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JEL classification: H20,I30,O11

I. Introduction

The events that unfolded in Libya after the so called “Day of Rage” on the 17th of February have erupted into a civil war, effectively splitting the country between the Government-controlled areas (West) and the anti-government ones (East), with continuous fighting between the two sides. As a result, oil production at the time of writing has come to a halt and foreign trade has been greatly disrupted. After having recorded a growth rate of over 7% in 2010, Libya’s economy is effectively paralyzed and is likely to experience a double digit contraction in 2011², as well as a slow recovery over the medium run.

The Libyan crisis has had global economic implications. Oil prices moved above \$100/b on 21 February for the first time since September 2008 and reached a peak of \$113.34/b of Brent crude on June 9, 2011³. A second round of effects may soon materialize with an anticipated increase in the prices of other commodities (e.g. gold and food⁴) and a fall in investments by Libya’s sovereign wealth funds. The Libyan crisis has also effectively shut down imports that were as high as 35.3% of its GDP in 2009⁵.

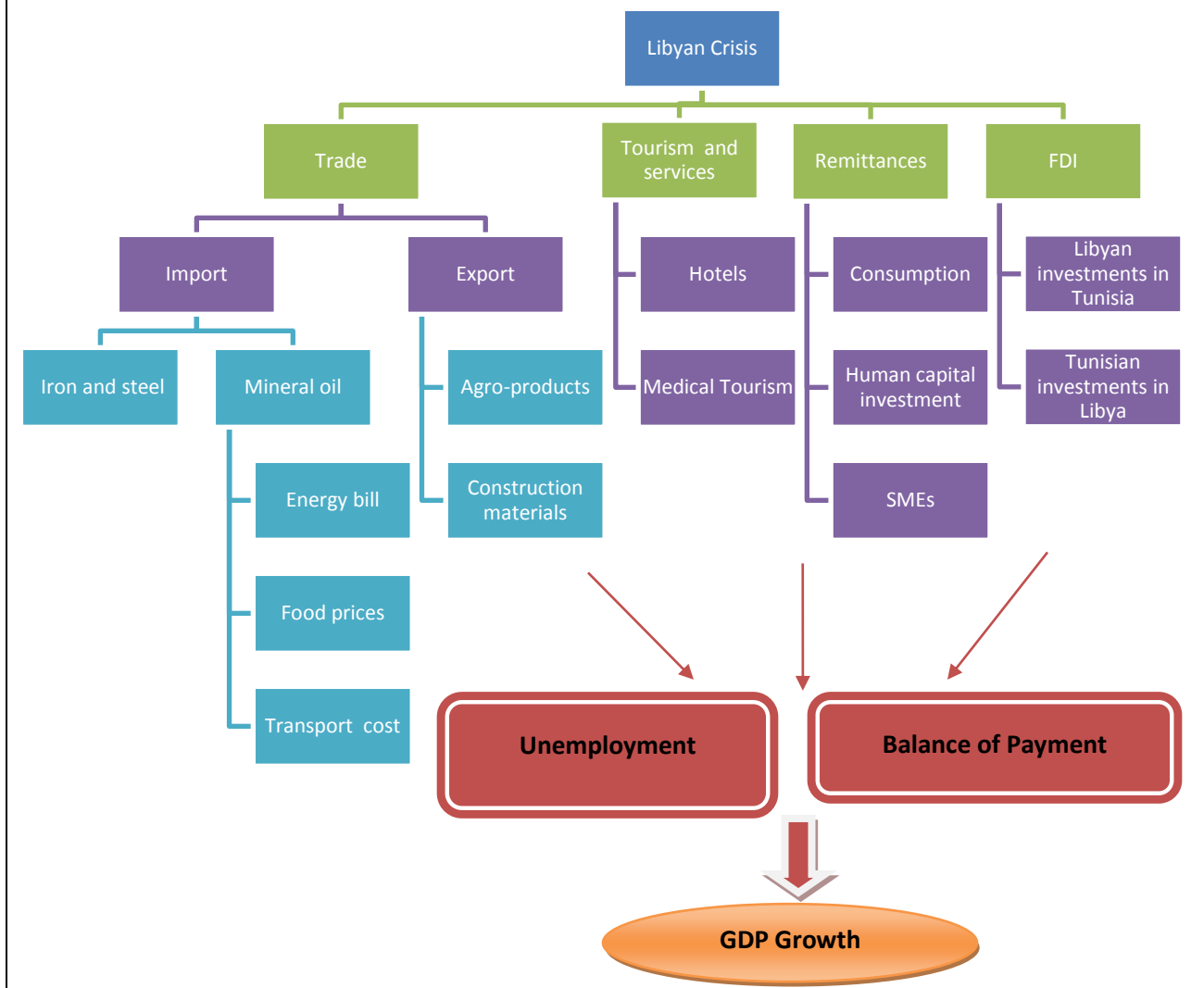
Libya’s turmoil is likely to have a significant impact on Tunisia’s economy. The unrest took place at a time when Libyan-Tunisian bilateral economic relations were at a historical high point and a number of joint projects had recently been agreed upon. The two countries were to finalize the establishment of a free economic zone between Ben Guerdane in Tunisia and Libya's Ras-Jedir border development area. Plans were also underway for the construction of a new pipeline to transport gas between Libya and Gabès, in southern Tunisia. National currency convertibility conditions between the two currencies were also under discussion. These Libyan events compounded the challenges that Tunisia currently faces, as its economy is yet to recover from the

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losses it endured through its own unrest⁶. Libya is an important trading partner for Tunisia and significant share of Tunisian industrial production is geared towards the Libyan market. This is particularly true for the agro-processing industry (dairy products, pasta and tomato paste) and construction material industry (cement). A significant inflow of consumer goods imported from Libya through informal trade and sold in Tunisian markets at cheap prices is also being affected.

This paper attempts to capture the likely short-term impact and risks for the Tunisian economy stemming from the Libyan unrest. The paper focuses on four transmission channels: (i) the changing nature of the bilateral trade relationship; (ii) the fall in Libyan tourists and other services; (iii) the return of Tunisian migrants from Libya and the subsequent fall in remittances; and, (iv) the fall in foreign investments, as briefly described in the figure below. The paper also attempts to calculate the aggregate impact of the conflict on Tunisia's GDP growth.

Figure 1: Transmission Channels of the Libyan Crisis on the Tunisian Economy



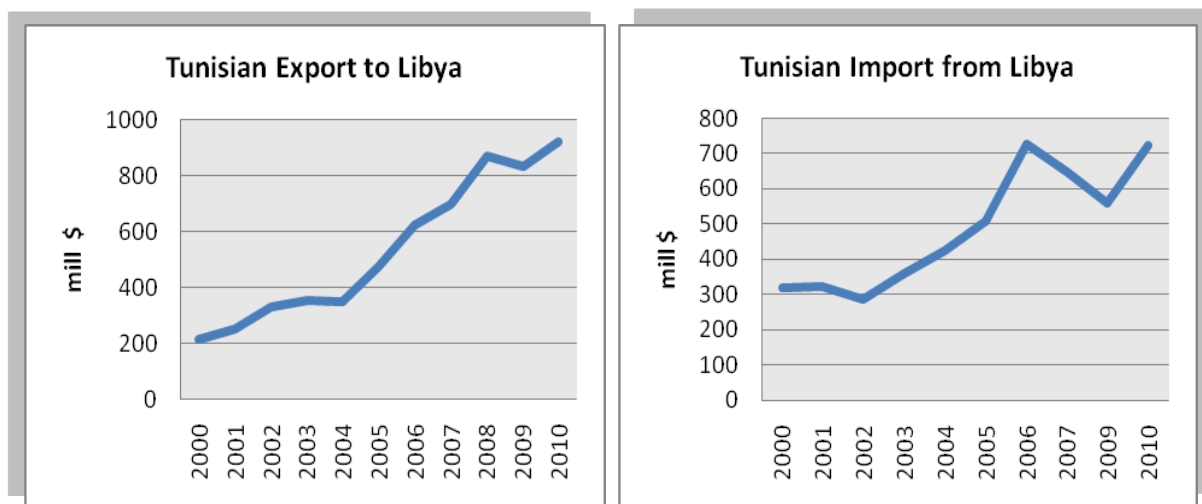
The next section sheds light on the economic relations between Tunisia and Libya and assesses the impact of the Libyan crisis on bilateral trade, tourism, immigration and employment, and FDI. In the subsequent section, we estimate the impact of the Libyan conflict on Tunisia's economic growth. The concluding section summarizes the negative and positive impacts of the Libyan unrest and makes policy recommendations to helping the most affected populations.

II. Economic relations between Tunisia and Libya

II.1. Bilateral trade

Over the past decade, the most important bilateral trade in North Africa was between Tunisia and Libya. Trade between the two countries experienced a tremendous progression reaching an historical high prior to the conflict. During the period 2000-10, the annual growth rate of trade between Tunisia and Libya reached 9 percent, well above the 6 percent annual growth in world trade.

Figure 2. Tunisia–Libya bilateral trade



Source: UN com trade (2010)

The rapid growth in trade between Tunisia and Libya was supported by preferential trade agreements. Since July 2010 a number of bilateral agreements have been signed to facilitate trade and to guarantee the freedom of investments, the transit of goods and of residence. The two countries agreed on October 2010 to remove all administrative and financial obstacles that hinder the movement of goods and people.

At the end of 2009, total trade reached €1.25 billion in 2009 in value terms (around 2 billion Tunisian dinars)⁷. As shown in the table below, Libya absorbed around 6.9 percent of total Tunisian exports, which made it Tunisia’s second export market after the European Union

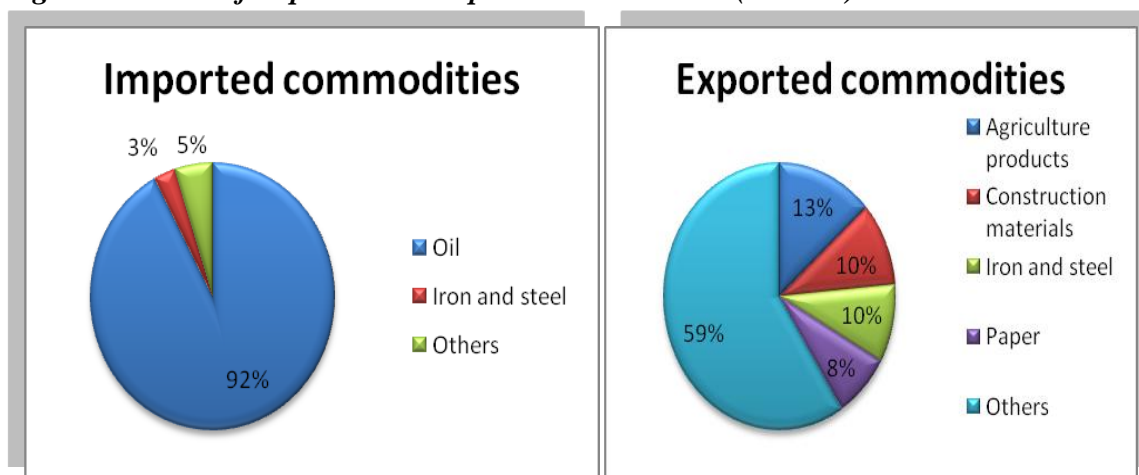
Table 1. Libya Trade with Tunisia (2009)

	Import		Export		Total trade	
	Value (Mil. \$)	Share of total Imports (%)	Value (Mil. \$)	Share of total exports (%)	Value (Mil. \$)	Share of total trade (%)
Tunisia	560.6	3.9	831.8	6.9	1,392.4	5.2

Source: Authors calculations based on UN com trade (2010) and European Union, DG trade (2010).

Oil accounts for 92 percent of Tunisia’s recorded imports from Libya, while Tunisia’s exports to Libya are more diversified, with agriculture, cement and construction material, iron and steel being the leading products (figure 4). However, there also is considerable cross-border smuggling, and Libya serves as a transit corridor to the Tunisian market for consumer items such as plasma screens, mobile phones, tobacco and oil.

Figure 3: Share of imported and exported commodities (in 2009)



Source: UN com trade (2010)

In terms of trade facilitation, Tunisia and Libya have put in place a common one-stop shop in the crossing border of Ras Jedir. They also adopted the same customs system “Assycuda” and the same paperless foreign trade procedures. Standards accreditation bodies were also recognized by the two countries.

⁷ European Union, DG Trade. 2010.

Following the political turmoil in Libya, roads and access to border posts have been hindered by fighting across the border and intermittently being controlled by the Libyan rebels and the forces loyal to Qaddafi, with an anticipated reduction in both formal and informal trade. The incomes of people living in the border region have fallen substantially.⁸ Also, Tunisian firms' activities declined.

Tunisia is a net importer of oil, and until the break out of the unrest in Libya, it sourced 25 % of its crude oil needs from Libya⁹ at a preferential price. Tunisia is therefore compelled to find other sources and in all likelihood pay higher market prices. In addition, higher oil prices on the world market put upward pressure on food prices, particularly because Tunisia is a net importer, with agricultural commodity prices already currently close to their 2007-8 peaks and expected to remain high in the short term. Higher oil prices also raise the cost of transport (on average transport costs make up 5 percent of the imported value of manufactured goods). In general, a doubling in the cost of energy is associated with an increase of up to 18% in shipping costs.¹⁰

During the first three months of 2011, both Tunisians exports and imports from Libya declined substantially compared to the same period of 2010 and 2009. The commercial balance has been positive owing to the fact that the decline of exports to Libya is compensated by the massive fall of imports from Libya (table 2).

Table 2. Libya Trade with Tunisia (M TD), First three months 2009-2010-2011

	2009	2010	2011	Change 11/10	
				M.D.	%
Export	267.300	247.913	163.769	-84.1	-33.9
Import	128.815	287.156	14.868	-272.3	-94.8
Trade Balance	138.5	-39.2	148.9	188.144	-479.4

Source: Institut National des Statistiques. Tunisia (April 2011)

As indicated in table 2, the Tunisian exports to Libya in the first three months of 2011 decreased by 34% while imports decreased by 95%, compared with the same period of last year. This fall is due to the interruption of imports of crude oil which represent the majority of Tunisian imports from Libya.

⁸ According to the UND, between 10 and 15 000 families in the city of Ben Guerdane, known for its role as a transit trading area, have ceased to earn an income for the past two months. April 2011.

⁹ In 2009, Libya was the largest oil exporter to Tunisia, followed by Algeria and the Russian federation. UN COMTRADE.2010

¹⁰ OECD (2011),Memo. Trade and Agriculture Department. March.

Exports of the mechanical and electronic industries declined in the first four months of this year¹¹ of 48.6 MTD compared with the same period of the previous year.¹² However, exports of foodstuffs increased by 53.2 MTD, reaching 124.9 MTD in the first four months of this year, against 71.6 MTD in the same period the year before¹³.

To assess the likely impact of the Libyan crisis on Tunisian exports, we consider two scenarios. In the optimistic scenario, we assume that exports will decrease at the same negative rate over the remainder of the year. Conversely, under the pessimistic scenario, we consider a near halting of the exports. Given the fact that Tunisian exports to Libya are equal to 1050 MTD in 2010, export losses are estimated to reach 357 MTD in 2011. Conversely, if we simulate the impact of the pessimistic scenario, where starting, we could assume that the export losses will reach 886 MTD.

II.2. Tourism and consumption

Since 2003, Tunisia has emerged as the preferred destination for Libyan tourists, attracting more than 1.5 million visitors every year. According to Monitor International (2009), 1.8 million Libyans visited Tunisia in 2010 and on the basis of historical trends the total was expected to reach 2 million in 2013.

Unlike European tourists, only 2% of Libyan tourists stay in hotels. Most rent villas and apartments, usually close to business and shopping centers, touristic areas and clinics. Many Libyans have invested in real properties and housing to become partial residents in Tunisia¹⁴. There is no data on Libyan expenses during a stay; however experts estimated that the average person stays for one week a year during which they spend around 200 to 400 TND¹⁵. Based on this assumption, one could assume that total spending of Libyans tourists in Tunisia is around 540 MTD.

In addition, a recent survey¹⁶ indicated that many Libyan tourists come to Tunisia to seek medical care. Medical tourism accounts for up to 5% of the country's services exports and 24% of the turnover of private clinics.¹⁷ In 2010, Tunisia hosted nearly 150 000 foreign patients who generated health care spending of 400 to 500 MTD. Libyan patients constitute the large majority of foreign patients, and are reported to occupy 40 to 80% of clinic beds in Sfax and Tunis,

¹¹ The Foreign Trade Observatory stemming from the Trade and Tourism Ministry. 2011.

¹² Decreases were also recorded in cement (-18.3 MTD), phosphate and derivatives (-16.3 MTD), toilet paper (-11.1 MTD), building materials (-9.8 MTD), textile and clothing (-4.7 MTD), package paper (-3.4 MTD) and leather and shoes (-0.2 MTD)

¹³ The increase involved exports of canned potatoes (22.1 MTD), vegetable oils (12.5 MTD), cheese and curd (6.5 MTD) and maize (4.2 MTD)

¹⁴ Access to property in Tunisia is much easier for the Libyans than for Algerians and Moroccans.

¹⁵ Health care spending is not included.

¹⁶ The African Business Journal (2010), January-February Issue.

¹⁷ International Medical Travel Journal (2010), "medical tourism in Tunisia has become the country's highest foreign currency earner and the second largest employer". June.

Tunisia's largest cities. Libyan spending is estimated to be around 350 MTD in health care services per year.¹⁸

Based on these estimations, total Libyan expenses in Tunisia in 2010 are likely to have reached around 890 MTD, which represents around 18% of Tunisia's annual tourism receipts of approximately 5000 MTD. The unrest in Libya will likely substantially reduce tourism income and employment in Tunisia. The private health sector will be also affected, at least in the short run. Up to the end of April 2011, Libyan arrivals amounted to around 260000 people, which represent only 14% of the total number of Libyans that traveled to Tunisia last year¹⁹. Under the assumption of a total halt of arrivals, the total loss may reach around 750 MTD. This decline is equivalent to the remaining 84 percent of spending recorded in 2010. It is worth noting, though, that many Libyans have been seeking refuge in Tunisia due to the conflict and they are likely to remain in the country for a long period. To date over 65000 Libyans have found refuge in Tunisia (equivalent to 40% of the Libyan arrivals in the same period last year) and others are expected. Depending on the duration of the conflict, this may lead to a significant increase of consumption, thereby offsetting the above mentioned costs.

II.3. Immigration and remittances

Over 92000 Tunisians were registered at the Tunisian Embassy in Tripoli in 2010. However it is likely that the total number of Tunisians in Libya is much higher, given that the Tunisians do not need a visa to enter Libya and that many of them had seasonal jobs which reduced incentives to register at Consular offices. According to the (IOM)²⁰, 41322 Tunisian workers have already returned home. The profile of such people is quite mixed, with a large majority employed in the construction sector, but also people who have established their own business, running pastry shops, bakeries, etc. The return of migrants will reduce worker remittance flows to Tunisia, which reached 50.2 MTD in 2009 (see table 3).

Table 3. The total amount of remittances transferred to Tunisia by Tunisian workers living in Libya (MTD)

Year	Amount
2005	34.1
2006	37.5
2007	41.7
2008	47.1
2009	50.2

Source: Ministry of Social Affairs' OTE (Office des Tunisiens à l'Etranger).

¹⁸ According to Dr. Boubaker Zakhama; chairman of the National Association of Private Clinics. Web manager center. March 2011.

¹⁹ Tourisme Info, 16-31 Mai, No. 10/2011

²⁰ IOM (2011), Response to the Libyan Crisis: External Situation Report. 17th May.

Nevertheless, remittances are likely to be significantly higher than the amounts officially recorded; due to their informal nature and that many are cash transactions. Studies have estimated that in general remittances are about 2.5 times higher than those reported²¹. According to this assumption, the potential loss could be over 125 MTD.

Moreover, the return of migrants will further increase the already high unemployment rate of 14.2% in 2010, especially among youths (25.4%)²². The longer term impact of such returns is yet to be assessed, and it will depend on the ability of returnees to find a job. However, the short-term impact of return can be quantified, based on the cost of the compensation program issued by the government, which is providing 600 TND to each returnee, or an estimated total of 20 MTD.

The combined impact through loss of remittances and cost of subsidies is therefore estimated to be between the 70 MTD²³ and 145 MTD; both scenarios imply a total loss of remittances.

II.4. FDI and Banking operations

The unrest will no doubt interrupt the dramatic rise in cross-border investment between Libya and Tunisia in recent years. Libya is the fourth largest Arab investor in Tunisia. Over 30 Libyan companies have invested in industry and services (e.g. tourism)²⁴ in Tunisia generating over 3.000 jobs. The two countries agreed to double the volume of private and public investments to reach \$2 billion. They also decided in November 2010 to create a company to supervise Libyan investment projects in Tunisia, the largest of which include a refinery in Skhira and the creation of a Tunisian-Libyan bank holding company through the merger of the Tunisian-Libyan Bank (BTL) and The National Arab Investment Bank (NAIB), which played a catalytic role in boosting trade.

Tunisian investments in Libya exceed two billion dinars (almost \$1.5 billion). Three Tunisian projects that were in progress prior to the unrest, including the construction of an ice factory in the region of Zouara, are now suspended. Clearly Tunisian investors are in danger of suffering very large losses in Libya. Revenues from the provision of letters of credit have fallen by an estimated 75% compared to the same period in 2010.

Nevertheless, following the Libyan unrest and in view of the dire security situation, transfers by Libyan banking institutions to Tunisia have increased in the three last months, particularly through jointly shared Libyan/Tunisian banks (North Africa International Bank, ALUBAF international Bank & BTL, Banque Tuniso-Libyenne). The value of cash transfers (€180 Million) and direct transfers also increased by over 200% and 20% respectively, compared to the same

²¹ AITE(2005), Consumer Money Transfers: Powering Global Remittances.

²² Audrey Verdier Chouchane and Marco Stampini. (2011), "Labor Market Dynamics in Tunisia: the issue of youth unemployment", *Working Paper Series*. N°123. February 2001. The African Development Bank Group.

²³ According to official estimate

²⁴ The Libyan Arab Investment Company (LAICO) holds stakes in Jerba, Hamamet and Tunis Hotels.

period in 2010. One could assume that the impact of the crisis on the net balance of banking operations is positive as the fall of letters of credit revenues is more than compensated by the cash and direct transfers (table 4).

Table 4. The total amount transferred to Tunisia (From 02/17/11 to 05/30/11)

	Bank type	Letters of credit and direct transfers	Cash
Tunisian Libyan Bank (BTL)	Onshore	30 Million €	3 Million €
North Africa International Bank	Offshore	182 Million €	104 Million €
ALUBAF International Bank	Offshore	169 Million €	120 Million €
TOTAL		381 Million €	227 Million €

Source: BTL/North Africa International Bank and ALUBAF International Bank.

Given the volatility of financial transactions, such preliminary data cannot be used to forecast banking flows for 2011. However, we can anticipate a rise of financial flows between Tunisia and Libya due to the lifting of restrictions on the use of Libyan assets overseas to finance food and medicines.

III. Forecasting the short term impact of the Libyan crisis on the Tunisian economy

III.1. Macroeconomic forecast for the impact of the Tunisian revolution

The above described impacts across several transmission channels cannot be considered in isolation from the overall situation of the Tunisian economy. Tunisia's 2011 social and political unrest has in fact led to an unprecedented slowdown of its economy. Key economic sectors have been affected. In the short run, tourism and manufacturing (in particular offshore companies) as well as foreign direct investment (FDI) are expected to decline. This will have negative spillovers on the rest of the economy, including on the financial sector. The economic slowdown has a negative impact on government revenues and employment. In the first trimester of 2011, Tunisia recorded a decline of 7,8% of its GDP over the same period in 2010. While the economy is likely to recover over the remaining part of the year, it is clear that the Libyan crisis will add to the country's recent vulnerability.

Back in 2010, Tunisia's real GDP growth registered an estimated healthy increase of 3.7% (Table 5, Column 1). During the same year, economic activity and exchanges with Libya through trade, investment and remittances contributed some 0.9 percentage points to that increase. In the aftermath of the Tunisian crisis and prior to the onset of Libya's own crisis, AfDB had forecast

Tunisia's real GDP growth in 2011 to slow to a still positive 1.1% (the middle scenario)²⁵ – Column 2. Our contribution starts from this scenario and then adds the impact of the Libyan conflict, based on the data on investment, consumption and trade balance discussed in the previous section of the paper. The real GDP growth rate forecast for 2011 is shown in column 3 (table 5).

Table 5. Summary results of real GDP growth

	2010(e)	2011(f)*	2011(f)**	Impact of the Libyan crisis
Gross capital formation	0.3	0.3	0.1	-0.2
Public	0.0	0.0	0.0	0.0
Private	0.3	0.3	0.1	-0.2
Consumption	1.0	1.1	1.2	0.1
Public	0.0	0.0	0.0	0.0
Private	1.0	1.1	1.2	0.1
External sector	-0.4	-0.6	-0.9	-0.3
Exports	1.5	1.4	1.1	-0.3
Imports	-1.9	-2.0	-2.0	0.0
Libyan Contribution to	0.9	0.8	0.4	-0.4
Tunisian real GDP growth				
Real GDP growth	3.7	1.1	0.7	-

Source: Author's calculations and projections

*Projection without taking into account the Libyan crisis

**Projections with taking into account the Libyan crisis

Note: Assumptions on investment, consumption and trade balance for the two scenarios are based on the microeconomic analysis. The macroeconomic model does not include the direct impact of tourism and remittances. However, indirect impacts have been captured by the model.

The Libyan crisis is expected to have a relatively significant impact on the Tunisian economy in 2011, perhaps reducing GDP by 0.4 percentage points, to a growth rate of 0.7 percent. The crisis could reduce Tunisia's private investment by 0.2 percentage points of GDP and exports by 0.3 percentage points of GDP. However, this is expected to be partially offset by a 0.1 percentage points of GDP rise in consumption, due to increased demand from returned migrants and those refugees with financial resources. We assume no change in imports as a result of the Libyan crisis, as Tunisian imports from Libya are mainly oil and Tunisia is likely to substitute oil imports from Algeria at similar preferential conditions and prices.

²⁵ The revolution in Tunisia: Economic Challenges and Prospects, (2011), *AfDB Economic Brief*. March.

IV. Conclusion and policy recommendations

Given the persistent uncertainty of the Libyan conflict and the shortage of comprehensive data, the impact of the Libyan conflict on Tunisia has yet to be fully understood. Preliminary indications point to a number of adverse implications for the Tunisian economy. Nevertheless, the macroeconomic modeling exercise estimates the reduction in Tunisia's GDP as a result of the Libyan crisis at 0.4 percentage points. The micro-economic analysis highlights the significant impact of the Libyan crisis in some sectors, particularly tourism; on financial flows, remittances; and trade.

Tunisia will have to find alternative sources for the oil it imports from Libya. Discussions are underway with Algeria to import oil at terms similar to those Tunisia enjoyed with Libyan subsidized oil. Moreover, Tunisia may be able to re-export Algerian oil to Libya, which could further reduce the estimated impact on growth.

The crisis also has a direct impact on a specific segment of population, namely those living close to the border and the households affected by the loss of remittances and revenues usually generated by the informal trade with Libya. The analysis therefore points to the need to provide a well-targeted response to the crisis, focused on returning migrants to their hometowns, and supporting the border region affected by the reduction in trade. The government could also play a role in helping the most affected companies to rapidly find other markets for their products, including through a possible focused support in export diversification.

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