Word count: 2712 (excluding tables, figures, footnotes, and references)

Greener on the other side? The motivations for Chinese migration into the Shanghai International Settlement, 1853 to 1943

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1. Introduction

The irregular migration that dominates contemporary policy discussions presents distinctive analytical challenges to migration studies.[1] Scholars have increasingly questioned the utility of entrenched migration categories – voluntary or involuntary, internal or external, economically driven or politically induced. Meanwhile, supply-side explanations centred on push factors such as natural disasters, political conflict, military operations, and economic collapse struggle to explain why migrants choose particular countries as final destinations.[2]

Contributing to the evolving discourse, this paper examines a historical case of irregular migration during an earlier era of globalisation. Between 1853 and 1943, approximately 2.5 million Chinese people migrated into the Shanghai International Settlement (hereafter SIS), a British- and US-dominated extraterritorial jurisdictional enclave (see Figure 1). The rapid socio-economic development of the SIS during this period, with its enduring legacies (see Appendix A.1), continues to attract scholarly attention. However, despite their demographic significance (see Figure 2), SIS Chinese migrants remain marginal in mainstream historical narratives of the SIS,[3] and the determinants of their migration remain underexamined.[4]

Indeed, this case fits uneasily within conventional migration history typologies. Migrants entered a foreign jurisdiction without crossing an international border, complicating the internal-external migration divide. Meanwhile, their movement was neither entirely voluntary nor fully coerced, thus falling between separate historiographies of migration and forced displacement. Precisely due to these ambiguities, however, SIS Chinese migration

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[1] "Irregular migrants" is a less normatively problematic term to describe migrants that are unauthorised, undocumented, or do not formally engage with state systems of registration and authorisation. See Boswell, 'Introduction', pp. 10–11. Overall, this paper employs a broad definition of migration, encompassing both temporary sojourners and permanent settlers, and covering "any conceivable migrant trajectory, whether internal or external, overseas or overland". See Miles, *Chinese diasporas*, p. 8.

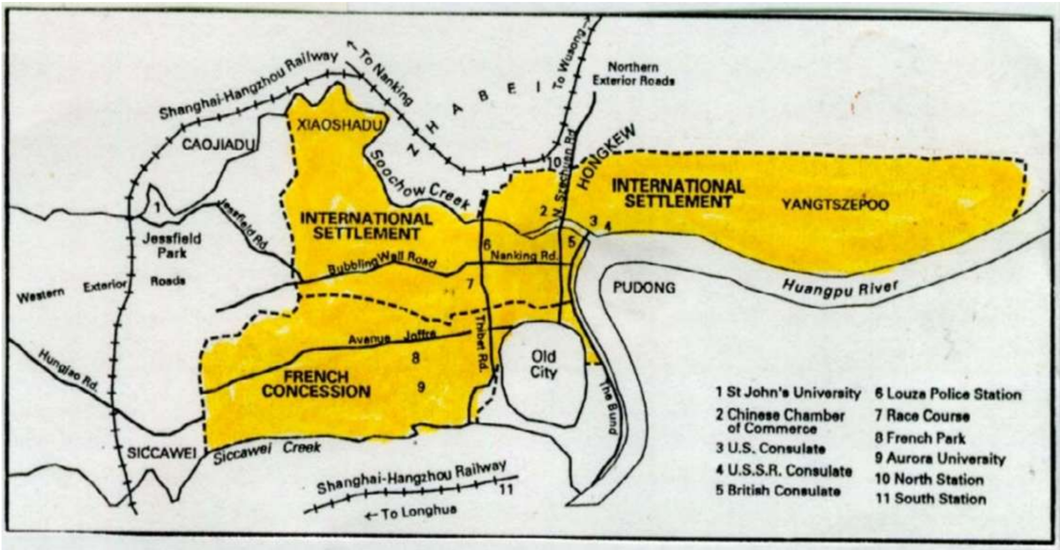
[2] Giménez-Gómez, Walle, and Zergawu, 'Trends in African Migration to Europe', pp. 1797–831.

[3] Over the years, much has been written on the history of the SIS's "international" communities instead. For a short review, see Armand and Henriot, 'Paris in the Orient', pp. 171–89. For examples, on the British community, see Bickers, *Empire made me*; idem, 'Shanghailanders and others', pp. 269–301; idem, 'Shanghailanders: the formation and identity', pp. 161–211.

[4] Several social histories, such as Goodman, *Native place*; and Bickers 'Citizenship by correspondence', pp. 227–62., discuss the role of native-place associations. However, they focus on post-migration integration instead of how native-place networks motivated migratory choices.

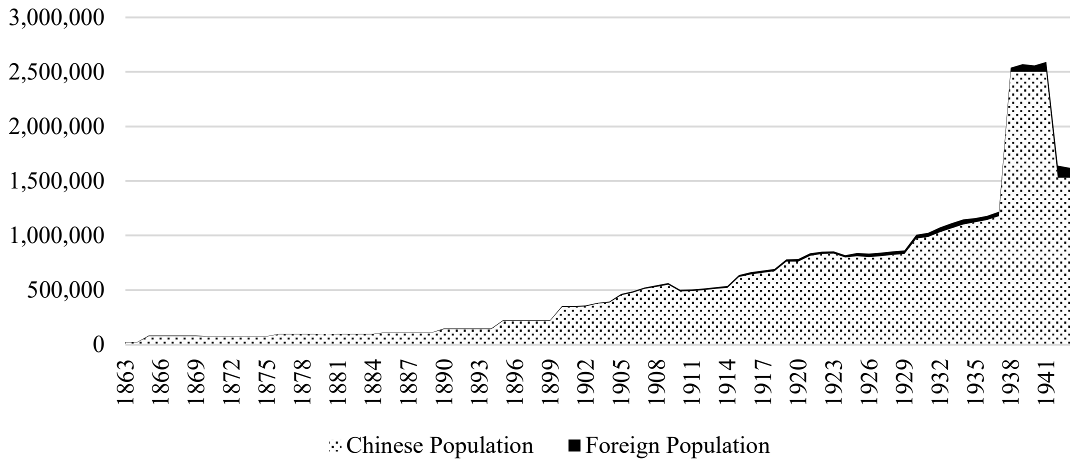
presents a particularly revealing case of irregular migration, linking distinct strands of scholarship in modern Chinese history: demographic transformations in the Lower Yangzi region, socioeconomic impacts of imperialism, and ongoing debates over the determinants of "modern Chinese migration".

Figure 1. *Foreign settlements in Shanghai, 1920.*



Source: Virtual Shanghai, 'Shanghai in 1920'.

Figure 2. *Population of the SIS, 1863 to 1943.*



Source: Author's own elaborations from Henriot, Shi, and Aubrun, *Population of Shanghai*, Table 55, p. 181.

Between the mid-nineteenth and mid-twentieth centuries, Chinese migration – both internal and external – reached an unprecedented scale.[1] Explanations of its determinants in the historiography broadly follow two research traditions. An earlier traditionalist scholarship with Malthusian roots emphasises subsistence pressures and short-term crises that "pushed" migrants from their places of origin.[2] By contrast, a revisionist "Chinese diaspora" literature shifts attention to "pull" factors and the role of socio-cultural networks in shaping destination choices. While both perspectives acknowledge interactions between push and pull factors, only differing in their emphasis on origin or destination,[3] their principal divergence concerns continuity versus change. Traditionalists view nineteenth-century migration as an extension of long-established Ming and Qing-era patterns,[4] whereas revisionist scholarship stresses a historical break. Originally to explain the rise of external overseas migration, revisionists argue that a "modern Chinese migration" emerged in the 1840s, unprecedented not only in scale but also in "modern" character. Practically, this modernity commonly referred to Western imperial expansion and the incorporation of Chinese labour into global capitalist networks.[5] Thereafter, in the case of internal migration to Shanghai, historians have argued that foreign presence after 1840 transformed the city from a regional port into a global industrial and commercial centre, attracting large-scale labour migration from across China.[6]

Furthermore, related research on extraterritorial regimes elsewhere suggests that legal and political institutions can incentivise migration by offering Western protection or status.[7] This raises the possibility that certain institutional aspects of foreign governance attracted Chinese migrants to the SIS. Indeed, a growing literature in Chinese economic history argues that SIS institutions provided a strong institutional foundation for Shanghai and China's long-term development by upholding freedom of speech, the rule of common law, property rights, and contract enforcement.[8]

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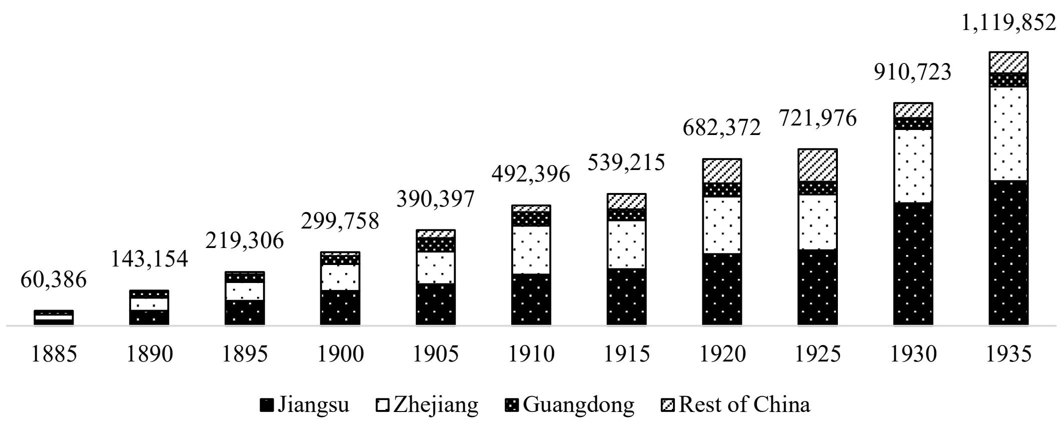
[1] Over the course of a hundred years, at least nine million, and potentially up to 22 million, Chinese people migrated both within and beyond China's borders, heading to destinations across Central and Southeast Asia, and increasingly to the Americas, Australasia, Africa, and Europe. See Miles, *Chinese diasporas*, pp. 13–4, 92–3, 142–5.
[2] Eastman, *Family, fields, and ancestors*, pp. 3–14; Lavely and Wong, 'Revising Malthusian narrative', pp. 714–48; Gottschang and Lary, *Swallows and settlers*.
[3] Miles, *Chinese diasporas*, pp. 13–6.
[4] Campbell and Lee, 'Free and unfree labor'; Kuhn, *Chinese among Others*, pp. 20–1.
[5] McKeown, 'Conceptualizing Chinese diasporas', pp. 306–37; Cao, *The migration history of China*, pp. 520–38.
[6] Miles, *Chinese diasporas*, pp. 93–5.
[7] For instance, see Artunç and Saleh, 'The Demand for Extraterritoriality', which examines the "capitulation" treaties in the Ottoman Empire, designed similarly to China's treaty port system. The authors show that consular legal protection – rather than superior business regulations – motivated religious minorities to seek European protégé status under extraterritorial capitulations, highlighting the role of legal and political institutions over economic development in shaping migration decisions.
[8] For examples, see Brandt, Ma, and Rawski, 'From Divergence to Convergence'; Ma, 'Financial revolution in republican China'; idem, 'Rise of modern Shanghai', pp. 33–46; Li, 'Essays on Shanghai'; Levine et al., 'The Legal Origins of Financial Development'; Jin and Schulze. 'Historical legacies and urbanization'.

Notably, recent work on Lower Yangzi demographic history and the history of foreign presence in China has increasingly expanded beyond Shanghai.[1] Yet the scale, persistence, and geographical diversity of SIS Chinese migration were exceptional. Whereas population origins of other urban centres were largely local or regional,[2] SIS Chinese migrants came from a wide range of provinces, and those from Jiangsu Province, where Shanghai is located, never exceeded 50% (see Figure 3). Therefore, motivations of SIS Chinese migration cannot be reduced to short-term displacements or rural-to-urban migration in a developing economy. Quantitative history, with its capacity to comprehensively evaluate economic, social, and cultural-institutional determinants on a macro scale, offers valuable analytical frameworks.

Figure 3. *SIS Chinese migrants' provinces of origin*



Source: Author's own elaborations from Henriot, Shi, and Aubrun, *Population of Shanghai*, Table 55, p. 181; and Zou, *Population changes in old Shanghai*, Table 22, pp. 114–5.

Adapting Hatton and Williamson's analysis of the European migration between 1850 and the First World War, this study quantitatively tests the role of migration determinants highlighted in Chinese migration history debates in shaping SIS Chinese migration.[3] This extended abstract outlines the empirical strategy and interprets the regression results – it sources additional qualitative and quantitative evidence to analyse and contextualise statistical findings before concluding.

[1] See Kung, Bai, and Lee, 'The case of the Lower Yangzi'.
[2] For example, in Tianjin, another urban centre with multiple foreign concessions, native-born residents made up about 40% of the population, while Shanghai, and especially the SIS, consisted mostly of migrants. Furthermore, in Tianjin and Wuhan, migrant origins were concentrated in adjacent localities. In Beijing, migrants comprised 57.5% of the population by 1936, but 40.2% were from the neighbouring Hebei Province. In smaller early-twentieth-century Chinese cities, migration sources were even more localised. See Cao, *The migration history of China*, pp. 608–13.
[3] Hatton and Williamson, *The Age of Mass Migration*.

2. Empirical method

This study primarily employs a panel model with two-way fixed effects, using provincial-level migration rates derived from census data as the outcome variable. From 1885 to 1935, foreign administrators of the SIS required Chinese residents to self-report their "Province Where Born" in five-yearly censuses, and they consistently tabulated results according to the so-called Eighteen Provinces of China Proper (see Figure 4).[1] I draw on all eleven available census years, denoted by t and spaced at five-year intervals.[2] The periods 1853–1885 and 1935–1943, characterised by sharp yet short-lived population fluctuations related to military crises,[3] are excluded from the model due to data availability and examined separately in the analysis of results.

Figure 4. *Map of China, 1911.*

Source: Author's own elaborations from Harvard Dataverse, CHGIS.

[1] Administrators routinely destroyed raw data after tabulation, leaving only aggregated figures on published municipal reports. See Shanghai Municipal Archives, U1-3-759; also see 'Census' in *The Municipal Gazette*, 28 Jul. 1921., held in The National Archives, FO 671/446, Folio 84, Vol. No. 650. Starting from 1920, censuses also include a "Manchuria and others" or "Others" category. However, their numbers were small: 104 in 1920, 110 in 1925, 151 in 1930, and 1,008 in 1935.

[2] Due to inconsistent tabulation for residents in "Shipping, Boats, Villages, and Huts" from 1900 to 1920, I use Henriot, Shi, and Aubrun, *Population of Shanghai*, Table 55, p. 181 where possible, as they were adjusted for consistency. Because this table does not include the 1930 data and alters the 1935 data without explaining the rationale, I use Zou, *Population changes in old Shanghai*, Table 22, pp. 114–5. for 1930 and 1935, after cross-checking with the primary sources in Virtual Shanghai, 'Shanghai Municipal Council Censuses, 1865–1942'.

[3] Notably, the 1853 Small Sword Uprising in the Chinese Quarters, the 1854 and 1864 advances by the Taiping Rebellion Army, and the Second Sino-Japanese War which resulted in a migration boom to the SIS since 1937.

Natural growth of the SIS Chinese population was negative and negligible (see Table 1). Therefore, the number of SIS Chinese residents from province i at census year t, denoted as $SettlementResident_{i,t}$, serves as a strong proxy for migration from province i between census years t and $t-1$. Given provincial population size differences, I compute a migration rate metric, $Y_{i,t} = \frac{SettlementResident_{i,t}}{PopulationK_{i,t}}$, to measure SIS migrants per thousand inhabitants in province i, and I take logarithms to obtain the outcome variable $logY_{i,t}$ (see Figure 5).

The paper also estimates model variations excluding data from Jiangsu province, where Shanghai is located. Given the particularly diverse geographical origins of SIS migrants, models excluding Jiangsu not only address potential distortions but also provide additional insight into migration from more distant provinces. I also provide variations using an adjusted outcome variable, $logYnoSH_{i,t}$, which deducts Shanghai's population from Jiangsu migrant numbers while leaving other provinces unchanged, as a robustness check (see Appendix A.2).[1]

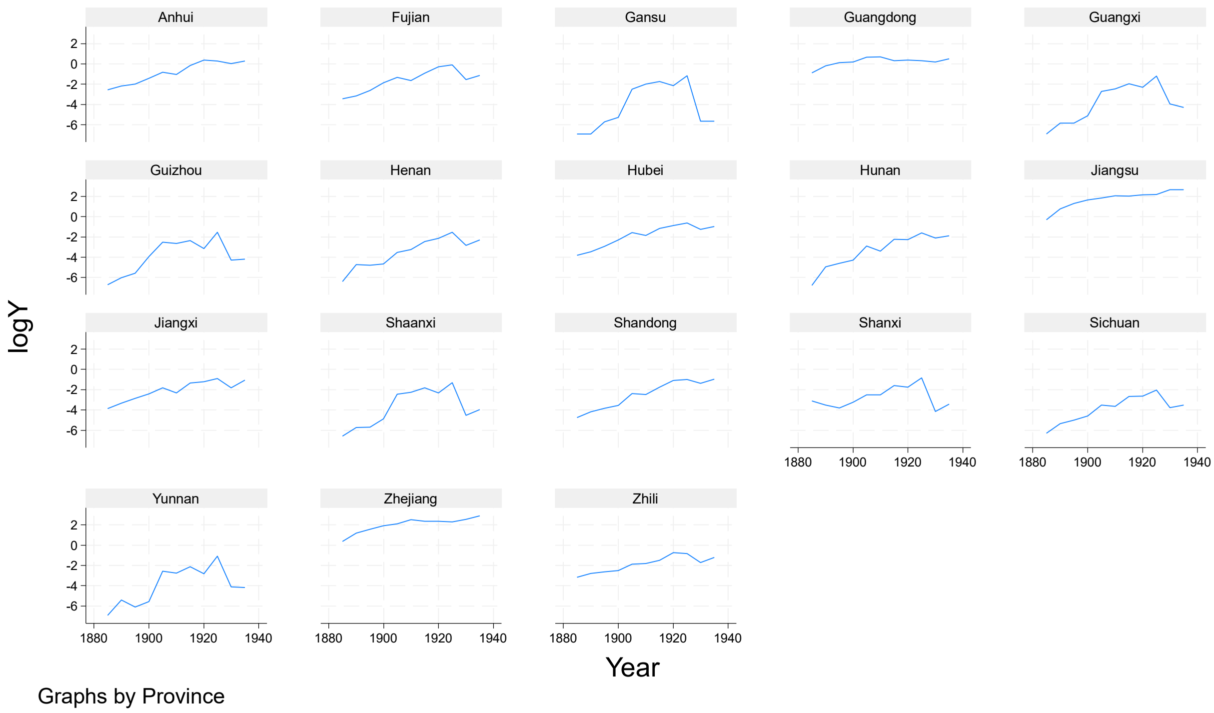
Table 1. *SIS population natural growth and migration.*

Year	**Foreign population**	Foreign natural growth	Foreign net migration	**Chinese population**	Chinese natural growth	Chinese net migration	**Total natural growth**	**Total net migration**
1850	210							
1865	5,129			77,117				
1870	2,773	-26	-2,330	75,047	-1,631	-439	-1,657	-2,769
1880	2,197	-408	-168	93,975	-13,113	32,041	-13,521	31,873
1890	3,821	-209	1,833	143,154	-6,728	55,907	-6,937	57,740
1900	6,774	-156	3,109	345,326	-4,106	206,278	-4,262	209,387
1910	13,536	-287	7,049	488,005	-14,011	156,690	-14,298	163,739
1920	23,307	-596	10,367	759,839	-28,554	300,388	-29,149	310,754
1930	36,471	-921	14,085	971,397	81,331	130,227	80,410	144,312
1940	59,970	1,876	21,623	2,500,000	86,698	1,441,905	88,574	1,463,528

Source: Author's own elaborations from Henriot, Shi, and Aubrun, *Population of Shanghai*, Tables 3, 10, and 11, pp. 96–7, 104–13.

[1] The paper does not discard the original $logY_{i,t}$ data as it comes from consistent data series, whereas $logYnoSH_{i,t}$ involves more elaborations and estimation beyond the actual data.

Figure 5. *Heterogeneity of the outcome variable across provinces across time.*



Sources: Author's own elaborations from Henriot, Shi, and Aubrun, *Population of Shanghai*, Table 55, p. 181; Zou, *Population changes in old Shanghai*, Table 22, pp. 114–5; Cao, *Chinese population history Volume 5,* pp. 702–4; and Hou, *Chinese population history Volume 6*, pp. 234–5, 246, 264–5.

Table 2 reports summary statistics. All variables are continuous, measured at five-yearly intervals, and adjusted to 1911 provincial boundaries. For explanatory variables, I consistently incorporate Shanghai data into Jiangsu, as "Shanghai" in data sources often refers to the Chinese-administered areas, distinct from the SIS.

Table 2. *Summary statistics.*

	Unit		Mean	Std.	Min	Max	Observations
$logY_{i,t}$ (A)(C)	Logarithm of ‰	overall	-2.224	2.287	-6.908	2.908	N = 198
		between		1.922	-4.146	2.014	n = 18
		within		1.314	-5.651	0.756	T = 11
$logYnoSH_{i,t}$ (A)(C)(F)	Logarithm of ‰	overall	-2.256	2.239	-6.908	2.908	N = 198
		between		1.855	-4.146	2.014	n = 18
		within		1.322	-5.683	0.724	T = 11

$Newfirms_{i,t}$ (B)	1 firm	overall	17.591	39.576	0.000	353.000	N = 198
		between		25.625	1.000	108.455	n = 18
		within		30.708	-90.864	262.136	T = 11
$LagFirms_{i,t}$ (B)	1 firm	overall	17.611	39.563	0.000	353.000	N = 198
		between		25.650	1.000	108.727	n = 18
		within		30.671	-88.116	261.884	T = 11
$logLagDens_{i,t}$ (C)(E)	Logarithm of people per sq.km	overall	4.435	0.802	2.267	5.775	N = 198
		between		0.810	2.390	5.620	n = 18
		within		0.142	4.138	5.097	T = 11
$Disasters_{i,t}$ (D)	1 disaster	overall	10.657	6.077	0.000	32.000	N = 198
		between		3.208	4.636	15.545	n = 18
		within		5.211	0.747	29.384	T = 11
$Distance_i$ (E)	100 km	/	6.683	4.210	0.001	15.338	N = 198

Sources: Author's own elaborations from A. Henriot, Shi, and Aubrun, *Population of Shanghai*, Table 55, p. 181, and Zou, *Population changes in old Shanghai*, Table 22, pp. 114–5; B. Du, *National capitalism*, pp. 251–487; C. Cao, *Chinese population history Volume 5*, pp. 702–4, and Hou, *Chinese population history Volume 6*, pp. 234–5, 246, 264–5; D. Li et al., *Chinese disasters*, pp. 423–88, and Li et al., *Chinese disasters continued*, pp. 1–474; E. Harvard Dataverse, CHGIS; and F. Zou, *Population changes in old Shanghai*, Table 19, p. 112.

To capture economic pull factors associated with employment in the modern economic sector, I hypothesise – following the revisionist literature – that provinces experiencing stronger local industrial development would exhibit weaker migration outflows to the SIS. The variable $Newfirms_{i,t}$, measuring the number of modern industrial firms (新式企业 *xinshi qiye*) established in province i between t and $t-1$, should therefore exert a negative effect on emigration. Given the short lifespans of these firms and the greater employment-generating capacity of younger firms, I use this period-by-period firm creation measurement rather than the logarithm of an accumulated firm stock.[1]

To account for cultural and institutional factors associated with Western modernity, the model computes a $LagFirm_{i,t} = Newfirms_{i,t-1}$ variable, assuming that modern industrial firms established in province i would diffuse new forms of social organisation and lifestyle

[1] For 1885, $Newfirms_{i,t}$ reflects firms established between 1881 to 1885.

among agricultural labourers over the five years from $t-1$ to t.[1] While improved measurements may be possible in future research, this one-period lag of the economic pull factor provides a reasonable proxy.[2] Holding $Newfirms_{i,t}$ constant, $LagFirm_{i,t}$ is expected to encourage emigration to the SIS.

Push factors are captured by $logLagDens_{i,t}$, a one-period lag of provincial population density growth measuring population pressure, and $Disasters_{i,t}$, which aggregates natural and manmade disasters at the provincial level. Both variables are expected to increase emigration from province i. Aligning with Hatton and Williamson's approach, I also test variations using a three-period lag of $logLagDens_{i,t}$, corresponding to a 20-year delay (see Appendix A.3).[3]

Distance would affect both migration costs and information diffusion. Therefore, while provincial fixed effects absorb time-invariant distance to Shanghai, the model additionally interacts $Distance_i$ with $Newfirms_{i,t}$, $LagFirms_{i,t}$, and $logLagDens_{i,t}$ to test whether distance attenuates socio-economic determinants. As Shanghai is located within Jiangsu Province, I add a small constant of 0.001km (100 meters) to avoid zero values.

The paper estimates the following two-way fixed effects panel models with robust standard errors, clustered at provincial level, to test migration motivations mentioned above.

$$
\begin{aligned}
logY_{i,t} = \beta_0 &+ \beta_1 Newfirms_{i,t} + \beta_2 LagFirms_{i,t} + \beta_3 logLagDens_{i,t} + \beta_4 Disasters_{i,t} \\
&+ \beta_5 Newfirms_{i,t} Distance_i + \beta_6 LagFirms_{i,t} Distance_i \\
&+ \beta_7 logLagDens_{i,t} Distance_i + \alpha_i + \gamma_t + \varepsilon_{i,t}
\end{aligned}
$$

for $t = 1,2,3 \ldots 11$, $i = 1,2,3 \ldots 18$;

α_i and γ_t are provincial and time fixed effects, and $\varepsilon_{i,t}$ is the error term.

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[1] For 1885, $LagFirm_{i,0}$ represents modern industrial firms established between 1876 to 1880.

[2] Chen, Wang and Yan, 'The Long-Term Effects of Protestant Activities' uses county-level data on religious activities in China derived from a 1920 report by the Protestant China Continuation Committee. However, these historical data are cross-sectional. Liu et al., 'Impact of Overseas Students' constructs a county-level database of Chinese overseas students from 1857 to 1937. Yet, their observations are heavily concentrated in the early-twentieth century, and the birthplaces and workplaces of overseas students are not representative of local populations.

[3] Hatton and Williamson, *The Age of Mass Migration*, pp. 13–4, 37–8, 55–6, applies a lag of "twenty years or more", assuming it takes approximately twenty years for a birth cohort to become economically active, socially mobile, and thus sensitive to emigration. However, in late-Qing and early-Republican China, people typically entered the workforce and started families at younger ages. Adolescence is generally considered to be between 13 and 18, and many women married and had children as early as 15. See Hu, 'Marital Fertility in Five Lineages'.

Finally, to examine chain migration patterns, I apply OLS regressions on nine cross-sections from 1890 to 1930.[1] The variable $lag(logY_i)$ captures the previous period's $logY_i$, while $Distance_i$ is included directly as a control in the absence of fixed effects:

$$logY_i = \beta_0 + \beta_1 Newfirms_i + \beta_2 LagFirms_i + \beta_3 logLagDens_i + \beta_4 Disasters_i + \beta_5 Newfirms_i Distance_i + \beta_6 LagFirms_i Distance_i + \beta_7 logLagDens_i Distance_i + \beta_8 lag(logY_i) + \beta_9 Distance_i + \varepsilon_i$$

for $i = 1,2,3 \dots 18$, ε_i is the error term.

3. Analysis of results

Table 3 reports the panel regression results. Columns (1), (4) and (7) use the full sample; Columns (2), (5) and (8) replace the outcome variable with $logYnoSH_{i,t}$; and Columns (3), (6), and (9) exclude Jiangsu data. Columns (1) – (3) present baseline regressions including only $Newfirms_{i,t}$ and its interaction with distance. Columns (4) – (6) add push factors and additional controls, but omit $LagFirms_{i,t}$ and $LagFirms_{i,t}Distance_i$ which could bias results owing to correlation with $Newfirms_{i,t}$ and $Newfirms_{i,t}Distance_i$. Columns (7) – (9) include all regressors. Model fit is generally strong, with overall R-squared values around 0.8.

[1] Appendix A.5 reports estimates using a resulting linear dynamic panel data model with a lagged outcome variable, $lag(logY_{i,t})$, on the right-hand side. To address the endogeneity introduced by the lagged variable, this model uses the Generalized Method of Moments (GMM) with Arellano-Bond estimators. See Bun and Sarafidis, 'Dynamic Panel Data Models', pp. 76–110. The significant GMM model coefficients largely corroborate fixed effects panel model estimation results. However, the GMM estimations should be interpreted with caution due to the low temporal resolution of the present dataset. GMM usually requires high-frequency data, but the present study has a long time interval of five years, and second moments indicating lags of more than ten years are unlikely to be theoretically meaningful. See Roodman, 'An Introduction to Difference and System GMM'.

Table 3. *Panel regression results.*

	Outcome Variables								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	$logY$	$logYnoSH$	$logY$	$logY$	$logYnoSH$	$logY$	$logY$	$logYnoSH$	$logY$
$Newfirms$	-0.007***	-0.007**	-0.035***	-0.007***	-0.007***	-0.033***	-0.008***	-0.007***	-0.031***
	(0.002)	(0.002)	(0.009)	(0.002)	(0.002)	(0.007)	(0.002)	(0.002)	(0.007)
$LagFirms$							0.000	0.001	-0.003
							(0.001)	(0.001)	(0.007)
$logLagDens$				0.702	0.653	0.807	0.637	0.558	0.854
				(0.940)	(0.941)	(0.883)	(0.995)	(0.994)	(1.004)
$Disasters$				0.007	0.007	0.006	0.007	0.007	0.005
				(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.015)
$Newfirms * Distance$	0.000	0.000	0.004***	0.000	0.000	0.004***	0.000	0.000	0.003***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
$LagFirms * Distance$							-0.001*	-0.001**	0.000
							(0.000)	(0.000)	(0.001)
$logLagDens * Distance$				-0.325***	-0.322***	-0.324***	-0.318***	-0.311***	-0.332***
				(0.097)	(0.097)	(0.097)	(0.103)	(0.104)	(0.105)
$Constant$	-4.376***	-4.452***	-4.614***	1.137	1.199	0.997	1.228	1.301	1.027
	(0.187)	(0.199)	(0.191)	(3.274)	(3.257)	(3.356)	(3.273)	(3.244)	(3.446)
Observations	198	198	187	198	198	187	198	198	187
Overall R-squared	0.773	0.772	0.793	0.806	0.805	0.823	0.808	0.806	0.824
Number of Provinces	18	18	17	18	18	17	18	18	17

Notes: robust standard errors, clustered at provincial level, are reported in parentheses. The estimates for time and provincial fixed effects are omitted, they are statistically significant with p<0.001. *** p<0.01, ** p<0.05, * p<0.1.

The results provide little evidence for the "push" factors emphasised in traditionalist literature. The estimated effects of population pressure $logLagDens_{i,t}$ are positive but statistically insignificant across all variations and even mildly negative when longer lags are applied (see Appendix A.3). Interactions with Distance_i are consistently negative, suggesting that distance indeed attenuates the pushing effect and reinforcing operationalisation validity. The effects of $Disasters_{i,t}$ are likewise statistically insignificant across all variations. As the models use five-year intervals, this finding is consistent with existing literature on nineteenth- and early-twentieth-century Chinese demographic crises, which shows that sharp population movements induced by wars and epidemics were often quickly offset by return migration.[1]

By contrast, the models offer strong support for economic pull factors, as emphasised in revisionist literature – which focuses on pulls at destinations and the importance of socio-economic modernity. The effects of $Newfirms_{i,t}$ are statistically significant across all variations and consistently negative, supporting the hypothesis that greater availability of modern industrial employment in migrants' home provinces reduced migration to the SIS. Conversely, this result underscores the economic appeal of the SIS to Chinese migrants seeking employment in modern industrial firms. The magnitude of the effect is economically meaningful. The full model in Column (7) suggests that one additional modern industrial firm in a province is associated with a 0.8% reduction in migration rate $Y_{i,t}$. Given the distribution of $Newfirms_{i,t}$ (see Table 2), migration rate would decrease 31.7% with a one-standard-deviation increase in $Newfirms_{i,t}$ and could decrease 282.4% as $Newfirms_{i,t}$ moves from its minimum to maximum, holding other factors constant. The results are robust to excluding Shanghai data and are even larger when excluding Jiangsu data entirely. Interaction terms with $Distance_i$ are consistently positive. However, the mitigating effect of distance is sometimes statistically insignificant and not economically substantial in any variation.

Evidence on population spatial patterns within the SIS further reinforce the importance of such economic incentives. By the 1900s, the SIS population was concentrated in its Middle District, which was "not only the commercial centre of Shanghai, but also a commercial centre of the entire country".[2] Subsequently, population shifted to the Eastern and Western Districts as they emerged as light industry hubs. By 1935, 70% of the SIS population dwelled in these

[1] Cao, *The migration history of China*, pp. 593, 600; Li and Li, 'Economic Effects on Migrants of the Manchuria Plague'.
[2] Zou, *Population changes in old Shanghai*, p. 17.

two districts, which generated 70% to 80% of Shanghai's light industry output.[1] These Shanghai patterns echo social studies of overseas migration conducted in the 1920s and 1930s. For instance, a 1920 government report observed that Chinese migrants overseas would "invariably receive higher wages than their brethren in the same occupations at home".[2] Similarly, a 1935 survey on overseas migrants from Guangdong and Fujian Provinces found 72.82% of respondents citing economic motives – rather than natural disasters or military and political crises – as their primary reason for emigration.[3]

Evidence for institutional or cultural pull factors, however, is weak. Controlling for contemporaneous industrial development, prior exposure to modern industrial production or Western socio-economic practices does not appear to have significantly increased a province's propensity to send migrants to the SIS. The estimated effects of $LagFirms_{i,t}$ are statistically insignificant and economically small. When longer lags are applied, coefficients become weakly statistically significant, offering limited support for institutional hypotheses. Yet their economic magnitude remains modest (see Appendix A.3).

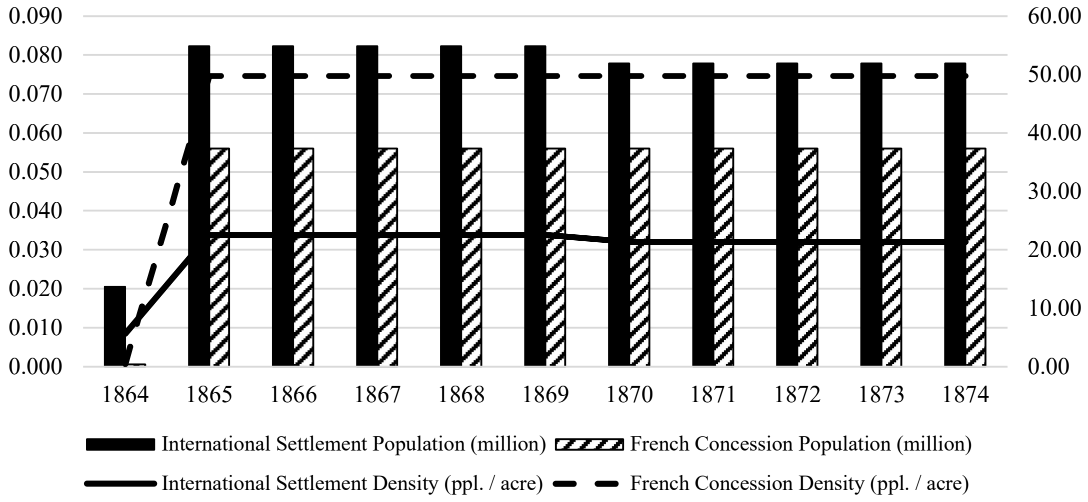
Three explanations may account for the weak relationship between $LagFirms_{i,t}$ and the outcome variable. Firstly, as $LagFirms_{i,t}$ is a one-period lag of $Newfirms_{i,t}$, the results directly imply that any mobility effects of exposure to industrial firms faded within five years. If industrial firms initially influenced migration through immediate employment incentives, with cultural or institutional effects emerging only later, then only the economic channel would be observable. Secondly, $LagFirms_{i,t}$ could also be proxying for provincial development disparities. Provinces with more firms in the previous period likely supported greater labour absorption locally in the current period, thereby reducing rather than encouraging emigration. The insignificance of $LagFirms_{i,t}$ could therefore either reflect the dominance of provincial development speed over development level in containing migration, or it indicates that such containment effects and the socio-cultural push factors offset one another.

Thirdly, and most importantly, the pull of institutional factors may indeed have been limited in shaping long-term migration. As social histories of Shanghai emphasise, SIS institutions were highly particularised – its democratic elections, rule of law, and modernist

[1] Zou, *Population changes in old Shanghai*, p. 18.
[2] See Chen, *Chinese migrations*, pp. 5–12.
[3] See Cao, *The migration history of China*, p. 537.

socio-cultural amenities rarely benefitted Chinese residents.[1] To address concerns that $LagFirms_{i,t}$ may not adequately capture the appeal of the SIS's political organisations and legal traditions – not necessarily tied to industrial presence – this paper presents a comparative analysis of the SIS and the Shanghai French Concession, which differed substantially in institutional structure, legal tradition, and political culture.[2]

Figure 6. *Population and population density of Shanghai settlements, 1864 to 1874.*



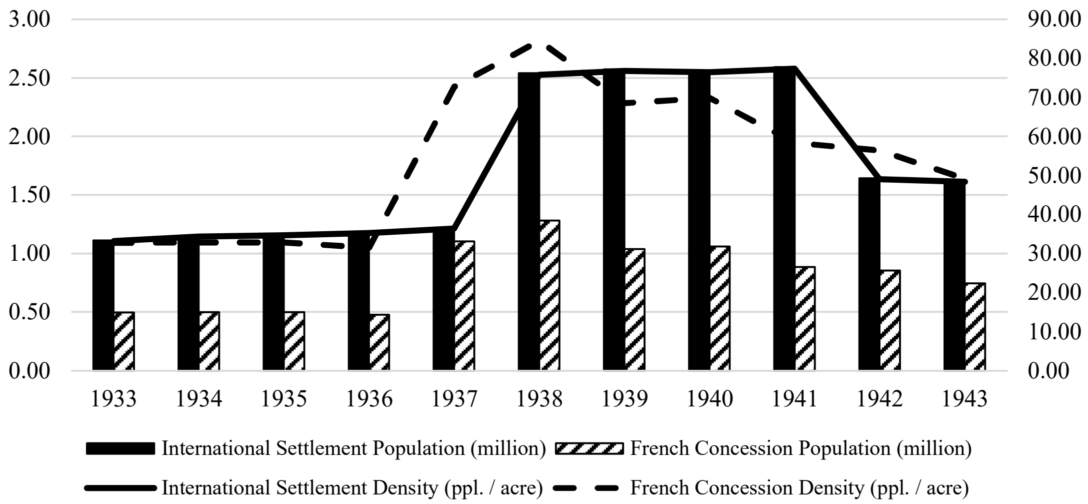
Sources: Author's own elaborations from Henriot, Shi, and Aubrun, *Population of Shanghai*, Tables 1–4, pp. 95–7, and Zou, *Population changes in old Shanghai*, Table 3, p. 92. *Notes:* the unit of density is number of people per Chinese acre (666.67m^2).

During two major waves of Chinese migration outwith the sampled 1885–1935 period – a mid-nineteenth-century decade of domestic military unrest and the Second Sino-Japanese War – both enclaves experienced large volumes of Chinese migration (see Figure 6 and Figure 7). Strikingly similar population trajectories of the SIS and the French Concession suggest that institutions mattered, but primarily through extraterritoriality, which insulated both enclaves from military operations. More specific legal and political settings appear to have been irrelevant, or at least secondary, for migrants facing subsistence crises. Consistent with the

[1] For example, see Honig, *Creating Chinese Ethnicity*; idem, *Sisters and strangers*; Roux, *Le Shanghai ouvrier*; Perry, *Shanghai on strike*; Smith, *Like cattle and horses*; Henriot, *Prostitution and sexuality in Shanghai*; and Hershatter, *Dangerous pleasures*. Particularised or particularistic institutions, opposed to generalised ones, favour a certain gender, religion, race, social stratum, or group membership. See Ogilvie and Carus, 'Institutions and Economic Growth', pp. 428–30.
[2] While the SIS was under semi-autonomous rule of a settler-elected Shanghai Municipal Council, the French Concession was directly controlled by the French consulate in Shanghai, who again reported directly to the Quai d'Orsay in Paris. See Jackson, *Shaping modern Shanghai*, pp. 4, 58, 62–112; Maybon and Fredet, *Histoire de la concession française*, pp. 258–61, 305–31; Bergère, *China's gateway to modernity*, pp. 127–9.

insignificance of $Disasters_{i,t}$ from 1885 to 1935, these crisis-driven refuge-seeking or sojourns did not translate into long-term migration considerations.[1] While extraterritoriality provided attractive temporary stability, the somewhat modern but highly particularistic institutions of the SIS played little role as long-term pulling forces.

Figure 7. *Population and population density of Shanghai settlements, 1933 to 1943.*



Sources: Author's own elaborations from Henriot, Shi, and Aubrun, *Population of Shanghai*, Tables 1–4, pp. 95–7, and Zou, *Population changes in old Shanghai*, Table 3, p. 92. *Notes:* the unit of density is number of people per Chinese acre (666.67m^2).

Finally, Table 4 and Appendix A.4 present significant OLS regression results for the lagged dependent variable.[2] This observed chain migration pattern, or pulling effect from friend and family networks, is well-supported by extensive qualitative literature on how native-place associations shaped Chinese migration to Shanghai.[3]

[1] French observers noted an outflow of Chinese refugees from foreign settlements in 1864 when military unrest in nearby regions reduced the sense of security promised by extraterritoriality. See Maybon and Fredet, *Histoire de la concession française*, p. 297,

[2] It is nonetheless worth noting that most other coefficients are insignificant. The consistently high R-squared values across all nine models may also indicate overfitting.

[3] Perry, *Shanghai on strike*, pp. 19–24; Goodman, *Native place*; Kung, Bai, and Lee, 'The case of the Lower Yangzi'.

Table 4. *OLS regression results.*

	Outcome variable: $logY$								
	(1) Year=1930	(2) Year=1925	(3) Year=1920	(4) Year=1915	(5) Year=1910	(6) Year=1905	(7) Year=1900	(8) Year=1895	(9) Year=1890
$Newfirms$	0.060	0.019***	-0.004	-0.014	0.020	0.043	0.008	0.051*	0.298
	(0.064)	(0.006)	(0.011)	(0.015)	(0.025)	(0.049)	(0.006)	(0.022)	(0.177)
$LagFirms$	-0.019	-0.024**	0.005	0.017	-0.036	-0.050	-0.018	-0.001	-0.562
	(0.018)	(0.007)	(0.020)	(0.017)	(0.050)	(0.048)	(0.037)	(0.014)	(0.327)
$logLagDens$	2.622***	0.087	0.060	-0.231	-0.077	0.791	-0.413	-0.309	0.904
	(0.685)	(0.316)	(0.245)	(0.323)	(0.527)	(0.529)	(0.328)	(0.436)	(0.617)
$Disasters$	-0.042**	-0.024	0.020	0.011	-0.013	0.069	-0.030	-0.020	0.025
	(0.014)	(0.025)	(0.029)	(0.016)	(0.023)	(0.061)	(0.019)	(0.020)	(0.039)
$Newfirms * Distance$	-0.006	-0.004***	0.001	0.004	-0.005	-0.012	-0.005	0.008	-0.033
	(0.008)	(0.001)	(0.001)	(0.003)	(0.005)	(0.010)	(0.005)	(0.009)	(0.024)
$LagFirms * Distance$	0.005*	0.004***	0.001	-0.004	0.010	0.011	-0.001	-0.003	0.066
	(0.002)	(0.001)	(0.002)	(0.004)	(0.011)	(0.007)	(0.005)	(0.008)	(0.054)
$logLagDens * Distance$	-0.155**	-0.008	-0.039**	0.003	-0.020	-0.086	0.056	-0.013	-0.036
	(0.047)	(0.024)	(0.016)	(0.027)	(0.047)	(0.057)	(0.043)	(0.040)	(0.054)
$lag(logY)$	0.790**	0.761***	0.839***	0.695***	0.991***	0.831***	1.120***	0.667***	0.778***
	(0.239)	(0.042)	(0.073)	(0.024)	(0.128)	(0.086)	(0.214)	(0.122)	(0.092)
$Distance$	0.585**	0.083	-0.006	-0.112	0.062	0.514**	-0.170	-0.125	0.163
	(0.227)	(0.120)	(0.079)	(0.128)	(0.206)	(0.206)	(0.153)	(0.185)	(0.230)
$Constant$	-12.801***	-0.170	0.236	1.512	0.464	-4.260	2.855	1.449	-4.468
	(3.694)	(1.475)	(1.121)	(1.543)	(2.413)	(2.480)	(1.582)	(2.101)	(2.926)
Observations	18	18	18	18	18	18	18	18	18
R-squared	0.985	0.992	0.994	0.992	0.982	0.976	0.987	0.993	0.987

Notes: robust standard errors, clustered at provincial level, are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1

4. Conclusion

A century of Chinese migration into and out of the SIS presents a highly specific case at first glance, but it also reflects universal irregular migration experiences in a globalising world – one witnessing rapid industrial development and social change, but still marked by conflict, war, xenophobia, and discrimination. Drawing on census data that uniquely span across the nineteenth and twentieth centuries, this paper examines the motivations for SIS Chinese migration. Although the quantitative models could not firmly establish causality due to statistical deficiencies, their correlational findings, corroborated by additional primary sources, lend additional empirical support to existing theories on modern Chinese migration. Primarily, the paper demonstrates that long-term migration patterns cannot be explained solely by demographic push factors and were strongly associated with the pull of employment prospects at the destination – in the SIS's modern economic sector.

Moreover, this paper cautions against overemphasising nominally democratic yet highly particularised institutions in the socio-economic development of urban spaces and overlooking human factors such as large-scale immigration. In the SIS, although extraterritoriality provided security and stability in short periods of military unrest, broader institutional factors seemed to hold little long-term appeal in comparison with economic determinants. The Chinese were not passive recipients of economic modernity, either. As the majority population, they were integral to sustaining its economic dynamism, contributing through rental tax revenue and industrial production. Rather than an unmodern mass drawn to industrial prosperity or institutional novelty, they helped drive the SIS's virtuous cycle of population growth and economic expansion. While the present study focuses on migration motivations, future research could examine migrant integration and their post-migration role as economic agents.

Appendices

A.1

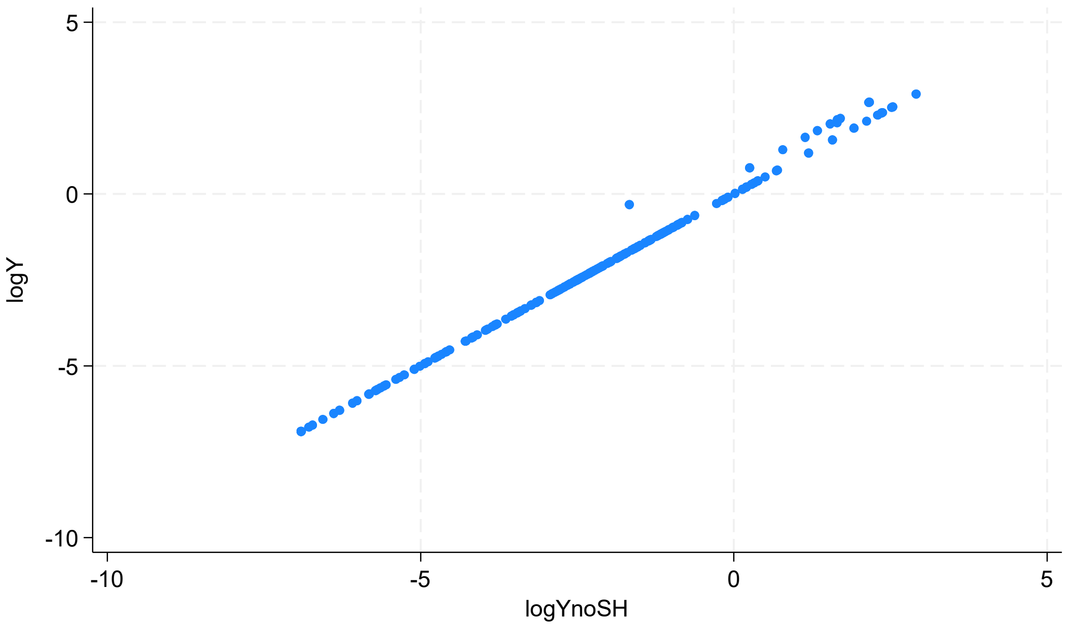
Districts of the SIS, in comparison to Shanghai overall, 2021.

	Whole city	Former International Settlement*
Size (sq km)	6340.5	141.6
Population (million ppl)	24.9	3.5
Density (1000 ppl/sq km)	3.9	24.7
Tax Revenue (RMB billion)	424.4	84.4
Revenue/Size (RMB billion/sq km)	0.1	0.6

Source: Author's own elaborations from Shanghai Municipal Bureau of Statistics, *Shanghai Statistical Yearbook*, Table 2.2. *Notes:* * includes Huangpu, Jingan, Hongkou, and Yangpu districts.

A.2

Visualisation of logYnoSH



A.3

Panel regression results with $HWlogLagDens$, a three-period lag of the $logLagDens$ variable.

	Outcome Variables								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	$logY$	$logYnoSH$	$logY$	$logY$	$logYnoSH$	$logY$	$logY$	$logYnoSH$	$logY$
$Newfirms$	-0.007***	-0.007**	-0.035***	-0.007***	-0.007***	-0.036***	-0.009***	-0.009***	-0.039***
	(0.002)	(0.002)	(0.009)	(0.002)	(0.002)	(0.009)	(0.003)	(0.003)	(0.010)
$LagFirms$							0.004**	0.004**	0.012*
							(0.002)	(0.002)	(0.007)
$HWlogLagDens$				-0.597	-0.591	-0.940	-0.210	-0.214	-0.721
				(1.776)	(1.778)	(1.849)	(1.920)	(1.921)	(1.703)
$Disasters$				-0.014	-0.014	-0.012	-0.010	-0.010	-0.009
				(0.027)	(0.027)	(0.025)	(0.026)	(0.026)	(0.025)
$Newfirms * Distance$	0.000	0.000	0.004***	0.001**	0.001**	0.005***	0.001**	0.001**	0.005***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
$LagFirms * Distance$							-0.000	-0.000	-0.001*
							(0.000)	(0.000)	(0.001)
$HWlogLagDens * Distance$				0.019	0.019	0.055	-0.032	-0.031	0.014
				(0.127)	(0.127)	(0.133)	(0.142)	(0.142)	(0.123)
$Constant$	-4.376***	-4.452***	-4.614***	-0.583	-0.623	-0.462	-0.975	-1.000	-0.281
	(0.187)	(0.199)	(0.191)	(4.661)	(4.666)	(4.458)	(4.942)	(4.944)	(4.268)
Observations	198	198	187	144	144	136	144	144	136
Overall R-squared	0.773	0.772	0.793	0.561	0.561	0.612	0.569	0.569	0.619
Number of Provinces	18	18	17	18	18	17	18	18	17

Notes: robust standard errors, clustered at provincial level, are reported in parentheses. The estimates for time and provincial fixed effects are omitted, they are statistically significant with p<0.001. *** p<0.01, ** p<0.05, * p<0.1.

A.4

OLS regression results with $logYnoSH$

	Outcome variable: $logYnoSH$								
	(1) Year=1930	(2) Year=1925	(3) Year=1920	(4) Year=1915	(5) Year=1910	(6) Year=1905	(7) Year=1900	(8) Year=1895	(9) Year=1890
$Newfirms$	0.061	0.020***	-0.005	-0.016	0.020	0.043	0.010	0.051*	0.328
	(0.063)	(0.006)	(0.011)	(0.015)	(0.026)	(0.049)	(0.008)	(0.023)	(0.180)
$LagFirms$	-0.020	-0.025**	0.005	0.017	-0.034	-0.051	-0.019	-0.011	-0.561
	(0.018)	(0.007)	(0.020)	(0.017)	(0.052)	(0.047)	(0.038)	(0.017)	(0.335)
$logLagDens$	2.639***	0.088	0.067	-0.218	-0.082	0.799	-0.411	-0.309	0.902
	(0.691)	(0.317)	(0.246)	(0.323)	(0.529)	(0.533)	(0.330)	(0.438)	(0.620)
$Disasters$	-0.042**	-0.024	0.020	0.011	-0.014	0.070	-0.030	-0.019	0.025
	(0.014)	(0.025)	(0.029)	(0.017)	(0.023)	(0.061)	(0.019)	(0.020)	(0.039)
$Newfirms * Distance$	-0.006	-0.004***	0.002	0.004	-0.005	-0.012	-0.006	0.008	-0.036
	(0.008)	(0.001)	(0.001)	(0.003)	(0.005)	(0.010)	(0.005)	(0.009)	(0.025)
$LagFirms * Distance$	0.005*	0.004***	0.001	-0.004	0.010	0.011	-0.001	-0.002	0.065
	(0.002)	(0.001)	(0.002)	(0.004)	(0.011)	(0.007)	(0.005)	(0.008)	(0.055)
$logLagDens * Distance$	-0.157**	-0.008	-0.039**	0.002	-0.020	-0.086	0.056	-0.013	-0.036
	(0.048)	(0.024)	(0.016)	(0.027)	(0.047)	(0.057)	(0.043)	(0.040)	(0.054)
$lag(logYnoSH)$	0.791***	0.761***	0.839***	0.697***	0.991***	0.834***	1.121***	0.667***	0.775***
	(0.231)	(0.042)	(0.072)	(0.023)	(0.130)	(0.084)	(0.211)	(0.124)	(0.091)
$Distance$	0.591**	0.084	-0.004	-0.110	0.061	0.516**	-0.169	-0.126	0.164
	(0.228)	(0.120)	(0.079)	(0.127)	(0.206)	(0.207)	(0.153)	(0.185)	(0.232)
$Constant$	-12.876***	-0.162	0.216	1.480	0.476	-4.288	2.845	1.442	-4.482
	(3.718)	(1.476)	(1.125)	(1.539)	(2.419)	(2.496)	(1.589)	(2.115)	(2.960)
Observations	18	18	18	18	18	18	18	18	18
R-squared	0.984	0.991	0.993	0.991	0.981	0.974	0.986	0.992	0.986

Notes: robust standard errors, clustered at provincial level, are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

A.5

GMM regression results

	Outcome Variables					
	(1)	(2)	(3)	(4)	(5)	(6)
	$logY$	$logYnoSH$	$logY$	$logY$	$logYnoSH$	$logY$
$lag(logY)$	-1.009		0.707	-1.402		-0.788
	(0.974)		(0.992)	(1.161)		(1.465)
$lag(logYnoSH)$		-1.469			-1.402	
		(1.529)			(1.153)	
$Newfirms$	-0.010	-0.007**	-0.046**	-0.009***	-0.009***	-0.046
	(0.009)	(0.003)	(0.017)	(0.002)	(0.002)	(0.044)
$LagFirms$	-0.015	-0.007	-0.016			
	(0.025)	(0.011)	(0.034)			
$logLagDens$	7.347	0.471	-67.401	42.448***	42.417***	11.728
	(37.924)	(42.634)	(.)	(7.530)	(6.438)	(39.193)
$Disasters$	-0.033	-0.002	-0.069	-0.035	-0.035	-0.010
	(0.138)	(0.177)	(0.207)	(0.125)	(0.123)	(0.133)
$Newfirms * Distance$	0.001	0.001	0.001	0.004	0.004	0.008
	(0.003)	(0.004)	(0.002)	(0.003)	(0.002)	(0.005)
$LagFirms * Distance$	0.001	-0.001	-0.001			
	(0.005)	(0.003)	(0.004)			
$logLagDens * Distance$	-1.643	-0.849	3.088	-3.390**	-3.391**	-1.185
	(1.882)	(2.375)	(.)	(1.215)	(1.183)	(2.672)
$Constant$	45.814	41.901	281.253	-65.277	-65.255	-46.482
	(126.886)	(128.529)	(.)	(.)	(.)	(169.324)
Instruments	174	174	166	170	170	162
Observations	180	180	170	180	180	170
Number of Provinces	18	18	17	18	18	17
AR(1)	0.721	0.872	0.965	(.)	(.)	0.975
AR(2)	0.111	0.165	(.)	(.)	(.)	0.746

Notes: robust standard errors, clustered at provincial level, are reported in parentheses. The values reported for AR(1) and AR(2) are the p-values for first and second order autocorrelated disturbances in the first differences equations. All models pass both Sargan and Hansen tests with p>0.1. The estimates for time intervals are omitted. All regressions treat $Disasters$ as a strictly exogenous instrument, $Newfirms$ as predetermined, and all other variables as endogenous. *** p<0.01, ** p<0.05, * p<0.1.

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