

Reflection

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This document is the result of a research process lasted 11 months. The topic of the research was selected because of the interest of the researcher for complex projects and their relationship with economic developments. Throughout the research the attempt was to measure this relationship, as well as learning its causes. For this reason, a preliminary research on tall buildings in general and their history was carried out. Later in the research, the knowledge acquired in this phase became very valuable in explaining the trends observed. Trying to explore the ever-growing dynamics of integration of both economic and real estate development worldwide, the research was carried out at global scale. In order to comprehend the singularities in the global output, single countries' developments had to be studied as well. This approach proved key in understanding the phenomenon in its totality, although it proved difficult. Generalizations are difficult to be drawn when the table of results contains many different, and sometimes contradicting results. Only through the study of the different countries' economic, governmental and cultural backgrounds differences in output could be explained.

The analytical process was carried out through different processes and tools. It was a mix of mathematical, visual and spatial analysis. The mathematical analysis was carried out mostly through the employment of computer software. The goal was to produce exact statistical results that could be trusted. The results from this type of analysis span from global to national scale, allowing generalizations as well as specificities to be formulated. This analysis was made possible thanks to the knowledge acquired during specific courses taken during the master at TU Delft: Applied Statistics and Financial Management. The visual analysis was carried out by observing graphs representing changes in different trends. This method was valuable to recognize cyclicity in trends. To explain the observed changes, knowledge acquired through different attended courses was employed: Real Estate Valuation and Management & Finance. The last method, spatial analysis, has been carried out with the aid of computer software. Observing the location of projects on a world map with geographical and infrastructural references helped guiding the analysis towards points of attention and allowed quick comparison between different areas of the world. This analysis was made possible thanks to knowledge acquired during an internship at Politecnico di Milano. The choice to employ three complementary analytical methods to carry out analysis comes from a personal choice to employ different academic methods and knowledge acquired so far. This choice also allowed to explore development from many different perspectives: mathematical, economic and spatial. There have been some missed opportunities during the research, mainly linked to the restriction given by time. It would have been interesting to track buildings' sizes, possibly both the gross floor area and the lettable floor area. This data would have allowed to carry out analysis on buildings' effectiveness not only based on their height, but also on internal space. Because of their peculiar designs, and the resulting internal layout, skyscrapers of different heights can have very different floor plates. Analysis of this kind can reveal the efficiency of different designs and functions, and its findings could contribute to the creation of more effective buildings. Furthermore, tracking the amount of space supplied to markets and its absorption is a useful exercise to control the development cycle and check for any market distortions that can lead to crisis. This data was not collected because it proved too difficult to retrieve for each building and the collection would have been time consuming. Cost analysis too feels like a missed opportunity. It proved difficult to find reliable construction costs related to the studied building typology for a long timeframe. Different indicators could have been employed, such as cost of basic products of construction (concrete laying, specialized labor etc), to measure changes in construction related to changes in the cost of these products.

From a professional perspective, the findings of this research can be employed to inform various actors, within industries that both demand and supply skyscrapers, about global trends. These can be used in strategy making, in the decision to target specific markets because of their potential growth. This research highlighted the impact governmental policy and cultural acceptance can exert on production of specific real estate typology. The cyclicity in development of a specific typology changes depending on the economic, governmental and cultural characteristics of an environment and how cross-scale dynamics influence construction. Real estate development, because of its cost and its necessity, is highly correlated to the economy. Since the latter moves in cycles, so does development. Learning which economic drivers influence construction the most taught me how to read and interpret construction trends. The knowledge acquired and the tools employed can be in the future applied in the research of other typologies.