Towers of Babel

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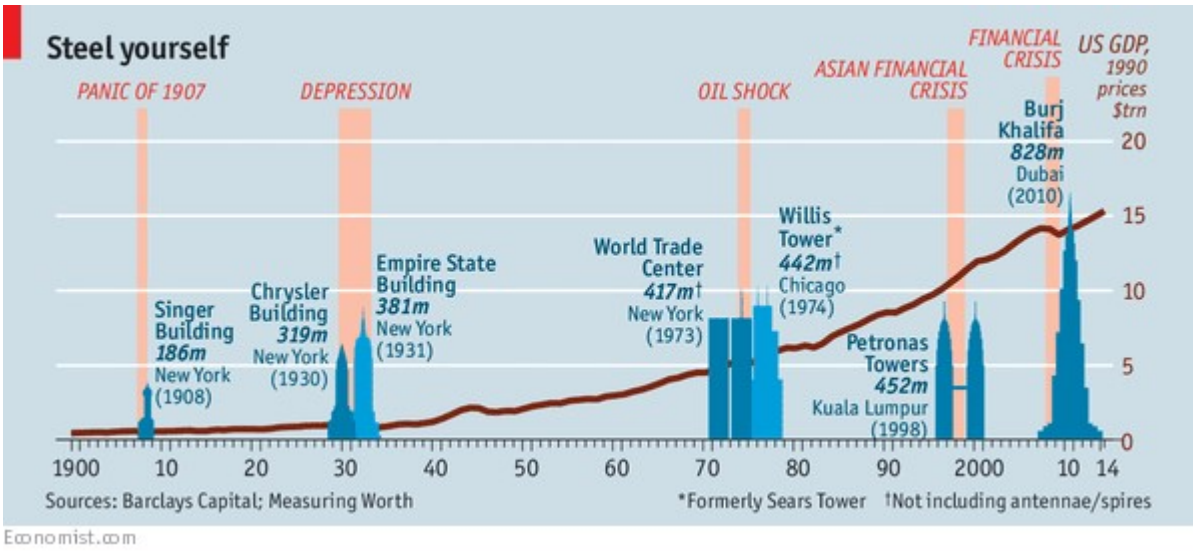

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THE world is in the middle of a skyscraper boom. Last year nearly 100 buildings over 200 metres tall were built—more than ever before. This year China's business capital will welcome the Shanghai Tower, which will be the world's second-tallest building. Saudi Arabia is building Kingdom Tower, which will be the world's tallest (and twice the height of One World Trade Centre in New York, the tallest building in the Americas). Does this frenzy of building augur badly for the world economy? Various academics and pundits, many of them cited by *The Economist*, have long argued as much, but new research casts doubt on it.

In 1999 Andrew Lawrence, then of Dresdner Kleinwort Benson, an investment bank, identified what came to be known as the "skyscraper curse".* Mr Lawrence noticed a curious correlation between the construction of the world's tallest buildings and economic crises. The unveiling of the Singer Building and the Metropolitan Life Tower in New York, in 1908 and 1909 respectively, roughly coincided with the financial panic of 1907 and subsequent recession. The Empire State Building opened its doors in 1931, as the Great Depression was getting going (it was soon dubbed the "Empty State Building"). Malaysia's Petronas Towers became the world's tallest building in 1996, just before the Asian financial crisis. Dubai's Burj Khalifa, currently the world's tallest building, opened in 2010 in the middle of a local and global crash.

Skyscrapers can be hugely profitable, since by building upwards developers can rent out more floor space on a given plot of land. But at some point extra storeys are no longer a good deal, since marginal costs—for more lifts and extra steel to stop the building from swaying in the wind, for example—increase faster than marginal revenues (rents or sales). William Clark and John Kingston, an economist and an architect writing in 1930, found that the profit-maximising height for a skyscraper in midtown New York in the 1920s was no more than 63 storeys. (The ideal height is probably not much different today.) Record-breaking skyscrapers could therefore be seen as an indication that gung-ho investors are overestimating the probable future returns from new construction.

Indeed, developers may be building record-breaking towers even though they know they are economically inefficient. There is, after all, a certain cachet to having a very tall building with your name on it. In 1998 Donald Trump, a magnate, presented a plan to build the world's tallest residential building in New York as the righting of a historical wrong, not a shrewd business move. "I've always thought that New York should have the tallest building in the world," he proclaimed. If such vanity projects can secure funding, the theory goes, financial markets must be out of control and will soon suffer a sharp correction. Mr Trump's tower opened just as the dotcom bubble was bursting.

Historical analysis suggests that developers are prone to bouts of irrationality. In a paper from 2010, Jason Barr of Rutgers University looked at 458 skyscrapers (those at least 100 metres tall) completed in Manhattan between 1895 and 2004. The number of skyscrapers built and their average height depended in part on the growth in population and employment in office jobs. But Mr Barr's calculations suggest that the height of towers was also shaped by those nearby, especially during economic booms. In the 1920s, Mr Barr estimates, New York builders added four to six more floors per project, just to stand out in the skyline.

Phallic sample

Until recently, however, there had been no formal analysis of the skyscraper curse. A new paper by Mr Barr, Bruce Mizrach and Kusum Mundra (all of Rutgers) investigates Mr Lawrence's musings in detail. They look at the building of 14 world-record-breaking skyscrapers, from New York's Pulitzer (which opened in 1890) to the Burj Khalifa, and compare them to American GDP growth (which they see as a decent proxy for the world economy).

If, as the skyscraper curse suggests, the decision to build the biggest towers happens near the peak of the business cycle, then you could use record-breaking projects to predict the future path of GDP. However, the range of months between the announcement of the towers and the business-cycle peak is large, varying from zero to 45 months. And only seven of the 14 opened during a downward phase of the business cycle (see chart). In other words, you cannot accurately forecast a recession or financial panic by looking at either the announcement or the completion of the world's tallest building.

With such a small sample, it is tricky to draw firm conclusions. But the paper expands the sample to 311 by looking at the tallest building completed each year in four countries (America, Canada, China and Hong Kong). The authors then compare building height to GDP per person. They find that in all countries GDP per person and skyscraper height are "cointegrated", a fancy way of saying that the two things track each other. In other words, developers tend to be profit-maximisers, responding rationally to rising incomes (and thus increased demand for office space) by making buildings bigger. While ego and hubris afflict the skyscraper market, the authors argue, its foundations appear sound.

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