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ARTICLE

Corporate Networks and Business Groups in Egypt, 1924–1948: Economic Necessity or Entrepreneurial Dynamism

Akram Beniamin
John F. Wilson
Neveen Abdelrehim

By providing fresh insights into the development of Egyptian corporate networks and business groups between the early 1920s and late 1940s, this article extends the geographical ambit of an expanding field of study. Data from contemporaneous sources were analyzed through social network analysis techniques, in the search for an improved understanding of both the nature of and motivations behind networking in Egypt. In conducting this exercise, this article assesses the success with which the state acted to stimulate local entrepreneurship in its search for greater economic independence. By linking the Egyptian case to a wider literature on corporate networks, the article reveals similarities with other cases of how developing economies responded to the challenges of that era.

Keywords: Africa, Middle East, networks

Introduction

Although corporate networks have been extensively studied over the last fifty years, to date the Egyptian economy has been neglected in this literature, as has much of Africa.[1] Given that prominent scholars have argued in favor of extending the geographical ambit of business history, moving away from the preoccupation with the most advanced to examine emerging economies, this article will respond by providing fresh insights into Egyptian business.[2] In particular, we will focus on the driving forces behind the formation and structure of Egyptian corporate networks between the early 1920s and late 1940s. An issue of particular importance to our research questions is what motivated this behavior, in that we need to be clear about

1. For a review of some of this literature, see David and Westerhuis, *Power of Corporate Networks.* South Africa is the only exception to this rule. Durbach and Parker, "Analysis of Corporate Board Networks."
2. Friedman and Jones, "Business History"; Scranton and Fridenson, *Reimagining Business History*; Scranton, "Foundations and Futures"; Wilson, Corker, and Lane, *Industrial Clusters.*

whether the business community was either responding to economic necessity or displaying entrepreneurial dynamism. In addition, it is also necessary to assess the success with which the state fostered local business development, comparing Egypt with other developing economies at a time when it was striving to become economically independent.

We analyzed the research questions by investigating the Egyptian corporate network in three benchmark years: 1924, 1937, and 1948. Although this is a relatively short period, the Egyptian economy experienced some radical changes, with business ownership and management taking on a different character to that of the pre-1920s era. As we shall discuss later, while there are some limitations to the extent and nature of the available corporate data for these years, in focusing on alternative sources that provide useful material we align with similar research on other economies.[3] Crucially, social network analysis tools can be applied to the data, providing some clarity when addressing our research questions. Even if detailed archival material cannot be found to illustrate how the boards of directors operated, deep inferences can be generated that highlight the changing features of the Egyptian business scene.

The article starts by briefly surveying the literature on corporate networks and business groups, in a search for answers to the questions about the origins of and rationale for these kinds of economic activity. This is followed by a contextual section, outlining the key economic and political features of the Egyptian economy both before and after 1920, where "Egyptianization" helped to fashion a different environment in the 1920s. A detailed social network analysis of Egyptian corporate networks is then provided, presenting data on several dimensions of the networks' characteristics. The conclusions return to the research questions, providing deep insights into the evolution of Egyptian business prior to the military coup in 1952, as well as demonstrating how this economy matched many of the characteristics of other countries that were going through similar stages of development.

Corporate Networks

Although, as we have already noted, the study of African corporate networks outside South Africa has been neglected, it is still instructive to provide insights into the extant literature.[4] Crucially, as Kong and Ploekl explain, corporate networks are made up of interlocking connections across boards of directors, providing "conduits for business leaders to establish a united front and coordinate their collective behaviors."[5] In explaining why these connections occur, Windolf claims that corporate networks are categorized as being based on either functionalist or power theories.[6] The former perceives corporate networks as an interorganizational coordinating tool to achieve an economic function; the latter is based on the idea that interlocking directorates are a sociological phenomenon. Windolf clearly preferred a sociological explanation, using institutional contingency theory to claim that the American

3. Buchnea, Tilba, and Wilson, "British Corporate Networks."

4. David and Westerhuis, *Power of Corporate Networks*, 1–3; Cronin, "Networks of Corporate Power"; Scott and Griff, *Directors of Industry*; Windolf, "Coordination and Control in Corporate Networks."

5. Kong and Ploekl, "Modern Chinese Banking Networks," 659.

6. Windolf, *Networks in Europe and the United States*, 8.

and European networks he studied were heavily influenced by their social and political environments.[7] Scott was also convinced that national institutional environments played a key role in determining the character of corporate networks.[8] This was further reinforced by Cardenas's quantitative analysis of corporate networks in twelve countries that demonstrated "the joint effect of financial systems, state intervention, ownership structure and economic internationalization."[9] Similarly, Kong and Ploekl highlight the relationship between the banking network that they study and central government, noting the mutual benefits derived from those connections.[10]

While this all-embracing claim does carry some weight, and the Egypt case certainly provides evidence of each of these features, there are other aspects of the functionalist interpretation. For example, as Williamson claimed, effective institutions in any capitalist system are those that reduce transaction costs, for example in acquiring information in a competitive market.[11] As a result, networks emerge as an institutional mechanism for obtaining, coordinating, and handling information, thereby minimizing transaction and information costs.[12] In addition, resource dependency has been widely employed in the literature to explain why corporate networks emerge.[13] This outlines how, through interlocking directorates, firms can reduce uncertainty, minimize information and transaction costs, maintain coordination, and gain access to valuable assets such as financial resources. This strand of literature perceives interlocking directorates as a firm-strategic phenomenon in which interlocks are considered transmitters of valuable information and resources across the network.[14]

Another approach to theorizing interlocking directorates underscores the concept of intraclass cooperation and social relationships across corporate elites. This elite perspective can be traced back to Mills, who posited that elites are a unified group.[15] According to Useem, interlocking directors are elites who belong to the upper class, often sharing the same beliefs and political views, and striving through interlocking relations to secure hegemonic power.[16] Other authorities have argued through the use of power and control theories in favor of class hegemony theory, in which the upper elite form networks for a variety of reasons.[17] These include maintaining cohesion, protecting the collective interests of the class, monopolizing markets, and excluding potential actors from these markets, all of which highlight how interlocking directorships can be perceived as a fundamental constituent of cohesion across this social class.

7. Windolf, *Networks in Europe and the United States.*
8. Scott, "Networks of Corporate Power."
9. Cárdenas, "Varieties of Corporate Networks," 315–316.
10. Kong and Ploekl, "Modern Chinese Banking Networks," 674.
11. Williamson, *Economic Institutions of Capitalism.*
12. Casson, "Entrepreneurial Networks," 811.
13. Mizruchi, *American Corporate Network.*
14. Pfeffer and Salancik, *External Control of Organizations*; Scott and Griff, *Directors of Industry*; Mizruchi and Stearns, "Longitudinal Study"; Mizruchi, "What Do Interlocks Do?"; Windolf, "Coordination and Control in Corporate Networks."
15. Mills, *Power Elite.*
16. Useem, *Inner Circle.*
17. Zeitlin, "Corporate Ownership and Control"; Koenig, Gogel, and Sonquist, "Models of the Significance"; Useem, "Corporations and the Corporate Elite"; Koenig and Gogel, "Interlocking Corporate Directorships"; Useem, *Inner Circle*; Walker, Kogut, and Shan, "Social Capital."

We analyzed the available data before coming to a definitive view on whether the functionalist or power interpretations relate more closely to the Egyptian case, but it was also important to trace the historiography of business groups in non-Western countries. A widely used definition in the literature, which is adopted in this article, is that of Khanna and Yafeh, who regard business groups as "legally independent firms, operating in multiple (often unrelated) industries, which are bound together by persistent formal (e.g., equity) and informal (e.g., family) ties."[18] The literature has demonstrated that business groups have been a well-established and prevalent phenomenon in many countries in Latin America, Asia, and the Middle East since the second half of the nineteenth century.[19] Moreover, the literature suggests that business groups have thrived under various forms of public policies such as import substitution industrialization in Latin America and export-oriented growth in East Asia.[20]

At the same time, there are other interpretations explaining why business groups emerge, starting with the connections some make with the need to obviate market imperfections. For example, according to transaction cost economics, business groups are a hybrid organizational form between the firm and the market.[21] Leff has also demonstrated that business groups have been principal economic actors in corporate networks of developing countries because of their ability to respond to the underdeveloped nature of market mechanisms, exerting considerable influence over the nature and course of modernization policies.[22] Crucially, business groups internalize some of the functions normally provided by the market such as mobilizing capital and providing managerial resources, a feature that will be exemplified further when we look at the Egyptian case.

On the other hand, Leff has also suggested that business groups in developing countries can be analyzed from an entrepreneurial perspective, seizing opportunities created by either unforeseen changes (such as war) or state policies.[23] This claim has been further developed in studies of business groups in Taiwan, Turkey, and Argentina.[24] Kock and Guillén employed an evolutionary perspective to postulate that business groups responded entrepreneurially to the changing environment of late industrializing countries in the post–1945 era.[25] Granovetter had also earlier developed this point by illustrating the embeddedness of business groups in their historic and social contexts, demonstrating that through formal and informal ties they fostered cohesion and trust among members of what would become deeply collaborative networks.[26] This links to a third explanation for the emergence of business groups, which

18. Khanna and Yafeh, "Business Groups in Emerging Markets," 331.

19. Examples include Argentina (Lluch and Salvaj, "Longitudinal Study"); Chile (Bucheli and Salvaj, "Adaptation Strategies"; Bucheli, "Multinationals, Business Groups"; Salvaj and Couyoumdjian, "Interlocked' Business Groups"); Turkey (Colpan and Jones, "Business Groups, Entrepreneurship"; Erçek and Günçavdı, "Imprints of an Entrepreneur"); and Japan (Miyajima and Kawamoto, "Business Groups in Prewar Japan").

20. Schneider, "Comparative Political Economy"; Schneider, "Business Groups and the State."

21. Williamson, "Comparative Economic Organization"; Khanna and Rivkin, "Estimating the Performance Effects"; Khanna and Yafeh, "Business Groups in Emerging Markets."

22. Leff, "Industrial Organization." See also Lluch and Salvaj, "Longitudinal Study"; Marcelo, Salvaj, and Kim, "Better Together."

23. Leff, "Entrepreneurship and Economic Development."

24. For Taiwan, see Chang, *Business Groups in Asia*; Turkey, see Colpan and Jones, "Business Groups, Entrepreneurship"; Argentina, see Lluch and Salvaj, "Longitudinal Study."

25. Kock and Guillén, "Strategy and Structure."

26. Granovetter, "Coase Revisited"; Granovetter, "Impact of Social Structure."

relates specifically to the links they developed with political regimes. For example, political science scholars often refer to the role of government in extending exclusive privileges to certain business groups in particular industries.[27] Guillén has also argued that business groups benefit from asymmetric trade and investment conditions in which the groups are protected by public policies from foreign competition.[28]

In applying these different ways of interpreting the history of corporate networks and business groups to the Egyptian situation, we respond especially to Granovetter's demand for more historical studies to understand these significant phenomena.[29] The next section provides further detail on the Egyptian context, illustrating how the corporate networks evolved and when business groups started to exert greater influence over the domestic economy.

The Egyptian Context

Between the second half of the nineteenth century and the first half of the twentieth century, Egypt epitomized the manifestations of this era of imperialism in almost every respect, including a strong link with a major power accompanied by an upsurge in international trade, investment, and migration. Although the country was never formally an imperial dependency, between 1882 and 1952 it was dominated politically and militarily by the British, largely to ensure unfettered access via the strategically vital Suez Canal to India.[30] To complicate matters further, Egypt was also a constituent of the Ottoman Empire and obligated to implement its tariffs on imported machinery and finished goods.[31] Of course, this link was terminated during World War I, when the Ottoman Empire was dissolved, while at the onset of that event Egypt had become a British protectorate. Nominal independence was granted in 1922 by Britain's High Commissioner Lord Allenby, but it was 1952 before full autonomy was achieved. Moreover, the Egyptian pound was pegged to sterling starting in 1914, severely restricting its monetary policy.[32] Meanwhile, a preferential trading agreement between the two countries strengthened Britain's influence over the country's economic development until at least the 1930s. Another issue was the Capitulations System, under which foreigners in Egypt paid no taxes that, until its abolition in 1937, acted as a powerful constraint on the government's fiscal policies. These features demonstrate how British influence affected Egypt up to the 1930s, by which time an increasingly powerful independence movement was beginning to exert much more influence over its economic destiny.

Having noted the extent to which Egypt was dominated by an imperial power, it is also important to provide a fuller understanding of its economic development, and especially the roles played by either foreigners or émigré communities. A key event was the American Civil

27. Schneider, "Business Groups and the State."

28. Guillén, "Business Groups in Emerging Economies," 368.

29. Granovetter, "Impact of Social Structure."

30. The Suez Canal was built between 1859 and 1869 by an Anglo-French consortium. Farnie, *East and West of Suez*.

31. el-Gritly, *Structure of Industry*, 10.

32. Hansen, *Political Economy of Poverty, Equity, and Growth*, 79–83.

War (1861–1865), when the supply of raw cotton from Southern states was severely interrupted, creating an opportunity for countries such as Egypt to expand production. By World War I, the export of raw cotton and cotton seed represented around 90 percent of Egypt's total exports.[33] Crouchley calculated that 70 percent of the total capital and debentures of Egyptian joint-stock companies in 1914 was owned abroad, demonstrating the country's heavy dependence on foreign capital.[34] As Issawi concluded of this period: "The attempted leap from a subsistence to a complex economy had failed and instead the country had landed on the road leading to an export-oriented economy. Egypt could now be integrated as an agricultural unit in the worldwide economic system."[35] Even by 1920, industrial undertakings represented just 6 percent of total Egyptian joint-stock company capitalization, with the bulk of private investments devoted to land and real estate.[36]

Foreign capital clearly played a major role in Egypt's economic development; however, another key feature was the presence and impact of two business groups that were the principal actors in corporate networks up to the 1920s. Representing the Jewish and the Greek communities that had been in the country for several generations, we refer to these communities as "foreign locals," given their permanent residence in Egypt. They formed powerful business groups that were bound by personal, family, and ethnic ties, frequently strengthened by extensive intramarital arrangements.[37] These families had effectively exploited the opportunities arising from the Egyptian cotton boom of the 1860s, in contrast to European entrepreneurs such as the British, Belgians, and French who brought capital that had been accumulated elsewhere.[38] Many within these groups played key roles in arranging foreign loans for the country's rulers, using contacts in business houses and merchant banks, and reinvesting their profits to establish banking, trading, and industrial undertakings from the 1880s.[39] This also explains how Egypt's corporate networks emerged, because competent family members frequently held several board seats on the companies that were owned and run by these groups.

The Salvago family, consisting of the Alexandria-based elite Greek families of Zervoudakis, Choremi and Benaki, led the most prominent business group.[40] Konstantinos Salvago had moved to Alexandria from Marseilles in 1865, accumulating large profits as a merchant during the cotton boom, which he invested in a range of activities, including cotton ginning and pressing. The Salvago group was also responsible for founding the Cotton Bourse in Alexandria, as well as forming a number of utility, transport, land, and building companies in that city, and further developing its banking and financial enterprises.[41] A move of particular

33. Tignor, "Dependency Theory and Egyptian Capitalism," 102.
34. Crouchley, *Investment of Foreign Capital*, 155.
35. Issawi, "Egypt since 1800," 7–8.
36. Egyptian Ministry of Finance, *Statistique des Sociétés Anonymes par actions.*
37. Vitalis, *When Capitalists Collide*, 19.
38. Tignor, "Economic Activities of Foreigners," 426.
39. el-Gritly, *Structure of Industry*, 19.
40. Kalkas, "Aborted Economic and Social Development"; Kitroeff, *Greek in Egypt.*
41. The group's investments included many vital undertakings in the country, such as the Alexandria Water Company, Alexandria Ramleh Railway, the Société Anonyme du Béhéra, La Filature Nationale d'Égypte, Société Égyptienne des Industries Textiles, Egyptian Salt and Soda Company, among other joint-stock companies. Crouchley, *Investment of Foreign Capital*, 44.

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importance was the alliance that the Salvagos forged with Barker & Co., a venture that was run by the eponymous Anglo-Levantine family, which was by the interwar era one of the most successful and influential British operations in Egypt.[42] As well as working closely with the Salvago group on several of its businesses, Barker & Co. also operated a shipping company that transported cotton, grain, and coal between Egypt and Britain.[43]

Another highly influential group consisted of the leading Jewish families, dominated by the Suarès family, but including others such as the families Rolo, Mosseri, and Cattaui. Although originally from Spain, the Suarès family had settled in Livorno (Italy) before moving to Egypt in the early years of the nineteenth century.[44] They later established a bank in Egypt in partnership with some members of the Rolo family, which in turn forged a link with another bank founded by the Cattaui family. The Rolo family had initially settled in Cairo, before moving to Alexandria around the middle of the nineteenth century.[45] The Mosseri family had arrived from Spain around the 1750s.[46] They were bonded by strong intramarital and personal relations.[47] These families progressed from being moneylenders into modern banking, following the 1860s cotton boom. The Muslim majority in Egypt was, for religious reasons, averse to banking, limiting the provision of financial services, which allowed these families to seize lucrative opportunities as the country started to develop and entered the global trading system. Their merchant banking houses also acted as hosts for European capital in Egypt, generating the profits for a diversified range of investments in infrastructure, rural and urban land development, and the textile industry.[48]

Given the importance of these local foreigners, it is also relevant to stress that some Egyptians had realized that their country's economic fate was in the hands of foreign financiers and entrepreneurs. Indeed, one can detect a much less acquiescent attitude toward foreign influence emerging prior to World War I, especially when the 1907 financial crisis that had started in North America and spread to Europe created major problems for the Egyptian economy. It was the 1930s before Islamic and pan-Arabist influences came to dominate Egyptian politics.[49] However, this movement was gathering momentum by the early years of the twentieth century, culminating in the 1952 military coup when Egypt achieved political and economic independence.

A contributory factor behind the drive for independence was the realization brought on by World War I that the Egyptian economy suffered from deep structural weaknesses, and especially its reliance on European supplies of manufactured products. This resulted in establishing a commission comprising Egypt's most prominent businesspeople to consider the country's economic progress. The commission's final report was published in 1918, outlining economic independence as the optimal way forward for the Egyptian economy, including rapid industrialization. As we shortly note, this resulted in the emergence of industries

42. Tignor, "Economic Activities of Foreigners," 430.
43. Mak, "More than Officers and Officials," 32.
44. Grunwald, "On Cairo's Lombard Street," 13.
45. Guerin, *Mosseri Family.*
46. Landau, *Jews in Nineteenth-Century Egypt*, 127.
47. Krämer, *Jews in Modern Egypt*, 41–43.
48. Guerin, *Mosseri Family.*
49. Armbrust, "Formation of National Culture in Egypt," 156.

such as textiles, building materials, paper manufacturing, leatherworks, and food processing, all owned and run by Egyptian entrepreneurs. Some momentum was lost after the restoration of European imports in 1918.[50] It was not until the 1930s that Egypt was able to implement this policy fully, and the report marked a distinct watershed in Egyptian economic development.

To reflect the momentum behind the development of an economy that was less dependent on foreign resources, in 1922 the Association des Industries en Égypte was formed. Renamed the Federation of Egyptian Industries (FoEI) in 1930, this organization provided a forum for both local foreigners and Egyptian entrepreneurs to lobby forcefully for policies to support their business activities. Apart from protectionist policies and the provision of subsidies, the FoEI was also successful in persuading the state to provide tax holidays for new enterprises.[51] This reflected the growing maturity and cohesion of the business community, resulting in highly supportive policies to encourage either local foreigners or Egyptian entrepreneurs to invest in new ventures. Of particular importance was the achievement of tariff autonomy in 1930, when a three-tier scheme was introduced: the ad valorem equivalent for raw materials, fuel, and machinery was set at 4 percent, while semimanufactured goods were tariffed between 6 percent and 10 percent, and final goods between 15 percent and 30 percent.[52] These rates were revised several times during the 1930s, while a depreciated currency surtax of 40 percent was imposed in 1935 on imports of cotton and rayon piece goods to stop the heavy inflow of cheap textiles from Japan. Overall, the average nominal protection rate rose from between 20 percent and 25 percent in the 1920s to between 40 percent and 50 percent in the 1930s, with cotton and woolen goods benefiting from a six-fold increase in tariffs.[53]

Running in parallel with these decisive changes to Egypt's trading policies, it is also significant to note how the proportion of foreign capital invested in joint-stock companies was gradually declining.[54] One major reason for this was the "Egyptianization" measures introduced by the government, first in 1923 and enhanced in 1927 and 1947.[55] This introduced the concept of quotas for Egyptian nationals, not only in terms of total employees but also with regard to board appointments. The 1923 law required that at least two directors should be Egyptian citizens and that one-quarter of the shares of new companies must be offered for purchase in Egypt. The 1947 act extended these provisions to 40 percent of the directors of any Egyptian-registered joint-stock company, while the impact of big linkers (namely, those directors who held three or more seats) was reduced by stipulating that no person could serve on the boards of more than ten companies or act as a managing director of more than three companies.[56] Moreover, at least 51 percent of the shares of new joint-stock companies, and of any capital increase, should be allocated to Egyptians. Although foreigners were highly critical of the 1947 law, and the government granted a three-year grace period to comply with the measure, most firms responded in a timely fashion, especially on the clauses

50. Crouchley, *Investment of Foreign Capital*, 101.
51. Deeb, "Socioeconomic Role of the Local Foreign Minorities," 19–21.
52. Tignor, *State, Private Enterprise*, 110–111.
53. Karakoç, Pamukm, and Panza, "Industrialization in Egypt and Turkey," 7.
54. Tignor, "Decolonization and Business," 480.
55. Board of Trade, *Economic and Commercial Conditions.*
56. Tignor, *State, Private Enterprise*, 180.

relating to the percentage of directors and employees.[57] This naturally created enormous opportunities for local Egyptian entrepreneurs to enter senior management and play more influential roles in determining strategy, indicating the extent to which state interference was significantly altering the nature of the country's corporate networks.

Another key turning point in Egyptian economic history was the creation in 1920 of Banque Misr (Bank of Egypt) as the first Egypt-owned bank. This enterprise was founded and led by Talaat Harb Pasha, one of that era's most energetic Egyptian entrepreneurs, who was not only an ardent nationalist but also worked effectively to replicate the role played by universal banks in the development of German industrialization.[58] Like many of his contemporaries, Harb had been concerned with the dominance of foreign banks, mobilizing local capital from wealthy landowners to supply industrial credit, promote economic diversification, and sponsor import substitution policies.[59] The timing was also crucial because by 1919 there was intense Egyptian distaste for colonial rule, a movement that would force the British to accede to a form of independence in 1922. This provided the government with an opportunity to support nascent industrialization, offering subsidies and loans that favored locally made products at the expense of foreign-manufactured goods.[60]

The value of cotton exports stagnated between 1914 and 1930, and in the 1930s cotton prices fell drastically, prompting the redirection of local wealth into new ventures.[61] The imposition of rent controls after 1922 was another factor that reduced the attractiveness of urban real estate investments, illustrating why domestic capital was being redirected into the ideas espoused by Harb and a growing number of the Egyptian elite.[62] Some powerful wholesalers were able to convince the public that goods not bearing a European trademark were of low quality.[63] With the help of Egyptianization measures, Banque Misr was introducing industrial investments to the landowning class who had in the past confined their investments to land.[64]

To illustrate the immediate impact of Banque Misr, between 1920 and 1939, it was involved in the founding of a group of eighteen companies operating in areas such as textiles, airlines, and insurance, with a total paid-up capital estimated in 1939 to be approximately £2 million.[65] This is the equivalent to about £155 million today.Indeed, the Misr group contributed almost 45 percent to the growth in paid-up capital across all Egyptian joint-stock firms between 1922 and 1938, participating through equity ownership and the provision of working capital, as well as offering managerial and technical advice. At the core of this new group were the textile manufacturing companies, which by 1938 employed 53 percent of the Egyptian workforce in that sector.[66] Furthermore, Banque Misr was involved in financing cotton cultivation, putting

57. Tignor, *State, Private Enterprise*, 181.
58. Tignor, *Egypt*, 245.
59. Davis, *Challenging Colonialism*, 108–109.
60. Hansen and Nashashibi, *Foreign Trade Regimes*; Tignor, "Nationalism, Economic Planning," 187.
61. Hansen, *Political Economy*, 94.
62. Mabro and Radwan, *Industrialization of Egypt.*
63. Department of Overseas Trade, *Report on the Economic and Financial Situation in Egypt*, 15.
64. el-Gritly, *Structure of Industry*, 23.
65. Tignor, *Egypt*, 246.
66. O'Brien, *Revolution in Egypt's Economic System*, 92; Girgis, *Industrialization and Trade Patterns*, 11.

itself in direct competition with the foreign banks operating in Egypt. While this strategy proved successful, in 1939 there was an Egyptian banking crisis, forcing many depositors to withdraw their funds. Talaat Harb sought government support for the bank, but this proved to be his downfall when the palace made the approval conditional on his resignation. The new chairman, Hafiz Afifi Pasha, radically changed the bank's direction, focusing solely on the provision of credit rather than the founding of new industrial enterprises.[67] Nevertheless, by that time, Banque Misr and Talaat Harb Pasha had coordinated effectively in a radical reorientation of the Egyptian economy, prompting the redirection of local wealth into an industrial base that was heavily supported by the state.

This change in Banque Misr's strategy also coincided with the start of World War II, repeating when World War I created a stimulus for Egyptian industry. As foreign supplies from Europe were again cut, especially after Italy's entry into the war, local production expanded and firms were working to full capacity. The Allied forces operating in North Africa provided another source of demand, with local producers benefiting from technical assistance to overcome bottlenecks.[68] This highlights the vital importance of the two world wars and the accompanying inflationary price rises, which provided a conducive environment in which Egyptian business could flourish.[69] By the mid-1940s, not only had the former dependence on exporting raw cotton been significantly reduced but also Egyptian industries such as textiles, building materials, and consumer goods had emerged, adding substance to the drive for economic independence.[70] Crucially, this process was facilitated by the state, with its Egyptianization measures, protectionist stance, and general support for local initiatives, illustrating how a conducive environment was being created to stimulate local Egyptian entrepreneurship.

Methodology and Data

As noted earlier, to pursue the central research questions, we investigated the corporate networks in Egypt in three benchmark years: 1924, 1937, and 1948. The choice of years covers the widest spectrum of the critical period of Egyptian capitalism in modern history, culminating in the 1952 military coup. As we mentioned earlier, the influence of local elements gradually amplified at the expense of the position of local foreigners, with the 1920s acting as an appropriate historical point of departure. It was in this decade that a nascent industrialization beyond cotton export cultivation and export began, stimulated by the emergence of a more dynamic private sector reflected in the foundation of Banque Misr and the Federation of Egyptian Industries. The concluding benchmark year of 1948 is the latest year in which data are available prior to 1952, when the military regime overthrew the monarchy and instigated a

67. Deeb, "Bank Misr," 80.
68. el-Gritly, *Structure of Industry*, 13.
69. Hansen and Nashashibi, *Foreign Trade Regimes.*
70. Board of Trade, *Economic and Commercial Conditions in Egypt.*

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series of radical changes to the economy, including the sequestration and nationalization of all large enterprises, including the Suez Canal in 1956.[71]

Data for the first benchmark year were constructed from *L'Égypte Économique et Financière*, and for 1937 and 1948 from the *Stock Exchange Yearbook of Egypt*.[72] The two yearbooks, along with *L'Égypte Économique et Financière*, include key information about each company: purpose, place of incorporation, legal status, location of headquarters, a brief history, the composition of the board of directors, and a summary of financial data. Although these sources have been consulted by political and cultural historians to examine either the extent of foreign control over Egyptian firms or specific émigré groups,[73] they have never been employed in an analysis of the corporate network.

The firms included in the dataset are those that were listed in the Egyptian Stock Exchange and had their main business activities in Egypt, even if they were incorporated abroad. The Egyptian subsidiaries of multinational firms are also included. Firms incorporated in Egypt but with their main business abroad, for example in Sudan or Palestine, are excluded, along with branches of foreign firms, such as the branches of the foreign banks operating in Egypt, as they were not Egyptian companies. Likewise, the Suez Canal Company has been omitted, given that its profits and dividends were paid in Europe and most of the board directors were based abroad.[74] Companies in liquidation have also been excluded, given that the sources did not include the names of their directors. In total, we analyze 104 firms in 1924, 207 firms in 1937, and 392 firms in 1948.

Given our data points, it is essential to stress that there are some limitations to this analysis. First, one should note that most Egyptian businesses were family-based partnerships: twelve thousand were established between 1910 and 1949.[75] While we agree with Tignor, who argues that the directors of joint-stock companies were the most influential group in the country, the business scene was much more diverse than our population reveals.[76] Second, as corporate archives covering this period are virtually nonexistent, we are unable to provide any material on actual strategic discussions or consequent behavior. While we do know that directors met with each other at board meetings, and many of these individuals were also members of

71. Farnie, *East and West of Suez.*

72. L'Égypte Économique et Financière contains information on the major limited liability companies operating in Egypt in 1924. The book, *Études Financières*, written in French, was edited by Ed. Papasian, the secretary of the Egyptian Society of Political Economy, Statistics and Legislation. This society was formed in 1909, becoming one of the earliest nongovernmental think tanks in Egypt. The *Stock Exchange Year-Book of Egypt* was published almost annually between 1937 and 1948. These yearbooks were compiled and edited by Clement Levy, a Jewish entrepreneur residing in Egypt, who had previously worked for the New York Stock Exchange. Levy, *Stock Exchange Year-Book, 1937*; Levy, *Stock Exchange Year-Book, 1948.*

73. Deeb investigated the socioeconomic role of local foreign minorities in Egypt from the nineteenth century up to 1961. Deeb, "Socioeconomic Role of the Local Foreign Minorities." Tignor explored the economic activities of foreigners in Egypt between 1920 and 1950. Tignor, "Economic Activities of Foreigners." Krämer and Beinin referred to these sources in their studies on the Jewish community in Egypt. Krämer, *Jews in Modern Egypt;* Beinin, *Dispersion of Egyptian Jewry.* Kitroeff and Karanasou were each interested in the Greek diaspora in Egypt and focused on Greek directors in the corporate network. Kitroeff, *Greek in Egypt*; Karanasou, "Greeks in Egypt."

74. For the history of the Suez Canal Company in Egypt, see Piquet, "Suez Company's Concession."

75. Artunç, "Religious Minorities."

76. Tignor, *State, Private Enterprise*, 191.

various business associations, it is impossible to know exactly how the conversations flowed between them. The analysis is consequently inferential, deriving from the available data how interlocking directorates and business groups exploited the opportunities made available to them through either state action or the exigencies of war.

The Corporate Network

To help us answer the core research questions, we first assess how the corporate network expanded in both size and intensity over our three benchmark years by applying UCINET software.[77] Before embarking on this exercise, however, it is important to understand the basic features of Egypt's corporate network summarized in Table 1. An initial point to highlight is that while the number of firms in our sample increased from 104 in 1924 to 392 in 1948, and the respective growth in board seats was 672 to 2,294, the number of directors only grew from 423 to 1,041, respectively. This can be explained partially by the relatively small size of the average board (averaging 6 across the three benchmark years), while the average number of positions held by a single director increased from 1.6 to 2.2. Of much greater significance, however, is the increase in interlocking directors (from 112 to 432) and the role of "big linkers," as defined earlier. As seen in Table 1, a narrow clique of corporate elite individuals dominated the Egyptian economy, with interlocking directors rising from 26 percent to 41 percent, and big linkers from 59 to 258. At the same time, one must be careful to note that the 1923 Egyptianization legislation outlined earlier was only slowly having an impact on board composition, because in 1924 almost all of the big linkers had been what we earlier termed local foreigners. Indeed, by 1937, Egyptian directors only represented around 16 percent of total directors. However, by the time the 1947 extension to Egyptianization law had been enacted, the percentage of foreign directors had fallen from 90 percent of total directors in the early 1930s to almost 65 percent by 1951.[78]

Table 1. Descriptive statistics of the network

	1924	1937	1948
Number of firms	104	207	392
Total board seats	672	1183	2294
Number of directors	423	559	1041
Average board size	6.4	5.7	5.8
Average number of positions held by a single director	1.6	2.1	2.2
Average interlocking directors per firm	1.1	0.95	1.1
Number of interlocking directors	112	197	432
Interlocking directors % of total directors	26%	35%	41%
Number of big linkers (three or more seats)	59	113	258
Big linkers % of total directors	14%	20%	25%

77. Borgatti, Everett, and Freeman, *Ucinet 6 for Windows.*
78. Deeb, "Bank Misr," 79; Deeb, "Socioeconomic Role of the Local Foreign Minorities," 22.

Having outlined these basic features of Egypt's corporate network, it is now possible to examine the results of our UCINET exercise. Figures 1, 2, and 3 demonstrate graphically that not only were more firms involved in the network by 1948 but also there was an increase in the degree of connectivity. As we show later, these figures need to be complemented by a more detailed social network analysis. It is also important to stress that in 1937 all of the companies in the Misr group were managed by the same board of directors. On the other hand, this impact would have been significantly reduced over the following years; as the subsequent discussion

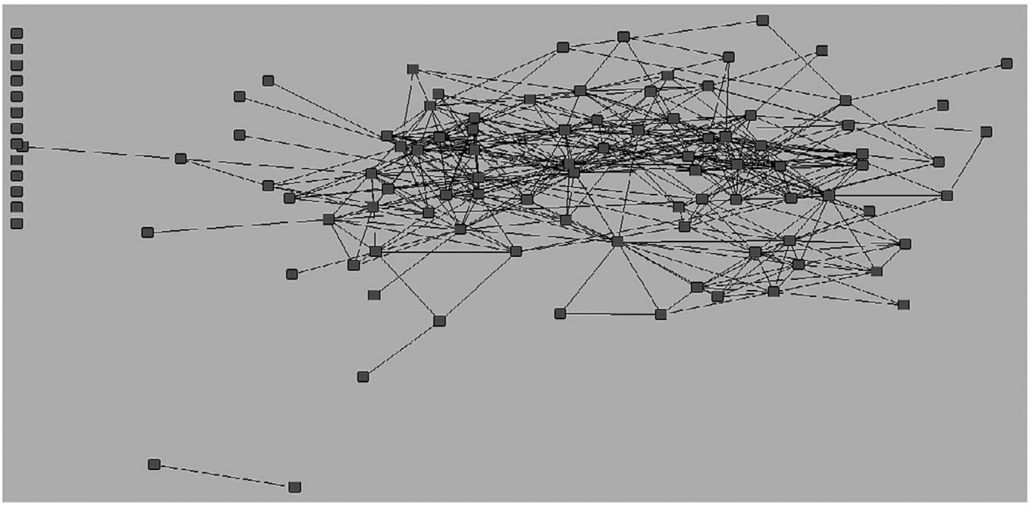

Figure 1. The corporate network in 1924.

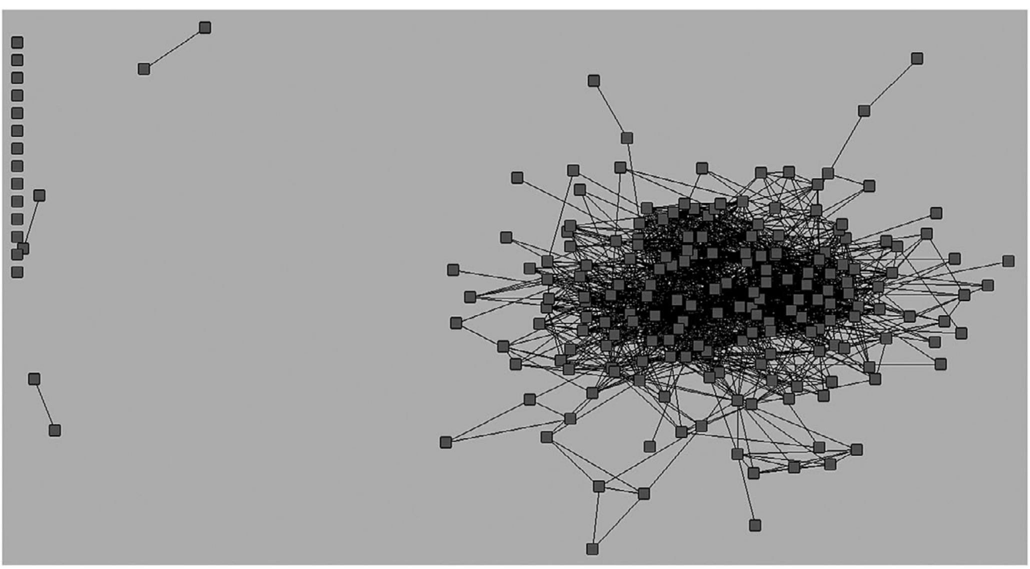

Figure 2. The corporate network in 1937.

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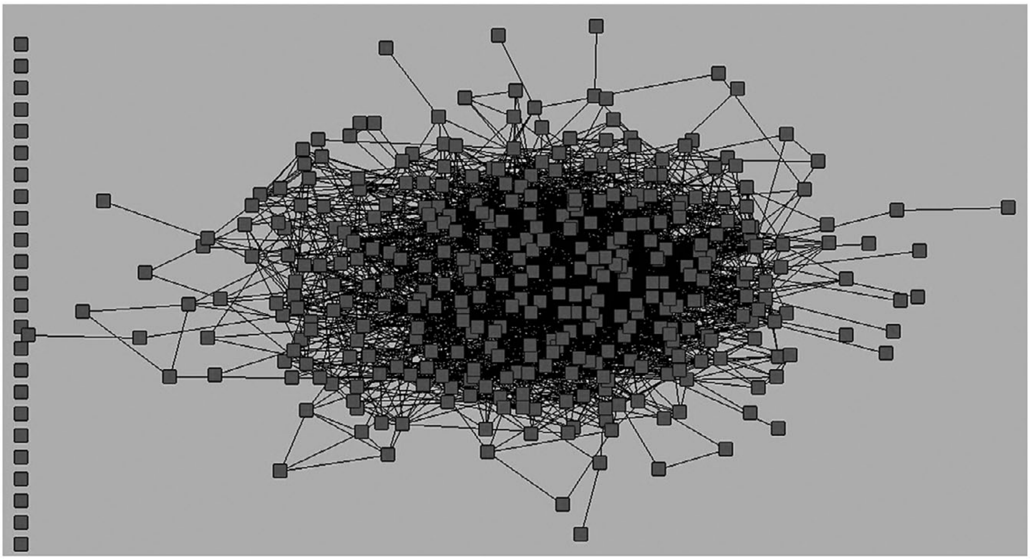

Figure 3. The corporate network in 1948.

Table 2. Top 10 most central companies in 1924 (according to degree of centrality)

Firm	Sector	# Ties
National Bank of Egypt	Financial	27
National Insurance Company of Egypt	Financial	27
Société Anonyme du Béhéra	Land	24
Egyptian Bonded Warehouses Co., Ltd.	Miscellaneous	23
Crédit Foncier Égyptien	Financial	21
Les Grands Hotels d'Égypt	Miscellaneous	21
Alexandria Water Company Ltd.	Utilities	19
Société Foncière d'Égypte	Land	19
Société Foncière du Domaine de Cheikh Fadl	Land	19
Société des Automobiles et des Omnibus du Caire	Transportation	19

will indicate, many other industrial undertakings had penetrated the network, most of which were run by local entrepreneurs. It is consequently necessary to examine the corporate networks in each of our sample years to understand the respective roles of the various business groups and foreign capital in fashioning those relationships and interactions.

Corporate Network in 1924

Table 2 lists the top ten firms according to "degree of centrality,"[79] revealing the most central firms in Egypt's corporate network at the start of our period. These firms were the largest hubs

79. The degree of a node's centrality is the number of connections this node has in its immediate neighborhood; it is the size of the immediate neighborhood that this node is adjacent to.

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in the network and maintained the greatest number of ties with other firms, so our analysis provides deep insights into the Egyptian corporate network. It is especially important to understand that most connected firms in 1924 were financial operations (e.g., National Bank of Egypt, National Insurance Company of Egypt). Unlike in many Western countries[80] commercial banks in Egypt (with the exception of Banque Misr) were foreign owned and worked exclusively in the cultivation and export of cotton, as well as in mortgages.

One should also remember that the National Bank of Egypt was formed in 1898 with the blessing of the consul-general in Egypt and the governor of the Bank of England as a response to continued demands by both foreign and local capitalists to establish a central bank along the lines employed in the developed world. Furthermore, although Raphael Suarès, a Jewish merchant-banker, obtained the government concession to establish this bank, it came into existence only as a result of financial assistance from Sir Ernest Cassel and some of his British business acquaintances.[81] Out of £1 million subscribed capital, Sir Ernest subscribed half while the Suarès and Salvago families each subscribed one-quarter of the bank's shares.

The emergence of the National Bank of Egypt illustrates the vital importance of local foreigners to the Egyptian corporate network at that time, especially in the provision of finance. Its first governor was Sir Elwin Palmer, who had acted as Cromer's financial adviser to the Egyptian government for many years.[82] While the Egyptian government nominally supervised the bank through the appointment of its governor and two deputy governors, and it soon became the government's banker with exclusive rights to issue banknotes, in practice it was managed by a London Committee comprising four British financiers. This highlights how the National Bank of Egypt operated within the British orbit: it maintained close relations with the Bank of England and the influential financial circles operating out of the City of London.[83] Crucially, the bank played a key role in establishing the Egyptian corporate network, because many local directors of the bank (e.g., Robert Rolo, Michel Salvago, and Harry Barker) were also on the boards of large British companies in Egypt.

Another central company was Crédit Foncier Égyptien, which was formed in 1880 to exploit the opportunities created by the 1875 reform of mortgage registration, which allowed land to be used as security against loans. Even though the company was largely financed by three of France's most important financial houses (i.e., Crédit Foncier de France, the Société Générale, and the Crédit Lyonnais), it was Raphael Suarès who succeeded in persuading French financiers to join a group of Alexandria-based and Cairo-based bankers in the undertaking. One of the Alexandria bankers was Constantin Salvago, illustrating how the two main business groups were participating in the venture. This also helped Crédit Foncier Égyptien to grow rapidly—within a few years, it had made loans worth over £E1 million.[84] It was estimated

80. Wilson, Buchnea, and Tilba, "British Corporate Networks."

81. National Bank of Egypt, *National Bank of Egypt*, 15–16. Along with his involvement in establishing the National Bank of Egypt, Cassel was involved in financing many infrastructure projects in Egypt, including the Aswan Dam in 1902. Cassel also participated in many private enterprises in Egypt that were promoted and floated by the Suarès Group. On the business of Sir Cassel in Egypt and the Middle East, see Thane, "Financiers and the British State."

82. Crouchley, *Investment of Foreign Capital*, 33.

83. Tignor, "Introduction of Modern Banking."

84. Cannon, "Mortgage Banking Strategies," 35.

that total lands mortgaged to the Crédit Foncier Égyptien by 1913 exceeded one-fifth of all mortgageable lands in Egypt, providing it with a dominant market position.[85] Moreover, the company soon became the most heavily capitalized enterprise in the country.[86] As one of the largest French investments in Egypt, its managing director was regarded as the head of the French business community in Egypt.

The founding of both the Crédit Foncier Égyptien in 1880 and the National Bank of Egypt in 1898 marked a new era of collaboration between the Jewish and Greek business groups. As we noted earlier, Egyptian capitalism during the second half of the nineteenth century was built on a framework of minority ethnic groups of Jews, Greeks, and Copts, with little interaction between them, especially at board level.[87] The establishment of the Crédit Foncier Égyptien and the National Bank of Egypt successfully broke this isolation by establishing a joint venture formation by coalitions of Jewish and Greek concerns. By 1907, more than half of the major firms operating in Egypt were coalitions of Jewish and Greek concerns.[88] Another example of this degree of interaction was the National Insurance Company of Egypt, an operation that was founded in Alexandria in 1900 by the owners of almost every leading bank and cotton export house in the city, including Robert Rolo, Michel Salvago, Harry Barker, and Elie Mosseri.[89] It is consequently not surprising that this company featured in the top central firms in 1924 and 1937, demonstrating how business groups proved willing to collaborate to provide the necessary facilities and functions of a modern economy, such as banking, insurance, and mortgaging.

Table 2 includes three concessionary companies. Monopoly in the Egyptian economy dates back at least to the era of Mohamed Ali (1805–1848), when he based his modernization plans on state-owned enterprises that enjoyed complete control of specific markets.[90] This modus operandi was used by successive Egyptian governments, especially in granting concessions to attract foreign capital.[91] In addition, to aid what by the late nineteenth century was a financially distressed state as a direct result of the accumulated debts of the country's rulers, state concessions were offered to new private companies floated specifically to exploit these concessions, and especially monopoly-trading rights.[92] This was the case with Société Anonyme du Béhéra, which enjoyed concessions on land development in certain areas of the Delta region, while Alexandria Water Company exclusively supplied that city with potable water. Both companies belonged to the Salvago group, with shareholders entitled to all profits up to 10 percent of paid-up capital, with the remaining surplus divided between the municipality and shareholders. Similarly, the Suarès group obtained many concessions in which government ownership of several railways lines and transportation links were ceded to the group.[93]

85. Tignor, "Introduction of Modern Banking," 109.

86. While the Suez Canal Company had the largest equity among companies in Egypt, the Crédit Foncier Égyptien issued more debentures. See Saul, "European Capital and Its Impact on Land Distribution."

87. Kalkas, "Aborted Economic and Social Development," 188.

88. Kalkas, "Aborted Economic and Social Development," 191.

89. Owen, *Cotton and the Egyptian Economy*, 289.

90. Mohamed Ali was the Ottoman governor of Egypt from 1805 to 1848, and he is considered to be the founder of modern Egypt. Fahmy, *All the Pasha's Men.*

91. Tignor, *State, Private Enterprise*, 181.

92. Tignor, *State, Private Enterprise*, 181.

93. Kalkas, "Aborted Economic and Social Development," 230.

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This included Société des Automobiles et des Omnibus du Caire, the first public transport firm in the country.[94]

Corporate Network in 1937

While it is clear that the Egyptian business world had been evolving prior to the 1920s, with business groups from different ethnic backgrounds learning how to collaborate to meet the needs of a developing economy, the 1920s and 1930s witnessed some significant changes. These were stimulated by the emergence of the Misr group, the government's Egyptianization measures and extended state support for industrialization. Just as in many other developing economies, in response to the Great Depression in the early 1930s, Egypt introduced highly protectionist policies, offering fresh opportunities that Egyptian entrepreneurs and their firms eagerly exploited.[95] As a consequence, while the top central firms in 1924 were all service sector operations, by 1937 five out of the ten most central firms were industrial undertakings (Table 3). Although the bulk of the capital for these enterprises continued to be drawn from a few wealthy families[96]—both the National Bank of Egypt and the National Insurance Company of Egypt still featured in the list—the corporate network had changed.

One visible manifestation of this transformation was the emergence of two heavily capitalized, vertically integrated firms that controlled the Egyptian textile industry during the 1930s (see the top of Table 3). These were the Société Égyptienne des Industries Textiles and La Filature Nationale d'Égypte, both of which benefited significantly from the imposition of tariffs on foreign-made textiles in 1930. Registered in 1912 to acquire the concern of the Anglo-Egyptian Spinning and Weaving Company, La Filature Nationale d'Égypte was both the largest textile enterprise in Egypt and one of the most powerful British-controlled companies, manufacturing cotton goods, woolens, and yarns in substantial integrated mills. The Cotton

Table 3. Top 10 most central companies in 1937 (according to degree of centrality)

Firm	Sector	# Ties
Société Égyptienne des Industries Textiles	Industrial	71
La Filature Nationale d'Égypte	Industrial	70
National Insurance Company of Egypt	Financial	65
Société Égyptienne de la Bourse Commerciale de Minet-el-Bassal	Miscellaneous	65
Egyptian Salt and Soda Company Ltd.	Industrial	64
National Bank of Egypt	Financial	60
Anglo-Belgian Company of Egypt Ltd.	Land	58
Société Foncière d'Égypte	Land	58
Egyptian Copper Works	Industrial	57
Société Viticole et Vinicole d'Égypte	Industrial	55

94. Grunwald, "On Cairo's Lombard Street," 14.
95. See Jones, *Entrepreneurship and Multinationals*, 34.
96. Tignor, *State, Private Enterprise*, 205.

and Spinning Company was originally established by a local group of British industrialists in the 1890s. As La Filature Nationale d'Égypte's board of directors included Michel Salvago, Henry Barker, and Elie Mosseri, this again illustrates how the two main business groups proved eager to collaborate to exploit opportunities. Société Égyptienne des Industries Textiles was also created in response to the imposition of protectionist duties, but it was a rather different form of cotton spinning and weaving enterprise, having been jointly formed in 1934, with half of the capital coming from La Filature Nationale d'Égypte and half from Calico Printers' Association Ltd. of Manchester and Bleachers' Association Ltd. Again, Michel Salvago, Henry Barker, and Elie Mosseri sat on the board of the company. The prominence of these names in the Egyptian corporate network explains the large number of ties the two companies maintained: seventy-one for Société Égyptienne des Industries Textiles and seventy for La Filature Nationale d'Égypte. Elie Mosseri, for example, sat on the boards of twenty-nine companies in 1937.

Clearly, British investment in Egyptian industry was substantial, because three of the five industrial firms listed in Table 3 were British-controlled. For example, the Egyptian Salt and Soda Company was founded in 1899 with British funds and played a leading role in the development of food processing such as oil extraction and soap, salt, and soda production. Other industrial British firms were La Filature Nationale d'Égypte and Egyptian Copper Works, in which Imperial Chemical Industries held an important stake. Elie Mosseri sat on the board of Egyptian Copper Works, as did a representative of the Salvago family, illustrating how these business groups worked closely with British capital.

Another interesting item in Table 3 is Société Égyptienne de la Bourse Commerciale de Minet-el-Bassal (hereafter the Bourse), established in 1884. The Bourse owned and controlled the cotton marketplace in Alexandria, which was the institution in which all official dealings in cotton took place. Thus, it clearly played a major role in fostering coordination across the various business groups throughout Egypt in what was the country's dominant industry. Given that this was where merchants, bankers, exporters, and brokers met on a regular basis to exchange information and discuss strategic initiatives, it operated in much the same way as the Manchester Exchange.[97] Its centrality in the network is attributable to its role in bringing various parts of the Egyptian cotton industry together in one place, performing a highly important function in building trust across the network.

Société Foncière d'Égypte was among the top central firms in 1924 and 1937. The Suarès, Rolo, and Mossseri families established this company so as to manage the large areas of agricultural land they purchased from the state. The founder of Banque Misr, Talaat Harb, was appointed managing director of Société Foncière d'Égypte, and he later joined the boards of many other companies linked to the Suarès group. This highlights again the way that different business groups were collaborating to exploit the era's opportunities, attracting foreign capital where necessary to build local capacity. Even though nationalist sentiment was intensifying as the interwar period progressed, the state looked benignly on this cosmopolitan business community, intervening only to provide the necessary support in the form of protectionist duties, concessions, and subsidies.

97. John and Singleton, "Manchester Industrial District."

Corporate Network in 1948

The Egyptian corporate network was evolving between 1922 and 1937, and by 1948 further significant changes emerged that reflected the nature of the domestic and international environments. First, as Table 1 indicates, the number of firms in the network had increased significantly from 207 in 1937 to 392 in 1948, as local entrepreneurs seized the opportunities created by both the state and the lengthy World War II. This period was also marked by the growing importance of more formalized coordination. For example, the National Bank of Egypt's ties to other firms declined, from sixty in 1937 to fifty-seven in 1948. On the other hand, as noted earlier, the FoEI, established in 1922 as the Federation of Industries, became an increasingly powerful institution, playing a key role in coordinating economic activities, lobbying for state support, and facilitating the exchange of information. Indeed, by the 1940s, the FoEI had effectively replaced the National Bank of Egypt as the main institution for cooperation in Egyptian business circles.[98]

Crucially, one should note that the FoEI was established and dominated by foreign industrialists residing in Egypt. For instance, the first board of directors consisted of eleven members, eight of whom were foreigners residing in Egypt.[99] Those members represented big industries, including sugar, cement, salt, clothing, cotton, and mining. In 1925, the FoEI had 90 members, of whom 22 percent were Egyptian; this number rose to 226 members by 1930, of whom around 16 percent were Egyptian.[100] In particular, apart from lobbying for more protective tariffs, the FoEI was especially successful in encouraging cartelization across many industries, allocating market share to members and fixing prices.[101] This activity was also passively accepted by the state, demonstrating how Egyptian entrepreneurs were being heavily supported in their drive to build local industries.

Another key feature of the changes since 1937 was the growing importance of the Misr group of companies by 1948 (Table 4). Misr Spinning and Weaving Company was the most important of all Misr enterprises, and it was the largest industrial undertaking in the Middle

Table 4. Top 10 most central companies in 1948 (according to degree centrality)

Firm	Sector	# Ties
Misr Spinning and Weaving Company	Industrial	62
Egyptian Copper Works	Industrial	61
National Bank of Egypt	Financial	57
Misr Fine Cotton Spinning and Weaving	Industrial	56
Société Générale des Sucreries et de la Raffinerie d'Égypte	Industrial	54
La Filature Nationale d'Égypte	Industrial	53
Tractor and Engineering Co.	Trade	52
Société Anonyme de Wadi Kom Ombo	Land	51
Alexandria Insurance Company	Financial	49
Khedivial Mail Steamship and Graving Dock Co. Ltd.	Financial	48

98. Vitalis, *When Capitalists Collide*, 46.
99. Deeb, "Bank Misr," 75.
100. Deeb, "Bank Misr," 75.
101. Tignor, *State, Private Enterprise*, 74; el-Gritly, *Structure of Industry*, 251.

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East at that time.[102] Along with the British firm La Filature Nationale d'Égypte, they dominated the Egyptian textile sector. These two firms also collaborated to found Société pour la Vente des Produits Égyptiens, a textiles retailer that by 1948 operated sixteen stores across Egypt. Misr Fine Cotton Spinning and Weaving, the fourth-most central firm, was founded in 1938 as a joint venture between the Misr group and Bradford Dyers, a large but declining British firm that directly invested in Egypt to avoid the tariff on imported cotton goods.[103] This indicated how the Misr group was trying to undermine its main rival, La Filature Nationale d'Égypte, which as noted earlier had combined with another British firm, Calico Printers. It is important to add that the textile industry in Egypt was privileged by state support and rebates, with textile tariffs rising steadily throughout the 1930s to counter the increasing threat of cheaply made Japanese, Indian, and Italian goods.[104] The Egyptian Ministry of Commerce and Industry was also keen to encourage mergers across the textile industry, arguing in favor of scale as another way of competing with foreign rivals.[105] This created a highly conducive environment for Egyptian entrepreneurs in textiles and in many other sectors, because the government supported the drive to large scale and imposed high tariff barriers to protect nascent industries.

The fifth-most central company in 1948 was Société Générale des Sucreries et de la Raffinerie d'Égypte (the Sugar Company). It was one of the largest and most heavily capitalized industrial undertakings in the country after it fell into bankruptcy, being purchased from the state by the Suarès group with the financial support of Sir Ernest Cassel and French investors. Over the following decades, it maintained a monopoly of the Egyptian sugar market, providing investors with good returns. By 1948, however, in response to the Egyptianization laws, the character of the ownership and management of the company had changed significantly. Although the Suarès group remained shareholders, the majority and control had been transferred to Ahmad Abboud Pasha, a successful local entrepreneur.

Another enterprise that benefited from the state's divestment of its businesses and assets was Société Anonyme de Wadi Kom Ombo, the eighth-most connected firm (see Table 4). This substantial landowner was acquired by the Suarès group in the 1880s, mostly because the large estates in Upper Egypt had been growing sugar cane, which in turn was supplied to the Sugar Company that they had acquired. This again illustrates how effectively the principal business groups extended their grip over the Egyptian economy, seizing on the state's inability to manage effectively or secure a monopoly of specific markets. The Suarès group also benefited from the transfer of additional land ownership rights during Lord Cromer's years in Egypt, between 1883 and 1907, frequently collaborating with Sir Ernest Cassel to acquire large areas of the state's lands in other areas in the Delta region.[106] With specific regard to Société Anonyme de Wadi Kom Ombo, it was clearly a central component in Egypt's corporate network, because although industrial enterprises were dominant (see Table 4), business groups had invested heavily in land ownership to safeguard their industrial investments.

102. Beinin, "Egypt," 325.
103. Tignor, "British Textile Companies," 53–55.
104. Tignor, *State, Private* Enterprise, 129.
105. *The Egyptian Gazette*, "Textile Industry in Egypt," August 6, 1946.
106. Grunwald, "On Cairo's Lombard Street."

Social Network Analysis

The previous section described the most significant changes to Egypt's corporate network, supporting Tignor's claim that "persons of different nationalities and religions were learning to cooperate with one another in these economic enterprises."[107] It is now necessary to apply social network analysis (SNA) techniques to the data. SNA converts relational data that represents ties connecting one node into usable concepts;[108] it is vital to stress that our dataset can be analyzed at either firm or director level in determining the quantity and quality of connections. Taking firms first, Table 5 demonstrates the main trends in terms of cohesion, density, closeness, and centralization. The first point worth noting is that the corporate network was already extensive by 1924. The continuous chains of connections between each node, known as the "main component" or the "network core," was 85 percent in 1924, which increased to 92 percent by 1948. This reflects the significance of the Greek and Jewish business groups described earlier. Simultaneously, the proportion of firms not connected to one another fell from 12 percent to 6 percent by 1948.

In terms of cohesion and closeness, firms were comparatively less integrated in the last benchmark year. Density, defined as the number of lines (i.e., relationships) in the network divided by the number of maximum possible lines, decreased significantly in 1948. Density should, however, be interpreted with caution since the result is always affected by the size of the network that became larger throughout the period. The "average degree" of the network (derived by counting the number of ties of each node and averaging the sum), which is not affected by the size of the network, rose from 8 in 1924 to 19 in 1937 but then fell to 15 in 1948. Furthermore, "closeness centrality" (indicating how close the nodes are to each other) also declined, from 31 percent in 1924 to 22 percent in 1948. On the other hand, the network's communication structure remained stable—"average distance" (which detects the distance

Table 5. The structure of the Egyptian corporate network, 1924-1948

	1924	1937	1948
Number of firms	104	207	392
Total number of ties	868	3,948 (4.5x)	6,074 (1.5x)
% of firms in the main component	85%	90%	92%
% of firms not connected	12%	7%	6%
Network density	8%	9%	4%
Average degree	8	19	15
Closeness centrality (main component)	31%	29%	22%
Average distance (main component)	2.6	2.4	2.7
% of firms in the 2m-core*	62%	63%	48%
Centralization	0.185	0.255	0.12
Betweenness centrality	7.37%	3.91%	3.45%

Note:
*2m-core = firms remaining in the network after relationships between firms with less than two ties are excluded.

107. Tignor, "Economic Activities of Foreigners," 418.
108. See Scott, *Social Network Analysis*, 100.

between any pair of nodes, measured by the shortest path that connects them) moved from 2.6 in 1924 to 2.7 in 1948.

Having reached this conclusion, it is necessary to understand why the network became less cohesive and less close over time. Table 5 reveals that the number of firms with two or more ties decreased from 62 percent in 1924 to 48 percent in 1948; in 1924 and 1937, more than 60 percent of all firms in the network were connected by at least two directors. This confirms the dominant position of a few large enterprises and families in the Egyptian corporate sector, suggesting a network that is characterized by institutional ties and a control mechanism that linked many firms together. However, the strength of these connections became weaker in 1948 because many other Egyptian industrial undertakings had penetrated the network. This indicates that as more Egyptian-owned firms emerged in the 1930s and 1940s, they were less integrated into the network than those run by the foreign locals, who had been central figures in the country's economic development since the 1860s.

Taking this analysis further, one must assess the data on centralization, because this is an indicator of the extent to which a network is organized around a focal point, with the value ranging from zero to one. Table 5 reveals that the centralization measure declined between 1924 and 1948, which indicates that the network was no longer organized around a few central firms that monopolized the network. This conclusion can also be confirmed by calculating the level of betweenness centrality, because this indicates the degree of influence achieved by a node, as measured by how frequently a node falls along the shortest path between each pair of nodes. As Table 5 reveals, betweenness centrality more than halved, from 7.37 percent to 3.45 percent, substantiating the claim that the infiltration of the network by an increasing number of Egyptian-owned firms reduced the influence of those enterprises run by the Greek and Jewish business groups.

Another way of analyzing these trends is to switch our focus from firms to directors. Just four key indicators (Table 6) reveals that while network density and average distance remained at consistent levels, betweenness centrality declined significantly, especially between 1937 and 1948. It is also noticeable that the measure of director centralization, having grown from 10.4 percent in 1924 to 17.4 percent in 1937, had fallen to 11.5 percent by 1948. The significance of this trend in our directors' dataset is that it provides further evidence of a considerable shift in brokerage activities; in other words, the network no longer revolved around a small group of individuals. The 1947 Egyptianization measures would have accelerated this trend, because it imposed a maximum of ten directorships per person. Even though the number of big linkers had increased in 1948 (see Table 1), with firms given three years in which to implement the legislation, directors were slow to give up their positions.

Table 6. Directors' network structure, 1924–1948

	1924	1937	1948
Network density	2%	2%	1.8%
Average distance	3.5	3	3.2
Betweenness centrality	13%	12%	6%
Centralization	10.4%	17.4%	11.5%

Conclusions

Although we focused our attentions on a relatively short period in Egypt's business and economic history, and the acute shortage of corporate archives has led us to draw inferences from the available data, it is clear from our analysis of this original dataset that the business groups formed by both local foreigners and Egyptian entrepreneurs were pivotal to the process of economic modernization in Egypt. Whether one refers to the Jewish and Greek groups that flourished from the 1860s or the Egyptian groups that emerged after 1920, it is clear that they were keen to collaborate and to provide the resources and information that an emerging economy struggles to offer. This spirit of collaboration was further reinforced by the creation of what by 1930 had become the FoEI, while the Bourse in Alexandria provided another essential vehicle for both sharing information and lobbying the state for more support. This reveals evidence to support the work of political science scholars such as Schneider and Guillén, given the state's willingness either to grant exclusive privileges to certain business groups or offer protectionist policies for nascent industries.[109] Indeed, it is clear that the institutional environment played a key role in fashioning the corporate networks, linking back to our earlier discussion of the views expressed by Scott and by Windolf on this issue.[110]

Having made this point about the institutional environment, it is equally important to emphasize that while entrepreneurship is socially embedded in network structures, connections between the different actors were fostered by networks that served two functions; namely, information sharing and trust building.[111] Both are intertwined in that they provide entrepreneurs with reliable information that accentuates the level of trust among network participants.[112] Crucially, we have charted how the Egyptian corporate network emerged out of the efforts of business groups formed by Greek and Jewish communities living in Egypt—the foreign locals, as we termed them earlier—to coordinate scarce resources to cope with the challenges associated with an emerging economy. This reinforced their dominant position in key sectors such as cotton, finance, trading, construction, and transportation. The transmission of vital market information was facilitated by the formation of institutions such as the Bourse and FoEI, supporting the claims made by Casson on the importance of this function in improving an economy's efficiency.[113] This provides a further dimension to our search for an improved understanding of the drivers precipitating the emergence of Egyptian corporate networks and business groups, supporting a functionalist interpretation for how business groups and corporate networks emerge and develop.[114] In particular, necessity drove the creation and development of these kinds of business interactions, engendering a level of coordination that helped to obviate market inefficiencies, sharing vital resources such as capital and knowledge to improve performance.

109. Schneider, "Business Groups and the State"; Guillén, "Business Groups."
110. Windolf, "Coordination and Control in Corporate Networks"; Scott, "Networks of Corporate Power."
111. On how entrepreneurship is socially embedded in network structures, see Aldrich, Rosen, and Woodward, "Impact of Social Networks"; Johannison, "Business Formation." See also Polanyi, *Great Transformation*; Granovetter, "Economic Action"; Uzzi, "Sources and Consequences of Embeddedness."
112. Casson and Della Giusta, "Entrepreneurial Networks as Social Capital," 150.
113. Casson, "Institutional Economics"; Casson, *Information and Organisation*.
114. Windolf, "Coordination and Control in Corporate Networks."

Another important finding that arises from our data is the changing composition of the corporate network, in part prompted by the Egyptianization measures that were introduced by the state in 1923 in response to the emergence of an increasingly influential Islamic and pan-Arabic movement. The Misr group of companies clearly pioneered this movement, although by the 1940s, the firm population of the corporate network had increased significantly as a direct result of the creation of Egyptian-owned firms. It took until the 1940s for this transition to have a decisive impact, and the decline in network cohesion and closeness by 1948 was largely the result of the incursion of Egyptian-owned businesses into existing structures. This conclusion could be further evaluated through the construction of an Herfindahl–Hirschman Index for Egyptian industry. However, the lack of data results in an intuitive conclusion, only hinting at a decline in the levels of concentration across the economy as a direct result of these trends.

Consequently, it is clear that the economic landscape in Egypt promoted the establishment of an interconnected business community, with the Egyptian state supporting what, by the 1920s, was a privately based market economy increasingly run by local entrepreneurs, who collaborated to provide the necessary resources and managerial skills. This is comparable to many developing economies of the nineteenth and early twentieth centuries. For example, Miyajima and Kawamoto note that zaibatsu emerged during the Meiji era from the privatization of state-owned enterprises;[115] Colpan and Jones acknowledge the role of institutional voids and government policy in the success of the Koç Group, the largest business group in Turkey.[116] Similarly, the historiography of Mexico has shown that business networks were vital elements of the state's early industrialization by securing access to resources and information.[117] During Argentina's first wave of globalization, entrepreneurs of foreign origin created large diversified business groups out of medium-sized trading companies.[118] This comparative aspect confirms the value of extending the literature to cover Egypt, given the insights this economy provides into the role of corporate networks and business groups. Above all, it is clear that economic necessity drove Egyptian entrepreneurs to collaborate, complementing the resources provided by European financiers and working with the state to ensure that the emerging nature of the economy would not inhibit progress.

Akram Beniamin is a research associate at the Centre for Economic Institutions and Business History at the University of Reading and postdoctoral researcher at the Faculty of History, University of Oxford. He completed his PhD in 2020 at Henley Business School, University of Reading. Beniamin is interested in international business and financial history. Contact information: University of Oxford, Faculty of History, Oxford OX1 2RL, UK. E-mail: akram.beniamin@history.ox.ac.uk

John F. Wilson is a professor of Business History at Northumbria University. He has published extensively in the field of business history, including covering topics such as strategy,

115. Miyajima and Kawamoto, "Business Groups in Prewar Japan."

116. Colpan and Jones, "Business Groups, Entrepreneurship."

117. Maurer and Sharma, "Enforcing Property Rights;" Maurer and Haber, "Institutional Change"; Musacchio and Read, "Bankers, Industrialists."

118. Barbero, "Business Groups in Argentina"; Barbero, "Business Groups in Nineteenth- and Twentieth-Century Argentina."

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international business, clusters and management education, and training. He has also been coeditor of *Business History* (2004–2014), as well as president of the Association of Business Historians. Contact information: Northumbria University, Newcastle Business School, Newcastle Upon Tyne NE1 8ST, UK. E-mail: john.f.wilson@northumbria.ac.uk

Neveen Abdelrehim is a senior lecturer (associate professor) in Accounting and Finance at Newcastle University Business School. Her research interests cover the role of accountability, disclosure and financial reporting, corporate social responsibility, risk, business history and accounting history. Her research examines managerial disclosure and the performance of oil companies during nationalization and independence. Her research has been published in *Business History, British Accounting Review, Enterprise and Society, Accounting History, and Critical Perspectives on Accounting*. Neveen has undertaken research-led teaching at different levels on undergraduate and postgraduate taught courses as well as being involved in the assessment of course work and examinations. Contact information: Newcastle University Business School, Newcastle upon Tyne NE1 4SE, UK E-mail: neveen.abdelrehim@newcastle.ac.uk

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