NORWEGIAN SCHOOL OF ECONOMICS

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The Arab Spring

Economic causes and consequences of the Arab Spring

An empirical socio-economic analysis

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Executive summary

The purpose of this thesis is to elaborate on the prelude and postlude of widespread protests across the Middle East and North Africa in 2010 and subsequent years. These series of events became known as the Arab Spring. The thesis will elaborate on economic conditions at the doorstep of the Arab Spring to assess potential economic motivations for protestors. Furthermore, we evaluate its aftermath, and whether conditions have improved. Both parts will focus on the same macroeconomic indicators. In addition, the thesis includes an assessment of institutional quality to supplement our understanding of the Arab Spring.

When analyzing Arab economies along macroeconomics indicators, we apply the seven-step dynamic crisis model by Ola H. Grytten and Arngrim Hunnes, as well as drawing on elements from crisis theories by Hyman Minsky and Charles P. Kindleberger.

In the first part of our analysis, we evaluate the development of eight selected macroeconomic indicators in four specific countries prior to the preliminary Tunisian protests in December 2010. In the second part of our analysis, we evaluate the same indicators in the same countries for the aftermath of the Arab Spring. Upon doing so, we apply the Hodrick-Prescott-filter to separate cycles components from the trend and evaluate these cycles along the eight indicators prior to and after protests erupted. Cycle values for other Arab states are presented for comparison. The purpose is to evaluate whether things have changed for the better, the worse, or not at all in the region. The third part of our analysis elaborates the institutional quality of Arab countries. This is done to shed light on the Arab Spring from a societal perspective.

In the fourth part of our analysis, we implement empirical findings from foregoing sections into the seven-step dynamic crisis model. The purpose of this is to direct attention towards important dynamics of economic crisis stemming from an exogenous shock. Furthermore, we seek to assess whether we find evidence for the occurrence of the seven elements stipulated in the model.

Our analysis shows that macroeconomic cycles alone cannot be blamed for the eruption of protests. We do, however, emphasize that economic circumstances were poor although business cycles in 2010 imply otherwise. Poor overall institutional quality is also likely a contributor to grievance and unrest. Furthermore, our findings indicate a worsening of conditions along several macroeconomic indicators since 2010. In the aftermath of the Arab Spring, we find indications for the occurrence of disruption, nervousness, turning point, crisis, and spread.

Preface

We have written this paper as part of our Master of Science degree at the Norwegian School of Economics (NHH), with specializations in Economics and Financial Economics.

Due to our interest in economic crises, we chose to take the course "Krakk og Kriser" during the fall semester 2020, with Professor Ola Honningdal Grytten as course leader. The course gave us an increased understanding of the occurrence of crises, how they can be identified, prevented, and resolved. The course also taught us to evaluate the different stages through which a crisis may travel. After participating in the course, we became even more interested in applying the economic crisis-toolkit to analyze a specific topic. This in combination with a keen interest in the Middle East led us to our topic. We wanted to elaborate on the economic causes and consequences of the Arab Spring based on a model for economic crisis. Our thesis has been written at a suitable time as Arabs this year marked the 10-year anniversary of the protests. Simultaneously, people raised questions as to whether things have changed for the better, for the worse, or if things have changed at all.

Working on the thesis has been both challenging and time-consuming. However, more importantly, it has been knowledge-enhancing, thought-provoking, and interesting. We have had the opportunity to dig deeper into a topic of interest while acquiring new knowledge, becoming familiar with analytical tools, and enhancing our analytic capabilities.

The macroeconomic dynamics of the Middle East and North Africa-region are affected by adverse factors. We have chosen to analyze a set of macroeconomic indicators that we find relevant for our research question. Evidently, our conclusions will be affected by our chosen approach, as well as our individual perceptions of the dynamics in Arab countries.

We would like to express our gratitude towards Professor Ola Honningdal Grytten for thorough supervision and valuable advice throughout the past months. We would also like to thank our personal networks for providing comments, tips, and support along the way. Ulrik Jørgensen would also like to thank all the dogs in Bergen for their unknowing emotional and moral support along the way.

Bergen, June 1st, 2021

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1.0 Introduction

On December 10th, 2017, 26-year-old fruit vendor Mohamed Bouazizi set himself on fire in front of his local town hall. This act of desperation was a manifestation of the grievances widely acknowledged and felt by his fellow citizens in Tunisia. Shortly thereafter, dismay and demonstrations arose all over the country, and before a month had passed Arabs were voicing their discontent across the Middle East. Acting upon principles of Human Rights, basic liberties, and economic grievances, the populations rose in a manner not previously seen in the young Arab states, most of which were established in the wake of the Second World War. Although there is little doubt that economic circumstances played a part in the rising tensions, it remains dubious to what extent it made the uprising inevitable. Many Arab countries were not unfamiliar with oppression, low wages, and high levels of unemployment.

Although the global financial crisis did seemingly not create a sizable dent in the real economies of Arab states initially (ILO, 2009), many feared the lagging consequences in the time to come. Importantly, the capacity to react to economic shocks varied, and still varies, vastly between countries. GCC-countries were able to utilize large financial resources to cushion the immediate blow, whereas others were less successful as such (Saif & Choucair, 2009). Notably, recommendations for the Arab countries prior to the Arab Spring encompassed among other factors improvements to socioeconomic conditions, gender equality and social dialogue between citizens and authorities (ILO, 2009). Thus, stroking upon central grievances among citizens. Arab economies were not able to respond and recover before they were struck by yet another exogenous shock i.e., the Arab Spring.

The purpose of this paper is twofold, firstly, to evaluate the extent to which economic circumstances were responsible for the demonstrations and insurgencies known as the Arab Spring that followed the self-immolation of Mohamed Bouazizi. Secondly, to elaborate on the entailing financial and real economic consequences. Conveniently, relevant data has been collected over almost a decade as the Arab Spring marked its 10-year anniversary at the end of 2020 and early 2011. To our knowledge there are few papers that bridge the post financial crisis landscape with the eruption and consequences of the Arab Spring. Numerous publications address specific aspects of the uprisings. However, our ambition is to elaborate the prelude and postlude based on the seven-step dynamic crisis model, and supplement with an institutional assessment. Evidently, the purpose is to encapsulate both topics in a twofold economic approach to the Arab Spring.

1.1 Research question

This paper encompasses an economic approach to the popular revolts known as the Arab Spring starting in 2010 and 2011 in the Middle East and North Africa (MENA) region. The purpose of this thesis is to shed more light on macroeconomic factors that may have played a part in the foregoing and subsequent economic landscape in the region. In that context, particular emphasis will be placed on a specified selection of factors. The research question is:

Economic causes and consequences of the Arab Spring

Evidently, the research question reaches wide and far. The paper will assess economic conditions which led to the eruption of the Arab Uprising in 2010 and 2011, as well as evaluating its aftermath. Limitations and specifications are elaborated in the following to narrow down the scope of the paper.

1.2 Demarcation

The following is an economic crisis analysis, and the focus area is indicated in the research question. When mapping the macroeconomic terrain for the MENA-region, both prior and after the Arab Spring revolts, we will be evaluating dynamics across a section of central indicators. Data on the dynamics of these indicators is extracted using World Bank-, IMF-, and FRED Economic Research databases.

The paper will approach the Arab Spring twofold by firstly evaluating circumstances prior to the self-immolation of Mohamed Bouazizi and secondly assessing developments in the time that followed up until today. As such, it becomes relevant to consider the potential impact of the international financial crisis after 2007-2008 on the region. Notably, the primary emphasis will be placed on the effect of the 2010-2011 events, but with a glance at conditions before to the Arab Spring.

In addition to catering to macroeconomic factors, the analysis will contain an integrated institutional development index intended to underscore fundamental institutional components that, depending on their respective strengths, may serve to preempt or enhance the impact of a crisis. Furthermore, it may shed more light on elements connected to macroeconomic factors that are not directly expressed in variables such as GDP and unemployment, but nonetheless are essential to a country's economic health.

The paper also contains a geographical demarcation by which particular attention is directed at a handful of countries. The MENA-region as a whole and the GCC-countries will be analyzed separately. These two subdivisions provide points of reference when assessing dynamics in specific Arab countries. The selected countries are Tunisia, Egypt, Jordan, and Lebanon respectively. Although all four countries experienced turmoil as a result of the Arab Spring, it did not turn into armed conflict. Consequently, accessibility of data is better relative to countries such as Libya, Iraq, Syria, and Yemen. Another common denominator is the absence of valuable petroleum resources which places them on a different economic specter compared to GCC-countries.

2.0 Theory

This chapter presents three theories that explain the structure and development of economic crises. The paper's theoretical basis is constituted by Grytten and Hunnes, Minsky, and Kindleberger. This lays the foundation for Chapter 9 - *"The seven-step dynamic crisis model and evidence from the Arab Spring"*.

2.1 Minsky´s crisis-model

In the 1970´s, macroeconomist Hyman P. Minsky (1919–1996) developed a descriptive crisis model to explain how crises usually occur. His dynamic model describes the development from an economy in equilibrium to an economy that loses financial stability (Grytten & Hunnes, 2016, p.38). The model is based on changes in monetary conditions and is more theoretical than empirical. It has a built-in deterministic pessimism, which means that phases are determined by previous events which make a crisis inevitable. Furthermore, Minsky's model emphasizes weaknesses in the monetary system, instability in the credit system, debt structure, speculation, and leverage cycles.

Financial instability

Financial stability means that the financial system is able to facilitate financing, resist disruptions, make payments, and redistribute risk effectively (Norges Bank, 2020). Loss of financial stability means that the market is in an unsustainable equilibrium, i.e., loss of the ability to withstand financial shocks in the economy. Financial instability in financial markets can trigger cyclical fluctuations of various sizes. Minsky thought that financial instability could

be the main reason for crises. The size and severity of fluctuations determine whether one ends up in a crisis or not (Minsky, 1982).

Minsky´s model in five phases

Displacement

The main element in this phase is an exogenous macroeconomic shock that initiates a series of events that can eventually end in a crisis. Macroeconomic shocks can be, for example, economic liberalization, innovations, natural disasters, changes in monetary policy, or war. These changes can affect either the prospects, expectations, profit opportunities, or traders' behavior in the market. Displacement leads to financial instability because the economy disconnects from its natural growth path.

Overtrading

In the second phase, the changes from the macroeconomic shock are assumed to persist, and higher demand pushes up prices. Traders become irrational and overestimate profit opportunities, and even the "common man" begins to speculate. Financial speculation occurs, and due to herd mentality, assets are gradually priced above their fundamental value.

The positive demand shock raises expectations of increased profitability. Due to the demand shock, companies produce and invest more, and revenues increase. The economy is in in exponential growth phase where investors start to take higher risks, households take out large loans to participate in the upswing, and banks ease lending requirements while granting riskier loans. Overoptimism cause people to act less rationally.

Monetary expansion

The economy enters the third phase, where the shock induces increased demand for money and credit, and monetary and credit policies tend to be more expansionary. The instruments in expansionary monetary policy are to increase the money supply or lower interest rates. Increased money supply again leads to increased demand. The economic policy amplifies the economic cycle. When companies or households see others make money on speculative purchases, they want to follow suit. Money and optimism cause asset bubbles to arise. Prices of securities gradually increase due to speculation, and many find it reasonable to take part in the price increase. This brings the markets toward asset bubbles and an overheated economy (Grytten & Koilo, 2019).

Revulsion

The fourth phase contains a turning point. Large fluctuations in asset prices characterize this period due to increased uncertainty in the market. Traders begin to understand that the markets are overheated and that asset prices lack real economic coverage. The economic upswing has not come from real economic growth but from monetary expansion. As long as more speculators want to enter the market, this does not cause a crucial problem. The problem arises, however, when no one wants in, but everyone wants out. When all the speculators want to sell out simultaneously, a positive shift in the supply curve occurs. The result is that prices plummet. Due to the price slump, there is panic in the market. Growth in money and credit slows down, and the economy enters an economic downturn. The banks tighten lending activities, and it becomes difficult for companies to take out new loans to repay losses on already loan financed assets.

The moment markets turn is referred to as the "Minsky moment". According to Minsky, there are three classic signs that a crisis is on its way: A company or a bank goes bankrupt, fraud is detected by an investor who wants to withdraw the market, or a rapid fall in the price of a security or commodity occurs (Kindleberger & Aliber, 2005).

Discredit

Demand, wealth and optimism are reversed, and the economy enters a negative spiral with gloomy prospects. The rationale for investors is to sell before prices fall further. They flock to safe harbors, often in the form of government bonds or a safe currency. Bank liquidity weakens, bankruptcies increase, and liquidity problems arise due to lack of capital.

2.2 Kindleberger´s crisis theory

Charles P. Kindleberger (1910–2003) was an economic historian from the Massachusetts Institute of Technology and an enthusiast of neoclassicism. Based on previous crisis theory and Minsky´s crisis model, Kindleberger formed his own dynamic theory of crises. Compared to Minsky's model, the phases are less distinct, and he adds that the role of hegemonic power is crucial to the outcome of each phase. His theory is therefore less deterministic. Even if the first phase occurs, it does not have to result in an economic crisis. A strong hegemonic power can limit or prevent a crisis, thus making Kindleberger´s model more optimistic.

Hegemonic power

A hegemonic power is a major player with influence in the market. At the national level, it can be the central bank, whereas internationally it can be the EU or the IMF. Kindleberger places great emphasis on the influence of hegemonic power on crises. The power of hegemony can decide whether there will be a crisis, and how long it will last. The absence of a hegemonic power creates, prolongs, and deepens crisis.

Hegemonic power shall ensure countercyclical credit in the market, coordinate macroeconomic policy, provide a stable foreign exchange market, and act as a lender of last resort (Kindleberger C. P., 1986). Furthermore, hegemonic power must be able to help the market by maintaining demand in an economic downturn. At the same time, it is essential to slow down demand in an upswing so that there are no bubbles in the market.

The course of the crisis

Compared to Minsky, Kindleberger places less emphasis on distinct phases on the road to crisis. However, he remarks that a crisis can be explained through three phases i.e., mania, panic, and crisis.

Mania

Kindleberger and Aliber describe mania as a loss of rational thinking. Economic theory is built on the fact that people and investors respond rationally to changes in economic conditions. Expectations of a secure financial future and increasing profits lead investors to buy more risky assets. The banks grant riskier loans due to increased optimism (Kindleberger & Aliber, 2005).

Furthermore, mania is characterized by an aggregate loss of rationality. This is because expectations of future profitability improve. Kindleberger highlights factors such as undervalued risk premiums, low real interest rates, and misjudgment of the market which lead to mania and speculation (Kindleberger and Aliber, 2005**).**

Panic

As market prices for stocks and real estate rise, investors realize that prices are too high. Thus, they are afraid of losing money and want to sell out quickly. When many want to sell and few want to buy, prices plummet. This phase is characterized by uncertain investors who wish to sell out to secure profits while banks realize that the risk of debt default is growing.

Kindleberger explains this as a change in the investor's mindset from optimism to pessimism. This change causes instability in the credit market as borrowers, both individuals and businesses, realize that their indebtment is too big compared to their income. Borrowers begin to adjust to the new financial expectation and reduce their consumption to pay debts or save more. Lenders realize that they have too many risky loans in their portfolio and want repayment of outstanding debt from the riskiest borrowers, and they tighten sharply on the lending criteria (Kindleberger & Aliber, 2005).

Crashes

Collapse is a fact, and the market values plummet. When the prices of assets and real estate fall, people lose money. Investors have borrowed money for speculation, leading to debt and bankruptcy defaults. Pessimism and fear paralyze credit markets (Kindleberger, & Aliber, 2005)

Kindleberger´s periodization

Like Minsky, Kindleberger developed a theory of crisis building. Kindleberger does not have as clear phases as Minsky but uses a periodization to explain the three phases of mania, panic, and crashes.

Monetary expansion

This phase corresponds to the first three phases of Minsky: displacement, overtrading, and monetary expansion. A macroeconomic shock changes people's expectations, expected profit opportunities, and behavior.

Businesses and households join the investment wave, and a solid expansion in the money and credit market occurs. Increased money supply is enough to create a spiral of increasing optimism, demand, and credit that leads the economy away from its natural trajectory.

Swindles

In this phase, speculation is visible, and the market is in a position where it is clear that there will be overheating. Market participants sense the risk, but still trade because there are profits to be made. Investors partake in speculation and economic activities in a moral and legal gray area. Pyramid schemes, questionable accounting, or overvalue of assets are typical examples of swindles.

The critical stage

This phase resembles Minsky's revulsion when market uncertainty begins to spread. Expectations of future earnings and price growth decline, and people realize that prices have previously been overestimated. The situation goes from a period where mania and optimism characterize the market to a situation where the market is characterized by pessimism and hesitance. As prices fall, more people are unable to pay their debt. Bank's experience significant losses and tighten up lending terms. The credit market stops. The economy enters a negative spiral from which it is hard to get out.

Domestic propagation

In this phase, the crisis spreads to other markets due to adverse ripple effects, whereby reduced profitability leads to reduced investment and consumption. A financial crisis can thus spread to the real economy, and vice versa. If a hegemonic power does not intervene successfully in the critical phase, it will spread to other domestic markets. Potentially this could lead to stock market falls and affect the housing market.

International propagation

Economies are interconnected across national borders. International investments, trade, and cash flows mean that countries are mutually influenced by each other's economic state. For example, history shows that international stock markets develop side by side, a phenomenon particularly observed during financial crises. This can be explained by evaluating transmission mechanisms between international markets during financial crises.

2.3 Seven-step dynamic crisis model

Ola Honningdal Grytten and Arngrim Hunnes created a seven-step dynamic crisis model based on empirical data from historical crises and existing crisis theories. The model is inspired by Kindleberger, Minsky, and Eichengreen (Grytten & Hunnes, 2016, p.45). The seven phases illustrate a pattern that can lead to a financial crisis.

Figure 2.1 - Seven-step dynamic crisis model. Source Grytten 2020 (PP. Kriseteori 24.08.2020).

The steps are not inseparable and may often merge. The model can be applied to analyze various crises, although not all crises touch on all seven elements. The seven steps are elaborated in the following.

Step.1: Disruption

Disruption can be defined based on Kindleberger's theory. He states that the path towards crisis begins in the form of exogenous shock. Examples of such shocks are changes to economic policy, discovery of valuable natural resources, innovations, immigration, and war. A common feature is that they lead to increased activity in the economy, which means that market stability is jeopardized. The increased economic activity is often accompanied by credit- and money growth, as well as inflation.

The exogenous shock may be caused by factors on both the demand and supply sides. An example of the demand side is expansive monetary and fiscal policy leading to credit expansion. An example on the supply side is the discovery of natural resources, which may lead to large scale investments and subsequent monetary overflow. Innovations and war can have the same effect. It is common for warfare to be financed by banknote printing, entailing rapid growth in money and credit volumes. This abundance of money provides a surplus of demand that gives a boost to the economy.

Step.2: Overheating

If investors expect the consequences of the macroeconomic shock to persist, they adapt accordingly by assuming that activity and profitability will increase. Minsky described this as euphoria, a condition where people have exaggerated expectations of future returns. The economy overheats as more people partake in speculation. Many want to invest in assets to later reap the benefits of price increase. Hence, the economy accelerates while credit demand increases. There is an increased demand for credit since economic activity accelerate.

Step.3: Bubble economy

In the third phase, it becomes clear that the economy is going too fast. Nonetheless, investors continue their activity because they make profit if the upswing continues. Since market prices of assets exceed the fundamental values, bubbles emerge. Monetary expansion and speculation, rather than real economic growth, drive the economy forward. After the real economy shows signs of decline, the abundance of money creates a kind of artificial financial growth. Although investors are aware that prices are artificially high, they continue to invest as they expect further

price increases. According to the Greater Fool-theory, it is individually rational to invest as long as somebody else comes along after you (Kindleberger & Aliber, 2011).

Step.4: Nervousness

Eventually, the markets start to get nervous. Banks narrow their lending, and market participants become less willing to trade what they fear to be overpriced assets. When markets are nervous, they react strongly to new information, whether positive or negative. Prices therefore tend to fluctuate visibly.

Kindleberger points out that in nervous markets, companies are more likely to engage in activity in the gray zone. For example, this could be attempting to hide their real financial position or operating results. Kindleberger calls this swindle. Furthermore, unsustainable investment projects can be commonplace. To avoid a downturn that could lead to an asset crash and financial crisis, the authorities are often inclined to grant loans or reduce lending rates.

Step. 5: Turning point

Sooner or later, the negative expectations will prevail, culminating in the Minsky moment. As markets turn around, people will fear financial losses, and they want to sell out as quickly as possible. The problem is that few want to buy. Since there are ´few investors willing to buy, supply is much higher than demand. The result of the imbalance is that the market ends up in a vacuum condition where market prices fall sharply. This condition is often referred to as panic. Economic activity is stifled, and the volume of money and credit is significantly reduced.

Step.6: Crisis

In this phase, pessimistic expectations dominate the market. Market participants are incurring losses on asset price falls, bankruptcy rates increase, and credit institutions are throttled.

Distrust reduces credit institutions' willingness to lend so that the crisis spreads to the rest of the business community. When the liquidity flow is reduced, companies have problems maintaining the level of activity. The result being a reduction in aggregate demand. Disposable income among households and tax revenue are reduced due to the downsizing, which in turn further reduces aggregate demand. The economy is now in a negative spiral, and the government must intervene to turn the tide. Contractions often go much further than the fundamental condition would suggest.

Typically, investors who can invest will sit on the fence until they think the bottom has been reached and invest when there are prospects for profit. consequently, negative speculation takes place (Grytten & Hunnes, 2016, p.50)

Step.7: Spread

Financial crises tend to spread to other markets, and may well spread across borders. How widespread the crisis is could be determined by the degree of market integration and government responses. For example, a stock market crash may only induce minor ripple effects on the real economy. However, if the effects of the crash are long lasting, it may lead to the credit sector incurring big losses and liquidity flows drying up. In such a scenario, the crash could spread to the real economy. Internationalization causes financial crises to spread more rapidly across national borders.

3.0 Data and sources

3.1 Introduction

In this section we elaborate on the data material applied in the analysis. To construct strong observations and draw the correct conclusions, it is essential to have access to reliable sources. Initially, we will underscore the criteria. Thereafter, the relevant sources for this paper will be assessed.

3.2 Validity and reliability

Validity

The validity of a data set is assessed according to the extent to which the material measures the phenomenon in question. That is, how relevant the data is for the topic of research. Evidently, one must derive precise information to answer the research question to achieve high validity. It is possible to have high reliability and low validity by applying highly trustworthy data sources to measure a less relevant phenomenon (Golafshani, 2003). An example of the latter would be applying reliable data for nominal GDP to measure economic activity, when in reality the more precise indicator would be inflation-adjusted real GDP.

Reliability

The reliability of a data source refers to the dependability and precision of the relevant information presented. Essentially, it is a matter of data precision relative to real conditions. Reliability can be affected by the method of gathering information, how it is processed, and

how it is presented. High reliability is thus diminished by accurately presented data, harvested consistently over time, and whether the data has been applied before (Golafshani, 2003).

3.3 Assessment of validity and reliability

Macroeconomic key figures - sources

Upon evaluating quantifiable macroeconomic indicators, the primary data foundation is constituted by the World Bank, the OECD, the International Monetary Fund, and Organization of Islamic Cooperation. Notably, datasets extracted from World Bank databases occasionally contain *estimates* for Arab countries. This is the case for unemployment rates. These are constituted by modeled ILO-estimates.

Data on the remaining macroeconomic indicators is provided by the World Bank and the IMF. However, although these are highly acknowledged and trusted organizations, it is relevant to problematize the extent to which information sharing in the respective countries is conducted transparently. There have been examples, such as in Tunisia prior to the Arab Spring, where economic statistics were manipulated (OECD, 2015). The size of unofficial economic activities, such as in the black market for employment, further raises the potential imprecision of data. Regardless of these caveats, we deem World Bank-, IMF- and ILO-data to be the most reliable data sources for this thesis.

Real GDP

Real GDP represents the total gross value added in an economy. Deductions for depreciation of physical capital and depletion of natural resources are not included. By keeping GDP-data constant in a specific currency, one can evaluate dynamics in economic activity by removing the inflation factor. That is, one assesses changes in the volume of the economy. We have applied annual data in fixed local currency prices as supplied by the World Bank and OECD. In that sense, real GDP provides high validity as an indicator of economic activity.

The relevant time series stretch from 1996-2019 over a 24-year period. This is due to the availability of data typically starting in the mid 1990s for most Arab states. As far as reliability goes, we perceive World Bank- and OECD-national accounts data as reliable data suppliers. Geographically, this paper is limited to the Middle East and North Africa. Challenges arise for certain years in specific countries when it comes to the measurement of real GDP. This is particularly relevant for countries such as Libya, Syria, Iraq, and Yemen. Years of turmoil and conflict in the wake of the Arab Spring have disrupted the flow of information. For Syria this

is particularly challenging. However, for the countries under focus in this paper, lack of data is not an issue.

Observing changes to real GDP as measured by constant national currencies allows for analysis of changes to economic volumes whilst adjusting for the impact of price fluctuations. This is beneficial upon assessing countries with occasional large swings in inflation as discussed below.

Unemployment rate

Annual unemployment rates are supplied by the World Bank constructed on national estimates. These reflect the amount of the total labor force that is available for work, but at the time are not employed. It represents a central real economic indicator and is as such highly valid for the purpose of this paper. However, the matter of reliability is debatable.

It may also occur that the relevant national institutions that calculate unemployment rates do not supply data in a precise manner. Notably, unemployment rates are based on national estimates which exposes the numbers to national biases. As such, reliability may be hampered. Furthermore, many Arab nations are diminished by large shadow economies and people seeking employment outside of official labor markets. These are important arguments to keep in mind when assessing unemployment in the Middle East. Although prone to criticism regarding reliability, as commented, we consider World Bank unemployment data to be the most reliable source for measuring this indicator.

Youth unemployment

Annual youth unemployment rates are provided by the World Bank based on national estimates and are limited to ages 15-24 for both genders. On the topic of the Arab Spring, it is a central indicator to assess, as it is widely acknowledged that unemployment among the young has been a central source of grievance across the Middle East (ILO, 2011). This is particularly problematic as many Arab States have vast populations of young people, thereby aggravating the negative implications of high youth unemployment. Evidently, it is a highly valid indicator when assessing the economics of the Arab Spring.

As far as reliability goes, similar challenges arise as for the total unemployment rate, national estimates, employment in the shadow economy, measurement methods. However, we perceive the World Bank as being a key provider of such information.

Inflation rates

Annual inflation-data is provided by the World Bank measured along a consumer price index for a specific average basket of goods and services. As a financial indicator, inflation may express the temperature of an economy whether it is heating up or cooling down. In the case of the Middle East, inflation levels vary significantly across countries. However, at an aggregate level the MENA-region has displayed far higher inflation levels compared to the world average (ILO, 2009). As such, it is a valid indicator to assess when approaching the Arab economic landscape. The World Bank provides these data based on IMF-sources and is as such considered reliable.

M3 – broad money supply

Data on broad money supply is provided by the World Bank based on IMF-databases measured in current national currency units. According to official websites, broad money is defined as encompassing all currency outside of banks, demand deposits except for those of the government, savings and deposits by private individuals, essentially currency that is not in the hands of central government or bank finances (World Bank, 2021).

As such, broad money supply provides an impression of the flow of money within a population and can be symptomatic of an economy's pace thus also a listening post for the financial wellbeing of an economy. The latter implies high validity for M3 as an indicator. Furthermore, IMF data upon which the World Bank builds its database is considered reliable in the sense that it is measured using consistent methods across time.

General government debt (GGD)

The International Monetary Fund maps general government debt as a percentage of GDP. They further define gross government debt as encompassing all liabilities requiring interest payments between a debtor and a creditor at a given point in the future. This entails credit volumes owed by states to international creditors such as the IMF, the World Bank, and the GCC. In addition, individual countries can be suppliers of such capital of which Saudi Arabia is a good example. Typically, one would expect such liquidity to dry out during a financial crisis, while demand rises among countries affected by a specific crisis (De Broeck, Dabla-Norris, End, & Mariknov, 2018). That is, Arab states are expected to have displayed an increased demand for foreign capital flows in the wake of the Arab Spring. Evidently, government debt seems like a relevant and valid indicator.

Manufacturing

Domestic manufacturing encompasses value added across sectors without accounting for deductions and natural resource degradation. This is also provided in fixed national currencies, thereby isolating the quantum-effects of changes to the economic landscape. As with GDP, data is provided by the World Bank. The relevant data sets are perceived as reliable, and valid for measuring changes to production volumes. As such, it can also bear witness of overall economic activity.

Net domestic credits

Annual data on net domestic credits as measured in current national currency units is put forward by the World Bank. It encompasses claims on the central government as well as on other sectors within the economy. Essentially, this indicator expresses the availability of funds from domestic lenders to borrowers in the relevant countries. Expectedly, such indicators would move upward during times of accelerating growth and economic activity (Central Bank of Ireland, 2021). As a financial indicator, domestic credits provide an impression of the liquidity-volume in circulation within a country´s population, thus also a valid macroeconomic indicator. Being based on IMF- and World Bank-databases, we also deem it reliable.

4.0 Methodology

Throughout this section we will elaborate on the methodological approaches selected to assess the quantitative and qualitative data sets applied in the analysis. These are the HP-filter, integrated institutional development matrix, and correlation-calculations.

4.1 HP-filter

The Hodrick-Prescott filter is a tool developed by Robert J. Hodrick and Edward C. Prescott to create a trend based on time series data. It is a univariate approach where the data foundation from one section of time series represents the in-data, and the time series is smoothed out by minimizing the gap between the estimated trend and the observed value. By comparing observed time series with the trend one can unravel deviations from the estimated trend, and as such point towards positive or negative cycles for economic variables. Evidently, one needs to decompose an observed time series into a trend, a cycle, and an error component. The error component includes elements such as seasonality, but for simplification this error is considered a part of the cycle component. Thus, we have the following:

$$x_t = f(g_t, c_t, \varepsilon_t) \quad (1)$$

$$\rightarrow x_t = f(g_t, c_t) \quad (2)$$

Arithmetically then, this yields the following:

$$\rightarrow x_t = g_t + c_t \quad (3)$$

For this paper, perceiving the error term as a part of the cycle component serves to look beyond the effects of factors such as oil price, which is significant for the economic performance of many Arab countries. As such, the focus can remain on events along the timeline that are more relevant in this case. The HP-filter minimizes the variance of the cycle component with a penalty for variance in the second difference of the trend component. As such, the HP-filter defines a trend, as expressed by $g = (g_t, g_{t+1}, \ldots, g_T)$, of a time series $x = (x_t, x_{t+1}, \ldots, x_T)$ (Koilo & Grytten, 2019). This is expressed as follows:

$$\min_{g_t} \sum_{t=1}^{T} (x_t - g_t)^2 + \lambda \sum_{t=2}^{T-1} [(g_{t+1} - g_t) - (g_t - g_{t-1}]^2 \quad (4)$$

The first expression indicates the cycle component, whereas the second indicates differences in trend growth rate. λ indicates the smoothness of the growth component. The rule of thumb when determining this value is (Johansen & Eika, 2000):

- Monthly observations: $\lambda = 14\,400$
- Quarterly observations: $\lambda = 1600$
- Annual observations: $\lambda = 100$

For yearly data this is generally set at 100. Implicitly then, a lambda-value close to zero reduces the impact of cycles, whereas a higher lambda-value entails the opposite – that cycle components constitute important explanatory factors. Following from this, we can identify the unique solution to the minimization problem as:

$$g = \frac{x}{I_n - \lambda F}, \quad (5)$$

where I_n is an $n * n$ matrix, and F constitutes the penta-diagonal $n * n$ matrix. Looking at Koilo & Grytten (2019), this can yield the following theoretical and numerical examples:

$$F = \begin{pmatrix} f & 0 & 0 & & 0 & 0 & 0 \\ 0 & f & 0 & \cdots & 0 & 0 & 0 \\ 0 & 0 & f & & 0 & 0 & 0 \\ & \vdots & & \ddots & & \vdots & \\ 0 & 0 & 0 & & f & 0 & 0 \\ 0 & 0 & 0 & \cdots & 0 & f & 0 \\ 0 & 0 & 0 & & 0 & 0 & f \end{pmatrix}$$

$$F = \begin{pmatrix} 1 & -2 & 1 & & 0 & 0 & 0 \\ -2 & 5 & 4 & \cdots & 0 & 0 & 0 \\ 1 & -4 & 6 & & 0 & 0 & 0 \\ & \vdots & & \ddots & & \vdots & \\ 0 & 0 & 0 & & 6 & -4 & 1 \\ 0 & 0 & 0 & \cdots & 4 & 5 & -2 \\ 0 & 0 & 0 & & 1 & -2 & 1 \end{pmatrix} \quad (6)$$

Cycles can be expressed by deducting the observed time series from the estimated trend, and is expressed as follows:

$$c_t = x_t - g_t \quad (7)$$

By applying the HP-filter as described above we can separate cycles and trends:

$$\min_{g_t} \sum_{t=1}^{T} (x_t - g_t)^2 = x_t - \lambda \sum_{t=2}^{T-1} [(g_{t+1} - g_t) - (g_t - g_{t-1}]^2 \quad (8)$$

As such, the cycle component on the left side of the equation (6) expresses the residual. We can then derive the following:

$$c_t = x_t - \lambda \sum_{t=2}^{T-1} [(g_{t+1} - g_t) - (g_t - g_{t-1}]^2 \quad (9)$$

Throughout this thesis we will apply World Bank- and IMF-data in a HP-framework to establish the economic topography of Arab states before and after the Arab Spring revolts. Upon doing so, we present our results as natural logarithms to underscore percentage deviations from relevant trends. We then arrive at the following expression:

$$\log(c_t) = \log(x_t) - \log(g_t) \quad (10)$$

A smoothing parameter of 100 is the most relevant lambda-value for this paper as we assess annual macroeconomic data supplied by the World Bank. Thus, we will bring cycles from the trend to the surface. Upon evaluating the impact of large societal events this feature of the HP-filter is useful.

Caveats to the HP-approach

It is, however, important to underline some fundamental weaknesses of the HP-filter:

- Lack of theoretical foundation: Although widely acknowledged, the HP-filter estimates potential economic values without applying economic theory and does not bother with definitions of economic parameters.
- Endpoint challenges: The HP-filter is two-sided meaning that it estimates trends based on observations in $t-1, t, and\ t+1$. The problem then arises that at the end of a times series there are no future values, and similarly at the start there will be no past values. Evidently, observations towards the endpoints of the time series affects the cycle values.
- Real-time challenges: Running economic parameters, such as real GDP, through an HP-filter may induce real-time problems. The freshest observations are often prone to revision, thus making data sources less certain. In addition, manipulation of macroeconomic data by national authorities may occur. These problems are further exacerbated by endpoint problems.

Consequently, applying the HP-filter should include a problematization of the accuracy of the method. When evaluating cycles at the endpoints of data series it may occur that the magnitude of an estimated cycle is different from the actual size of the cycle. Such a discussion could for example revolve around the calculation of unemployment dynamics. It may well be that the Non-Accelerating Inflation Rate of Unemployment (NAIRU), so-called natural unemployment, behaves differently than what comes into expression in the data (ILO, 2011). This constitutes an analytical speedbump caused by the limited availability of data for Arab countries – most of which only have reported complete macroeconomic data from 1996. The estimated HP-trend may then be imprecise relative to the natural underlying trend. The limited quantum of data further underscores the potential gap between instrumental trends and natural trends.

Furthermore, the Arab Spring and the ensuing security and political situation may have hampered the accessibility and credibility of some datasets. Particularly limited have been data for Syria, Yemen, Libya, and Iraq. Economic reporting among various Arab countries has been prone to criticism for being manipulated in favor of the reporting country, especially for weak and nondemocratic regimes (Martínez, 2018).

4.2 Integrated institutional development index

In addition to assessing purely macroeconomic factors, we will also construct an institutional development matrix. This allows us to shed more light on societal circumstances that may serve to enhance or dampen the magnitude of a crisis. Upon doing so, we will assemble data from indices along six dimensions each with two facets. These dimensions and their corresponding data providers are elaborated in the following.

Fragility and stability

- Fragile States Index (**FSI**): this is provided by the Fund for Peace, an organization that develops tools and collects global information to reduce conflicts through a focus on social and economic factors. The index consists of 12 parameters rated from 0 to 10, and the index itself is rated from 0 to 120 (The Fund for Peace, 2021).
- Political Stability Index (**PSI**): measures the likelihood of government destabilization or overthrowing by non-peaceful means. It is provided by The Global Economy, ranges from -2,5 to 2,5 where the latter represents the highest level of political stability and is composed of several other indices from different sources (The Global Economy, 2021).

Environment

- Environmental Performance Index (**EPI**): encompasses a summary of sustainability performance across the world by evaluating 32 indicators along 11 categories. It is provided by the Yale Center for Environmental Law & Policy and stretches on a scale from 0 to 100 (Yale Center for Environmental Law & Policy, 2021).
- Environmental Health Index (**EHI**): measures to what extent a country successfully protects its respectful population from environment related health risks. It is a subcategory of the abovementioned EPI of which it constitutes 40%. As with the EPI, the EHI has a scale from 0 to 100 (Yale Center for Environmental Law & Policy, 2021).

Freedoms and rights

- Human Freedom Index (**HFI**): presents an overview of the state of human freedom along measures of personal, civil, and economic freedom. The index applies 76 indicators along 12 dimensions, and rates countries with an aggregate score from 0 to 10, where 10 indicates complete freedom (CATO Institute, 2021).

- Index of Economic Freedom (**IEF**): covers 186 countries across 12 indicators of economic freedom indicators, such as financial- and property rights. The index rates countries on a scale from 0 to 100 (The Heritage Foundation, 2021).

Socioeconomics

- Doing Business Index (**DBI**): The World Bank ranks national economies on their business climate on a scale from 0 to 190 across 10 dimensions – each constituted by separate and equally weighted parameters. A high score on the index indicates a conducive regulatory environment for establishment and conduct of business (The World Bank, 2021).
- Human Development Index (**HDI**): The United Nations Development Programme (UNDP) measures human development and wellbeing across three primary categories; long and healthy life, knowledge, and a decent standard of living. These three categories have separate indices to quantify the sub-scales. As such, the HDI evaluates economic growth as a means of human development. The scale stretches from 0 to 1, where 1 indicates the highest level of development (UNDP, 2021).

Gender

- Global Gender Gap Index (**GGI**): provided by the World Economic Forum to capture the magnitude of gender-based inequality over time. The index measures scores across four main dimensions; economic, educational, health, and political. The 2020 report contains measures of 153 countries along 14 indicators within the four dimensions. The index stretches from 0 to 1 where 1 indicates complete parity between genders (World Economic Forum, 2021).
- Gender Inequality Index (**GII**): The United Nations Development Programme measures gender inequality along three dimensions; reproductive health, empowerment, and economic status. These are constituted by five indicators. The index encompasses 162 countries, and scales them from 0 to 1, where 1 indicates completely unfair conditions and 0 indicates equality (UNDP, 2021). That is, the scale is inverse to the other facets of the Integrated Institutional Development Index.

Governance

- Democracy Index (**DMI**): The Economist Intelligence Unit assesses the status of democratic health in 165 countries along five main dimensions based on 60 indicators on a scale ranging from 0 to 10, where 10 indicates a perfect democracy (The Economist Intelligence Unit, 2020). Further, it categorizes countries into one of four categories i.e., authoritarian regime, hybrid regime, flawed democracy, full democracy.
- Corruption Perceptions Index (**CPI**): Transparency International evaluates 180 countries according to expert and business perceptions of public corruption. The scale stretches from 0 to 100, where 0 indicates high levels of corruption, and 100 indicates a clean economy (Transparency International, 2021).

Mathematically we will construct a composite integrated institutional development matrix to quantify and express the status of vital institutional factors in the relevant countries. Our approach is geometric, and departs in the following general equation:

$$(\prod_{i=1}^{n} a_i)^{1/n} = \sqrt[n]{a_i \times a_{i+1} \times a_{i+2} \times a_{i+3} \times \ldots \times a_n} \quad (9)$$

Where Π equals to the geometric average of the parameters, *a*, indicated from *"i"* to "*n"*. These values are derived from the abovementioned sources. The specific equation used to construct the composite integrated institutional development matrix includes the 12 indicators specified, and is expressed as follows:

$$IIDI = (\prod_{i=1}^{n} a_i)^{1/n} \quad (10)$$

$$(\prod_{i=1}^{n} a_i)^{1/n}$$

$$= \sqrt[12]{FSI \times PSI \times EPI \times EHI \times IHF \times IEF \times DBI \times HDI \times GGG \times GII \times DMI \times CPI} \quad (11)$$

The 12 parameters have been normalized to a 0 to 1-scale whereby a score closer to 1 indicates a positive score and a score close to 0 indicates poor institutional quality. The specified equation thus yields a number to express the overall institutional quality of the relevant country.

4.3 Correlation

In addition to assessing macroeconomic parameters and institutional quality separately, it is relevant to evaluate the interconnection between the two. That is, our analysis will also delegate attention to their synergies. Upon doing so, the paper will elaborate on a scatter plot of GDP-dynamics in the wake of the Arab Spring contrasted to the quality of institutions. Specifically, IIDI-values from 2010 and 2011 are applied to inspect negative impacts on GDP-development and potential contractions. Furthermore, a correlation-coefficient will be calculated to numerically reflect the covariation and explanatory power of institutions to economic dynamics.

To construct the scatter plot of IIDI-GDP we will let the GDP-troughs constitute the x-axis, and IIDI-scores represent the y-axis. Upon doing so, the paper will include values for all Arab MENA. The purpose of this is to provide better grounds for comparison, as well as a more precise calculation of the correlation between IIDI-scores and economic dynamics.

The correlation coefficient, R-squared, will be calculated to indicate whether IIDI represents a credible explanatory factor for post-Arab Spring GDP-dynamics. It is calculated as follows:

$$R^2 = 1 - \frac{Sum\ of\ Squared\ Residuals\ (SSR)}{Total\ Sum\ of\ Squares\ (SST)} \quad (12)$$

$$R^2 = 1 - \frac{\sum(y_i - \hat{y}_i)^2}{\sum(y_i - \bar{y}_i)^2} \quad (13)$$

The value of R-squared will indicate if there is a considerable correlation, and if so to what extent and in which direction it goes.

5.0 Outline

This paper studies the economic causes and consequences of the Arab Spring by approaching the topic along two dimensions. Firstly, to evaluate a selected set of financial and macroeconomic indicators in the prelude and postlude of the financial crisis to map the economic terrain of a set of selected countries as well as the Arab World as a whole. Secondly, the paper investigates the stability of institutional frameworks to establish whether the relevant economic infrastructures were able to withstand and minimize the scale of the crisis. The institutional diagnosis of the specific countries may further concretize factors that constitute grievances, other than apparent economic ones, that may have played a part in the dismay among populations of Arab countries. This approach has been illustrated by Grytten & Koilo

(2019). As such, the preliminary section of the analysis intends to unravel levels and nuances in the years leading up to the initiation of the Arab Spring in 2010-2011.

Upon assessing the economic causes of the Arab Spring, this paper briefly mentions the effects of the financial crisis of 2007-2008 on the Arab economic landscape. Furthermore, dynamics for the Arab World as a whole and the GCC-countries are taken into consideration to provide grounds for comparison. Notably, our focus is on the Arab Spring, hence the financial crisis will be commented on but not analyzed thoroughly.
The particular focus on the above-mentioned countries has to do with Egypt encompassing the largest Arab population in the MENA-region, Tunisia being the starting point of the unrest, Jordan and Lebanon being countries tainted, although not significantly altered, by demonstrations and protests. Furthermore, these countries have in common an absence of highly valuable natural resources, specifically oil and gas. As such, oil rich exporting countries of the Persian Gulf represent a different part of the Arab economic specter (World Bank, 2010).

The paper applies structured time series analysis to divide trend- and cycle components to assess the stability of the selected indicators. This approach is present throughout the analysis both in the prelude and postlude of the Arab Spring. Consequently, positive or negative deviations from a calculated trend are perceived as either positive or negative cycles.

Upon establishing trends, the paper utilizes data from the World Bank Database, the International Monetary Fund, as well as FRED economic data. The evaluation follows eight key macroeconomic indicators, subdivided into four real economic productive elements, as well as four financial indicators. These are the following:

- Y: gross domestic product, fixed prices national currencies, the primary indicator of economic performance.
- MP: manufacturing, value added, fixed prices national currencies, a leading procyclical indicator.
- U: unemployment rate total, national estimates, a lagging countercyclical indicator.
- U*: youth unemployment rate, ILO-estimates, a lagging countercyclical indicator.
- M3: broad money supply, current LCU, a leading procyclical indicator.
- C: net domestic credits, current LCU, a leading procyclical indicator.

- P: inflation rates, measured by changes in consumer price indices, a lagging procyclical indicator.
- GGD: general government debt as percentages of GDP, current LCU, a lagging indicator that can be both pro- and countercyclical.

5.1 Arab economic landscape pre-financial crisis

When analyzing the economic development of the Arab countries during the time leading up to the Arab Spring, it is inevitable to mention the international financial crisis of 2007-2008. Upon observation of GDP-trends up until 2008 using the HP-filter, we see that GDP lays above trend. Arab nations have responded differently to the 2007-2008 financial crisis. Where some countries have visible dents in GDP, others appear to have experienced continued, although slower, growth also in the wake of the crisis. This is further elaborated on later in the paper. Consequently, economic dynamics occur differently across the region. As discussed above, the eight mentioned macroeconomic factors will be studied by illustrating them relative to a trend. This trend is calculated using a Hodrick-Prescott filter with a lambda-value of 100 corresponding to yearly values.

5.1.1 GDP-development prior to the financial crisis

To provide an impression of the status of economic activity across Arab nations prior to the financial crisis, the following contains HP-trend estimates for GDP in Egypt, Tunisia, Jordan, Lebanon, the GCC-countries, and the Arab World in the period 1996-2008.

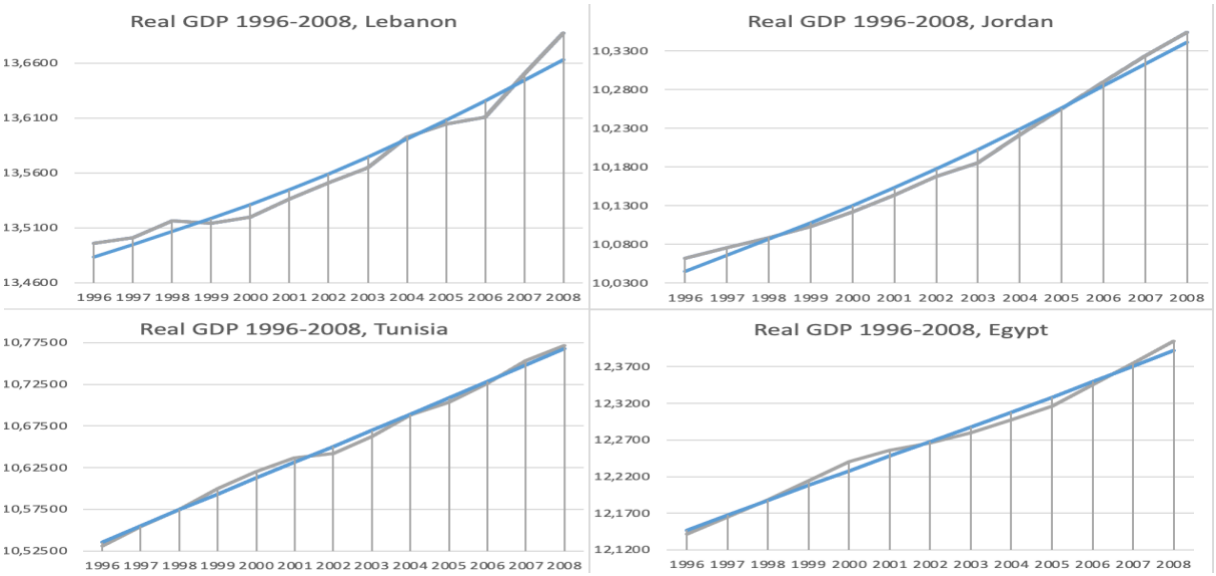

Figure 5.1 - GDP-development prior to the financial crisis.

As can be seen, GDP-values in 2008 lay slightly above trend-levels for 1996-2008 for all four countries. Similar tendencies can be seen for the Arab world as a whole as well as for the GCC-countries:

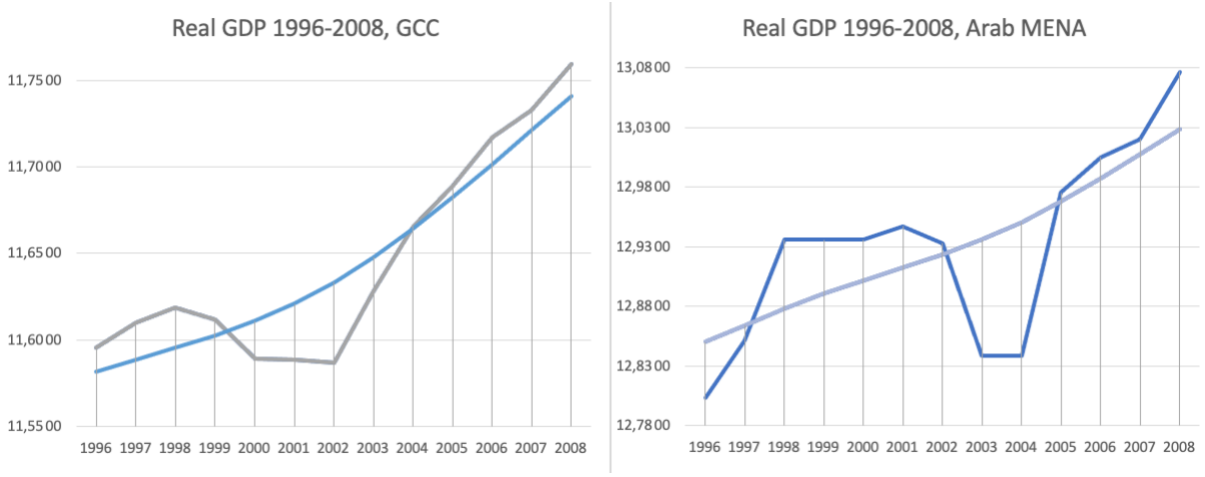

Figure 5.2 - GDP-development prior to the financial crisis.

Observably across the Arab countries, economies show resemblance of booms. On a regional level, the oil-price boom between 2003 and 2008 has strengthened fiscal and external balances – particularly for the GCC-countries (IMF, 2010). Although some countries, such as the four specified countries in this paper, are net importers of petroleum products, the entire region is prone to dynamics in the oil-market. This channels through factors such as FDI and remittances (World Bank, 2010). Evidently, movements in the GCC-countries have spillover-effects on its Arab neighbors (Almarzoqi Albqami, 2010). As the focus of this thesis is to assess the economic causes and consequences of the Arab Spring, the financial crisis will not be further analyzed in isolation. Rather, it will be included as an element in the prelude leading up to 2010.

6.0 Arab economic landscape pre-Arab Spring

In the following section we will assess deviations from the estimated HP-trend along the eight macroeconomic indicators specified previously. Trend-calculations will stretch from 1996 to 2010 to express the status of the macroeconomic indicators on the doorstep of the revolts. For each of the four countries there will be an introduction, followed by figures illustrating the eight indicators with corresponding trends and cycles. Subsequently, these will be further elaborated. Finally, cycle estimates for all Arab MENA are illustrated for comparison.

6.1 Jordan

The Hashemite Kingdom of Jordan has been governed as a constitutional monarchy since its independence in 1946 and has enjoyed relative economic and political stability compared to its

neighbors (Helfont & Helfont, 2011). The kingdom shares similar social problems as its neighbors stemming from unemployment, corruption, poor governance, and other socio-economic challenges. These grievances become further highlighted by the lack of valuable natural resources and poor economic performance. In tandem they may constitute threats to the nation as whole. As. the former Jordanian ambassador to the US indicated, the biggest threat to Jordan´s national security is young unemployed Jordanians (Helfont & Helfont, 2011). In the subsequent sections, the macroeconomic landscape of Jordan is elaborated.

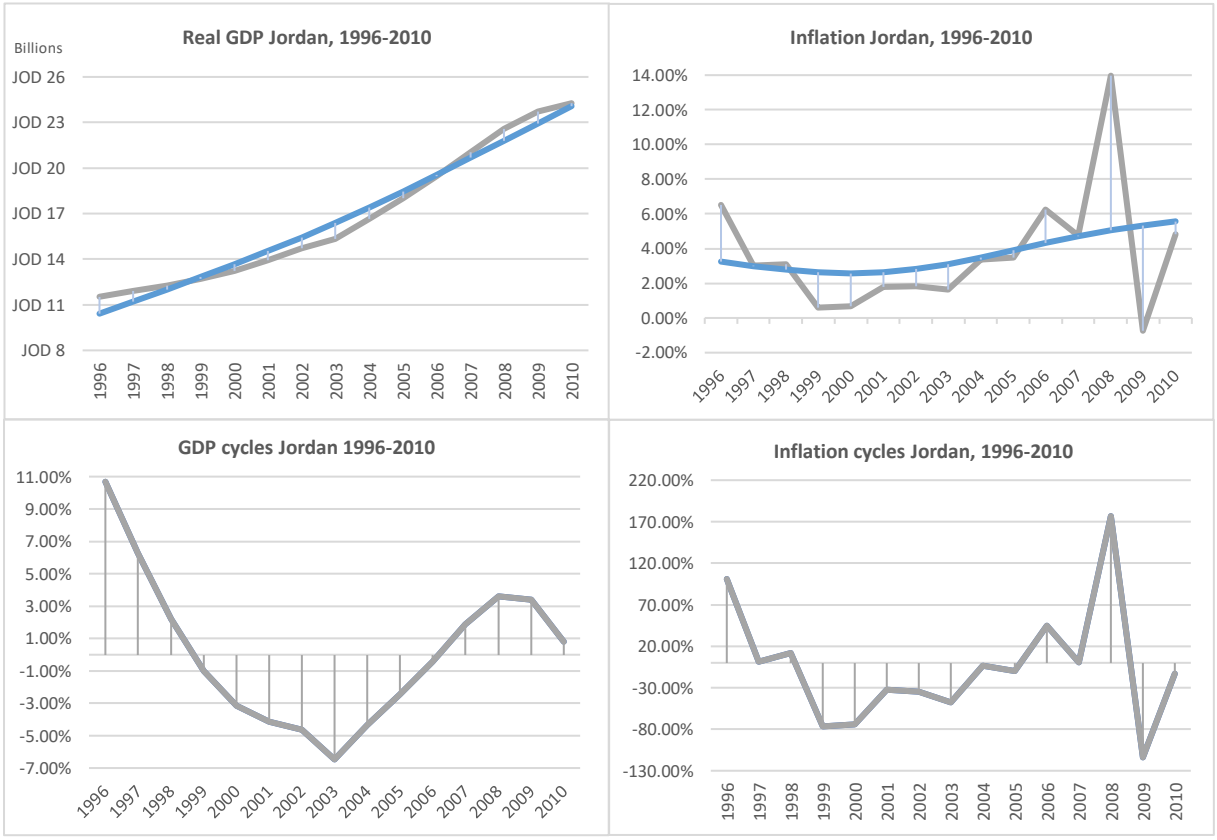

Figure 6.1. – Real GDP and Inflation, Jordan, 1996-2010.

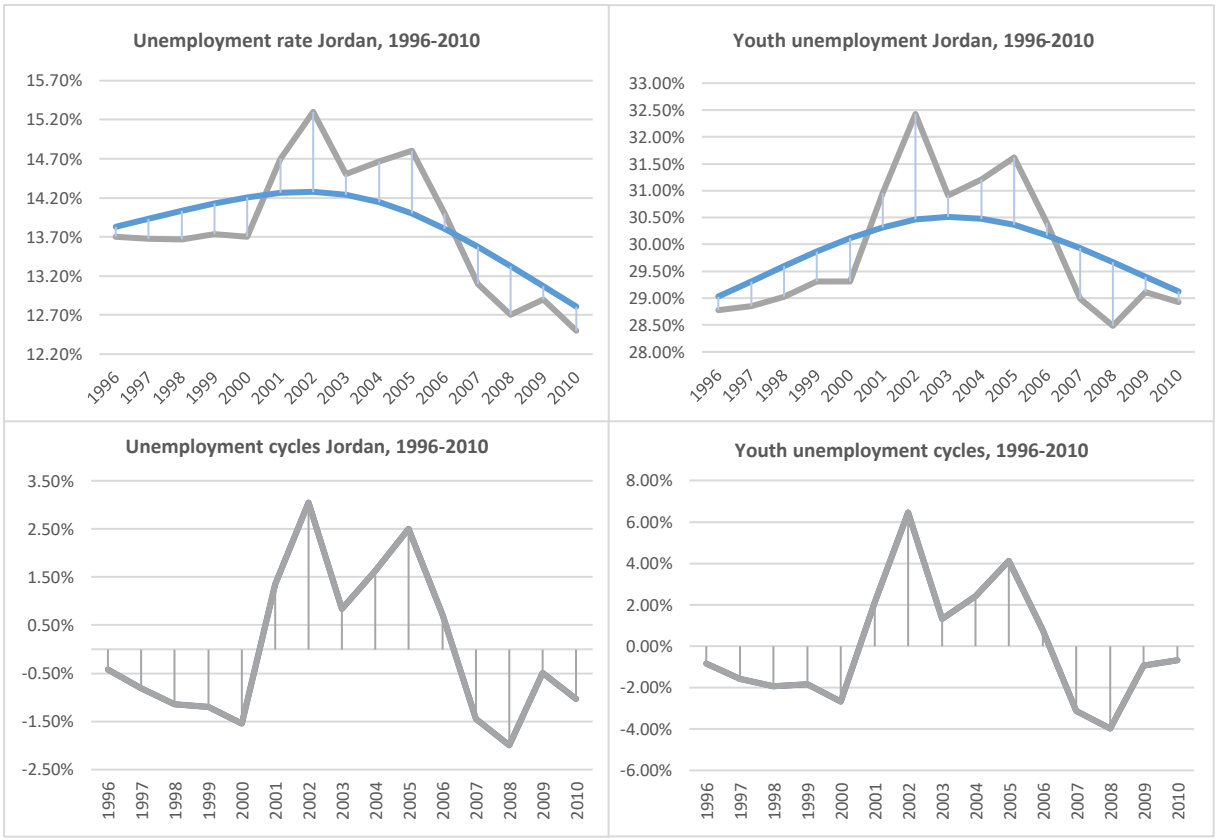

Figure 6.2 – Unemployment and youth unemployment rate, Jordan, 1996-2010.

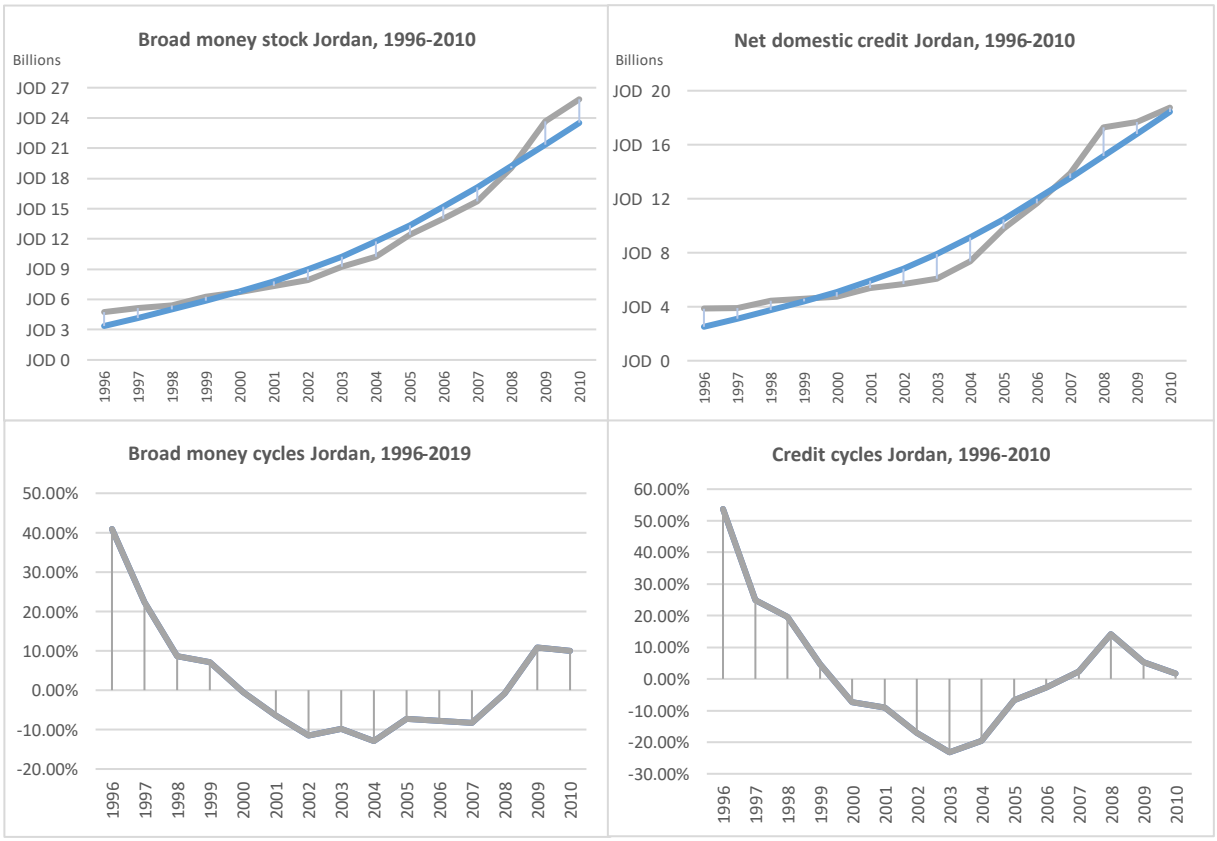

Figure 6.3 – Broad money stock and net domestic credit, Jordan, 1996-2010.

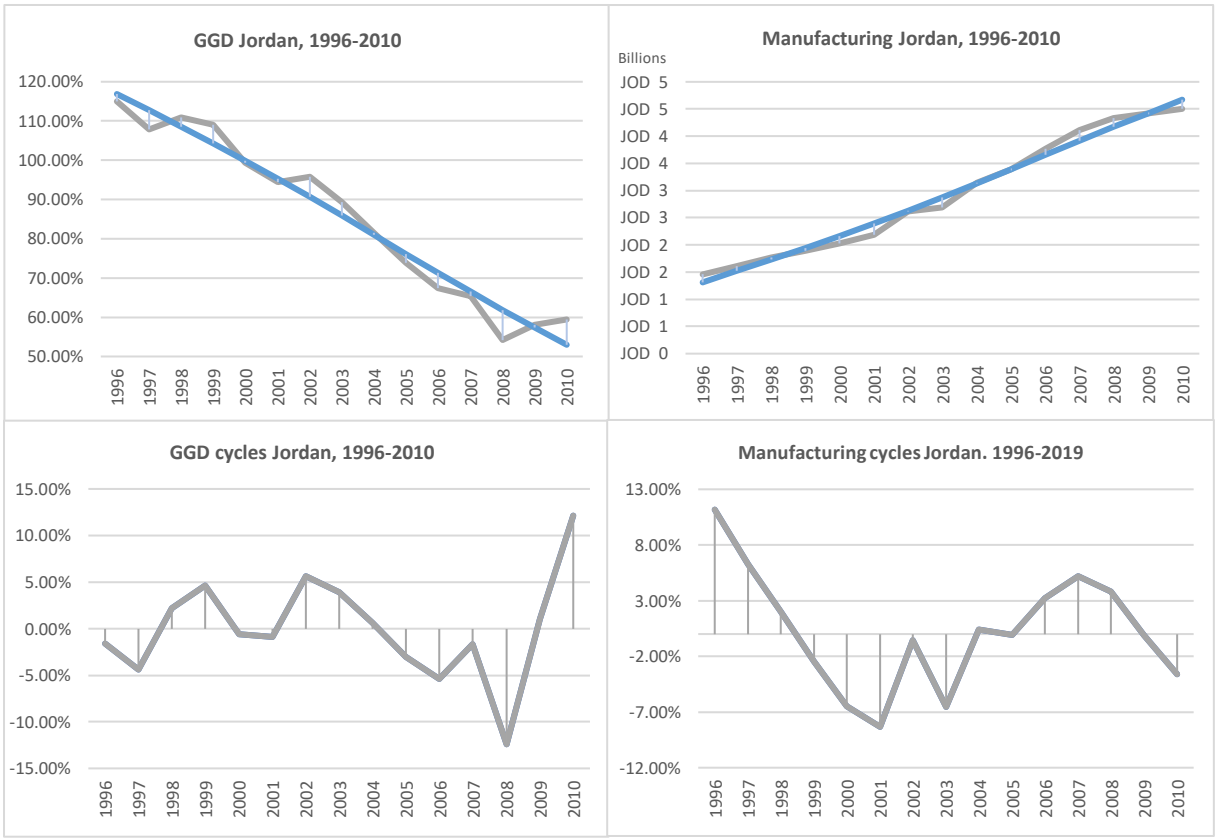

Figure 6.4 – GGD and manufacturing volumes, Jordan, 1996-2010.

Real GDP

In 2017, contributions to the Jordan economic output stemmed primarily from services, accounting for about two thirds of GDP, with industry and agriculture encompassing just below 30% and 5% respectively (Index Mundi, 2020). Such relative sizes were also relevant prior to 2010. Tourism alone had an estimated contribution to GDP of 12% in 2015 – an indication of the sector´s role in the Jordanian economy. The economic landscape is also highly influenced by its lack of essential resources such as water and oil and has made it highly reliant on foreign assistance (Index Mundi, 2020). Consequently, the Jordanian economy is vulnerable to international dynamics and regional turmoil not only directly, but also via central economic partners such as the US and the GCC.

As shown in *Figure 6.1*, real GDP saw a dip towards 2010 after a period of moving above trend. Likely, this is partially attributable to the occurrence of the international financial crisis. Although the Jordanian economy has shown signs of real GDP growth over the relevant 15 years, it seems as if the years following the financial crisis and preceding the Arab Spring dragged it into what may resemble a relative stagnation, particularly compared to former growth rates.

Unemployment

Jordan has had high rates of population growth, notably not compensated for by economic growth in the years before the Arab Spring. The Jordanian economy and labor market is small, open, and vulnerable to external shocks (Winkler & Gonzalez, 2019). According to Winkler & Gonzalez (2019), Jordan was affected by the US invasion of Iraq in 2003, which stirred turmoil and instability, as well as the financial crisis of 2007/2008. Consequently, Jordan saw dents to its employment rates and former growth pace. As shown in *Figure 6.2*, unemployment rates stood at levels above trend for a few years and sunk below trend in the years preceding the Arab Spring.

The booms and busts underscored in section *Real GDP* are mirrored in *Figure 6.2*. Notably, unemployment is a lagging counter-cyclical indicator to real GDP, so that GDP-growth may induce unemployment reduction in subsequent years. The unemployment rate stood at levels above trend for a few years but, interestingly, decreased in the years prior to the Arab Spring. This observation is notable in light of Arab populations´ economic grievances and motivations for the revolts, and indicates that unemployment rates were better than expected.

Youth unemployment

According to UNICEF, Jordan has one of the youngest populations in the world, with people under 30 constituting 63% of the total population (UNICEF, 2020). Consequently, youth employment becomes an important topic. In the beginning of the 21st century, youth populations across the Middle East held the leaderboard for an unfortunate combination of factors, the highest share of youth population and youth unemployment (Kabbani, 2019). At the same time, institutions and authorities underscored the importance of solving this social entanglement before frustration evolved into unrest. *Figure 6.2* shows Jordanian youth unemployment.

Youth unemployment indicates similar developments as overall unemployment – with a peak in 2002 of 32,4 %. On the flipside, the lowest levels of youth unemployment for the emphasized period were reached in 2008. In the years prior to the Arab Spring, times were seemingly better for young Jordanians than the trend would indicate. Notably, youth unemployment rates, although dauntingly high, stood at levels below trend in the prelude of the Arab Spring revolts.

Inflation

Being a small open economy, Jordan is prone to influence from market forces outside of its own borders. Consequently, price levels are no exception. Jordanian inflation is among other

things dependent on international oil prices as it is a net importer of petroleum products (Oxford Business Group, 2015). To further enhance the country´s dependency on external factors, Jordan receives most of its natural gas and oil from its neighborhood – specifically countries such as Egypt, Saudi Arabia, and other Gulf countries (Fattouh & El-Katiri, 2012). Evidently, energy imports are typically attached to political obligations, and inflationary dynamics may be affected.

As shown in *Figure 6.1*, inflation peaked in 2008 reaching levels close to 14% - a clear deviation from the trend in foregoing years. Also, 2009 entailed a deflation rate of -0,74% before increasing to 4,85% in 2010. High inflation in 2008 seems to coincide nicely with the economic boom and the relatively low levels of unemployment prior to the Arab Spring. Rapid changes in the inflation rate come into expression in the years following the financial crisis and preceding the Arab Spring.

Broad money

In the past, Jordanian broad money volumes have fluctuated significantly, ranging from 6,32% growth in 1998 to a 24,29% growth in 2009. Expectedly, broad money and domestic credit should display a positive correlation. Furthermore, it is expected that inflation will be tainted by such changes.

Broad money volumes seem to have displayed relatively stable movements in the relevant period – with a clear upward-going trend as seen in *Figure 6.3*. Notably, in the years after the financial crisis and prior to the Arab Spring, broad money seems to have increased at a slightly higher pace than the trend would imply. Broad money stock appears to have been at its highest levels relative to trend in 1996 – although this may partially be attributed to static and historical features of the HP-filter. That is, values towards the flanks may be skewed in a close domain. Assuming that this does not represent an issue, we observe that broad money stock races past expected trend-levels in 2009 and 2010 – the years following the financial crisis and preceding the Arab Spring.

General government debt

In the period 1996-2010, Jordan has seen debt-to-GDP ratios ranging from well above 100% in the 1990s to the lowest level reached in 2008 with 54,20 %. According to the International Monetary Fund, prudential debt-to-GDP ratios are set at 40 % for developing countries and 70 % for emerging markets – ratios far lower than what Jordan has displayed (Islam, Ishraq,

Rathin, & Raquel, 2012). In the past, Jordan has been burdened by government debts stretching above 200% of GDP in the early 1990s - illustrative of the country´s heavy indebtment. However, stricter economic policies and fiscal consolidation has seen this rate steadily decreasing up until 2008 (Islam, Ishraq, Rathin, & Raquel, 2012).

The above-mentioned changes come into expression in *Figure 6.4*. After a long period of debt reductions, the Jordanian government´s debt-to-GDP ratio saw its first increase since the beginning of the millennium – an increase that continued through 2009 and 2010. As can be seen later in this paper, this ratio kept increasing in the years following the Arab Spring. The trend indicates that the ratio has steadily decreased in the relevant period, although at varying paces. In 2009 and 2010, however, the debt-to-GDP ratio seems to have been on the rise – deviating from the downward-moving trend earlier in the decade.

Manufacturing

The Jordanian manufacturing sector is second in size only to the services sector and contributed to approximately 18,17 % of GDP in 2016 (Allan, Kasim, Mustapha, & Shah, 2018). The same article underlines the increased levels of uncertainty stemming from regional developments connected to the Arab Spring. Particularly, instability in neighboring Syria and Iraq, often considered Jordan´s largest trade partners, have taken a toll on Jordanian exports and manufacturing sectors. In the time leading up to the Arab Spring, risks within and threats to Jordanian manufacturing were largely related to the political situation and safety conditions (Abbasi, Sandouqa, Al-Tahat, & Mukattash, 2007).

Through the course of the selected years, manufacturing has steadily increased, albeit in varying paces, as seen in *Figure 6.4.* Jordan has seemingly enjoyed levels above trend for some time but seems to have entered a dip in the wake of the financial crisis. Seemingly, negative divergences from trend volumes in Jordan have occurred over the relevant period, in some cases coinciding with regional turmoil – such as the American invasion of Iraq in 2003. Notably, manufacturing stood at -3,61 % below trend in 2010 – just before the Arab Spring reached Jordan.

Net domestic credit

According to our analysis, net domestic credit volumes increased by an approximate 380 % from 1996-2010 and kept increasing in the years after the financial crisis – although at a slower pace initially. Notably, the growth seems to have accelerated in the middle of the 2000´s. Rising

volumes of domestic credit in developing countries, such as Jordan, appears to have been a trend in the financial markets of such states (Khaltarkhuu & Sun, 2014). According to our data, Jordan is no exception, as can be seen in *Figure 6.3*.

Cautiously managing turbulence in financial markets has been essential throughout recent decades for Jordan – which has been adversely impacted by external factors (IMF, 2010). Being among the most open economies in the MENA-region implies vulnerability to international dynamics and requires prudent and resilient financial responses (Oxford Business Group, 2016). Consequently, net domestic credit volumes are dynamic.

As seems commonplace for the other macroeconomic indicators in Jordan, net domestic credit volumes appear to deviate from trend patterns connected to regional turmoil during the first decade of the 21st century. In 2003 net domestic credit volumes stood at 23,10 % below trend, and in 2008 at 14,08 % above trend.

6.2 Egypt

The Arab Egyptian Republic has been governed as a presidential republic since the Egyptian Revolution of 1952 when an organized group of army officers called the Free Officers Movement under the leadership of Gamal Abdel Nasser overthrew and seized power from King Farouk (Goldschmidt, 2020). President Nasser became a leading political and a strong pan-Arabist in the Middle East. Although officially named a republic, the country has in essence been governed by military regimes, only abrupted by its first allegedly freely elected president Mohammed Morsi who was removed from power in 2013 by the military (BBC, 2019). Evidently, the Egyptian economic situation has been tainted by military rule over a bloated public sector. This form of economic leadership has been accused of failing to provide inclusive growth and pull millions out of poverty (Abed, 2020). The Egyptian National Statistics Bureau, whose threshold for poverty has been placed lower than that of the World Bank, classified about a third of Egypt's population as poor in 2019 (The Economist, 2019). The progress on poverty had been positive from the second half of the 1990s but began to recede during the first decade of the 21st century (Philipp, 2020). In the wake of the Arab Spring, poverty and impoverishment became an even larger issue than it was prior to the revolts.

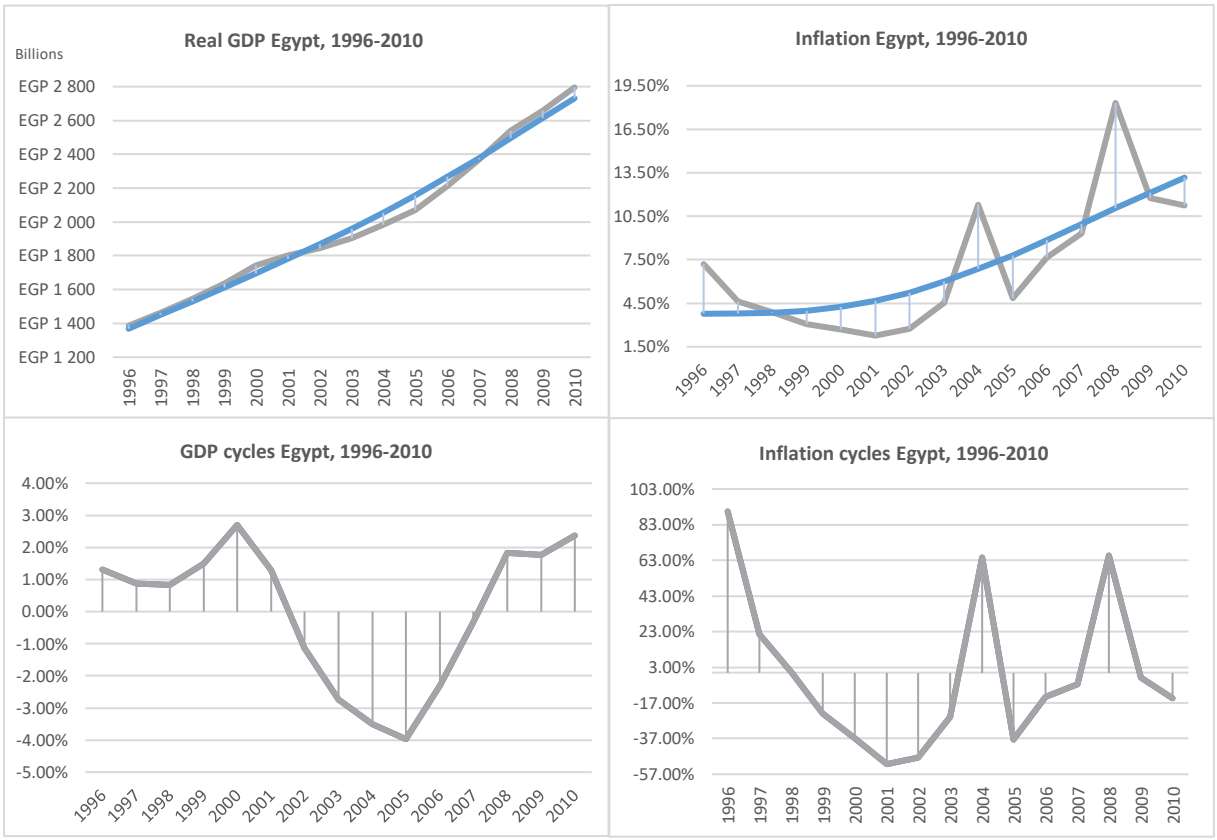

Figure 6.5 – Real GDP and Inflation, Egypt, 1996-2010.

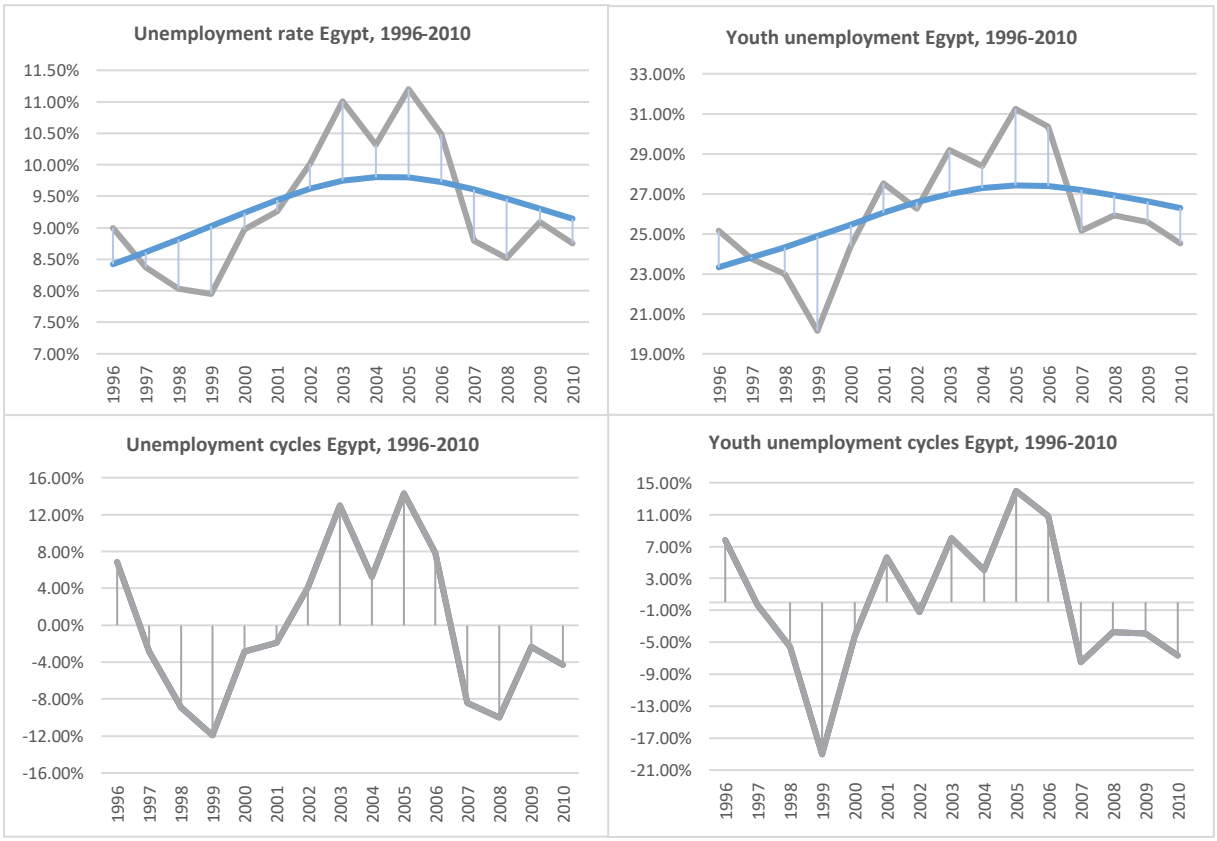

Figure 6.6 – Unemployment and youth unemployment rate, Egypt, 1996-2010.

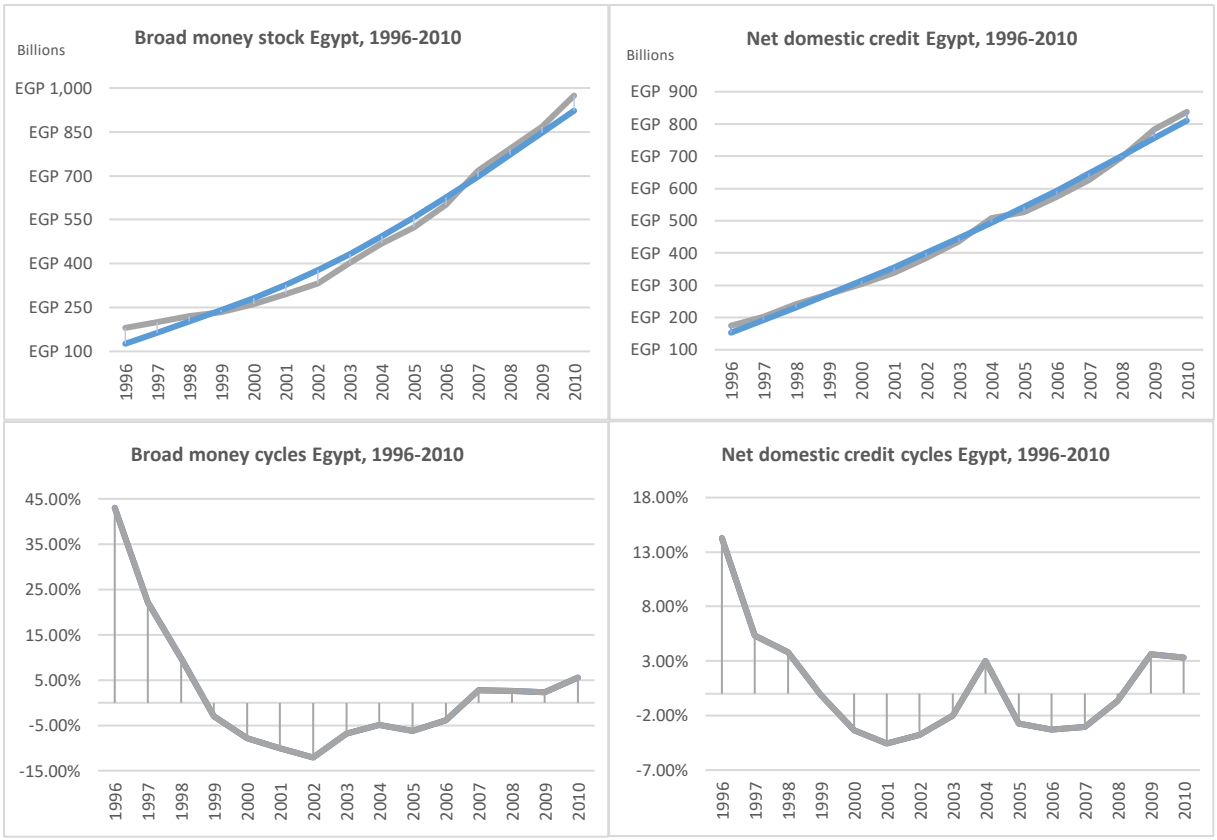

Figure 6.7 – Broad money stock and net domestic credit, Egypt, 1996-2010.

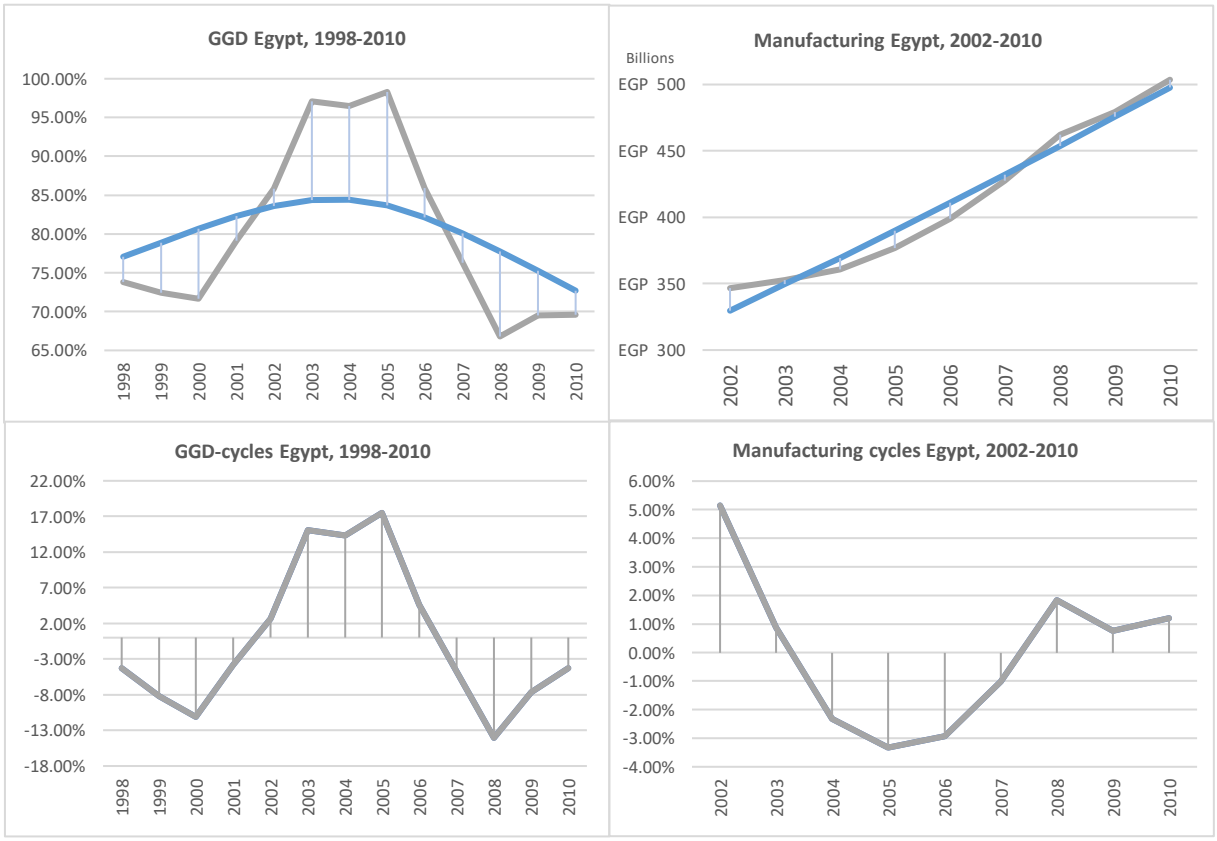

Figure 6.8 – GGD and manufacturing volumes, Egypt, 1996-2010.

Real GDP

Contributions to Egyptian gross domestic product by sector stem from a more diverse portfolio than that of Jordan. In 2017, services accounted for an estimated 54 %, industry 34 %, and agriculture close to 12 % (Index Mundi, 2020). Similar weightings of these sectors are visible for the foregoing and following years. Notably. Egypt also has a large informal economy estimated to account for 30-40 % of the nation's economy (Mabrouk, 2020). Furthermore, a large contributor is the tourism industry. According to the World Travel & Tourism Association, this contributed an approximate 19,5 % to GDP in 2007, and fell dramatically in the wake of the Arab Spring (Oxford Business Group, 2020).

Real GDP seems to have moved in cycles during the selected period as seen in *Figure 6.5.* This indicates cycles, booms, and troughs, in connection to regional and international events – such as during the American invasion of Iraq and the financial crisis of 2008. At the doorstep of the Arab Spring, real GDP seems to be slightly above trend calculations. As shown, GDP-cycles stood slightly above trend at the starting line of the Arab Spring. The wake of the financial crisis also seems to have brought upon the Egyptian economy a slight dip.

Unemployment

The Egyptian labor market is diminished by a largely bloated and inefficient public sector – an economic policy practiced throughout decades by Egypt´s military leadership (OECD, 2003). Privatization plans have been laid out on the table in the past to deal with these structural shortcomings. However, the plans would likely entail large numbers of layoffs, and have thus encountered fierce opposition. This is due to high unemployment rates in tandem with social tension and political uncertainty – a familiar combination of factors in Egyptian society. With generally high levels of unemployment, Egypt has struggled to ensure inclusive growth that creates jobs for new entrants to the labor market.

Figure 6.6 indicates high unemployment rates around the middle of the 2000s, peaking in 2005 at 11,20 %. Interestingly, unemployment rates stood at levels below trend in the closest years prior to the eruption of the Arab Spring revolts.

Youth unemployment

The employment situation is difficult for the general labor force, but even more grave for young Egyptians – particularly for women (Sieverding, 2012). According to the latter cited UN-publication, more than 90 % of the unemployed in 2010 were categorized as young people. In

addition, people aged 15-24 years constituted about a fifth of Arab populations in 2010 (Mirkin, 2010). This youth bulge, and its poor integration into the labor market, has been and will remain a challenge for governments. Evidently, evaluating the state of youth unemployment becomes relevant when assessing the prelude of the Arab Spring.

Youth unemployment rates seem to have followed an upward-going trend towards 2005 with a peak youth unemployment rate of 31,24 % as reflected in *Figure 6.6.* However, after that the trend seems to indicate concavity and a downward-going trend. By the end of 2010, at the time of Bouazizi´s self-immolation in Tunisia, youth unemployment stood at 24,53 % - a rate lower than trend-indication. It had nonetheless been consistently and dauntingly high. Not surprisingly, youth unemployment displays a pattern like that of overall unemployment. The cycle peaked in 2005 - standing at 13,96 % above trend-levels. Youth unemployment has long been a challenge to the Egyptian government, and remained troublesome up until, and following, the Arab Spring revolts (Van Eekelen, de Luca, & Ismail, 2001).

Inflation

Since the end of the stabilization program in Egypt in 1996, the Central Bank of Egypt (CBE) had been busy working to achieve various goals parallel to one another, oftentimes conflicting ones (Al Mashat, 2008). Among other things, the CBE strived to attain high levels of economic growth whilst also suppressing inflationary pressures and keeping a stable exchange rate. Interest rates were non-consistent and unpredictable, and as such a less effective tool in Egyptian monetary policies at the time. However, in 2005 the ECB initiated reforms and steps to facilitate inflation targeting to ensure better price stability. This implies the central bank´s new commitment to ensuring predictable prices rather than tandemly working to achieve the highest possible level of growth (Youssef, 2007).

The estimated HP-trend in *Figure 6.5* indicates an upward-going inflation rate in the relevant period, reaching a peak in 2008 of 18,32 %. Inflationary volatility in Egypt is caused by several factors, among other changes to international oil- and food prices, fiscal deficits, and increases in the broad money supply (Khan & Miller, 2017). Inflation rates fluctuate visibly above and below trend levels during the relevant period with spikes in 2004 and 2008.

Unpredictable inflation rates are harmful for the capital investment climate, productivity growth, fiscal debt, and other central economic organs. The Egyptian Central Bank did not seem

to have succeeded in managing inflation in the relevant period. At the doorstep of the Arab Spring, Egyptian inflation stood at 11,27 % - somewhat lower than trend-indication.

Broad money

Broad money as a monetary aggregate became a more central part of Egyptian authorities´ policy framework after the Central Bank of Egypt initiated its transition towards inflation targeting (IMF, 2006). Evidently, money supply became a means of controlling inflation. The CBE stated at the time that any emergence of inflationary pressures would be met with tightening monetary policies. Government deficits are also at risk of requiring more finances from domestic banking systems, thus inducing an even larger strain on monetary aggregates. Consequently, broad money stock in Egypt has been determined by adverse factors

As expected, the HP-trend displayed in *Figure 6.7* indicates an upward-going development – at times displaying positive cycles. This is relevant for the years 2007-2010, whereas in the years prior to 2007 broad money stock stood at levels below trend. As expected, changes to broad money stock seem to coincide with inflation levels. Following the financial crisis and preceding the Arab Spring revolts, broad money stock seems to have grown at a higher pace than the trend would have indicated.

General government debt

In general, Egypt´s government debt has been high over the past few decades. This has to do with large fiscal deficits, varying real GDP growth, depreciation, and fluctuation in the Egyptian pound (Al Nashar, 2019). During better times and economic spurs, the Egyptian authorities have been successful in contemporarily reducing its debt-GDP-rate. Unfortunately, the general government debt has not been kept on a steady downward-going trajectory, although our trend-calculations indicate a slight downward trend over the years 1998-2010. Rather, it has fluctuated visibly in time – a form of economic turbulence that may pull the Egyptian economy into an unfavorable macroeconomic imbalance.

Although high rates of government debt are relatively common, particularly in advanced economies, it may pose challenges to the economies of middle income, low income and developing countries (Abdu, 2019). High rates of public debt in countries such as Egypt may serve to harm the efficiency of fiscal policy measures by Egyptian authorities, and large amounts of government debt rely on stable macroeconomic frameworks to be fruitful and efficient. Egypt, being a middle-income country and emerging market, should according to the

International Monetary Fund avoid surpassing a threshold of a 70 % debt-GDP ratio (IMF, 2018). Notably, the quality of institutions also determines this threshold.

Consistently up until 2008, the ratio stood at levels above the IMF-recommended threshold of 70 %. In the last three years leading up to the Arab Spring revolts, government debt-GDP-ratios moved below 70 % for the first time since the IMF started measuring the parameter in Egypt. *Figure 6.8* illustrates Egypt´s general government debt levels.

Seemingly, 2007-2010 lightened the burden of general government debt in Egypt, although displaying signs of an increase in the last years preceding the Arab Spring. According to Al Nashar (2019), the GGD-ratio has primarily been affected by government primary deficits, with adverse impacts stemming from exchange rate depreciation, interest rates, and real growth.

Manufacturing

During the past century, manufacturing sectors of the Egyptian economy grew to account for an approximately 25 % of GDP (Little, 2021). The most significant contributors are found in pharmaceutical-, ceramic-, metal-, chemical-, and textile industries (OECD, 2007). Egyptian manufacturing strongly influenced, and in part drove, real GDP growth in the national economy during the first decade of this century. However, it appears as though the Egyptian economy and industry has fallen short in facilitating jobs in industries with a high degree of labor productivity, contributing to macroeconomic grievances such as high unemployment and real wages to lag real GDP growth (Morsy, Levy, & Sanchez, 2014). Due to data limitations, we have only been able to collect data starting in 2002 as seen in *Figure 6.8.*

Seemingly, Egyptian manufacturing has experienced consistent growth in production volumes across the 9-year period assessed above. In the first few years following the financial crisis and preceding the Arab Spring, Egyptian manufacturing seems not to have been significantly affected by international market turbulence. Rather, times seem to have been better than trend-indication for the manufacturing sector.

The steady growth of manufacturing volumes in Egypt is consistent with its economic growth rates in foregoing decades. Being a leading macroeconomic indicator, developments in manufacturing volumes should precede similar movements in the overall economy. As such, the values for 2010 indicate that good times are to come. However, the status of the Egyptian manufacturing sector was not symptomatic of the events that unfolded in January 2011 and subsequent years.

Net domestic credit

Net domestic credit volumes have been steadily on the rise in the Egyptian financial markets. According to our data sets, the 1996-2010 period brought with it an approximate 380 % increase in credit volumes. Such tendencies appear to be commonplace across developing countries and emerging markets (Khaltarkhuu & Sun, 2014). Throughout its history, Egypt has experienced noticeable dynamics in its financial sector. In the 1950s, then-President Nasser reduced the sector as a part of the ongoing nationalization process (Oxford Business Group, 2020). However, in later decades the Egyptian financial sector become increasingly accessible to international banks and other private financial institutions – thereby improving access to capital in the Egyptian domestic markets.

The graphs in *Figure 6.7* illustrate a relatively stable upward-going trend for domestic credit volumes in line with expectations for emerging markets and developing economies. Observable cycles occur, among other places, in 2004/2005, moving below trend for a few years before climbing above trend in the last two years before the eruption of the Arab Spring revolts. Interestingly, net domestic credit volumes stood at expected levels in 2008 and kept increasing in the following years. At the doorstep of the Arab Spring, net domestic credit volumes displayed a cycle of 3,35 % above trend.

6.3 Tunisia

Tunisia is a republic in North Africa that borders Algeria to the west, Libya to the east, and has a 1,148-km coastline to the Mediterranean Sea to the north. Tunisia’s history includes the Ottoman period from 1574 and became a French protectorate in 1881. It gained its independence in 1956. After that, Tunisia was a one-party state before the Arab Spring of 2010–2011. The Tunisian people revolted against their president, Zine El Abidine Ben Ali, demanding democratic reform and regime change. They denounced his policies, his regime, and his corrupt practices and called for freedom, jobs, and dignity. Millions of young people demonstrated and resented the arrogance of cronyism, the widening inequality for economic opportunity, and the stifling of unauthorized speech in any form (Belhaj, 2021)

Exposed to the global financial crisis of 2008, Tunisia's economy faced several challenges that fueled and triggered protests in 2010 and subsequent years. (Index Mundi1, 2020). Despite the democratization process in Tunisia after the regime change in 2011, several terrorist attacks, and barriers to economic inclusion have contributed to slow economic development and high

unemployment. In the subsequent sections, the Tunisian macroeconomic landscape is elaborated.

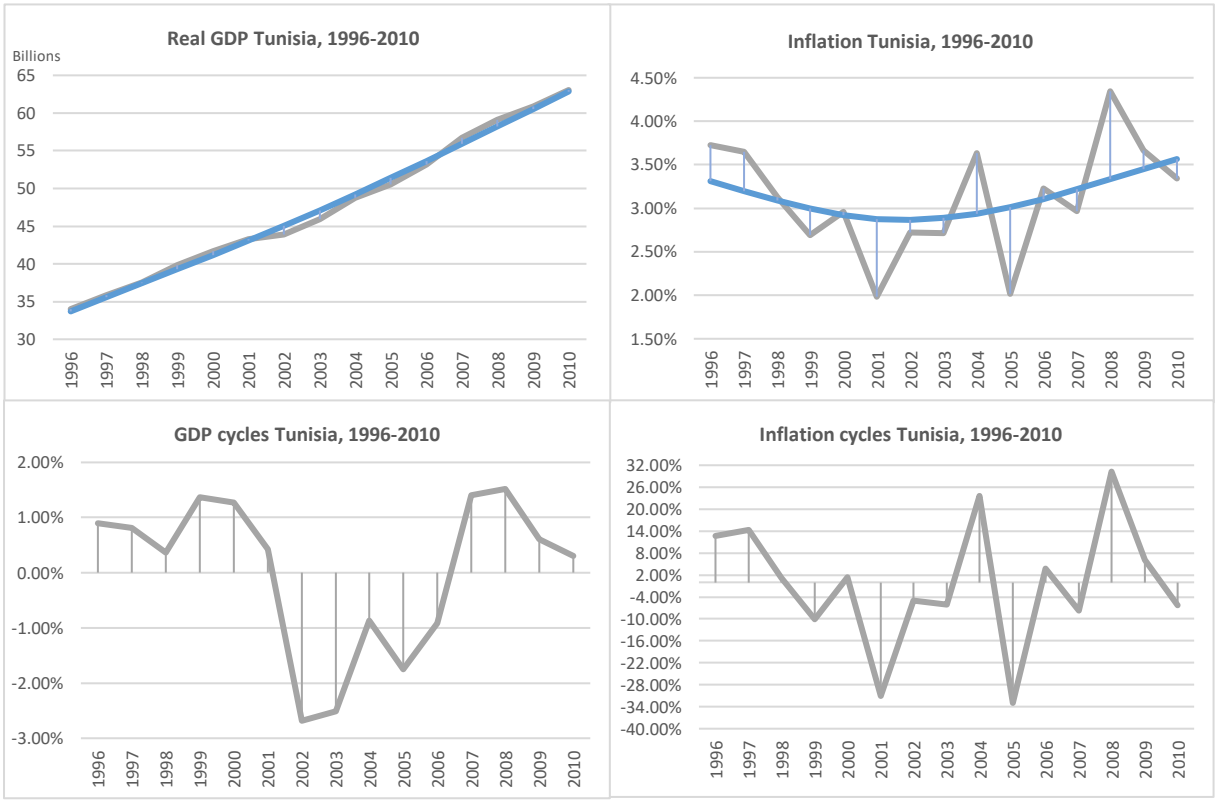

Figure 6.9 – Real GDP and Inflation, Tunisia, 1996-2010.

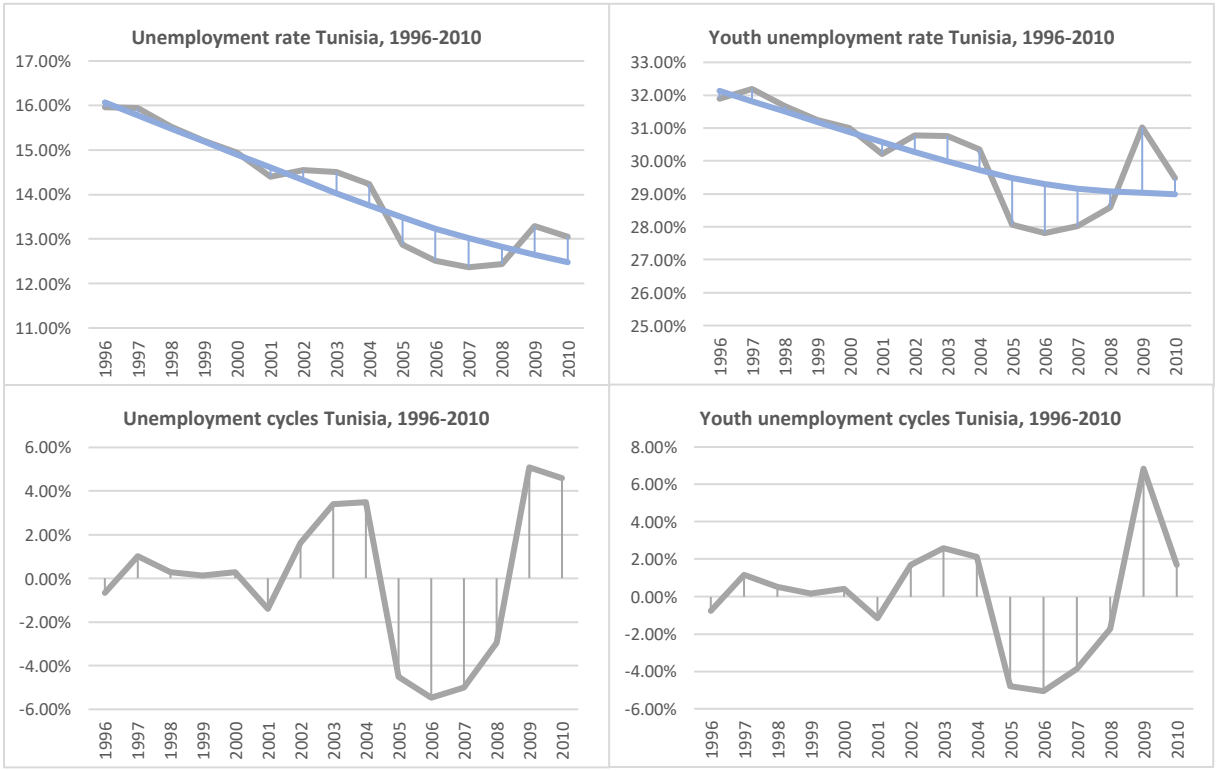

Figure 6.10 – Unemployment and youth unemployment rate, Tunisia, 1996-2010.

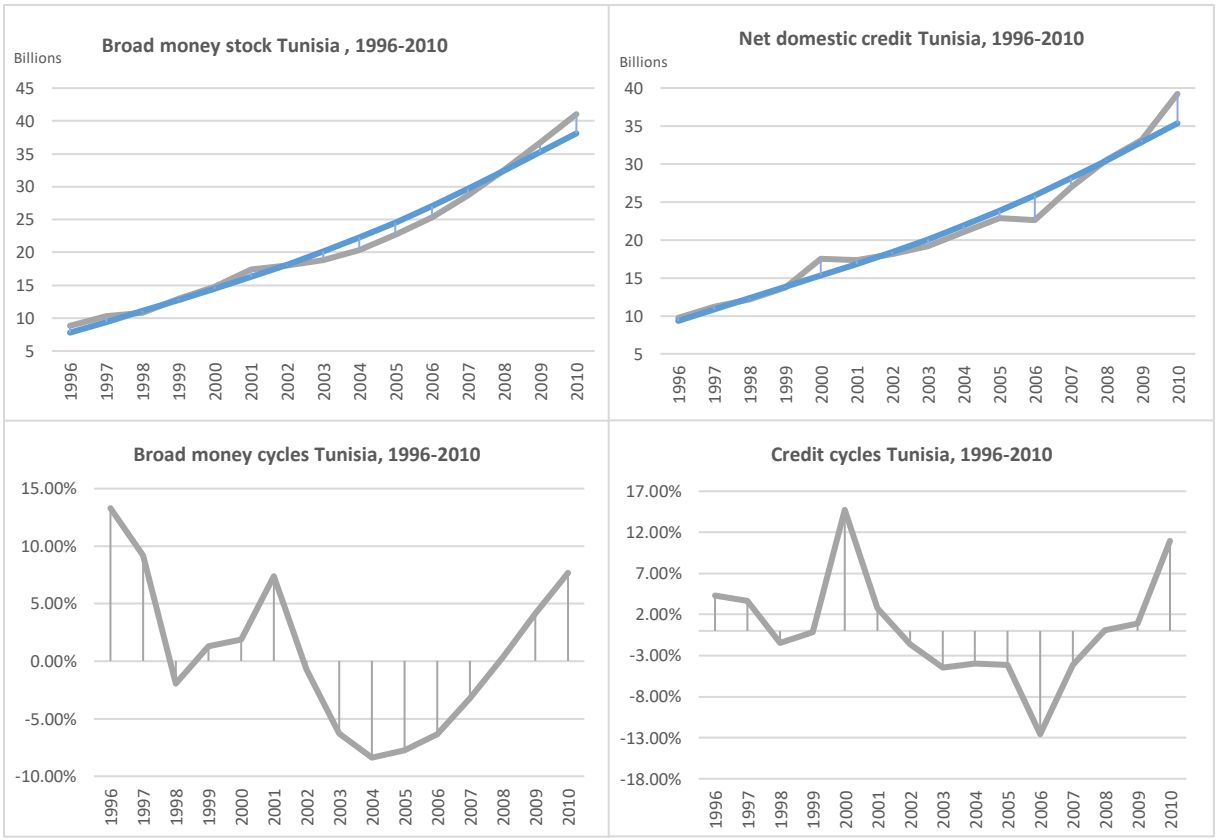

Figure 6.11 – Broad money stock and net domestic credit, Tunisia, 1996-2010.

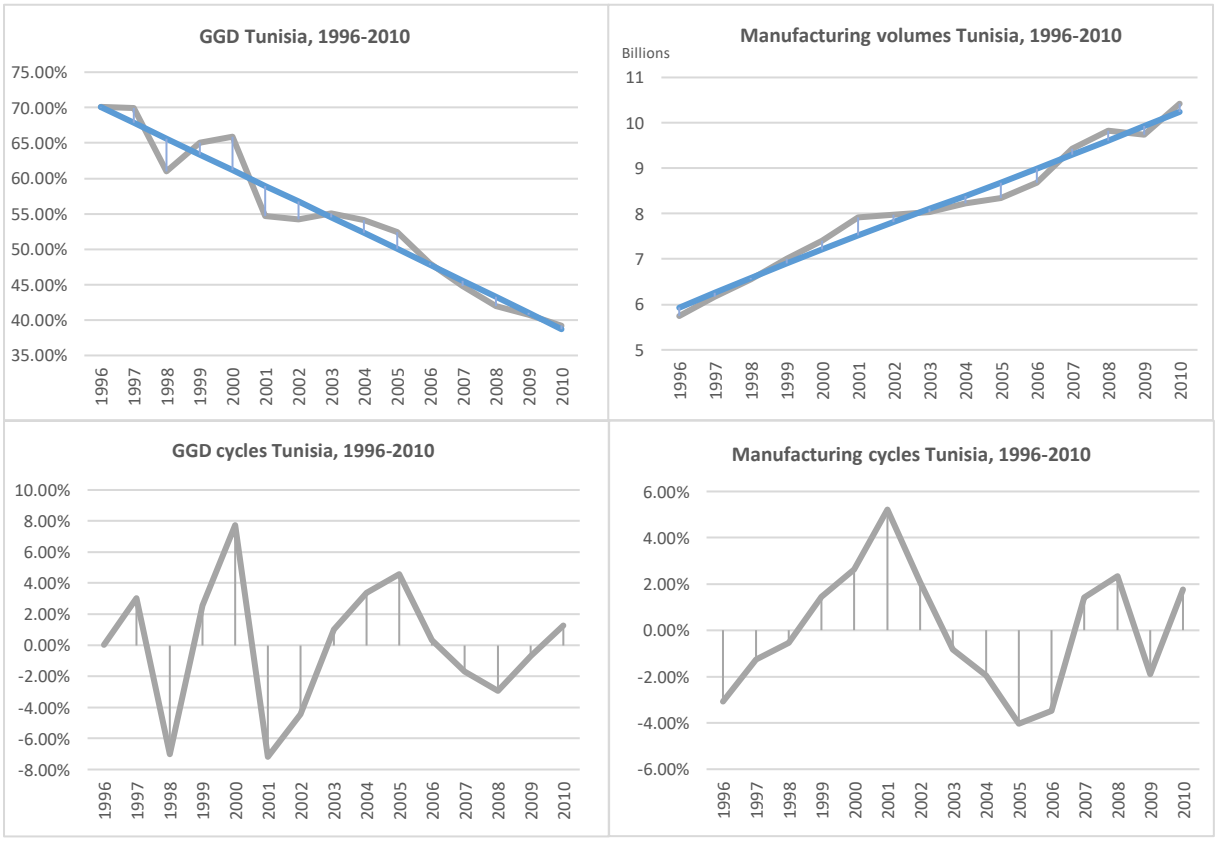

Figure 6.12 – GGD and manufacturing volumes, Tunisia, 1996-2010.

Real GDP

The primary contribution to Tunisian economic output in 2016 was driven by the services sector (World Bank, 2017), which accounted for about 64 % of GDP. Industry and agriculture encompassed about 26 % and 10 % of GDP (Index Mundi, 2020). Such sector-weightings have been relatively consistent. Tunisia's agricultural sector has grown steadily, and nearly 20 % of the country's total workforce is employed in this sector (Fanack, 2020). The economic landscape is also highly dependent on tourism, which is a pillar of the Tunisian economy. It constitutes about 6,5 % of the GDP and upholds more than 400.000 jobs. This sector has suffered dramatically from social unrest and political turmoil, which has resulted in fewer jobs and the closure of many hotels (Fanack, 2020).

As illustrated, real GDP from 2002 to 2006 moved below trend before it changes to moving above during the last half of 2006, probably due to good macroeconomic management and market-oriented reforms that took place in that period. Healthy economic policies, structural reforms, and the Association Agreement with the European Union in 1995 led to export growth and made it Tunisia's largest trading partner (IMF, 2010). Tunisia weathered the international crisis relatively well. An average GDP growth rate of 5 % during the last decade demonstrates this. GDP cycles stood at levels above trend from 2007 and remained positive up until the Arab Spring.

Unemployment

Just like its neighbors, Tunisia's unemployment rate is relatively high, which represents a major political, social, and economic challenge. The demand for jobs remains high in the labor market. Even when the GDP growth rate has been relatively high, Tunisia has not accomplished sufficient job creation. Furthermore, the demand for skilled labor is lower than the supply, and there is a mismatch between the skills needed and those produced by the country's education and training system. Finally, inefficient, rigid regulations and institutions govern the functioning of the labor market (Boughzala, 2019).

As illustrated, there has been a downward-going trend. Unemployment rates stood above trend from 1996 to 2001 and from mid-2001 to 2004, peaking in 1996 at 16 %. According to our analysis, unemployment rates declined by almost 3 % in the relevant period. Interestingly, unemployment rates stood at levels above trend indication in the years right before the eruption of the Arab Spring revolts.

Youth unemployment

The unemployment rate in Tunisia is high, but it is much higher among the young. The younger generations were among the main driving forces behind the political and social upheaval that led to the fall of Ben Ali´s government in 2011. Structural constraints, poor economic growth, low demand for skilled workers, and the poor capacity of the Tunisia economy to create jobs partly explain high youth unemployment rates (ILO, 2013).

As in the case for total unemployment, youth unemployment rates seem to have followed a downward-going trend towards 2006. However, as illustrated in the graph, unemployment rates changed in an upward direction during the financial crisis and in the years before the eruption of the Arab Spring revolts.

Inflation

Tunisia´s economic landscape was structurally designed to favor vested interests (Indexmundi, 2020). However, the period after 1996 was characterized by the adaptation of the country's economy to free trade principles and a closer connection to the European economy. Tunisia joined the World Trade Organization in 1995, and in 1996 it signed an "Association Agreement" with the European Union (OECD, 2018). While becoming a more open economy, Tunisia was exposed to the influence of market forces beyond its borders. Furthermore, Tunisia´s authorities modernized the monetary policy operational framework toward inflation targeting in 2010 (IMF, 2010).

The graph shows that the inflation rate fluctuated significantly. On average, inflation was 3% in the relevant period. High inflation in 2008 matched the economic boom and the relatively low levels of unemployment before the Arab Spring. According to an IMF report (2010), the Central bank of Tunisia had to avoid inflationary pressures because of the accelerating credit growth, low real interest rates, and exceptional increases in the stock market index. Furthermore, the IMF reports that the Central bank of Tunisia had to maintain a close watch to ward off the risks of real estate and stock market bubbles and excessive credit growth (IMF, 2010). As can be seen, inflationary cycles are visible in the years preceding the Arab Spring.

Broad money

Tunisia's broad money supply increased during the relevant period, averaging nearly 11,5 % between 1996–2010. Expectedly, broad money and net domestic credit have grown in tandem, which becomes visible in *Figure 6.11.*

Relative to the estimated HP trend, broad money volumes seem to have a small deviation under trend-indicator before the financial crisis. In the years after the financial crisis and before the Arab Spring, broad money increased at a bit higher pace than the trend-indicator would imply. Broad money cycles are illustrated above. The percentage from trend peaked in 1996, with a significantly lower deviation (2.3%) in 2010. If the development in the years between is taken into account, the graph shows a clear gap in 2004 with a yet remarkable upward trend towards the years before the financial crisis. After the financial crisis and before the Arab Spring, broad money stock grew faster than the trend would have indicated.

General government debt

The debt-to-GDP ratio saw a steady decline from nearly 70 % in 1997 to 39.2 % in 2010. As mentioned earlier, the prudential-debt-to-GDP ratio is 40 % for developing countries, which Tunisia only managed to achieve in 2010. With this debt-to-GDP ratio, Tunisia was relatively insulated from potential short-term negative effects (IMF, 2010).

As illustrated, the long period of debt reductions resulted from sound economic policies and structural reforms, underpinned by increased trade openness (IMF, 2010). Although the ratio had a definite downward trend during that period, this trend was reversed to a sharp upward trend to over 70 % debt-to-GDP ratio. As can be seen, the debt-to-GDP cycles has fluctuated above and below trend levels during the relevant period.

Manufacturing

Tunisia´s manufacturing sector has contributed to approximately 16% of the GDP on average over the relevant period. Tunisia is heavily reliant on European markets as three-quarters of its exports go to the EU (Oxford Business Broup, 2019). The decline in manufacturing from 2008 to 2009 reflects a fall in exports of manufactured goods to EU countries (IMF, 2009). However, after shrinking in 2008–2009, manufacturing accelerated and reached a new all-time high in 2010. The steady incline in the period 1996–2010 is likely due to greater global integration and export opportunities.

Net domestic credit

According to our analysis, net domestic credit volumes grew by approximately 300 % during 1996–2010. The Tunisian stock exchange index also experienced exceptional growth, reflecting strong earnings from listed companies, especially banks (IMF, 2010). At the same time, there was plenty of liquidity in an economy with relatively limited options for financial investments (IMF, 2010).

As the figure shows, net domestic credit volumes saw a steady increase over the relevant period. It also seems to have coincided with broad money growth. Remarkably, after rapid growth in the late 1990s, credit growth decelerated between 2000–2006 due to concerns among Tunisian banks regarding credit quality and expanding credit volumes (IMF, 2006). Although developments have been stable overall, credit volumes seem to have been on the rise just before the Arab Spring.

6.4 Lebanon

Lebanon formerly enjoyed the status of a Middle Eastern banking hub. However, geopolitical factors in recent decades have placed significant strain on its economy (Britannica; Indexmundi, 2020). After its independence in 1943, Lebanon pursued a remarkably open economic policy but experienced significant political turmoil due to the Lebanese civil war between 1975 and 1990, and subsequent conflicts with Israel in 1982, 1996, 2000, and 2006 (Hlasny, Araji, & Ichrakieh, 2019). These have harmed Lebanon´s economic infrastructure while derailing its position as a Middle Eastern banking hub (Thedora , 2020). Several banks and other foreign entities established in the country moved to Cyprus or Kuwait. As a result of the devastation of war and the Israeli occupation of southern Lebanon, the Lebanese infrastructure was weakened, and a large part of the industry was taken out of production. The weakening of state power during the civil war also led to increased corruption and less opportunity to collect taxes and fees. Throughout the 1980s, much of the trade was controlled by various parties, their military units, and their respective agendas.

After the civil war, Lebanon embarked on an ambitious program of social and economic reconstruction (Britannica, 2020). Lebanon rebuilt much of its war-torn physical and economic infrastructure by borrowing heavily, mostly from domestic banks. This saddled the government with a huge debt burden. Despite Lebanon’s uneasy economic recovery, and after the Lebanon

War in 2006, real GDP grew significantly averaging 9 % during 2007–2010. The macroeconomic landscape of Lebanon is elaborated below.

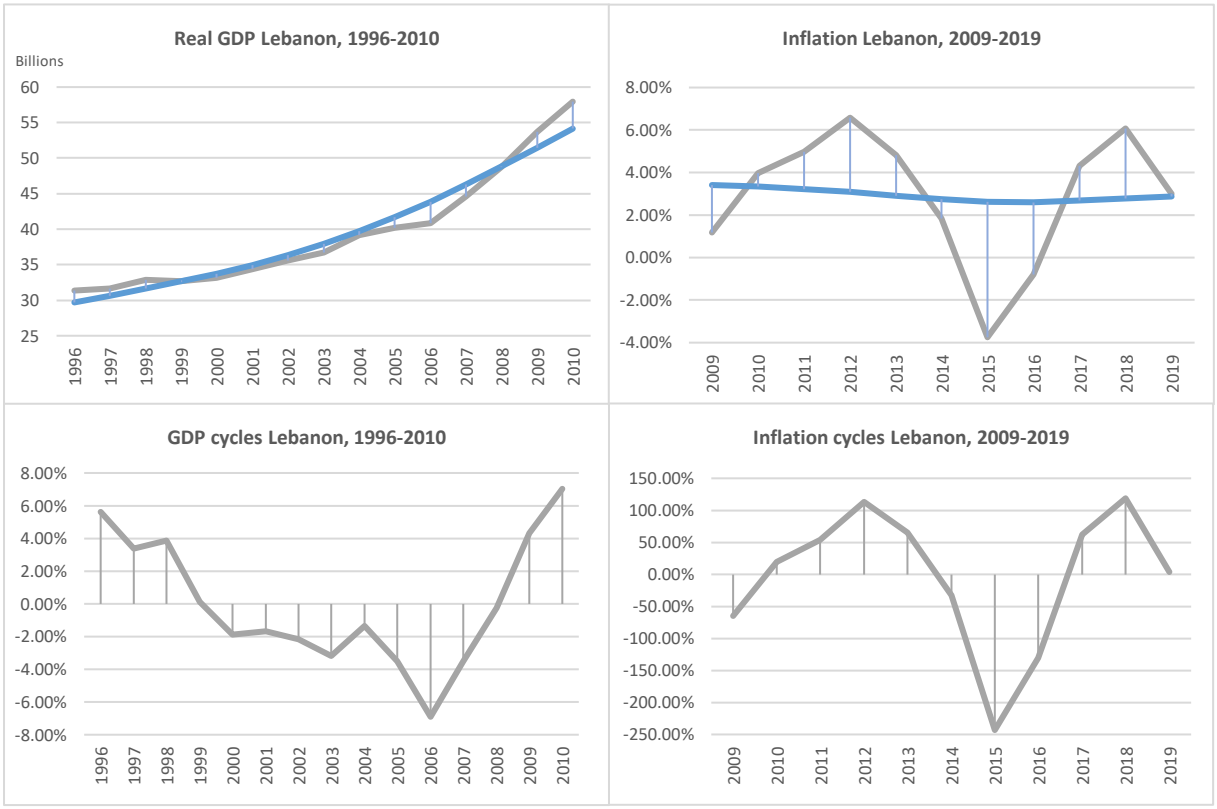

Figure 6.13 – Real GDP and inflation, Lebanon, 1996-2010.

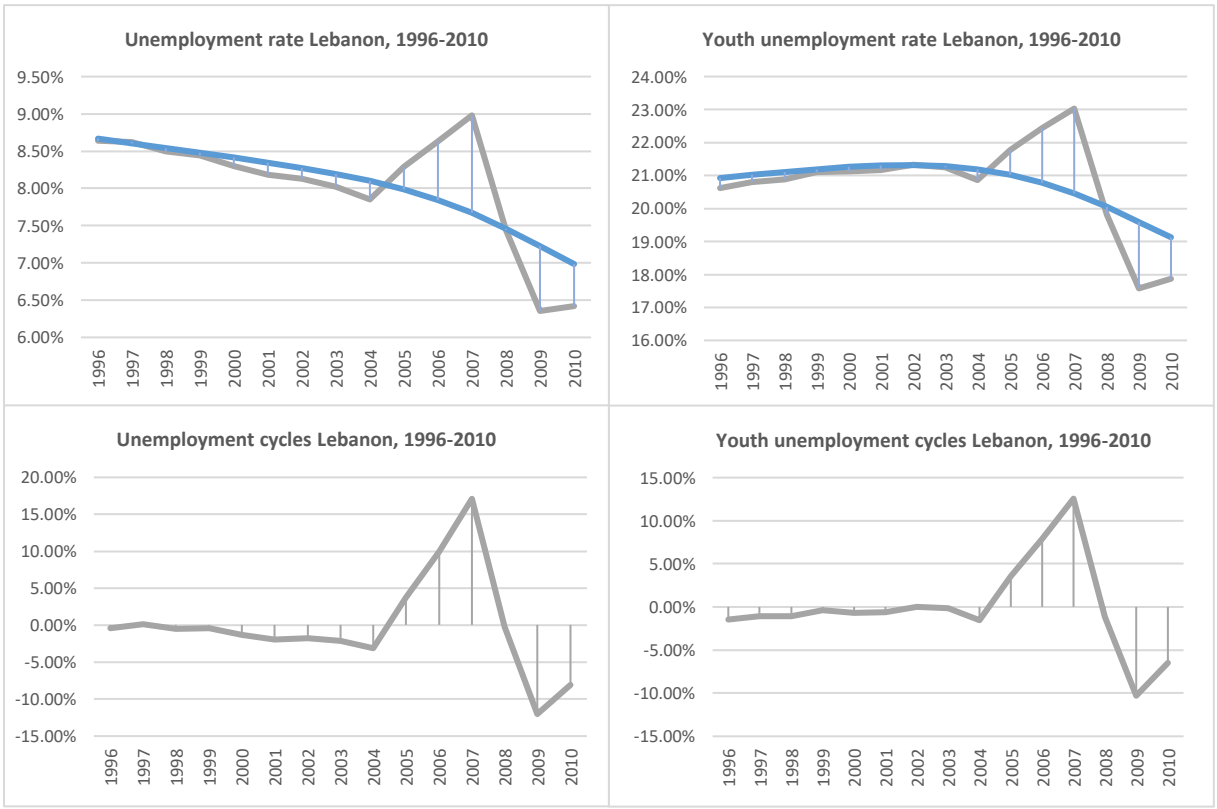

Figure 6.14 – Unemployment and youth unemployment rate, Lebanon, 1996-2010.

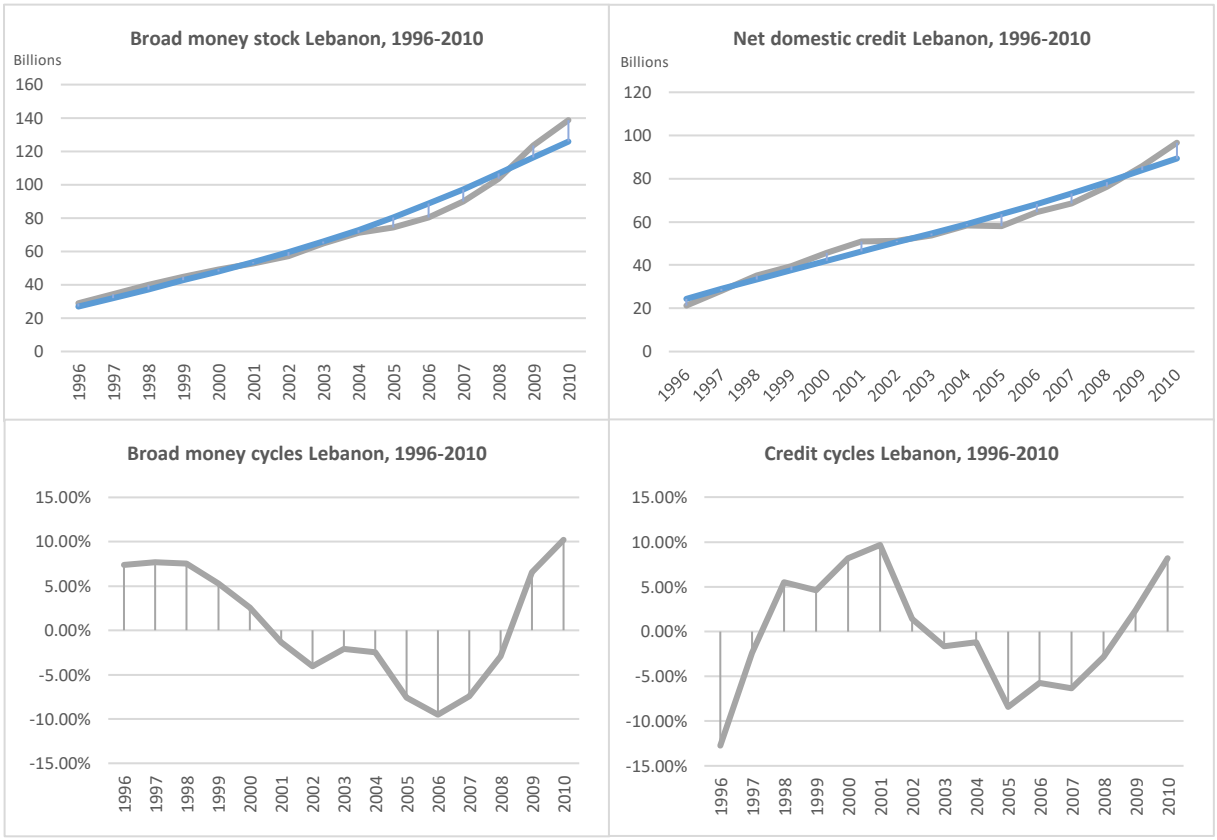

Figure 6.15 – Broad money stock and net domestic credit, Lebanon, 1996-2010.

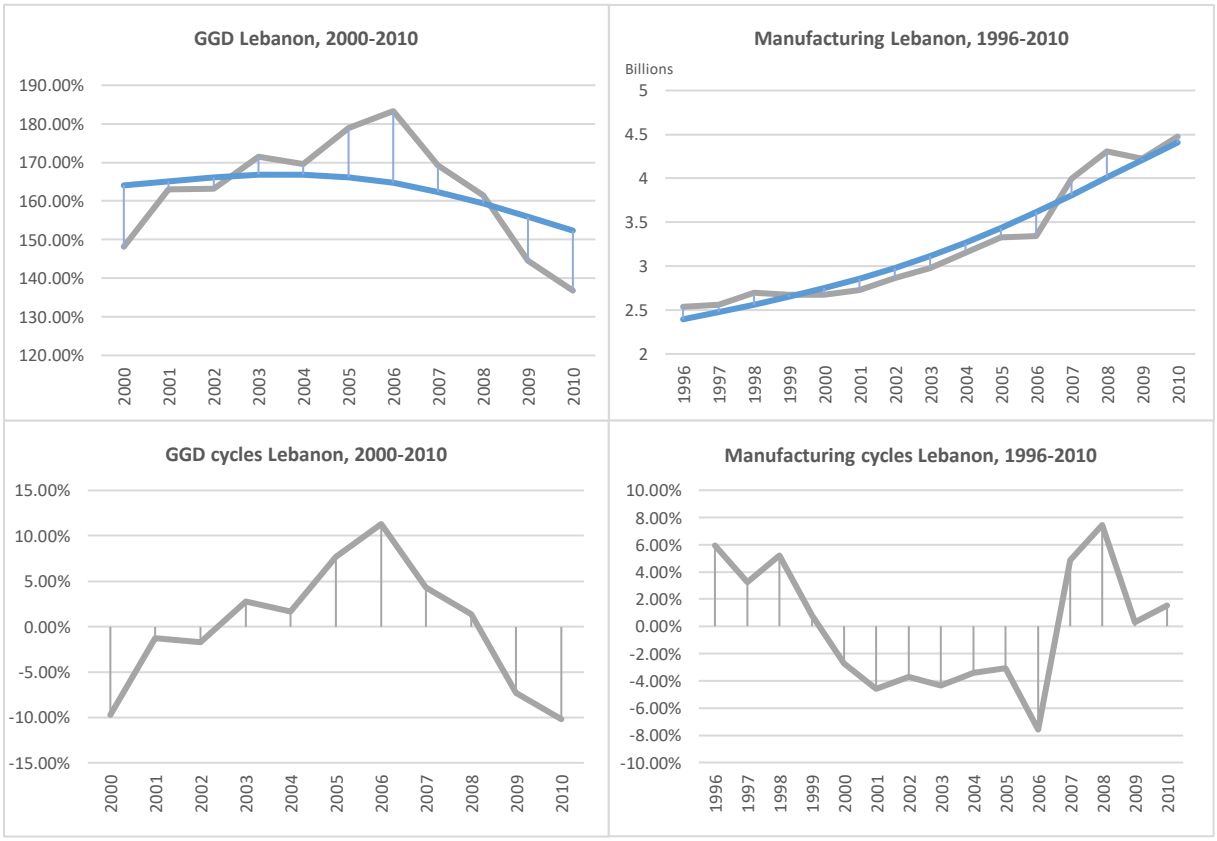

Figure 6.16 – GGD and manufacturing volumes, Lebanon, 1996-2010.

Real GDP

The Lebanese economy is mainly driven by the service sector, which in 2017 accounted for an estimated 83% of GDP (Indexmundi, 2020). Lebanon is also an important agricultural country, where the sector traditionally accounts for a large share of employment and made up about 4 % of GDP in 2017 (Indexmundi, 2020). Furthermore, the country is relatively industrialized. Before the Lebanese Civil War, industrial production was stimulated by a relatively rich domestic market, but the sector suffered both during the war and after. This was partly due to the Israeli invasion in 1982. A large part of the factories was destroyed, and many were not rebuilt. However, Lebanon is still more industrialized than most other states in the Middle East. The industry sector accounted for about 13 % of GDP in 2017 (Indexmundi, 2020). As is the case for Tunisia and Jordan, Lebanon has a limited supply of valuable natural resources.

As indicated in *Figure 6.13*, real GDP was affected by the Lebanon war and international events, such as the financial crisis in 2008. Before 2006, one can see that real GDP is descending and is slightly below trend. After the war and during the financial crisis in 2008, real GDP grew fast towards 2010.

Unemployment

As mentioned, Lebanon has greatly suffered due to war and conflict. The destruction caused by this has resulted in displacement of people, brain drain, collapsed systems, and a general decline in inhabitants' incomes and economic activity (ILO, 2018). Lebanon's society features a sharp class division, with remarkable differences between urban and rural areas and rich and poor (Maged, 2019). The social tension and economic problems in the relevant period were intensified by high unemployment. Turmoil weakened all sectors of the country's economy i.e., small scale farming, transportation, and tourism, thereby causing destruction to the livelihoods of many Lebanese citizens.

Figure 6.14 indicates a slight reduction in unemployment rates before a sharp correction occurs prior to the Lebanon War. Unemployment rates peaked in 2007 at 9 %. Interestingly, rates swiftly changed from peak levels to bottom levels in 2009. Cycles are particularly noticeable around 2006.

Youth unemployment

Lebanon, alongside the other countries studied, suffers from high youth unemployment. The youth unemployment rate averaged approximately 21 %. That is more than double the general

unemployment rate (8 % average) in the relevant period. Lebanon´s limitations on the job supply side play a part in high youth unemployment. The country creates more educated job seekers than the domestic labor market needs, thus struggling to create social and economic opportunities for young citizens that match their education and expectations (Kawar & Tzannatos, 2012).

Youth unemployment rates followed a stable trend towards 2004 before a sharp correction occurred with a peak rate of 23 %. After that, rates sunk to a record low in 2009. Not surprisingly, the pattern was like that of total unemployment.

Inflation

Since we do not have data on inflation from the time before 2009, this will be further elaborated in *Section 7.4*. Nonetheless, we want to briefly comment on what we know about the period. Being a small dependent economy, Lebanon became extremely vulnerable to external price shocks (Ariss, 2012). Unlike Egypt and Tunisia, which decided to adopt inflation targeting, Lebanon targeted price indices. Price indices are designed to track inflation by measuring the change in the level of prices. Monetary authorities use this indexation as a critical reference to control inflation. In Lebanon, the price index used to track inflation is the consumer price index (CPI), which is the average price paid by consumers for a basket of goods and services (Ariss, 2012). In 2009, the inflation ratio was 1,19 %, and in 2010, it rose to 3,98 %. According to an IMF report (2010), this rise was partly driven by fuel prices.

Broad money

Lebanon´s broad money volumes have fluctuated significantly, ranging from the lowest growth of 4,49 % in 2004 at the doorstep to the civil war, to the highest growth of 19,62 % in 2008. Not surprisingly, the broad money stock underwent an upward trend and averaged an annual increase of 11.5 %. Specifically, volumes were below trend between 2001 and 2008, whereas it stood above it in 2009–2010.

Broad money stock was at its highest levels relative to trend prior to the Arab Spring. The lowest cycles occurred around 2006. After the war, following the financial crisis, and preceding the Arab Spring revolts, broad money grew at a faster pace, and surpassed trend-estimates.

General government debt

Regarding general government debt, we do not have data before 2000. However, we can still consider 2000–2010. Lebanon´s government-debt-to-GDP ratio is among the highest in the world, and almost half of it is denominated in foreign currency (IMF, 2010). The IMF further reports that lowering the government debt-to-GDP ratio is the top medium-term priority for Lebanese authorities. This is precisely to reduce Lebanon´s financial vulnerability. The report also warns that the debt-to-GDP ratio could become explosive if the economy suffers a negative shock.

The government-debt-to-GDP remained high during the relevant period, averaging 163 %. As illustrated in *Figure 6.16*, Lebanese government debt increased from 2000 and reached a peak in 2006. After that, debt levels were reduced towards 2010. This can be explained by stronger growth, which boosted revenues, the reintroduction of gasoline excises, and better spending discipline (IMF, 2010). Not surprisingly, 2006 was when debt-to-GDP saw its largest cycle at 13 %.

Manufacturing

Lebanon is a relatively industrialized country, with varied light industries and heavier industries. Before the Civil War (1975–1976), industrial production was stimulated by a relatively rich domestic market, but the country's industries were damaged by turmoil and conflict. The impact of war on the textile industry was especially severe (Britannica, 2020). Although manufacturing experienced downturns due to regional instability in the relevant period, the construction industry fueled much of the post-war economy (Britannica, 2020).

During 1996–2010, manufacturing increased at varying paces. Seemingly, negative cycles in Lebanon have occurred over the relevant period since mid 1999. Notably, in the years leading up to the Arab Spring, manufacturing volumes increased at a slightly higher pace than the trend would imply. Negative cycles in Lebanon occurred over the relevant period, which in some cases coincided with regional turmoil - such as the invasion by Israel in 2006. Moreover, manufacturing volumes stood at 4,85 % above the trend in 2010 - just before the Arab Spring.

Net domestic credit

According to the available data sets, net domestic credit volumes increased by approximately 354 % during 1996-2010. As mentioned earlier, such tendencies are commonplace across

developing countries and emerging markets (Khaltarkhuu & Sun, 2014). *Figure 6.15* illustrates a relatively stable upward trend for domestic credit volumes. Observable cycles occur, among others in 2004–2005, moving below trend for a few years before rising again.

6.5 Arab MENA including the GCC-countries

In the above sections we have elaborated on macroeconomic developments for four specific countries up until 2010, thus mapping the years preceding the Arab Spring. The purpose is to show the situation at the doorstep of the revolts to unravel potential macroeconomic red flags. We have conducted identical analyses along the same indicators for all Arab countries across the Middle East and North Africa-region (MENA) – including the GCC-countries. This is done to better understand the overall circumstances of the Arab Spring, as well as to consider the diversity among Arab economies and the adverse effects of international and regional loss of economic and political stability.

Although we have chosen to place particular emphasis on Tunisia, Egypt, Jordan, and Lebanon, we acknowledge that other Arab countries would be interesting subjects of analysis. Upon assessing the economic status of the remaining Arab states, we have constructed a table that illustrates macroeconomic cycles across the region in 2010. GCC-countries are highlighted with a red background color, the four countries of focus in blue, and the remaining Arab MENA-countries with a beige color. Green numbers indicate positive cycles, red numbers indicate negative cycles. The table appears as follows:

Country	Real economy indicators				Financial indicators			
	Real GDP	Manufacturing	Unemployment	Youth unemployment	M3	Credit	Inflation	GGD
Algeria	-0,78 %	-7,08 %	16,36 %	10,65 %	4,88 %	-21,16 %	-2,20 %	367,21 %
Bahrain	0,47 %	-0,58 %	31,73 %	26,05 %	6,46 %	6,48 %	-37,39 %	33,96 %
Egypt	2,36 %	1,20 %	-4,27 %	-6,65 %	5,62 %	3,35 %	-14,42 %	-4,27 %
Iraq	3,04 %	25,89 %	-0,71 %	-1,12 %	10,25 %	85,55 %	-71,30 %	-31,19 %
Jordan	0,81 %	-3,61 %	-1,03 %	-0,67 %	9,97 %	1,67 %	-13,03 %	12,13 %
Kuwait	-8,99 %	ID	-0,15 %	1,15 %	3,48 %	-7,19 %	-27,40 %	9322,34 %
Lebanon	7,03 %	1,52 %	-8,10 %	-6,52 %	10,21 %	8,17 %	ID	-7,72 %
Libya	-1,43 %	ID	1,51 %	1,23 %	6,38 %	7,09 %	-44,32 %	ID
Morocco	1,00 %	2,58 %	4,78 %	6,84 %	1,02 %	7,45 %	-44,85 %	7,71 %
Oman	2,66 %	-1,59 %	8,01 %	10,03 %	7,26 %	11,42 %	-50,47 %	112,49 %
Qatar	10,52 %	11,11 %	97,75 %	49,32 %	15,73 %	20,71 %	-158,54 %	71,85 %
Saudi Arabia	0,04 %	2,47 %	-1,42 %	-4,78 %	3,77 %	-106,09 %	-15,84 %	162,08 %
Syria	ID	ID	-3,73 %	6,84 %	7,79 %	15,44 %	-42,14 %	59,70 %
Tunisia	0,31 %	1,77 %	4,58 %	1,71 %	7,68 %	10,94 %	-6,35 %	1,01 %
United Arab Emirates	-5,28 %	-6,87 %	5,26 %	6,18 %	3,48 %	6,47 %	-99,00 %	35,31 %
Yemen	2,90 %	-0,44 %	1,34 %	2,32 %	6,07 %	36,81 %	3,28 %	14,58 %

Table 6.1 – Macroeconomic cycles in 2010, Arab MENA.

As illustrated above, only two countries display overall negative real economic symptoms. These are Algeria and the United Arab Emirates respectively. Notably, these are two adverse economies prone to different financial and real economic climates. When it comes to assessing the dynamics of the GCC-countries, it is relevant to point out the remarkable wealth division between these and other Arab nations. This is due primarily to the prevalence of oil and gas resources in the Arab Gulf which has tied GCC-countries closer to the global economy making them more directly vulnerable to international dynamics. However, these valuable natural resources have also made GCC-countries more economically resilient than many of their neighbors in the region. Notably, non-oil producing Arab neighbors appear to have been particularly debt dependent during tough times (Fouad, et al., 2007).

As commented above, the global financial crisis of 2007-2008 had adverse impacts on Arab countries, some of which tainted by reductions in tourism flows, foreign direct investment, and reductions in oil prices (Vittorio, 2012). Arab states were affected by changes in the economic climate stemming from the financial crisis. However, the extent to which the crisis made a dent in Arab economies has varied from country to country. In Saudi Arabia and the United Arab Emirates real GDP contracted by approximately 2 % and 5 % respectively in 2009 (World Bank, 2021). In comparison, none of the four countries of focus in this paper experienced similar

economic drawbacks (World Bank, 2021). In fact, the gloomiest change in GDP between the financial crisis and the Arab Spring were reductions of GDP growth to rates of 3,04 % for Tunisia in 2009, 4,67 % for Egypt in 2009, 7,08 % for Lebanon in 2009, and 2,32 % for Jordan in 2010. Presumably, the immediate effects of the global financial crisis did not induce shrinking GDP in the four relevant states. These observations provide insight into the macroeconomic circumstances at the starting line of the Arab Spring.

7.0 Arab economic landscape post-Arab Spring

In the foregoing sections, we have elaborated on macroeconomic conditions prior to the eruption of region wide revolts towards the end of 2010 and the start of 2011. The purpose of this approach is to unravel potential economic grievances and symptoms of dismay that may have tilted the cup for populations across Arab States. In the following sections, we will shed more light on the economic landscape in the wake of the revolts. We do so by evaluating Arab economies along the same eight parameters assessed prior to preliminary uprisings in Tunisia and Egypt. The approach will be similar. That is, based on World Bank data we will construct an HP-trend with a smoothing parameter of 100 for annual data.

However, to establish the end of the time series for the construction of an HP-trend, it becomes relevant to ask whether there has been an end to the Arab Spring or the lack of a clear end to the Arab Spring. Some researchers argue that the bulk of significant demonstrations took place in the first few years succeeding the Tunisian Revolution (Hamid, 2017). This would entail limiting the duration of the Arab Spring to 2010-2013. In contrast, other researchers point to ongoing conflicts and developments, or lack thereof, that to this day taint the region. As a result of this, the following analysis encompasses data from 1996 up until the most recent available data.

To isolate the far-reaching negative impacts of the covid-pandemic in 2020 and 2021, we limit the estimation of cycles to 2019. This allows us to inspect immediate as well as longer-term consequences of the Arab Spring while ruling out the impact of the ongoing pandemic. Evidently, this also enables assessment of lagging macroeconomic indicators that respond relatively slowly to changes in the economic environment.

7.1 Jordan

Jordan was largely spared the devastating unrest that tainted its neighboring countries after protests erupted across the region (BBC, 2013). Protests were initiated in early 2011, shortly after the spark ignited the fire in Tunisia in December 2010. Jordanians held and expressed grievances along socio-economic dimensions demanding for better job creation and an end to systematic public corruption. Jordan, being a longtime debt burdened country, was obligated by the IMF to reduce its energy and fuel subsidies in 2012, whereafter demonstrators clashed with security forces inducing casualties among the protestors. However, because of the ruling monarch King Abdullah's seeming transition towards a more democratic regime, Jordan dodged the regime toppling wave that swept across the region (Ryan, 2018). In the following, Jordan's macroeconomic dimensions during 1996-2019 will be elaborated on with a particular focus on the years following the Arab Spring.

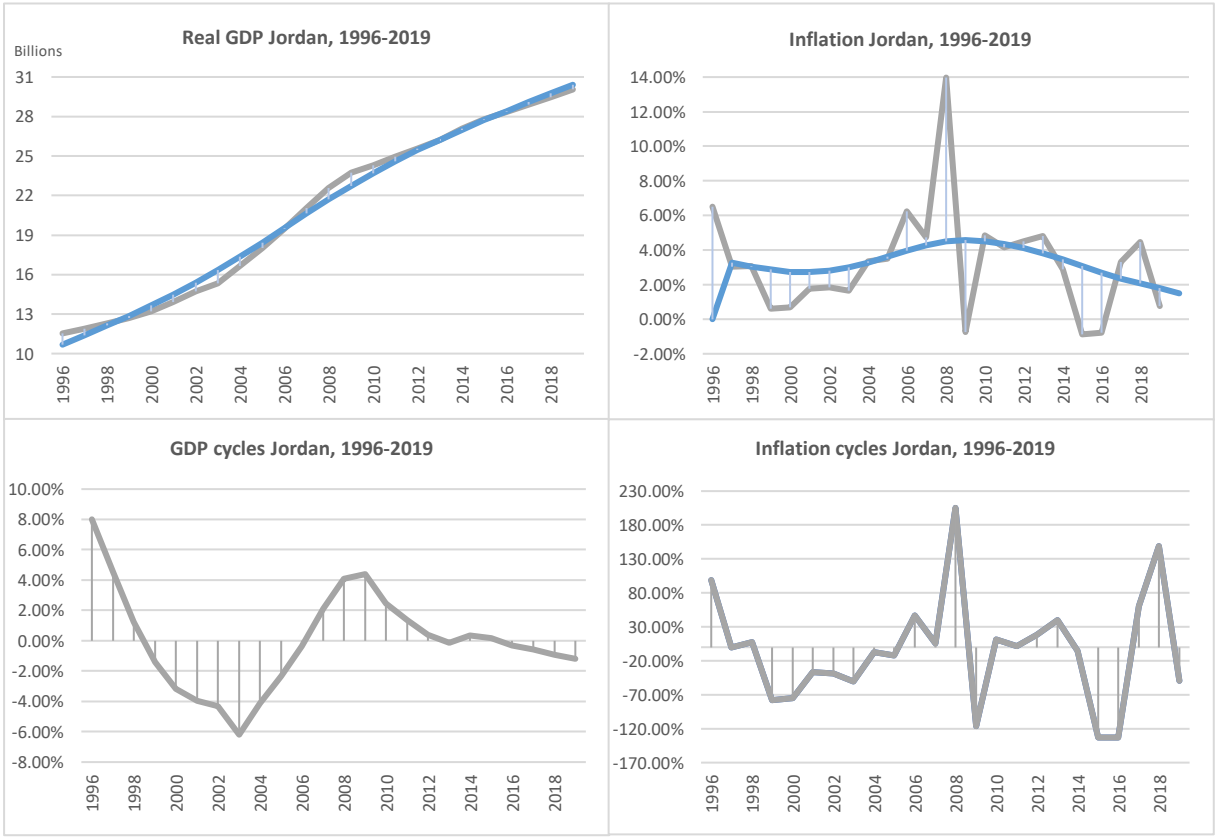

Figure 7.1 – Real GDP and inflation, Jordan, 1996-2019.

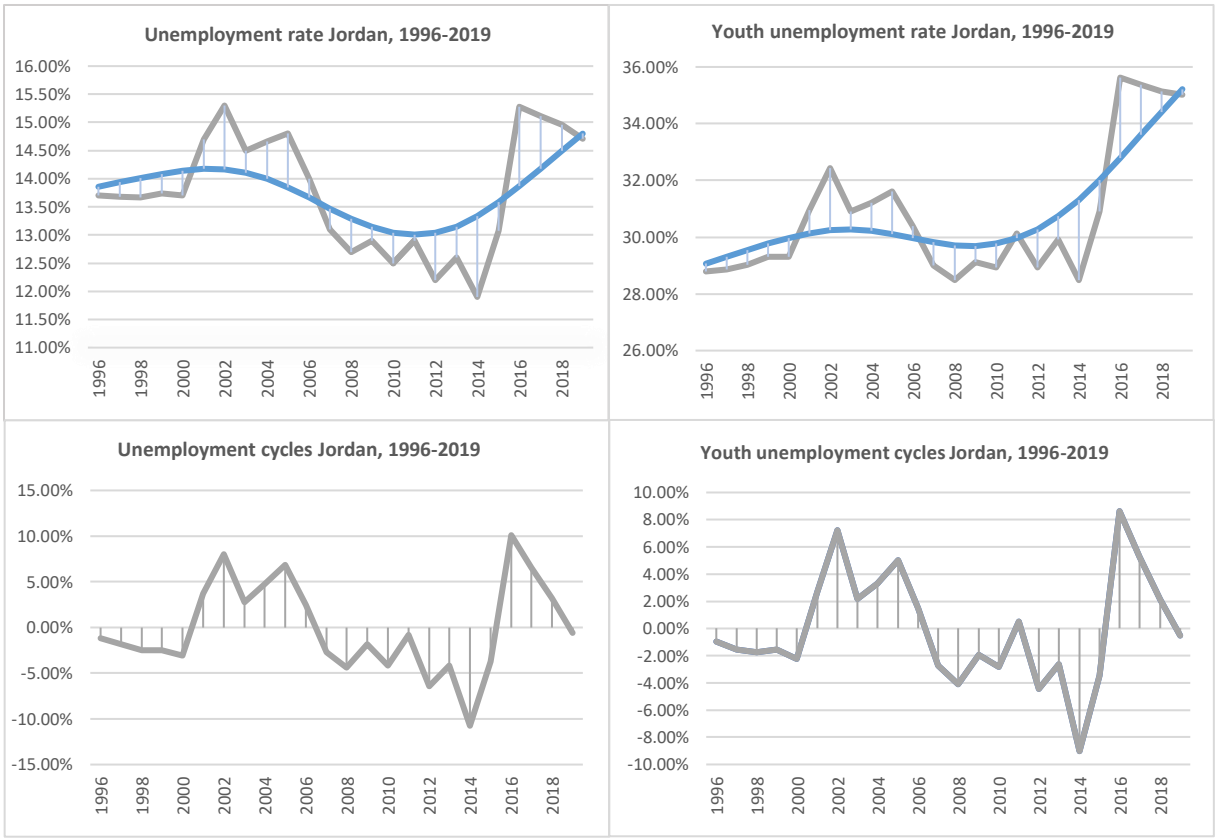

Figure 7.2 – Unemployment and youth unemployment rate, Jordan, 1996-2019.

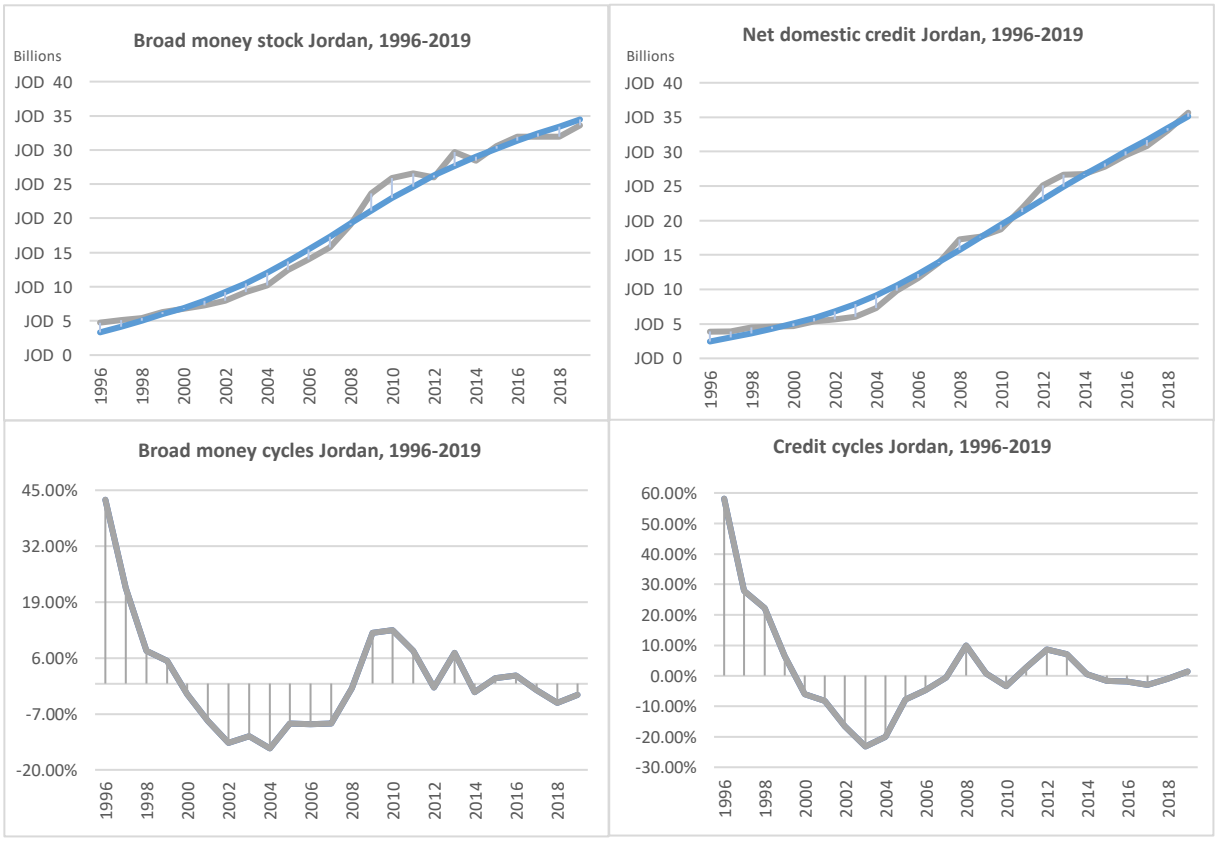

Figure 7.3 – Broad money stock and net domestic credit, Jordan, 1996-2019.

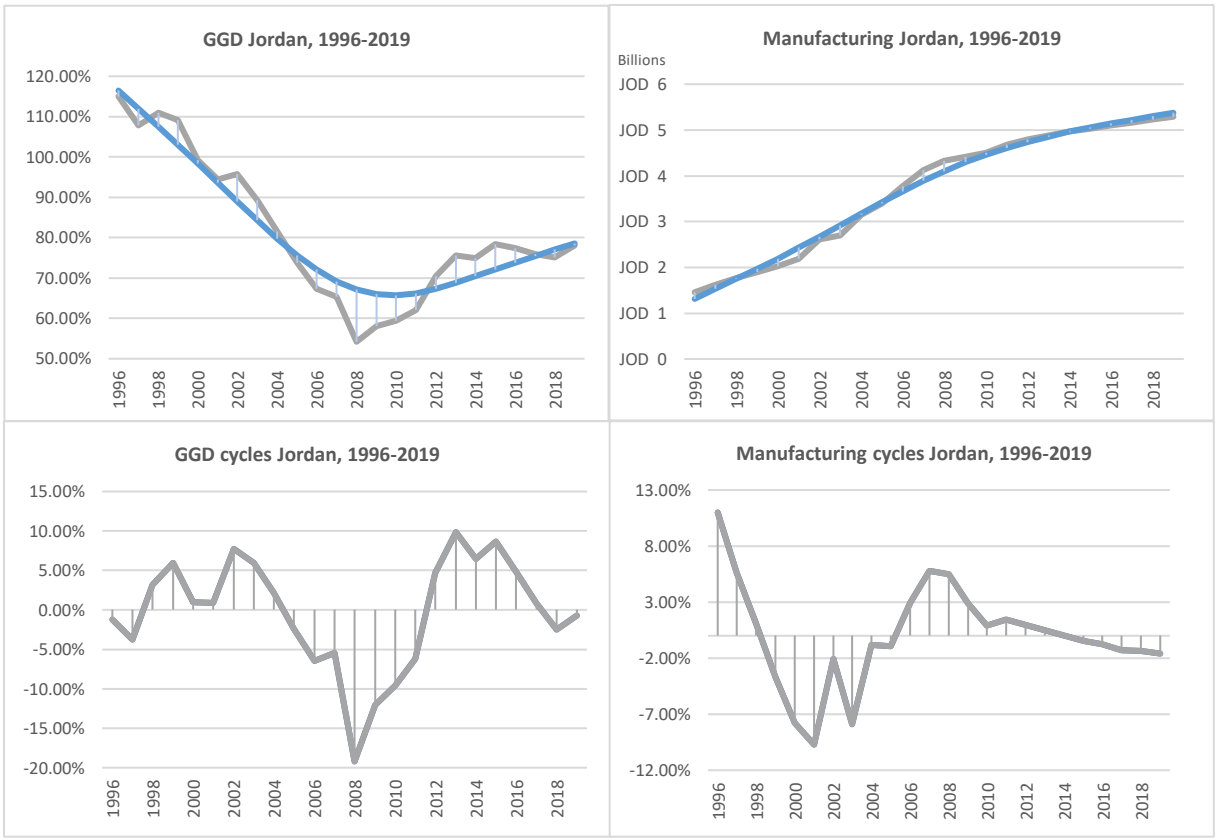

Figure 7.4 – GGD and manufacturing volumes, Jordan, 1996-2019.

Real GDP

Although Jordan experienced relatively calm seas with minor adjustments to ways of government compared to its immediate neighbors, domestic and regional unrest affected the economic pulse of the country (Diwan, 2016). Transit trade via Syrian infrastructure encompassed significant portions of Jordanian imports and exports prior to the war with 30 % and 11% respectively (Werman, 2019). Internally, increasing uncertainty for investors and troublesome trade routes have caused capital flows to dry out and exports to shrink. Furthermore, glooming security risks, radicalism, and a handful of terrorist attacks have tainted Jordan´s status as a tourist destination (Mustafa, 2018). By 2015, the number of tourist arrivals had shrunk by about 41% since the start of the Arab Spring. (Oxford Business Group, 2016).

Observably, Jordanian GDP has kept increasing after the Arab Spring although at an apparent slower pace than foregoing years. From 2011 until 2019 it seems as though trend and actual levels move closely in tandem. GDP-cycles come clearer into expression by assessing the graphs in *Figure 7.1*. GDP-values have behaved similar to trend estimates in the years following the Arab Spring with neither significantly positive nor negative cycle manifestations.

This bears witness to the absence of an actual economic recession in Jordan, and the presence of an economic growth slowdown post Arab Spring.

Unemployment

Although unemployment rates in the Jordanian labor market in 2010 were lower than what trend estimates would indicate, protests erupted in the country with one of the main grievances being, namely, unemployment. However, unemployment rates do not seem to have improved in the years that followed. Rather, conditions have worsened, and continued protests stretching from 2011 up until 2019 are rooted in economic dismay and unemployment (Abouzzohour, 2021). The topic of political change is still on the table, but the Jordanian population faces a dilemma, aiming for structural and political change whilst at risk of compromising national security. Nonetheless, Jordanian authorities seem to have failed in improving labor market conditions in the wake of the Arab Spring.

Unemployment rates in Jordan stood at levels below trend for the first few years following the start of the Arab Spring revolts but saw a steep incline in the period 2014-2016 peaking at levels of 15,27 %. This can be seen in *Figure 7.2.* For the relevant period, average unemployment rates stood at 13,77 %. Being a lagging indicator, unemployment rates are expected to express changes to the overall economy after some time has passed. Evidently, the Arab Spring did not bear with it fruits of fortune for the Jordanian labor market. At its peak in 2016, unemployment rates were an estimated at 10,11 % higher than trend-estimates would indicate. During the period assessed, this is an unmatched negative cycle. The graph also illustrates that the last few years prior to the Arab Spring were not extraordinarily tough in the labor market. Conditions had, however, been consistently poor over many years.

Youth unemployment

In general, high levels of youth unemployment is a sign of poor economic management and weak utilization of a country´s labor resources, but it is also closely connected to topics of political stability (Alawad, Kreishan, & Selim, 2020). Consistently, high levels of general unemployment have tainted the Jordanian economy – with particularly high levels of youth unemployment. These rates are alarming taking into consideration that an approximately 63 % of the Jordanian population are below 30 years old (UNICEF, 2020). The threat of youth unemployment is further exacerbated by the entrance of 100.000 new jobseekers into the labor market annually.

Although well educated, Jordan's young population generally struggles to find jobs, especially relevant ones. Protests in 2011 and subsequent demonstrations throughout the past decade pointed towards economic grievances, especially persistently high youth unemployment, as a motivational backdrop to the Arab Spring. Evidently, curbing unemployment issues and streamlining labor market dynamics should be an area of focus for Jordanian authorities.

Youth unemployment rates fluctuated slightly for a few years in the wake of the Arab Spring. The period 2014-2016, however, brought about record levels peaking in 2016 with rates of 35,63 %. Evidently, citizens that took part in protests and demonstrations in 2011 and subsequent years seem to not have had their grievances heard. Rather, conditions appear to have worsened. Relative to trend, youth unemployment saw its lowest rates in 2014 with a -9,02 % cycle and rates of 28,49 %, before rising to an 8,63 % cycle impact and rates of 35,63 % in 2016.

Inflation

Although Jordan has been economically strained by its immediate neighborhood being tainted by violent conflict, the country has performed relatively well (Oxford Business Group, 2015). In 2015, a few years after the eruption of the Arab Spring, the IMF forecasted that lower oil prices, among other things, would contribute to swifter fiscal consolidation, and that inflationary pressures thus would be reduced. The IMF also forecasted stable growth and consistent stability. Such prospects of sustained growth would indicate healthy inflation levels, as inflation typically represents a procyclical lagging economic indicator. However, the forecasted GDP growth did not occur, with forecasts for 2016 and 2017 standing at 4,5 % whilst actual growth stood at approximately 2 %. Evidently, expected inflation levels were also affected.

Throughout the relevant time series, displayed in *Figure 7.*1, inflation has fluctuated from peak levels in 2008 of 13,97 % to trough levels of -0,88 %. That is, the Jordanian economy showed symptoms of overheating prior to the financial crisis and displayed deflation in both 2015 and 2016 - half a decade into the Arab Spring. Deflation of -0,74 % was also the economic reality in 2009. Spikes and troughs in inflation levels come clearly into expression – particularly in 2008-2009, 2015-2016, and 2018.

Broad money

In Jordan, broad money supply has been an important financial policy tool contributing to economic growth (Al Qudah, 2016). Being a leading indicator to the real economy, we expect this macroeconomic indicator to affect and be affected by dynamics stemming from exogenous shocks. It has positive correlations with credit volumes and inflation and is expected to move procyclical.

Trend-estimates display an upward-going development as is in line with the law of demand. This implies that an increase in the supply of money may lower the price for borrowing, and as such, an increase in consumption and lending (Ross, 2020). Expectedly then, an increase in broad money should induce higher consumption and larger volumes in circulation within the economy. Broad money cycles display similar dynamics as cycles in real GDP as shown in *Figure 7.3*. This is according to expectations. During the first years of the 2000s, volumes were below trend indication, whereas in 2009 actual levels tipped above it. The Jordanian economy saw broad money volumes contract in 2011-2012, 2013-2014 and 2016-2017 by 2 %, 4.16 % and 0.04 % respectively.

General government debt

By the time the financial crisis struck the international markets, Jordan´s debt-to-GDP ratio had been reduced from 220 % in 1990 to 54,2 % in 2008. By the start of our time series, in 1996, the ratio stood at 115 %. At the starting line of the Arab Spring, it had shrunk to 59,4 % - up 5,2 % percentage points from 2008-levels.

Tainted by persistent budget deficits, the Jordanian economy has been consistently dependent on foreign aid and direct assistance to its budgets during the past decade (Sowell, 2016). Evidently, Jordan´s fiscal policy is kept afloat by international support. Budget deficits are largely induced by food- and energy subsidies, a bloated public sector and vulnerability to regional dynamics. Particularly, electricity and energy imports from neighboring Egypt are a key factor for the significant debt increase in Jordan. Egyptian gas pipelines were attacked by insurgents on the Sinai Peninsula in 2011, and slow repair work forced Jordan to turn to more expensive alternatives. As such, the Jordanian economy has been affected directly by fears of instability within its own borders as well as external factors such as energy imports and influx of refugees.

The above-mentioned dynamics of Jordan´s debt-GDP-ratio come into expression in *Figure 7.4*, displaying an increase of 18,6 percentage points from 59,4 % in 2010 to 78 % in 2019. This is well above the IMF-threshold for preferable debt levels among countries in Jordan´s income bracket (JSF, 2019). Debt reductions prior to the financial crisis and Arab Spring revolts come into expression. The wake of the Arab Spring brought about increasing debt levels and induced debt cycles above trend.

Manufacturing

In the ensuing instability of the Arab Spring, Jordanian manufacturing sectors saw some of their most pivotal target markets stirred. The war in neighboring Syria, revolution in Egypt, and eventually emergence of ISIS and other fundamentalist groups in Iraq all induced large uncertainty and concern in Jordan´s immediate neighborhood (European Investment Bank, 2016). Furthermore, transit trade of manufacturing goods via trade routes in, for example, Syria has been made difficult if not impossible. Consequently, export- and manufacturing volumes to countries such as Syria and Iraq decreased. As became apparent, a diversification of export destinations, and a reduction in trade volatility, are important challenges to the Jordanian manufacturing sector.

According to *Figure 7.4*, Jordanian manufacturing volumes have grown steadily over the period. However, the pace with which volumes have grown seems to have slowed down slightly in the wake of the financial crisis and Arab Spring. Manufacturing sectors also seem to have behaved according to trend-indication in the years that followed.

Net domestic credit

During the first decade of the 21st century, up until the financial crisis of 2008/2009, net domestic credits increased by 266 % - displaying average annual growth rates of 17,62%. In the wake of 2008 and the years that followed the Arab Spring, domestic credit growth seems to have decelerated. The high credit growth rates were accompanied by an average real GDP growth rate of 5,9 % during 2000-2007 (WTO, 2008). After 2008, and the years that followed the Arab Spring, economic growth slowed down – so did domestic credit volumes. However, both kept growing. In tandem with such developments, Jordan has made progress in establishing firm and better defined social and financial institutions to replace family- and tribal-based systems (IMF, 2004).

Cycles above trend occur in 2008-2009, and 2011-2014. Net domestic credit volumes have not shrunk at any point in our data sets as seen in *Figure 7.3.* However, notable annual increases took place in 2007 and 2011 with 24,77 % and 14,89 % respectively.

7.2 Egypt

By the time the revolutionary spirit of the Jasmine Revolution had reached Egypt´s borders, hopes had grown high across the Egyptian population. 18 days after the eruption of unrest, protestors received news that long-time president Hosni Mubarak had resigned, and that the military stood behind the popular demands of Egyptians (Elshamy, 2021). However, as time passed and no free elections were announced by the interim rulership of the military, political polarization became increasingly visible. The counter-revolution had placed new rulers in the position of power, and in the years that ensued political leadership had undergone frequent changes. President Morsi, a representative of the Muslim Brotherhood in Egypt, became the first freely elected president of Egypt but was overthrown by the military and replaced by Adly Mansour, who within a year was replaced by incumbent President Al-Sisi. Evidently, political turbulence tainted the Egyptian context in the aftermath of the Arab Spring – in addition to deepening economic and financial challenges such as drained foreign currency reserves and daunting unemployment rates (Tabaar, 2013). In the immediate aftermath then, there was meager promising evidence that indicated improvements to the grievances of the Egyptian population.

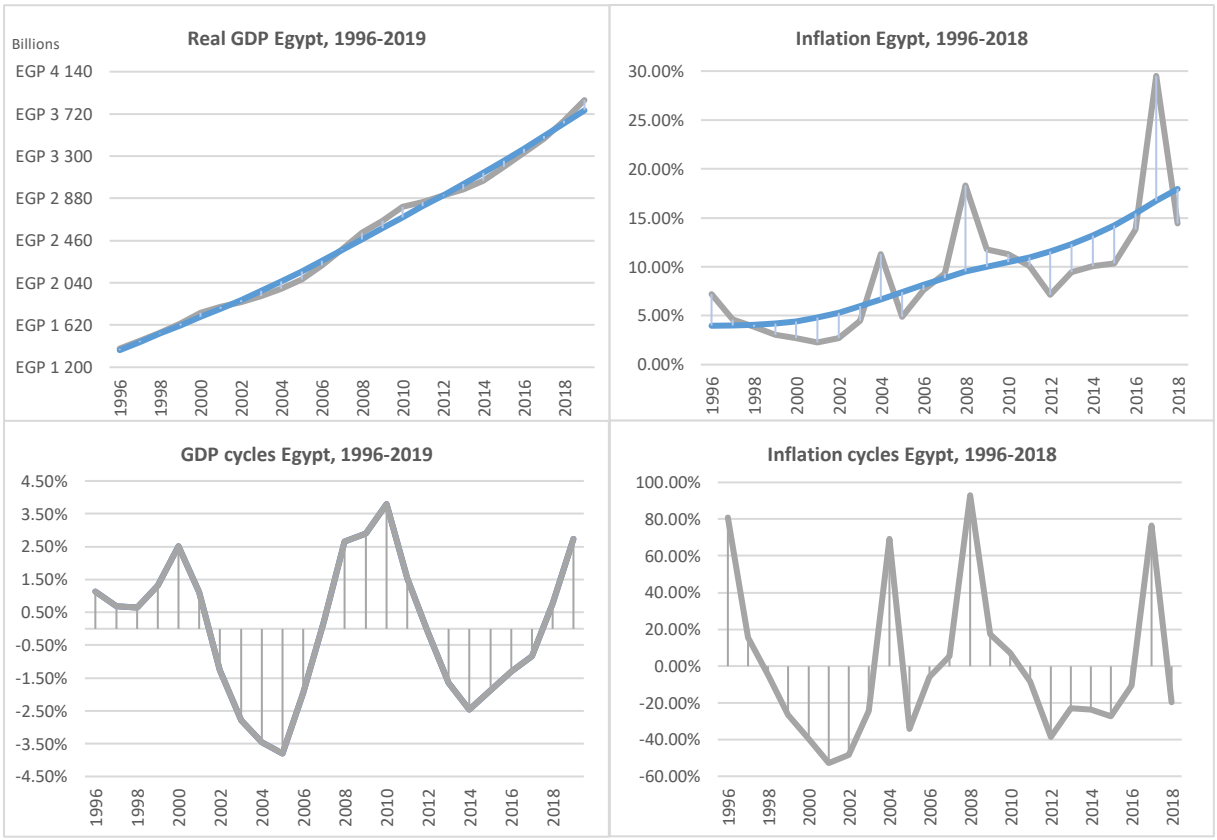

Figure 7.5 – Real GDP 1996-2019 and inflation 1996-2018, Egypt.

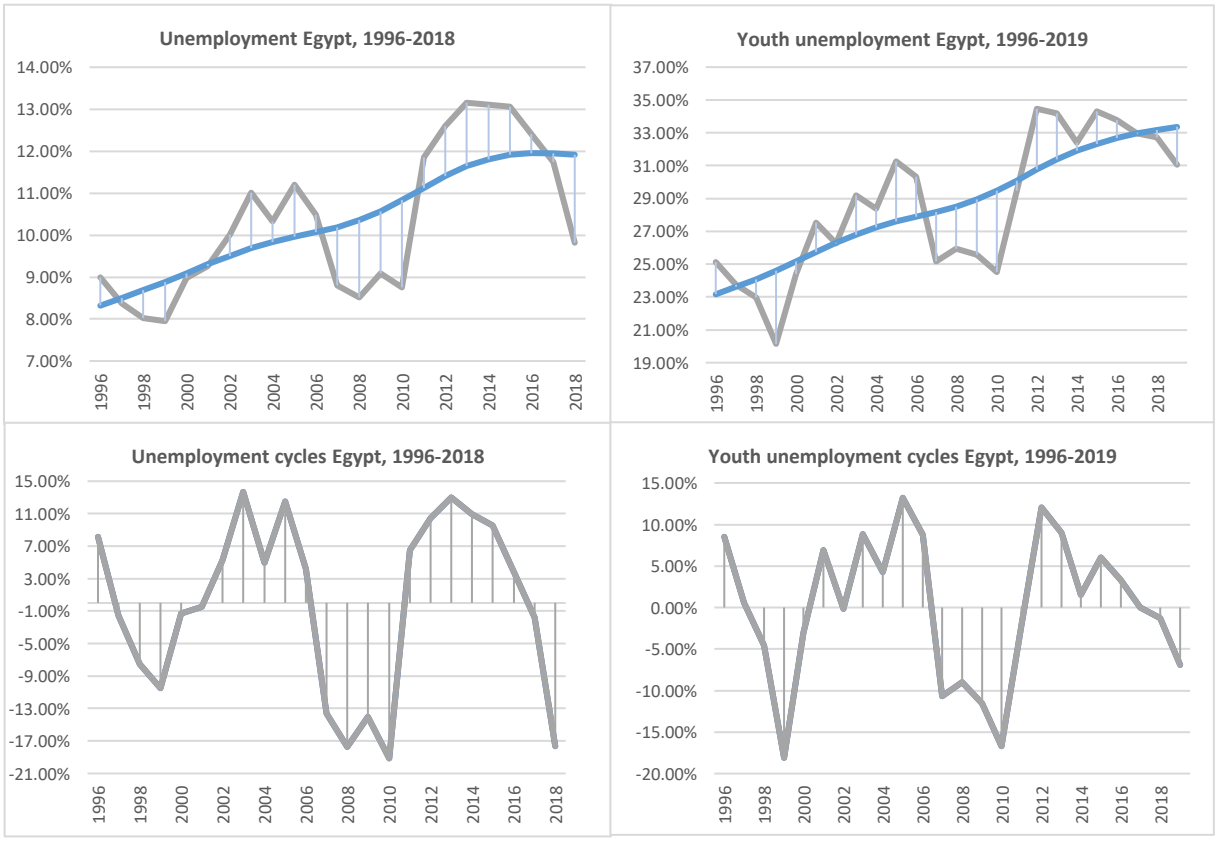

Figure 7.6 – Unemployment 1996-2018 and youth unemployment 1996-2019 rate, Egypt.

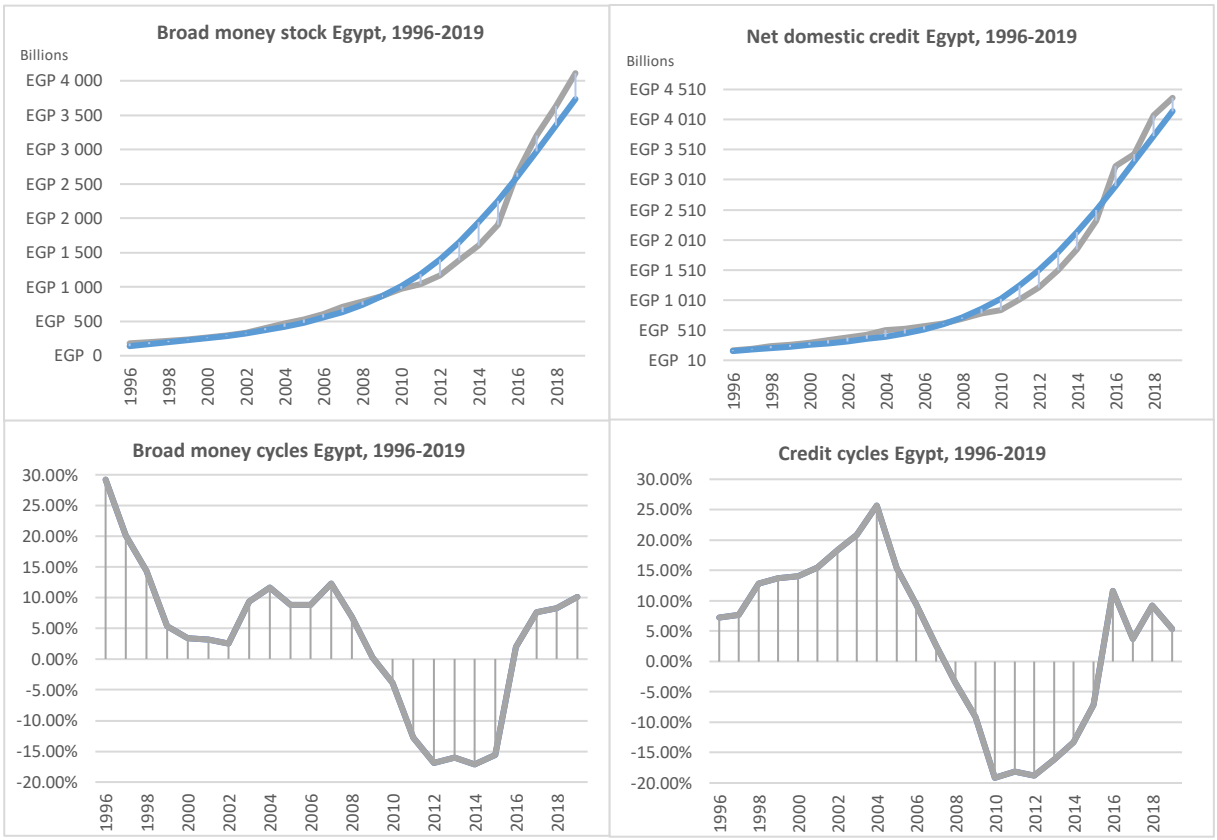

Figure 7.7 – Broad money stock and net domestic credit, Egypt, 1996-2019.

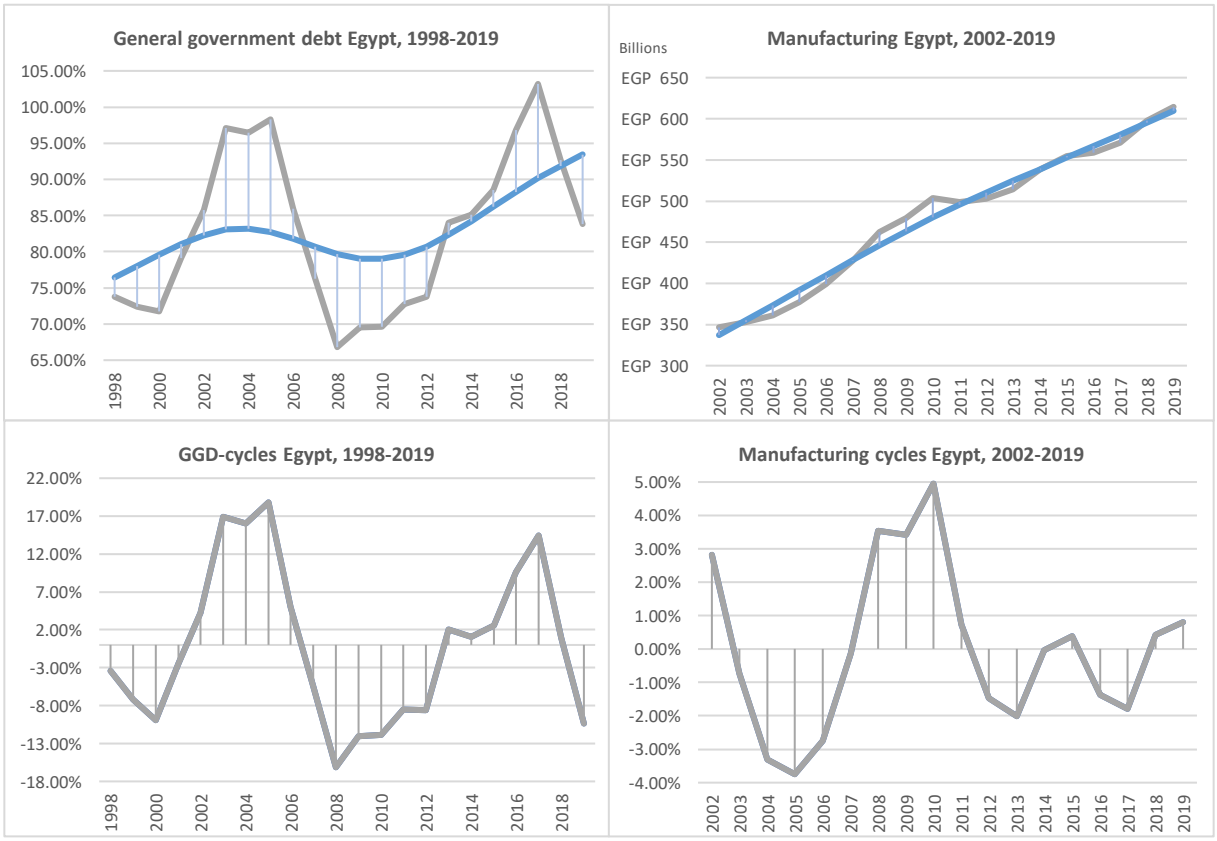

Figure 7.8 – GGD 1998-2019 and manufacturing volumes 2002-2019, Egypt.

Real GDP

The eruption of protests and revolts across the MENA-region incurred large fiscal costs on several Arab nations, reaching close to 20 % of GDP in both Saudi Arabia and Algeria (Ianchovichina, 2018). In Egypt, however, the fiscal cost of state-responses amounted to GDP of between 1 and 5 % of GDP. The oil-rich GCC-countries facilitated mainly bilateral support agreements with Egyptian authorities - although adverse in the sense that Qatar supported the Morsi Muslim Brotherhood-government and other GCC-countries supported the military-regime of Al-Sisi. After the removal of the Morsi-government, Egyptian authorities received an estimated $35 billion from July 2013 to March 2015 from the four pro-military GCC-countries Saudi Arabia, the UAE, Kuwait, and Oman.

Such support was earmarked for alleviating budget pressures of Egyptian authorities and facilitating improvement of economic grievances. However, chronic economic issues, such as vast energy subsidies devouring up to a third of Egyptian budgets, have continued to taint economic circumstances (Sayah, 2014). Furthermore, Egypt´s tourism industry, which contributed to approximately 17 % of GDP in 2010, took a significant blow as tourist arrivals shrunk due to the worsened security and stability situation. Tourism receipts, that is money spent by international tourists when staying in Egypt, shrunk from $13.633 billion in 2010 to $3.306 billion in 2016 – a staggering -75.8 % reduction (World Bank, 2021). Evidently, in addition to facing fiscal, budgetary, and unemployment challenges, the Egyptian economy remains tormented by political- and security threats.

In the wake of the Arab Spring, Egypt´s real GDP dipped to levels below trend and remained lower than trend-indication from 2012 to 2017 as shown in *Figure 7.5*. Economic performance on an aggregate level seems to have improved towards 2019. The Egyptian economy reached peak cycle levels in 2010 3,80 % above trend, and a trough in 2014 at -2,46 % below trend.

Unemployment

Although Egyptians uttered demands of better employment conditions and more job creation at the starting line of the Arab Spring, there is little to show that things have improved. In the wake of protests, rather, it appears as if conditions have stagnated or even worsened. A daunting feature of Egyptian unemployment, and many Arab countries´ unemployment-status, is that it is particularly high among more educated (Mottaghi, 2014) – whereby over 30 % of people with tertiary education stood without work. Furthermore, educated young people tend to strive for public sector and government jobs – which is prone to suspicion by the general population

for being tainted by elitism and favoritism. Evidently, although many jobseekers stretch for employment in inefficient and bloated public sectors, a large majority believes that networks and connections are essential for acquiring such jobs. This touches on the issue of corruption – one of the core grievances expressed during protests in Egypt throughout the Arab Spring (Ianchovichina, 2018).

Another core challenge of the Egyptian labor market according to Ianchovichina (2018) is the persistently large and growing informal sector. Here, Egyptians find work with low wages without social security and protection – as well as it not being captured by the overall Egyptian economy. Estimates of Egypt´s informal sector indicate that it encompasses roughly 40-50 % of its total GDP (Adly, 2019). Presumably then, this sector provides employment not captured by official institutions.

Across the time series, unemployment rates in Egypt display an upward-going trend flattening out towards 2018 as seen in *Figure 7.6.* Notably, the highest levels of unemployment were found in the wake of the Arab Spring in 2013 at 13,15 % with a 13,01 % cycle. Seemingly then, the Egyptian revolution and ensuing uncertainty and instability brought upon the Egyptian labor market a negative shock – as can be seen by the 2010 to 2011 increase in unemployment from 8,76 % to 11,85 %.

Youth unemployment

Although young protesters in Cairo´s Tahrir Square and elsewhere were filled with optimism and hope in 2011, there is little evidence to show that such hopes have been fulfilled. Rather, empirical findings indicate the opposite, and the same grievances that were relevant at the starting line of the Egyptian revolution remain relevant. Over the past decade, demonstrations and protests have consistently tainted Egypt´s context (Safi, 2019). As has been the case for general employment rates, conditions have not been visibly improved for the country´s youth. Furthermore, Egyptian authorities have fallen short in facilitating economic growth that captures new entrants to the labor market and have not been able to utilize human capital in the form of educated young people (Mottaghi, 2014). Such factors may serve to preserve, and even enhance, frustration.

Not surprisingly, youth unemployment displayed similar tendencies as general unemployment – shooting up in the first few years after the start of the Arab Spring. In 2012 youth unemployment rates reached its highest levels in the time series at 34,46 %, as shown in *Figure*

7.6. The same year indicated a 12,06 % cycle. In the decade following the Egyptian revolution of 2011, youth unemployment rates have stood consistently above 30 %. Evidently, the economic grievances that spurred Egyptian protests remain – partly due to a reprioritization from economic issues to security- and political concerns (Kabbani, 2019).

Inflation

Over the past 10 years since protests were first initiated in Egypt, inflationary pressures have been consistently high due to an accelerating consumer price increase (Khan & Miller, 2017). Prices levels have been particularly volatile in the foregoing decade because of oil price changes, fiscal deficits, food price increase, and a swiftly growing flow of money supply. The latter will be elaborated on in the subsection *Broad money*. Consistently high inflation levels were commonplace. In 2017, however, inflation spiked to record levels of 29,51 % according to our data sets. This can be observed in *Figure 7.5.*

The trend-estimate indicates an upward-going trend across the time series. Notably, this is likely heavily impacted by the inflationary spike in 2017 at 29,51 % - numbers considered high even in an Egyptian context. This is largely due to an average 7 % annual depreciation of the national currency across 2011-2015, as well as decision in 2016 by the Egyptian Central Bank to depreciate the Egyptian pound by 13 % (Khan & Miller, 2017). The latter is considered part of Egypt´s move towards inflation targeting rather than maintaining fixed exchange rates.

Evidently, depreciation found its way through increased import prices and thus affected inflation levels in 2017 significantly, as shown in *Figure 7.5.* Apart from 2017, which may be considered an anomaly, the inflation cycle peaked in 2008 93,01% above trend-indication, and dipped to -38,46 % below trend in 2012. It is worth mentioning that any trend calculation, and consequently also cycle-estimates, were impacted by the 2017 inflationary spike.

Broad money

Prior to the Arab Spring, broad money stock in Egypt displayed overall growth – although at varying annual paces. In the years ensuing the first protests, this trend persisted – at times with annual increases far larger than those seen earlier in the time series. According to the quantity theory of money this should have a direct impact on price levels – as elaborated under *Inflation*. Drawing on this, inflationary dynamics should to some extent also come into expression in the stock of money.

The daunting inflationary pressures have been driven by several factors. Among others, misguided fiscal policies and currency-supply increases that ultimately contributes to further devaluation, hampered purchasing power among Egyptians, and pricier food baskets (Megahid, 2017). Evidently, broad money volumes have an impact on the overall performance of the Egyptian economy and affect numerous factors on a macroeconomic level.

Peak inflation levels in 2017 of 29,51 % coincide with a sharp increase in broad money of 39,51 % and 20,45 % for 2016 and 2017 respectively. See *Figure 7.7.* Notably, cycle-estimates displayed above are tainted by the large increases in broad money towards the end of the time series. This means that although the period 2010-2015 indicates cycles below trend, the same period also entailed an overall 95,62 % increase in broad money stock. The abovementioned fiscal measures, such as depreciation and reduction of subsidies, have worked in tandem with inflows of large international IMF-loans to impact Egyptian finances such as the broad money stock. In any case, tendencies such as these may be worrisome for the overall economic performance of Egypt (Khan & Miller, 2017).

General government debt

Although Egyptian authorities have been successful at keeping government debt levels at bay during fruitful economic times, and at times even reducing its debt, the country´s macroeconomic context has been tainted by high debt-GDP-ratios. Notably, the aftermath of the Egyptian revolution and the years following the Arab Spring have brought upon the Egyptian government increased debt levels and fiscal imbalances. According to the IMF, Egyptian authorities did well in reducing their debt levels towards 2019 (IMF, 2020). This is not to say, however, that the country has gone clear of its neck-deep debt-burdens.

As seen in *Figure 7.8*, Egyptian debt-GDP-ratios were significantly reduced from pre-Arab Spring levels of 98,30 % in 2005 to 66,80 % in 2008. After the financial crisis, the ratio crawled up to 69,60 % in 2010 at the doorstep of the Egyptian revolution. By 2013, Egyptian authorities were faced with a burdening 84 % debt-GDP-ration that kept increasing until it reached its summit in 2017 at 103,20 %. Evidently, government indebtment has remained a challenge throughout the relevant time series.

Manufacturing

The Egyptian manufacturing sector in the aftermath of the Arab Spring was tainted by increased instability, uncertainty, and reduced foreign investment flows to Egyptian industries (Bahgat,

2015). The issue remains that industrial sectors and political elites are heavily intertwined – that is, military-connected companies are clearly present across food-, health, and industrial manufacturing-sectors (Acemoglu, Hassan, & Tahoun, 2016). This militarization of Egypt´s economic body is exacerbated by the military´s expansion into signing deals with foreign firms, production of solar panels, chemicals, automotive components, and computer circuits (Ali, 2020). Hence, the fragile situation persists that those in power politically and economically, are also the same ones that have the capacity to repress the population by force.

According to our data sets, Egyptian manufacturing volumes displayed consistent growth up until 2011, averaging an annual 4,78 % across 2002-2010. Egypt also displayed an aggregate growth of 45,3 % in the same period as seen in *Figure 7.8.* However, 2011 brought about decreased manufacturing volumes amounting to -0,95 %. This is in clear contrast to foregoing years and is symptomatic of the effect instability and uncertainty may have on Egyptian manufacturing sectors. Notably, the pace increased after 2011, but it did not resume its former growth. In fact, during 2011-2019 Egyptian manufacturing volumes displayed an average annual growth rate of 2,64 % and an aggregate growth rate of 23,19 %.

Net domestic credit

In the years following the Egyptian revolution of 2011, net domestic credit volumes have kept growing at a relatively rapid pace. According to our data sets, 2016 alone entailed a 39,18 % increase. Simultaneously with this credit expansion, Egypt has not succeeded in reaching equivalent real GDP growth to pre-revolution levels (Haddad & Hakim, 2015). Consequently, credit growth has not been accompanied by compatible GDP-growth, thus indicating a lack of economic recovery despite the presence of credit growth. However, it may also be that the negative impacts of the Arab Spring would have been graver had the exogenous shock been followed by a "credit-less" response. Haddad & Hakim (2015) underscore that although the impact of bank credit on economic growth is ambiguous, it does not mean that it is negligible. They further emphasize that, in the case of Egypt, their findings merely cast doubt on net domestic credit´s ability to *lead* an economic recovery.

Facilitating healthy recovery and further economic growth would, among several factors, depend on access to finance for private firms and other actors in the private business landscape in Egypt (Morsy et al., 2014). However, research underscores that financial development in tandem with strong institutions is adamant to ensure sustainable and inclusive growth (Mohieldin, Hussein, & Rostom, 2019). The challenge remains that the authorities, for the most

part constituted by the Egyptian military, are involved in all aspects of Egypt´s economy, and that financial markets as a whole are state governed. Egypt´s institutional strength is further elaborated under *8.0 Integrated Institutional Development Matrix (IIDI).*

According to our data sets, net domestic credit volumes in Egypt displayed an overall 421,84 % increase across 2010-2019 – indicating an average annual credit volume growth of 20,15 %. This can be seen in *Figure 7.7.* The highest year-on-year-growth of domestic credit volumes occurred in 2016 with 39,18 %. Evidently, estimated credit cycles are visibly tainted by the recent decade´s rapid credit growth.

7.3 Tunisia

The 2010 and 2011 protests in Tunisia are commonly considered the beginning of the Arab Spring, and they quickly spread to other countries in the region. It all started on December 17, 2010, when a fruit vendor in Tunisia, Mohammed Bouazizi, set himself on fire in protest against the government. Many Tunisians identified themselves with Bouazizi's life situation, which triggered an uprising that spread from the small town of Sidi Bouzid to several parts of the country, including the capital Tunis. The revolution, also called the Jasmine Revolution, was a nonviolent revolt against the regime. Widespread unemployment, rising food prices, and a lack of respect for fundamental human rights were some of the causes for the uprising. The protestors demanded democratization and the removal of the incumbent regime. Large demonstrations and riots were met with violence by police, and hundreds of people lost their lives in the clashes that followed. The uprising forced President Ben Ali to resign, and a new government was installed (Britannica, 2021). A new democratic constitution was also adopted and implemented in 2014. Tunisia remains the most successful example of democratization after the Arab Spring (United Nations Association of Norway, 2020).

However, the economic challenges in Tunisia remain. Corruption and high unemployment, especially among young people, are problematic. Social unrest and several terrorist attacks, including those to the country's tourism industry, lead to insecurity and slow-moving economic growth. Following the social and political riots between 2011 and 2015, the country took large loans from the IMF, the World Bank, and the African Development Bank, which resulted in high foreign debt that will take a long time to repay (United Nations Association of Norway, 2020). In the following subsections, Tunisia`s macroeconomic dimensions will be elaborated.

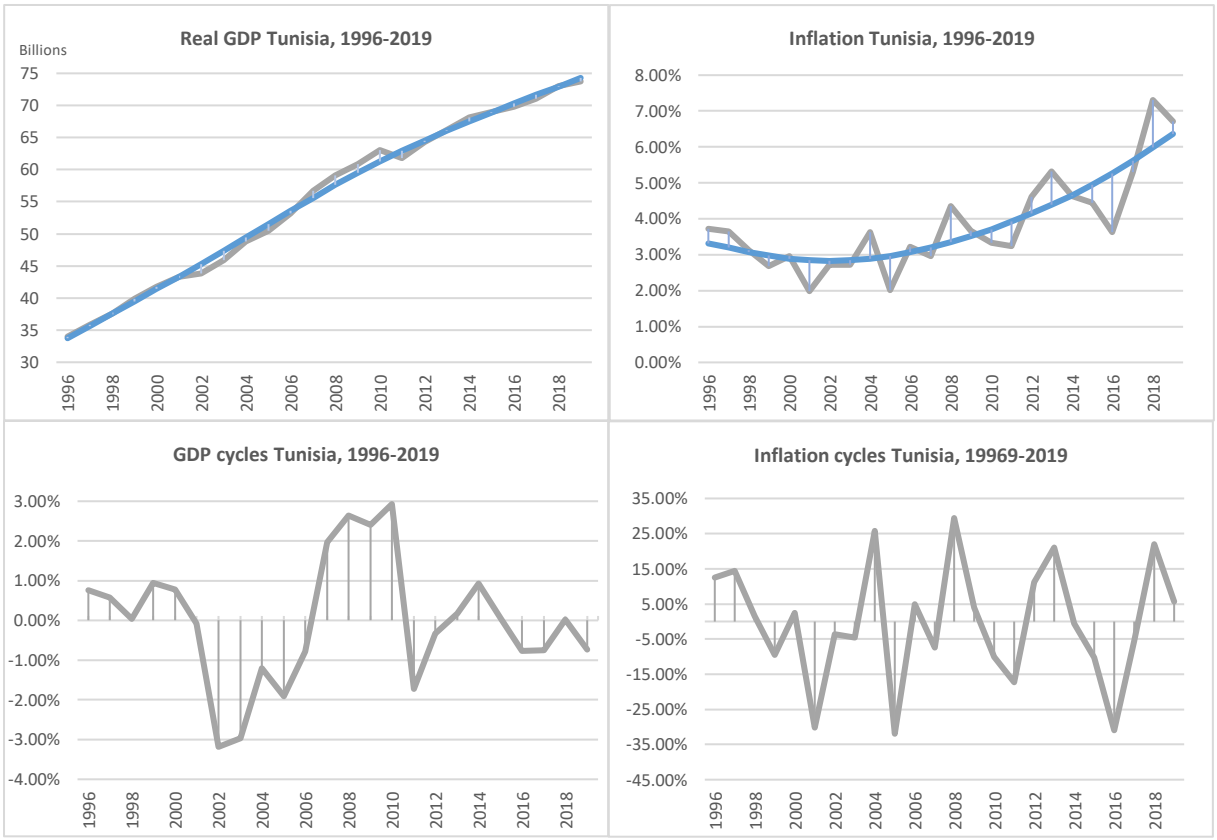

Figure 7.9 – Real GDP and inflation, Tunisia, 1996-2019

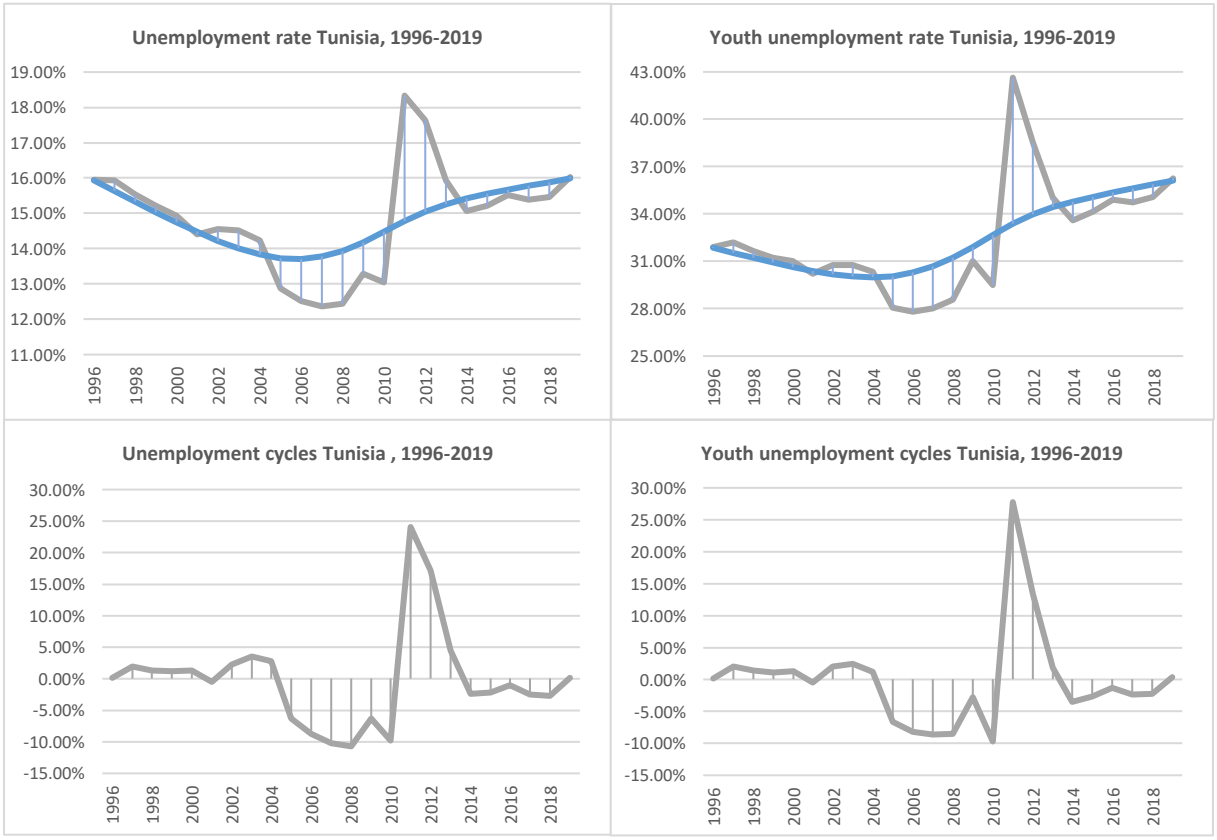

Figure 7.10 – Unemployment and youth unemployment rate, Tunisia, 1996-2019.

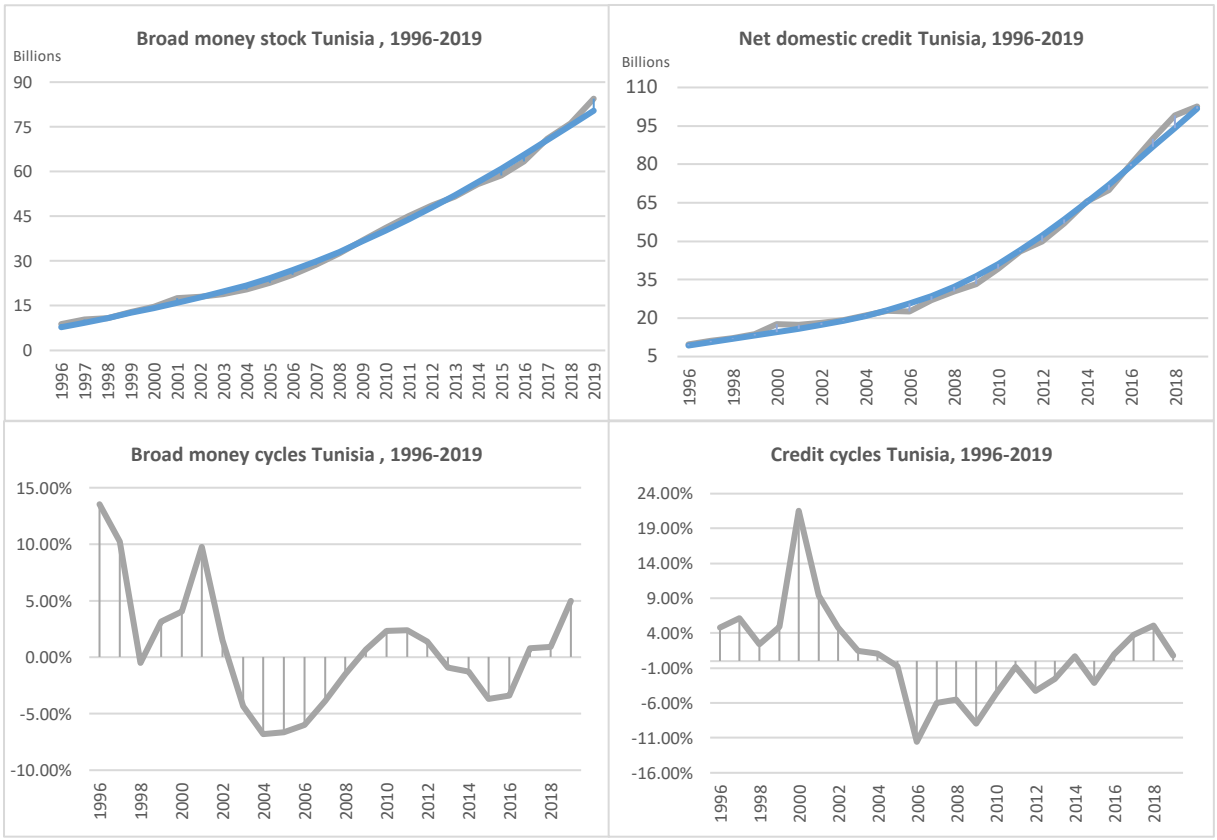

Figure 7.11 – Broad money stock and net domestic credit, Tunisia, 1996-2019.

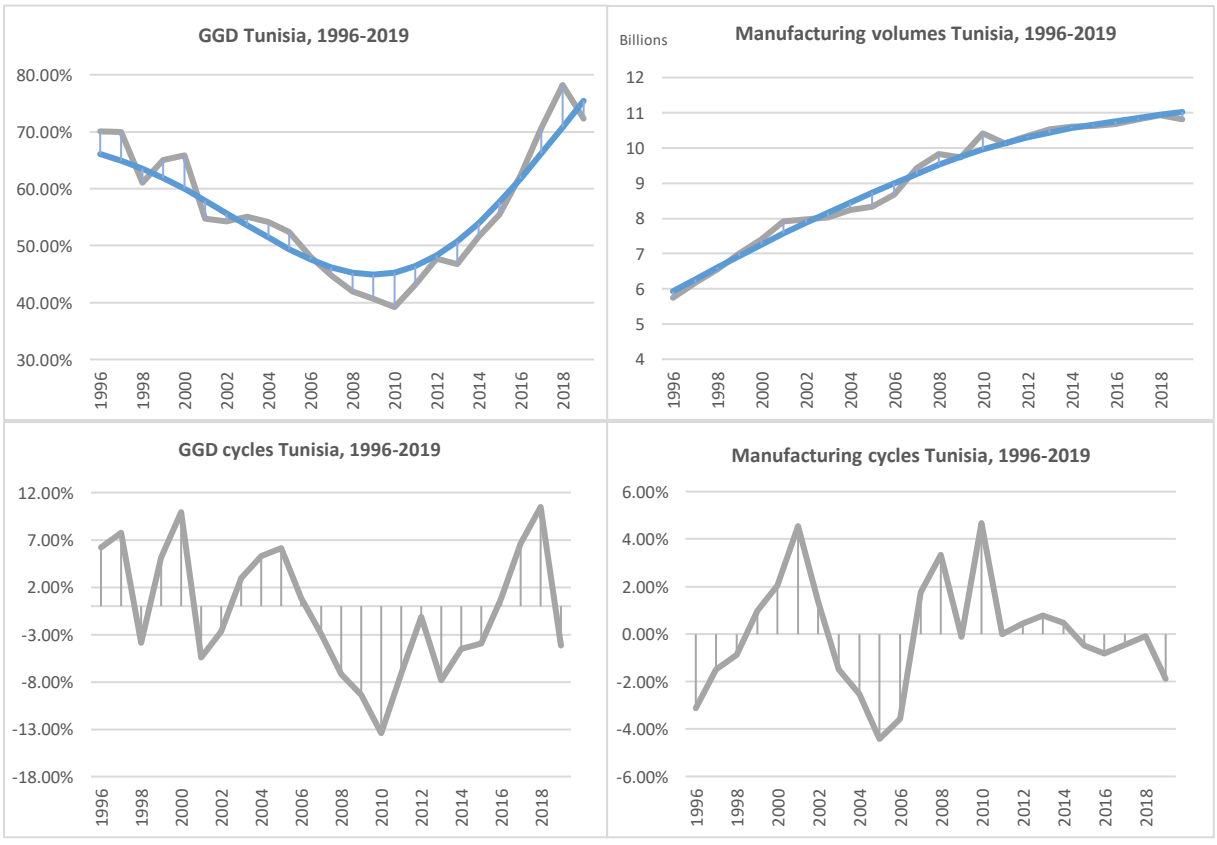

Figure 7.12 – GGD and manufacturing volumes, Tunisia, 1996-2019

Real GDP

Since the revolution of early 2011 and the economic decline shortly thereafter, the Tunisian economy embarked on a moderate recovery. Nonetheless, the country is currently facing headwinds from increased security threats and social tensions, which in many ways outweigh the benefits of the seemingly successful political transition (IMF, 2015). At the same time, Tunisia must navigate through a challenging environment marked by slow growth in trading partners, spillovers from regional conflicts, lower international oil prices, and a European Union in recovery (IMF, 2015).

The economic landscape in Tunisia was severely affected in 2011. Both events in Tunisia and the conflict in neighboring Libya harmed domestic markets and reduced remittances from Tunisian diaspora. Real GDP declined to below trend and experienced a recession of -1.92 %. However, as can be seen in *Figure 7.9*, Tunisia has recovered from the shock in 2011. Tunisian GDP has kept increasing after the Arab Spring and appears relatively stable albeit slow.

Unemployment rate

As a result of the economic downturn and the return of Tunisian diaspora in Libya due to the eruption of war, the unemployment ratio witnessed a sharp incline in 2011 (IMF, 2012). Furthermore, labor markets reforms implemented to break away from the weight of the old labor system, combined with continuous political tensions, led to increased unemployment rates (Bouazza, 2019). Increased security threats and social tensions also exacerbated the employment context. Among other things, Al Qaeda's presence in North Africa strengthened in the aftermath of the Arab Spring. So did ISIS´ presence. Furthermore, instability in neighboring Libya added concerns about the security situation (CIPE, 2013).

Seemingly, unemployment rates have recovered over the years compared to the year when the revolution arose in 2011. Nevertheless, the unemployment rate remained higher compared to pre-Arab Spring levels. Unemployment cycles are illustrated in *Figure 7.10*. For the relevant period, average unemployment rates stood at 14.85 %. Despite various labor support programs from successive governments, many Tunisians claim that their conditions have worsened (Bouazza, 2019). At its peak in 2011, the unemployment rate is estimated at a 24 % cycle.

Youth unemployment rate

The employment situation is difficult for the general labor force but is even worse for the young generation in Tunisia. Like many Arab Spring countries, Tunisia has experienced a youth bulge.

Still, according to the Center for International Private Enterprise (2013), neither that nor the lingering effects of the financial crisis can entirely explain Tunisia's high youth unemployment rate. The high ratio results from structural issues in its education system and labor market (CIPE, 2013). At the time of Bouazizi´s self-immolation in late 2010, youth unemployment stood at 29,49 %. Within one year, this had risen to 42.63 %.

Not surprisingly, youth unemployment displayed a pattern like that of overall unemployment. Youth unemployment rates stood at levels above trend estimates in the doorstep to the revolution and sank below trend in mid-2013, although remaining at a higher level than before the Arab Spring. Spikes come into expression in the first year of the Arab Spring, but as illustrated in *Figure 7.10*. Although youth unemployment rates were lower in 2018 than in 2011, they were still dauntingly high. Compared to 2010, 2019-levels were 6.78 % percentage points higher.

Inflation

Trend-inflation in Tunisia has increased throughout the relevant period, thus dimming Tunisians' purchasing power. Reasons for price increases are, among others, account deficits, lack of supply, and continued depreciation of the dinar (Kadria & Mohamed Safouane, 2015). Furthermore, instability in the neighborhood was also a driving force for the inflation pressure. During the Libyan crisis, the black market was set in high gear, and substantial quantities of exports were driven to the country. The high volumes of exports to Libya and smuggling activities at the border resulted in a shortage of several essential foods in Tunisia. Many Tunisians sold goods to Libyans at higher than market prices, thus driving prices upwards in Tunisia (The African Development Bank, 2013). Inflation peaked in 2018 at 7.31 %. As can be seen in *Figure 7.9*, inflation cycles are clearly visible.

Broad money

Tunisia's broad money supply increased during the period, displaying average annual growth rates of 8.37 % during 2010–2019. As mentioned, broad money and domestic credit should display a positive correlation, evidence of which comes into expression when elaborating domestic credits. Broad money volumes displayed relatively stable cycles with a clear upward-going trend.

General government debt

By the time the Arab Spring struck Tunisia, their debt-to-GDP ratio had been reduced from 70 % in 1996 to 43 % in 2011. However, post-revolution debt-to-GDP reversed and had increased to over 72 % by 2019. Since the revolution in 2011, Tunisia obtained nearly 36 billion dollars in loans and donations from parties, such as the European Union, the World Bank, and the International Monetary Fund, as well as donations from international aid (Bouazza, 2019). According to the International Monetary Fund (2019), Tunisia's public debt is sustainable. However, the risk has increased significantly, whereby stress scenarios identify significant risks. Examples as such are depreciation in exchange rates, poor fiscal and monetary policy, and contingent liabilities, especially if combined with persistently lower growth (IMF, 2019). Furthermore, the same report posits that strong policy implementation will be paramount to achieve the envisaged debt reduction, which is set as an ambition by 2024 (IMF, 2019).

The above-mentioned dynamics of Tunisia´s debt-GDP-ratio come into expression in *Figure 7.13.* Over the past decades, there are some differences. After a long period of debt reductions, the Tunisian government´s debt-to-GDP ratio saw its first large increase in 2010. By 2018, general government debt had increased to 78.20 %. In 2010 it stood at 39.20 %.

Manufacturing

Tunisia has Africa's sixth-largest manufacturing industry (Oxford Business Group, 2019). Its geography plays a major role, offering direct access to the Mediterranean and proximity to the European market. However, in the post revolution years, manufacturing industries experienced a slowdown in production. This was due to more frequent labor disputes, increased instability, a decline in capital expenditures and technological development, and increased international competition (Oxford Business Group, 2019). The challenges were far from negligible, where social disputes led to disruptions in production and weakened investor confidence.

Seemingly, trend estimates for manufacturing indicate concavity. That is, it has been flattening out in the aftermath of the Arab Spring. However, through the course of the selected years, manufacturing, in total, has increased. Tunisia benefits from some fundamental features, such as a developed industrial infrastructure, location close to the European market, and an efficient logistics infrastructure (Oxford Business Group, 2019). Tunisia enjoyed positive manufacturing

cycles before the Arab Spring. However, as *Figure 7.12* illustrates, negative cycles have been dominant in later years. Notably, manufacturing volumes shrunk both in 2011 and in 2019.

Net domestic credit

Net domestic credit volumes have been steadily on the rise in Tunisian financial markets. Before the Arab Spring, net domestic credit volumes increased by an approximate 302.6 % during 1996-2010. In the years that followed the Arab Spring, domestic credit growth accelerated slightly, averaging annual rates of 11.35 %. Even in 2011, net domestic credit volume grew by 17.36 %, although real GDP contracted by -1.92 %. *Figure 7.11* indicates a clear upward-going trend for domestic credit volumes. Credit cycles peak post-Arab Spring peaked in 2018.

7.4 Lebanon

Lebanon has a small open economy with few restrictions on trade and capital flow. The economy is mainly composed of service industries, agriculture, banking, and tourism. The country has few natural resources and industrial products, thus being heavily dependent on importing goods. The country´s investment climate suffers from issues due to lack of well-designed regulations, chronic political instability, and regulatory transparency, as well as high investment costs (Araji et al., 2019).

Since 2011, the Syrian crisis has had spillover effects on Lebanon', putting more pressure on the country's fiscal and economic system. By 2014, the number of Syrian refugees reached one million due to an open-border policy (UNHCR, 2014). According to UNHCR (2014), this made Lebanon the country with the highest per-capita concentration of refugees worldwide. Moreover, the country´s former connection Syria's economy and its need to deal with a massive influx of refugees increased social tensions and heightened competition for low-skill jobs and public services. About 30 % of the country's Syrian refugees are unemployed (FN, 2020). In addition, the uprising in its eastern neighborhood caused fears that the conflict would spread to Lebanon.

The recovery from the recent conflict in 2006 with Israel was on a good path. However, the refugee influx, and poor economic conditions associated with corruption and lack of transparency has shunned foreign investors and tourists away (FN, 2020). According to the

United Nations (2020), around 27 % of the population lives below the national poverty line. In the following subsections, Lebanon´s macroeconomic dimensions during 1996–2019 will be elaborated.

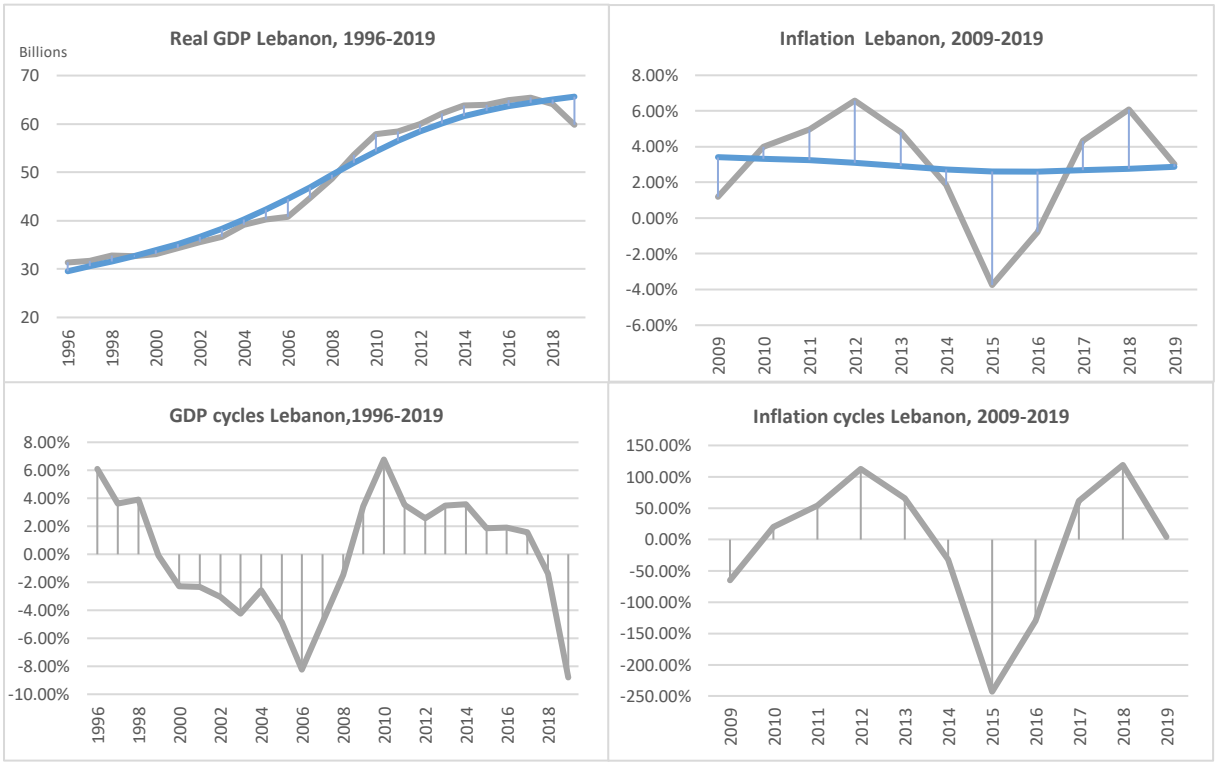

Figure 7.13 – Real GDP 1996-2019 and Inflation 2009-2019, Lebanon.

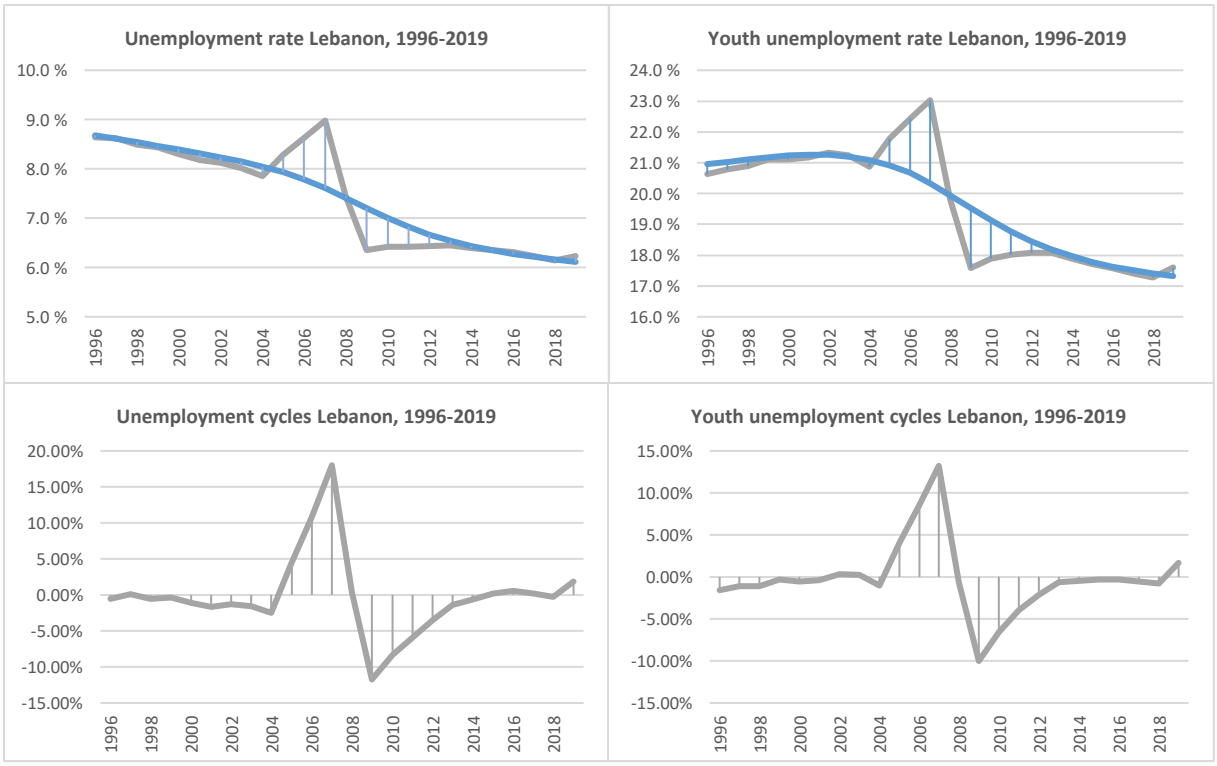

Figure 7.14 – Unemployment and youth unemployment rate, Lebanon, 1996-2019.

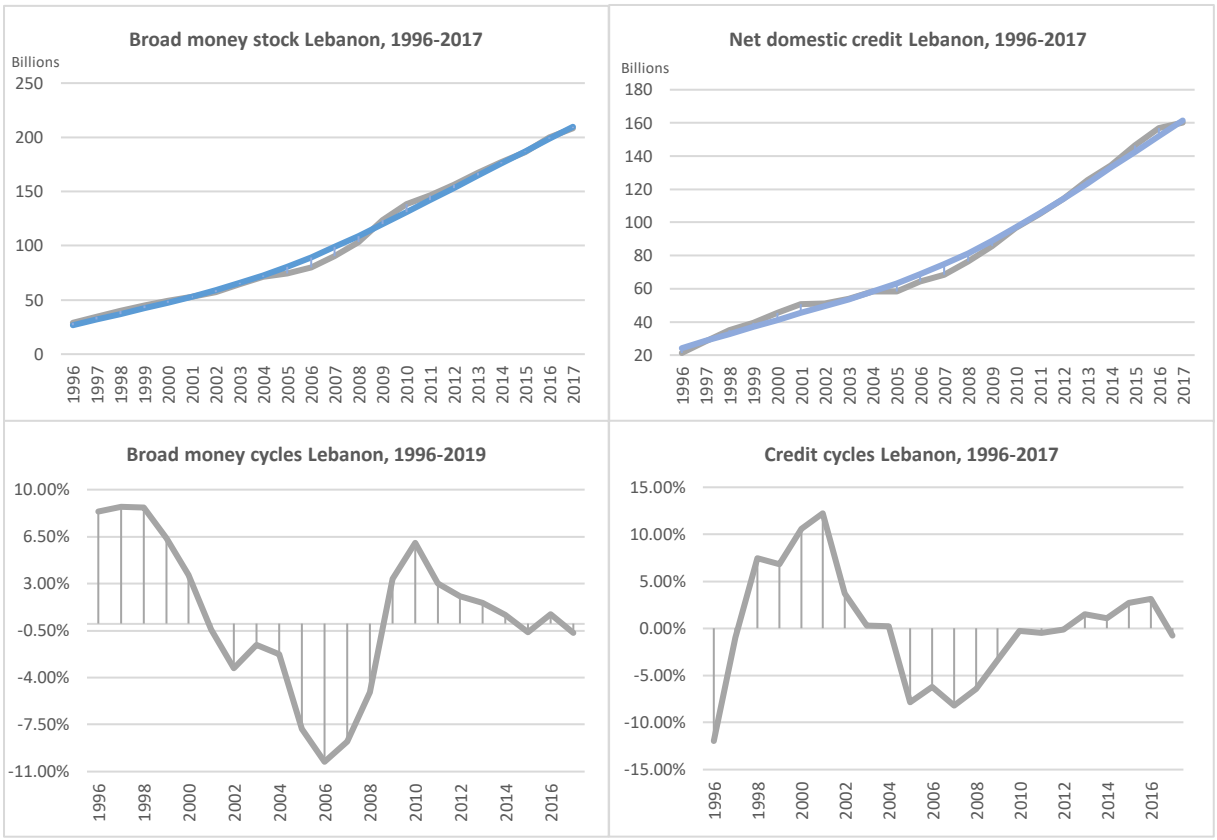

Figure 7.15 – Broad money stock and net domestic credit, Lebanon, 1996-2017.

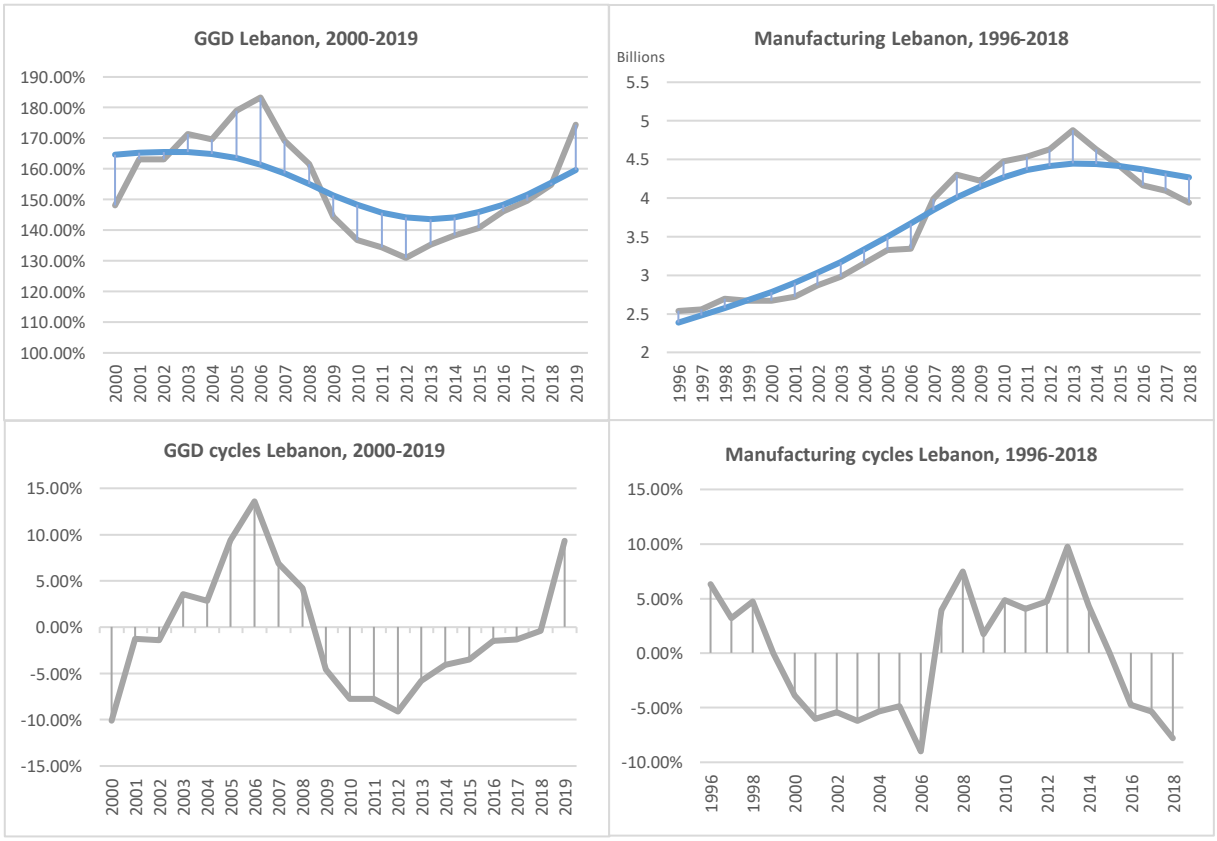

Figure 7.16 – GGD 2000-2019 and manufacturing volumes 1996-2018, Lebanon.

Real GDP

Lebanon bolstered impressive economic growth from 2007–2010, but regional uncertainty brought an end to this. According to our data, the average growth rate was 9.15 % during that time. while the following four years only mustered an average growth rate of 2.42 %. Growth decelerated to 0.87 % in 2011, as real estate related activity, construction, and tourism were affected by increasing uncertainty and deteriorating security situation (IMF, 2014). The outbreak of protests and uprisings over the MENA region, and above all the uprising in Syria, dramatically impacted Lebanon (IMF, 2014). According to the United Nations, the refugee influx reached one quarter of the population, fueling already high poverty, and straining public services and local communities.

In the wake of the Arab Spring, Lebanon's real GDP saw a cooldown. As can be seen in *Figure 7.13*, growth rates decelerated, and in 2018 and 2019 the economy contracted by -1.93 % and -6.70 % respectively. Hence, Lebanon´s economic position remained quite challenging and even worsened after the Arab Spring.

Unemployment

When elaborating the employment situation in Lebanon, it is inevitable to mention the more than 1 million Syrian refugees (IMF, 2014). This profoundly impacted the labor market. The unemployment rate among refugees was around 30 %, and more than 60 % of them work in the low-skilled sector (ILO, 2013). They have also been willing to accept much lower wages than Lebanese workers. As a result, Lebanese workers may be displaced if they do not accept the same wage. Even before the Arab Spring and the Syrian crisis, Lebanon had been unable to create sufficient jobs. According to the World bank (2012), 3800 jobs were created per year, which means that there was one job for every six new entrants to the labor market in 2005–2009 (World Bank, 2012). Across the times series, unemployment rates in Lebanon displayed a downward-going trend flattering out towards 2019. Interestingly, unemployment rates have been relatively stable during the past decade.

Youth unemployment

Although young Lebanese demanded job creation at the start of the Arab Spring, there has been little evidence of improvement. Due to persistent problems, thousands of young Lebanese people voiced their anger and took to the streets of Beirut in 2019 (Financial Times, 2019).

As mentioned earlier, high levels of youth unemployment in itself were a symptom of poor economic management and weak utilization of a country´s labor resources, but they were also closely connected to political stability (Alawad, et al., 2020).

High levels of youth unemployment have consistently tainted the Lebanese economy. This is largely due to an absence of political stability, poor economic growth, and unsuccessful labor policies. These factors have contributed to high unemployment and affected the government's ability to create jobs and deal with the problem (Araji et al, 2019). There are few signs of improvement over the past decade. As illustrated in *Figure 7.14*, youth unemployment has been consistently high between 17-18 %.

Inflation

In the wake of the Arab Spring, inflationary pressures rose despite tepid economic activity (World Bank, 2013). According to the World Bank, they rose due to both domestic and external factors. Domestic ones can mainly be attributed to an increase in disposable income in early 2012 due to the rise in minimum wages and wage costs in the public sector. Simultaneously there was a cumulative output that remained positive following several years of strong growth between 2007–2010. In 2015, however, Lebanese prices deflated by 3.75 %, and 2016 saw a further 0.78 % deflation. The war in neighboring Syria put pressure on domestic prices due to the influx of refugees and consequent consumption increase. In addition, cheaper Syrian goods had to be replaced by more expensive alternatives (World Bank, 2013). *Figure 7.13* illustrates Lebanese inflationary dynamics.

Broad money

Broad money growth as a monetary aggregate depends on Lebanon´s overall economic activity. Slow output growth is reflected in slow broad money growth (Araji et al., 2019). Lebanese broad money growth stood at an annual average of 11.93 % during 1996-2010, whereas it averaged 5.99 % during 2010-2017. Cycles peaked in 2010 at 6.04 % above trend. This bears witness of a cooldown in Lebanon´s broad money growth. These dynamics coincide with visibly reduced GDP growth rates in the aftermath of the Arab Spring.

General government debt

Lebanon´s economy is small, highly dollarized, and an open structure that it is exposed to both internal and external factors. The Lebanese economy has been burdened by high levels of debt,

and a high structural financial deficit for decades. Since the crisis began in Syria in 2011, debt accumulation accelerated due to additional government spending on education, health, and electricity services to cope with the refugee crisis (Araji et al., 2019).

According to Trading Economics (2020), Lebanon was the fifth most indebted country in the world in 2020 after Sudan, Japan, Venezuela, and Greece. The Lebanese government has been unsuccessful during economic downturns as persistent debt levels and budget deficits limit fiscal maneuverability. The government encountered a trade-off between medium- and long-term fiscal sustainability and short-term counter-cyclicality and chose the first one, which had a devastating impact on the entire economy (Dakhlallah, 2021). After having reduced its general government debt to 136.80 % in 2010, Lebanon saw its indebtment increase to peak levels of 174.50 % in 2019. These dynamics are illustrated in *Figure 7.16.*

Manufacturing

With the instability ensuing the Arab Spring, the Lebanese economy was extremely vulnerable to sources of domestic instability, as well as to exogenous risks. Since the Syrian crisis of 2011, more strain was put on Lebanon's economic growth and fiscal position. The most important markets and the only overland trade line into the Gulf region was nearly annihilated because of the war in neighboring Syria (Rosiny, 2018). Furthermore, drawing from a World Bank Enterprise survey, manufacturing sectors met many domestic constraints. These are factors that drive up costs and thus impede competitiveness. The most important constraints identified by enterprises were political instability, corruption, access to electricity, finance, and high taxes (World Bank, 2016). All these factors had an adverse impact on Lebanon's manufacturing development. Compared to the rest of the Middle East, Lebanon’s manufacturing industry performs poorly (World Bank, 2016). Manufacturing volumes grew in the first years following the Arab Spring and peaked in 2013. After that, these numbers have declined, and within 2018 manufacturing volumes had shrunk by 19.35 %. *Figure 7.16* illustrates these dynamics.

Net domestic credit

Net domestic credit volumes increased by approximately 258 % during 1997-2010, averaging an annual growth rate of 11.71 %. In the wake of 2008 and the years preceding the Arab Spring, domestic credit growth increased at a high pace, which coincides with contemporaneous growth in real GDP and broad money. After 2010, however, economic growth slowed down. So did domestic credit volumes. However, both broad money and domestic credit kept growing,

although at a slower pace. During 2010-2017, credit volumes averaged an annual 7.51 %. Credit cycles in this period appear modest and are illustrated in *Figure 7.15.*

7.5 Arab MENA including the GCC-countries

In the above sections we have elaborated on macroeconomic developments for the four specified countries during 1996-2019, thus mapping the years preceding and following the Arab Spring. The purpose is to construct an overview of the situation in the wake of the revolts to substantiate on macroeconomic reactions and developments. Furthermore, the intention of the analysis is to elaborate on whether the economic grievances that were decisive for protests in 2010 have been dealt with. As with the case under section *6.5*, we have conducted identical analyses along the same indicators for all Arab countries across the Middle East and North Africa-region (MENA) – including the GCC-countries. Presumably, economic, and political diversity is expected to have come into play when Arab countries were faced with this exogenous shock.

The past decade has entailed varying developments across the MENA-region – both politically and economically. This is perceived as a reflection of the diversity that exists across Arab states. In the prelude of the Arab Spring, countries were forced to deal with massive turbulence in the international markets. However, the degree to which Arab countries were affected varied greatly (Behrendt, Haq, & Kamel, 2009).

In the wake of Bouazizi´s self-immolation, countries in the region saw vastly different popular responses. In Syria and Libya war erupted in 2011 – conflicts that still rage on to this day. In 2014, war erupted in Yemen when a fragile political transition went wrong and Yemen´s Houthi population took advantage of President Hadi´s lack of success in managing unemployment, corruption, and food security (BBC, 2020). All three countries have seen, and still see, high degrees of direct and indirect intervention from foreign powers. Other Arab states, such as those investigated closer in this paper, have been adversely impacted by the Arab Spring and the ensuing wave of protests and turmoil – or the absence thereof.

As a result of this adversity, macroeconomic developments, each Arab state´s troughs and peaks are expected to have occurred at different times and at varying depths. From our datasets we have conducted identical analyses for all Arab States across the relevant period – 1996-2019. The following table indicates peaks and troughs, including specifications for years of occurrence, in the years following the Arab Spring.

Country		Real economy indicators				Financial indicators			
		Real GDP	Manufacturing	Unemployment	Youth unemployment	M3	Credit	Inflation	GGD
Algeria	Peak	1,94 % (2016)	5,13 % (2016)	-7,44 % (2011)	-9,30 % (2011)	9,19 % (2014)	17,26 % (2018)	91,61 % (2012)	13,88 % (2018)
	Trough	-1,04 % (2011)	-6,82 % (2013)	11,83 % (2017)	13,66 % (2015)	-3,63 % (2016)	-165,89 % (2011)	-38,27 % (2014)	-51,29 % (2015)
Bahrain	Peak	1,16 % (2017)	2,42 % (2016)	-21,52 % (2018)	-17,90 % (2019)	2,86 % (2011)	7,48 % (2013)	40,45 % (2013)	9,26 % (2016)
	Trough	-1,22 % (2012)	-0,89 % (2011)	27,14 % (2013)	20,00 % (2011)	-2,72 % (2015)	-2,66 % (2014)	-117,05 % (2011)	-20,77 % (2014)
Egypt	Peak	**1,53 % (2011)**	**0,72 % (2011)**	**-17,66 % (2018)**	**-2,07 % (2011)**	**8,23 % (2018)**	**11,60 % (2016)**	**76,45 % (2017)**	**14,46 % (2017)**
	Trough	**-2,46 % (2014)**	**-2,01 % (2013)**	**13,01 % (2013)**	**12,06 % (2012)**	**-17,13 % (2014)**	**-18,74 % (2012)**	**-38,46 % (2012)**	**-8,57 % (2012)**
Iraq	Peak	8,50 % (2016)	29,54 % (2012)	-14,52 % (2012)	-12,85 % (2012)	14,41 % (2013)	88,75 % (2016)	237,46 % (2016)	55,49 % (2016)
	Trough	-3,16 (2011)	-26,37 % (2015)	11,67 % (2017)	10,30 % (2017)	-5,23 % (2017)	-440,46 % (2012)	-116,34 % (2017)	-34,16 % (2012)
Jordan	Peak	**1,38 % (2011)**	**1,45 % (2011)**	**-10,75 % (2014)**	**-9,02 % (2014)**	**7,58 % (2011)**	**8,59 % (2012)**	**149,22 % (2018)**	**9,84 % (2013)**
	Trough	**-0,92 % (2018)**	**-1,36 % (2018)**	**10,11 % (2016)**	**8,63 % (2016)**	**-4,42 % (2018)**	**-2,87 % (2017)**	**-133,05 % (2016)**	**-6,25 % (2011)**
Kuwait	Peak	3,10 % (2012)	15,40 % (2012)	-21,27 % (2017)	-8,33 % (2017)	4,77 % (2013)	1,76 % (2017)	23,98 % (2016)	83,69 % (2017)
	Trough	-2,78 % (2017)	-12,82 % (2015)	28,36 % (2013)	10,39 % (2015)	-1,68 % (2016)	-6,80 % (2012)	-67,34 % (2018)	-46,45 % (2014)
Lebanon	Peak	**3,59 % (2014)**	**9,75 % (2013)**	**-5,89 % (2011)**	**-3,99 (2011)**	**2,99 % (2011)**	**3,13 % (2016)**	**112,92 % (2012)**	**1,28 % (2018)**
	Trough	**-8,80 % (2019)**	**-5,33 % (2017)**	**0,55 % (2016)**	**-0,33 % (2016)**	**-0,60 % (2015)**	**-0,44 % (2011)**	**-243,13 % (2015)**	**-9,20 % (2012)**
Libya	Peak	15,30 % (2012)	ID	-1,09 % (2018)	-1,44 % (2018)	8,97 % (2017)	262,71 % (2017)	ID	ID
	Trough	-50,18 % (2011)	ID	1,12 % (2013)	1,29 % (2013)	-9,73 % (2014)	-1028,82 % (2016)	ID	ID
Morocco	Peak	1,17 % (2015)	4,22 % (2011)	-3,56 % (2011)	-1,66 % (2011)	2,46 % (2011)	6,74 % (2011)	90,75 % (2018)	7,40 % (2013)
	Trough	-1,02 % (2016)	-1,48 % (2016)	6,41 % (2014)	6,71 % (2016)	-1,75 % (2013)	-2,37 % (2016)	-66,20 % (2014)	-3,56 % (2011)
Oman	Peak	3,75 % (2016)	2,11 % (2011)	-5,83 % (2017)	-4,25 % (2018)	6,86 % (2015)	12,53 % (2015)	66,00 % (2017)	13,67 % (2017)
	Trough	-2,48 % (2011)	-4,67 % (2014)	6,71 % (2013)	6,07 % (2015)	-1,24 % (2013)	-10,59 % (2013)	-96,42 % (2015)	-74,08 % (2014)
Qatar	Peak	8,94 % (2011)	7,05 % (2011)	-13,76 % (2014)	-15,35 % (2016)	12,99 % (2014)	11,33 % (2012)	114,70 % (2016)	22,17 % (2011)
	Trough	-3,94 % (2018)	-3,17 % (2017)	41,60 % (2012)	45,54 % (2012)	-4,52 % (2016)	-3,41 % (2014)	-68,83 % (2011)	-28,42 % (2014)
Saudi Arabia	Peak	3,41 % (2015)	4,65 % (2015)	-2,43 % (2015)	-12,72 % (2016)	8,62 % (2014)	63,19 % (2016)	569,54 % (2018)	30,16 % (2017)
	Trough	-1,05 % (2018)	-1,68 % (2013)	3,33 % (2018)	5,66 % (2014)	-1,69 % (2011)	-340,51 % (2012)	-181,44 % (2017)	-77,78 % (2014)
Syria	Peak	32,61 % (2011)	ID	-2,46 % (2011)	-0,84 % (2018)	ID	ID	17,67 % (2012)	ID
	Trough	-23,88 % (2014)	ID	0,19 % (2015)	1,55 % (2013)	ID	ID	ID	ID
Tunisia	Peak	**0,92 % (2014)**	**0,78 % (2013)**	**-2,68 % (2018)**	**-3,47 % (2014)**	**2,38 % (2011)**	**5,14 % (2018)**	**22,06 % (2018)**	**10,48 % (2018)**
	Trough	**-1,73 % (2011)**	**-0,81 % (2016)**	**24,06 % (2011)**	**27,76 % (2011)**	**-3,67 % (2015)**	**-4,22 % (2012)**	**-31,03 % (2016)**	**-7,83 % (2013)**
United Arab Emirates	Peak	2,13 % (2015)	5,17 % (2017)	-26,74 % (2016)	-17,77 % (2016)	5,51 % (2014)	5,35 % (2015)	329,44 % (2018)	42,07 % (2011)
	Trough	-2,78 % (2011)	-4,19 % (2012)	11,43 % (2013)	10,13 % (2017)	-3,43 % (2018)	-5,74 % (2018)	-74,68 % (2012)	-24,30 % (2014)
Yemen	Peak	17,05 % (2014)	ID	-1,08 % (2018)	-0,60 % (2018)	ID	20,35 % (2013)	69,95 % (2011)	13,52 % (2017)
	Trough	-14,51 % (2016)	ID	2,17 % (2013)	3,30 % (2014)	ID	ID	-26,09 % (2014)	-11,93 % (2014)

Table 7.1 - Cycle peaks and troughs following the Arab Spring. Data: World Bank.

We would like to pay particular attention to any cycle with a magnitude larger than one standard deviation. For our four countries of focus we find the following:

Cycles beyond one SD	Real GDP	Manufacturing	Unemployment	Youth unemployment	M3	Credit	Inflation	GGD
Egypt	1,53 % (2011) -2,46 % (2014)	No	13,01 % (2013) -17,66 % (2018)	12,06 % (2012) -2,07 % (2011)	8,23 % (2018) -17,13 % (2014)	11,60 % (2016) -18,74 % (2012)	76,45 % (2017) -38,46 % (2012)	14,46 % (2017) -8,57 % (2012)
Tunisia	-1,74 % (2011)	No	24,06 % (2011)	27,76 % (2011)	No	No	22,10 % (2018) -31,00 % (2016)	10,50 % (2018) -7,80 % (2013)
Jordan	No	No	10,11 % (2016) -10,75 % (2014)	8,63 % (2016) -9,02 % (2014)	No	No	149,22 % (2018) -133,05 % (2016)	9,84 % (2013) -6,25 % (2011)
Lebanon	-8,80 % (2019)	9,75 % (2013) -7,78 % (2018)	-5,89 % (2011)	No	No	No	-127 % (2015)	9,32 % (2019) -9,10 % (2012)

Table 7.2 Cycles beyond one SD.

In *Table 7.1*, the four countries investigated in this paper are highlighted in blue, GCC-countries in red, and the remaining in beige. Notably, a "peak" in unemployment or youth unemployment is considered good in the table. That is, a low point in unemployment rate indicates a positive sign. Across the board, there are visible peaks and troughs along the macroeconomic indicators evaluated. Interestingly, unemployment and youth unemployment have in many countries reached high levels at early stages of the Arab Spring around 2011-2014. This holds true for Algeria, Egypt, Iraq, Jordan, Lebanon, and Morocco, and is interesting because unemployment has been among the most cited grievances to cause the popular revolts.

The flipside of the coin is that, although many countries saw political adjustments or regime changes, economic conditions seem to have not improved. For the sake of our four countries of

analysis, these dynamics have been previously elaborated on. However, dynamics comparable to those of the four countries can be found across the MENA-region. Libya saw a civil war erupt in 2011 – after which long-time dictator Muammar Ghaddafi was toppled and killed in 2011 (McKernan, 2020). In subsequent years, the country has been faced with instability and conflict, and its economy has consequently taken a toll, among others by a -50,18 % trough in 2011. Evidently, neighboring Tunisia and Egypt were affected. Similar dents to national economies come into expression in connection to wars in Syria and Yemen, as well as instability and conflict in Iraq.

Although most Arab states evaded open armed conflict in the wake of the Arab Spring, the entire MENA-region has been impacted by increased political uncertainty, refugee flows, reduced tourism, and numerous threats to security and stability such as terrorist strikes (Britannica, 2020). Evidently, there are negative spillover-effects. Furthermore, the region´s conflicts have become arenas for proxy-warfare, thus exacerbating already existing friction among Arab- and non-Arab states.

8.0 Integrated Institutional Development Matrix (IIDI)

Upon evaluating the Arab Spring and the circumstances of the region, research has pointed to looming economic grievances such as soaring unemployment, sluggish economic growth, and poor inclusiveness of growth (Ianchovichina, 2018). However, commonly cited grievances among Arab populations, both prior to and in the wake of the Arab Spring, encompass other factors. Common grievances are severe inequality, corruption, and lack of trust in national authorities (Khan, 2014). Evidently, any elaboration on the causes and consequences of the Arab Spring would not be wise to circumvent social and institutional conditions. These may be directly connected to the protests and closely connected to the performance of economic indicators.

8.1 IIDI-illustrations

Upon constructing the Integrated Institutional Development Matrix, we have extracted data from twelve indices along six categories – two indices per category. These are elaborated on under *4.2 Integrated Institutional Development Index.* All indices have been recalculated to a 0-1 scale, whereby 1 indicates a perfect score. The below table contains scores along all indices, each country´s rank among Arab MENA-countries, as well as a the composite IIDI-score:

2010	Fragility and instability		Environment		Freedom and rights		Socio-economics		Gender		Governance			
COUNTRY	PSI	FSI	EHI	EPI	IEF	IHF	HDI	DBI	GGI	GII	CPI	DMI	IIDI-score	RANK
Algeria	0,25	0,32	0,68	0,67	0,57	0,52	0,72	0,49	0,61	0,49	0,29	0,34	0,469	13
Bahrain	0,40	0,51	0,84	0,42	0,76	0,70	0,80	0,66	0,62	0,75	0,49	0,35	0,586	4
Egypt	0,32	0,27	0,63	0,62	0,59	0,58	0,67	0,57	0,59		0,31	0,31	0,470	**12**
Iraq	0,05	0,11	0,40	0,41			0,64	0,47		0,43	0,15	0,40	0,267	16
Jordan	0,44	0,36	0,77	0,56	0,66	0,66	0,74	0,56	0,60	0,51	0,47	0,37	0,544	**7**
Kuwait	0,59	0,49	0,83	0,51	0,68	0,67	0,79	0,60	0,63	0,77	0,45	0,39	0,602	3
Lebanon	0,17	0,24	0,77	0,58	0,60	0,69	0,77	0,60	0,61	0,58	0,25	0,58	0,488	**10**
Libya	0,51	0,42	0,68	0,50	0,40		0,80			0,71	0,22	0,36	0,478	11
Morocco	0,42	0,36	0,73	0,66	0,59	0,62	0,62	0,60	0,58	0,47	0,34	0,38	0,515	8
Oman	0,62	0,59	0,71	0,46	0,68	0,61	0,78	0,66	0,60	0,67	0,53	0,29	0,583	5
Qatar	0,73	0,57	0,88	0,49	0,69	0,60	0,83	0,66	0,61	0,44	0,77	0,31	0,609	1
Saudi Arabia	0,45	0,35	0,67	0,55	0,64	0,55	0,81	0,66	0,57	0,35	0,47	0,18	0,491	9
Syria	0,34	0,27	0,74	0,65	0,49	0,55	0,67	0,50	0,59	0,49	0,25	0,23	0,448	14
Tunisia	0,49	0,44	0,77	0,61	0,59	0,61	0,72	0,67	0,63	0,71	0,43	0,28	0,558	**6**
United Arab Emirates	0,66	0,56	0,81	0,41	0,67	0,67	0,82	0,72	0,64	0,77	0,63	0,25	0,608	2
Yemen	0,02	0,17	0,35	0,48	0,54	0,55	0,51	0,57	0,46	0,20	0,22	0,26	0,277	15
Arab MENA-average	0,40	0,38	0,70	0,54	0,61	0,61	0,73	0,60	0,59	0,56	0,39	0,33	0,50	
GCC-average	0,58	0,51	0,79	0,47	0,69	0,63	0,81	0,66	0,61	0,63	0,56	0,29	0,58	
Standard deviation	0,206	0,146	0,146	0,089	0,089	0,058	0,090	0,073	0,044	0,171	0,168	0,091	0,104	

Table 8.1 – Integrated institutional development index, Arab Mena.

As illustrated above, ranks 1-5 are all occupied by GCC-countries, with Qatar ranking above all other Arab states in 2010. On 6th and 7th place are Tunisia and Jordan respectively, with Lebanon and Egypt following suit on 10th and 12th. Although all indices express central conditions of the respective countries, "Fragility and Instability" constitute the perhaps most crucial category for national stability. As comes into expression, the PSI-scores of Iraq and Yemen were dauntingly low in 2010 – an observation that fits well with ethnic and political frictions, as well as subsequent incidents in these countries. Notably, Iraq and Yemen rank 16th and 15th respectively on the IIDI. In a plot diagram the MENA-countries displayed the following performance across the 12 indices constituting the composite integrated institutional development matrix:

Figure 8.1 – Composite Institutional Development Matrix, Arab MENA.

Notably, both Yemen and Iraq perform among the worst countries along most of the indices – at times competing with Syria and Libya. The GCC-countries in general perform better than the MENA-average. However, there are exceptions. Saudi Arabia performs worst on the DMI-index, and the United Arab Emirates performs worst on the EPI-index. The categories in which MENA-countries on average perform worst are "Fragility and instability" and "Governance" respectively. The latter category touches on some of the primary grievances among protesters during the Arab Spring – corruption and oppression.

Closely evaluating the development of institutional elements is a task that stretches beyond the scope of this paper. However, we would like to highlight a selection of observations. Although the Arab Spring brought with it hopes of political and democratic improvements, not all countries have experienced such progress. In 2020, countries such as Iraq, Yemen, and Syria all scored lower on the PSI-index than they did in 2010. Aggregate IIDI-scores were also likely lower. Considering the past decade´s events this should come as no surprise. Evidently, the threat of instability still taints countries in the region. Furthermore, countries such as Syria, Libya, Lebanon, and Yemen have all seen contractions to their HDI-scores from 2010 to 2019. Other countries have seen meagre and sluggish improvements to their HDI-scores across the same period. Seemingly then, many Arab states have fallen short in improving social and economic factors that constitute the HDI-scale. It also bears witness that the Arab Spring may have fallen short in achieving its original aspirations.

8.2 IIDI-GDP-regressions

Upon assessing a possible connection between IIDI-scores and economic performance in the wake of the Arab Spring, as expressed by GDP-troughs, we have conducted a set of simple linear regressions along an IIDI-GDP-cycle-dimension. Naturally, the analysis will be affected by adversity in economic strength prior to the revolts, as well as the depth of the GDP-troughs. The simple linear regression looks as follows:

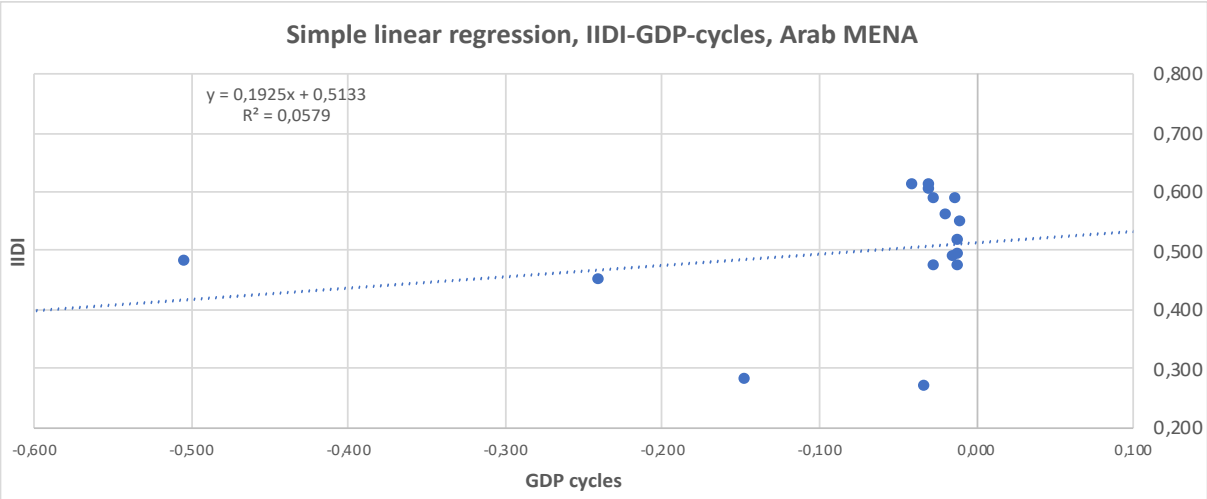

Figure 8.2 - IIDI-GDP-regressions, Arab MENA.

As illustrated above, the trend line displays a very modest degree of explanatory power – a mere 5,79 %. This is not satisfactory. However, it should be mentioned that the outliers of the data set, constituted by Libya, Syria, and Yemen, were heavily affected by civil wars. The fourth outlier is Iraq – a country also diminished by high levels of conflict during the past decade. The -50,18 % GDP-trough in Libya occurred during the same year as former dictator Muammar Ghaddafi was toppled, and Libyan economic activity, particularly its oil production, was ground to a brutal halt. Similarly, the eruption of armed conflict has tainted both Syria and Yemen since 2011 and 2014 respectively. As such, armed conflict skews the regression.

Furthermore, the asymmetric economic strength across the region impacts the evaluation of IIDI-scores´ role in explaining economic contractions. Being wealthy oil-rich nations, the GCC-countries were to a lower degree, and in some cases not at all, directly harmed by the Arab Spring. The only apparent exception was Bahrain which saw large-scale protests. However, these were cracked down with assistance from neighboring Saudi Arabia (McEvers, 2012). Seemingly, political instability and armed conflict work in tandem with differences in valuable natural resource access to skew the regression. The weak explanatory power comes as no surprise due to its simplified nature. We may evaluate countries not tainted by open conflict and not inhibiting large valuable natural resources. Upon doing so, we conduct a similar simple linear regression by excluding Libya, Syria, Yemen, and the GCC-countries. This yields the following regression:

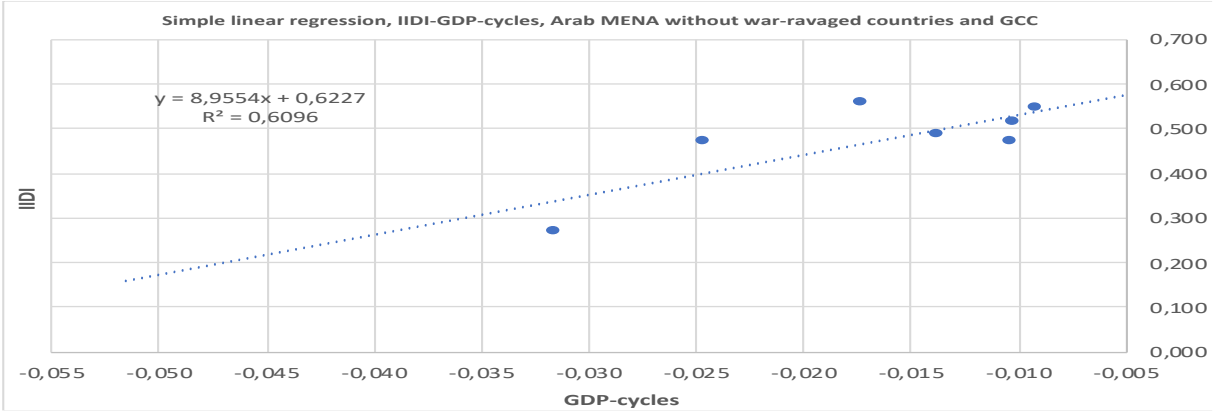

Figure 8.3 - IIDI-GDP-regressions, Arab MENA without war-ravaged countries and GCC.

Although the sample is small, encompassing in total 7 countries, the regression displays a far clearer relationship between IIDI-scores and GDP-cycles when excluding war-ravaged countries and the GCC-countries. This regression boasts an explanatory power of 60,96 % - far more satisfactory than 5,79 %. To draw clearer conclusions, however, a multiple regression analysis with a larger sample of countries could be conducted. Nevertheless, this is an indication that there might be a relationship between institutional quality and economic performance among the relevant countries – although some institutional parameters may be more pivotal than others.

9.0 The seven-step dynamic crisis model and evidence from the Arab Spring

In this section we will elaborate on empirical evidence from our macroeconomic datasets in light of the seven-step dynamic crisis model. Upon doing so, we will draw from foregoing analyses to assess whether Arab states displayed symptoms like those indicated in the model. We will also present tables and graphs to supplement the analysis. Building on these findings, we will later conclude on the role of economics in the eruption of the Arab Spring, as well as its consequences.

Notably, we expect caveats to the application of the chosen model in tandem with the context of the Arab Spring. In cases where we have lack of clear evidence symptomatic of a specific stage, we will elaborate on this. That is, our empirical evidence will not necessarily fit with all stages of the model as it is stipulated in literature, and thus likely not constitute an academic Cinderella-story. Nevertheless, we expect it to constitute a solid framework for macroeconomic analysis highlighting central elements to the build-up and spread of crisis.

The Arab Spring entailed adverse consequences across the Middle East. But regardless of the degree of instability, all Arab nations felt the shockwaves of the protests to some extent. As specified in literature under *Disruption*, exogenous factors may affect the direction of markets and to some degree affect economic activity and stability (Grytten & Hunnes, 2016). Accordingly, the eruption of widespread protests, and in some cases armed conflict, is considered the exogenous shock that disrupted Arab economies in late 2010, early 2011, and the years that followed. The following sections seek to assess the Arab Spring based on the seven-step dynamic crisis model.

9.1 Disruption

Kindleberger indicates that the journey towards a crisis is typically initiated by an exogenous macroeconomic shock that changes the direction of the economy (Grytten & Hunnes, 2016). Evidently, elements outside of the economic landscape may affect the tide, and a specific example is war. In our analysis, we perceive the eruption of widespread protests across the Middle East to constitute an exogenous shock that induced considerable damage to the economic status and outlook of many countries in the region. Thus, we deem the Arab Spring a shock that altered economies in a *negative* direction with presumably decreased economic activity. This contrasts with the perception of exogenous shocks that induce increased activity – such as expansive modifications to fiscal and monetary policies that would accelerate the economy by stimulating the demand side. However, as discussed earlier in the paper, such expansive policies have taken place in the Middle East during the past decade, although not achieving the intended results.

Although the Arab Spring is considered to have had a negative impact on economic activity, not a positive one as stipulated in the literature by Grytten & Hunnes (2016), it is reasonable to assess the dynamics of our macroeconomic indicators. Elements described in the seven-step dynamic crisis model may well be visible during the age of the Arab Spring. According to our data, many Arab countries have displayed poorer performance in the wake of the protests and wars that ensued and have simultaneously shown signs of credit and money growth. The latter sign of expansive fiscal policies is in accordance with descriptions of the disruption stage in the literature. It is also a common observation among countries undergoing crises for authorities to strive towards counterbalancing negative shocks.

It should also be noted that many considered the Arab Spring a promising set of events for the region, with promises and hopes of democratic reform, economic improvements, and increased

stability. As such, one may have perceived the wave of demands gushing through Arab countries as an indication of better times to come, albeit faced with uncertainty of the actual outcomes. Any such progress would contrast with the strict dictatorial regimes of the past diminished by limited private enterprise freedom and inefficient rigid government control. As such, any successful democratic transition could entail fruitful economic potential. In hindsight, the events of 2010, 2011, and the years that followed, have not brought with them significant improvements to protestors´ grievances. Rather, conditions have, according to our data, stagnated and in some cases even deteriorated. In that sense, the Arab Spring did not constitute a positive induction to Arab economies, nor did governments successfully cater to social grievances.

9.2 Overheating

An economic overheating is diminished by a level of activity above sustainable levels. This is interpreted as any level of activity above trend indication that could induce unfortunate effects on the economy. As a precondition to this type of development, the foregoing disruption should improve expectations in the relevant economies. At the starting point of the Arab Spring in 2010, quite a few Arab countries displayed positive cycle values for a range of macroeconomic indicators – as illustrated in *Table 6.1*. However, these occurred prior to the eruption of widespread protests and turmoil that constitute the exogenous shock in this paper. As such, we deem it unlikely that economic performance above trend in 2010 lead to the following uprisings. This is further discussed below.

The implied chronology of the model indicates that disruption occurs and then induces overheating. Judging by the seeming cycle booms in 2010, there may have been signals of an overheating occurring prior to the events that unfolded during the past decade. In that sense, it does not seem intuitive to blame positive cycles for the eruption of the Arab Spring. In contrast to this can be mentioned that protests and unrest occurred among other reasons due to poor economic conditions. This is indicative that, although cycle values were positive in 2010, economic parameters were far from good. This has been underlined earlier in the paper and underscores the importance of a kaleidoscopic approach – merely evaluating cycles is not adequate in this case. Evidently, a boom does not mean things are going great in the relevant economies. Rather, it implies that things are slightly better than estimated. Furthermore, our analysis indicates that the immediate years following the Arab Spring entailed drawbacks to

economic activity for many countries in the region. As such, it may be the case that economic overheating is a less relevant element when discussing the causes of the Arab Spring.

However, reminiscent of overheating along a GDP-dimension, our four countries of focus saw their GDP-cycles peak during the first half of the past decade. GDP-cycles peaked in Jordan and Egypt in 2011. Lebanon and Tunisia experienced the same in 2014. Albeit indicating positive cycles, thus also booms, the overall development in the aftermath of the Arab Spring indicates a cooldown in the real economy – as expressed in *Table 9.4* and *Figure 9.3*. Essentially, any trend estimate for the period after the Arab Spring will be impacted by economic performance during that time. This means that a peak in 2011 may have occurred due to weak dynamics after 2011, not necessarily 2011 being a golden year. Again, this underscores the importance of correct interpretation. In conclusion, there is little evidence to show that overheating on an aggregate level has occurred due to the exogenous shock.

An overheating might be more fitting when assessing the effect of counter-cyclical fiscal policies conducted by Arab governments to counterbalance the negative impacts of the uprising. Although GDP-cycles indicate otherwise, risks of overheating in developing economies such as Egypt remained relevant as reforms and large inflows of foreign capital set the stage for an economic spur in the past decade (Birch, 2019). Despite being primarily supply-side driven and staying below former growth rates. Similar challenges are relevant for Tunisia. This may constitute a warning sign in tandem with high inflationary pressure – thus also a warning sign for overheating. Furthermore, inflationary pressures, primarily driven by increases in energy- and food prices, hamper the establishment of coherent fiscal policies (IMF, 2013). In the wake of the Arab Spring then, there may have been signs of a looming financial overheating.

Interestingly, increases in credit volumes and money stock persisted throughout the first phases of the Arab Spring although at a slower pace in some countries. In Egypt, however, broad money stock and net domestic credit grew at a relatively high pace after 2010 according to our data. Perhaps this can be perceived as signs of counter-cyclical fiscal policies to cancel out the immediate negative effects of the Arab Spring. However, as our analysis has shown, it does not seem as though such measures have entailed fruitful impacts on economic development during the past decade. To make matters worse, many Arab countries have been pushed towards increased generalized subsidies and public wages to maintain political stability (IMF, 2013). As such, they are trapped between popular demands and IMF guidelines. This has further

aggravated the burden of budget deficits and government debt levels. Annual growth of broad money and credit volumes appear as follows:

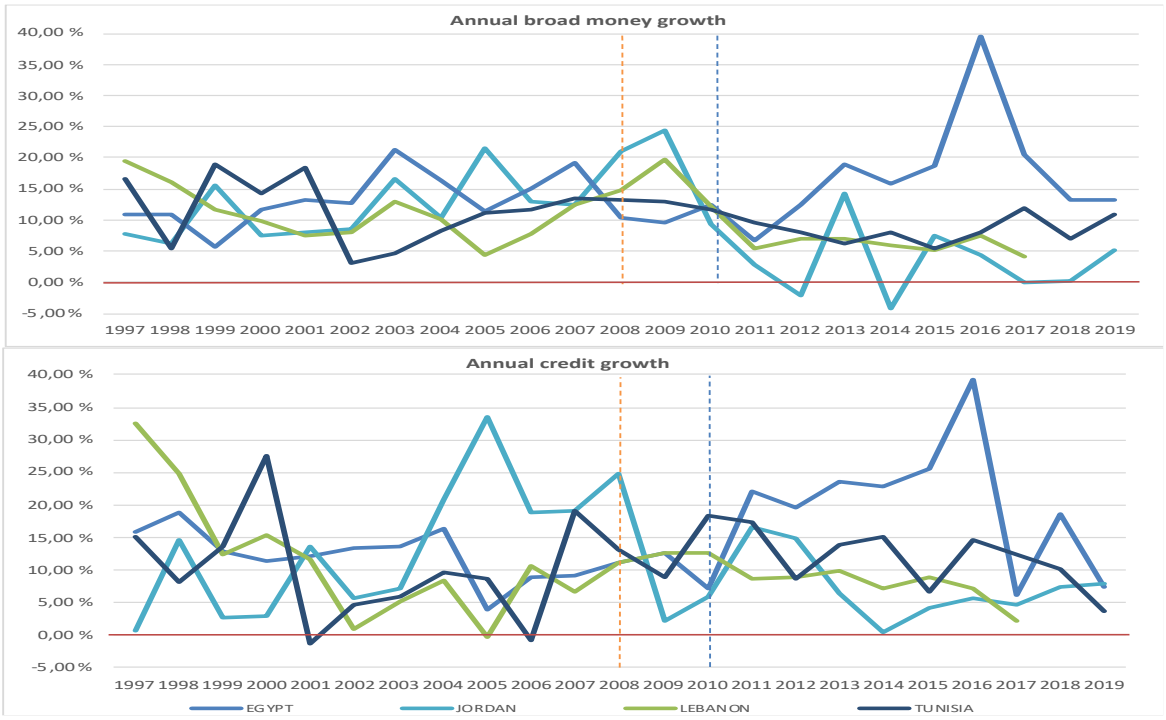

Figure 9.1 - Annual growth of broad money and credit volumes for Egypt, Jordan, Lebanon, and Tunisia, 1997-2019.

In 2011, both parameters displayed growth across the four countries indicating money and credit expansion. The only country to experience reductions to its broad money stock is Jordan. Other than that, volumes kept increasing despite drawbacks to the real economy. Particularly noticeable is the 2016 spike in Egypt. As such, there seems to have been an increase in the demand for credit simultaneously with decent growth rates and 13,81 % consumer price inflation. These are credible symptoms of overheating. This has been covered under section *7.2 Egypt*.

Although there are indications of overheating occurring, the only country to have displayed cycles beyond one standard deviation is Egypt in 2011, when real GDP saw a 1.53 % cycle peak. *Table 7.2* illustrates this. Evidently, across our four countries there is little evidence for the occurrence of an overall overheating.

9.3 Bubble economy

Following the abovementioned lack of clear evidence for overheating, there is little empirical evidence in our data to indicate the development of a bubble. In the literature, a bubble economy is characterized by debt-financed speculation without real economic grounds, economic growth

slowdown, and expansion in money and credit. Interestingly, the two latter dynamics can be seen across a range of Arab nations for the relevant period although not necessarily caused by speculation and irrational optimism in investment markets. Debt-financed speculation, however, does not seem apparent in our data. Nevertheless, the following section will elaborate on stock market dynamics in connection to the Arab Spring as markets reacted to the exogenous shock.

9.4 Nervousness and turning point

In the fourth phase, literature describes that there is fear of a downward correction. As the name of the phase says, the market behaves nervously, and reacts strongly to new information. The Arab Spring has caused increased uncertainty and disclosed severe regional structural challenges. Among others there has been a weak business climate, lack of job opportunities and low competitiveness. The growth has been faltering, due to political and economic instability. It has also been more difficult to get access to finance and the fiscal deficits are widening given the rising commodity prices, reduced economic growth, and increasing public spending (Thiemann, 2011). Market indices for our four respective countries appear as follows:

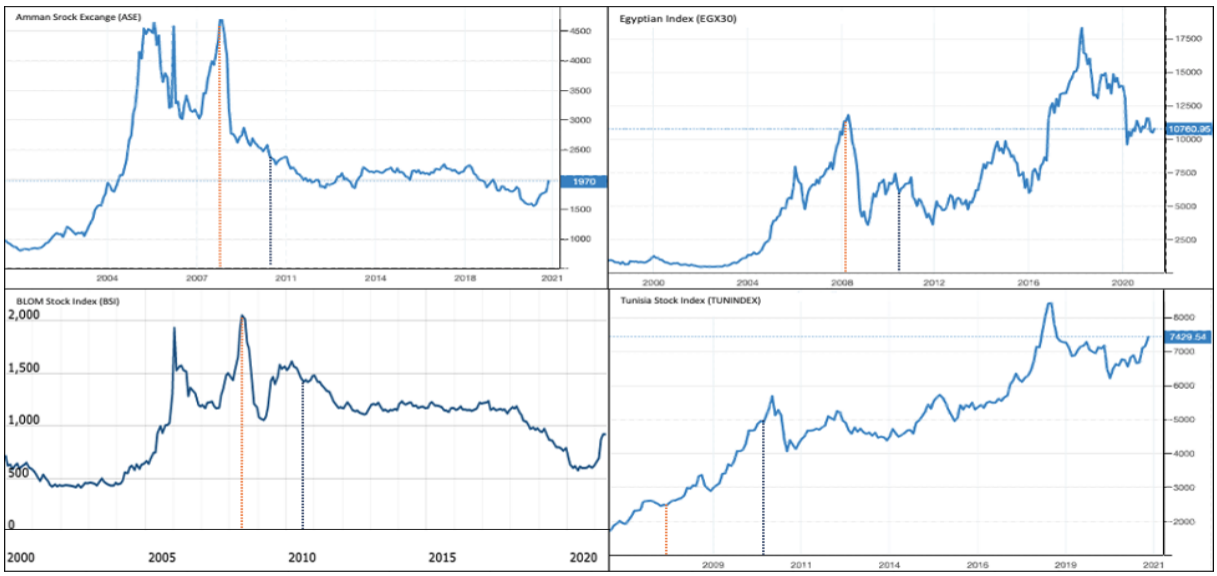

Figure 9.2 – Market index for Jordan (ASE), Egypt (EGX30), Lebanon (BSI) and Tunisia (TUNINDEX). Source: Tradingeconomics 2021 and Liveindex 2021.

The graphs illustrate clear turning points in relation to the financial crisis. Moreover, it is also clearly visible that the Arab Spring has had an impact on stock markets. Notably, neither the Jordanian nor the Lebanese indices have recovered since then. In contrast, Egyptian and Tunisian indices have. The liquidity of these markets can be measured by the value of transaction volumes. Low volumes little buying and selling activity, and the opposite holds true for high volumes. In table 9.1, one can see that Egypt is by far the largest and most active

market. Transaction volumes peaked for Egypt and Jordan in 2008. Moreover, as can be seen in 2010, trade volumes were more subdued. In the following year, when the Arab spring arose, these fell dramatically.

Country	2004	2005	2006	2007	2008	2009	2010	2011
Egypt	6,51	26,24	48,08	60,20	93,48	73,47	38,21	16,13
Tunisia	529,00	1,27	3,43	1,35	3,32	2,67	2,90	1,16
Jordan	5,35	23,82	20,05	17,43	28,96	28,96	8,60	3,90
Lebanon	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 9.1 – Relative value of market transactions of Egypt, Tunisia and Jordan exchanges, $ million. Source: World Federation of Exchanges, Paris, 2012; Bourse de Tunis, Annual Report, 2011.

In the model´s fifth phase, negative expectations take over and the market turns to the so-called "Minsky Moment". Optimism turns into pessimism and asset prices fall. The uprisings in 2011 gave citizens hope that it was the beginning of a turning point for a democratic transition in the Arab world. Unfortunately, over the past decade, the economic issues have taken a back seat. A combination of domestic and external shocks seems to have contributed to economies that are in worse shape than they were prior to the uprisings. Although most Arab states evaded open armed conflict in the wake of the Arab Spring, the entire MENA-region has been impacted by social unrest and political turmoil that caused the security situation to deteriorate. This has in turn created increased uncertainty for investors.

As a supplement to this phase, we want to briefly comment the stock market proposals before and during the Arab Spring. Here, we find some interesting observations in stock market dynamics across our four specified countries. These appear as follows:

Market Index	Country	Start of a decline	Bottom level after decline	Amplitude (%)
EGX30	Egypt	May 2008 April 2010	May 2009 December 2011	-71 % -52 %
ASE	Jordan	June 2008 January 2011	February 2009 January 2012	-45 % -18 %
BSI	Lebanon	July 2008 January 2011	Mars 2009 January 2012	-51 % -28 %
TUNINDEX	Tunisia	September 2008 September 2010	December 2008 February 2011	-17 % -28 %

Table 9.2 – Market index dynamics pre- and post-Arab spring.

Expectedly, crashes appear larger in financial markets due to the financial crisis. However, declines following the Arab Spring are also significant. In Tunisia, the impact of the Arab Spring even seems to have outweighed that of the financial crisis (Mnif , 2015). These numbers mirror the dynamics illustrated in *Figure 9.2.* The increased uncertainty resulted in investor panic (African Development Bank, 2012) . Neither the Amman Stock Exchange nor the Beirut Stock Exchange have at any point recovered to pre-Arab Spring levels. All these observations

are consistent and a consequence of political uncertainty that induces financial instability (Mnif, 2015).

9.5 Crisis

The sixth phase of the model describes increasing mistrust in relevant markets, and growing pessimism towards investments. Credit institutions shy away due to the risk of bankruptcies and financial losses, and as such enterprises are financially throttled. Consequently, the real economy may take a toll with symptoms of crisis appearing in unemployment rates, manufacturing volumes, and real GDP. Such effects are described earlier in the paper, and the combination of financial and real economic contractions constitute an overall economic crisis such as the one currently engulfing Lebanon. The lingering international investment behavior comes into expression when evaluating FDI-volumes for our four specified countries:

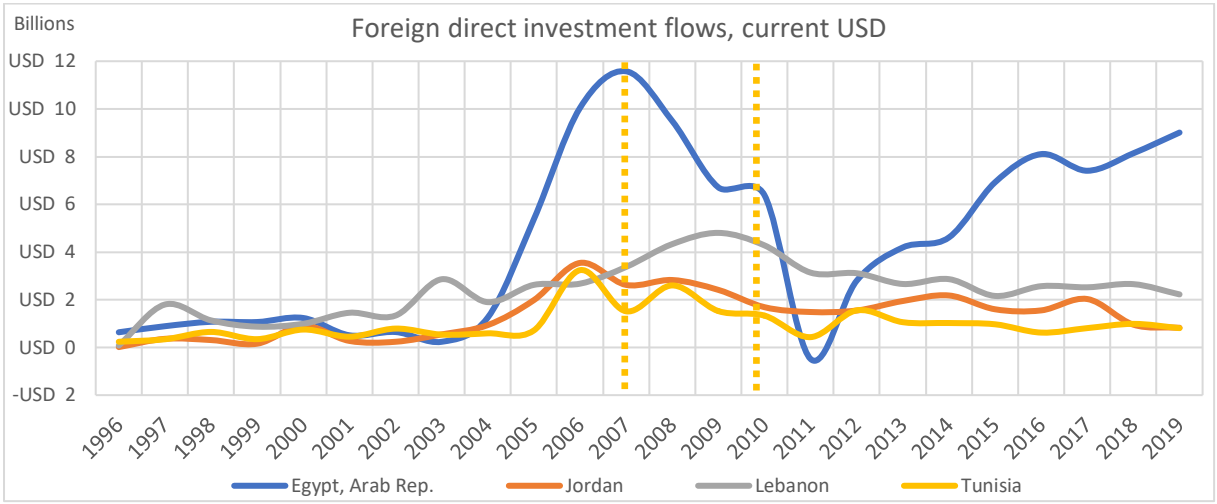

Figure 9.3 – Foreign direct investment flows for Egypt, Jordan, Lebanon, and Tunisia, 1996-2019.

Being the largest of the four economies, dynamics in Egypt become dramatically visible in the above graph. Prior to the financial crisis of 2007/2008, FDI had displayed record volumes peaking at 11,578 billion USD in 2007. Compared to bottom levels at mere 237, 4 million USD in 2003, this constitutes an overall increase of 4777,4 %. In Egypt, the impact of the financial crisis is clear. In the three other countries not so much. Lebanon saw a slight increase in FDI-volumes initially. So did Tunisia. FDI-flows to Jordan, on the other hand, shrunk. Evidently, what may resemble positive expectations to Arab economies prior to 2007 and 2011 turned to negative expectations after the eruption of region wide unrest.

Although the events of 2007/2008 entailed adverse effects on these four Arab economies, the aftermath of the Arab Spring revolts is less ambiguous. Percentage changes to FDI-flows for 2010-2011 and 2010-2019 appear as follows:

	Egypt, Arab Rep.	Jordan	Lebanon	Tunisia
Changes to FDI-flows, 2011	-107,56 %	-11,98 %	-26,70 %	-67,58 %
Changes to FDI-flows, 2010-2019	41,10 %	-51,11 %	-48,05 %	-39,29 %

Table 9.3 - Percentage changes to FDI-flows 2011 and for 2010-2019.

Clearly then, foreign capital to some extent shied away during the first year of unrest as is an expected consequence of increased uncertainty and instability. Interestingly, FDI-flows have not recovered during the past decade, the only exception being Egypt. The other three, on the other hand, have seen their FDI-flows significantly reduced compared to 2010-levels.

Not seldomly, authorities will intervene to soften the downturn and restart the economic engine. Being low- and middle-income countries, our four states of focus have had limited resources to independently create buffers against an economic slowdown (Martin & Sunley, 2020). Typically then, any attempt at countering negative shocks may entail external funding. In the case of the Arab MENA-region, countries have seen adverse support packages, some in the form of international IMF-grants, aid packages, and bilateral regional support agreements (Diwan, 2016). Evidently, one sign of authorities attempting to handle the negative effects of the Arab Spring should appear in general government debt levels. These appear as follows:

General government debt	1996-2010 average	2010	2011	2011-2019 average	Peak 2011-2019	2019
Egypt	80,22 %	69,60 %	72,80 %	86,74 %	103,20 % (2017)	83,80 %
Tunisia	54,47 %	39,20 %	43,10 %	58,66 %	78,20 % (2018)	72,30 %
Jordan	85,43 %	59,40 %	62,10 %	74,23 %	78,00 % (2019)	78,00 %
Lebanon	162,70 %	136,80 %	134,40 %	145,01 %	174,50 % (2019)	174,50 %

Table 9.4 – General government debt levels developments.

Inhabiting high debt-GDP ratios is not necessarily problematic, but the pressure of debt and the risk of default depends on a range of factors. The Federal Reserve Bank of St. Louis underscores three of these: growth rates, interest rates on debt, and the strength and independence of institutions, central banks, and monetary policy (Hennerich, 2020). These three factors are essential in Arab states´ response to the aftermath of the Arab Spring. Under *5.4 Integrated Institutional Development Matrix (IIDI)* we elaborated on institutional strength, and under *6.2 Overheating*, we elaborated on the economic growth slowdown in the past decade – a bad omen for Arab economies.

Evidently, the four countries of emphasis have performed less-than-impressive along institutional parameters, impact of monetary policies, and accuracy of central banks. As such, acquiring high levels of debt relative to GDP should be an economic shear to circumvent. This has, however, not been the case, and *Table 9.4* illustrates evidence of higher debt levels. These

levels have persisted up until today and are likely not improving under the current circumstances (World Bank, 2021).

9.6 Spread

The model stipulates that any crisis, if it lasts long enough, may spread to the real economy. Although the Arab Spring cannot be unambiguously considered a pure financial crisis, it undoubtedly struck the real economy of many Arab economies with fierce force. One indicator is real GDP. Sadly, it appears as if the economic hardship that inspired Arab populations to protest in 2010 and 2011 have persisted up until today. To make matters worse, the region has been harmed by the current pandemic situation, with growth prospects even more daunting than before (United Nations, 2020). Evidently, the economic challenges that followed the unrest appear to have spread further and attached its roots across the region. In the rural Tunisian town Sidi Bouzid, the cradle of the Arab Spring, the hardships that drove protestors to the streets eleven years ago remain relevant (Al-Shamahi, 2020).

Mentioning the pace of annual growth rates is a natural extension to the discussion of GDP-cycles as expressed by trend estimates. All four countries under investigation displayed high growth rates leading up to the financial crisis with slight dips in growth rates ensuing 2008. Growth rates fell further after 2010. Interestingly, Lebanese GDP grew at an accelerating pace peaking in 2009 at 10.23 % according to our data sets. Although growth rates in the prelude to the Arab Spring for the most part decelerated, they were nonetheless relatively strong. The aftermath of the Arab Spring, however, is less ambiguous. All four countries, except for Jordan, saw their growth rates visibly reduced. Jordan, on the other hand, has seen growth rates swaying between 2 % and 3.4 %, a clear slowdown compared to the foregoing decade. Visible slowdowns are relevant across all four countries:

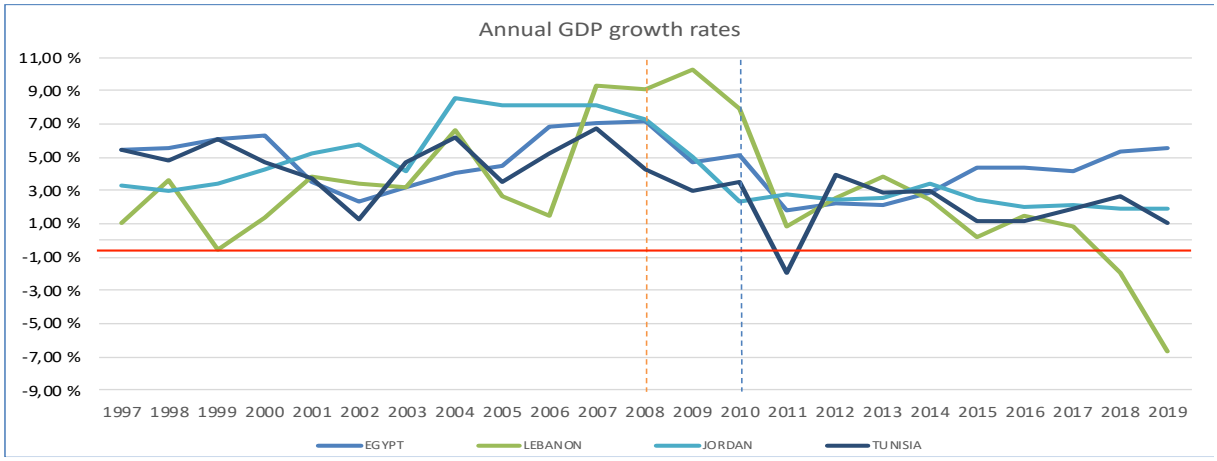

Figure 9.4 – Annual GDP growth rates for Egypt, Lebanon, Jordan, and Tunisia, 1996-2019.

The following table elaborates these dynamics:

GDP growth rate	1996-2010 average	2010	2011	2011-2019 average	2019
Egypt	5,15 %	5,15 %	1,76 %	3,65 %	5,56 %
Tunisia	4,52 %	3,51 %	-1,92 %	1,77 %	1,04 %
Jordan	5,48 %	2,31 %	2,74 %	2,40 %	1,96 %
Lebanon	4,54 %	7,98 %	0,87 %	0,41 %	-6,70 %

Table 9.5 – GDP-growth rates for our four specific countries 1996-2019.

Across these four countries then, there is little evidence that the exogenous shock induced levels of economic activity above a sustainable long-term trajectory. Rather, growth rates decelerated visibly as the consequences of the Arab Spring spread. Particularly worrisome is the economic development of Lebanon which in later years has experienced a prolonged economic crisis only exacerbated by regional conflict and the covid-pandemic. In 2018 and 2019 the Lebanese economy receded by -1.93 % and -6.70 % respectively. Arab economies, at least the four specified here, appear to have cooled down along GDP-dimensions, and had their growth trajectories visibly reduced. Thus, the crisis seems to have spread to the real economies of these countries.

As our data has shown, the aftermath of the Arab Spring brought upon the four specified countries reduced growth rates and visibly increased levels of both total- and youth unemployment. Interestingly, even though unemployment rates are typically lagging procyclical macroeconomic indicators, the negative impact of the unrest came into expression already in the first year of the Arab Spring. Unemployment further increased in the years that followed. The following table provides an indication of these effects on the labor market:

Labor indicator	Unemployment					Youth unemployment				
	1996-2010 average	2010	2011	2011-2019 average	2019	1996-2010 average	2010	2011	2011-2019 average	2019
Egypt	9,32 %	8,76 %	11,85 %	12,04 %	10,76 %	26,03 %	24,53 %	29,47 %	32,53 %	31,05 %
Tunisia	14,12 %	13,05 %	18,33 %	16,07 %	16,02 %	30,21 %	29,49 %	42,63 %	36,14 %	36,26 %
Jordan	13,84 %	12,50 %	12,90 %	13,74 %	14,72 %	29,89 %	28,93 %	30,12 %	32,45 %	35,03 %
Lebanon	8,05 %	6,42 %	6,42 %	6,32 %	6,23 %	20,78 %	17,88 %	18,02 %	17,74 %	17,61 %

Table 9.6 – Development of the unemployment rate, 1996-2019.

As both Egypt and Tunisia saw large scale protests and regime changes occurring shortly after the first demonstrators gathered, the effect on unemployment became visible already in 2011. As for Jordan and Lebanon, which did not experience similar political alterations, 2011 did not carry with it immediate signs of trouble. For Jordan however, both overall- and youth unemployment increased at some point during the aftermath of the Arab Spring as elaborated earlier in the paper.

The exception is Lebanon that has not experienced significant changes to unemployment rates during 2011-2019. However, that is not to say that the Lebanese economy is not grappling its demons. Skyrocketing government debt levels, real economy standstill, illiquidity of banks and public corruption are only a few examples of factors thwarting Lebanese opportunities for progress (Bisat, Cassard & Diwan, 2021). During the past decade, the country has experienced deterioration along both financial and real economic dimensions and finds itself in an overall economic crisis. Adding to this, incompetent political leadership, and occasionally lack of leadership at all, further contributes to inefficiency and instability. Painfully aware of its recent past, the Lebanese population appears to be inching towards the threat of renewed conflict.

Not seldomly, any crisis will spread across borders and potentially become a challenge for countries and organizations outside of the specific geographic area. In such cases, the need for cooperation and coordinated measures between authorities and supranational organizations may arise. The IMF is actively involved in assisting countries in the region, and tailors the economic toolkit to each individual country (Masood, 2012). In addition, retaining and protecting the stability of Arab nations is in the in interest of other countries in the region, in addition to nations elsewhere. Thus, the Arab Spring is a factor to be accounted for by others than those directly affected.

The issue remains, however, that the MENA-countries must muster political will to follow through with suggested reforms and strict requirements by organizations such as the IMF (Mitra, 2015). Pointing to the deterioration of economic conditions across Arab countries, Masood Ahmed, IMF-director for the Middle East and Central Asia, underlines the risk of economic stagnation in case of delays or failures in implementation (Masood, 2014). He also emphasizes the threat of increasing popular discontent to political and economic transitions. Evidently, Arab states must follow through with economically necessary albeit widely unpopular reforms.

10. Conclusions

In our thesis we have elaborated whether economic conditions were to blame for the eruption of widespread protests across the MENA-region in 2010, 2011, and subsequent years. Primarily the discussion has revolved around a section of selected macroeconomic indicators to assess dynamics and cycles along real economic- and financial dimensions. These are discussed in the framework of the seven-step dynamic crisis model. In addition, we have conducted an analysis of institutional strength in the respective countries expressed by the composite integrated

institutional development index (IIDI). This was done to highlight the role of societal factors when discussing the Arab Spring revolts. Evidently, both economic and institutional factors have played a part in the eruption of protests, as was expressed by Arab populations ten years ago.

Upon approaching the Arab Spring from a macroeconomic perspective, we have discerned the paper into two parts. Firstly, we have sought to find out whether the economic landscape was particularly rugged in the time leading up to 2011, and if cycles in 2010 gave any macroeconomic indication of what was to come. These cycles were calculated using an HP-filter with a smoothing parameter of 100 corresponding to annual data. Cycle values at the doorstep of the protests provide an indication of the economic health of Arab nations in 2010.

Secondly, we have analyzed developments along the same indicators for the time that ensued. This was done by applying the same toolkit as for the pre-Arab Spring period. Macroeconomic peaks and troughs during 2011-2019 are illustrated in *Table 7.1*. This data illustrates the different dynamics occurring across the region in the wake of the Arab Spring. As such, this section of the analysis constitutes an indication of the consequences of the exogenous shock, and whether protestor´s grievances have been catered to in the ensuing years. As such, it also indicates if the Arab Spring has borne fruits regarding Arab populations´ economic grievances. That is, if macroeconomic parameters are better off than they were in 2010.

Furthermore, the paper contains an assessment of Arab nations across a set of institutional parameters. Upon doing so, we have mapped each country´s performance along 12 individual indices within 6 categories and calculated a composite index score for each country. Not surprisingly, we find that a range of countries in the MENA-region perform poorly on this index, as well as on the individual subindices. This is indicative of societal conditions that may have come into play in the eruption of protests and the ensuing negative effects of such instability. As a part of our analysis, we have also conducted a simple linear regression of IIDI scores relative to GDP cycles in the post-Arab Spring period.

Our findings suggest that there is evidence of a correlation between institutional strength in Arab MENA-countries and GDP-cycles after the Arab Spring when excluding war-ravaged countries and GCC-countries. This exclusion was conducted to isolate the effects of war, and to account for the wealth asymmetries in the region. This correlation was expected. When asked about their motivations for attending protests in 2011, many Arabs voiced concern over

economic factors such as high unemployment rates and price hikes. However, protestors were also motivated by increasing inequality, corruption, and oppression. As such, our IIDI-findings are a manifestation of these concerns.

Furthermore, we discern our findings on the development and status of the selected macroeconomic indicators within the framework of the seven-step dynamic crisis model. When doing so, our analysis has sought to uncover whether our findings are compatible to the description of the stages in the model. In addition to establishing if economic circumstances were at fault for the eruption of protest, we sought to assess whether conditions have improved since 2010.

We do not perceive the Arab Spring as an exogenous macroeconomic shock that increases the level of economic activity, as is a feature of *disruption* in literature. Rather, our perception is that the eruption of protests in the Arab World constituted a shock that had adverse negative impacts on Arab economies. Nevertheless, literature also exemplifies war as being one factor that can induce such an exogenous shock. This makes the eruption of protests and uprisings across the Middle East relevant. Our data supports the image of the Arab Spring being an exogenous shock with a disruptive effect, albeit in a negative direction. In that sense, we cannot establish clearly that an *overheating* has taken place, as this is preconditioned on a positive economic shift and expectations of continued growth stemming from the exogenous shock. We do, however, find symptoms of overheating occurring in the wake of the Arab Spring – for example in Egypt. Here we find cycles in broad money in 2018 and net domestic credit in 2016 of 8.23 % and 11.60 % respectively. These cycles go beyond one standard deviation for the sample. Our analysis has also uncovered inflationary cycles beyond one standard deviation for all countries but Lebanon in 2017 and 2018, reminiscent of an overheating.

Although there is little evidence for debt- and speculation driven growth in our case, we have uncovered indications of money- and credit expansion in Egypt in 2016 and 2018. For the three other countries, however, we find little evidence for this. Evidently, *bubble economy* appears less significant. Compatible with descriptions of tightened credit supply under *nervousness*, our analysis has shown negative cycles beyond one standard deviation for broad money and net domestic credit in Egypt. These are conspicuous signs of reduced money and credit supply. Importantly, although notable cycles as per our requirements have been found only in Egypt, there are indications of a slowdown in annual money and credit growth in Jordan and Lebanon as well after the Arab Spring.

Stock market indices in Egypt, Jordan, Lebanon, and Tunisia all display movements reminiscent of crashes. Particularly noticeable is the fall on the Tunisian and Egyptian stock exchanges. Likely, these dynamics are largely attributable to the decreased stability and increased uncertainty that was dominant in the region in the first years of the Arab Spring. Interestingly, Tunisian, and Egyptian indices seem to have recovered beyond 2010-levels, whereas the Amman and Beirut stock exchanges seem to be lagging in their recovery. The drying out of investments and capital is further exacerbated by FDI-data indicating a visible reduction – particularly in Egypt. FDI-flows have only recovered to pre-Arab Spring levels in Egypt as of today. We interpret this as a manifestation of sustained issues related to instability and uncertainty.

Market decline and increasing mistrust are also underscored by FDI-flight. Stock market crashes, and persistently low indices in Lebanon and Jordan, manifest increased pessimism towards and within Arab economies. Symptomatic of crisis, our findings suggest a significant dent on the labor markets of our four countries of focus. According to our analysis, Egypt, Jordan, and Tunisia displayed unemployment cycles beyond one standard deviation for both total and youth unemployment. All but Lebanon saw their total- and youth unemployment rates rise in the first year of the Arab Spring, and visibly increasing during 2010-2019. Furthermore, both Egypt and Tunisia saw noticeable negative GDP cycles in 2014 and 2011 respectively, and all four countries underwent decelerating growth rates. We perceive these as clear signs of the real economy taking a toll of the Arab Spring.

Our analysis has shown a stagnation of economic growth and a worrisome increase in unemployment rates in a region already troubled by poor economic health. As such, the exogenous shock quickly propagated into both the financial and real economies of the respective countries. We deem this evidential of the crisis spreading. Furthermore, our data has shown visible general government debt cycles, as well as a general increase in government indebtment in the decade following the Arab Spring, reaching as far as 174.50 % of GDP in Lebanon. This indebtment is largely due to coordinated efforts in the form of IMF- and other grants to alleviate the strain on Arab economies. In that manner, the economic burdens following the Arab Spring are also carried by the international communities.

Boiling down our analysis, we find that macroeconomic circumstances alone were not at fault for the eruption of the Arab Spring. Cycles do not indicate significant troughs in 2010. Nevertheless, poor economic performance, non-inclusive growth, and high unemployment rates

have played a part. Furthermore, poor performance along institutional dimensions have been detrimental for the regional development in the Middle East and North Africa in the past decade. Our findings also indicate that macroeconomic conditions in many countries have not improved. Rather, conditions have in some cases worsened. Thus, the challenges that motivated protestors ten years ago remain relevant.

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