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**Political Instability and  
Untimely Dissolution:  
Partnerships, Corporations,  
and the Mexican Revolution,  
1910-1929**

**Aldo Musacchio  
Aurora Gómez-Galvarriato  
Rodrigo Parral**

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Political Instability and Untimely Dissolution:  
Partnerships, Corporations, and the Mexican Revolution, 1910-1929

Aldo Musacchio  
Assistant Professor  
Harvard Business School  
Boston, MA 02139.  
amusacchio@hbs.edu

Aurora Gómez-Galvarriato  
Division of Economics  
Centro de Investigación y Docencia Económicas A.C.  
Carretera México-Toluca 3655  
Lomas de Santa Fe, 01210 Mexico City  
aurora.gomez@cide.edu.

Rodrigo Parral  
Division of Economics  
Centro de Investigación y Docencia Económicas  
Carretera México-Toluca 3655  
Lomas de Santa Fe 01210  
México D.F, Mexico  
rodrigoparral@gmail.com

## Introduction

This paper is part of a broader research project on the economic impact of the Mexican Revolution. In this article we make an initial approximation of the effect of the Revolution on the lifespan of companies, using documents by which these companies were started, modified, and dissolved, which are filed in the Mexico City Notarial Archive between 1901 and 1930. We believe that rates of company startups and dissolutions reflect entrepreneurs' perceptions of the economic environment and the effect of this environment on company lifespan. Analyzing these variables can yield interesting insights into the current economic situation as well.

In the literature we find some work exploring the impact of the Revolution on particular companies, while others have focused on specific sectors.<sup>1</sup> This literature has shed some light on how businesses were affected by the economic, political, and social environment of the revolutionary period.

We know, for example, that the economic problems that came with the Revolution did not begin until 1912, and that the most difficult period was 1914–1917. We also know that the most serious problems for businesses were the result of: (1) the destruction of highways and railroads, which caused serious difficulties in communications and in the transportation of raw materials and finished products, periodically interrupting production and disrupting commerce; (2) the growing mobilization of workers, which led to numerous strikes and left a legacy of an organized, combative work force and, therefore, higher labor costs; (3) higher inflation

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<sup>1</sup> See, for example, Gustavo Adolfo Barrera Pages, "Industrialización Y Revolución: El Desempeño de la Cervecería Toluca Y México, S.A. (1875-1926)," (ITAM, 1999), Aurora Gómez-Galvarriato, "El Primer Impulso Industrializador de México: El Caso de Fundidora Monterrey," (Bachelor's thesis, ITAM, 1990), Aurora Gómez-Galvarriato, "The Impact of Revolution: Business and Labor in the Mexican Textile Industry, Orizaba, Veracruz 1900-1930," (Ph.D. diss. Harvard University, 1999), Stephen Haber, *Industria y subdesarrollo. La industrialización de México, 1890-1940* (México Alianza Editorial, 1992), Stephen Haber, Armando Razo and Noel Maurer, *The Politics of Property Rights. Political Instability, Credible Commitments and Economic Growth in Mexico, 1876-1929* (New York: Cambridge University Press, 2003), Gabriela Recio, "El Abogado y la Empresa: Una Mirada al Despacho de Manuel Gómez Morín, 1920-1940," (El Colegio de México, 2007).

beginning in 1914, which turned into hyperinflation in 1916 and led to a drastic reduction in the supply of currency starting in December 1916 with the elimination of bank bills, which deepened the economic recession; and (4) the blow dealt to the banking system by the government when it forced them to lend it money between 1916 and 1921 and seized issuing banks, liquidating several of them. Companies endured a reduced availability of credit, exorbitant interest rates, and very high transaction costs.<sup>2</sup>

We also know that the Revolution had an unequal effect on different economic sectors and regions. In fact, some economic activities, such as the production of oil and henequen—the former off the northern Gulf coast and the latter in Yucatán—experienced a major boom during this period. By contrast, agricultural and industrial businesses in the center of the country suffered serious problems. As for the banking sector, while issuing banks had major difficulties that led many of them to close their doors permanently, this disruption opened up business opportunities for unlicensed commercial banks and banking institutions which thrived in the former's absence, but which faced tremendous vicissitudes in the absence of a regulatory framework and of a lender of last resort.

However, much remains that we do not know, about the economy of the revolutionary period (1910–1920) and its economic consequences, in terms of both growth and income distribution over the short and long terms. After a long period in which these issues aroused little interest among historians, recently they have attracted increasing academic attention. John Womack was the first to note that Mexico had not suffered an economic collapse during the Revolution. Womack claimed that most of the historiography had long maintained the notion that during the violent years of the Revolution “there could be nothing more than destruction and

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<sup>2</sup> Aurora and Gabriela Recio Gómez-Galvarriato, “The Indispensable Service of Banks: Commercial Transactions, Industry, and Banking in Revolutionary Mexico,” *Enterprise & Society* 8, no. 1 (2007).

ruin: a true disaster for production.”<sup>3</sup> According to Womack, this conclusion was not based on an analysis of the facts, but on the Spencerian notion that there can be no “progress” without “order.” Today, most of the historiography suggests that even though the Revolution had a negative short-term impact, it was followed by a period of rapid growth in the 1920s that achieved levels of production similar to those of the Porfirio Díaz era.<sup>4</sup>

There are two different explanations of this process. Some argue that the Revolution destroyed pre-modern institutions that hindered the growth of the country, and therefore ushered in an era of greater prosperity that otherwise would not have been possible in Mexico.<sup>5</sup> Others believe that the Revolution was a mere interruption in a previously existing growth trend that was then resumed, with the country quickly regaining in the 1920s the levels of production of the Porfirio Díaz era.<sup>6</sup>

In the latter strain of the literature, Haber, Razo, and Maurer have taken the issue to the arena of quantitative history. They explain that, in general, “output and investment fell sharply during the civil war of 1914-1917 but (...) quickly recovered their former levels and rates of growth—even though the political system continued to be unstable until 1929.”<sup>7</sup> This conclusion

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<sup>3</sup> John Womack, "The Mexican Economy During the Revolution, 1910-1920: Historiography and Analysis," *Marxist Perspectives*, Winter 1978. [Translator's note: The quoted text was back-translated from the Spanish and therefore does not necessarily match the wording in the original source.]

<sup>4</sup> See Clark W. Reynolds, *The Mexican Economy; Twentieth-Century Structure and Growth* (New Haven: Yale University Press, 1970).; Raymond Vernon, *The Dilemma of Mexico's Development; the Roles of the Private and Public Sector* (Cambridge, Mass: Harvard University Press, 1963).; Leopoldo Solís, *La Realidad Económica Mexicana; Retrovisión Y Perspectivas* (Mexico Siglo Veintiuno Editores, 1970).

<sup>5</sup> Frank Tannenbaum, *Mexico: The Struggle for Peace and Bread* (New York: Knopf, 1950), Frank Tannenbaum, *The Mexican Agrarian Revolution* (New York: Macmillan, 1929).; Vernon (1963); Charles Curtis Cumberland, *The Struggle for Modernity* (New York: Oxford University Press, 1968).

<sup>6</sup> While this thesis is not made explicit, it was suggested in Cumberland, *The Struggle for Modernity*, Sergio De la Peña, *La Formación del Capitalismo en México*, 3 ed. ed. (Mexico: Siglo Veintiuno Editores, 1977).; Fernando Rosenzweig, "La Industria," in *Historia Moderna de México*, ed. Daniel Cosío Villegas (Mexico: Hermes, 1965).; José Valadés, *El Porfirismo, Historia De Un Régimen* (Mexico: Antigua Librería Robredo de J. Porrúa e hijos., 1948).; Adolfo Gilly, *La Revolución Interrumpida* (Mexico City: Era, 1994).; Donald E. Keesing, *Employment and Lack of Employment in Mexico, 1900-1970* (Williamston, Mass: William College, Center for Development Economics, 1975).; and Jean Meyer, *La Revolución Mexicana* (Mexico City: Tusquets, 2004).

<sup>7</sup> Stephen Haber, Armando Razo, and Noel Maurer, *The Politics of Property Rights. Political Instability, Credible Commitments and Economic Growth in Mexico, 1876-1929*.p.14

leads the authors to sustain the broader hypothesis that “there is no necessary connection between political instability and economic stagnation.”<sup>8</sup>

However, this optimistic view contrasts with recent demographic findings. McCaa shows that, in terms of lives lost, the Mexican Revolution was a demographic catastrophe comparable to the Spanish Civil War, and Mexico’s greatest catastrophe since the Spanish conquest. The demographic cost of the Revolution was 2.1 million people. Two thirds of this total was due to excess mortality, one fourth due to lost births, and less than one tenth due to emigration.<sup>9</sup> Furthermore, McCaa claims that the demographic recovery from the Revolution was slow. The population grew by only 1.4 million between 1910 and 1930, which was less than the increase between 1900 and 1910, the decade of the Porfirio Díaz period in which the population grew the least. Unless we consider population losses to have been redundant—which is difficult to believe in a country with only 12 million inhabitants—these losses must have had an economic cost. More research is clearly needed to resolve the disparity between the two views described above.

This paper represents just one small step in this huge task. Here we examine the effect that the Mexican Revolution had on the duration of partnerships and corporations in Mexico City. To this end we have used a completely original database of firm charters (startups and dissolutions), which we compiled from the Mexico City Notarial Archive. In view of the scarcity of continuous data on economic activity and capital formation during the 1900–1930 period, we believe that this database can provide a unique perspective for understanding how the Mexican Revolution affected Mexican companies, particularly their lifespan during and after the worst years of the civil war (1914–1916). We used these data to build series indicating the lifespan of

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<sup>8</sup> Stephen Haber, Armando Razo, and Noel Maurer, *The Politics of Property Rights. Political Instability, Credible Commitments and Economic Growth in Mexico, 1876-1929*. p.15.

<sup>9</sup> Robert McCaa, "Missing Millions: The Demographic Costs of the Mexican Revolution," *Mexican Studies/Estudios Mexicanos* 19, no. 2 (Summer 2003), p.396.

each company, and given the level of detail in the documents used to create the database, we controlled for several factors, such as type of company (e.g., *comandita* [limited partnership], *colectiva* [general partnership], *anónima* [corporation]), size, number of partners, and sector. We used dummy variables for the post-revolutionary period, sometimes multiplied by the type of company, to view the changing lifespan of companies. Our results show that after (and not during) the most intense years of the civil war, the average company lifespan decreased significantly.

This paper is subdivided as follows: In the following section we describe our sources and explain our methodology; we then explain our results; and lastly we offer a conclusion.

## Sources and Methodology

We have built our database using the charters filed in order to establish, modify, and dissolve partnerships and corporations, which we found in the Mexico City Notarial Archive for 1901 to 1930.<sup>10</sup> While a study of notarial documents in Mexico City provides a regional approach which should not be extrapolated to the country as a whole, these documents provide data not only on companies located in Mexico City but on firms located in a broader regional area, as many companies from throughout the country were headquartered in the capital city.

The database thus far contains data from 20 notaries, which represent 26 percent of the 75 registered notaries. However, these were the notaries with which most business documents were registered, and therefore these contracts represent almost all of the documents filed to establish, modify, and dissolve companies during the period in question. In 1907, for example, we looked at all of the notaries and found that the documents in our sample represent 95 percent of all such documents filed for that year. The database contains 5,480 documents establishing

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<sup>10</sup> Aurora Gómez-Galvarriato. *Base de Datos del Archivo Histórico de Notarias. Fondo Contemporáneo. Las Empresas.*

new companies, 834 modification documents, and 1,572 dissolution documents. Despite the large number of companies in our sample, for this paper we looked only at those for which we had several records of establishment and/or modification throughout the period, so that these records would allow us to develop a panel-type set of data. We felt it necessary to restrict our analysis to this sample because these are the only companies of whose dissolution dates we are certain; in other words, we know that they still existed in a particular year, and we have a larger number of variables on them. This panel consists of 1,138 companies, 60 percent of which were dissolved by 1930.

Our objective is to determine the extent to which the Mexican Revolution caused a higher failure rate among companies. In this draft of the paper we estimate the effect that political instability during and after the worst years of the Mexican Revolution had on average duration of a company using a very simple approach. We use a simple OLS estimate with company lifespan, expressed in months, as the independent variable. We know that since our database is truncated, because our sample ends in 1930, using OLS will overestimate some of the effects of political instability after the Revolution. Our OLS estimates will assume that the effects of the Mexican Revolution on duration were really strong because a lot of companies would have died in 1930 (when our database ends) and we will correct this problem by estimating a hazard model in the next version of the paper.

So the specifications we use have the following form

$$y_i = \alpha + \sum_{j=1}^J \beta_j X_{ji} + \gamma \delta + \epsilon_i,$$

where  $y_i$  is the actual duration of a specific company in months,  $X_{ji}$  are the  $J$  company characteristics we have to control, and  $\delta$  is a dummy that captures the period during and after the



Mexican Revolution, when we would expect the average duration of a company to be lower.

Finally, we have to assume that  $\epsilon \sim N(0, \sigma^2)$ . Some assumptions are violated given that our data is truncated in 1930. Among our  $X_{ji}$  controls we have initial capital in pesos of 1900, number of shares (for partnerships with shares and corporations), the number of partners or shareholders (and the number of partners squared), and economic variables—in our case, total imports, since reliable estimates on production are lacking for the years of the Revolution.<sup>11</sup>

The variables used are theoretically related to expected company lifespan. One would expect a priori that companies with the largest amounts of initial capital would tend to survive an adverse economic environment, and introducing the number of shares and partners as explanatory variables allows us to capture the fragmentation of capital. Therefore, this provides a good approximation of internal negotiations prior to the decision to dissolve.

The literature comparing corporations to general and limited partnerships in fact argues that problems among partners leads to untimely dissolution of the firm, i.e., dissolution of a firm earlier than the lifespan indicated in the original contract. For example, Naomi Lamoreaux and Jean Laurent Rosenthal maintain that the death or unexpected departure of a partner may be more problematic in general and limited partnerships with many partners, since the probability of death or dispute increases with the number of partners. In fact we would expect to find that corporations had a significantly longer lifespan than general and limited partnerships, where the departure of a partner led almost automatically to dissolution.<sup>12</sup> This argument is based on the fact that the major advantage of corporations lays in the creation of a legal entity whose capital

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<sup>11</sup> Data on foreign trade are from Sandra Kuntz, *El Comercio Exterior en la Era del Capitalismo Liberal 1870-1929* (Mexico City: El Colegio de México, 2007). Tables A.1, A.3, A.5.

<sup>12</sup> Naomi Lamoreaux and Jean Laurent Rosenthal, “Contractual Tradeoffs and SMEs’ Choice of Organizational Form: A View From U.S. and French History, 1830-2000” NBER Working paper 12455, August 2006, p. 9. Margaret Blair, “Locking in Capital: What Corporate Law Achieved for Business Organizers in the Nineteenth Century” *UCLA Law Review* Vol. 51 No. 2 (2003): 387–455.

and existence does not depend on the presence or absence of all initial partners. Intuitively, if the Revolution affected the failure rate of companies, then the dichotomous variables from the 1910–1930 period that capture the effect of time should have a negative impact on company lifespan.

## Findings

Table 1 shows the characteristics of the companies examined. As in all of the data, the companies devoted to commerce represent the majority (56%), and these represent the largest percentage in terms of capital (40%), followed by those in manufacturing (17% and 23%, respectively). Average company lifespan was rather short (50.8 months), but variance from sector to sector is large. While mining and oil companies lasted an average of 95.9 months, manufacturing companies averaged only 39.3 months. On average companies only had 2.5 partners, but mining and oil companies averaged 4 partners per company.

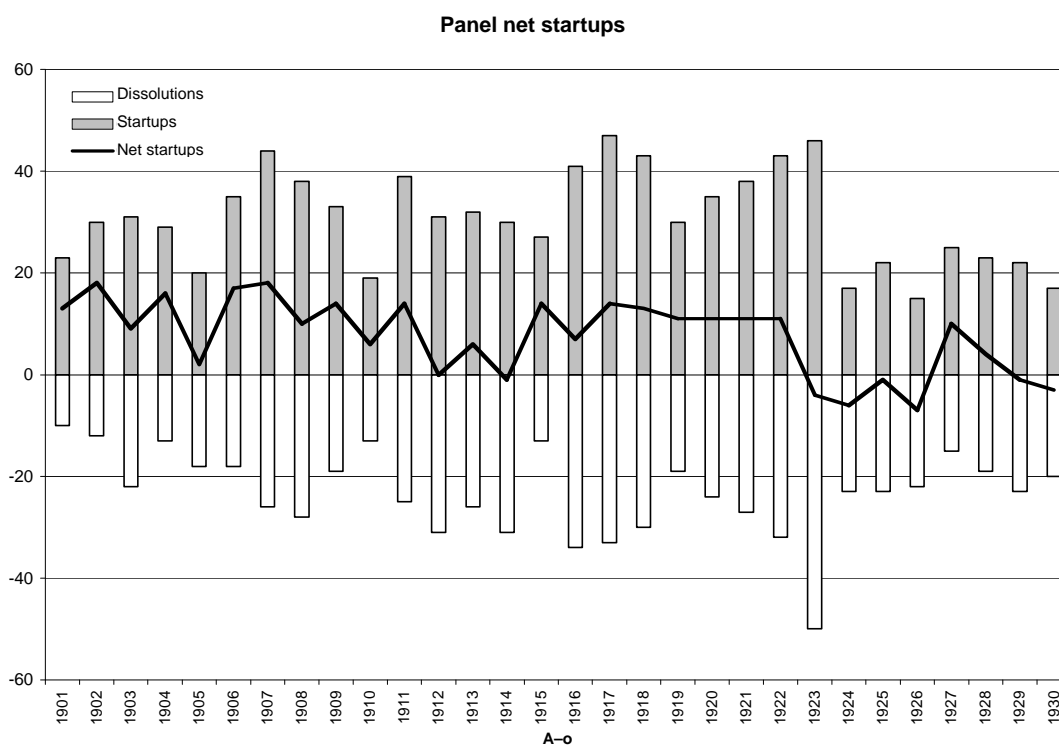
**Table 1. Descriptive Statistics**

Sector	No. of companies		Total capital (1900=100)		Average capital 000 (1900=100)	Average lifespan (months)	No. of shares		Avg. no. of partners
			000's	%			Total	Average	
Manufacturing	114	17%	4,593	22.9%	40.3	39.3	17,801	1,618	2.6
Mining and oil	9	1%	2,145	10.7%	238.3	95.9	1,011,002	252,751	4.1
Agriculture	18	3%	561	2.8%	31.2	48.8	1,500	1,500	2.8
Real estate	12	2%	626	3.1%	52.2	41.0	6,400	1,600	2.4
Banks and fin. inst.	36	5%	1,510	7.5%	41.9	65.1	660	330	2.6
Railroads	7	1%	27	0.1%	3.8	40.1	0		2.4
Commerce	378	56%	8,061	40.1%	21.3	52.8	6,264	783	2.4
Services	97	14%	1,817	9.0%	18.7	49.6	222	74	2.6
Not available	5	1%	745	3.7%	149.0	42.0	2	2	2.8
Total	676	100%	20,084	100%	29.7	50.8	1,043,851	1492	2.5

The first issue to explore was how the number of dissolutions and startups had changed over time, particularly the number of net startups (startups minus dissolutions), to determine whether the Mexican Revolution had affected these patterns. Figure 1 goes against the pessimistic vision of the Revolution which would expect a drastic decrease in the number of startups and an increase in the number of dissolutions, which would mean a decrease in the number of net startups. As we can see, while after 1911 there was a drop in the number of net

startups, this figure increases in 1915 and remains at levels similar to those of the Porfirio Díaz era until 1923. From there we see negative rates until 1927, which marks the beginning of a new downward trend, though this was most likely caused by the early effects of the Great Depression in Mexico.

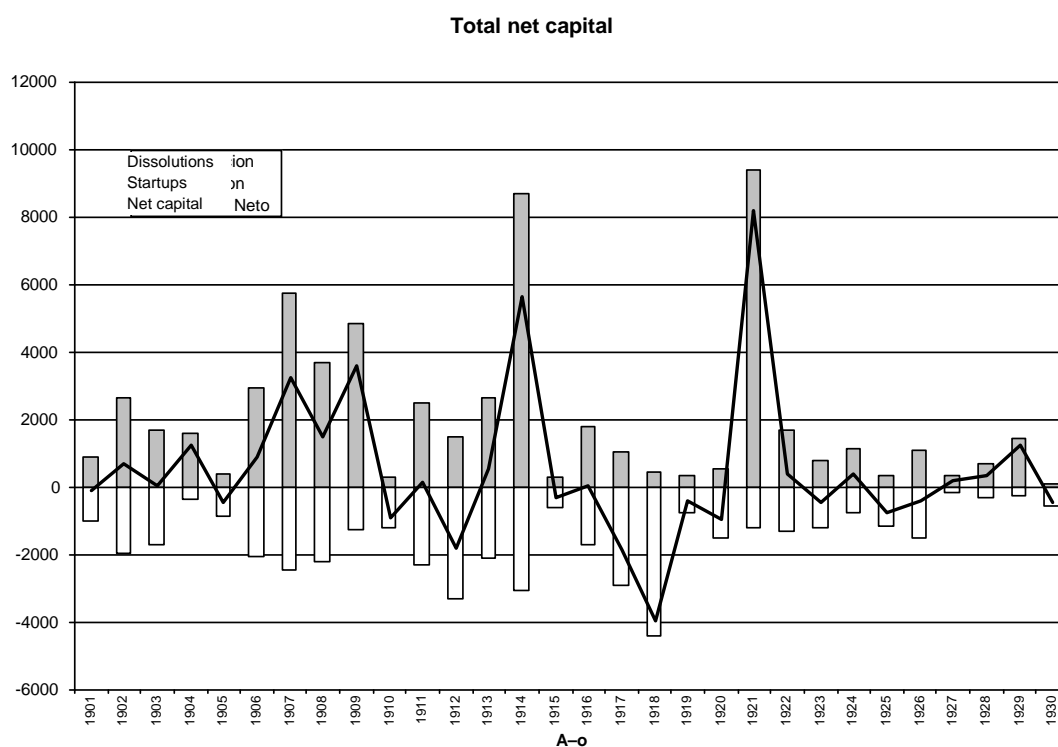
**Figure 1**



By looking at startups and dissolutions not in terms of the number of companies but rather in terms of the proportion of capital that these companies represent, we get a different picture that goes against the optimistic view of the Revolution. As shown in Figure 2, in terms of capital in newly formed and dissolved companies (in pesos in 1900), we see a drop to negative levels starting in 1910, and except for an interruption in this pattern in 1914, this continues until 1920. Interestingly, the large increase in net startups in 1921 coincides with a similar increase in

imported machinery, and imports as a whole, in the same year.<sup>13</sup> After 1921, however, net startups fall to nearly zero for the rest of the decade, well under the levels of the Porfirio Díaz era.

**Figure 2**



We explore these developments at the sector level, showing here the figures from those sectors with the greatest weight in terms of the capital represented by the companies in our sample: commerce, manufacturing, and mining and oil. Figure 3 shows that in the commerce sector these rates become negative starting in 1909, except for 1914 and 1929, reaching their lowest levels in 1912.

<sup>13</sup> Ibid.

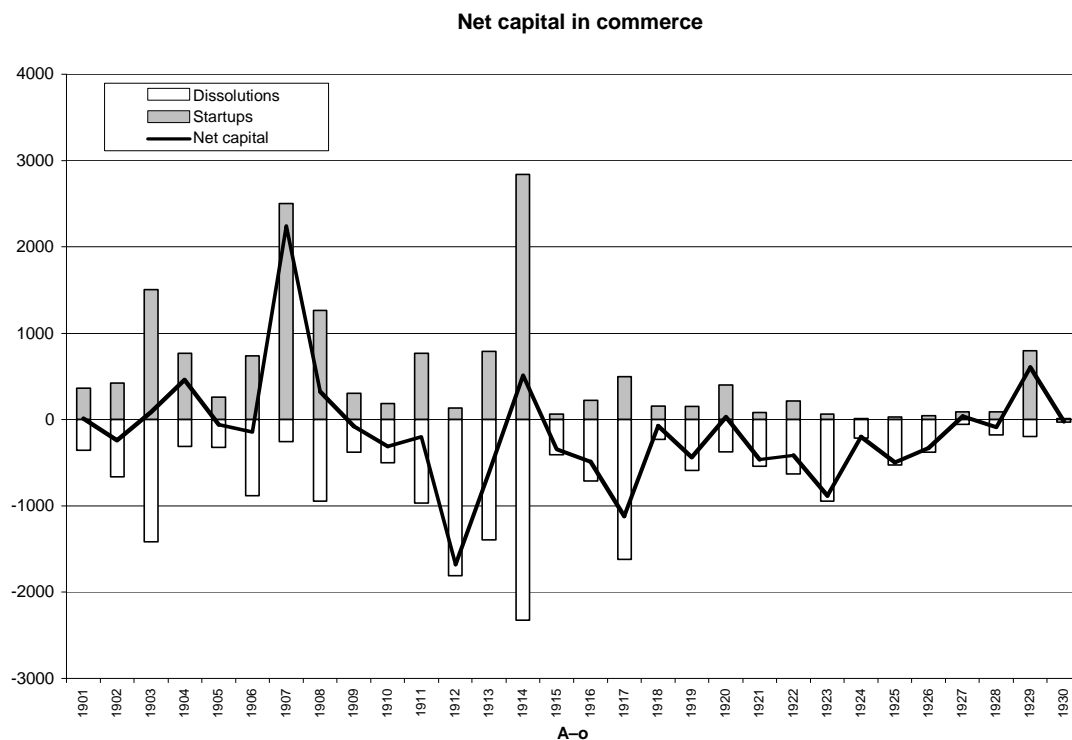
**Figure 3**

Figure 4 shows the performance of the manufacturing sector. Here we see a sharp drop in 1912 and a minor recovery in 1913 that grows much larger in 1914. After this, the figures are negative or near zero for the rest of the period in question, except in 1924.

The mining sector shown in Figure 5 had a particularly interesting trajectory, as it reflects Mexico's oil boom during the years of the Revolution. Between 1912 and 1916 we see a high number of net company startups that ends in 1917 and is followed by a year of failures in 1918; after that the line is practically flat.

Figure 4

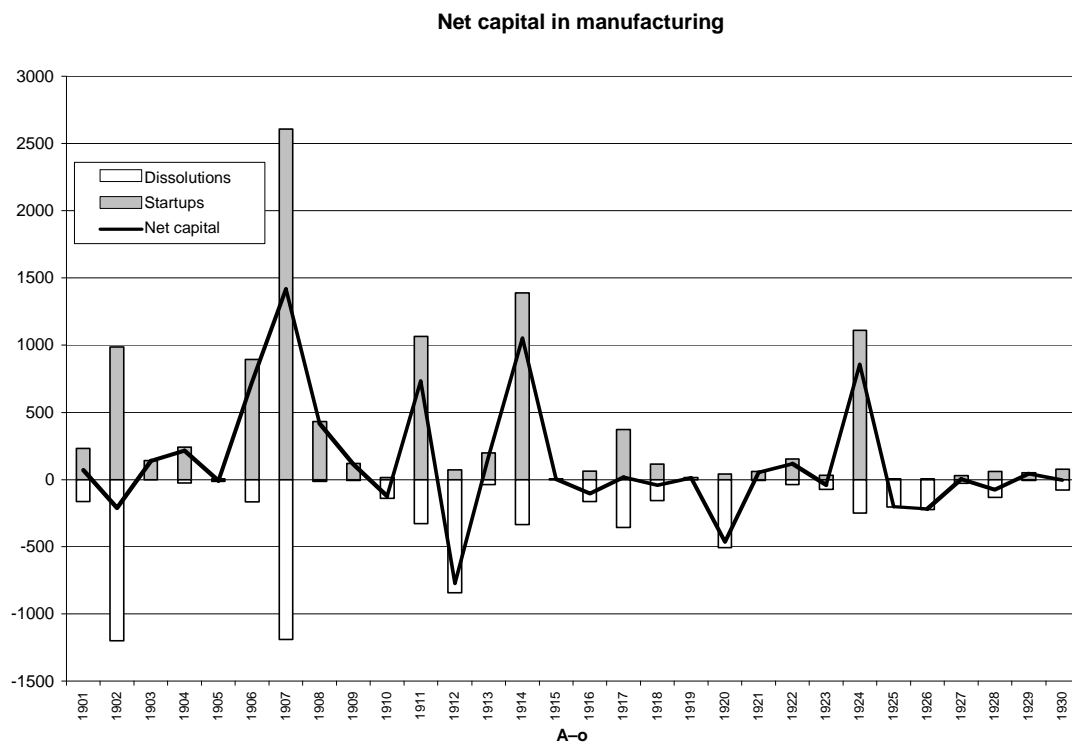
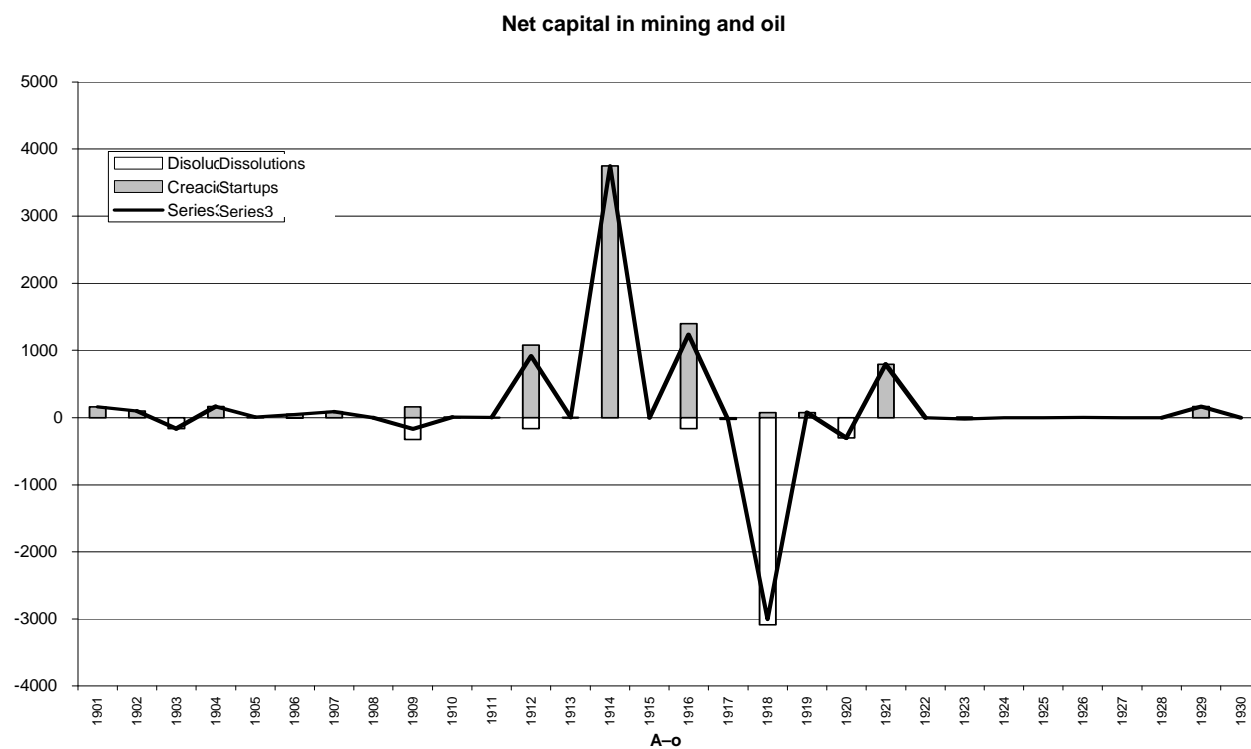
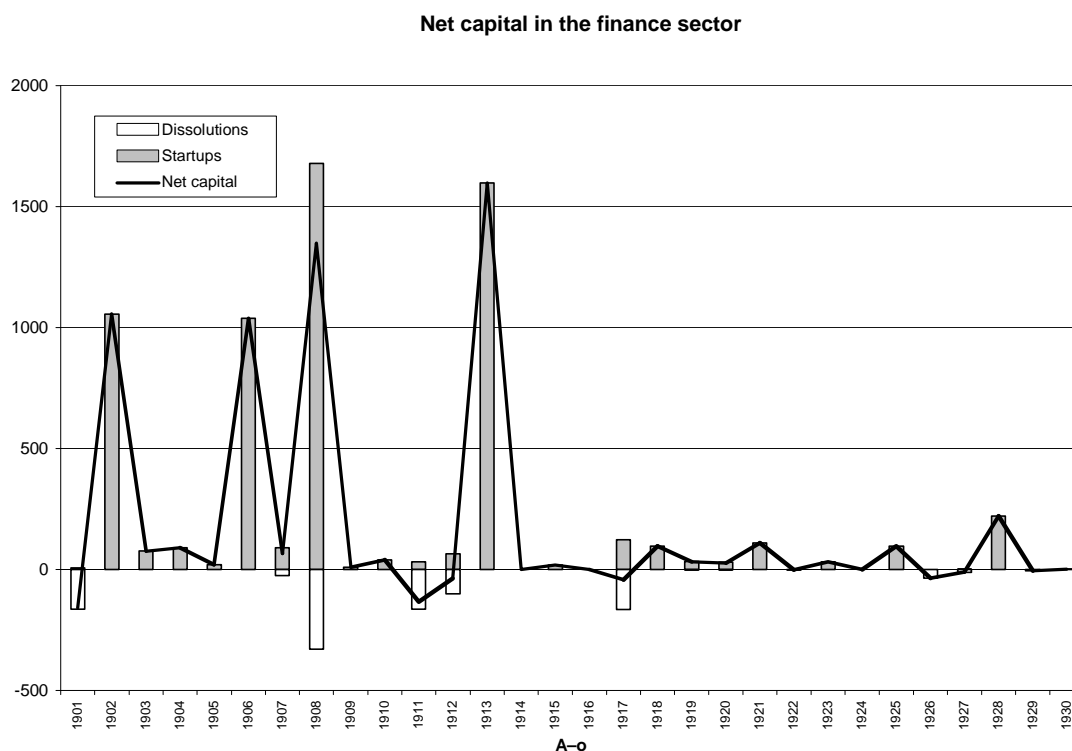


Figure 5



The financial sector is particularly interesting. This was the sector that, according to the historiography, was most directly impacted by the Revolution, as reflected in Figure 6. This figure shows that company startups practically ceased after 1913. Interestingly, however, the data from the notary offices do not show the dissolutions that we would have expected to find.

**Figure 6**



While a visual analysis of these overall and sector-specific trends provides some important insight into the impact of the Revolution on patterns of startups and dissolutions, an econometric analysis helps us see with more certainty the effects of the various variables on this process.

In Table 2 we can see the results of our duration estimates. As seen, the results of the regression go in the direction of our working hypothesis, since the dichotomous variables that capture differences on the average level of duration in the firms after the start of the Revolution

show negative and significant coefficients. To assess the impact of the Revolution in various periods and to analyze the soundness of our results, we conducted several regressions by changing the period of time covering the dummy variable of the Revolution and found the effect to be quite sound, as it yields similarly negative and significant effects of instability on company duration. It is interesting to note that the rate increases in absolute terms when we limit our dummy to the years after 1912, but is negative when we consider the period after 1910. Importantly, the political instability after the Mexican Revolution had a negative and significant effect on firm duration when we study the effect until 1925, which shows that our results are not due to the negative (early) effects that the Great Depression may have had on company lifespan.

Beyond the clear effects of political and economic instability after the Mexican Revolution, our estimates have one surprising result. When we control for the number of partners or shareholders we were expecting to find that since the majority of firms in our sample were partnerships, having more partners would increase the probability of untimely dissolution. Yet we find that having more partners increased the probability of survival in a significant way. Since untimely dissolutions are more likely to be registered (as a cancellation of the partnership charter), we believe our database captures well whether a larger number of partners increased the dissolution of firms before the date stipulated in the charter.

For instance, in Table 2 we can see that having an additional partner increases the average survival by almost 8 months. This is a significant improvement if we think that the average duration went down from around 50 months to less than 40 after the Mexican Revolution. Obviously this result has to be nuanced by looking at the coefficient for the number of partners squared, which shows that increases in number of partners provide longer duration but with



lower marginal contributions and even negative contributions to duration as the number increases beyond 8 partners.

We thought this result could have been driven by the fact that we have corporations in the sample, which have large numbers of shareholders and long durations. Yet when we run the model with a sample of partnerships only and the results do not change significantly. Again we thought this was because we were including limited liability partnerships, which tended to have more partners than regular partnerships and usually lasted longer. But when we ran the same specifications with a sample of general partnerships only we get similar results. The results are reported in Table 3. Even if having more partners increased the average duration of a partnership by around 5 months, the effects are significantly smaller than when we included limited partnerships and corporations. These results are puzzling given that most of the literature on untimely dissolution would argue that an increase in the number of partners increases the likelihood of disagreements between the partners or just early dissolution.

Another way of capturing the dynamic of dissolution is to use the operational sector as an explanatory variable. As the previous figures show, not all sectors were affected equally by the Revolution. To analyze the impact of the operations sector on company lifespan, we expressed them as dichotomous variables, excluding the manufacturing sector because its performance was relatively stable during this period. By omitting this sector, the results of the rate are interpreted as relative to the sector omitted. The rates of the estimate indicate that, in comparison with the manufacturing sector, companies in the mining, agricultural, construction, service, finance, and commerce sectors last longer on average than manufacturing companies, although only the latter two sectors are statistically significant.

Lastly, we performed the same analysis by expanding our sample. To this end we included companies that are only recorded as dissolutions in our database, provided that the original startup date is recorded.<sup>14</sup> With these 220 companies included, the results remained relatively stable, though because a bias is caused by the unavailability of all original startup data, some rates are not significant. However, their effect is the same as those found in the panel-type sample. The results of this specification are given in Appendix 1.

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<sup>14</sup> We approximated the lifespan of these companies by using the startup date reported in the dissolution document. However, the variables of number of partners, capital, shares, and sector may have changed over the company's lifespan; thus, unlike our panel, we used information reported at the time of dissolution as an approximation of the true variables.

**Table 2. OLS Estimates of Firm Duration**

OLS estimation using as depended variable the duration of a firm in months. Explanatory variables include the log of capital in 1900 pesos, the number of partners, the number of partners squared, real imports (per year), and seven dummies for the different sectors in which firms operated. The hypothesis tested is that after the Mexican Revolution, with the increase in political and economic stability, average duration of firms will go down. This hypothesis is tested using different dummies for the years after 1910. This estimation uses the complete sample of general partnerships only (excludes corporations and limited liability partnerships). Robust standard errors are in brackets. Significance level denoted with a \*, \*\*, and \*\*\* for 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	22.223 [21.187]	26.459 [21.201]	20.698 [21.390]	23.084 [21.229]	11.838 [22.133]	5.871 [20.517]	-2.985 [20.637]
Inc capital 1900	5.898 [1.307]***	5.688 [1.301]***	6.31 [1.281]***	6.188 [1.275]***	6.856 [1.254]***	6.572 [1.273]***	5.72 [1.298]***
Num. partners	5.592 [2.896]*	5.782 [2.889]**	5.317 [2.895]*	5.418 [2.888]*	4.938 [2.898]*	4.968 [2.892]*	5.365 [2.878]*
Num. partners ^2	-0.178 [0.117]	-0.185 [0.117]	-0.168 [0.117]	-0.173 [0.117]	-0.152 [0.117]	-0.152 [0.117]	-0.164 [0.116]
Real imports	-3.334 [1.765]*	-3.486 [1.762]**	-3.645 [1.781]**	-3.637 [1.772]**	-3.476 [1.867]*	-2.687 [1.809]	-1.066 [1.887]
<b>Dummies for periods with political instability</b>							
1910-1929	-10.701 [4.248]**						
1912-1929		-13.187 [4.211]***					
1912-1926			-8.479 [4.160]**				
1910-1926				-10.764 [4.155]***			
1910-1920					-2.097 [4.343]		
1925-1929						-10.243 [7.576]	
1920-1929							-15.884 [5.080]***
<b>Dummies for Sector</b>							
Mining	40.001 [18.170]**	38.376 [18.138]**	40.877 [18.196]**	40.948 [18.161]**	40.795 [18.252]**	39.894 [18.244]**	40.876 [18.120]**
Agriculture	6.807 [12.879]	7.17 [12.847]	7.17 [12.906]	7.318 [12.880]	6.501 [12.947]	5.415 [12.935]	4.979 [12.850]
Real Estate	1.23 [15.740]	-2.203 [15.761]	2.308 [15.758]	2.271 [15.728]	2.6 [15.809]	1.076 [15.817]	-0.704 [15.724]
Finance	19.215 [9.841]*	18.845 [9.808]*	20.402 [9.828]**	20.589 [9.797]**	21.619 [9.839]**	21.039 [9.837]**	20.027 [9.780]**
R.R. and Utilities	5.586 [18.647]	5.369 [18.594]	7.106 [18.660]	6.273 [18.630]	7.65 [18.713]	6.148 [18.727]	4.218 [18.614]
Commerce	13.642 [5.389]**	13.427 [5.375]**	14.023 [5.405]***	14.162 [5.395]***	13.657 [5.433]**	12.802 [5.427]**	12.041 [5.394]**
Service	10.744 [7.012]	10.201 [6.996]	11.284 [7.030]	11.367 [7.015]	10.725 [7.045]	9.824 [7.063]	10.202 [6.996]
Observations	678	678	678	678	678	678	678
R-squared	0.09	0.09	0.09	0.09	0.08	0.08	0.09

**Table 3. OLS Estimates Using the Sample of Partnerships Only**

OLS estimation using as depended variable the duration of a firm in months. Explanatory variables include the log of capital in 1900 pesos, the number of partners, the number of partners squared, real imports (per year), and seven dummies for the different sectors in which firms operated. The hypothesis tested is that after the Mexican Revolution, with the increase in political and economic stability, average duration of firms will go down. This hypothesis is tested using different dummies for the years after 1910. This estimation uses the complete sample of general partnerships only (excludes corporations and limited liability partnerships). Robust standard errors are in brackets. Significance level denoted with a \*, \*\*, and \*\*\* for 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	17.574 [35.442]	21.977 [35.509]	15.227 [35.497]	20.112 [35.823]	8.478 [36.913]	3.449 [34.904]	-4.848 [34.968]
Incapital1900	6.1 [1.542]***	5.93 [1.539]****	6.499 [1.511]***	6.429 [1.509]***	6.95 [1.489]***	6.667 [1.518]***	5.967 [1.545]***
Num. partners	20.078 [17.633]	20.107 [17.598]	20.478 [17.671]	17.973 [17.636]	18.469 [17.719]	18.108 [17.693]	19.175 [17.606]
Num. partners ^2	-2.489 [2.734]	-2.488 [2.729]	-2.596 [2.741]	-2.19 [2.735]	-2.276 [2.748]	-2.182 [2.746]	-2.301 [2.730]
Real imports	-4.713 [1,999]**	-4.889 [1.999]**	-5.015 [2.022]**	-4.988 [2.013]**	-4.793 [2.134]**	-4.063 [2.051]**	-2.692 [2.147]
<b>Dummies for periods with political instability</b>							
1910-1929	-10.068 [4.923]**						
1912-1929		-12.042 [4.888]**					
1912-1926			-8.078 [4.801]*				
1910-1926				-9.24 [4.789]*			
1910-1920					-1.977 [5.046]		
1925 mas						-8.502 [8.520]	
1920 mas							-13.38 [5.859]**
<b>Dummies for Sector</b>							
Mining	28.916 [22.224] *	28.668 [22.182]	29.763 [22.242]	30.806 [22,217]	30.625 [22.293]	29.996 [22,285]	30.349 [22.186]
Agriculture	-5.883 [14.780]	-5.777 [14,754]	-5.249 [14.801]	-5.603 [14.787]	-5.635 [14.838]	-6.575 [14,852]	-6.839 [14.774]
Real Estate	-10.37 [19.306]	-15.029 [19.420]	-8.946 [19.316]	-8.366 [19.301]	-8.204 [19.430]	-10.337 [19.409]	-14.218 [19.416]
Finance	24.946 [11.367]**	24.288 [11.338]**	26.555 [11.303]**	26.626 [11.270]**	28.556 [11.274]**	28.007 [11.272]**	26.238 [11.253]**
R.R. and Utilities	2.847 [20.523]	2.643 [20.483]	4.338 [20.529]	3.675 [20.518]	4.766 [20.580]	3.298 [20.617]	1.425 [20.534]
Commerce	14.208 [6.343]**	13.79 [.,336]**	14.718 [6.351]***	14.684 [6.345]***	14.659 [6.383]**	13.789 [6.398]**	12.777 [6.379]**
Service	7.825 [8.112]	7.014 [8.106]	8.238 [8.125]	8.209 [8.117]	8.033 [8.147]	7.333 [8.160]	7.045 [8.114]
Observations	533	533	533	533	533	533	533
R-squared	0.08	0.09	0.08	0.08	0.08	0.08	0.08

## Conclusions

The analysis of patterns of company startups and dissolutions in Mexico City between 1901 and 1930 suggests that the Mexican Revolution had a lasting negative impact throughout the 1920s on the Mexican economy. Net company startups, in terms of capital, decreased as a result of the armed conflict, and never again increased to the levels of the Porfirio Díaz era throughout the rest of the 1920s. Also, the results of the regressions show that the economic environment generated by the Revolution had a negative impact on company lifespan. This evidence on company duration, therefore, supports the view that the 1920s were a period of decline, rather than a period of reconstruction.<sup>15</sup>

However, the evidence on company startups also support the view of Womack and Haber et al. that the Revolution did not entail a total collapse of the economy. Our data indicate that even during the worst moments of the armed conflict, there were a significant number of startups. That is, there were many entrepreneurs willing to invest and start new businesses during these unstable years. The records on company startups and dissolutions also show clear differences among sectors, while sectors such as the oil sector (as part of the mining sector) thrived during the years of the Revolution, the financial sector experienced a major setback. The remaining sectors fell somewhere in between.

In general, the results of this study indicate that the economic impact of the Mexican Revolution must have been somewhere in between the most pessimistic and optimistic views found in the historiography. The economy did not collapse, companies continued to be established throughout the years of fighting, and many companies did survive. Yet the

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<sup>15</sup> The notion of the 1920s as a decade of reconstruction is put forward in Krauze Enrique, Jean Meyer and Cayetano Reyes, *Historia de La Revolución Mexicana 1924-1928. La Reconstrucción Económica.*, vol. 10 (El Colegio de México, 1995).

Revolution did see a lower rate of net investment in terms of capital formation (or at least pledged for new companies), and this rate did not recover throughout the 1920s.

Finally, according to our data, having more partners actually increased the average duration of partnerships, even during the most unstable years. This result contradicts most of the literature on untimely dissolution of partnerships, which would predict that it having more partners would increase the likelihood of untimely dissolution. Moreover, in times of instability we would expect partnerships to have a higher likelihood of untimely dissolution when there were more partners with different objectives and facing different risks and failures in their other endeavors. Even if this is just preliminary evidence, these results raise interesting questions for further research.

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## Appendix 1. Results of the Regression with the Expanded Sample

	Company lifespan Specification								
	1	2	3	4	5	6	7	8	9
Dummy 1910-1929	-25.097 [4.271]***								
Dummy 1912-1929		-28.726 [4.194]***							
Dummy 1915-1929			-27.315 [4.173]***						
Dummy 1920-1929				-26.503 [4.939]***					
Dummy 1925-1929					-24.843 [7.220]***				
Dummy 1910-1920						-4.477 [4.470]			
Dummy 1910-1925							-14.907 [4.272]***		
Dummy 1910-1926									
Dummy 1912-1920								-5.93 [4.671]	
Dummy 1912-1925									-15.539 [4.235]***
Dummy 1912-1926									
Capital 000 (1900=100)	3.742 [1.167]***	3.54 [1.158]***	3.321 [1.170]***	3.921 [1.168]***	4.806 [1.161]***	5.095 [1.165]***	4.509 [1.170]***	5.081 [1.164]***	4.481 [1.169]***
No. of shares	3.008 [0.989]***	3.011 [0.982]***	2.995 [0.984]***	2.844 [0.990]***	2.581 [0.998]***	2.592 [1.006]**	2.86 [1.002]***	2.582 [1.005]**	2.803 [1.000]***
No. of partners	0.488 [2.056]	0.771 [2.044]	0.712 [2.048]	0.217 [2.060]	-0.474 [2.073]	-0.713 [2.085]	-0.239 [2.076]	-0.678 [2.084]	-0.161 [2.076]
No. of partners (squared)	-0.07 [0.067]	-0.078 [0.067]	-0.073 [0.067]	-0.057 [0.067]	-0.036 [0.068]	-0.029 [0.068]	-0.047 [0.068]	-0.03 [0.068]	-0.048 [0.068]
Imports	-4.557 [1.774]**	-4.866 [1.764]***	-3.421 [1.769]*	-0.9 [1.881]	-3.216 [1.817]*	-4.771 [1.898]**	-4.865 [1.806]***	-5.01 [1.919]***	-5.023 [1.808]***
Mining	-6.023 [10.201]	-5.622 [10.130]	-2.605 [10.154]	-5.117 [10.230]	-5.045 [10.329]	-4.598 [10.394]	-5.261 [10.328]	-4.544 [10.388]	-4.921 [10.319]
Agriculture	4.88 [12.023]	4.882 [11.941]	5.577 [11.968]	1.143 [12.082]	1.873 [12.209]	5.666 [12.270]	6.954 [12.186]	5.821 [12.264]	6.868 [12.175]
Real estate	4.054 [13.917]	-1.795 [13.853]	-3.792 [13.911]	-0.552 [13.992]	1.893 [14.114]	5.39 [14.211]	6.253 [14.101]	5.495 [14.199]	5.824 [14.086]
Financial inst.	4.443 [9.673]	4.644 [9.596]	5.776 [9.607]	6.392 [9.682]	7.937 [9.768]	9.201 [9.821]	7.787 [9.768]	8.96 [9.822]	7.305 [9.766]
Railroads	-9.071 [18.676]	-8.653 [18.543]	-8.576 [18.585]	-11.811 [18.769]	-8.507 [18.934]	-3.863 [19.021]	-4.285 [18.893]	-3.859 [19.012]	-4.737 [18.880]
Commerce	7.033 [5.512]	6.759 [5.476]	6.29 [5.491]	5.181 [5.552]	6 [5.610]	8.314 [5.624]	8.692 [5.583]	8.388 [5.622]	8.637 [5.578]
Services	5.608 [7.377]	4.732 [7.331]	5.157 [7.345]	5.697 [7.401]	4.969 [7.494]	7.192 [7.513]	7.728 [7.467]	7.133 [7.510]	7.582 [7.461]
Constant	77.303 [21.269]***	83.342 [21.174]***	65.416 [20.747]***	27.642 [21.065]	42.836 [20.976]**	56.236 [22.708]**	67.703 [21.693]***	59.206 [22.911]***	69.096 [21.705]***
Observations	887	887	887	887	887	887	887	887	887
R-squared	0.08	0.1	0.09	0.08	0.06	0.05	0.06	0.05	0.06

Standard errors are in parentheses.

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%