

AMERICAN UNIVERSITY OF BEIRUT

LEBANESE AGRICULTURAL EXPORTS AND THE 2020
FINANCIAL CRISIS: CHANGING DYNAMICS AND THEIR
ECONOMIC AND FOOD SECURITY IMPLICATIONS

by
NATHANIEL HOLMES FERGUSON

A thesis
submitted in partial fulfillment of the requirements
for the degree of Master of Science
to the Department of Food Security
of the Faculty of Agricultural and Food Sciences
at the American University of Beirut

Beirut, Lebanon
January 2022

AMERICAN UNIVERSITY OF BEIRUT

LEBANESE AGRICULTURAL EXPORTS AND THE 2020
FINANCIAL CRISIS: CHANGING DYNAMICS AND THEIR
ECONOMIC AND FOOD SECURITY IMPLICATIONS

by
NATHANIEL HOLMES FERGUSON

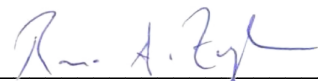
Approved by:

Dr. Ali Chalak, Associate Professor
FAFS/Agriculture



Advisor

Dr. Rami Zurayk, Professor
FAFS/FSEC



Member of Committee

Dr. Jad Chaaban, Associate Professor
FAFS/Agriculture



Member of Committee

Rachel Bahn, Coordinator
FAFS/FSEC



Member of Committee

Date of thesis defense: January 12, 2022

AMERICAN UNIVERSITY OF BEIRUT

THESIS RELEASE FORM

Student Name: Ferguson Nathaniel Holmes
Last First Middle

I authorize the American University of Beirut, to: (a) reproduce hard or electronic copies of my thesis; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes:

- As of the date of submission
- One year from the date of submission of my thesis.
- Two years from the date of submission of my thesis.
- Three years from the date of submission of my thesis.

Nathaniel Ferguson

February 2, 2022

Signature

Date

ACKNOWLEDGEMENTS

Firstly, I would like to thank Dr. Ali Chalak for his constant support and guidance through every step of this project. His belief in the relevance of this work, and my ability to complete it, was a huge motivational factor. I am thankful to have had an advisor who was as passionate about the findings as I was, and who recognized their importance in ways I could not. I would also like to thank the committee members, Dr. Rami Zurayk, Dr. Jad Chaaban, and Ms. Rachel Anne Bahn. Their critical feedback and thought-provoking questions produced considerations which improved the study in tangible ways. Thanks are also due to Abed Al Kareem Yehya, who steadily and reliably provided assistance and guidance through the whole process, as well as Dr. Martin Keulertz, who was a tremendous help to me as I first became acquainted with food security, and struggled to shape a thesis proposal. Finally, I would like to thank my family, and Lucy, who have supported me through unprecedented challenges, and continue to believe in me even when I fail.

ABSTRACT OF THE THESIS OF

Nathaniel Holmes Ferguson

for

Master of Science

Major: Food Security

Title: Lebanese Agricultural Exports and the 2020 Financial Crisis: Changing Dynamics and their Economic and Food Security Implications

In 2020, Lebanese agriculture was adversely affected by the financial crisis. International organizations and local experts reported that domestic production would likely decrease, due to the inability of many farmers to finance inputs. Against this backdrop, officially reported exports of agriculture increased considerably in 2020. This happened despite much of the literature suggesting that a parallel currency market, such as that which exists in Lebanon, should be a disincentive to official exports. To unpack this phenomenon, this study utilized semi-structured interviews with actors in the Lebanese agricultural value chain as well as experts in the agricultural and financial sectors. The study sought to discover the economic rationale for the export increase, qualify the distribution of its benefits, and ascertain its impact on domestic food security. The results revealed that export levels deviated from expectations due in part to the non-existence of regulations on export earnings. Additionally, benefits of the increase are widely perceived to have been accrued by intermediaries, at the expense of producers. Finally, the effects on food security will be difficult to quantify until more data, such as domestic production, is available. These insights should aid in developing a critical understanding of the 2020 export increase, which will be crucial in forming future policy.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	1
ABSTRACT.....	2
ILLUSTRATIONS	5
ABBREVIATIONS	6
INTRODUCTION	7
LITERATURE REVIEW	9
2.1. Parallel Exchange Markets	9
2.2. Parallel Markets and Exports.....	10
2.3. The Parallel Exchange Market in Lebanon.....	14
2.4. Lebanese Agricultural Export Growth.....	16
2.5. Export Agriculture Market Structure.....	18
2.6. Food Security Impacts of Agricultural Export Growth	19
METHODOLOGY	21
3.1. Data Collection	21
3.2. Data Analysis.....	22
RESULTS	23
4.1. Theme 1: Rationale for Export Increase	23

4.1.1. Rationale	23
4.1.2. New Actors	24
4.2. Theme 2: Destination of Export Earnings	26
4.2.1. Repatriation.....	26
4.2.2. Regulation	27
4.3. Theme 3: Export Orientation of Lebanese Agriculture	29
4.3.1. Sustainability.....	29
4.3.2. Export Orientation	29
4.4. Theme 4: Market Structure and Distribution of Benefits from Export Increase .	30
4.5. Theme 5: Food Security Implications.....	32
4.5.1. Availability	32
4.5.2. Access	33
DISCUSSION	35
5.1. Research Question 1: What was the economic rationale for the increase in agricultural exports from Lebanon from 2019 to 2020?.....	35
5.2. Research Question 2: How were the profits from new export growth distributed between agricultural producers and traders/exporters?.....	37
5.3. Research Question 3: What were the food security impacts, in the dimensions of availability and access, of the export increase?	38
CONCLUSION.....	40
BIBLIOGRAPHY.....	43

ILLUSTRATIONS

Figure

1. Repatriation and Surrender Requirements for Export Proceeds, 2019.....13
2. Lebanese Vegetable Product Exports, 2011-2020.....17

ABBREVIATIONS

BdL: Banque du Liban
FAO: Food and Agricultural Organization
IMF: International Monetary Fund
LBP: Lebanese Pound
USD: United States Dollar

CHAPTER 1

INTRODUCTION

The multifaceted, ongoing crisis in Lebanon has produced deleterious effects on the domestic agriculture sector. Due to the shortage of U.S. dollars in the country, input providers are unable to provide credit to farmers, who are now required to purchase inputs with fresh dollars, or with Lebanese Pounds (LBP) at a premium rate (FAO, 2020). As a result, according to Hamadé (2020), the cost in LBP of growing vegetables increased by 40% from 2019 to late 2020. In many cases, farmers have responded to this impediment by substituting locally available inputs, such as manure and compost, for the imported goods. According to the FAO (2020), this development will result in “lower yields and lower marketable production” (p. 2). Amidst this agricultural crisis, however, came the news, reported by Bank Audi (2020), that “agricultural exports increased by 21.8% during the first eight months of 2020” (p.3). The non-negligible rise in exports, coupled with a crisis in the sector, suggests an apparent contradiction which begs clarification.

An official currency devaluation is generally expected to stimulate growth in official exports. However, a depreciation in the parallel exchange rate, or an increase in the parallel premium, is associated with the underinvoicing of exports, a practice which lowers the official export figure (Kiguel & O’Connell, 1995). Such activity occurs because of the “greater amount of local money” which can be gained by selling a quantity of foreign currency equal to the invoice error on the black market (Muñoz, 2006, p. 9). Since the reported export increase in Lebanon was retrieved from official government statistics, it is not likely that underinvoicing is a significant problem. If this

is true, and in following, the repatriation of export earnings through official channels is not strictly enforced or monitored, then the export of agricultural products could be seen as a viable way for individuals to ensure some financial stability, whether by providing a high percentage of earnings to the parallel market, exchanging exports for imports in kind, or depositing earnings abroad. Such activities, while rational, could be compounding food security problems in the country related to availability and price.

As a result, the first research question of the study is (1) *What was the economic rationale for the increase in agricultural exports from Lebanon from 2019 to 2020?* While a parallel market depreciation of a national currency is not normally expected to positively influence the official export level, this relationship may be affected by an apparently relaxed or nonexistent repatriation requirement for exporters. Secondly, it is important to determine (2) *How were the profits from new export growth distributed between agricultural producers and traders/exporters?* The character of the distribution of the profit distribution between primary producers and traders, and the market structure which helps to dictate this distribution, is an important factor in analyzing the effects of the export increase on the growth of the agricultural sector, on poverty, and on rural development as a whole. Finally, this study will seek to answer (3) *What were the food security impacts, in the dimensions of availability and access, of the export increase?* At the same time as the export increase in 2020, there was also a significant decrease in imports, and while the exact level of total domestic production in 2020 is not yet known, it is crucial to investigate the effect of the export increase on food availability and prices.

CHAPTER 2

LITERATURE REVIEW

2.1. Parallel Exchange Markets

After the collapse of the Bretton Woods system of fixed exchange rates in 1971, most developed countries adopted flexible, or “floating” exchange rate systems, in which the value of a currency is determined by market forces. A growing number of economists had advocated for this system because it removed the responsibility of monetary authorities to intervene in markets to avoid imbalance (Ocampo, 2017). However, many developing countries opted instead to implement “overvalued pegged exchange rate regimes coupled with exchange controls” (Acharyya, 2001, p. 1985). Although the national contexts differ substantially, according to Thomson and Metz (1997), many countries fix their exchange rate above its market value to “fight inflation which would be accelerated by rising prices of imports resulting from a devaluation,” as well as because of the influence of powerful groups, such as importers, which stand to gain economically from an overvalued rate (p. 111). According to IMF data from 2019, only 66 out of 185 countries float their currency (International Monetary Fund, 2020).

A parallel exchange rate, according to the IMF, occurs when monetary authorities are “reluctant to allow the exchange rate to adjust fully” choosing instead to maintain an overvalued, pegged rate, which most institutions are obligated to recognize (Gray, 2020, p. 2). When a state decides to implement a pegged exchange rate regime, the monetary authority “must commit itself to buying or selling of foreign currencies” to stabilize the pegged rate (Acharyya, 2001, p. 1985). However, when excess demand for foreign currency is not balanced by export growth, which is a typical phenomenon in developing countries, then this commitment is put under stress, and foreign exchange

reserves in the central bank will steadily deplete (Acharyya, 2001). In such a scenario, many countries choose to devalue the official exchange rate to improve the trade balance. Others, such as Tanzania after the fall in world coffee prices in 1978, chose not to devalue, believing that “a devaluation would generate only a weak supply response in exports of agricultural goods,” and that it would weaken the import-dependent industrial sector (Kiguel & O’Connell, 1995, p. 31). If such a country chooses not to devalue, then the other option is to institute exchange controls, which prohibits “legal buying of dollar more than x,” (Acharyya, 2001, p. 1985). With exchange controls implemented, importers must seek an unofficial, often illegal, source of foreign exchange. Such an exchange is said to take place in the *parallel market*, which, when illegal, might also be referred to as a *black market*.¹ The premium paid for hard currency in a parallel market is called the *parallel market premium*, and when this premium is paid in an illegal market, it is called the *black market premium*.

2.2. Parallel Markets and Exports

The existence of a parallel market for currency, and the size of the premium, have an effect on a country’s exports, and there is much evidence to suggest that the parallel market premium is itself a disincentive for export growth. Pinto (1989) likened the black market premium to a “tax on exports,” and argued that “it must be lowered” to stimulate exports (p. 324; 327). According to Kiguel and O’Connell (1995), increases in the premium “tend to worsen the official trade balance” (p. 25). However, this effect refers only to *official* exports, or those for which earnings are repatriated through the

¹ The distinction between a parallel and black market is rarely precise, and the terms, both in literature and in practice, are often used interchangeably.

official foreign exchange market. Since there are two rates, exporters who choose to “repatriate” their earnings “at the official exchange rate” are “taxed relative to” exporters who can sell hard currency on the parallel market rate (Agénor, 1992, p. 21). This effect is confirmed by Thomson & Metz (1997), who show that a reduced parallel premium, which is the intended effect of a devaluation, lowers the “incentive for sellers of foreign exchange to sell on the (illegal) parallel market” (p. 115). For this reason, Arslan and Van Wijnbergen (1985) found that the existence of a black market premium in Turkey in the 1970s rewarded “underinvoicing,” a phenomenon in which exporters do not report the full value of their exports in order to repatriate some of their earnings through the parallel market, or to keep it abroad (p. 129). Similar activity was observed in Jamaica, where, according to Grosse (1994), exporters report a “below-actual value for sales,” in order to evade “Jamaican taxes and the foreign exchange surrender policy on the remainder of the funds” (p. 28). Bhagwati et al. (1974) analyzed partner country trading data to frame the under-invoicing of exports as a “vehicle of capital flight,” further validating the fact that in addition to channeling export earnings through the black market, exporters may also deposit their earnings abroad (p. 153).

The dominant theme in the literature on parallel currency markets, as explicated above, is that the parallel premium functions as a tax on official exports, and incentivizes exporters to export through unofficial channels. This assertion however, rests on the implicit assumption that the government of the exporting country mandates the repatriation of export earnings. This is a reasonable assumption given the international policy context, in which 85 countries impose repatriation requirements, and 59 impose surrender requirements, on the proceeds from exports and/or invisible transactions. A repatriation requirement is simply the “obligation of exporters to

repatriate export proceeds,” while a surrender requirement goes further and requires that export earnings be sold to the central bank or an authorized commercial bank or exchange dealer for local currency, often at the official exchange rate (International Monetary Fund, 2020, p. 49). In both cases, the requirements may apply to either the full amount, or some percentage of the earnings. In Burundi, as of 2002, the government required that exporters “surrender their export earnings to government at a low official rate;” a policy made necessary by the excess demand for foreign currency which is a feature of most countries with an overvalued fixed exchange rate (Nkurunziza, 2002, p. 10). The connection between fixed exchange rates and repatriation or surrender requirements, evident in the case of Burundi, is backed up by IMF data, in which 12.1% of countries which float their currency impose both requirements on exporters, compared to 41.2% of countries which do not float their currency. Furthermore, countries which do not float their currency are almost twice as likely to impose at least one of the two requirements on exporters (See Figure 1) (International Monetary Fund, 2020). In other words, the sort of countries which have parallel currency markets are also those which are more likely to enforce regulations on exporters, i.e. those with overvalued fixed exchange rates. Despite this connection, the existence, and type, of regulations on export earnings in countries with multiple exchange rates remains an important, often unmentioned, mediating factor.

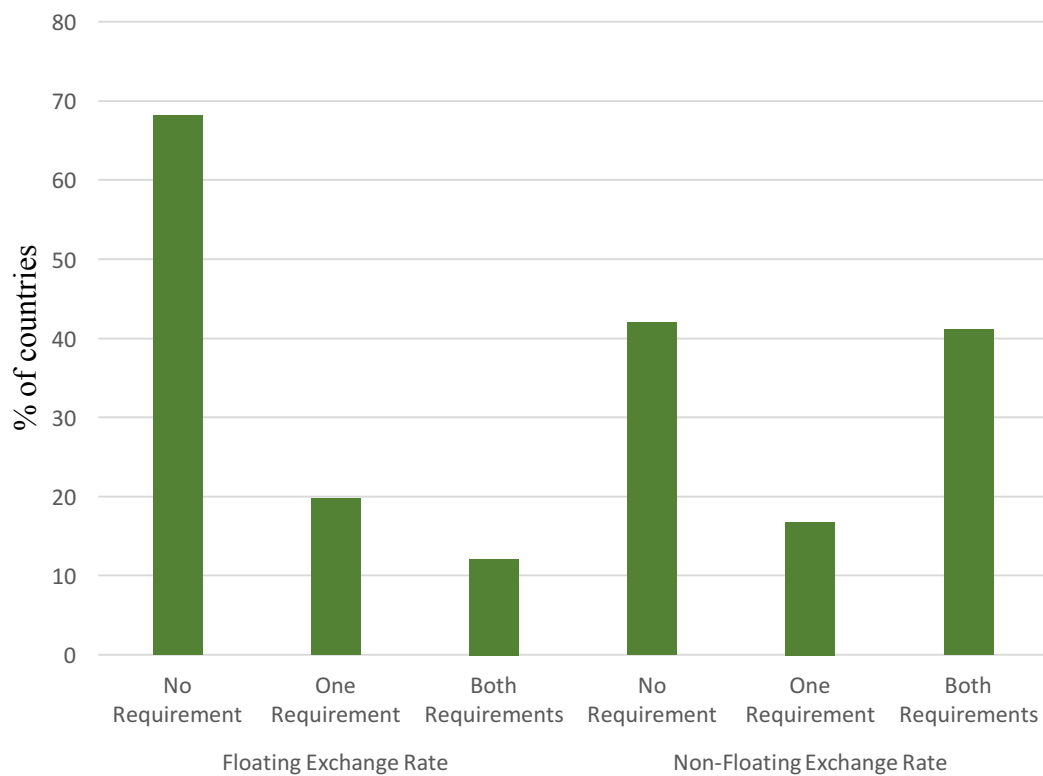


Figure 1 Repatriation and Surrender Requirements for Export Proceeds, 2019

Exporters in countries with parallel exchange markets have displayed a variety of responses to the complex matrix of incentives in which they operate. According to Madaki (2001), in Nigeria, where there existed a parallel market for foreign exchange, “exporters are often inclined to take advantage of this premium by exporting unofficially,” thus negatively impacting official trade statistics (p. 30). Similarly, in Bolivia, where the parallel exchange rate depreciated dramatically between 1982-1985, unofficial exports of food increased significantly. Additionally, as importers of food were not able to access hard currency at the official rate, according to Morales (1991), the parallel rate acted as a “protective shield” for domestic producers (p. 60). In Ethiopia between 1984-1991, as the parallel premium increased in a context of tight regulations on exports, “smuggling of exports became the order of the day” (Kidane,

1997, p. 40). Azam & Besley (1989) performed economic modeling of countries with parallel markets, such as Ghana, and found that the official rate was a “fiscal device to trap those unlucky exporters who get trapped in the official segment of the market” (p. 1929). While the above cases follow the literature without substantial deviation, in that they involve the diversion of exports from official to unofficial markets, Myanmar stands out as an interesting case, as its surrender requirement on export earnings was abolished in 1990. In this context, Kubo (2018) found that “good relationships with banks and preferential treatment” provided incentives for exporters to repatriate their earnings through the formal market (p. 112). However, initiating the transition to formal channels for all exporters would require national policy coordination, such as a tax on certain types of transfers, combined with “tighter controls by the Myanmar customs on smuggling and under-invoicing of exports” (p. 122).

2.3. The Parallel Exchange Market in Lebanon

Lebanon has pegged the Lebanese Pound to the Dollar at a rate between 1500-1515 LBP/USD since the end of 1997 (Khalil & Mikhael, 2018). The advantages of this policy, according to Khalil & Mikhael (2018), reflect those in other small open economies, and include curbing domestic inflationary pressure and, specifically in a country like Lebanon where trade constitutes a high proportion of GDP, a currency peg “reduces transaction costs and currency risk which pose a threat to trade an investment” (p. 3). The anti-inflationary aspect of the currency peg has been particularly essential for food prices, as Lebanon has been characterized by a high dependence on food imports. As remittances and investment slowed in the years preceding 2019, pressure on the peg grew, and eventually caused it to collapse (El Deeb, 2020). Restrictions on bank

withdrawals led to the emergence of a parallel market with the USD/LBP surpassing the 2,000 mark while the official rate remained at 1,507.5 (Chbeir, 2019). In July 2021, the parallel exchange rate surpassed 20,000 LBP to USD, and has not dropped below 14,000 since then.²

The system of exchange rates in Lebanon involves different rates which have applied to different types of transactions over time. Kiguel and O’Connel define a dual exchange rate system as one in which “an important share of current account transactions” are assigned to the official fixed exchange rate, while other transactions are assigned to an official floating rate (p. 22). In November 2019, the central bank of Lebanon, called Banque du Liban (BdL), issued a circular which allowed banks opening documentary credits for the import of hydrocarbons, medicine, and wheat, to obtain 85-90% of the requisite dollars from BdL at the official rate of 1507.5 (Byblos Bank, 2019). Importers are required to provide written verification that the imports are “destined exclusively for the local market” (Byblos Bank, 2021). The average monthly cost of the subsidies was estimated by the World Bank to equal 287 million USD, contributing significantly to the depletion of BdL foreign exchange reserves. BdL sent a letter to the Ministry of Finance in February 2021, asking for a “national plan to rationalize subsidies” (Byblos Bank, 2021b), followed by a more direct request in April that the government “decide how to gradually lift subsidies” (Reuters, 2021). In August 2021, BdL ended the fuel subsidy, and began to sell dollars to importers at the market, or parallel, rate (Reuters, 2021). Today, while the official exchange rate remains 1,507.5, this rate only applies to importers of wheat to produce bread, as well as importers of some medicines.

² Parallel exchange rate data sourced from lirarate.org

2.4. Lebanese Agricultural Export Growth

According to the FAO, the revealed comparative advantage indicator for Lebanon between 2010 and 2017 suggests that it “has been a competitive producer and exporter” of several product categories, including vegetable products and agricultural raw materials (FAO, 2021). However, despite modest export growth, the country’s agricultural trade balance has declined significantly since 2000. Against this secular trend, 2020 stands out as a significant aberration. According to Ibrahim Al Kaakour, the founder of Genco Olive Oil, a Lebanese company, the fall in the LBP against the USD on the parallel market “gave other producers and us in Lebanon a better edge,” because “prices are more competitive now compared to other countries” (Dawson, 2021). While a parallel depreciation should theoretically divert exports from the official to unofficial markets, the overall trend in the existing literature on parallel exchange markets does not suggest that the aggregate level of exports, official or otherwise, should increase with the parallel premium. However, agricultural exports, as measured in official statistics published by Lebanese Customs, grew by 11.7% from 2019 to 2020. This increase was driven primarily by a 33% increase (~58M USD) in the export of vegetable products.³ When measured in net kg, the increase is more dramatic, with agricultural products and vegetable products increasing by 21.8% and 41.5%, respectively. For historical comparison, Figure 2 depicts the levels of vegetable product

³ Agricultural export statistics are sourced from <http://www.customs.gov.lb/>. All export statistics cited in this paper refer to special exports, which equal general exports minus re-exports, and reflect official data as of November 6, 2021. Agricultural products are defined by the World Trade Organization to include products “within Chapters 1 to 24 of the Harmonized System less fish and fish products, as well as some specific products which come from the soil. Forestry products are not included” (UNCTAD, 2003). For the purposes of this paper, all products within Chapters 1-24 of the Harmonized System, and none outside, are included under the category *agricultural product*.

exports over the period 2011-2020. In April 2021, Saudi Arabia banned the import of Lebanese produce, after Saudi customs authorities had found more than 5 million captagon pills in a shipment of Lebanese pomegranates (Reuters, 2021). As of the time of writing, official trade statistics have not been published for dates after March 2021, so the effect of this import ban cannot yet be properly quantified.

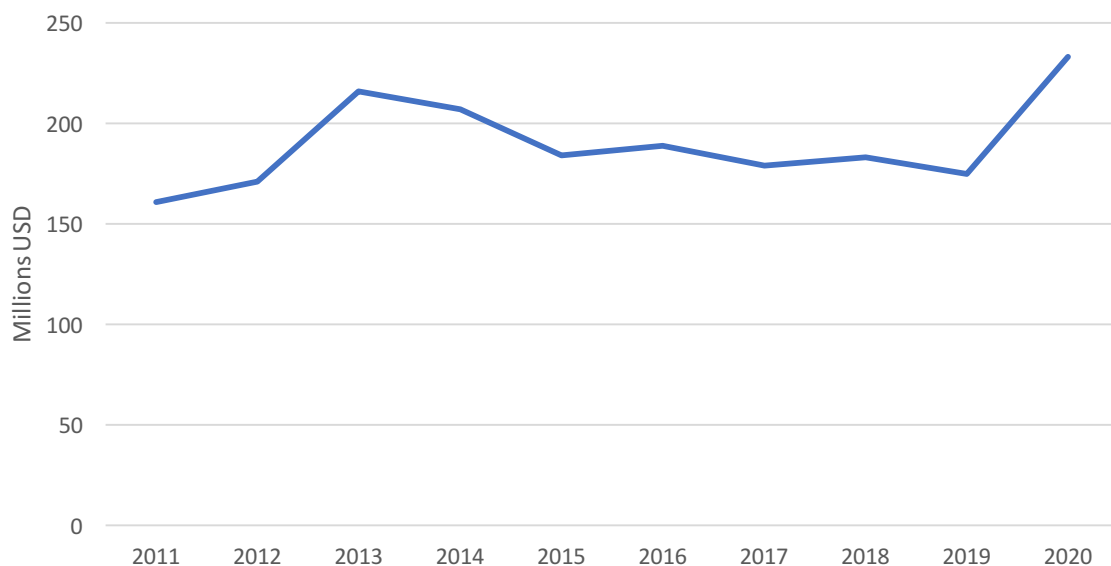


Figure 2 Lebanese Vegetable Product Exports, 2011-2020

In January 2019, the IMF reported Lebanon as having no repatriation or surrender requirements on the proceeds from exports (International Monetary Fund, 2020). However, on November 4, 2020, BdL issued circular 574, which required that exporters repatriate their revenues generated from transactions “that are executed through documentary credits or export credit insurance” (Byblos Bank, 2020). Both the degree to which this requirement is enforced, and the coverage of the requirement, are not evident from existing literature, but on February 15, 2021, An-Nahar reported that caretaker Prime Minister Hassan Diab called a meeting on the return of export earnings

to Lebanon, which was attended by the most recent minister of finance, minister of economy and trade, and the governor of the central bank, indicating that this issue is a priority at the highest levels of the Lebanese government (An-Nahar, 2021). According to Al Azzi (2021), exporters have kept their profits in foreign bank accounts, and successfully halted a regulation proposed by BdL that would compel them to repatriate their earnings within three months of the date of sale. On the opposing side, several articles were written to argue against the enactment of such a regulation, with headlines such as “Banque du Liban is trying to seize exporters’ money,” and “Industrialists: No to piracy of our money!”⁴

2.5. Export Agriculture Market Structure

The impact of the increase of the 2020 agricultural export increase on the agricultural sector and national economy depends in large part on how its gains are distributed between primary producers and those who market their production. Agricultural value chains are often characterized by the existence of *intermediaries*, or those who purchase goods from farmers and sell them elsewhere, whether in urban markets or abroad. According to Robinson & Ngeleza (2011), in Ghana, agricultural traders are often accused of colluding to keep prices paid to farmers artificially low, while traders claim that their profits are commensurate with the economic and security risk they take on. In a study on price transmission in Uganda, Fafchamps & Hill (2008) find that when global prices rise, traders raise their export prices, but “growers receive a smaller share of the international price when it rises” (p. 730). The perception of farmers that they are involved in an asymmetric relationship with traders is also strong

⁴ Translation conducted by Google and verified by author.

in Lebanon. According to the FAO (2020), Lebanese farmers “often perceive themselves as a target of traders who are earning high profit margins with limited spill-over effects to the farms” (p. 11). More recently, the same organization has cited the “low bargaining power of farmers in market operations” as a major obstacle to development in Lebanese agriculture (FAO, 2021, p. 1). The system of agricultural marketing as a hindrance to agricultural growth and development is displayed by Clay et al. (2018) in the context of Rwanda, where low profits for coffee producers are tied to “farmers having little or no influence on the value chain relative to...other more powerful sector actors” (p. 200). This has led to low investment, low productivity, and limited production growth in the sector.

2.6. Food Security Impacts of Agricultural Export Growth

Countries which have experienced substantial growth in the export of agricultural products have seen a wide range of effects on food security. Though food security is a complex issue, according to the FAO (2006), the generally accepted definition which was adopted at the 1996 World Food Summit involves the dimensions of availability, access, utilization, and stability. Although the two latter dimensions might certainly be affected by growth in food exports, it is in the availability and access of food where food exports have the most direct domestic impact. According to Van den Broeck & Maertens (2016), horticultural exports “contribute to food security in developing countries,” through such channels as the “development of rural labor market” (p. 11). While they point out that there is no negative correlation between horticultural exports and food availability, they also add the important caveat that the growth of such exports may weaken domestic food availability if “there is competition

for resources between export production and food production for the domestic market” (p. 14). In a study which explores the connection between food exports and food security in Sub-Saharan Africa, Kuso & Gachunga (2019) identify the countries of Southeast Asia as inspiration for an export-led growth strategy in Sub-Saharan Africa, but that “increasing agricultural export is only beneficial for certain types of developing countries,” listing countries in which cash crop production utilizes scarce resources among the non-beneficiaries (p. 12). According to Krivonos et al. (2015), in relation to the accessibility of food, food export growth may lead to higher domestic prices for food in the short term. Theoretically, this will be offset by rising incomes, but the time gap between the two effects may not be always negligible, and the gains from trade may not be distributed equitably.

CHAPTER 3

METHODOLOGY

3.1. Data Collection

To answer the research questions, the researchers utilized semi-structured interviews with a sample size of 15, all taking place between July 28 and November 3, 2021. The sample was selected based on the possession of an informed perspective on the agricultural, financial, and/or trade sectors in Lebanon, and the respondents included economists, farmers, agricultural input suppliers, bank employees, and journalists. Contact information for respondents was obtained in one of three ways: (1) The respondent is a personal contact of the researchers, (2) The respondent is contactable via publicly available information, or (3) The respondent was selected by snowball sampling, in which respondents recommended the study to relevant contacts, and provided them with the contact information of the researchers. Due to health concerns related to the COVID-19 pandemic, all interviews were conducted remotely, using a videoconferencing platform.⁵ Respondents were given the option to give the interview in English or Arabic. Before each interview commenced, the respondent gave verbal consent to be interviewed and recorded. Respondents who opted to allow the researchers to include specific information about their position gave written consent by e-mail, after completing the interview. In the interview, respondents were asked to give their experiences with and opinions on a variety of processes that had taken place in the agricultural, financial, and trade sectors in Lebanon since 2019, and the questions were selected from an interview guide that had been prepared before the interviews. These interviews allowed the respondents to provide experience-based insight and analysis on

⁵ One respondent opted instead to send written answers to questions which the researchers sent via email.

themes which are not apparent solely from official export statistics. After each interview was finished, the researchers transcribed the recording verbatim.

3.2. Data Analysis

After the data was transcribed, the researchers went through the transcript and highlighted data relevant to one of the research questions, labeling it with a key word or string of words. After all relevant “data points” had been highlighted, they were organized into eleven categories. Similar responses were grouped together within the categories in order to determine which responses were expressed by a wide range of respondents. For example, the response “input cost in dollars decreased due to exchange rate,” a response filed under the category of “Rationale for increased exports,” was mentioned seven different times. These categories were then analyzed against the research questions, and condensed to a list of five themes either by combination or exclusion. For example, the category “Challenges to Export” was subsumed under the theme “Lebanese Export Orientation and Sustainability.” Each of the five resultant themes are connected to one of the research questions. These themes include “Rationale for export increase,” “Destination of export earnings,” and “Export orientation of Lebanese agriculture,” which relate to Research Question 1, “Market structure and distribution of benefits from export increase,” which relates to Research Question 2, and “Food security implications,” which relates to Research Question 3. Then, these responses were analyzed against the literature and official customs data from 2019 and 2020.

CHAPTER 4

RESULTS

4.1. Theme 1: Rationale for Export Increase

4.1.1. Rationale

Most respondents were aware that agricultural exports had increased in 2020. In accounting for the export increase, multiple respondents cited a decrease in labor costs, which had not increased proportionately with the loss of purchasing power of the LBP. According to a respondent who supports startups in the agri-food sector:

“Looking at export potential ...currently they're paying, I think, between four and five dollars [for] the daily rate of an agricultural worker, whereas in the past, it used to be between, you know, 15 and \$20 daily rate. So you have a reduction by, 200-300%, on the cost of labor.”

While labor costs were the most oft-cited, respondents referenced other costs that decreased in terms of USD, helping to enable an export increase. An agricultural economist said:

“...you have cost of labor, and cost of land rents, if you rent land, cost of local transportation, local services, all of these were significantly reduced when you get paid in dollars. That means cheaper.”

According to some respondents, the reduction in input costs, along with the collapse in local purchasing power, which were both made possible by the depreciation of the LBP, made the cost of certain crops significantly cheaper than they had been before 2020. According to the same economist:

“In 2019, our currency collapsed, and the cost of buying crops produced in Lebanon was very cheap. So...all of a sudden, the trader would have really access to very, very cheap, good quality products.”

Conversely, an entrepreneur in the poultry sector explained that their export volume did not increase in 2020, due to the currency composition of their inputs, which is highly skewed toward foreign currency:

“If you subdivide the cost, you will find out that 87% of our cost goes for the ingredients that are coming from outside the country... so you end up with how much really to play with in order to export or not to export...it doesn't *make a huge difference*.”

Several respondents also cited the relative attractiveness of hard currency which is not trapped in the Lebanese banking system. An olive oil manufacturer said:

“...you don't have access to the banks and everything. So the only escape now is export.”

4.1.2. New Actors

In describing the types of actors who could benefit from the conditions which led to the export increase, several respondents referred to new actors who have begun to see agriculture as an opportunity for profitable investment. An exporter described the mindset with which some new investors have entered the sector:

“A lot of people...started to see or think that there's a great opportunity in buying in Lira and selling in US dollar.”

However, that respondent was careful to explain that many of the newcomers were unable to capitalize on their perceived opportunity, due in part to their limited knowledge of the agri-food sector:

“They...without any prior knowledge or expertise...find someone in the open market and give it the produce] to them to sell...on a commission base. And in many cases, the results were miserable.”

The respondent went on to clarify that some of the new actors made out so badly in their new venture because they lacked relationships with their consigner, a trader who earns a profit by selling on commission:

“The owners of the commission based stores, you know, they would probably recognize, those new entrants into the market... they will know that those people are just amateurs, etc. So, in most cases, they would try to...sell at any price to get rid of the goods, because their commission is ...not tied to profits, it is tied to a sale price.”

The financial mechanism of exporting used by many of the new actors, known as *consignment*, is also key to interpreting the export numbers reported in Lebanese customs data. Because exporters who sell on consignment do not agree upon a selling price prior to the shipment, the veracity of their reported export value can be called into question. An employee of IDAL described the situation of the exporter who sends goods to a consignor:

“He should claim something. So he claimed by estimation, and he put just a number. So I'm sure the figures of the customs are not real. But we don't have another source. So we have to, we have to take them as it is.”

An agricultural economist was uncertain as to the widespread existence of the supposed unexperienced, unsuccessful investors. However, the respondent was clear that an individual would be ill-advised to invest in agriculture without prior knowledge or experience of the sector.

“I haven't heard anything like that. And I don't know what these people do, usually. I wouldn't say it's easy to step in, and then find the trader and someone to sell for you on consignment. But I mean, it's a very bad idea anyway. I mean... you cannot just buy apple and then send them and...have no knowledge of agriculture. Now, you need to see and look if it was really a trend or not.”

4.2. Theme 2: Destination of Export Earnings

4.2.1. Repatriation

The respondents were divided in their answers to the question of what exporters did with their export earnings in 2020. Several of them asserted that exporters are compelled to repatriate their revenue in order to maintain their business, including one farmer/exporter who said:

“Everything comes to Lebanon, because we have to spend them again, because everything costs a lot of money, to have all these EU specifications, believe me.”

Among the rest of the respondents, some acknowledged that exporters sent a portion of their earnings back to Lebanon, but most focused their attention on the money that did not make it back into the country. Many claimed not to have direct knowledge as to where exporters deposited their money, but said that the incentives suggested that most would keep their money outside of Lebanon. Another common

theme in responses, as voiced by a Lebanese agricultural economist, is that exporters keep their money out of Lebanon because of lack of trust in the commercial banking system:

“But today, exporters are not paying back into the country. And they don't receive their money...in Bank Audi, they receive it in their bank accounts in Turkey, in Cyprus, in Dubai, whatever. Nobody is still trusting the financial system to receive money from exports. So...the country doesn't really benefit from any type of exporting agriculture.”

An economist at a commercial bank in Lebanon explained that the money which was repatriated to Lebanon through letters of credit decreased significantly in 2020:

“...only close to 616 billion LBP worth of LCs were utilized in 2020 against 4.3 trillion LBP in 2019. So if the 2020 data is any indication, very little FX export earnings have been repatriated through banks. But that does not mean that very little FX earnings have been repatriated OVERALL. It is likely that some of these export earnings that are NOT LCs-related are being returned home for general business purposes either through the banks or other channels; but most likely some are retained outside to finance needed imports and for personal purposes.”

4.2.2. Regulation

At the time of their interviews, respondents universally confirmed that there was no Lebanese government regulation dictating what exporters must do with their earnings. This was despite a push from the Director General of the Ministry of Economy and Trade to enact such a regulation:

“He suggested a law that would force exporters across all industries exporting for agriculture, industry, or anything else like that, that they have to repatriate a certain percentage of their earnings.”

According to one respondent, this proposal did not materialize into policy due to a concerted effort to block it on the part of private businesses:

“The traders and the people who actually export these goods, they stood against it...so they had a media campaign basically to stop it.”

When asked whether such a regulation, in any form, might be a good policy for Lebanon, the respondents were once again split. Two respondents mentioned that such regulation would act as a disincentive to export. An economist at a Lebanese commercial bank said of such a regulation:

“This will only reduce exports and repatriated exports earnings further as it will be a disruptive disincentive.”

Conversely, several respondents who favored such a regulation cited the public subsidies which benefitted exporters, appealing to the apparent contradiction of public funds captured for private profit. A farmer and entrepreneur said:

“So this subsidized electricity and agriculture supplies were meant to help Lebanese people to secure their food, but the misusing of this was making the export growing, and it (was), but not reaching the banking sector.”

4.3. Theme 3: Export Orientation of Lebanese Agriculture

4.3.1. Sustainability

Many respondents believed that the export increase of 2020 was a transient phenomenon, and not representative of a changing orientation of Lebanese agriculture towards exports. One exporter said:

“It is unsustainable because as I told you, what happened is that the produce was so cheap that the lots of people got encouraged to buy more and export it. But it's not sustainable. Because our cost of production sometimes is too high.”

Further illustrating the unsustainability of transitory low costs, the entrepreneur in the poultry industry referred to the end of subsidies; particularly the subsidy on fuel.

“It's not [sustainable] because it was dependent on the subsidy paid by the Central Bank, the subsidy stopped, therefore, the cost has gone up. Therefore, the exports of cheaper products will have to stop.”

4.3.2. Export Orientation

The respondents had a variety of opinions about whether the Lebanese agricultural sector should become more export oriented. Several viewed a sectoral orientation toward export as a beneficial priority if and only if primary producers would receive an equitable share of the benefit. An agricultural economist expressed this idea:

“So what type of exports are we looking at? Is it big companies... or is it really an export that will bring back money to the families and...support local economic development and increase in new

activities and so on and so forth? Well then, it would be a good idea, right?”

An employee of Investment Development Authority in Lebanon (IDAL), a government agency which promotes investment in various Lebanese sectors, voiced the opinion that sustainable export promotion in Lebanon would require fundamental change:

“There's a lot of work that should be done. It's about the full value chain that should be improved...from the small farmers, to the airport, and the seaport and all the infrastructure...all the Governmental Institutes, all the human resources, all the private sector, all the universities...I don't think if we continue working in the same way, the agricultural sector will stay alive.”

Others viewed the goal of export growth as unlikely due to high structural costs facing businesses in Lebanon. One respondent, an entrepreneur in the poultry business, said:

“Lebanon’s cost of production is on the high side, especially these days, it's becoming even higher with the lack of available electricity, lack of available diesel, fuel, etc. So, the cost is beyond your imagination.”

4.4. Theme 4: Market Structure and Distribution of Benefits from Export Increase

When farmers in Lebanon sell their produce to a trader, the price paid to the farmer does not change depending on the product’s final destination. Indeed, the farmer often does not know where their produce is finally consumed. One farmer described this dynamic like this:

“They [the traders] don’t take into consideration what is the price where they will sell it, in Europe or I don’t know where, and to see...what they can give to the agriculture here. Perhaps they can give 300 dollars a ton, not 200, and still they can earn a lot of money. So I’m saying that...we don’t feel exactly that there is a demand for exportation.”

In explaining the difficulties that some farmers face in attempting to self-export their produce, a farmer mentioned the role of trust in the relationship between traders and foreign importers. When this element is lacking, sellers may be subject to manipulation by buyers, sometimes by false claims of unmet quality standards:

“Because these people... usually they [the traders] are in partnerships with the importer on the other side. So they trust each other or have common interest. And so it's very hard to break into this relation, and go and sell. And we're very vulnerable, because if you export one or two crops, to one importer in another country, he can do any tricks to you...and then you get a cut on the agreed cost.”

The farmer went on to explain how these relationships affect incentives for Lebanese farmers, making self-export an incredibly risky venture:

“So the reason why we use a trader [is] because before we make the deal in Lebanon, we get paid in Lebanon, before we export. So we get less money, but we have less risk.”

Accordingly, multiple respondents reported that most the profit from the export increase was accrued by traders and exporters, and not farmers. An official of the Union of Agricultural Workers summarized the situation:

“[The farmers’] suffering is increasing regardless of the number of exports and only the traders are benefiting from this increase in trade. The farmers are not seeing any benefit from this.”

4.5. Theme 5: Food Security Implications

4.5.1. Availability

When asked about the impact of increased exports on the availability of food in the Lebanese market for local consumers, respondents provided divergent perspectives. Some, such as one journalist, believed that that low self-sufficiency was an inherent problem for food security which would be compounded by increased exports:

“Lebanon doesn't even produce enough produce, you know, to serve itself completely. So what they're doing that they're exporting, which makes that situation even worse, you know, local production isn't enough for local use.”

However, others did not perceive that the export increase had contributed to a crisis in food availability. An employee of IDAL claimed that the export increase occurred alongside a production increase at both commercial and domestic scales, which meant that the export increase did not have an adverse impact on food availability:

“I don't think so. Because during this crisis, the production increased also... and even a lot of people tried, started to produce for self-consumption.”

Others who believed that the export increase did not compound issues of availability cited food entering the country which is not considered as official imports.

An official in the central bank said:

“First of all, not all products entering Lebanon are entering through the official borders, okay. Not all imports are registered. And also we got huge amounts of food..as grants from different countries. Those are not included in the official statistics.”

Other responses to this question pointed out the difficulty in estimating total production levels at a time when many actors were entering and exiting the market. A respondent who supports startups in the agrifood sector said:

“Okay, so you're seeing a drop in farming production from one side; you're seeing new players in the market coming in.”

4.5.2. Access

In assessing the impact of increased exports on access to food, an agricultural economist stressed the difficulty in quantifying the impact that increased exports has had on rising food prices – a key determinant of food access:

“Why did prices increase? Is it because of devaluation so nominal prices have increased or is it because of exports? I mean, it's certainly because of both...If a kilo of tomato you would cost 1000 lira before the crisis, and now it's 5000, how can you tell exactly where the 4000 comes from? How much of it comes from export? And how much of it comes from devaluation?”

Other respondents referred to a regulation enacted by the Ministry of Agriculture that limited the amount of olive oil which could be exported, with the goal of limiting the inflationary effects of increased exports. This regulation suggests that the Lebanese government views unlimited agricultural export growth as a dynamic which could lead to food price inflation, thus adversely impacting food access. A farmer discusses this here:

“Anyway, they were thinking that to protect the local market, and to not make the prices increase. So each company, they have the right to export the same quantities that they did the last year. Just to not increase the export.”

CHAPTER 5

DISCUSSION

In the results section, interview responses were grouped into five themes, each corresponding to one of the research questions. In the current section, the responses are analyzed against the literature, as well as customs statistics for 2019 and 2020, to answer the three research questions.

5.1. Research Question 1: What was the economic rationale for the increase in agricultural exports from Lebanon from 2019 to 2020?

Different aspects of Research Question 1 were addressed in the first three themes of the results section. According to Fang et al. (2006), the depreciation of a currency “probably increases the quantity of exports and export revenue in domestic currency,” but they go on to point out that this effect may not occur if “export production incorporates high import content” (p. 611). Although the depreciation of the LBP, which has a fixed official price, on the parallel market, is categorically different from the depreciation of a floating currency, this distinction has become less relevant in Lebanon as the percentage of transactions which take place at the official rate continues to diminish. Respondents justified the increase in exports by listing several inputs which had decreased in dollar cost due to the collapse of the LBP. These included the cost of labor, land, transportation, and services. The one respondent who observed a decrease in exports from their industry, poultry, also cited the extent to which costs priced in foreign currency contributed to the currency composition of total costs. At the same time, costs of final products within the domestic market also dropped due to the demand shock of reduced purchasing power, thereby increasing the incentive to export products.

Another major factor in the increase in reported export value lies in the mechanism of reporting, as many new actors, who sold produce by a consignment process, reported their export value as an estimate. According to some respondents, some of these new actors may have earned lower sums than their estimates imply.

According to Agenor (1992), if there is a parallel exchange rate, “exports for which the proceeds are surrendered at the official exchange rate are taxed relative to other exports” (p. 21). This logic is extended to posit the parallel market premium as an “implicit tax on exports” (p. 21). However, as was hypothesized in the literature review, and confirmed by a respondent who works as an economist at a commercial bank, this logical conclusion only holds when authorities enforce a repatriation or surrender requirement on exporters. In Lebanon, while there was a push by some authorities to enact such a regulation, several respondents verified that at the time of their interview, no such regulation existed. Because exporters face no repatriation or surrender requirement, the parallel premium does not function as a tax on exports in Lebanon. Lebanese exporters are free to do as they wish with their earnings, and the respondents were divided in their assessment of whether most export funds were repatriated into the country or not. However, the exact percentage of export earnings which are repatriated does not influence the fact that if there is no regulation, the parallel premium will not function as an implicit tax on official exports.

Finally, respondents gave their opinions on whether the increased level of agricultural exports was likely to hold in the future, and whether the agricultural sector in Lebanon should be more export-oriented. In general, respondents referred to the export increase as a transient phenomenon, which took place because of non-permanent factors, such as subsidies on fuel and a rapidly depreciating LBP. Manzoor et al. (2012)

details an instructive example in which a proposed energy subsidy reduction in Iran would result in a decrease in non-energy exports, due to resultant increase in input prices. In answering the question of whether the Lebanese agricultural sector should become more export-oriented, some respondents drew a distinction between an export sector which benefits producers and supports rural development, and the sector in its current form, in which the primary beneficiaries are traders and exporters (a theme that will be discussed in detail in the next section). This distinction reflects what the FAO (2021) refers to as “imbalanced market power,” which could be partially rectified by “strengthening the cooperatives system and [designing] digital and regulatory solutions” (p. 1).

5.2. Research Question 2: How were the profits from new export growth distributed between agricultural producers and traders/exporters?

Research Question 2 was addressed by the fourth theme of the results section. The idea that traders engage in uncompetitive behavior at the expense of producers, which is visible in the literature was reflected by several respondents, who expressed the frustration that farmers did not realize their fair share of the benefits of increased exports. In Lebanon, while a quantitative study may reveal some increase in producer profit related to the 2020 export increase, the perceived benefit of the export increase on farmers is effectively zero. In addition to expressing frustration at the character of the relationship between trader and farmer, several respondents cited the role of trust in relationships between traders and importers as a key determinant of the farmer’s lack of market leverage. Specifically, they claimed that importers can use quality standards to manipulate small farmers, whose lack of longstanding business relationships with

foreign importers serves as a barrier to export market entry for Lebanese farmers. Amare et al. (2019) found that smallholder farmers in Kenya face difficulties in exporting avocados, in part due to “high regulatory standards in export markets,” and therefore must “market their produce through middlemen” (p. 2). The growing importance of quality assurance mechanisms certainly imposes barriers to export, but the manipulation of these standards by importers and other buyers is more difficult to verify. In a study conducted by Graffham et al. (2007), farmers in Kenya who participated in an export scheme which involved EUREPGAP certification switched the export company they sold to because “the company collected 2,000kg of produce and only paid for 500kg and claimed the rest were unpackable rejects,” which the farmers perceived as cheating (p. 71). The extent to which the practice of *cheating* by intermediaries constitutes a real barrier to export for farmers; one that is distinct from the standard cost barrier created by quality assurance mechanisms, should be the objective of further study.

5.3. Research Question 3: What were the food security impacts, in the dimensions of availability and access, of the export increase?

Research Question 3, which was addressed by the fifth theme, proved the most opaque due to the limitations of qualitative methods in answering this question. According to customs statistics, between the years 2019 and 2020, agricultural exports (in USD) increased by 11.7%, and agricultural imports decreased by 26.2%. Because accurate data on total agricultural production is not yet publicly available, the extent to which the export increase affected the dimension of food availability is difficult to ascertain. Some respondents contended that while many farmers exited the market,

other individuals began to farm, even at the level of planting food for household consumption. Another respondent claimed that some of the availability deficit was filled in by illegally smuggled goods and humanitarian food assistance. Because farming for self-consumption and smuggling are intrinsically difficult to measure, the effect of the export increase on food availability cannot yet be determined. The impact of the export increase on food access proved similarly difficult to ascertain. Although increased foreign demand for a product will contribute to price inflation, several respondents pointed out that it is difficult, though not impossible, to separate the impact of the export increase from the impact of the parallel depreciation of the LBP. Sultana & Qayyum (2018) solved a similar problem using the regression analysis of time series data, and found that exports have a statistically significant effect on food prices in Pakistan. As of August 2021, inflation levels in Lebanon were the highest in the world, and from June 2020 to June 2021, prices of food and non-alcoholic beverages increased by around 290%, and further study should be undertaken to quantify the determinacy of the agricultural export increase in food price inflation over that period (Bahn et al., 2021).

CHAPTER 6

CONCLUSION

Through semi-structured interviews with 15 individuals with experience-based expertise in the Lebanese agricultural, financial, or trade sectors, the researchers found that the increase in exports of agricultural products from Lebanon in 2020 occurred because of the effect of the rapid parallel market depreciation of the LBP on input costs, particularly labor, the provision of subsidies on fuel, and the collapse of local prices in USD. In much of the literature on the relationship between the parallel currency market and export level, the parallel premium serves to push exports from official channels to unofficial ones. However, the outcome in Lebanon, in which official exports increased, deviated from these expectations because of the lack of repatriation or surrender requirements on earnings from exports. Interview respondents from many levels of the agricultural value chain confirmed that traders, not primary producers, were perceived to be the overwhelming beneficiaries of increased export profits, due in part to a market structure in which producers face barriers in self-marketing their own produce. Importantly, while many new actors saw opportunity in investing in agriculture for export, many of them failed due to lack of knowledge and trust-based relationships with foreign buyers. Due to the mechanism of reporting, it is possible that their contributions to the export increase may be overstated. Finally, the effect of the export increase on domestic food availability is difficult to investigate due to lack of data on total production level and the level of illegally imported agricultural products. The effect of the increase on food access is also difficult to quantify because much of the food inflation can be explained by the parallel depreciation of the LBP. Several months before the time of writing, the diplomatic situation between Lebanon and Saudi Arabia

reached a new climax, however, available data is insufficient for understanding the exact effect the ban has had on Lebanese exports.

While public discourse on the export increase has remained minimal, some have purported the increase to be something of a “silver lining” of the crisis. One article, referring to the former Minister of Agriculture, reported that he “praised the growth in the agricultural sector ...the increase in the volume of exports despite the economic difficulties” (Daily Sabah, 2021). The results of this study, however, display that a great many people working in the Lebanese agricultural sector do not foresee the increased exports continuing into the future. Additionally, many producers continue to feel the pressures of the financial crisis, without seeing any benefits from the export increase. Therefore, it is important that the transience and unsustainability of the current export boom is well understood by policymakers. The 2020 increase will likely not serve as the basis for a new export-driven sector, due to its reliance on exchange rate contingencies, reporting error, and a socioeconomically exhausted sector. However, if Lebanese agriculture is to orient toward exports in the future, it is greatly important that provisions are made to ensure that producers are equitably compensated. Such policies could include strengthening of farmer bargaining power through the revitalization of cooperatives, and targeted investments in cold chain logistics and infrastructure. Additionally, while debates over a future Lebanese exchange rate policy lie beyond the scope of this study, it is hoped that the direct links from the exchange rate regime to agriculture and food security have been made evident. Future research should seek an explanation for the fact that exports from agriculture, and not other sectors, increased during the crisis.

The study was adversely affected by several limitations, not least of which was the difficulty in scheduling and conducting interviews remotely. Several participants expressed that they would have preferred to conduct the interview in person due to factors related to electricity, internet connectivity, and the impersonal nature of teleconferencing, making it easy to surmise that more participants might have participated in the study had the interviews taken place in person. Therefore, while the sample is diverse, it is not large, and further efforts should take place to understand the complex nature of agricultural exports in Lebanon. Secondly, while much has been made about the level of officially reported export statistics in this study, the researchers have been advised repeatedly to take them with a grain of salt. One of the ways in which these statistics could be errant, i.e., the estimation of export earnings prior to their actual sale by a consignor, has been explained in this study. However, it is still not known to what extent these statistics accurately reflect the reality of the sector.

BIBLIOGRAPHY

- Acharyya, R. (2001). Exchange Rate Policy and Black Market Premium on Foreign Exchange: Theory and Evidence. *Economic and Political Weekly*, 36(22), 1984–1990. JSTOR.
- Agénor, P.-R. (1992). Parallel Currency Markets in Developing Countries: Theory, Evidence, and Policy Implications. *Princeton University International Finance Section*, 188.
- Al Azzi, L. (2021, July 6). Forcing exporters to return dollars: What is allowed around the world... Is forbidden in Lebanon. *Al-Akhbar*.
- Amare, M., Mariara, J., Oostendorp, R., & Pradhan, M. (2019). The impact of smallholder farmers' participation in avocado export markets on the labor market, farm yields, sales prices, and incomes in Kenya. *Land Use Policy*, 88. <https://doi.org/10.1016/j.landusepol.2019.104168>
- Andalou Agency. (2021, July 13). Tumbling currency exacerbates Lebanon's food insecurity. *Daily Sabah*.
- An-Nahar. (2021, February 15). *Diab chaired a meeting on returning export funds, which was attended by Wazni, Nehme, and the governor of the Banque du Liban*.
- Arslan, I., & Van Wijnbergen, S. (1993). Export Incentives, Exchange Rate Policy and Export Growth in Turkey. *The Review of Economics and Statistics*, 75(1), 128–133. JSTOR. <https://doi.org/10.2307/2109635>
- Azam, J.-P., & Besley, T. (1989). General equilibrium with parallel markets for goods and foreign exchange: Theory and application to Ghana. *World Development*, 17(12), 1921–1930. [https://doi.org/10.1016/0305-750X\(89\)90271-4](https://doi.org/10.1016/0305-750X(89)90271-4)

- Bahn, R., Yehya, A. A. K., & Zurayk, R. (2021). *Food Security Brief #19*. American University of Beirut.
- Bank Audi. (2020). *Lebanon Economic Report 3rd Quarter 2020*.
- BHAGWATI, J. N., KRUEGER, A., & WIBULSWASDI, C. (1974). Chapter 10—CAPITAL FLIGHT FROM LDCs: A STATISTICAL ANALYSIS. In J. N. BHAGWATI (Ed.), *Illegal Transactions in International Trade* (pp. 148–154). North-Holland. <https://doi.org/10.1016/B978-0-444-10581-3.50017-3>
- Byblos Bank. (2019). *Lebanon This Week* (No. 602). Byblos Bank Economic Research & Analysis Department.
- Byblos Bank. (2020). *Lebanon This Week* (No. 656). Byblos Bank Economic Research & Analysis Department.
- Byblos Bank. (2021a). *Lebanon This Week* (No. 665). Byblos Bank Economic Research & Analysis Department.
- Byblos Bank. (2021b). *Lebanon This Week* (No. 669). Byblos Bank Economic Research & Analysis Department.
- Chbeir, R. (2020). *Overview of the Lebanese Economy in 2019*. Blominvest Bank.
- Clay, D. C., Bro, A. S., Church, R. A., Ortega, D. L., & Bizoza, A. R. (2018). Farmer incentives and value chain governance: Critical elements to sustainable growth in Rwanda's coffee sector. *Journal of Rural Studies*, 63, 200–213. <https://doi.org/10.1016/j.jrurstud.2018.06.007>
- Dawson, D. (2021, February 24). Hardships in Lebanon Shift Focus to Exports. *Olive Oil Times*.
- El Deeb, S. (2020, July 8). Hottest commodity in Lebanon's economic chaos: The US dollar. *AP*.

- Fafchamps, M., & Hill, R. V. (2008). Price Transmission and Trader Entry in Domestic Commodity Markets. *Economic Development and Cultural Change*, 56(4), 729–766. JSTOR. <https://doi.org/10.1086/588155>
- Fang, W., Lai, Y., & Miller, S. M. (2006). Export Promotion through Exchange Rate Policy: Exchange Rate Depreciation or Stabilization? *Southern Economic Journal*, 72(3), 611–626.
- FAO. (2006). *Food Security* (Policy Brief Issue 2).
- FAO. (2020). *Special Report: FAO Mission to Assess the Impact of the Financial Crisis on Agriculture in the Republic of Lebanon*.
- FAO. (2021a). *Lebanon's agricultural sector: Challenges and opportunities* (FAO Agricultural Development Economic Policy Brief No. 38).
- FAO. (2021b). *Strengthening Lebanon's agricultural export support programmes* (FAO Agricultural Development Economic Policy Brief No. 39).
- Graffham, A., Karehu, E., & MacGregor, J. (2007). *Impact of EurepGAP on small-scale vegetable growers in Kenya* (Fresh Insights No. 6). International Institute for Environment and Development.
- Gray, Simon. (2020). *Official and Parallel Exchange Rates—Recognizing Reality* (Monetary and Capital Markets). International Monetary Fund.
- Grosse, R. (1994). Jamaica's foreign exchange black market. *The Journal of Development Studies*, 31(1), 17–43. <https://doi.org/10.1080/00220389408422347>
- Hamadé, K. (2020). *Lebanon's Food Insecurity and the Path Toward Agricultural Reform*. Carnegie Middle East Center.
- Hassan, K. (n.d.). *Leaked draft: Banque du Liban is trying to seize exporters' money*.

- International Monetary Fund. (2020). *Annual Report on Exchange Arrangements and Exchange Restrictions*. IMF.
- Khalil, A., & Mikhael, M. (2018). *Why the Peg is the Best Option for Lebanon?* Blominvest Bank.
- Kidane, A. (1997). *EXCHANGE RATE POLICY AND ECONOMIC REFORM IN ETHIOPIA* (Research Paper Fifty-Four). African Economic Research Consortium.
- Kiguel, M., & O'Connell, S. A. (1995). Parallel Exchange Rates in Developing Countries. *The World Bank Research Observer*, 10(1), 21–52. JSTOR.
- Krivosos, E., Morrison, J., & Canigiani, E. (2015). *The State of Agricultural Commodity Markets 2015–16 Trade and food security: Achieving a better balance between national priorities and the collective good*.
- Kubo, K. (2018). Transition from Informal to Formal Foreign Exchange Transactions in Myanmar: Evidence from a Survey of Export Firms. In *Myanmar's Foreign Exchange Market: Controls, Reforms, and Informal Market*.
- Kuso, Y. & Gachunga, Muhia John. (2011). Agricultural Exports and Food Insecurity in Sub-Saharan Africa: A Qualitative Configurational Analysis. *Development Policy Review*, 29. <https://doi.org/10.1111/j.1467-7679.2011.00554.x>
- Madaki, R. O. (2001). Institutional and other constraints to non-oil exports. *CBN Bullion*, 25(3).
- Manzoor, D., Shahmoradi, A., & Haqiqi, I. (2012). An analysis of energy price reform: A CGE approach. *OPEC Energy Review*, 36(1), 35–54. <https://doi.org/10.1111/j.1753-0237.2011.00200.x>
- Morales, J. A. (1991). Structural adjustment and peasant agriculture in Bolivia. *Food Policy*, 16(1), 58–66. [https://doi.org/10.1016/0306-9192\(91\)90077-W](https://doi.org/10.1016/0306-9192(91)90077-W)

- Muñoz, S. (2006). Zimbabwe's Export Performance: The Impact of the Parallel Market and Governance Factors. *IMF Working Papers*, 06.
<https://doi.org/10.5089/9781451862881.001>
- Nkurunziza, J. D. (2002). *Exchange rate policy and the parallel market for foreign currency in Burundi* [AERC Research Paper]. African Economic Research Consortium.
- Ocampo, J. A. (2017). *Resetting the International Monetary (Non)System*. Oxford University Press. <https://doi.org/10.1093/oso/9780198718116.001.0001>
- Pinto, B. (1989). Black Market Premia, Exchange Rate Unification, and Inflation in Sub-Saharan Africa. *The World Bank Economic Review*, 3(3), 321–338. JSTOR.
- Qayyum, A., & Baserat, S. (2018). Factors of Food Inflation: Evidence from Time Series of Pakistan. *Journal of Banking and Finance Management*, 1(2).
- Reuters. (2021, April 23). *Saudi Arabia bans Lebanese produce over drug smuggling*.
- Reuters Staff. (2021, April 2). INTERVIEW-Lebanon must ration subsidies before reserves run out—Finance minister. *Reuters*.
- Robinson, E. J. Z., & Ngeleza, G. (n.d.). *Cartels and Rent Sharing at the Farmer-Trader Interface: An Example from Ghana's Tomato Sector* (IFPRI Discussion Paper No. 01065). International Food Policy Research Institute.
- Thomson, A. M., & Metz, M. (1997). *Implications of economic policy for food security: A training manual: Vol. 40*. Food and Agriculture Organization of the United Nations.
- UNCTAD. (2003). *Dispute Settlement* (World Trade Organization: 3.15 Agriculture). United Nations.

Van den Broeck, G., & Maertens, M. (2016). Horticultural exports and food security in developing countries. *Global Food Security*, 10, 11–20.

<https://doi.org/10.1016/j.gfs.2016.07.007>