the banning of headscarfs in education institutions and civil service buildings as an attack to their beliefs, a form of belittlement and a way of forcing conservatives out of bureaucracy. Pre-AKP periodic dismissal of conservative civil servants are viewed along the same lines.

found it useful to resort to such politics for the rally under the flag affect. When threatened by yet another corruption scandal or economic hardships, Erdogan repeatedly brought about the CHP's past oppressive policies against conservatives. On the other hand, CHP has repeatedly focused on the thorny issues such as religious freedoms, even though there was plenty of other non-controversial material to use against Erdogan.

Polls are indispensable tools to assess the level of polarization. Social distance, moral superiority and political intolerance are identified as three pillars of emotional political polarization by a group of Swedish, American, and Turkish researchers (Turkuazlab, 2020, p. 2). The poll conducted by the group in 2020, shows extensive polarization in all three areas. To give some examples:

- (Social Distance): *"75% of the respondents did not want their child to marry a supporter of the political party which they feel "the most distant to..."*
- (Moral Superiority): *Supporters of political parties attributed the positive adjectives such as patriotic (87%), working to the benefit of the country (%86), honorable (85%), open minded (84%), smart (83%) and generous (80%) to the supporters of their party, Whereas they described the "most distant to" party supporters as hypocrite (86%), selfish (85%), arrogant (82%), cruel (79%), threat to the country (78%) and bigoted (77%)...*
- (Political Intolerance): *41% of the respondents objected the supporters of the political party which they felt "the most distant to" organizing a rally in their city, and even 35% of the respondents objected the supporters of the political party which they felt "the most distant to" being able to get education in accordance with their needs..." (Turkuazlab, 2020)*

In a related issue to polarization, there is a broad feeling of alienation and exclusion in the Turkish public. The KONDA 2019 poll shows that almost half (45%) of the population either agrees or strongly agrees when asked about whether they feel as a second class citizen. Although some sections of the society, such as Kurds and Alevi Muslims feel more strongly than average, it is interesting that almost all sections of the society have a sizable group that feels excluded. Although, this issue deserves further studies, one way to interpret these results is that there is a deeper level resentment -perhaps due to economic hardships and uncertain future- that manifests itself as exclusion. Findings of the "Dimensions of Polarization in Turkey 2020 Survey" (Turkuazlab, 2020) support this thesis. The survey shows that although

there is significant polarization in Turkey, the common theme among the participants were the anxiety over economy and future prospects.

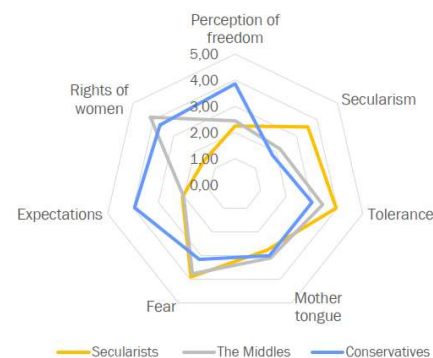
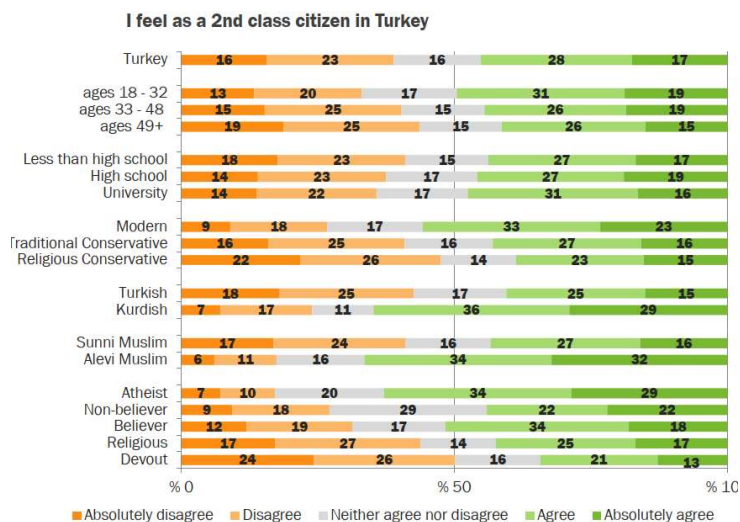


Figure 20: Position of major groups in contested issues (Source: Konda 2019 poll (KONDA, 2019))

Figure 21: Feeling of Exclusion Widespread (KONDA, 2019)

The main risk of polarization is the disappearance of truth and erosion of trust, which breeds a toxic environment where the common reference for good and a consensus driven political process is impossible to carry out. The party lines and short-term gains are preferred against the common long-term goods. Even worse, in Turkey leaders of main poles view it in their benefit to continue as such. Given these conditions, it can be concluded that polarization is going to be a pervasive socio-political risk for near future.

2.2 Economic Inequalities

The effects of economic inequalities in socio-political arena and outbreak of conflict is a well-studied area. Although there is general agreement on the relationship between the inequality and conflict, the extent of the causal relationship and dynamics are contested³⁶. Bueno de Mesquita (Bueno De Mesquita, 1985) argues that inequality leads to deprivation and once the deprived feel that they have nothing to lose, they will risk conflict. In a similar manner Grossman (Grossman, 1991) argues that expected income from conflict is what drives those deprived towards fighting. On the other hand, Gurr gives a more --nature of men-- approach where he argues that people have an intrinsic drive to collective violence when facing relative deprivation and discontent. In his review of major works in this area, Besancon

³⁶ Main reason is that it is hard to separate other variables such as elite manipulation, terrain, resources etc.

concludes that “traditionally deprived identity groups are more likely to engage in conflict under more economically equal conditions, while class or revolutionary wars fall under the conditions of greater economic inequality and war” (Besancon, 2005). However, it should be noted that there are also contracting findings to this assertion. In analyzing the insurgencies since WW2, Fearon and Laitin (Fearon & Laitin, 2003, p. 26) does not find a significant relationship between Gini coefficient and outbreak of conflict, while at the same time refraining from making strong assertions due to poor quality of data. On the other hand, Muller finds a strong correlation between relative deprivation and death rate from political violence, while at the same time asserting that “the political violence are most likely to occur under regimes of intermediate repressiveness-one might say under regimes that are "authoritarian" as opposed to being "democratic" or "totalitarian” (Muller, 1985).

The risks of inequality are not limited to risk of social discontent and political violence. The economic inequality is also harmful to economic growth. OECD research finds that countries with decreasing income inequality grow faster than those with rising inequality. Analyzing the time period 1990-2010, the research also estimates that rising inequality have “knocked more than 10 percentage points off growth in Mexico and New Zealand. In the United States, the United Kingdom, Sweden, Finland and Norway, the growth rate would have been more than one fifth higher had income disparities not widened” (Cingano, 2014). Report also finds that the gap between low-income households and the rest of the population is what matters and the high incomes pulling away does not harm growth. Nobel laureate economist Joseph Stiglitz explains the effects of inequality on economic growth as “Inequality leads to lower growth and less efficiency. Lack of opportunity means that its most valuable asset — its people — is not being fully used. Many at the bottom, or even in the middle, are not living up to their potential, because the rich, needing few public services and worried that a strong government might redistribute income, use their political influence to cut taxes and curtail government spending. This leads to underinvestment in infrastructure, education, and technology, impeding the engines of growth “ (Stiglitz, 2012).

As the detrimental effects of the inequality on socio-political life and economic growth are established, Turkey’s standing in inequality and recent trends should be analyzed to assess level of risk. In light of the findings above, more focus will be put on the difference between the bottom 50% and top 10%. In Turkey, the top 10% has 23 time as much income as bottom

50%. The wealth disparity is even worse. The top 10% owns the 67.5% of the wealth, while the bottom 50% owns only a measly 3.7%. It is clear from Figure 22 that the inequality decreased starting in early 2000s. This trend is reversed around 2013 and the gap has been increasing. In fact, in 2021 TurkStat announced that inequality was the worse in the last 11 years³⁷.

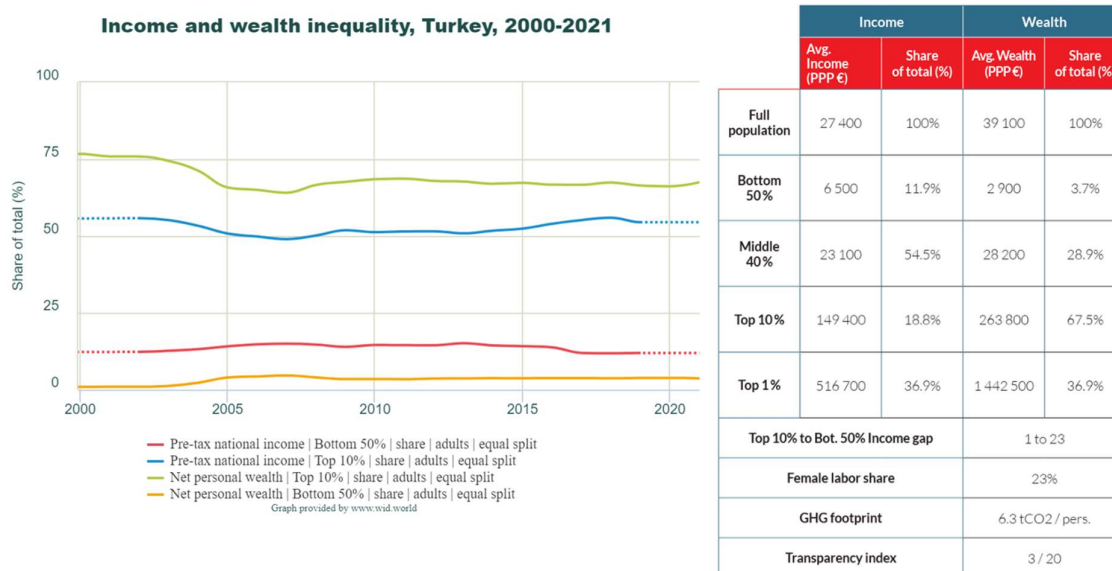


Figure 22: Turkey Income Inequality, Top10% vs Bottom 50% (World Inequality Lab, 2022)

The Gini coefficient is used frequently as a measure of statistical dispersion of inequality of income distribution. It varies between 0 and 1; 0 being the case of absolute equality (everybody consumes equally), while 1 being in the case of absolute inequality (one person consumes everything and others consume nothing). Table 4 shows that the Gini coefficient has been in the rise for Turkey since 2013.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
T20/B20 ³⁸	8.0	8.0	7.7	7.4	7.6	7.7	7.5	7.8	7.4	8.0
T10/B10 ³⁸	14.4	14.2	13.6	12.6	13.3	13.6	13.4	13.7	13.0	14.6
Gini Coeff.	0.404	0.402	0.400	0.391	0.397	0.404	0.405	0.408	0.395	0.410

Table 4: Income distribution indicators by equivalent household disposable income (Source: TurkStat)

³⁷ " 11 yılın rekoru: Gelir eşitsizliği ", Adnan Ağaç, Deutsche Welle Türkçe, 16 June 2021, <https://www.dw.com/tr/11-y%C4%B1n%C4%B1n-rekoru-gelir-e%C5%9Fitsizli%C4%9Fi/a-57929065>

³⁸ Top 20 % over bottom 20%, and top 10 % over bottom 10%,

	Total		First quintile (%20)		Second quintile(%20)		Third quintile(%20)		Fourth quintile(%20)		Last quintile(%20)	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Percentage (%)	100.0	100.0	6.2	5.9	10.9	10.6	15.2	14.9	21.4	21.1	46.3	47.5
Mean (TL)	28 522	33 428	8 899	9 914	15 558	17 655	21 717	24 908	30 478	35 248	65 960	79 427
Median (TL)	21 584	24 789	9 296	10 415	15 573	17 727	21 584	24 789	29 992	34 802	50 761	59 702

Table 5: Distribution of annual equivalent household disposable income (%), 2011-2020 (Data: TurkStat)

Figure 23 shows how Turkey measures in income inequality in the world. With the latest Gini coefficient of 0.41 Turkey is the worst country in Europe in terms of inequality and most closely in ranked with Dominican Republic, Democratic Congo and Philippines³⁹. In fact, according to World Bank data shown in Figure 24, only South Africa, Brazil and Mexico are worse than Turkey, with Argentina being about the same.

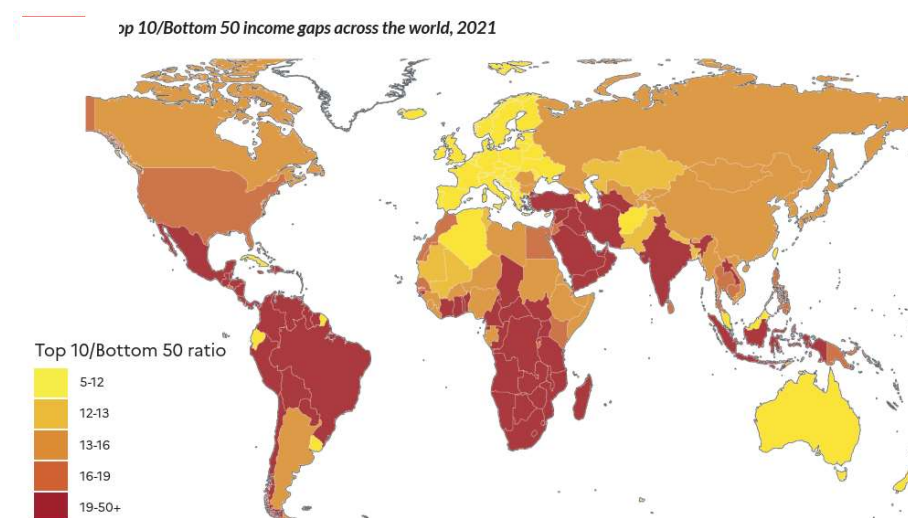


Figure 23: Top 10/Bottom 50 income gaps across the world, 2021 (*World Inequality Lab, 2022*)

³⁹ "Turkey's Gini Coefficient", World Economics, 2019, <https://www.worldeconomics.com/Inequality/Gini-Coefficient/Turkey.aspx>

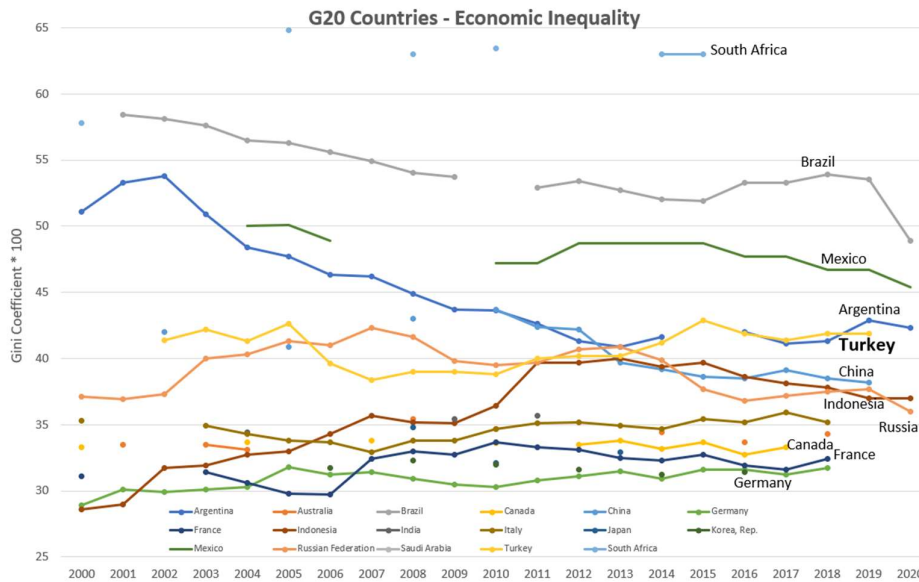


Figure 24: Gini Coefficient of G20 Countries(Data: World Bank)

Lastly, in Turkish case, economic inequality interacts with regional and ethnic dimensions. The eastern part of the Turkey has been historically poorer compared to the west. More so, the south-east Turkey, where most Kurdish population lives, witness even bigger inequalities as shown in Figure 25.

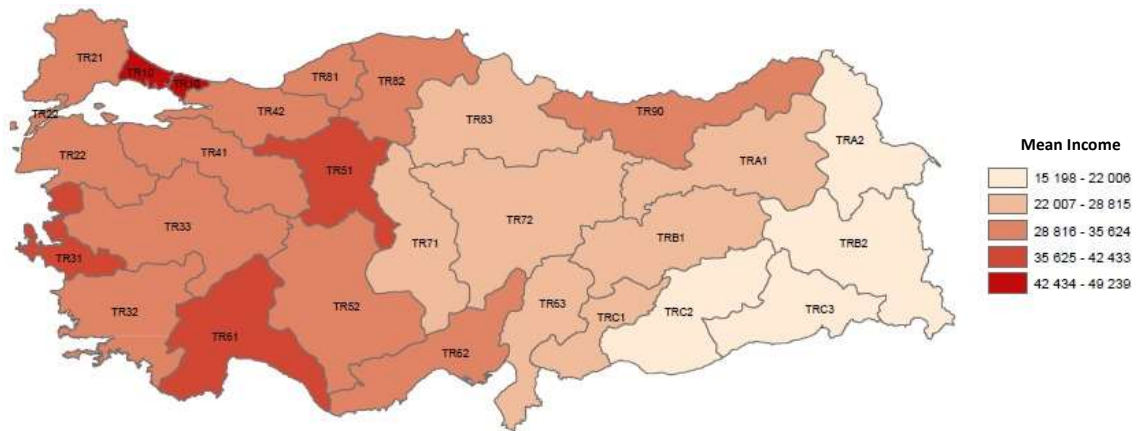


Figure 25: Turkey Regional Mean Income(Data: TurkStat)

Therefore, the economic inequalities are in general a risk for Turkish socio-political future and economic development. Specifically, regional inequality distribution carries a larger risk due to ethnic and geographic components.

Chapter 3: Risks with Alliances

"Foreign policy is really domestic policy with its hat on" is how former US Vice President characterized the relation between foreign policy and domestic politics. This dictum holds relatively well in Turkey's relations with allies, especially with EU. This chapter analyzes Turkey's relations with two major western alliance systems; NATO, EU and aims to determine future trajectory and risks.

3.1 NATO

"You will find in us an ally animated by a spirit of whole-hearted collaboration and ready to take a full share in all the efforts directed towards the realization of the aims of the treaty to which we are now acceding".

Mehmet Fuat Köprülü, Speaking at the meeting of
NATO foreign ministers in Lisbon, 20 February

Turkey has a deep history with NATO, being an ally since 1952. Shortly after WW2 ended, Turkish politicians clearly saw the need to join the alliance against Soviet threat. Even before the end of the war, Stalin had asked to take over the Istanbul and Dardanelles Straits at the Yalta Conference, which the allies had actually agreed at the time. However, as Cold War started, Turkey became an important ally for NATO for two reasons. Firstly, NATO looked to check the expansionist policy of Soviet Union with containment strategy. Turkey and Greece received immediate economic assistance from US as early as 1947, which later expanded to military assistance under Eisenhower doctrine. Secondly, Turkey was critical in limiting Russian Navy's reach to Mediterranean. The Istanbul and Bosphorus straits formed a great defensive bottleneck where battleships and submarines could easily be stopped through land batteries. Montreux convention gave Turkey all the rights to limit or shutdown the straits in wartimes. Turkey's entry into alliance was strengthened by blood as Turkey sent troops to South Korea in 1950 at a time when US forces were pushed back all the way to the Pusan peninsula. The 35000 strong Turkish force suffered 721 killed in action, 2111 wounded and 168 missing in action throughout the Korean conflict⁴⁰. Turkey was accepted into NATO on 20 February 1952 in the first expansion of NATO, alongside Greece.

⁴⁰ " Korean war: 1st Turkish brigade's baptism of fire", Historynet staff, 12 June 2006, <https://www.historynet.com/korean-war-1st-turkish-brigades-baptism-of-fire/>

Throughout the Cold War, there were few instances of contention between NATO allies and Turkey. When US nuclear strategy changed from Massive Retaliation to Flexible Response (as US wanted to limit the possibility of a crisis in a periphery escalating into an all-out nuclear war), Turkey expressed discontent, fearing that the security guarantee was weakened (Ozkan, 2012). A similar situation happened during Cuban Missile Crisis. To end the crisis, US and USSR agreed on a compromise, where US withdrew Jupiter nuclear missiles stationed in Turkey, in exchange for removal of nuclear missiles from Cuba. Turkey again felt sidelined and left with weakened security. Yet, the gravest NATO-Turkey crisis came between 1969 and 1975 over the island of Cyprus. The island had achieved independence in 1960 and was effectively a two-nation state with two official languages and three guarantor states: Britain, Greece, and Turkey. A force sharing scheme was established for the government and parliament positions with Greek Cypriots taking 70% of the seats and Turkish Cypriots taking the remainder. However, the start of a civil conflict at the island, forced Turkey to take steps towards protecting the Turkish Cypriots. First in 1964, Turkey communicated plans to intervene to US, to which Lyndon B. Johnson responded with a letter stating, *"I hope you will understand that your NATO Allies have not had a chance to consider whether they have an obligation to protect Turkey against the Soviet Union if Turkey takes a step which results in Soviet intervention without the full consent and understanding of its NATO Allies"*⁴¹, which effectively meant that NATO would not defend Turkey in such a situation. The crisis continued until 1974, at which time the civil war intensified. Turkey intervened militarily, splitting the island into two. The US attitude towards Cyprus issue and the unexpected threat at the Johnson letter made a lasting impression at the Turkish political scenes. The first anti-US protests and the shift of ruling CHP in Turkey towards left side of the spectrum are attributed to US attitudes during the crisis (Balci, 2012). US implemented an arms embargo against Turkey, and Turkey responded with shutting down US bases except one. US policy did not win Greece either. Greek Junta fell after Turkish intervention and Greece left military side of NATO⁴².

⁴¹ "Foreign Relations of The United States 1964–1968, Volume XVI, Cyprus; Greece; Turkey", Office of the Historian, Foreign Service Institute, "<https://history.state.gov/historicaldocuments/frus1964-68v16/d54>

⁴² Greece returned to military side 6 years later in 1980.

Despite occasional crisis, throughout Cold War as Turkey acted as a “bulwark”⁴³ against Soviet reach to Mediterranean. Bosphorus and Dardanelles Straits controlled access into Black Sea and Turkish bases proved beneficial in; hosting nuclear weapons, serving as a logistic hub and a potential strong point to mount air attacks against an invading Soviet Army.

In the immediate aftermath of Cold War, the relations continued positively. The Turkish bases saw action in; Gulf War (combat), 2003 invasion of Iraq (logistics only), Afghanistan (logistic hub) and during Anti-ISIS coalition campaign. Turkey actively supported NATO operations. Former SACEUR⁴⁴ Stavridis expressed that Turkey have been present “in virtually every NATO operation with significant impact” listing a range of missions conducted from Balkans to Afghanistan to Gulf of Aden. Turkey contributes 4% of the NATO budget⁴⁵, spends 1,5% of its GDP on defense and continues to hold one of the largest armed forces in NATO, albeit severely degraded due to ongoing purges.

Despite an assuring past, Turkey rapidly moved away from NATO and towards Russia starting early 2016. Turkey-Russia relations accelerated after 15 July “coup attempt”. Erdogan regime blamed NATO and US with masterminding the attempt and started a massive purge which targeted NATO-aligned officers. Turkey reversed its position on Russian involvement in Syria. Russian and Turkish air forces even conducted combined air operations in Syria. Most controversial step came with Turkey’s decision to procure S-400 long range air defense system from Russia. The event constituted the first major weapon system acquisition from Russia by a NATO member⁴⁶. S-400 decision highlighted the sharp contrast in Turkish stance towards Russia. Less than a year ago, Turkey called for NATO to provide air defense in the southern borders in the aftermath of downing of the Russian jet. For NATO allies, beneath the

⁴³ “From the NATO perspective, ... Your geo-strategic position in the East-West context; your role as a bulwark in a region of dangerous upheaval; your massive land army in the front-line defense of the West; the role of the Bosphorus and Dardanelles in any major conflict-all these have a continuing relevance and importance in Alliance thinking today” “Turkey and NATO” - Speech By The Sec Gen of NATO The Rt. Hon. The Lord Carrington at the University of Istanbul, 17/11/1987, <http://archives.nato.int/turkey-and-nato-speech-by-sec-gen-of-nato-rt-hon-lord-carrington-at-university-of-istanbul>

⁴⁴ SACEUR-Supreme Allied Commander of Allied Forces Europe is the historic title for the commander of Allied Command Operations, top military commander responsible for NATO operations.

⁴⁵ Funding NATO, https://www.nato.int/cps/en/natohq/topics_67655.htm, 04/06/2018

⁴⁶ A number of current NATO members use legacy Russian system which were acquired before they joined NATO. Greek use of Cyprian S-300 was a compromise between Turkey and Greece after the S-300 crisis in 1997

restrained discussions on S-400 incompatibility with NATO systems, lies fear of a trojan horse and a question of faith and loyalty.

At times Turkey tried to walk a fine line between Russia and NATO, a line which is drawn by interests of ruling regime. In the recent Ukraine crisis Turkey condemned Russia but fell back from implementing measures as severe as US or Western Europe (As an example, Turkey did not close its airspace). However, Turkey very publicly sold drones to Ukraine, which were produced by Erdogan's son-in-law. Most recently Turkey opposed Sweden and Finland's entry into NATO and threatened to use veto power, in order to force the two countries to hand over regime dissidents⁴⁷.

Change in Turkish policy line corresponded to the rise of autocratic tendencies and subversion of state apparatus. Both Freedom House and Economist democracy indexes showed sharp decrease for Turkey after 2015⁴⁸. Ongoing state of emergency has eroded fundamental human rights of speech, assembly, religion, and property⁴⁹. These tendencies fundamentally contrast the NATO's founding treaty. Washington treaty preamble lists the affirmation of the signatories as *"They are determined to safeguard the freedom, common heritage and civilization of their peoples, founded on the principles of democracy, individual liberty and the rule of law"*⁵⁰. Unable to find support for autocratic practices, Turkish regime turned to Russia, which was more than willing to turn a blind eye.

There is no indication of reversal for Turkish slide away from liberal democracy or rapprochement with Russia. It is not farfetched to think that Turkey-NATO relations can worsen and eventually break through gradual distancing or a shock.

⁴⁷ "Turkey threatens to stall Sweden, Finland in NATO talks ", Deutsche Welle, 25 May 2022, <https://www.dw.com/en/turkey-threatens-to-stall-sweden-finland-in-nato-talks/a-61934165>

⁴⁸Freedom House, "Freedom in the World 2022 - The Global Expansion of Authoritarian Rule", 2022, <https://freedomhouse.org/report/freedom-world/2022/global-expansion-authoritarian-rule>
Economist, "Democracy Index 2021 - The China challenge", 28/05/2022, <https://www.eiu.com/n/campaigns/democracy-index-2021/>

⁴⁹ "Israel: "The Rachel Corrie verdict, a defeat for justice and accountability, a victory for impunity" – UN expert ", Rachel Corrie, United Nations Human Rights, 30 August 2012, <http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=22853&LangID=E>

⁵⁰ " The North Atlantic Treaty ", NATO International, 10 April 2019, https://www.nato.int/cps/ic/natohq/official_texts_17120.htm

3.2 EU

Turkey and EU relations can be traced back to 1959 where discussions of an association agreement -known as “Ankara agreement” started relations between the newly formed European Economic Community (EEC) and Turkey. The agreement was signed in 1963. The next major milestone came in 1987 when Turkey applied for a full membership of EU, for which the negotiations started in 1993. An important milestone was crossed in 1996 when customs union between Turkey and EU took effect. Turkey received the status of candidate country in 1999 at Helsinki and the membership talks started in 2004⁵¹.

Turgut Ozal years saw an acceleration in EU-Turkey relations. Part of the reason was political as well as economic. Ozal had lived through several coups himself and believed that in order to break the cycle of coups every 10 years, Turkey had to go through unprecedented amount of reforms. Such reforms would normally be sabotaged by the establishment. Therefore, EU accession was a great opportunity to reform through with popular support (Kuneralp, 2017). Accession reforms not only covered economic domain, but also domains where reforms were much needed such as rule of law, justice system, and human rights.

After Ozal years, the establishment of customs union brought about a new energy to the relations. On the Turkish side, the fear that the Turkish industry would be overrun by the competition turned out to be exaggerated. Turkish industry survived and integrated themselves to the EU systems and standards. However, starting with the Luxembourg summit where Turkey was denied applicant status and twelve other countries were granted, the underlying distrust towards each other started to manifest more openly. Although this decision was reversed two years later, the move gave strength to the suspicions on Turkey side that the EU accession is a never-ending road. The accession of Cyprus without resolving the underlying issues regarding the status of the island made matters worse.

Early years of AKP changed the tone of the relations to a much more positive tune. AKP was seen as leading a real change in the social, political and economic domains and EU supported such initiative. In line with Ozal’s policies, Erdogan -which spent his early years battling with the establishment forces- was more than happy to have EU on his side. Serious

⁵¹ “EU and Turkey’s History”, Delegation of the European Union to Turkey, 12.05.2022, <https://www.avrupa.info.tr/en/eu-and-turkeys-history-711>

efforts to align standards with EU took effect. As a result, accession negotiations were reopened in 2005. Erdogan viewed the relationship as the “EU Anchor” that supported the political stability in Turkey and a way to hold together the of coalition of pro-reformer in business sector, civil society, and opinion-makers (Lecha, 2019).

However, the rosy period did not last. The relations lost its initial momentum and stalled starting in 2007. Throughout negotiations countries like Cyprus and Greece continued to veto decisions that would further the process. Nicolas Sarkozy was openly against Turkish accession. A “privileged partner” model was presented to Turkey with support of France and Germany, but Turkey refused this, seeing it as another detour to neverland. In the domestic politics, Erdogan was able to overcome the establishment powers with the Sledgehammer and Ergenekon cases and accompanied arrests. As Erdogan eliminated potential threats and consolidated more powers, the need to have the EU on his side lessened. 2008 economic crisis and the Arab spring pushed Erdogan regime to further reevaluate the nature of relations with EU.

Turkey’s rapid slide toward authoritarianism after 2013, and the refugee crisis following the Syrian Civil War further changed the nature and tone of EU-Turkey relations. From Erdogan’s point of view, elimination of any remnant of threat to his rule after 15 July events and the establishment of the presidential system meant that Turkey-EU relations would be evaluated on a case-by-case basis and would be much more transactional. EU was already ready for this type of relationship and the refugee crisis became the major application of this new understanding. In March 2016, EU and Turkey signed a statement of cooperation that became to be known as “The EU-Turkey Deal”⁵². In exchange for resettling millions of refugees in Turkey, EU would pay €6 billion to Turkey which was to be used in improving migrant living conditions. A visa deal was tagged to the agreement where Turkish nationals would be granted visa-free travel to Europe, which did not come to life.

⁵² “EU-Turkey statement, 18 March 2016”, European Council, Consilium Europe, 18 March 2016, <https://www.consilium.europa.eu/en/press/press-releases/2016/03/18/eu-turkey-statement/>


		REPUBLIC OF TURKEY MINISTRY OF FOREIGN AFFAIRS DIRECTORATE FOR EU AFFAIRS CURRENT SITUATION IN ACCESSION NEGOTIATIONS (30 June 2016)	
OPENED CHAPTERS		CHAPTERS SUSPENDED DUE TO THE ADDITIONAL PROTOCOL	
25	SCIENCE AND RESEARCH (Provisionally closed) <i>(Austria, 12.6.2006)</i>	1	FREE MOVEMENT OF GOODS
20	ENTERPRISE AND INDUSTRIAL POLICY <i>(Germany, 29.3.2007)</i>	3	RIGHT OF ESTABLISHMENT AND FREEDOM TO PROVIDE SERVICES
18	STATISTICS <i>(Germany, 26.6.2007)</i>	9	FINANCIAL SERVICES
32	FINANCIAL CONTROL <i>(Germany, 26.6.2007)</i>	11	AGRICULTURE AND RURAL DEVELOPMENT
21	TRANS-EUROPEAN NETWORKS <i>(Portugal, 19.12.2007)</i>	13	FISHERIES
28	CONSUMER AND HEALTH PROTECTION <i>(Portugal, 19.12.2007)</i>	14	TRANSPORT POLICY
6	COMPANY LAW <i>(Slovenia, 17.6.2008)</i>	29	CUSTOMS UNION
7	INTELLECTUAL PROPERTY LAW <i>(Slovenia, 17.6.2008)</i>	30	EXTERNAL RELATIONS
10	INFORMATION SOCIETY AND MEDIA <i>(France, 19.12.2008)</i>	CHAPTERS UNILATERALLY BLOCKED BY GREEK CYPRIOTS	
4	FREE MOVEMENT OF CAPITAL <i>(France, 19.12.2008)</i>		
16	TAXATION <i>(Czech Rep., 30.6.2009)</i>		
27	ENVIRONMENT <i>(Sweden, 21.12.2009)</i>		
12	FOOD SAFETY, VETERINARY AND PHYTOSANITARY POLICY <i>(Spain, 30.6.2010)</i>	2	FREEDOM OF MOVEMENT FOR WORKERS
22	REGIONAL POLICY AND COORDINATION OF STRUCTURAL INSTRUMENTS <i>(Lithuania, 5.11.2013)</i>	15	ENERGY
17	ECONOMIC AND MONETARY POLICY <i>(Luxembourg, 14.12.2015)</i>	23	JUDICIARY AND FUNDAMENTAL RIGHTS
33	FINANCIAL AND BUDGETARY PROVISIONS <i>(Netherlands, 30.06.2016)</i>	24	JUSTICE, FREEDOM AND SECURITY
		26	EDUCATION AND CULTURE
		31	FOREIGN, SECURITY AND DEFENCE POLICY
CHAPTERS WITHOUT POLITICAL BLOCKAGES			
5	PUBLIC PROCUREMENT	34	INSTITUTIONS
8	COMPETITION POLICY	35	OTHER ISSUES
19	SOCIAL POLICY AND EMPLOYMENT		

Figure 26: Turkey-EU Negotiations - State of play as of 2016⁵³

⁵³ "Current Situation", Minister of Foreign Affairs, Directorate for EU affairs, 29 March 2021, https://www.ab.gov.tr/current-situation_65_en.html

Chapter 4: Information Risks

Unlike the socio-political, economic, or foreign policy domains, the major risks in the information domain manifest themselves in the long term rather than short term. Thus, the mismanagement of education may not immediately and directly affect the national capacity, but the long-term effects will be dire. As such, a hysteresis effect exists between the information domain and national capacity. Turkey's management of the information domain starting from K-12 all the way up the R&D institutions should be analyzed to identify future risks.

4.1 Education

4.1.1 K-12 Education

One main problem in the K-12 education is continuity. Due to political reasons, Turkey has seen 6 Ministers of National Education in the last 10 years. Erdogan stated rather explicitly that the main reason behind the ministerial changes was his desire to shut down the private education support institutions, which Gulenists had a major presence in⁵⁴. These institutions provided after hours and weekend education and prepared students for higher education exams. Three ministers who opposed such a move -Huseyin Celik, Nimet Cubukcu and Omer Dincer- which they considered to be a major blow to the education system-, were purged in a row^{54,55}. Also, with each minister, there was a major overhaul of the personnel in the high education bureaucracy. A former minister of education Huseyin Celik expresses the effect of the rapid ministerial changes as: ““As the minister changes, the staff changes from head to toe. As such everything starts all over again. Someone comes, sits somewhere, starts something, then when he changes, someone else comes again, he starts something again, what happens, you cannot go to the conclusion”⁵⁵.

⁵⁴ “ Dershaneleri kapatmayan 3 eski bakan hedefte”, Sozcu, 21 November 2016,

<https://www.sozcu.com.tr/2016/gundem/dershaneleri-kapatmayan-3-eski-bakan-hedefte-1519713/>

⁵⁵ “Eski Bakan Çelik: Dershanelerin kapatılmasına karşıyım, gündeme geldiği zaman da karşı oldum”, Kronos, 5 September 2021, <https://kronos35.news/tr/eski-milli-egitim-bakani-huseyin-celik-dershanelerin-kapatilmasina-karsiyim-gundeme-geldigi-zaman-da-karsi-oldum/>

Even worse, between 2002-2021, the structure of the education system changed 17 times⁵⁶. 17 changes over a 19-year period caused significant problems for students, teachers turned the system into a puzzle that no one really knows.

It is not surprising that Turkey does not fare well in international standardized tests with such unstable education system. The results of the PISA 2018 survey show that although there has been a point-wise increase in student performance in reading, mathematics and science, Turkey still ranks behind the OECD average in these areas.

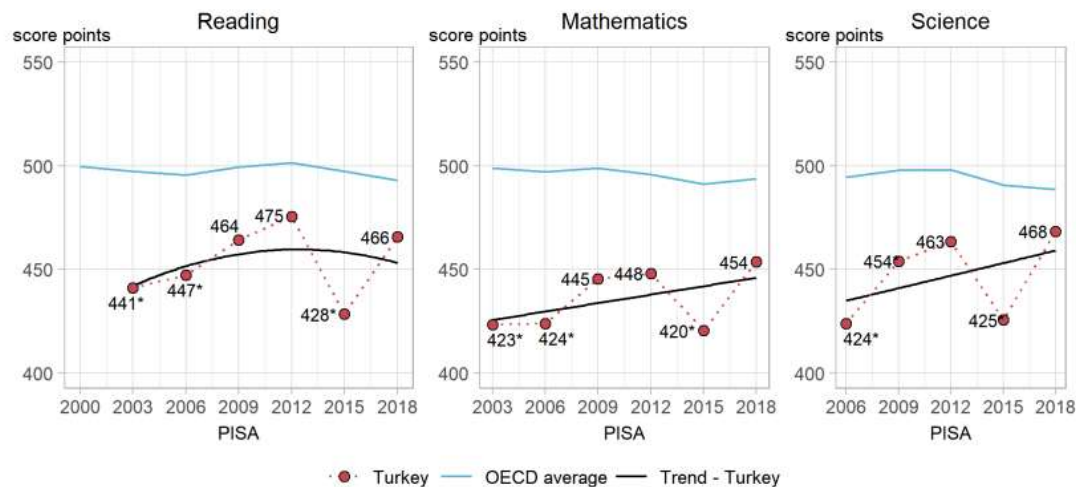


Figure 27: PISA Scores for Turkey and OECD (Source: OECD)

4.1.2 Higher Education

Turkey's population of 82.5 million is relatively young. As of December 2021, there are 129 public and 74 foundation (private) universities, serving 8.24 million students in various academic programs. 2020 figures reveal that 3.37 million students are enrolled in undergraduate and vocational programs; 343,569 in graduate programs; 106,148 in doctoral programs; and 4.42 million in the Open University (distance education in various subfields) Over 47,000 Turkish students go abroad for university education⁵⁷.

⁵⁶ " Bu Gençlerin Günahı Ne? Son 20 Yılda Türkiye'de Eğitim Sisteminde Yapılan Değişiklikler", Claude Cahun, 28 July 2021, <https://onedio.com/haber/bu-genclerin-gunahi-ne-son-20-yilda-turkiye-de-egitim-sisteminde-yapilan-degisiklikler-994864>

⁵⁷ "Turkey - Country Commercial Guide-Education", International Trade Administration, 30 March 2022, <https://www.trade.gov/country-commercial-guides/turkey-education>

The university rankings paint a good picture for the state of Turkish universities. In 2014, Times University rankings had 5 Turkish universities in top 500. By 2020 that number had decreased to 2. As of 2022, there is only a single university ranked in the top 500⁵⁸. In comparison, another emerging economy China had significant increase in the number of universities in the top 500 in recent years. In 2010, 5 Chinese universities were ranked in the top 500 which increased to 17 in 2020 and to 25 in 2022⁵⁹. QS World University, another ranking tracker by Quacquarelli Symonds show decline in Turkey, a static state for Brazil and a sharp increase for China.

Table 6: Number of Universities in top 500 QS University Rankings⁶⁰

YEAR	TURKEY	BRAZIL	CHINA
2021	1	5	23
2020	1	5	28
2019	2	5	14
2018	5	4	12
2017	5	4	13
2010	4	3	5

The purge of academics that were deemed dissident after July 2016, and the brain drain due to various factors such as living conditions, loss of autonomy and politization of universities are the main reasons behind the poor performance in recent years.

In the aftermath of the July 2016 purges, more than 6,000 academics were purged and banned from taking teaching positions in Turkey or any other civil servant positions⁶¹. 15 universities that were deemed to be connected to the Gulen movement were shut down

⁵⁸ "Times World University Rankings", University Ranking, <https://www.universityrankings.ch/results?ranking=Times®ion=World&year=2022&q=Turkey>

⁵⁹ "Times World University Rankings", University Ranking, <https://www.universityrankings.ch/results?ranking=Times®ion=World&year=2022&q=China>

⁶⁰ "Times World University Rankings", University Ranking, <https://www.topuniversities.com/university-rankings/world-university-rankings/2022>

⁶¹ "Beyond the purge: How academics in Turkey are facing up to repression by reimagining education", Elif İnce, 1 August 2018, <https://ifex.org/beyond-the-purge-how-academics-in-turkey-are-facing-up-to-repression-by-reimagining-education/>

under the state of emergency⁶². 1,600 university deans were forced to resign from public and private universities. Passport of these academicians were also cancelled, and they were banned from traveling⁶³.

The politicization of academia was not limited to Gulenists. 517 university academicians, who have signed a petition for peace in 2016 calling on Turkey to stop the violence against Kurdish people, have lost their jobs, and 405 of them have been ban from public office. Even the most prestigious universities were not immune to Erdogan's wrath. Bogazici University had a highly publicized episode where an Erdogan appointed dean were protested heavily by students and teachers⁶⁴.

The grim state of universities and dim hope for future have turned the best minds coming from the K-12 education to turn to abroad. As an example, 94 out of the 104 graduates of the prestigious German High School in Istanbul left Turkey in 2021 to study at universities abroad. In a similar manner, only 42% of the graduates of the French high school Notre Dame De Sion in 2021 preferred to study in Turkey, while 58% preferred to study abroad⁶⁵.

Discussion above paints a grim picture for the future of education in Turkey. The effects of the politically motivated changes on education system have already taken a big toll, and the more detrimental effects may manifest themselves in the future as these problems carry into future of qualified work force, R&D and innovation.

4.2 Research & Development

Figure 28 and Figure 29 show indications of economic resources allocated for R&D expenditures for Turkey, Brazil, India, China, and European Union. Although Turkey's R&D expenditures (% GDP) have been rising consistently, it is at around 1% which is well below EU

⁶² "15 Universities shut down in connection with state of emergency", Scholars at Risk, 26 July 2016, <https://www.scholarsatrisk.org/2016/07/15-universities-shut-connection-state-emergency/>

⁶³ "Turkey coup: why have teachers and academics been targeted?", Tolga Bozoglu, The Conversation, 26 July 2016, <https://theconversation.com/turkey-coup-why-have-teachers-and-academics-been-targeted-62895>

⁶⁴ "Rector appointment to Boğaziçi University shows politicization and collapse of higher education in Turkey", K. Murat Yıldız, Duvar English, 4 January 2021, <https://www.duvarenglish.com/rector-appointment-to-bogazici-university-shows-politicization-and-collapse-of-higher-education-in-turkey-news-55722>

⁶⁵ "Türkiye'deki demografik dönüşüm: Her yıl 50 bin öğrenci yurtdışına gidiyor", Figen Atalay, Cumhuriyet, 9 January 2022, <https://www.cumhuriyet.com.tr/turkiye/turkiyedeki-demografik-donusum-her-yil-50-bin-ogrenci-yurtdisina-gidiyor-1898717>

or China⁶⁶. In terms of number of researchers in R&D (per million people), a steady increase with similar slope can be observed for Turkey. However, this criterion shows that there is a more serious gap between EU and Turkey in terms of researchers, with EU employing 3 times as many people per million people. The growth with higher slope on EU side shows that the gap will not be closing anytime soon.

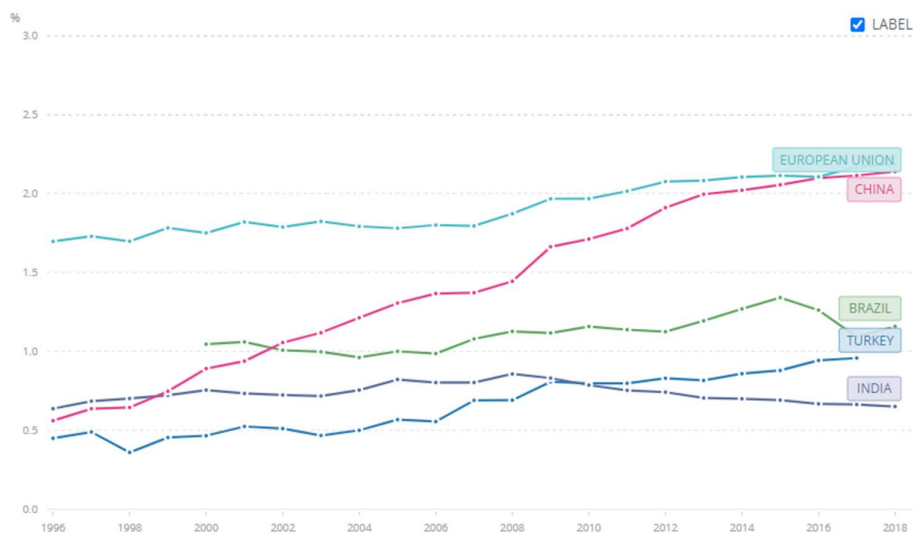


Figure 28: Research and development expenditure (% of GDP) - Turkey, Brazil, India, China, European Union(Data: World Bank)

The European Innovation Scoreboard by European Commission tracks and evaluates the innovation index of countries relative to EU. The scoreboard identifies three areas where Turkey has strength: Digitalisation, Sales Impacts and Linkages. As an overall score, Turkey has seen a decrease in 2021 which is due to “to reduced performance on the indicators using innovation survey data, Enterprises providing ICT training, Job-to-job mobility of HRST, PCT patent and Design applications, and Environment-related technologies” (European Commission, 2021). Overall, Turkey has dropped from moderate innovator status to emerging innovator status. With a score of 55(Figure 30), Turkey is placed between Montenegro and Latvia and is well below the countries with similar GDP (Poland: 66, Netherlands: 138, Switzerland: 162, Sweden: 156, Spain: 96)

⁶⁶ The latest data for 2018 and 2019 is listed as 1.03% and 1.06% respectively, where the EU average was 2.19% in 2019 (European Commission, 2021).

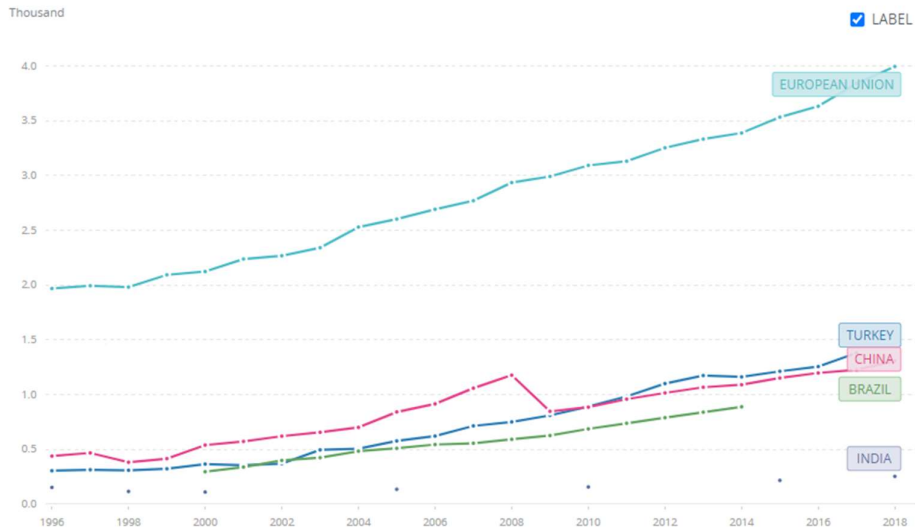


Figure 29: Researchers in R&D (per million people) - Turkey, Brazil, India, China, European Union(Data: World Bank)

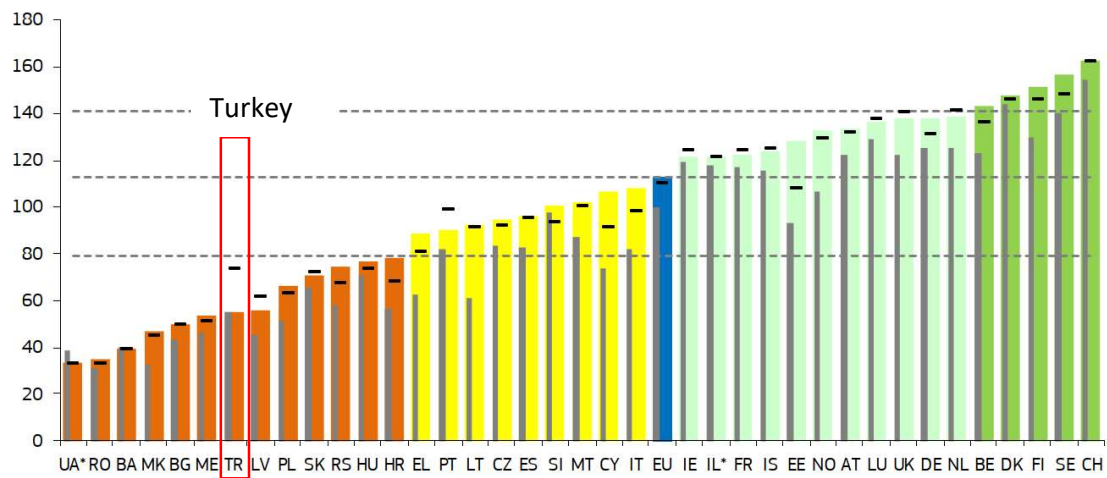


Figure 30: Performance of European and neighbouring countries' systems of innovation (European Commission, 2021)



Turkey is an Emerging Innovator.

Over time, performance relative to the EU has decreased, in particular in 2021.

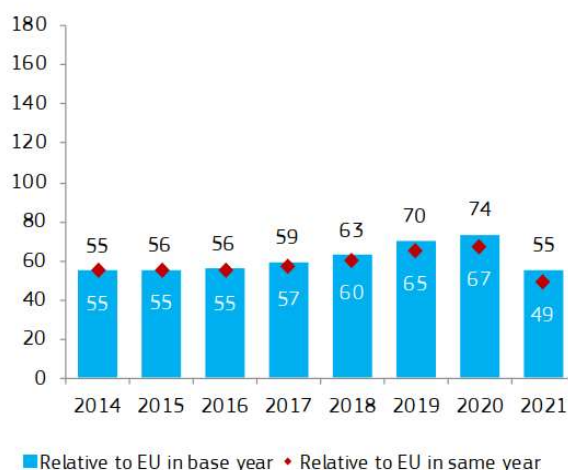


Figure 32: Turkey Overall Score in European Innovation Scoreboard (European Commission, 2021)

Turkey	Relative to EU 2021 in	
	2021	2014
SUMMARY INNOVATION INDEX	49.1	55.0
Human resources	44.9	17.6
Doctorate graduates	22.1	8.1
Population with tertiary education	66.0	0.0
Lifelong learning	48.5	53.3
Attractive research systems	41.0	28.6
International scientific co-publications	17.9	4.8
Most cited publications	57.7	47.5
Foreign doctorate students	44.5	19.3
Digitalisation	83.2	72.3
Broadband penetration	93.3	118.3
People with above basic overall digital skills	68.2	16.7
Finance and support	64.6	57.0
R&D expenditures in the public sector	36.4	49.1
Venture capital expenditures	N/A	N/A
Government support for business R&D	94.6	49.5
Firm investments	62.5	94.4
R&D expenditure in the business sector	44.7	26.0
Non-R&D Innovation expenditures	42.7	234.2
Innovation expenditures per employee	38.6	50.9
Use of information technologies	22.3	35.6
Enterprises providing ICT training	40.0	66.7
Employed ICT specialists	7.1	0.0
Innovators	56.7	104.9
Product innovators (SMEs)	60.1	63.6
Business process innovators (SMEs)	53.6	141.2
Linkages	66.5	80.3
Innovative SMEs collaborating with others	41.0	40.1
Public-private co-publications	17.1	7.3
Job-to-job mobility of HRST	114.3	164.1
Intellectual assets	15.9	11.4
PCT patent applications	22.9	17.0
Trademark applications	19.2	13.1
Design applications	3.0	4.8
Employment impacts	25.9	51.2
Employment in knowledge-intensive activities	9.8	0.0
Employment in innovative enterprises	38.8	87.5
Sales impacts	66.2	82.8
Medium and high tech goods exports	76.9	53.7
Knowledge-intensive services exports	41.5	23.6
Sales of innovative products	84.3	191.3
Environmental sustainability	49.7	28.6
Resource productivity	60.8	43.8
Air emissions by fine particulate matter	N/A	N/A
Environment-related technologies	60.7	28.9

The colours show normalised performance in 2021 relative to that of the EU in 2021: dark green: above 125%; light green: between 100% and 125%; yellow: between 70% and 100%; orange: below 70%. Normalised performance uses the data after a possible imputation of missing data and transformation of the data.

Figure 32: European Innovation Scoreboard 2021 (European Commission, 2021)

Mediocre performance of Turkey in R&D and innovation may take a turn for the worse in the future due to ongoing “brain drain”, effects of which will be felt in the decades to come.

The economic problems, social and political discontent and decreasing hope for a better future is leading the best minds of Turkey to take their talents abroad. The Human Flight and Brain Drain Indicator is part of the Fragile States Index and evaluates the economic impact of human displacement (whether for economic or political reasons) and the possible consequences on a country development⁶⁷. Figure 33 shows Turkey's human flight and brain drain index, which carries a striking resemblance to socio-economic and political developments in Turkey. The brain drain of Turkey had actually started to decrease in 2008 which can be explained by the 2008 global economic crisis, in which Turkey was affected relatively less compared to Western Europe and North America. The trend takes a sharp turn upwards after 2016, due to the massive exodus following the purges in the aftermath of July 2016. The trend has started to decrease again as it became harder to leave Turkey due to COVID and increased visa scrutiny. A survey study conducted in 2019 showed that the main reason for the migration was the "push factors" (negative factors at the origin country) rather than "pull effects" (positive effects at the destination country) for Turkish migrants (Karaduman & Coban, 2019).

It should be noted that this index does not indicate the number of people but an evaluation of effects on the economy. TurkStat numbers indicate that 330,289 people left Turkey in 2019, compared to 323,918 in 2018⁶⁸. In professions with high demand, the exodus is overwhelming. Turkish Medical Association reported that 1405 doctors left Turkey in 2021 to work abroad. In comparison that number was only 59 in 2012⁶⁹.

In light of the discussion above, Turkey's already mediocre performance in R&D and innovation may worsen in the future due to increased brain drain and be detrimental to economic productivity and growth.

⁶⁷ "Human Flight and Brain Drain ", Fragile State Index, 2018, <https://fragilestatesindex.org/indicators/e3/>

⁶⁸ "A look at Turkey's brain drain", John Lubbock, Ahval, 9 February 2021, <https://ahvalnews.com/turkish-brain-drain/look-turkeys-brain-drain>

⁶⁹ "Doctors Fleeing Borders: Is Turkey becoming Europe's Venezuela? ", Bahar Baser, Ahmet Erdi Öztürk & Hakkı Taş, 28 April 2022, <https://blogs.lse.ac.uk/mec/2022/04/28/doctors-fleeing-borders-is-turkey-becoming-europes-venezuela/>

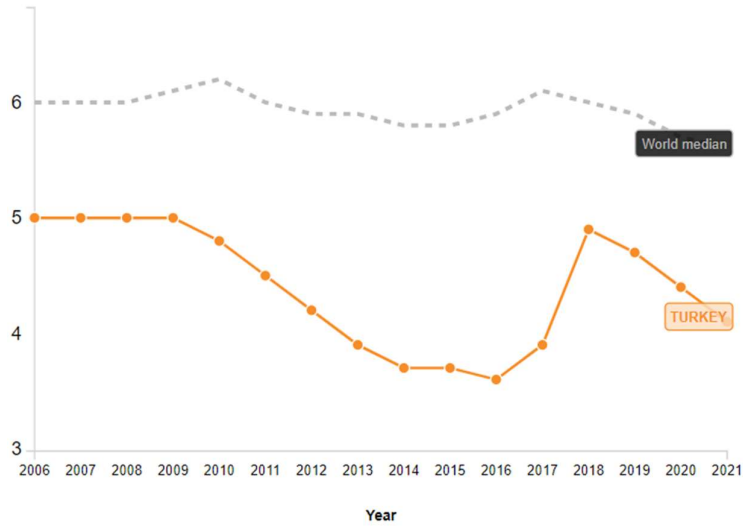


Figure 33: Turkey Human Flight and Brain Drain Index (Data: TCdata360 World Bank)⁷⁰

⁷⁰ " Human Flight and Brain Drain", World Bank, 2021,
https://tcdata360.worldbank.org/indicators/ha03234ca?country=TUR&indicator=43980&viz=line_chart&years=2006,2021

Conclusion

The development risks for Turkey are examined in this study through the lenses of economy, socio-political developments, relations with alliances, and information domain. Although each of these lenses are intrinsically linked with one another such segmentation helps with organizing analysis.

The economic domain indicates major risks for Turkey. GDP growth, inflation and unemployment are all worsening which can be a dangerous combination, especially considering post-Covid supply shortages and global increase in commodities and energy products. The trends in external debt and current balance deficit, and worsening exchange ratio problems can lead to liquidity and chronic debt problems. To make matters worse, politically fueled economic mismanagement and politicization of Turkish Central Bank can hinder potential efforts to counter the decline. On the industry side, the main export product automotive sector has been hit with plant closures, and depreciation of lira along with inflationary trends can drive the internal demand down. Turkey's overall energy dependency -especially over reliance to Russian energy- is likely to be a major issue in light of Ukraine crisis and increasing cost of energy.

Two main socio-political risks identified are polarization and economic inequalities. The main risk of polarization is the disappearance of truth and erosion of trust, which breeds a toxic environment where the common reference for good and a consensus driven political process is impossible to carry out. The party lines and short-term gains are preferred against the common long-term goods. Even worse, leaders of main groups view it in their benefit to continue as such for the rally under the flag effect. Turkey historically had geographic economic inequalities; however, the broad-based economic inequalities have been increasing and may combine with worsening economy, resulting in risk of social discontent and political violence, and hinder economic growth.

Turkey's current relations with NATO is nowhere close to the Cold War years or the 90s. Turkey is trying to walk a fine line between Russia and NATO, a line which is drawn by interests of ruling regime. Turkey's slide away from liberal democracy and rapprochement with Russia fundamentally contradicts NATO's founding treaty. It is not farfetched to think that Turkey-NATO relations can worsen and eventually break through gradual distancing or a

shock. Turkey's relations with EU changed character after 2013 due to rapid slide toward authoritarianism and the refugee crisis following the Syrian Civil War. From Erdogan regime's point of view, elimination of any remnant of threat to his rule after 15 July events and the establishment of the presidential system meant that Turkey-EU relations would be evaluated on a case-by-case basis and would be much more transactional. EU appears to be already ready for this type of relationship and the refugee crisis became the major application of this new understanding.

On the education domain, Turkey is facing mismanagement due to politically motivated moves on the education system. The post 15 July purges, combined with the brain drain has already hindered Turkish higher education, R&D, and innovation development, which will hurt Turkey's development in the decades to come.

The interrelated set of issues discussed above are not insurmountable by themselves, however a combination of them, supported by global shocks can result in a crippling effect, especially considering the social and political unity required to overcome these problems may themselves be compromised.

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