# Arab Economic Growth in Interwar Palestine

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*Submitted to the Department of Economics of Amherst College in partial*
*fulfillment of the requirements for the degree of Bachelor of Arts with Honors*

**May 10th, 2007**
**Amherst College**

Abstract

*In the two decades preceding World War II, the Arab sector in British Mandate Palestine experienced remarkably high rates of growth when compared to neighboring Middle Eastern economies. Previous research has suggested that this growth was primarily attributable to productivity spillover and land purchase effects stemming from the developing Jewish sector. However, data suggests that the heavy concentration of this growth in the early 1930's, the high level of Arab labor working in the Jewish sector, and the consequent development of capital and industry in the Arab economy, played a complementary and important role in generating Arab economic development. This paper presents supporting evidence suggesting that Palestinian Arab land and labor rentals to Jews, fostered by the development of Western financial intermediaries, allowed for the emergence of small-scale industry in the Arab sector and contributed significantly to an increase in productivity and growth in the latter half of the interwar period.*

# Acknowledgements

I owe my sincere gratitude to my two advisors, who never for a moment hesitated to separate the wheat from the chafe, or remind me for which department I was writing for. Without your help, I would still be lost somewhere between the Great Depression and the Strike of 1936. Thanks to your guidance, I have a caught a glimpse at the academic world that I have only imagined for the better part of my four years at Amherst.
Thank you to both of you.

# Contents

# 1. Introduction

Between 1922 and 1935, the Arab economy in British Mandate Palestine experienced real rates of growth averaging 4.7 percent annually over a sustained 13 year period (Figure 1.1.). By comparison, the Jewish sector in Palestine, which increased from 11.1 to 28.1 percent of the Palestinian population during the interwar period, grew at a rate of 7.7 percent, and both economies outperformed world GDP during a period of prolonged global recession. The Arab economy in particular grew faster than many of the neighboring Arab countries in the Middle East, suggesting that the nascent Jewish sector played an important role in spurring Arab growth in the years preceding Palestinian partition and Israeli statehood.

Existing research by Metzer and Kaplan (1985) and others has emphasized the role of TFP spillover effects and factor payments from Jewish purchases of Arab land as



*Figure 1.1. Arab and Jewish RNDP Growth Rates in British Mandate Palestine*

Source: Figure A.2.

the primary stimulants for Arab growth. Metzer argues that Arab TFP in Palestine

experienced an upward trend as a consequence of Jewish immigration waves, which

brought increasing numbers of well-educated artisans from Poland and Germany to

Palestine, and resulted in a technology outflow that benefitted the Arab economy. As

Metzer has noted, the issue of TFP accounting is of particular relevance in the Arab case,

as productivity contributed to as much as 55 percent of Arab NDP growth during the

interwar period (1985, p. 139). Yet a comparison of total factor productivity in the Arab

and Jewish sector shows that, despite the presence of a convergence trend, the delay in

Arab growth throughout the 1920's makes a simple technology spillover model

unsatisfactory (Figure 1.2.). In particular, despite the growth in both Arab and Jewish

TFP during this period, Arab growth is concentrated in the early 1930's, having grown

only 8 percent in the preceding decade. By comparison, Jewish TFP grew 56 percent

during the earlier period, while growth stagnated between 1933 and 1936 – the very



Figure 1.2. Arab and Jewish TFP (1923=100)
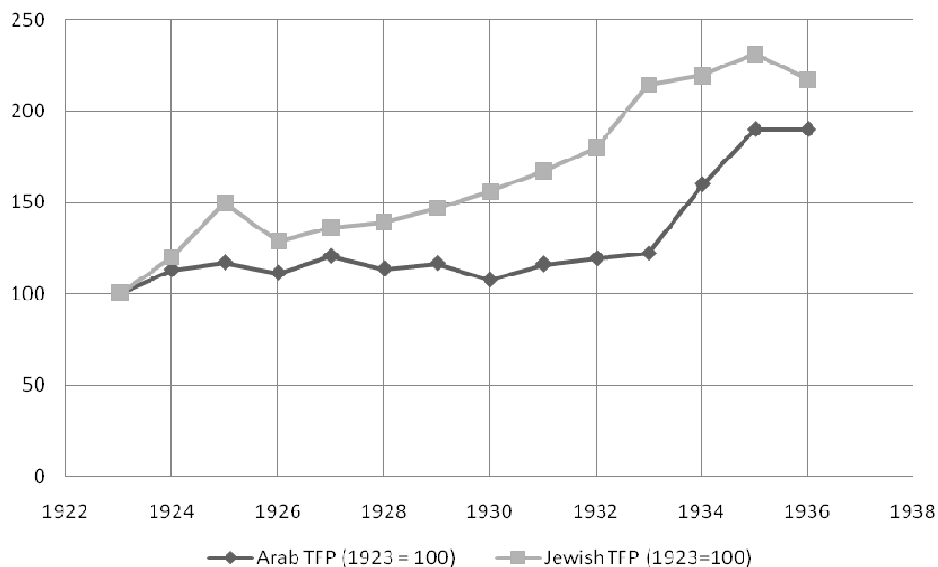
Source: Figure A.1

period in which Arab TFP grew over 50 percent. This is in keeping with statistical

accounts suggesting that while the educational background of many of the Jewish

immigrants was of an exceptional level[1], agrarian experience was limited. The 1925

British Report to the League of Nations, for example, noted that, of a sample of 16,755

Jewish immigrants arriving that year, only one-eighth had worked in the agricultural

sector before traveling to Palestine, while 61 percent had instead been involved in either

skilled trades or miscellaneous commercial activities. Horowitz (1936, p. 187) documents

similar trends, showing that in 1936, of 24,419 Jewish agriculturalists in Palestine, only

5.6 percent had worked in agriculture prior to migration. This suggests that productivity

spillover effects to the predominantly-agrarian Arab labor force may have been

complemented by other activity specific to the latter interwar period. To this end, Metzer

and others have suggested that capital flows from Jewish purchase of Arab land and

rental of Arab labor and buildings stimulated Arab economic growth. As I will show,

these factors played a pivotal, albeit intermediary, role in generating Arab income during

the interwar period.

I argue that existing models for Arab growth by Metzer may be complemented by

a two step framework in which factor payments to Arab surplus labor in the Jewish sector

are reinvested, through financial intermediaries, into small-scale Arab industry. To this

end, I make use the of Dual Economy model pioneered by Lewis (1954) and refined by

Jorgenson (1967), which proposes a socially and economically divided economy

characterized by a high-productivity industrialized sector, and an underdeveloped

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[1] According to Metzer (1998, p. 53), the 1939 rate of school enrollment in the Jewish sector of Palestine
was the third highest in the world. By the mid-1930's, over a quarter of male Jewish immigrants that had
registered with recruitment committees held post-secondary degrees, and an additional 43 percent had
completed secondary school (p. 82).

agrarian sector. Lewis has used this framework to show that labor outflows from the

agrarian sector to the developed sector are a necessary requisite for industrial

development to take place. Jorgenson, in turn, has argued that under conditions similar to

those present in interwar Palestine[2], there will exist a permanent redundant labor force in

the agrarian sector that will be efficiently reallocated to the industrial sector. This

redundant labor supply is characterized by marginal product that is either zero or negative

(surplus labor), or below the subsistence wage (disguised unemployment). Data shows

that falling world agricultural prices in the late 1930's were likely to produce both surplus

labor and disguised unemployment in the highly agrarian Arab sector. Consequently, the

reallocation to the higher-productivity Jewish sector proved net beneficial to the Arab

sector. Drawing upon Lewis's model for agrarian industrialization, I will conclude that

unilateral transfers from the Jewish sector to the Arab sector by means of labor

reallocation facilitated small-scale industry investment through the emergence of foreign

and local financial intermediaries in Palestine in the 1930's.


The restriction of my research to the interwar period is critical to the scope and

implications of this work, and must be addressed. On the one hand, separating the

economic effects of World War II on Palestine – which consisted of high gross inflation,

Allied garrison-related demand shocks, and rapid real growth in both national economies

– is beyond the means of this work. Similarly, though the Jewish settlement, or *Yishuv*,

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[2] Jorgenson does not reference specific economies in his paper. However, his specification of the Classical Dual Economy, characterized by a permanent redundant labor supply (in contrast to the Neo-Classical economy, where marginal productivity is always positive and hence redundant labor is non-existent) very closely resembles the Arab sector of Palestine. In particular, Jorgenson's three assumptions in the Classical case – a falling capital to output ratio, a rising rate of growth of capital, and a decline in the agricultural labor force – are all evident in the Arab sector (See Figure A.3, Appendix). I thus propose that the implications of a permanent and positive redundant labor supply are applicable to the case of Mandatory Palestine.

that existed in Ottoman Palestine before World War II could trace its civic, economic, and institutional development to the late nineteenth century, it was not until 1918 and the subsequent partitions of the Arabian peninsula by British and French administrations, that a prolonged period of uniform institutions and record-keeping began to characterize the Arab community in Palestine. As a consequence, the comparative research presented in this work has been restricted from the Mandate's founding in 1922, to the beginning of war hostilities in 1939. It owes its feasibility to the three censuses conducted by the British administration in 1922, 1931, and 1935, as well as contemporary and modern historical analyses, and a number of royal commissions assembled to uncover the source of rising inter-sectorial tensions between Arab Palestinians and Jewish immigrants.

The most important of these conflicts, which took the form of a six month Arab General Strike and boycott of Jewish goods in 1936, introduces an important breakpoint for this research and must be addressed as well. As a consequence of the Arab revolt, Jewish immigration to Palestine fell by 50 percent over the previous year, land purchases fell by 91 percent, and Jewish and Arab incomes experienced significant declines (Figure A.4., Appendix). The degree of this shock is beyond the scope of any economic growth model, and, consequently, it is the case that the data contained after 1935 is unrepresentative of Palestine's long-run growth trajectory. However, the years 1936 – 39 have been included in the analysis for the purposes of completeness, and as a measure of the resiliency of various sectors of the Palestinian economy under intersectoral duress.

The purpose of this work is to present an alternative model of growth for Arab Palestine, in order to address the implications of the Dual Economy model in a contained

historical setting with present-day relevance. In the following section, 2.1, I will address

Metzer's argument that factor payments were a primary stimulant for Arab growth,

arguing that falling world agricultural prices in the 1930's coincided with the

development of an Arab redundant labor force that was efficiently reallocated to the

Jewish sector. Section 2.2 will address the emergence of financial intermediaries in Arab

and Jewish Palestine, which fostered the investment of received Arab factor payments

and facilitated the level of capital expansion needed to develop early service and

manufacturing industries in the Arab sector, leading to growth. Section 3 will surmise the

findings and state my conclusions.

# 2.1. The Effects of Factor Payments

In his work, Metzer (1985) subdivides factor payments from the Jewish sector to the Arab sector into three primary categories: rent for structures, wages to Arab hired labor, and payments for purchases of land; of these, Metzer argues that land purchases were largest over the interwar period (constituting, in two of the interwar years, over 10 percent of Arab Real Product), and emphasizes their significance in stimulating Arab economic growth. However, the concentration of land sales into two, short-lived periods - in 1925, and again between 1934 and 1935[1] (Figure 2.1.) – coupled with the fact that 53

*Figure 2.1. Jewish Land Purchases as a Share of Arab RNDP*
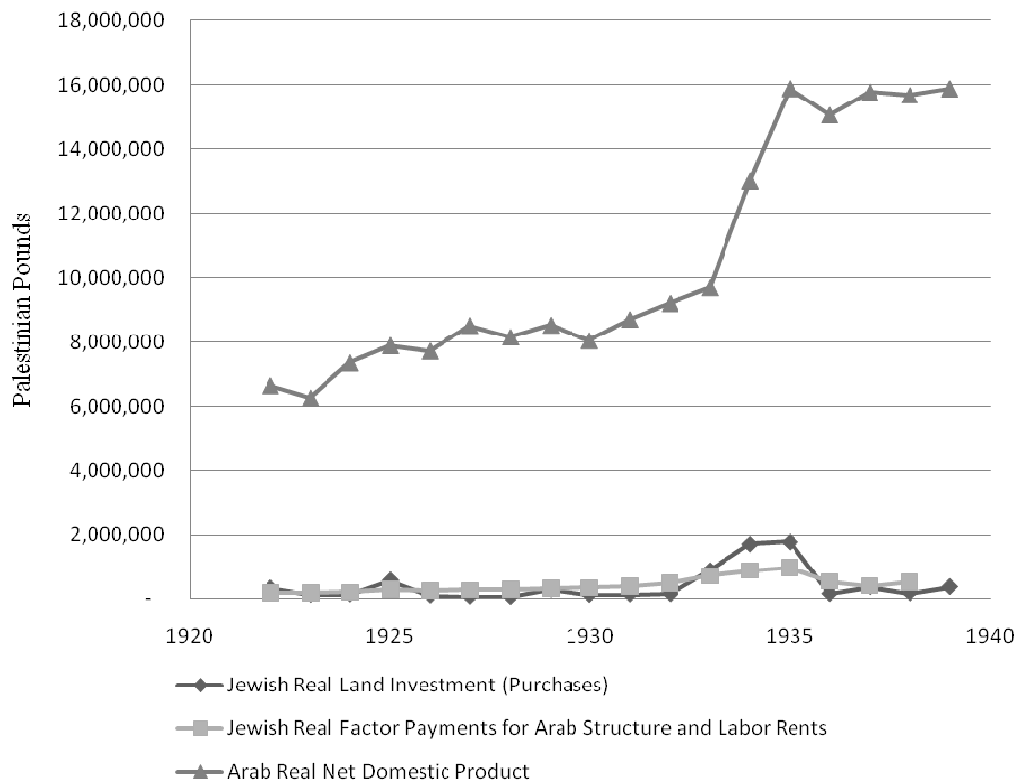


Source: Figure A.5.

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[1]1925 and 1934 are historically associated with the so-termed Fourth and Fifth Aliyah, large immigration waves from Poland and Germany to the Jewish sector, both of which had important transformative effects on the Jewish economy and Palestine's urban centers. Annual Jewish immigration figures are contained in the Appendix, Table A.9.

percent of land sales before 1936 were re-exported to absentee tenants outside of

Palestine proper (Kimmerling, 1983, p. 24) – suggests that land payments may have not

have been the only catalyst for Arab sector growth. As Figure 2.1. shows, though the

period of land sales between 1934 and 1935 is strongly associated with a concurrent

increase in Arab real product, the 1925 period - in which Jewish land purchases increased

fourfold over the previous year - betrays little associated increase in Arab RNDP per

capita outside of the cyclical annual growth characteristic of the remainder of the decade.

One explanation for this lies in the fact that, throughout the period, only a fraction of the

land was purchased from individual rural farmers who composed the vast majority of the

Arab sector. The Hope-Simpson Report of 1930 cites that, of the 1,089,100 dunums[2]

owned by the Jewish sector in 1930, 270,000 dunums were owned by the Jewish National

Fund (JNF), and approximately 454,940 dunums were owned by the Palestine Jewish

Colonization Association (PICA), both of which facilitated land purchases for Jewish

settlement[3] (p. 50-56). Yet of the land purchases made by agencies such as PICA and the

JNF, only 1.6 percent were made from the *fellaheen*, or individual Arab land tenants,

between 1923 and 1927 (Weinstock, 1973, p. 56). And while it is certainly the case that a

significant portion of land sales did flow to landowners within Palestine, it is nonetheless

likely that in the 1930's as in the 1920's, Arab economic development may have been

attributable to more than just land payments.

In contrast, the sustained, substantial, and increasing degree of structure and labor

rentals from the Arab sector to the Jewish sector suggests a strong and complementary

effect on the development of the Arab economy, particularly given the positive

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[2] 1 dunum is equivalent to ¼ acre.
[3] Differing statistics in *A Survey of Palestine, Volume II* suggest that the number may have been even larger, with PICA already maintaining over 700,000 dunums by 1927.

association between Arab growth and factor payments in the early 1930's. As Figure 2.1.

shows, combined factor payments from building rentals and labor wages formed a

consistent and growing share of Arab product, and the associated rise in Arab RNDP that

began in 1934, with a sharp 34.2 percent increase in National product, is preceded by a

strong upward trend in Jewish factor payments, which rose 34.7 percent in 1932, 40.4

percent in 1933, and 23.7 percent in 1934. At the same time, the quantity of Arab labor

working in the Jewish sector – 12,000 in 1935 – had risen 71 percent over 1931 (Metzer,

1998, p. 219). These effects combined to provide a substantial stimulus to the Arab

sector, and by 1935, real factor payments contributed 6 percent of Arab RNDP, and

would likely have continued to rise[4] were it not for the intersectoral violence that erupted

with the 1936 strikes.

These findings clash with the well-documented and stated policies of Jewish

settlement corporations to discourage the hiring of Arab labor; I argue, given the above

findings, that this policy had more to do with symbolism than outright labor segregation.

It must, however, first be noted that the policy was indeed effective in many area of the

Jewish sector, owing in large part to the prominence of the ideological Jewish National

Fund, and high membership in the National Union, Histadrut. The union, to which nearly

three quarters of the Jewish labor force owed membership dues (Plunkett, 1958), was

successful at setting minimum wage rates of 300 to 600 mils for a variety of skilled and

unskilled positions, and did so partly by enforcing a strong policy of Jewish-only labor

throughout the interwar period (Horowitz, 1936, p. 191). Nevertheless, data suggests that

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[4] Sussman (1973) has studied the effects of Arab labor entry in *Yishuv* labor market before and after the
1936 strikes by examining Jewish-owned orchards in five major towns. In 1930, fully 53 percent of the
labor working in the orchards was Arab. By 1937, one year after the Arab General Strike, this number had
fallen by half. Sussman concludes that Arab labor exports were highly sensitive to intersectoral tension, but
that the threat of entry from Arab labor played a significant role in depressing unskilled Jewish wage rates.

Histadrut and JNF policies were not entirely effective at insulating Jewish labor markets from Arab competition. For example, the majority of Jewish-owned land in Palestine was owned by Baron de Rothschild's PICA association, which was historically less ideological in its hiring practices (Hope-Simpson, 1930, p. 50). Furthermore, as Szereszewski has computed, Arab employment may well have been permissible to Jewish employers, since Arab inputs – even in their developed and growing state – contributed just 5.2 percent of Jewish production inputs at their height in 1936 (1968, p. 3). Such theoretical explanations are corroborated by empirical evidence showing large, and rising, shares of Arab labor and income derived from the Jewish sector, as has been shown. Under these circumstances, I conclude that the significance of the *Yishuv*'s stated "conquest of labor" policy was far more consequential in historical terms than in economic ones. Although it is likely that the labor flows between the Arab and Jewish sector would have been greater in the absence of the *Yishuv's* segregation policies, existing data shows that the imperfection of these labor restrictions was sufficient to motivate significant Arab labor exports.

In light of these findings, I assume a level of efficiency in Arab and Jewish labor markets, which was tested by the worldwide decline in agricultural prices that took place in the second half of the interwar period. This decline had a greater effect on the increasingly stagnant Arab subsistence economy than the capital-heavy Jewish agricultural sector (Figure 2.2.), and I posit that the predicted reallocation of Arab redundant labor to the Jewish sector would have a positive net effect on the

*Figure 2.2.: Comparative Arab and Jewish Real Agricultural Product Per Capita (1922=100)*

Arab Real Agricultural Product Per Capita (1922=100)

Jewish Real Agricultural Product Per Capita (1922=100)

**Source:** Figure A.10.

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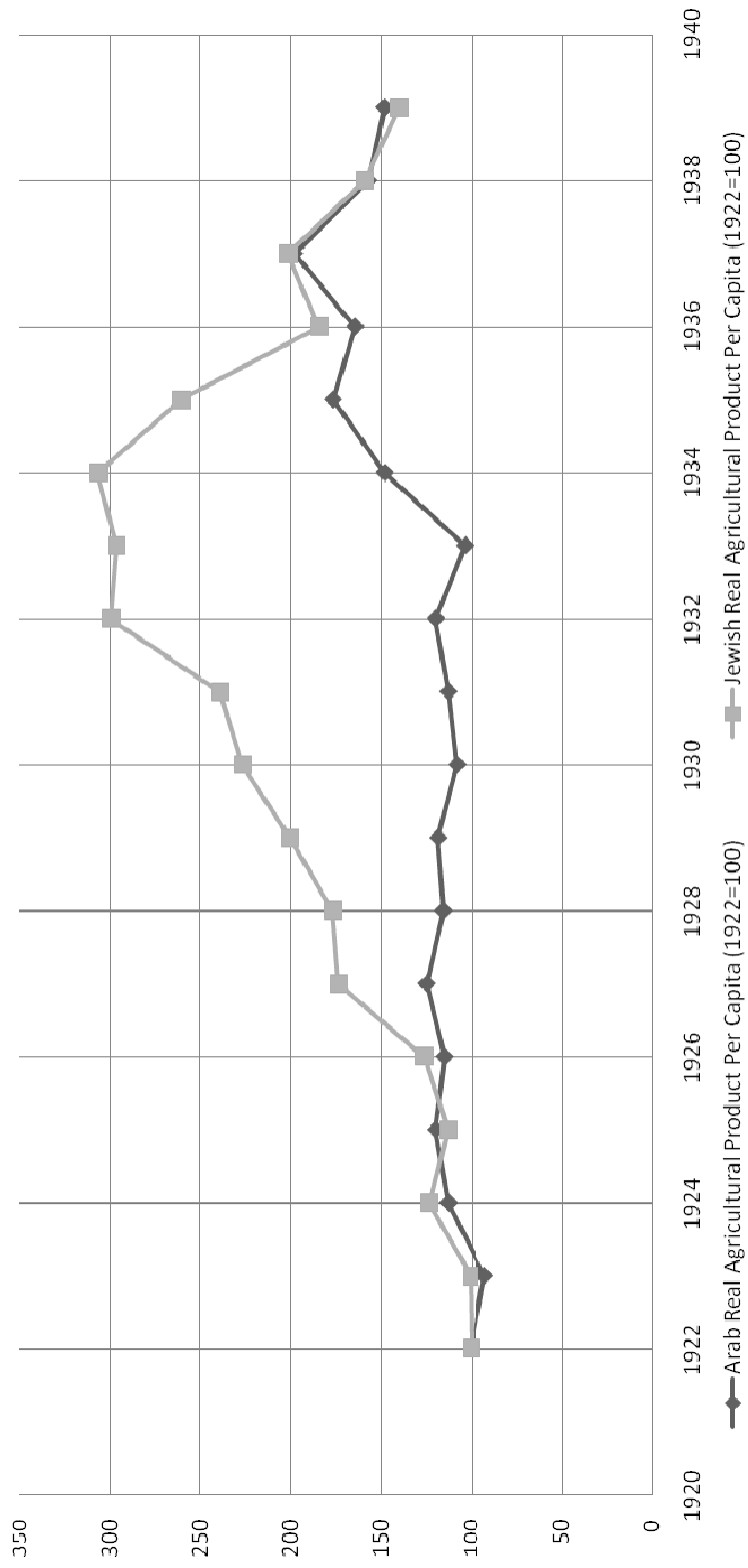
Arab sector. In order to test the association between the 1930's collapse in export prices and Arab labor reallocation, this paper will first examine the existence of an Arab redundant labor supply. Despite the absence of time series data, statistical anecdotes from censuses and Reports to the League of Nations strongly suggest that a permanent reserve of surplus labor was indeed present in the Arab economy, and reallocated to the Jewish economy in keeping with the Classical Dual Economy model. The paper will then show that the worldwide fall in agricultural prices had a measurable and significant effect on Arab agriculture, and that this decade-long decline coincided with an increase in Arab growth and labor exports to the Jewish economy in the first half of the 1930's.

Historical reports and contemporary analyses confirm the existence of Jorgenson's permanent redundant labor supply in agriculture, and suggest that this labor, in keeping with the reallocation patterns proposed by Lewis, migrated to the Jewish sector to avoid unemployment. The 1932 and 1933 Reports to the Council of the League of Nations, for example, estimated that Arab employment, concentrated overwhelmingly in the agricultural and unskilled labor sector, ranged between 11,000 - 35,000, 10,500 - 21,000, and 15,600 - 20,500 in the years 1931, 1932 and 1933 - Respectively, 7 - 25, 7 - 14, and 10 - 14 percent of the agricultural labor force. By comparison, Jewish total unemployment never exceeded 2,600 persons, and saw declines over the three year period in question (1932, p. 77 and 1933, p. 96). These figures, which suggest that unemployment grew during a period in which the Arab sector experienced sustained real economic growth (See Figure 1.1, page 5), are in keeping with macroeconomic trends showing that the Arab agricultural sector experienced a period of stagnation throughout

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the interwar years. Real agrarian output declined 32 percent through the course of this period, and the labor force fell by more than 12 percent (Figure 2.2.; Metzer, 1998, p. 226). Combined, this data strongly suggests that a stagnating agricultural sector in the Arab economy was likely to have produced a permanent, and growing, redundant labor supply. While the absence of comprehensive productivity data makes it impossible to precisely gauge the size of this redundant labor force, Lewis allows for a number of measurements to examine its scale. In particular, Lewis has shown that, as unemployment develops in the agricultural sector and is reallocated to the industrial sector, agricultural output necessarily declines, and food surplus per capita shrinks for the economy as a whole. This in turn produces a terms of trade effect, leading to higher agricultural prices. Indeed, early signs of rising agricultural indices are witnessed in Palestine after 1932, with prices rising 13 percent after sustained decline (Figure 2.3.). As I will argue, this

*Figure 2.3. Palestinian Price Index for Food Purchases (1936=100)*
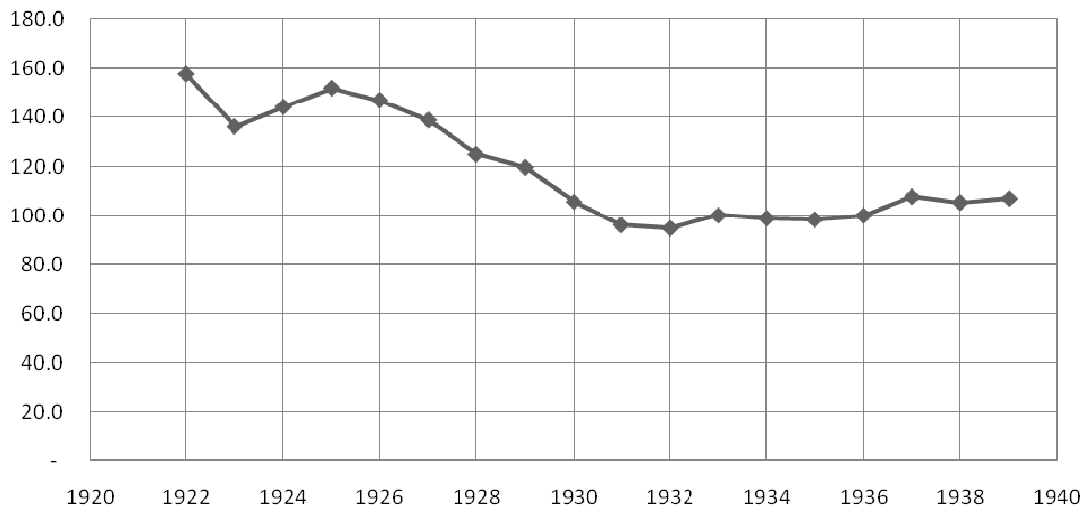


**(Source: Szreszewski, 1968, p. 68: Table 13)**

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decline in local and worldwide[5] agricultural prices substantially affected Palestinian subsistence wages during the period in question. These declines - particularly evident in world demand for Palestine's primary export crop of citrus - played an important larger role in motivating Arab redundant labor to seek employment in the Jewish sector.

It was also during this period that the United Kingdom, Palestine's largest importer, joined much of Europe as well as the United States in experiencing a worldwide depression and an accompanying oversupply of agricultural produce. This global agricultural glut was largely responsible for the continuing stagnation of the Palestinian agricultural sector, as well as the resulting migration of Arab workers to the *Yishuv*. As Figures 2.4. and 2.5. show, the interwar period in Palestine was characterized by a sharp increase in citrus output, with citrus rapidly emerging to become one of Palestine's primary cash crops under both the Jewish and Arab agricultural industries. By 1935, citrus constituted as much as 74 percent of Palestinian exports, with a proportionate role as an employer of labor (Nathan, Gass, and Creamer, 1946, p. 209). This growth is likewise evident in production figures, with nearly all of Palestine's 12 percent growth in agricultural output between 1922 and 1935 being the consequence of rising citrus production, which grew eleven-fold during the thirteen year period. Investment in citrus production, likewise, increased by a factor of 17 (Metzer 1998, p. 223). By contrast, non-citrus production, composed primarily of cereals intended for the domestic market, declined by 50 percent. Yet by 1932, all agricultural sectors, and the citrus economy in

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[5] Worldwide agricultural commodity prices experienced sharp downfalls across the world during the 1930's. In America, total farm incomes fell by 70 percent during the post-Depression period despite rising output, while a three-fold increase in Soviet wheat exports under Stalinist agricultural policies flooded worldwide markets (Kindleberger 1985).

Figure 2.4. Citrus Output Versus World Prices
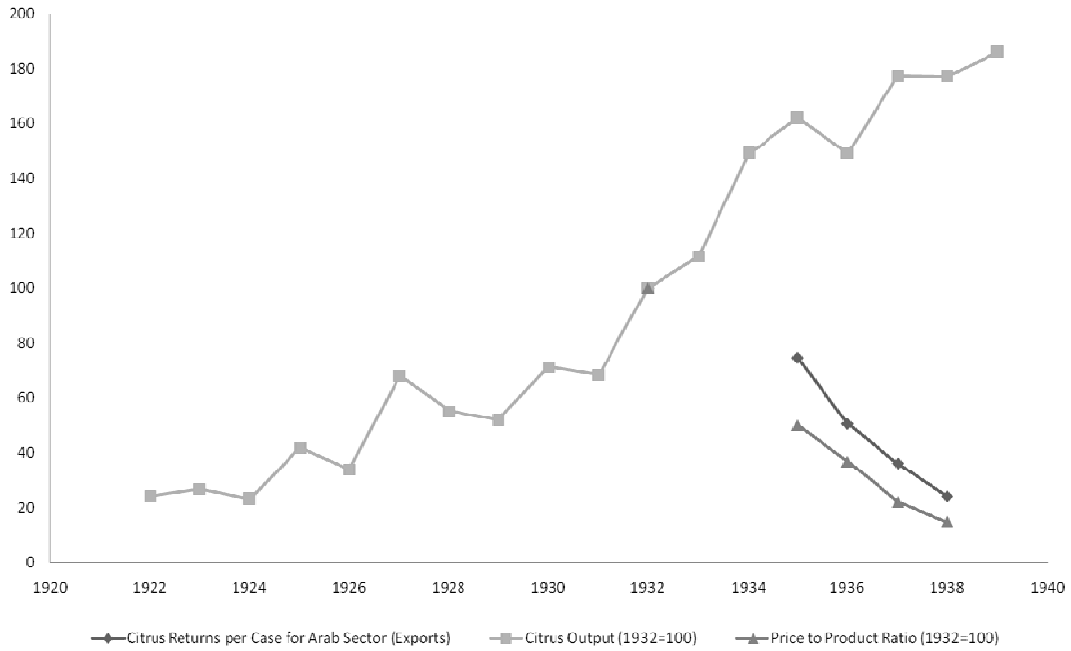
(**Source**: Citrus Output: Metzer, 1998, p. 224: Table A.9; Citrus Prices: Nathan, Gaas, and Creamer, 1946, p. 210)



Figure 2.5. Non-Citrus Output Versus Palestinian Food Price Index
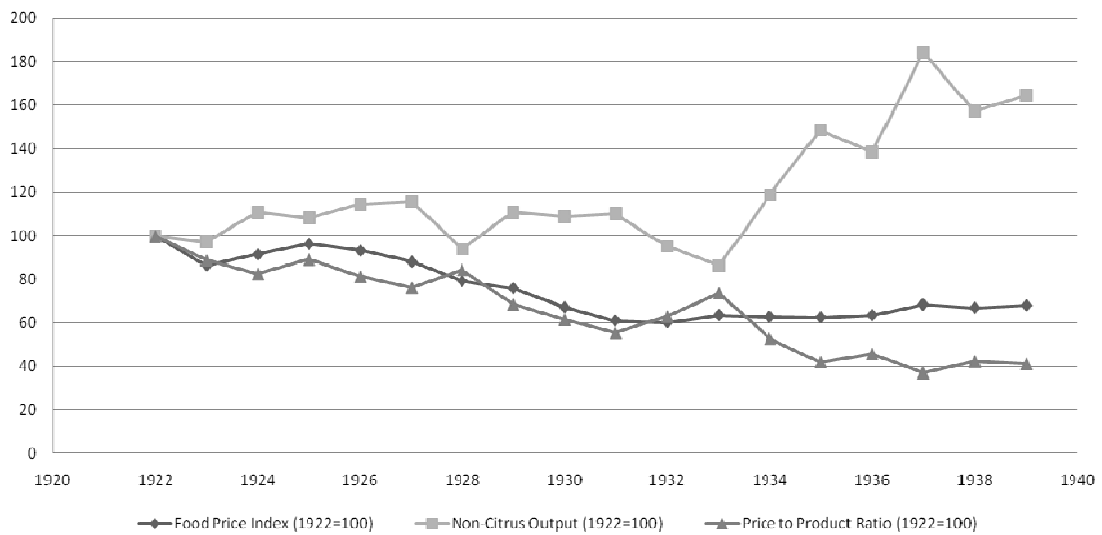
(**Source**: Food and Retail Price Indices: Szereszewski, 1968, p. 68: Table 13; Non-Citrus Output: Metzer, 1998, p. 224: Table A.9)

particular, experienced severe and sustained declines in worldwide (in the case of citrus)

and domestic (in the case of non-citrus products) price indices that provided catastrophic

for the Arab subsistence economy. As Figures 2.4. and 2.5. reveal, Citrus revenue fell by

80 percent between 1932 and 1938, while non-citrus prices likewise declined by one third

during the same period. While these declining prices affected both the Jewish and Arab

sectorial economies equally - The Jewish citrus industry, for example, exhibited returns

per case that were 168 mils in 1932, but dropped to 65 mils by 1936, and collapsed to 10

mils per case by 1939 (the amounts are estimated at 208, 105, and 50 mils, respectively,

for the Arab economy; Nathan, Gass, and Creamer 1946, p. 210) – it was the Jewish

economy, with nearly twice as much real capital per person and a more diversified

industrial economy, that proved more resilient (See Figure 2.2.). As a consequence of

integrated labor markets, Jewish agricultural and industrial sectors continued to attract

Arab surplus labor, whose numbers in the Jewish sector rose 27.9 percent between 1932

and 1933. This was the initiation of a period of increased Arab participation in the Jewish

sector, as labor exports from the Arab sector to the Jewish sector nearly doubled between

1932 and 1935 (Figure 2.1.), and remained at an elevated level until 1936. These effects

strongly confirm that the price shock of the 1930's world agricultural surplus motivated

Arab migration, portending a period of increased labor integration for both sectors.

Given the scale of Arab unemployment in the agricultural sector, the economy's

conformity to the specifications of Jorgenson's Classical Dual Economy Model, and the

strong association between the 1930's decline in worldwide agricultural prices and

displayed substitutability of Arab low-wage labor in the Jewish sector, I conclude that

Jewish factor payments from land sales were complemented by significant surplus labor

reallocation from the Arab sector. This effect is in accordance with the Lewis Dual

Economy model, which posits that a level of reallocation is necessary in order to foster

the investment required for the modernization and industrialization of the underdeveloped

sector. This is a result of the fact that a substantial portion of this labor reallocation may

be attributed to surplus labor and disguised unemployment that was previously

unproductive in the Arab sector. This efficient reallocation of resources motivated Arab

growth and suggests a causal relationship towards the boom period responsible for the

Arab's sector dramatic growth trajectory in the early 1930's.

In section 2.2., I will argue that an important proportion of the incomes generated

by land sales and labor allocation in the 1930's were successfully intermediated by a

burgeoning financial sector, which circumvented existing, high interest moneylender

arrangements and set the groundwork for the development and the emergence of a small-

scale services and manufacturing sector in the Palestinian economy.

# 2.2. The Development of Financial Intermediaries and Small Scale Industry

The introduction and development of European and local financial institutions in the latter half of the interwar period served as an important catalyst for the early industrialization of the Arab sector. Foreign and local banks, as well as credit cooperatives, served to intermediate the incomes flowing into the Arab sector through land purchases and land and structure payments. These factor flows facilitated, for the first time, the purchase of significant quantities of capital stock, as well as the development of services and handicrafts industry across the Arab sector.

As Figure 2.6. shows, the 1930's (the first decade for which comprehensive banking statistics are available) saw a pronounced growth in the number, as well as the operating capital, of banking operations in Palestine. Banking developments are strongly associated with capital development, and Figure 2.6. likewise suggests strong growth in investment and capital for both the Jewish and Arab sectors during the 1930's period.

*Figure 2.6. The Development of Financial Institutions*

|  | Number of Local Banks in Palestine | Total Nominal Paid-up Capital (Pounds) |
|---|---|---|
| **1930** | 20 | N/A |
| **1933** | 44 | 422,069 |
| **1034** | 59 | 662,799 |
| **1936** | 70 | 1,321,134 |
| **1937.I** | 68 | 1,544,840 |
| **1937.II** | N/A | 1,154,041 |
| **1937.III** | 66 | 1,176,615 |
| **1937.IV** | 60 | 1,195,370 |
| **1938.I** | 47 | 1,154,253 |
| **1938.II** | 44 | 1,144,539 |

*(**Source:** Economic Organization of Palestine, 1938, p. 465: Table IX )*

*Figure 2.7. Comparison of Arab and Jewish Capital Stock Development*



Legend:
- Arab Real Net Investment
- Jewish Net Fixed Reproducible Capital Investment
- Arab Real Capital Stock (Beginning of Year)
- Jewish Real Capital Stock (Beginning of Year)
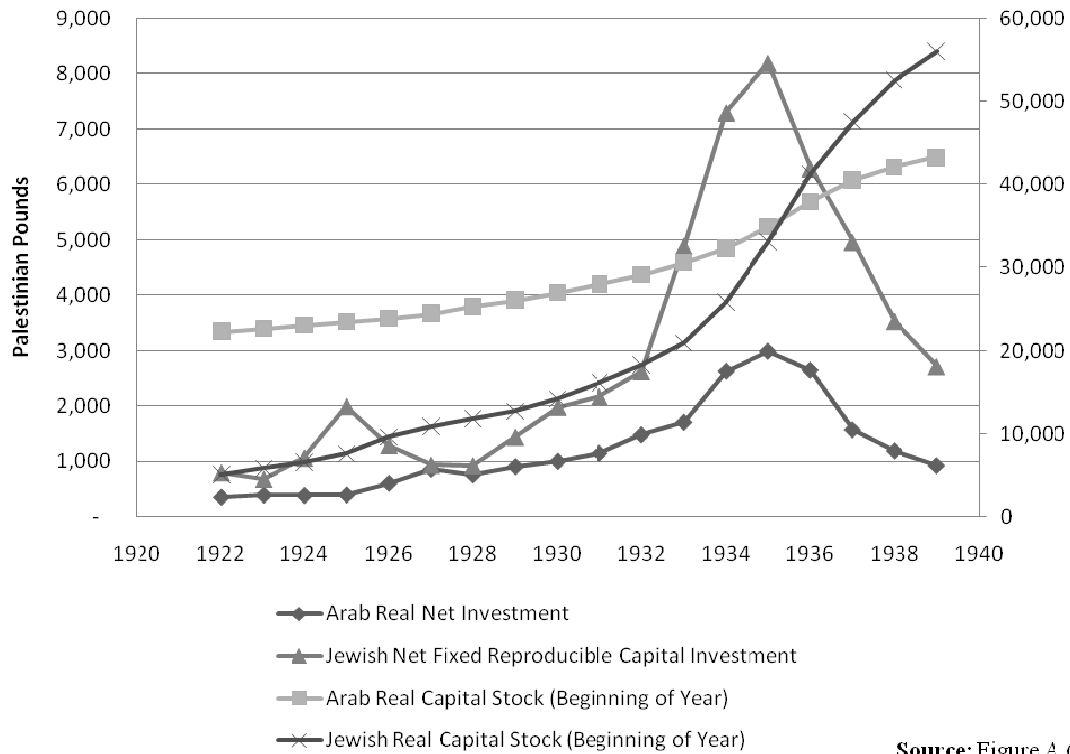
**Source:** Figure A.6.

This section will argue that the development of financial institutions during this period was critical in alleviating the high-interest rate environment that had characterized the Arab agrarian sector throughout the early mandate period, a development that in turn facilitated the development of small-scale manufacturing capital purchases.

Though the early financial system of Arab Palestine was not well-documented, commissions of inquiry, contemporary sources, and the British Mandate administration produced a wealth of works documenting a rapid decline in Palestinian interest rates during the Mandate Period. These effects were particularly drastic in the agrarian sector, where, as late as 1930, Sir John-Hope Simpson reported to the British Colonial Office that interest rates of 30 percent were typical and even deemed reasonable among Arab farmers, many of whom depended heavily on traditional Arab moneylender arrangements to finance yearly harvests (p. 68). These rates contrast with those offered by Jewish credit

cooperatives, which catered primarily to Jewish agriculturalists from Europe and were

reported, by Hope-Simpson, to offer rates between 10 and 13 percent for deposits and

loans respectively[1] (p. 87). Metzer concludes similar figures, estimating interest rates

between 6 and 12 percent in the years preceding the widespread development of financial

institutions (1998, p. 111). Both developments came to a head in the early 1930's, when

the Palestine government introduced proactive policies to foster Arab agrarian

development. In 1933, the Administration began encourage the formation of Arab credit

societies, which borrowed from the local branch of Barclays Bank at rates of 6 percent

and lent to Arab members at a rate of 9 percent (*Economic Organization of Palestine*,

1938, p. 500). These activities culminated in 1936, when an influx of local and foreign

banks drove down interest rates significantly. The average interest rate of foreign banks

in the mid-decade period averaged 1/2 percent for deposits and 6 percent for loan

advances, with local banks paying and charging rates that were, on average, 2 percent

higher (*Economic Organization of Palestine*, 1937, p. 485). This steep decline in loans

rates is suggestive of a hospitable environment for the purchase of capital in the early half

of the 1930's, as the cost of borrowing fell rapidly.

     The decline in the cost of financial activity was reflected in the rapid

development, and use, of financial intermediaries in the latter half of the interwar period;

I argue that accrued payments from land sales, labor incomes, and structure rentals were

paralleled by an increase in banking deposits and lending activity across Palestine. The

deposits in Palestine's financial institutions, shown in Figure 2.8., reveal this trend,

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[1] No barriers, institutional or otherwise, are documented  to have existed between Jewish and Arab financial
institutions.

*Figure 2.8. Year-end Real Palestinian Bank Deposits (Aggregate)*
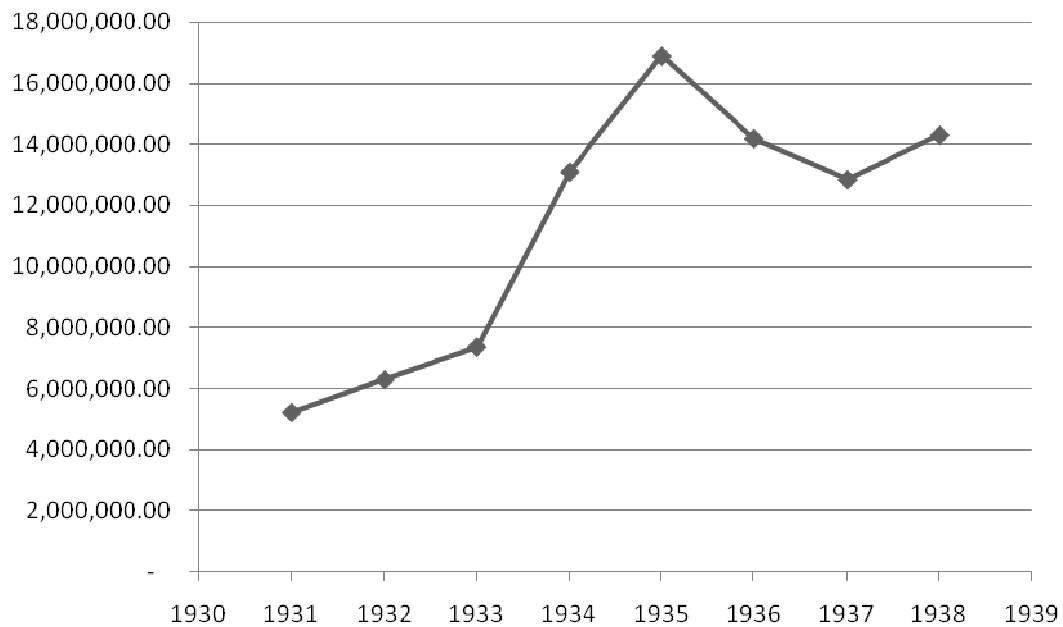
showing a sharp increase in demand and time deposits during the early 1930's, as well as

a decline in the years following the Arab General Strike, as expected. At the same time,

Palestinian mortgages rose fivefold in number between 1932 and 1935, (Nathan *et al.*

1946, p. 310) and the number of urban and rural credit societies grew threefold during the

same four year period. These developments signal not only a rapidly transforming sector,

but a booming one – especially since many of the gains that characterized the early

1930's were later tempered by the sobriety of the latter decade period, which saw

declines in deposits, capital investment, and total assets, as well as the closure of a

number of banks (*Economic Organization of* Palestine, p. 462, 471, 476). Nevertheless,

this introduction of financial institutions, and the early boom years that characterized the

late 1920's, proved of paramount significance to the developing agrarian economy. As a

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result, we witness strong capital investment, and the concurrent rise of small-scale manufacturing and services industries across the Arab sector.

This consequent capital development proved extraordinary by any measure, and well-documented correlation between manufacturing investment and TFP growth is suggestive of the fact that the emerging financial system in the 1930's facilitated productivity growth through the development of nascent industry. In the two 5-year intervals between 1920 -1925, and 1926-1931, for example, 119 and 130 new companies were established. In the five years that followed, this number had increased to 1,033. Similarly, the starting capital of new companies in Palestine boomed during the early 1930's, growing from 2,433,000 pounds in 1926-31, to 8,415,000 pounds in the period 1932 to 1937 (Nathan *et al.*, 1946, p. 311). Yet the size of these new firms, particularly in the Arab sector, is indicative, with firms averaging 4 to 5 persons throughout the interwar period (Grunwald and Ronall, 1960, p. 257-8, and Weinstock, 1973, p. 57). This suggests that the growth experienced during this period affected a significant number of Arab civilians, as employment in handicrafts and industry increased threefold in the 1930's (Kimmerling, 1983, p. 54), while manufacturing and services real product increased by 83 and 125 percent respectively between 1930 and their peak in 1937 (Figure 2.9). Rather than a central source of industrial development, industrial development was a Palestine-wide phenomenon, as factor payments for land sales and labor rents motivated capital development on the level of individual wage-earners.

These figures are suggestive of a growing stimulus for productivity growth across the Arab sector. De Long (1991) and others, have shown a strong correlation between manufacturing investment and productivity growth, and the situation of Arab Palestine -

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which saw a strong increase in the number of firms and capital emerging throughout the economy – is suggestive of this trend. The timing of the productivity gains in this period, coupled with the emergence of small firms, thus allows for the conclusion that Arab capital development through financial intermediaries was an important and vital catalyst for the TFP gains recorded in this period. The factor payments described in section 2.1. were in turn an important and necessary stimulus in encouraging Arab deposits and capital activity in the late interwar period.

*Figure 2.9. Arab Real Manufacturing and Service Product as a Share of RNDP*
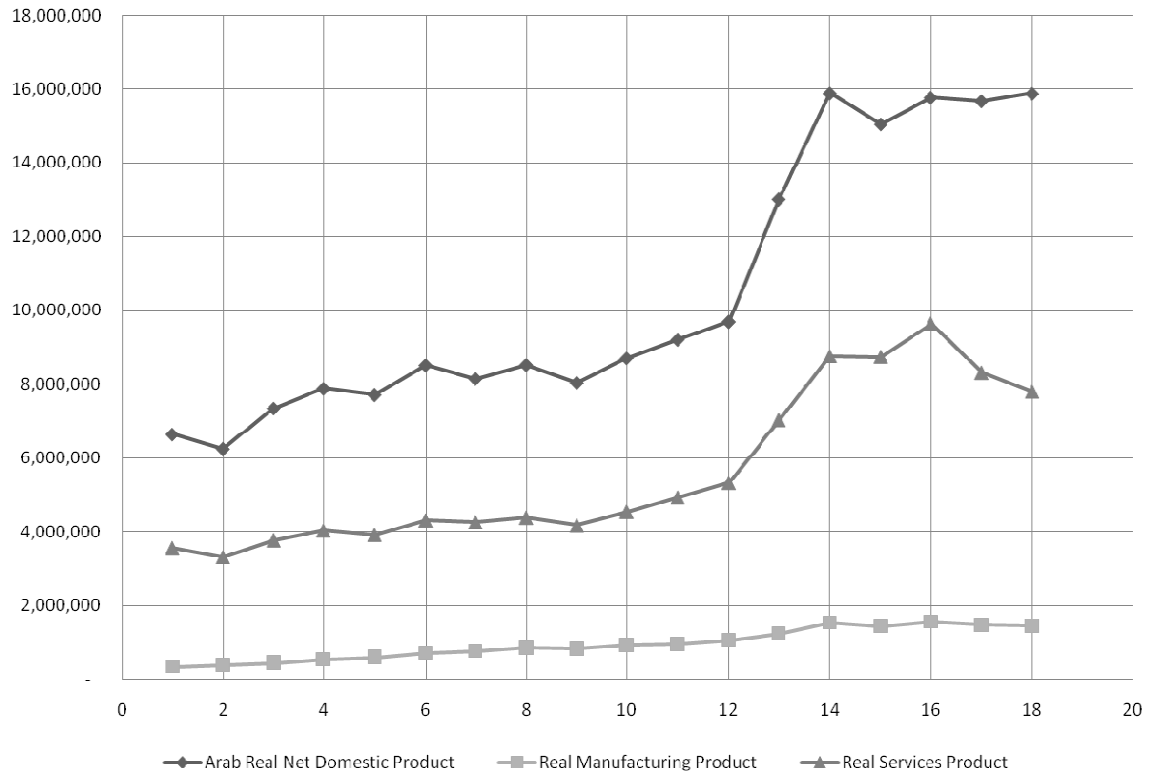
# 3.    Conclusion

Three primary objectives motivated the undertaking of this work. First, I sought to contest the assertion, made by Metzer, Kaplan, and others, that technology spillover effects may satisfactorily explain the strong growth experienced by Arab Palestine between the World Wars. The timing of TFP convergence, as well as the documented inexperience of Jewish immigrants in agrarian industry, strongly suggests that this effect may have been weaker than has been proposed. Secondly, I wished to show the scale and significance of factor payments, in the form of both land purchases and labor and structure rentals, in accounting for Arab economic development. There exists strong evidence supporting this claim, suggesting that a redundant labor supply was efficiently reallocated to the Jewish sector in the wake of an agricultural recession in the 1930's. Furthermore, it implies that a Dual Economy framework is applicable to British Mandate Palestine, and that the substitutability of unskilled labor between the sectors may have been more developed than has been previously thought. This paper concludes with an examination of the position played by financial intermediaries in stimulating small-scale industry in the Arab sector, and suggests that development of banking institutions played an important role in aggregating factor payment incomes earned by the Arab sector, and channeling them into service and manufacturing-based industry throughout the latter half the interwar period. In accordance with existing research about the effects of industrialization on augmenting sectorial productivity, I surmise that TFP development was a likely product of this convergence, contributing to real growth in the Arab sector of British Palestine in the second half of the interwar period.

# 4. Appendix[1]

*Figure A.1. Total Factor Productivity*

|      | Arab TFP (1923 = 100) | Jewish TFP (1923=100) |
|------|----------------------|----------------------|
| **1923** | 100 | 100 |
| **1924** | 113 | 120 |
| **1925** | 117 | 149 |
| **1926** | 111 | 129 |
| **1927** | 121 | 136 |
| **1928** | 114 | 139 |
| **1929** | 117 | 147 |
| **1930** | 108 | 156 |
| **1931** | 116 | 167 |
| **1932** | 119 | 180 |
| **1933** | 122 | 214 |
| **1934** | 160 | 219 |
| **1935** | 190 | 231 |
| **1936** | 190 | 217 |

## Method of Computation:

$\%\Delta TFP = (\%\Delta RNDP) - \alpha * (\%\Delta K) - \beta * (\%\Delta L) - \delta * (\%\Delta D)$, with:

$\alpha$ = Product Share of Capital

$\beta$ = Product Share of Labor

$\alpha$ = Product Share of Land

## Sources:

**Jewish Sector**
- Net Domestic Product & Employment (1923-36) from Metzer (1998, p. 240, 218)
- Land Ownership from *A Survey of Palestine, Volume II* (1991, p. 244)
- Price Index & Nominal Capital Stock from Szereszewski (1968, p. 68, 74)
- Estimated Factor Shares from Metzer (1985, p. 12)

**Arab Sector**
- Net Domestic Product, Employment (1922,'31,'35) & Nominal Capital Stock from Metzer (1998, p. 239, 218); Employment trends calculated using Clark 1951, p. 158
- Price Index from Szereszewski (1968, p. 68)
- Estimated Factor Shares from Metzer (1985, p. 12)
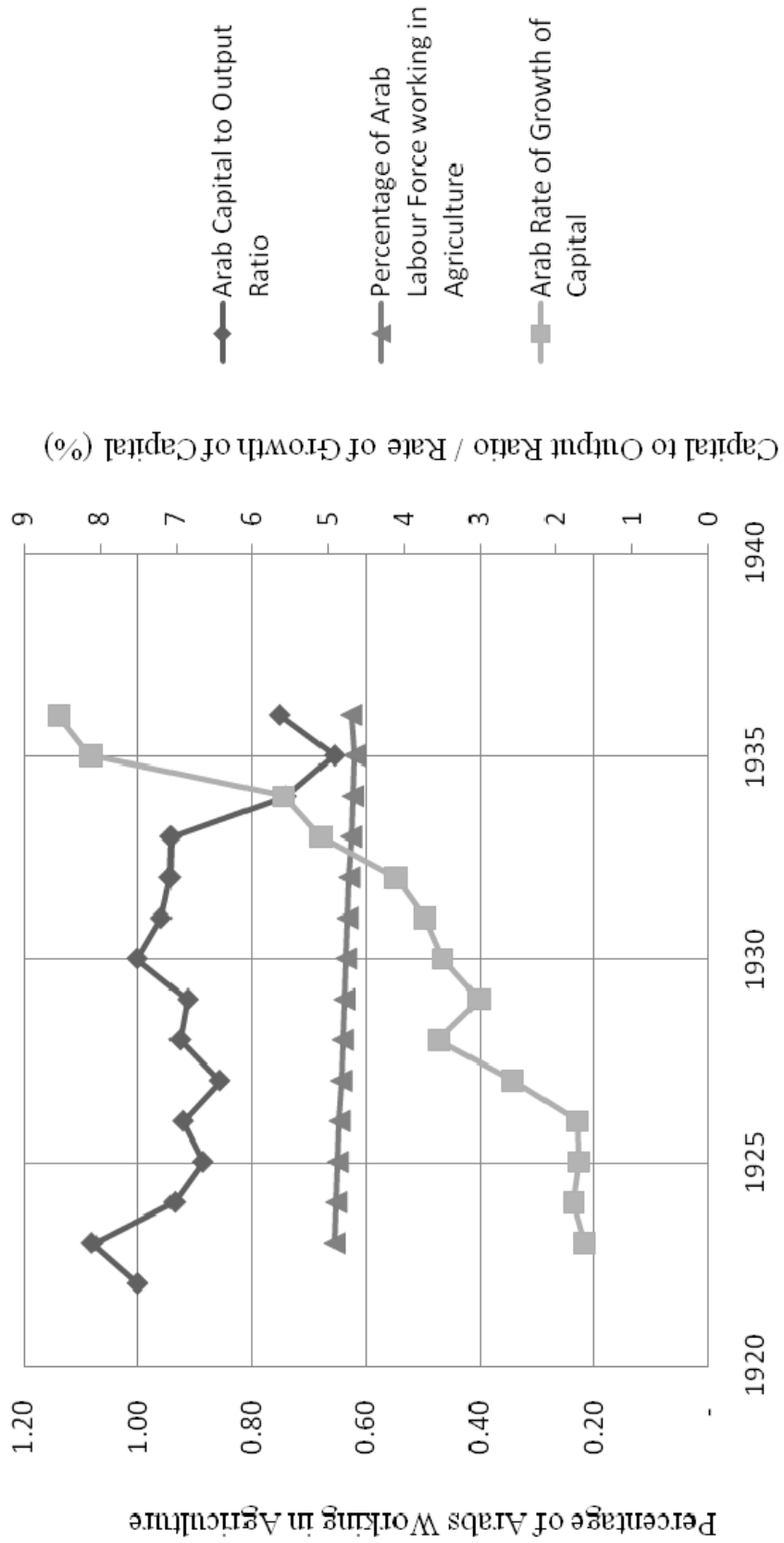- Cultivatable Land Ownership from *Report on Palestine, 1938* (1939, p. 76)

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[1] All real prices are indexed by the year 1936.

*Figure A.2 Arab and Jewish Net Domestic Product*

| | Arab Sector | | | | Jewish Sector | | | |
|---|---|---|---|---|---|---|---|---|
| | Arab Real Net Domestic Product | Arab Population of Palestine (Muslim & Christian) | Arab RNDP Per Capita | Growth Rate of Arab RNDP Per Capita | Jewish Real Net Domestic Product | Jewish Population of Palestine | Jewish RNDP Per Capita | Growth Rate of Jewish RNDP Per Capita |
| 1922 | 6,640,485 | 682,840 | 9.72 | - | 1,547,800 | 83,790 | 18.47 | - |
| 1923 | 6,251,475 | 707,850 | 8.83 | -9.18% | 1,705,000 | 89,660 | 20.24 | 9.59% |
| 1924 | 7,343,972 | 725,400 | 10.12 | 14.63% | 2,193,000 | 94,945 | 23.61 | 16.64% |
| 1925 | 7,880,376 | 740,950 | 10.64 | 5.05% | 3,202,000 | 121,725 | 22.32 | -5.47% |
| 1926 | 7,712,912 | 761,470 | 10.13 | -4.76% | 3,340,000 | 149,500 | 24.68 | 10.58% |
| 1927 | 8,510,623 | 777,260 | 10.95 | 8.10% | 3,720,000 | 149,789 | 26.78 | 8.50% |
| 1928 | 8,149,804 | 795,260 | 10.25 | -6.41% | 4,126,000 | 151,656 | 30.05 | 12.21% |
| 1929 | 8,519,632 | 814,320 | 10.46 | 2.09% | 4,827,000 | 156,481 | 33.64 | 11.97% |
| 1930 | 8,040,566 | 838,100 | 9.59 | -8.30% | 5,666,000 | 164,796 | 38.04 | 13.06% |
| 1931 | 8,705,021 | 861,291 | 10.11 | 5.35% | 6,662,000 | 174,606 | 38.83 | 2.08% |
| 1932 | 9,206,333 | 883,445 | 10.42 | 3.11% | 7,461,000 | 181,741 | 41.73 | 7.45% |
| 1933 | 9,693,361 | 909,403 | 10.66 | 2.28% | 9,804,000 | 210,655 | 43.95 | 5.34% |
| 1934 | 13,014,675 | 932,691 | 13.95 | 30.91% | 12,438,000 | 255,457 | 46.14 | 4.98% |
| 1935 | 15,888,068 | 959,760 | 16.55 | 18.64% | 16,388,000 | 321,998 | 47.78 | 3.56% |
| 1936 | 15,049,000 | 987,620 | 15.24 | -7.95% | 18,353,000 | 370,990 | 43.58 | -8.80% |
| 1937 | 15,771,352 | 1,009,174 | 15.63 | 2.56% | 17,250,000 | 388,970 | 40.18 | -7.79% |
| 1938 | 15,676,724 | 1,025,498 | 15.29 | -2.18% | 16,584,000 | 402,994 | 37.40 | -6.92% |
| 1939 | 15,880,521 | 1,055,705 | 15.04 | -1.60% | 16,810,000 | 432,355 | 38.88 | 3.96% |

*(Sources: Real Net Domestic Product: Metzer, 1998, p. 239-40; table A.19, A.20; Populations: The Statistical Abstract of Palestine.)*

*Figure A.3. Jorgenson Classical Dual Economy Model for Palestine*

Legend:
- Arab Capital to Output Ratio
- Percentage of Arab Labour Force working in Agriculture
- Arab Rate of Growth of Capital

Y-axis (left): Percentage of Arabs Working in Agriculture (1.20, 1.00, 0.80, 0.60, 0.40, 0.20, -)

Y-axis (right): Capital to Output Ratio / Rate of Growth of Capital (%) (9, 8, 7, 6, 5, 4, 3, 2, 1, 0)

X-axis: 1920, 1925, 1930, 1935, 1940

*Figure A.4. Effects of the 1936 General Strike*

|  | Jewish Immigration to Palestine | Jewish Real Land Investment | Jewish RNDP Per Capita | Arab RNDP Per Capita |
|---|---|---|---|---|
| 1922 | 7,844 | 330,140 | 18.5 | 9.7 |
| 1923 | 7,421 | 127,581 | 20.2 | 8.8 |
| 1924 | 12,856 | 142,553 | 23.6 | 10.1 |
| 1925 | 33,801 | 584,677 | 22.3 | 10.6 |
| 1926 | 13,081 | 109,203 | 24.7 | 10.1 |
| 1927 | 2,713 | 71,795 | 26.8 | 10.9 |
| 1928 | 2,178 | 61,961 | 30.0 | 10.2 |
| 1929 | 5,249 | 285,714 | 33.6 | 10.5 |
| 1930 | 4,944 | 129,245 | 38.0 | 9.6 |
| 1931 | 4,075 | 142,259 | 38.8 | 10.1 |
| 1932 | 9,553 | 152,196 | 41.7 | 10.4 |
| 1933 | 30,327 | 900,948 | 44.0 | 10.7 |
| 1934 | 42,359 | 1,727,463 | 46.1 | 14.0 |
| 1935 | 61,854 | 1,794,087 | 47.8 | 16.6 |
| 1936 | 29,727 | 159,000 | 43.6 | 15.2 |
| 1937 | 10,536 | 375,000.0 | 40.18 | 15.63 |
| 1938 | 12,868 | 176,056.3 | 37.40 | 15.29 |
| 1939 | 27,561 | 377,097.7 | 38.88 | 15.04 |

(Source: Land Investment and Price Indices: *Szereszewski, 1968, p. 68, 74; Jewish Immigration: Lawrence, 1952, p. 47*)

Figure A.5. Jewish Factor Payments

| | Jewish Real Land Investment (Purchases) | Jewish Real Factor Payments for Arab Structure and Labor Rents | Arab Real Net Domestic Product |
|---|---|---|---|
| 1922 | 330,140 | 168,582 | 6,640,485 |
| 1923 | 127,581 | 169,617 | 6,251,475 |
| 1924 | 142,553 | 197,872 | 7,343,972 |
| 1925 | 584,677 | 274,866 | 7,880,376 |
| 1926 | 109,203 | 244,505 | 7,712,912 |
| 1927 | 71,795 | 267,399 | 8,510,623 |
| 1928 | 61,961 | 288,627 | 8,149,804 |
| 1929 | 285,714 | 309,106 | 8,519,632 |
| 1930 | 129,245 | 338,679 | 8,040,566 |
| 1931 | 142,259 | 376,569 | 8,705,021 |
| 1932 | 152,196 | 495,403 | 9,206,333 |
| 1933 | 900,948 | 717,597 | 9,693,361 |
| 1934 | 1,727,463 | 883,648 | 13,014,675 |
| 1935 | 1,794,087 | 979,937 | 15,888,068 |
| 1936 | 159,000 | 532,000 | 15,049,000 |
| 1937 | 375,000 | 395,038 | 15,771,352 |
| 1938 | 176,056 | 524,145 | 15,676,724 |
| 1939 | 377,098 | N/A | 15,880,521 |

(*Source*: Land Investment and Price Indices: Szereszewski, 1968, p. 74: Table 2 and p. 68: Table 13; Jewish Factor Payments: Metzer, 1998, p. 234: Table A.18)

## Figure A. 6. Arab and Jewish Capital Development

| | Arab Real Net Investment | Arab Real Capital Stock (Beginning of Year) | Jewish Net Fixed Reproducible Capital Investment | Jewish Real Capital Stock (Beginning of Year) |
|---|---|---|---|---|
| 1922 | 362 | 22,246 | 796 | 5,056 |
| 1923 | 400 | 22,608 | 679 | 5,852 |
| 1924 | 393 | 23,008 | 1,062 | 6,531 |
| 1925 | 403 | 23,401 | 1,992 | 7,593 |
| 1926 | 613 | 23,804 | 1,289 | 9,585 |
| 1927 | 866 | 24,417 | 933 | 10,874 |
| 1928 | 762 | 25,283 | 925 | 11,807 |
| 1929 | 911 | 26,045 | 1,440 | 12,732 |
| 1930 | 1,005 | 26,956 | 1,981 | 14,172 |
| 1931 | 1,149 | 27,961 | 2,168 | 16,153 |
| 1932 | 1,481 | 29,110 | 2,622 | 18,321 |
| 1933 | 1,707 | 30,591 | 4,882 | 20,943 |
| 1934 | 2,624 | 32,298 | 7,295 | 25,825 |
| 1935 | 2,982 | 34,922 | 8,191 | 33,120 |
| 1936 | 2,642 | 37,904 | 6,285 | 41,311 |
| 1937 | 1,573 | 40,546 | 4,959 | 47,596 |
| 1938 | 1,193 | 42,119 | 3,526 | 52,555 |
| 1939 | 929 | 43,312 | 2,712 | 56,081 |

(Source: Metzer, 1998, p. 245: Table A.24 and p. 246: Table A.25)

## Figure A.7. Bank Deposits

| Total Real Deposits at End of Year, Held by Banks in Palestine | |
|---|---|
| 1931 | 5,230,125 |
| 1932 | N/A |
| 1933 | 7,376,185 |
| 1934 | 13,102,725 |
| 1935 | 16,895,459 |
| 1936 | 14,195,915 |
| 1937 | 12,850,119 |
| 1938 | 14,308,025 |

*(Source: Economic Organization of Palestine, 1938, p. 473: Table XV )*

## Figure A.8. Manufacturing and Services

| | Arab Real Net Domestic Product | Real Manufacturing Product | Real Services Product |
|---|---|---|---|
| 1922 | 6,640,485 | 344,189 | 3,563,857 |
| 1923 | 6,251,475 | 393,805 | 3,316,372 |
| 1924 | 7,343,972 | 449,645 | 3,773,759 |
| 1925 | 7,880,376 | 533,602 | 4,033,602 |
| 1926 | 7,712,912 | 603,709 | 3,921,703 |
| 1927 | 8,510,623 | 714,286 | 4,305,495 |
| 1928 | 8,149,804 | 759,216 | 4,261,176 |
| 1929 | 8,519,632 | 853,801 | 4,382,623 |
| 1930 | 8,040,566 | 833,019 | 4,174,528 |
| 1931 | 8,705,021 | 932,008 | 4,542,887 |
| 1932 | 9,206,333 | 956,078 | 4,928,498 |
| 1933 | 9,693,361 | 1,060,063 | 5,319,283 |
| 1934 | 13,014,675 | 1,235,849 | 7,027,254 |
| 1935 | 15,888,068 | 1,540,655 | 8,748,680 |
| 1936 | 15,049,000 | 1,447,000 | 8,734,000 |
| 1937 | 15,771,352 | 1,562,023 | 9,625,954 |
| 1938 | 15,676,724 | 1,481,891 | 8,301,811 |
| 1939 | 15,880,521 | 1,457,058 | 7,795,656 |

*(Source: Product by Sector from Metzer, 1998, p. 239: Table A.19; Price Index from Szereszewski, 1968, pg. 68)*

Figure A.9. Demographics

| | Muslims (Settled) | Jews (Settled) | Christians (Settled) | All Religions (Settled) | All Religions (Inc. Arab Nomads) | Annual Jewish Immigration to Palestine |
|---|---|---|---|---|---|---|
| 1922 | 486,177 | 83,790.00 | 71,464 | 649,048 | 752,048 | 7,844 |
| 1923 | 500,723 | 89,660.00 | 72,090 | 670,381 | 778,989 | 7,421 |
| 1924 | 532,636 | 94,945.00 | 74,094 | 709,938 | 804,962 | 12,856 |
| 1925 | 550,850 | 121,725.00 | 75,512 | 756,594 | 847,238 | 33,801 |
| 1926 | 576,136 | 149,500.00 | 76,467 | 810,885 | 898,902 | 13,081 |
| 1927 | 597,616 | 149,789.00 | 77,880 | 834,206 | 917,315 | 2,713 |
| 1928 | 616,402 | 151,656.00 | 79,812 | 857,073 | 935,951 | 2,178 |
| 1929 | 634,811 | 156,481.00 | 81,776 | 882,511 | 960,043 | 5,249 |
| 1930 | 662,289 | 164,796.00 | 84,986 | 921,699 | 992,559 | 4,944 |
| 1931 | 693,147 | 174,606.00 | 88,907 | 966,761 | 1,033,314 | 4,075 |
| 1932 | 712,250 | 192,137.00 | 92,520 | 1,007,274 | 1,073,827 | 9,553 |
| 1933 | 731,953 | 234,967.00 | 96,791 | 1,074,388 | 1,140,941 | 30,327 |
| 1934 | 747,826 | 282,975.00 | 102,407 | 1,144,001 | 1,210,554 | 42,359 |
| 1935 | 770,135 | 355,157.00 | 105,236 | 1,241,559 | 1,308,112 | 61,854 |
| 1936 | 796,177 | 384,078.00 | 108,506 | 1,300,139 | 1,366,692 | 29,727 |

(Source: A Survey of Palestine: Vol. II, 1991, p. 244)

### Figure A.10. Arab and Jewish Agriculture

| | Arab Real Agricultural Product (1922=100) | Jewish Real Agricultural Product (1922=100) |
|---|---|---|
| 1922 | 100 | 100 |
| 1923 | 93 | 109 |
| 1924 | 113 | 157 |
| 1925 | 120 | 179 |
| 1926 | 115 | 222 |
| 1927 | 125 | 306 |
| 1928 | 116 | 319 |
| 1929 | 119 | 377 |
| 1930 | 108 | 447 |
| 1931 | 113 | 491 |
| 1932 | 120 | 674 |
| 1933 | 104 | 816 |
| 1934 | 148 | 1017 |
| 1935 | 176 | 1085 |
| 1936 | 164 | 830 |
| 1937 | 198 | 934 |
| 1938 | 157 | 769 |
| 1939 | 148 | 738 |

(Source: Food Price Index: *Szereszewski, 1968, p. 56: Table 9;*
Agricultural Product: *Metzer, 1998, p. 239: Table A.19*)

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