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Architectural production of Shanghai in modern times

[1] M.A. **Zhihao Li**, [2] Ph.D. Candidate **Huilei Cao**
Politecnico di Milano, Architecture and Urban Design, Milan, Italy [1]
Urban Planning, Design and Policy, Politecnico di Milano, Milan, Italy. [2]
E-mail [1]*: 10835523@polimi.it , E-mail* [2]*: 10865902@polimi.it*

Abstract:
The research was mainly focused on Shanghai's architectural production in the 1920s and 1930s. At that time, Shanghai was once called "the Paris of the East" and "the New York of the West", which is easy to take credit for foreign architects who came to Shanghai with the colonists, and the first generation of foreign-trained Chinese architects. However, there is little discussion of how the political and economic climate affected architectural production, especially the interaction between international and local factors. Through the exploration of the historical materials and using qualitative and quantitative analytical methods, the paper would examine how international and local political-economic actors synergistically produced the architecture and urban landscape at that time, as well as how they stimulated the boom of the Shanghai construction industry and real estate appreciation. This study also has significant implications for reflection on the contemporary transnational architecture and urbanism of Shanghai.
Keywords: architectural production; international and local interactions; modern times; Shanghai.

1. Introduction

Since Shanghai was declared open to international trade as a Treaty Port in 1843 following the Opium War, the first foreigners coming to Shanghai were the consulate officials, commercials, and missionaries. With Shanghai's passive openness, *Shanghai Land Regulations* was issued in 1845, and it demarcated the area where the British colonists could lease the land to build houses and infrastructure, but the territorial sovereignty of the area still belonged to China (Wu, 2008). In 1848 and 1849, the American and French settlements were established respectively. Shanghai Municipal Council (SMC) was established in 1854, which means the foreign colonists got the full control of the settlement and the settlement became though concessions (Li, 2006). SMC has the right to make changes to the building regulations, to approve the architectural design drawings and to supervise the construction activities. Later on, in 1863, the British and American settlements were combined to form the International Settlement (Li, 2006). Since then, Shanghai was divided into the International Settlement, the French Concession and the native city under Chinese government. Meanwhile, the colonists used a variety of excuses to expand the range of the settlements by constructing roads across the border several times. The size of the International Settlement expanded from less than 1 km2 at the outset to more than 21 km2 in 1899, and the size French Concession increased to 9km2. (Fig. 1) As a result of intermittent warfare, large quantities of Chinese refugees and fortune flocked to the Shanghai foreign settlements seeking protection (Fig. 2).

Many foreign businessmen leased their properties to Chinese residents and discovered that the revenue generated from rentals surpasses that of their commercial transactions. The foreign businessmen seized the chance to develop residential properties intended for rental purposes among the Chinese community, which had in fact violated *Shanghai Land Regulations*, but had triggered significant real estate appreciation (Zhang, 2002). The Treaty of Shimonoseki, signed in 1895, enabled foreign entities to establish factories in China's commercial ports, thereby initiating a surge of capital and population into Shanghai. During World War I (1914~1918), Western countries relaxed their economic activities in China, which promoted the Chinese national capitalist economy. These factors served as a catalyst for the construction boom in Shanghai during the 1920s and 1930s, ultimately resulting in the formation of the distinctive Shanghai Bund skyline.

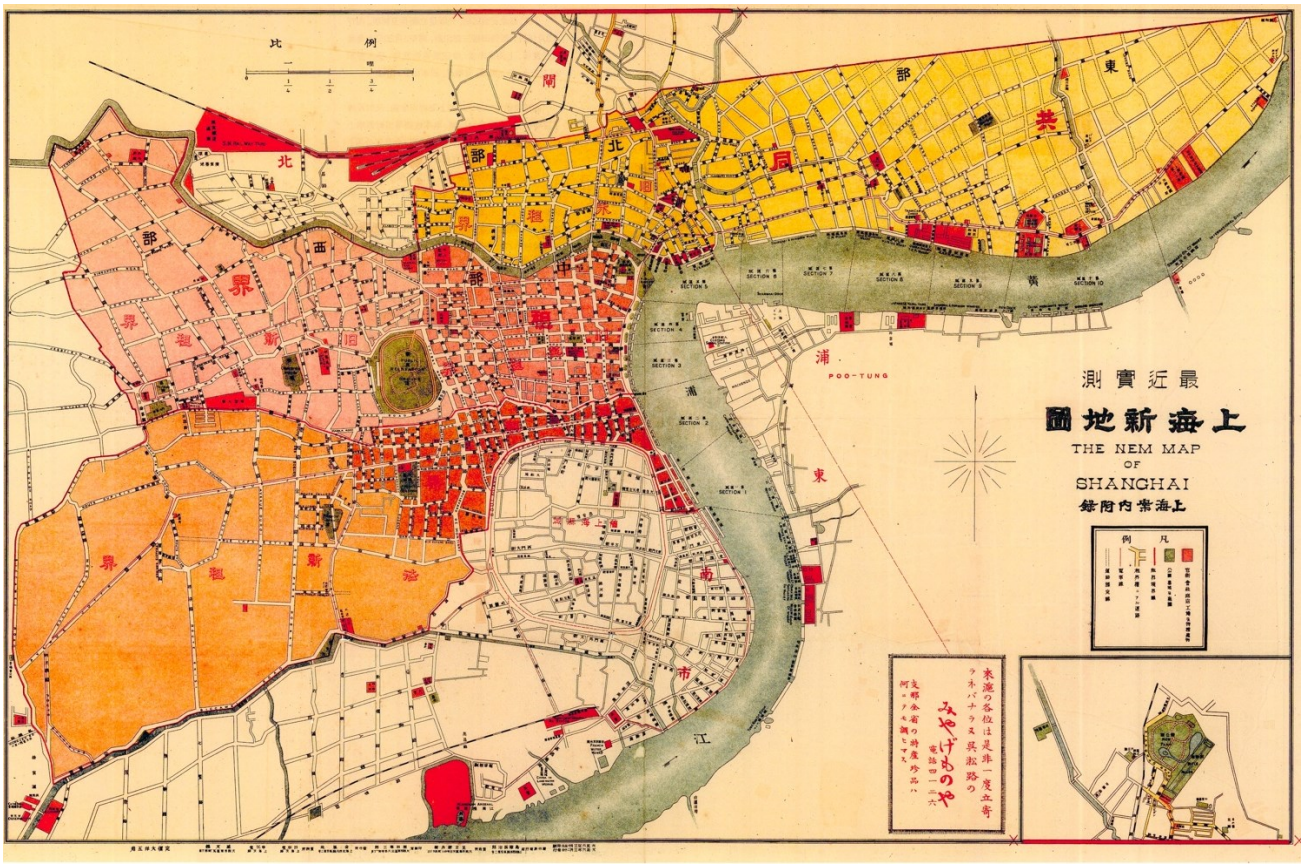

Fig.1 The Area of Shanghai International Settlement and French Consession (Sun & Zhong, 2017)

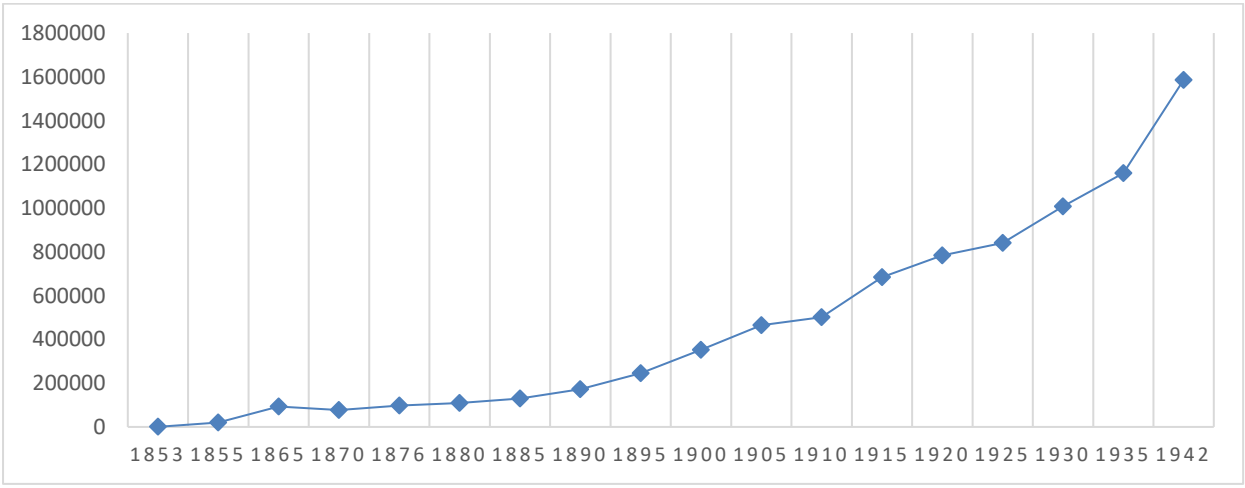

Fig. 2 Population Growth in the International Settlement of Shanghai

Meanwhile, despite occasional disruptions caused by wars, the city embarked on its modernization and urbanization during that period. It gradually developed into a bustling cosmopolitan metropolis because of its special geographical, political, and economic advantages (S. Zheng, 1999). Although Shanghai's financial and industrial activities were slowed by the Great Depression (1929–1933), Shanghai benefited from the increased export of building materials from Europe and the US, which boosted the city's architecture production (Wu, 2008). In 1936, Shanghai was positioned as the seventh largest city in the world and no modern Asian city of that time could match its "cosmopolitan and sophisticated reputation" (Yeung, 1996, p. 2). Shanghai was once called "the Paris of the East" and "the New York of the West" (Hibbard, 2008).

2. Materials and Methods

The paper is based on the analysis of the historical materials. Despite a wealth of literature on the architectural styles of modern Shanghai and real estate market at that time, scant attention has been paid to situating the construction boom within its political and economic milieu of the period, especially the interactions among various actors. The colonial government, the real estate market, the architects, the construction companies, and the developers together created the cityscape.

In fact, Shanghai's prosperity in the 1920s and 1930s could be directly attributed to the real estate market, which was basically result from the war. High-rise buildings were glorious signatures of urban modernism (Aziz Amen, 2017,Aziz Amen & Nia, 2018, Amen & Kuzovic, 2018, Amen & Nia, 2021,) . The offices, apartment, hotels, and recreation buildings were built in large numbers.

High rise building is magnificent, to a certain extent, reflects the economic strength and social status of the builder, and many capitalists are eager to build skyscrapers as landmarks.

This paper will study the economic background and political changes during the construction of the project, as well as the related policies, to interpret the political, economic, and policy reasons behind the formation of the Shanghai skyline.

3. Results

3.1 The foreign and Chinese architects

The first foreigners coming to Shanghai were the consulate officials, commercials and missionaries. There were no foreign architects, materials and construction worker, so the foreigners had to design themselves by their memories of western styles and then to invite the Chinese traditional craftsmen to build with local materials (Boardman & Murphey, 1954). Western construction institutions and architects came to China in the 1860s. In modern China (1840-1949), there were more than 3286 foreign architects from at least 22 countries, which outnumbered Chinese architects (H. Zheng, 2020). Correspondingly, the field of design is still predominantly dominated by Western designers. Actually, in Shanghai, there were not less than 407 foreign architects and 136 foreign architecture firms (H. Zheng, 2017, 2020; S. Zheng, 1999). Among the most famous foreign firms are British Palmer & Turner Group, British Atkinson＆Dallas Architects and Civil Engineers Ltd, British Moorhead＆Halse, French Léonard- Veysseyre- Kruze Architects, German Becker＆Baedeker, Hungarian-Slovakian Laszlo Hudec. These architects play an important role in the history of modern Chinese architecture. The first Chinese-owned architecture firms were established by architects who had previously served as apprentices in foreign firms. Since the 1920s, the first generation of Chinese architects who had received professional architectural education abroad began practicing in China (Sha, 2001), such as Fan Wenzhao, Chen Zhi, Zhao Shen, and Yang Tingbao. It was in 1929 that China first established the registration system for professional architects. According to Wu's (2008) research, Shanghai had a total of 39 registered architectural firms in 1936, with 12 of them being run by Chinese architects.

3.2 The foreign and Chinese developers

Due to the decline of the opium trade, most of the foreign firms turned to the real estate market. Meanwhile, the primary revenue of the colonial municipal is from the land tax and the house tax by leasing the land to build the house. The colonists are also the promoter of real estate development in Shanghai(fig.3.2.1). Meanwhile, the land tax was charged according to the valuation standard of the land, regardless of the number of floors of the building. Which had led to an increase in the amount of construction(fig.3.2.2).

Foreign companies were the first to engage in real estate development in the concession of modern Shanghai. There was 200 real estate in 1930, with 140 of them being foreign and 60 being Chinese (Shanghai Housing and Land Resources Administration, 2004). As these real estate developers continued to invest, the price of land in Shanghai had skyrocketed(fig.3.2.3).

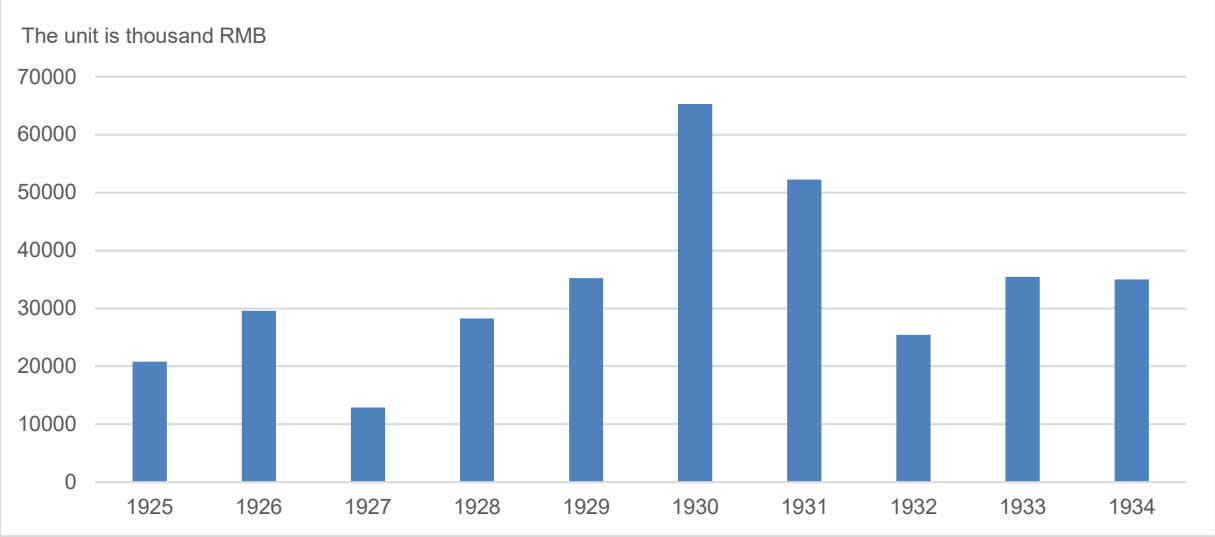

Fig. 3.2.1 Building Investment in International Settlement from 1925 to 1934 [Elaboration by the author according to Li (2008)]

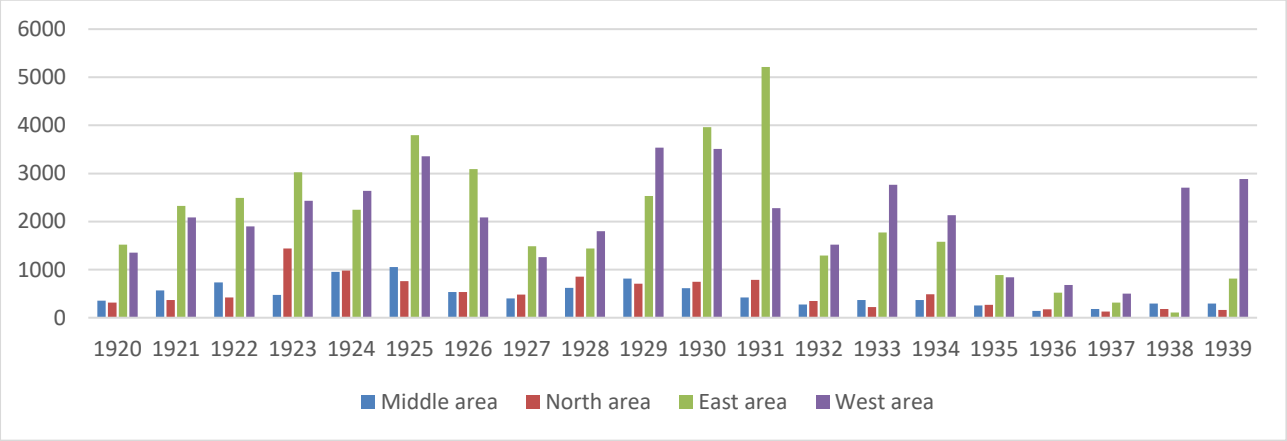

Fig.3.2.2 New construction projects in International Settlement from 1929 to 1939 [Elaboration by the author according to Tang (2006)]

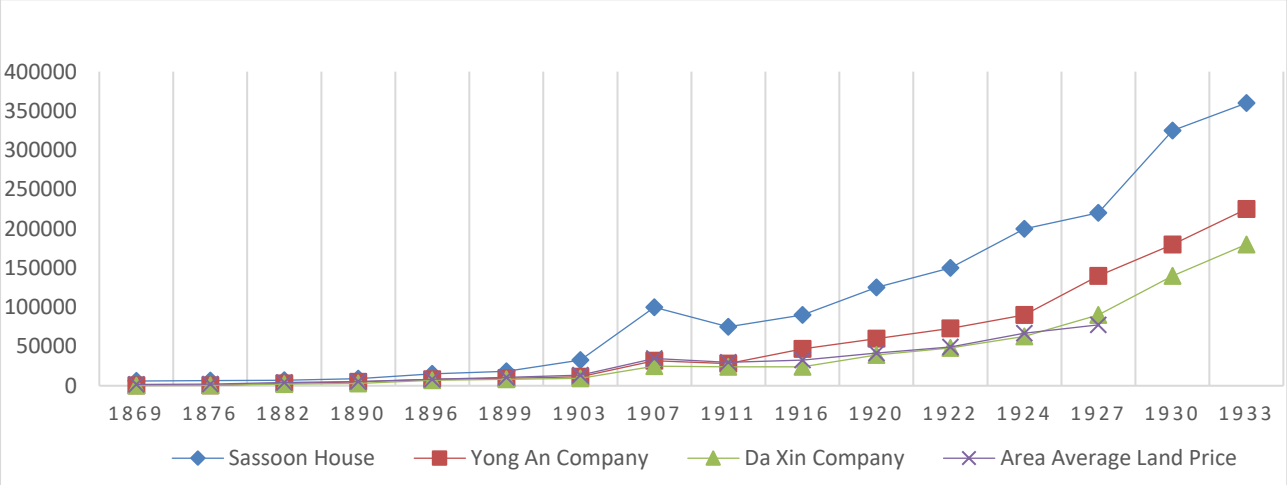

Fig. 3.2.3 Land Price of Nanjing Road [Elaboration by the author according to Lian (2017)

3.3 The regulations from SMC

Initially, the regulations of the buildings mainly depended on *Shanghai Land Regulations*, which has undergone three major revisions in 1854, 1869 and 1898. It stipulates that building plans must be submitted to the SMC for review and approval. Since the end of the 19th century, the International Settlement had experienced a significant increase in construction activities, coupled with the scarcity of professional

architects. SMC was required to enhance building regulations to reduce the construction of low-quality structures, thereby mitigating the burden of approval procedures (Tang, 2006). Meanwhile, technological advancements in the construction industry and public health concerns such as the plague imposed greater demands on building regulations.

From 1845 to 1945, SMC issued ever-improving Building Laws of International Settlement of Shanghai, such as the Chinese Building Rules (1900), Foreign Building Rules (1903), Rules with respect to New Chinese Buildings (1916), Rules with respect to New Foreign Buildings (1916) and General Building Rules (late 1930s). However, most of the items are technical and sanitary regulations. After all, profit is the top priority for foreigners. Due to the General Building Rules issued in the late 1930s, most of the modern architectures were regulated by Rules with respect to New Chinese Buildings (1916), Rules with respect to New Foreign Buildings (1916).

3.4 The case study：Bank of China

By the 1930s, with the decline of the Victorian era, fewer and fewer British neoclassical buildings were being built in Shanghai's International Settlement. Instead, the Art Deco edifices which exemplified the new spirit of American capitalism were gradually prevalent (Lee, 1999; S. Zheng, 1999). During the 1920s and 1930s, about 30 high-rise buildings with ten or more stories were constructed. The style embodies in the high-rise buildings (Table 3.4.1). Bank of China is that kind of style.

When the British architectural firm, Palmer & Turner Group (P&T), designed the new building for the Bank of China, it was a 34-story, twin-tower Art Deco skyscraper with a height of more than 91 meters (approximately 300 feet). It was much higher than the 13-story Sassoon House nearby, which was 77 meters. Unexpectedly, the Bank of China descended from the 34th floor to the 18th floor and then to the 17th floor, 1 meter shorter than the Sassoon Building.

In his diary in April 1934, the general manager of the Bank of China, Mr. Chang Ka-cheung, expressed his intention to build a new building: "The Bank of China has been through a lot of storms, but it has not been shaken, and its internal organization has been renewed. Therefore, the Sassoon House and the Bank of China Building were designed by the same British architectural firm called Palmer & Turner Architects and Surveyors, and the original plan of the Bank of China had 34 floors.

The original construction cost was cut in half by a resolution of the Bank of China's Board of Directors in 1934, therefore General Manager Zhang Jiajiu explicitly requested that the Bank of China building be reduced to 18 stories, but still slightly taller than the Sassoon House.

At the beginning of the following year, the Bank of China applied for the construction of the building to the SMC, and the attached design was the drawing dated November 11, 1935, with another floor reduced to 17 floors, which was slightly lower than the Sassoon House, similar to the actual situation after completion. The roof is a traditional Chinese blue glazed tile roof with four corners, and some details are decorated with traditional Chinese colors. On October 10, 1936, the groundbreaking ceremony of the Bank of China was held.

Buildings are descended for the following reasons：

1. Silver Crisis - Affected by the silver crisis that spread after 1934, the financial situation was not optimistic, so the decision makers of the Bank of China adjusted their thinking and lowered their expectations, and the 34-story building's concept was just on paper. This is one of the major reasons for the great reduction of the floors of the Bank of China.

2. Sassoon exerted a lot of pressure on the Board of Directors of SMC. There was a provision in the building regulations that the height of all new buildings facing the public roads of SMC near the street frontage should not be greater than 1.5 times the width of the planned constructed roads. Also, there were additional conditions such as the height of the building depending on both the open space or road it faced on the front and the open space or road it faced on the side.

3. Political reasons. Song was a political man, and in recent history he was recognized as the leader of the pro-British-American faction in the country. Therefore, under the situation that the Japanese were getting closer, Song and others paid more attention to cooperation with the British and American forces, and he might not have gone to the trouble of making bad relations with the British and Americans for the height of a building. It is possible that some kind of tacit agreement was reached with Sassoon and others, which was to have the repeated lowering of the floor of the Bank of China building, finally settling on the 17 floors.

No.	Building Name	Type	Complete Year	Number of floors	Developer	Designer
1	Sassoon House	Commercial	1929	13	Messrs.E.D.Sassoon and Company,Bankers and Merchants (British)	Palmer & Turner Architects and Surveyors (British)
2	Cathay Mansions	Residential	1929	14	Messrs.E.D.Sassoon and Company,Bankers and Merchants (British)	Arnhold Brothers & Co.,Ltd (British)
3	Bearn Apartment	Residential	1930	10	International Savings Society	Léonard- Veysseyre- Kruze Architects
4	Hamilton House	Commercial	1933	14	Messrs.E.D.Sassoon and Company,Bankers and Merchants	Palmer & Turner Architects and Surveyors (British)
5	Embankment Building	Residential	1933	10	Messrs.E.D.Sassoon and Company,Bankers and Merchants	Arnhold Brothers & Co.,Ltd (British)
6	Shanghai Race Club	Commercial	1933	10	Shanghai Race Club	Moorhead＆Halse (British)
7	Former Continental Bank	Commercial	1933	10	Continental Bank	Kwan, Chu and Yang Architects
8	Land Bank Building	Commercial	1933	10	Unknown	Unknown
9	Central Police Headquarters	Civic	1933	10	SMC	Stanford
10	Wing On Department Store	Commercial	1933	22	Wing On Department Store	Elliott Hazzard
11	Metropole Hotel	Commercial	1934	14	Messrs.E.D.Sassoon and Company,Bankers and Merchants	Palmer & Turner Architects and Surveyors (British)
12	Medhurst Apartment	Residential	1934	12	Metropolitan Land Co.， Ltd.	Messrs. Davies & Thomas Civil Engineers and Architects
13	Willow Court	Residential	1934	12	Unknown	Léonard- Veysseyre- Kruze Architects
15	China State Bank	Commercial	1934	11	China State Bank	Atkinson & Dallas, Civil Engineers and Architects
16	Broadway Mansions	Commercial	1934	21	Shanghai Land Investment	Bright Fraser from Palmer & Turner Architects and Surveyors
17	Park Hotel	Commercial	1934	22	the Joint Savings Society bank	LÁSZLÓ HUDEC
18	Chung Wai Bank Building	Commercial	1934	13	Chung Wai Bank	Léonard- Veysseyre- Kruze Architects
19	The Grosvenor Garden	Residential	1935	18	Messrs.E.D.Sassoon and Company,Bankers and Merchants	Palmer & Turner Architects and Surveyors (British)
20	Picardie Apartments	Residential	1935	16	the Joint Savings Society bank	Messrs. Minutti & Co.
21	I. S. S. Gasgoigne Apartments	Residential	1935	13	the Joint Savings Society bank	Léonard- Veysseyre- Kruze Architects
22	Irene Apartments	Residential	1936	11	Unknown	Unknown
23	Yates Apartments	Residential	1936	10	China State Bank	Unknown
24	the Sun Co., Ltd. Building	Commercial	1936	10	the Sun Co., Ltd.	Kwan, Chu and Yang Architects
25	Poste de Police Mallet in French Concession	Civic	1936	10	Municipalté Francaise	Léonard- Veysseyre- Kruze Architects
26	Liza Hardon Building	Commercial	1937	14	Henry Lester	Lester，Johnson＆Morriss
27	Bank of China Building	Commercial	1937	17	Bank of China	H.S. Luke with Palmer & Turner
28	International Dispensary Building	Commercial	1937	10	Shangahi International Pharmaceutical Co., Ltd.	Atkinson & Dallas, Civil Engineers and Architects
29	Messageries Maritimes Building	Commercial	1937	12	Compagnie des Messageries Maritimes	Minutti & Co. Architects
30	Magy Apartments	Residential	1937	10	Unknown	Léonard- Veysseyre- Kruze Architects

Table 3.4.1 30 high-rise buildings with ten or more stories during 1920s and 1930s

4. Discussion and conclusions

The urban landscape underwent significant transformation during the 1920s and 1930s because of the economic expansion and commercial boom. The reasons for the formation of Shanghai's skyline are complex, with the primary impetus being the pursuit of financial gain by colonial powers. But in this case, we can see that in the process of skyline formation, there are also economic, political and policy factors interacting with each other. That means, in the early colonial period, the construction is not just building, it

is also an interpretation of Colonial Politics (Wu, 2008). Architecture played a crucial role in expressing and reinforcing colonial power. Building industry was often designed to facilitate the extraction of resources and the promotion of trade (Lai, 2007).

With the post-World War II economic recovery and the rise of neoliberalism since the late 1970s, globalization has been the world's dominant economic model for the past 40 years (Wang et al., 2020). As Harvey pointed that there is a strong relationship between political and economic developments and spatial production (D. Harvey, 2003). Contemporary architects are taking practice worldwide, such as the Rem Koolhaas, Jean Nouvel, David Chipperfield and Foster+Partners. Meanwhile, transnational developers, like the CapitaLand, are producing spectacular buildings worldwide. Through this article, we argue that the comparative study of these two periods is interesting.

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Conflict of Interests

The authors declare no conflict of interest.

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