

Non-Economic Fixed-Asset Investment

Mal-investment in Excess Manufacturing Capacity, Urbanized Housing and Infrastructure

The central government's CNY 4 trillion (\$586 billion) credit-based stimulus program launched in 2009, in conjunction with China's dependency on construction and fixed-asset investment to create GDP, resulted in 50% of all bank lending directed by the state toward infrastructure projects and doubled China's domestic money supply (M2) within four years from 2007 to 2011 (and which now far exceeds that of the U.S.). The program provided bank loans to local governments to finance development projects in order to achieve mandated GDP targets, including a serial pattern of demolition and reconstruction of existing structures (e.g., high-rise buildings, bridges and roads), and construction of various non-economic projects.



A comprehensive analysis of China's existing manufacturing capacity, urbanized housing and transportation infrastructure undertaken by Pivot Capital Management refutes any claim that there exists significant economic impetus for further expansion of these elements and also reveals that China's existing manufacturing capacity greatly exceeds requirements.¹³⁸ Three

¹³⁸ "China's Investment Boom: the Great Leap into the Unknown," Pivot Capital Management (August 2009). The report is accessible on the world wide web at: <http://www.scribd.com/doc/21544021/PIVOT-CAPITAL-MANAGEMENT-China-s-Investment-Boom-the-Great-Leap-Into-the-Unknown>

Pivot's update of their previous report is entitled, "China's Investment Boom: on the Edge" (September 2011) and is accessible at: <http://www.scribd.com/doc/75058489/PGVF-2011-China-Investment-Boom-on-the-Edge>

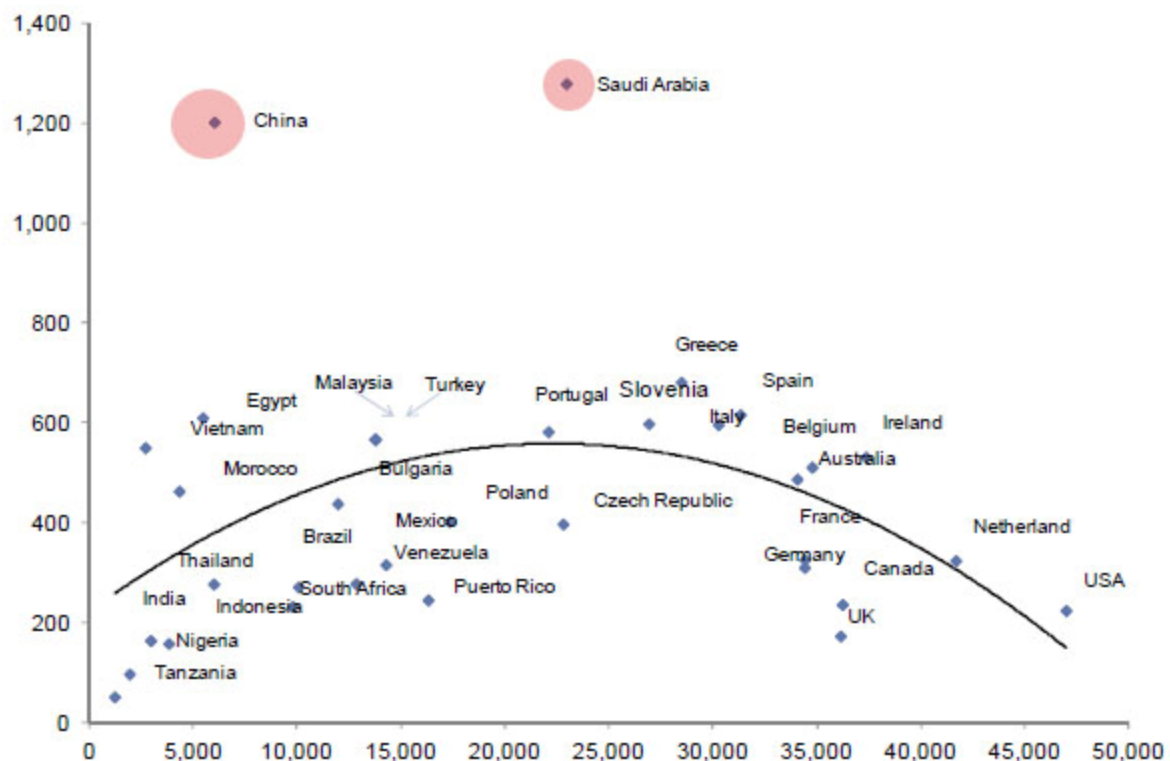
The information presented in this section draws extensively from the landmark statistical research conducted by Pivot Capital, for which the author wishes to express particular gratitude.

primary destinations for recent capital investment, i.e., manufacturing, real estate and infrastructure, are characterized by significant idle capacity. Further expansion of these sectors will therefore have significantly less effect on growth than in the past. An estimated one-third of China's fixed capital stock is inefficient and yields low or negative returns.¹³⁹ Examples include the following:

Steel: Idle capacity in China's steel sector is equivalent to the total steel production capacity of Japan and South Korea combined, and yet China has an additional 60 million tons of steel production capacity presently under construction.¹⁴⁰

Cement: China consumes more cement than the rest of the world combined. China currently has greater idle capacity in cement production than the entire consumption of India, the United States and Japan combined.¹⁴¹

Cement Consumption Per Capita vs. GDP Per Capita



Source: Global Cement Report, International Cement Review (2011 edition)

¹³⁹ "China Losing its Shine," by Sebastien Gruter and Gael de Bray, Societe Generale Cross Asset Research (January 11, 2012). The report is accessible at:

<http://www.scribd.com/doc/77975203/SocGen-China-Losing-It-Shine>

¹⁴⁰ This is an example of building steel plants for the purpose of producing steel with which to build even more steel plants.

¹⁴¹ This despite the fact that a month before the Olympic Games, 26 inefficient cement factories located outside the city of Tangshan were dynamited in order to reduce pollution. Source: "Beijing Considers New Curbs as Pollution Threatens Games," Wall Street Journal (July 29, 2008).

Aluminum: China accounts for over a third of the world's existing capacity for aluminum production, representing a "per capita" capacity equivalent to that of the United States (which has a GDP "per capita" level eight times higher than China. China has idle capacity in aluminum production equal to the entire aluminum production capacity of Brazil or India.

China ranks among the world's least efficient consumers of energy, consuming six times more energy per unit of GDP than Italy and three times more than the United States.

- An examination of the fallacious "urbanization myth", which is often quoted as a fundamental trend expected to contribute to the future expansion of China's economy, reveals that the application of western standards regarding "urbanization" fail to accurately portray the existing state of urbanization in China, in which 96% of the population lives in just 46% of the territory. China defines an "urban center" as having a population density in excess of 1,500 persons per square kilometer. Under that definition, cities such as Houston, Texas (U.S.A.) or Brisbane, Australia would not qualify as "cities". According to a recent OECD report, "[T]he scale of China's urbanisation is therefore likely to be considerably understated by official definitions."¹⁴² By western criteria, China is now one of the most urbanized countries in the world and the overall level of urbanization in China may be understated by as much as 20%.

- China's central government has demonstrated a commitment to investing in new infrastructure. However, the current growth rates for such investments are unsustainable and Development of China's infrastructure has already reached an advanced level relative to global benchmarks. Pivot's analysis observes that in previous infrastructure-driven investment bubbles, the peak in market expectations has coincided with the peak in growth momentum. The economic justification for many of China's infrastructure projects is becoming increasingly questionable, as demonstrated by the following examples:

Roads, Highways and Bridges: Due to the relative population concentration in China compared to the U.S., it is not evident that China needs significant expansion of the country's existing road and bridge infrastructure.¹⁴³ Since both China and the U.S. are approximately 9.6 million square kilometers in size, Pivot compares the relative population densities of both countries and calculates an effective density ratio for China of .70 (relative to the U.S.). On this basis, China's existing 60,000 kilometers of expressways equals or exceeds the .70 coefficient. There are currently 250 million vehicles in the U.S. versus 43 million vehicles in China, and China *already* has an equal or greater proportionate amount of highways.¹⁴⁴

¹⁴² Kamal-Chaoui, L., E. Leman and Z. Rufe (2009), "*Urban Trends and Policy in China*", OECD Regional Development Working Papers, January 2009.

¹⁴³ Whereas in the U.S., for example, automobile ownership averages 745 automobiles per 1,000 persons, in China car ownership overall averages 25 automobiles per 1,000 persons. The vast majority of automobiles in China are centralized in the largest cities, e.g., Beijing (229 automobiles per 1,000 persons). If China's automobile ownership ratio were to achieve parity with the U.S., it would consume the entire export production of OPEC members. Sources: "*The Chinese Car Bomb*," by Andrew McKillop. 21st Century Wire (March 08, 2011); "*What's the Ratio of Cars to People in China*," by Pat Murphy. Christian Science Monitor (May 24, 2011), referencing a 2009 World Bank study; and "*High Ratio of Cars to People*," South China Morning Post (November 11, 2011). An excellent report by Erste Bank on global petroleum supply constraints entitled, "*Nothing To Spare*" is accessible at: www.erstebank.hr/hr/Downloads/0901481b80099cc9.pdf

¹⁴⁴ The Gansu Provincial Highway Aviation Tourism Investment Group Co., an LGFV in Lanzhou, constructed a superhighway in Yunnan, China's second-poorest province, that leads into the foothills of the Himalayas, where there are no cities having a population over 1 million residents. Lei Wanming, the deputy Communist Party secretary

There are presently 600,000 bridges in the U.S., of which 450,000 are in use. There are currently 500,000 bridges in China, with 15,000 new bridges constructed annually over the past decade. However, the U.S. has five times more rivers than China. China has already dethroned Japan as the builder of “bridges to nowhere” and six of the world’s ten longest conventional bridges, and half of the world’s longest suspension bridges, are located in China.¹⁴⁵

Railways: Utilizing the .70 effective density coefficient of the proportionate model, economic justification may exist for China to double the 80,000 kilometers of existing rail stock. The government’s 2009-2012 railway infrastructure spending plan calls for the construction of 63,000 kilometers of rail network, meaning that overall capital expenditure growth rates will significantly decline in the wake of the rail expansion program. The 2009 central government stimulus increased spending on rail network by 67% to over \$100 billion.¹⁴⁶

Bullet Trains, Airports and ‘Prestige Projects’: So-called ‘prestige projects’ and infrastructure projects which are sited in sparsely populated inland areas are particularly wasteful.¹⁴⁷

- High-Speed Rail

Over 5,000 km of newly completed high-speed rail (HSR) lines became operational in 2010, providing China with a total of 8,000 km of rail for the country’s bullet train network. Official plans call for expansion of China’s high-speed rail system to a total of 13,000 km of track by the end of 2012 and 16,000 km by 2020, requiring the expenditure of over \$100 billion per year.¹⁴⁸

Case Study

The following example illustrates the counterproductive nature and adverse effect of many state-sponsored, debt financed fixed-asset investment projects on domestic demand and discretionary income of Chinese households:



a) The largest driver of demand for rail transportation in China is seasonal travel between urban centers and rural areas by migrant workers, who cannot afford travel on the new high-speed bullet trains which are largely empty.

b) There now exist three rail systems between Beijing and Shanghai: normal; fast; and high-speed. The new high-speed rail system cost \$25 billion to construct and since tickets are expensive, and thus few passengers, it has not generated a return on investment with which to repay the banks’ depositors. As a result, the central government has adopted measures to force ridership into the desired mode in order to create demand and generate ROI. Consumers are effectively ‘taxed’ by government policies and suffer financial repression. Inefficient capital allocation results in mal-investment, which has accumulated over decades.

for the company, reportedly stated, “You can’t look at Gansu roads just from an economic perspective.” The LGFV increased its outstanding debt by an additional 29% during the first nine months of last year, and expects to roll over loan principal and interest payments into new bank loans every year until at least 2019. Source: “*China Debts Dwarf Official Data With Too-Big-to-Finish Alarm*,” by Michael Forsythe and Henry Sanderson, Bloomberg News (December 18, 2011). The article is accessible at: <http://www.bloomberg.com/news/2011-12-18/china-debts-dwarf-official-data-with-too-big-to-complete-alarms.html>

¹⁴⁵ The 26.4 miles long Qingdao Haiwan Bridge even has a companion undersea tunnel which parallels the bridge. The \$1.5 billion 3-way bridge cuts only 19 miles off the drive from Qingdao to Huangdao. In December 2010, China began construction of an even longer bridge in southern Guangdong province which is scheduled for completion in 2016. This \$10 billion bridge will span nearly 30 miles in length. The longest bridge in the world is China’s Danyang-Kunshan Grand Bridge, which is 102 miles in length.

¹⁴⁶ Source: Hugh Hendry letter (April 2012).

¹⁴⁷ For example, the new rail lines on the outskirts of Changsha which lead out to open farmland. Source: Id.

¹⁴⁸ “*China’s Been Working on the Railroad*,” by Patrick Chovanec., Global Infrastructure magazine (Spring 2011). The article is accessible at: <http://chovanec.wordpress.com/2011/05/25/chinas-been-working-on-the-railroad/> See also: “*Toddler Found Alive in Rubble of Chinese Train Crash*,” by Louise Watt, Associated Press (July 24, 2011). The article also reports that the high-speed ‘bullet train’ accident which occurred on July 23, 2011, after less than 4 weeks

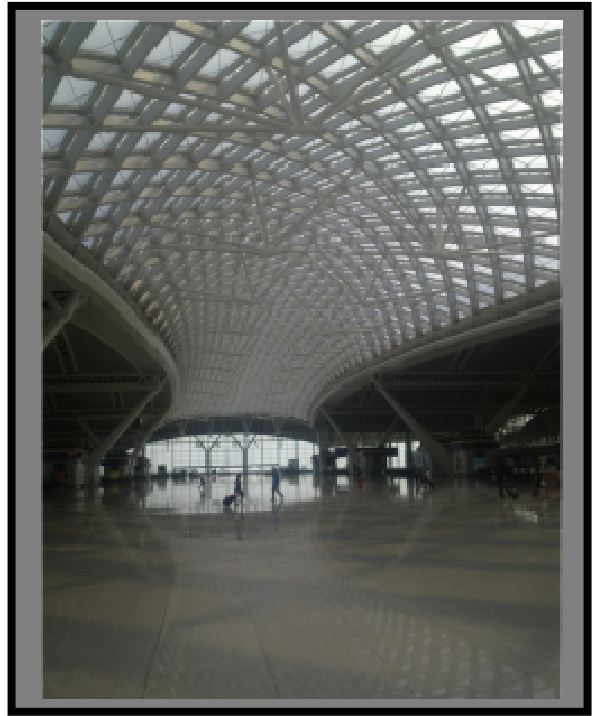
Deserted Railway Stations

High-speed train station devoid of travelers:



Guangzhou South Station:
Passenger Ticketing Area (Mid-2011)

Image credit: Tim Staermose



Guangzhou South Station:
Departure Area (Mid-2011)

Image credit: Tim Staermose



Guangzhou South Station:
Passenger Boarding Platform

Image credit: Wall Street Journal

High-speed rail fares are typically priced 5x–6x above regular train fares, and can approximate the cost of airfare on longer routes. As opposed to drawing ridership from buses and slower trains, the HSR system is instead cannibalizing passenger ridership from China's airlines, resulting in the cancellation of short-distance flights along identical routes.¹⁴⁹ Since the start of HSR service between Guangzhou and Changsha at the end of 2009, the number of flights between the two cities has been reduced from over eleven flights per day to just three, and two out of three airlines withdrew from the market entirely. Ticket prices for the remaining flights have declined by 15%, and yet air passenger traffic has declined by nearly half.¹⁵⁰ According China's Ministry of Transport, the prohibitive cost of HSR fares is causing travelers who rely on the already-congested slower rail service to transition onto long-distance buses, adding to traffic congestion along popular high-density routes.¹⁵¹ The impact of HSR China's transportation sector has thus far had the opposite of the intended effect, effectively transitioning up-market travelers from airplanes down to trains, and train travelers down to buses (rather than to HSR service).



Bullet Train collision (July 2011)

Image credit: AP

of operation and killed 40 persons, was China's worst train accident since April 2008 when a Qingdao-bound train derailed and collided with another train, causing 72 deaths. Following the accident, the central government suspended approvals of new high-speed rail plans. The article is accessible at:

<http://abcnews.go.com/International/wireStory?id=14146421>

¹⁴⁹ Statement by Wang Changshun, Deputy Director of the Civil Aviation Administration of China at a conference held in January 2011. Source: "China's Been Working on the Railroad," by Patrick Chovanec., Global Infrastructure magazine (Spring 2011).

¹⁵⁰ Id. Mr. Wang further stated, "[T]he opening of the Beijing – Shanghai high-speed line next year will be another blow to the air transport industry." The \$33 billion Beijing – Shanghai HSR line surpasses the Three Gorges Dam as the most expensive project in China's history.

¹⁵¹ "High-Speed Trains Reshape Nation's Transport Landscape," by Xin Dingding, China Daily (January 12, 2011). The report is accessible at: http://www.chinadaily.com.cn/cndy/2011-01/12/content_11831362.htm

The Qinghai-Tibet line and the Shanghai Maglev, as well as plans to expand the bullet train network to remote provinces such as Yunnan and Gansu provinces, are examples of politically-motivated projects. The 600 mile (1,000 km) high-speed track between Wuhan and Guangzhou is operating at less than 50% capacity.¹⁵² Concerns have also been raised over the questionable quality of construction, following the collapse of a section of high-speed rail trestle which had already passed high-speed tests.¹⁵³

Since the vast majority of Chinese rail passengers are comprised of low-wage migrant workers whom either cannot afford HSR fares or prefer not to incur the expense entailed for such mode of travel, HSR capacity utilization overall is also less than 50%, making it unlikely that China's HSR network will provide China with a positive return on the country's HSR investment.

The debt-funded component of China's railway investment has increased from 50% in 2005 to over 70% in 2011, accounting for 10% of total reported outstanding debt in China.¹⁵⁴ Under the existing plan, the Ministry of Railways is expected to accumulate at least \$600 billion in additional debt by 2020.¹⁵⁵

However, since HSR projects have provided local officials with a means of meeting GDP mandates, the Ministry of Railways has been asked by such officials to expand the network another 80% above the existing plan.¹⁵⁶

- Airports

Thirty-seven airports constructed between 2005 and 2010 were built in sparsely populated western China. The government has constructed 175 new airports (with an additional 50 planned), whose aircraft landing fees and other revenues do not even come close to covering operating costs and whose capital costs will likely never be recovered.¹⁵⁷

- Ports

¹⁵² "Beijing Reviews High-Speed Rail Plans," Financial Times (November 07, 2010). In the third quarter of 2011, a sudden lack of funding for new rail construction resulted in the suspension of work on construction of 6,000 miles of rail projects (approximately half of which is high-speed track), including 3,300 miles of tunnels. Source: "Chinese Rail Projects Grind to a Halt as Funds Dry Up," by Norihiko Shirouzu, Wall Street Journal (October 20, 2011). According to Wang Mengshu, Deputy Chief Engineer at railway contractor China Railway Tunnel Group, railway builders are facing a "serious problem" paying for work and materials needed to implement projects. He further stated that there are an estimated six million migrant workers employed on railway projects across China, adding, "[I]f the problem is not solved, immediately and properly, it could cause social unrest." Mr. Wang noted that there have already been "thousands of such cases" of worker unrest, such as migrant workers blocking company gates or roads.

¹⁵³ "China High-Speed Rail Track Collapses," The Telegraph (March 12, 2012). The article is accessible at:

<http://www.telegraph.co.uk/news/worldnews/asia/china/9137833/China-high-speed-rail-track-collapses.html>

Related video: http://www.youtube.com/watch?v=WbK_Ui9ne0M&feature=youtube_gdata_player

¹⁵⁴ "China's Been Working on the Railroad," by Patrick Chovanec., Global Infrastructure magazine (Spring 2011). The report states that China's Ministry of Railroads is expected to accumulate at least \$600 billion in debt by 2020.

¹⁵⁵ Id.

¹⁵⁶ Id.

¹⁵⁷ Source: Hugh Hendry letter (April 2012).

China has expanded the country's ports system with a cargo handling capacity of over 100 million tons, to 26 at the end of 2011 (from 12 in 2006).¹⁵⁸ Seventeen of the mega-ports are

coastal and nine are inland. The Ningbo-Zhoushan Port located in China's eastern Zhejiang province has an annual handling capacity of 694 million tons of throughput.

- Urban Rail Systems

Between 2008 and 2009, China's National Development and Reform Commission approved the construction of 96 new urban rail lines in 28 cities, with an estimated cost of CNY 1 trillion.¹⁵⁹ The projects were scheduled for completion through 2015, adding more than 2,500 km of new track.¹⁶⁰

The subsequent collapse in Chinese property prices and decline in land values, from which the majority of Chinese municipalities derive approximately half of their total operating revenues, caused most of the projects which were in progress beginning in 2008 to come to a halt in 2011, and the unfinished projects may remain uncompleted as local governments experienced the loss of up to 20% of monies allocated to subway projects.¹⁶¹

Zhang Jiangyu, Vice Director of the National Development and Reform Commission's Transit Technology Planning Office, stated that "seventy to 80 percent of the [urban subway] projects are being postponed nationwide." He further stated that China learned important lessons from the fast-track subway program, and subways should never have been built in "many cities."¹⁶²

The NDRC approved urban rail projects even if a local government did not meet the minimum capital requirement, and with an approval from NDRC banks were willing to lend on the project without holding city governments to the capital requirement.

According to Jin Yongxiang, General Manager of Beijing's Dayue Consulting Firm, "Urban rail construction is about to experience problems of unsustainability. The liability of subway projects nationwide adds up to more than 1 trillion yuan. From a macro perspective, that's a huge debt burden."¹⁶³ An executive at China South Locomotive and Rolling Stock Corporation, a manufacturer of subway cars, told Caixin, "Local Governments everywhere are out of money. Cities that never had cash problems before, like Guangzhou, Shenzhen and Shanghai, are all tight on capital. In the coming two years, it seems our production will not even reach half of its capacity."¹⁶⁴

¹⁵⁸ "Chinese Mega Ports Reach 26 in 2011," Xinhua (April 27, 2012).

¹⁵⁹ "City Subway Construction Decelerates in China," by Wu Jing, Yu Ning, Wang Chen and Zhang Yuzhe, Caixin (January 06, 2012). The report cites a government official who told Caixin that it is difficult to attract private capital for subway projects because "most public enterprises lose money. If we don't have a model for earning money and repaying, the project has no appeal." The report is accessible at:

<http://english.caixin.com/2012-01-06/100346469.html>

¹⁶⁰ Id.

¹⁶¹ Id.

¹⁶² Id. The report states that in Changsha, exit gates for some of the city's completed subway stations lead to farm fields.

¹⁶³ Id.

¹⁶⁴ Id.

Deserted Metro Stations



Shenzhen Metro System opened over seven years ago on December 28, 2004, and has 5 tracks and 137 stations. It has yet to generate sufficient revenue to cover operating costs and is projected to lose \$3.3 billion by 2016.¹⁶⁵

Image credit: Shenzhen Metro

Quality of Construction is Deficient and Fails to Ensure Public Safety

The recent high-speed bullet train accidents serve to highlight safety concerns resulting from China's expansive infrastructure development initiatives. Rather than utilizing a sufficient quantity of high quality fly-ash additive in the concrete mixture, thereby enabling the concrete trestles to withstand the pressures generated by operation of the bullet trains, low-quality ash was used. When reports on this issue began to circulate in 2007, government officials took no action and instead accepted bribes from contractors.¹⁶⁶ Many experts believe that China's bullet train safety problems will worsen as structural issues emerge, possibly within the next five years.¹⁶⁷

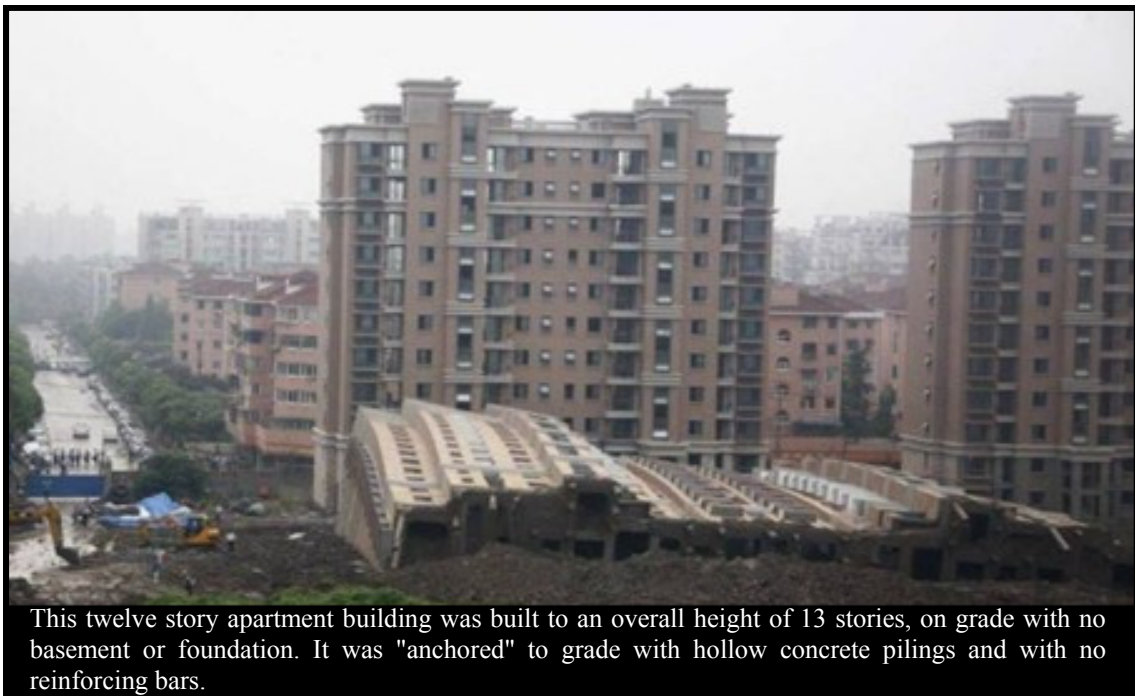
¹⁶⁵ Source: "Debate: Building Subways," China Daily (January 24, 2011). The article is accessible at: http://www.chinadaily.com.cn/opinion/2011-01/24/content_11903661.htm

Related article: Aggressive begging activity is increasing on subways:

<http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1503&MainCatID=15&id=20120509000003>

¹⁶⁶ "'Judgment Day' Fears for High-Speed Rail Tracks," South China Morning Post (January 10, 2011). The article is accessible at:

Corruption and waste run parallel with state-sponsored mega-infrastructure projects financed by easy loans (e.g., the stimulus-financed demolition and reconstruction of a modern elevated highway in Hunan, and the stimulus-financed demolition and reconstruction of a newly-constructed bridge in Sichuan).¹⁶⁸



This twelve story apartment building was built to an overall height of 13 stories, on grade with no basement or foundation. It was "anchored" to grade with hollow concrete pilings and with no reinforcing bars.

<http://topics.scmp.com/news/china-news-watch/article/Judgment-day-fears-for-high-speed-rail-tracks>

¹⁶⁷ Id.

¹⁶⁸ "Whither China's Construction Boom?" Forbes (May 21, 2009).



A 600 foot section of bridge collapsed in Zhuzhou China, crushing 24 cars





Image credit: Financial Times

Vacant Cities:

China's recent construction activity is the equivalent of building a city the size of Rome every two weeks, according to the Economist Intelligence Unit.¹⁶⁹ The central government has announced plans to build 20 new cities each year for the next 20 years.¹⁷⁰

However, since China's annual per capita income of \$7,500 is less than that of Angola and Albania, the vast majority of Chinese citizens cannot afford this housing. Additionally, the lack of economic activity within the newly-built cities and China's Hukou household registration system, which restricts persons to permanent residency within their district of birth, results in such cities remaining largely vacant, even years after construction has been completed.

China lacks a market-pricing mechanism, providing efficient (i.e., economic) allocation of resources. As a result, non-economic allocation of resources occurs at an unprecedented order of magnitude in the pursuit of political expediency and social policies. As a consequence, China's

¹⁶⁹ "Building Rome in a Day: the Sustainability of China's Housing Boom," Economist Intelligence Unit (April 06, 2011). The report is accessible at: https://www.eiu.com/public/topical_report.aspx?campaignid=china_realestate_wp. The report states that according to Pan Jiahua, a researcher at the Chinese Academy of Social Sciences, the average lifespan of a Chinese building is 30 years, compared with 132 years in the U.K.

¹⁷⁰ "New Satellite Pictures of China's Ghost Cities," by Gus Lubin, Business Insider (June 16, 2011). The report is accessible at: <http://www.businessinsider.com/chinese-ghost-cities-2011-5?op=1>

centrally-planned economy is vulnerable to prone to egregious distortions, as occurred in the economic failures of the 1950s and 1960s, and more recently in the former Soviet Union.



No cars in this city except for approximately 100 clustered around the new government building

Image credit: “*And Now Presenting: Amazing Satellite Images of the Ghost Cities of China*,” by Chandni Rathod and Gus Lubin, Business Insider (December 14, 2010).

The migration of China’s population into urban areas is slowing, with China presently about 50% urbanized and 50% rural. Since fixed asset investment is responsible for the bulk of China’s GDP growth, if such investment is non-economic it portends major future problems for China.¹⁷¹ The Chinese Academy of Social Sciences conducted a nationwide study of residential electricity usage over 90 day period and found that nearly 65 million residential units had no electrical usage during the survey period. Many of the new high-rise apartment complexes - entire cities of them – remain nearly empty, as average Chinese cannot afford to live in them.¹⁷²

¹⁷¹ “*China’s Rapid Urbanisation Could Prove Illusory*,” by Jamil Anderlini, Financial Times (July 20, 2011). The report is accessible at:

<http://www.ft.com/intl/cms/s/0/6bca8058-b2d4-11e0-bc28-00144feabdc0.html#axzz1ypor7kj5>

¹⁷² The following photo essay offers a visual preview of the probable fate of the vacant ghost cities in China: “*A Visual Journey through a Deserted Soviet Base*,” by Jörg Rüger, Spiegel (July 06, 2012). The former Soviet city of Vogelsang located in Eastern Germany was the USSR’s most prized external asset prior to being abandoned in 1994 during the collapse of the Soviet Union. The abandoned city includes residential buildings, cinemas, warehouses and schools. The photo essay is accessible at: <http://www.spiegel.de/international/zeitgeist/a-photographic-journey-through-an-abandoned-soviet-military-base-a-843056.html>

The serial demolition of entire neighborhoods of affordable housing to construct new buildings is causing social outcry.¹⁷³ The central government's relentless pursuit of 8% annual GDP growth, even though the end-product of this policy is the construction of uninhabited cities, ghost industrial parks, vacant residential buildings, empty office towers and deserted shopping malls.

*"Who wants to be the mayor who reports that he didn't get 8 percent GDP growth this year. Nobody wants to come forward with that. So the incentives in the system are to build. And if that's the easiest way to achieve growth, then you build."*¹⁷⁴

- Patrick Chovanec, Associate Professor at Tsinghua University

Key Point:

→ The existence of vacant cities, empty industrial parks, ghost malls and deserted railway stations evidences misallocation of capital on development of non-economic projects and is primarily the result of China's dependence on construction and fixed-asset development to produce GDP, and is indicative of the structural imbalances within the Chinese economy. The operation of China's political economy obtains the outcome of state-mandated investments generated by political expediency (e.g., state-subsidized employment programs) rather than economic objectives, resulting in capital misallocation and mal-investment on an unprecedented, and almost unimaginable, scale.

*"There are big institutional reasons for [investing in] overcapacity. Local governments have a strong motivation to create this investment. The rapid increase in the investment rate is creating serious problems. It is already too high and it is still increasing significantly. All of this means that in the future, China's overcapacity problem is likely to become much more serious."*¹⁷⁵

- Yu Yongding, Economist at the Chinese Academy of Social Sciences

Despite the existence of so many vacant new cities, more than 30 million Chinese reportedly prefer living in caves.¹⁷⁶

¹⁷³ A survey of Chinese mainland blog sites provides numerous examples. The following occurred in Shanghai:

<http://www.ministryoftfu.com/2011/01/shanghai-driver-silently-protests-forced-demolition-in-multiple-languages-in-taxicab/>

And: <http://www.ministryoftfu.com/2011/08/video-77-year-old-female-kneels-down-naked-in-front-of-courthouse-to-protest-land-grab/>

¹⁷⁴ "Why is China building eerie 'ghost cities'?" by Jerome Corsi, World Net Daily (February 06, 2011). The report is accessible at: <http://www.wnd.com/2011/02/260645/>

¹⁷⁵ "China: No One Home," by Geoff Dyer, Financial Times (February 21, 2010). The report states that Professor Yu believes the Chinese system encourages local governments to invest in trophy projects, such as gleaming new towns and administrative centers, because officials do not care if the project is barely used in five years' time as they will by then have moved to a different job. The report is accessible at:

<http://www.ft.com/intl/cms/s/0/47cfb09c-1f0f-11df-9584-00144feab49a.html>

¹⁷⁶ "In China, Millions Make Themselves at Home in Caves," by Barbara Demick, *Los Angeles Times* (March 18, 2012). In an interview with Ren Shouhua, a 46 year old city dweller who was born in a cave on the outskirts of Yanan, Mr. Ren stated that he plans to move back to a cave when he retires, adding "It's quiet and safe." Cheng Wei, 43, a Communist Party official who lives in a cave near Yanan said that many people seek to rent caves in the area, but no one wants to move out. A 750 square foot cave would be advertised for sale at approximately \$46,000, whereas a simple 1-room cave (without plumbing) would rent for about \$30 per month. Many caves are neither for sale nor rent as they are intergenerational properties with a long history within the owner's family heritage. Xi Jinping spent seven years living in a cave in Shaanxi province during the Cultural Revolution. According to Ma Liangshui, a cave resident south of Yanan, "Life is easy and comfortable here. I don't need to climb stairs. I have everything I need. I've lived all my life in caves, and I can't imagine anything different." The report is accessible at:

<http://articles.latimes.com/2012/mar/18/world/la-fg-china-caves-20120318>

China's Ghost Cities

Click to View:

[Satellite and Surface Images of the Vacant Ghost Cities of China](#)

See the following resources for additional information on this subject:

Video Tour of South China Mall:

<http://www.pbs.org/pov/utopia/>

China's 17 Phantom Cities and 65million vacant housing units:

<http://www.youtube.com/watch?v=AY3IV4ULdaA>

Video Documentary of China's Ghost Cities and Malls:

http://www.youtube.com/watch?v=rPILhiTJv7E&feature=player_embedded

Documentary by SBS Dateline (Australian TV) on the Chinese Real Estate Market:

<http://www.sbs.com.au/dateline/story/watch/id/601007/n/China-s-Ghost-Cities>

Images of China's Urbanization:

<http://www.reuters.com/article/2010/08/03/us-china-urbanisation-idUSTRE6721D320100803?feedType=nl&feedName=ustopnewsearly>

Al Jazeera Video Tour:

<http://www.youtube.com/watch?v=0h7V3Twb-Qk>

Chinese Cities on a Building Boom:

http://www.nytimes.com/2011/07/07/business/global/building-binge-by-chinas-cities-threatens-countrys-economic-boom.html?_r=1&hp

Diminishing Marginal Economic Benefit

China is presently at a very advanced stage of industrialization even when measured on a per capita basis, so the economic viability of further capacity expansion is limited. As noted above, China's urbanization as a justification for further capacity expansion is vastly overstated, as China is far more urbanized than is reflected in statistical reports. Thus, the effectiveness of capital spending at stimulating growth is diminishing and investment will inevitably cease to be the dominant contributor to China's future economic growth.

*"China's been riding an investment boom over the last three years that everyone recognized was unsustainable and now we're seeing what unsustainable looks like. The unraveling of this investment boom is happening with nothing to replace it and that means China is in store for much lower GDP growth than we've become accustomed to."*¹⁷⁷

- Patrick Chovanec, Associate Professor at Tsinghua University

Pavement workers in Chongqing



Half the crew digging up the road...

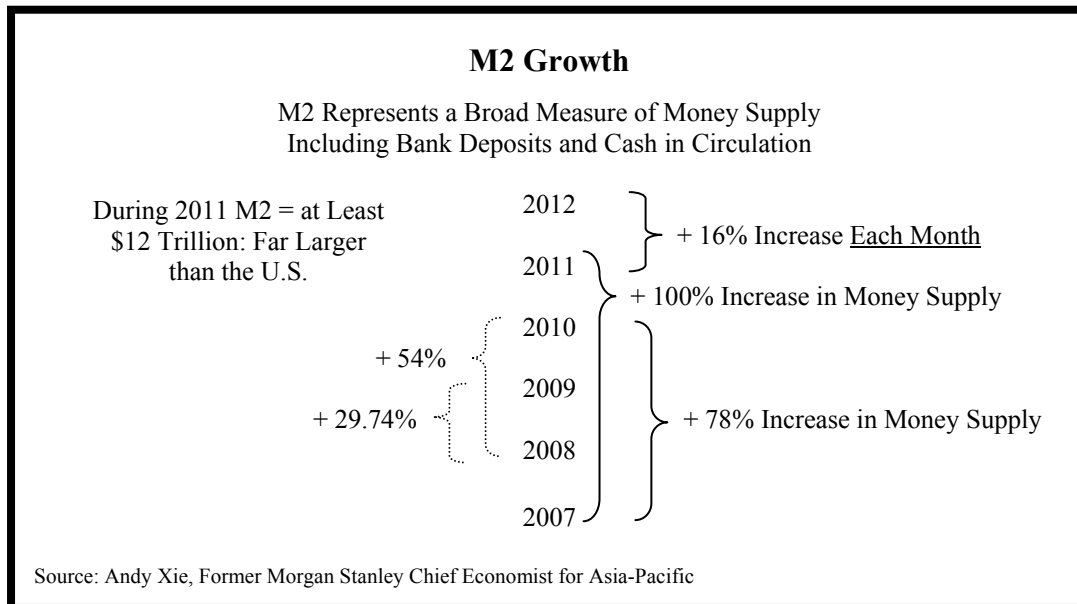


...the other half putting it back together

¹⁷⁷ "China Investment Boom Starts to Unravel," by Jamil Anderlini, Financial Times (May 14, 2012). The report is accessible at: <http://www.ft.com/intl/cms/s/0/f7cf01fe-9db7-11e1-9a9e-00144feabdc0.html>. The report notes that Chinese bulldozer sales dropped by 51% in March 2012 from the same month of 2011.

Fixed-Asset Investments and Money Supply Growth

The central government's stimulus program and the massive amount of loans originated by China's state-owned banks has doubled China's money supply from 2007 to 2011. Over the past decade, China's broad money supply (M2) has increased 16-18% annually, nearly twice the official GDP "growth" rate.



Capital flight now underway portends further escalation of M2 expansion.

*"Look, I know some of you think (reasonably) that the FED is just like the PBoC. However, the FED finally resorted to QE during the financial crisis, but the Chinese have been printing money through "relending" operation – lending to banks – for the past 30 years. Lately, they haven't had to do it as much due to huge FX inflows. If that flow reverses, they will have to print money on a large scale again, and will make QE look like child's play."*¹⁷⁸

- Victor Shih, Associate Professor at Northwestern University

*"They are just not addressing the fundamental problem at all." [With the expansion of credit and cash in the economy stemming from China's response to the global crisis], "you're sitting on a volcano."*¹⁷⁹

- Patrick Chovanec, Associate Professor at Tsinghua University

¹⁷⁸ "Chinese Banks: 'These Things Aren't Banks'," interview with Carl Walter and Victor Shih, Naked Capitalism (August 21, 2011). The interview is accessible at:

<http://www.nakedcapitalism.com/2011/08/chinese-banks-these-things-arent-banks.html>

¹⁷⁹ "China Sitting on Inflation 'Volcano'," Sydney Morning Herald (November 23, 2010). The article is accessible at: <http://www.smh.com.au/business/world-business/china-sitting-on-inflation-volcano-20101123-1857t.html>

The article reports that food price inflation in China has reached 10%, over twice the headline rate, and attributes the rate to the 54% surge in money supply over the past two years. Beijing restaurant owner Liu Heliang stated that meat and vegetable prices rose 10% from the previous year (despite the headline rate of 4.4%) and staff wages increased 40%. Wang Yanling, a fruit stand owner in Beijing, stated that prices of apples have soared more than 60% from the previous year. Hangzhou grocer Zhu Fulong stated, "prices for everything are rising every day – no exception." Food price inflation was the primary catalyst for the social and political upheaval that ultimately led to regime change in the MENA region beginning in spring 2011. The chair of the Finance Department at the Chinese University of Hong Kong recently told a private audience that China's true inflation rate is 16%. Chinese households have begun hoarding metals with stockpiles becoming increasingly visible in yards of private homes.

New Stimulus Program Initiated

During the first four months of 2012, NDRC approvals for new infrastructure construction projects doubled from the same period of 2011.¹⁸⁰ Central government spending also increased by 27% over the same period relative to the previous year, expanding nearly twice as fast as revenue growth.¹⁸¹ Following a mid-May 2012 tour of the industrial city of Wuhan, Chinese Premier Wen Jiabao announced that the government needed to give “more priority to maintaining ‘growth’,” despite the debt and corruption which occurred in sectors such as high-speed rail as a result of China’s previous stimulus program.¹⁸² In apparent disregard for the diminished net incremental economic benefit produced by additional fixed-asset investment, Mr. Wen stated that the government would increase credit allocation for major projects that are already under construction as well as bring forward projects scheduled for 2013 in order to accelerate the allocation of investment including approval for funding the construction of an \$11 billion steel mill in Zhanjiang.¹⁸³ Chen Dongqi, Vice Director of the Academy of Macroeconomic Research within the National Development and Reform Commission, has publicly advocated for additional monetary stimulus and infrastructure investment to support ‘growth’.¹⁸⁴

*“They are starting the party when they still have a headache from the last time.”*¹⁸⁵

- Stephen Green, economist at Standard Chartered Bank (Hong Kong)

*“The state advances and the private sector retreats.”*¹⁸⁶

- Zhang Lin, Analyst, Lange Steel Company

⇒ Key Finding:

Money Supply Increase » Non-Productive Investment » Inflation » Food Riots » Destabilization



¹⁸⁰ “Fears Over Impact of Beijing ‘Stimulus,’” by Leslie Hook, Financial Times (June 04, 2012). The report is accessible at: <http://www.ft.com/cms/s/0/8eed78d8-ae23-11e1-94a7-00144feabdc0.html#axzz20NkBFoN8>

¹⁸¹ Id.

¹⁸² “China Targets Infrastructure Investment,” by Mure Dickie, Financial Times (May 22, 2012). The report is accessible at: <http://www.ft.com/intl/cms/s/0/3f0caab0-a3f0-11e1-84b1-00144feabdc0.html>

¹⁸³ Id. The report state that in Q1 2012, China’s state-owned steel companies experienced a 68% decline in profits from the previous year, and that many state-owned mills were operating at a loss. Despite this, during a two week period from the end of May into June 2012, multiple multibillion-investments in new steel mills were approved.

¹⁸⁴ “Pressure Rises on China for More Stimulus,” by Jamil Anderlini, Financial Times (July 01, 2012). The report is accessible at: <http://www.ft.com/intl/cms/s/0/7361c312-c359-11e1-ad80-00144feabdc0.html#axzz20NkBFoN8>

¹⁸⁵ Id. Approval of infrastructure investment is reportedly much faster than in the two previous years and central government approvals for highway construction are slated for further acceleration this year. Source: “RPT - China to Fasttrack Infrastructure Investments – Paper,” Reuters (May 21, 2012).

¹⁸⁶ Id. at 180. The report states that continuing large-scale fixed-asset investment risks the reversal of Beijing’s years-long efforts to boost household consumption and rebalance the economy towards consumer-led growth. According to a steel trader in Shandong, ““All these projects might boost demand a little in the short-term, but will make things worse in the long-term.”

Despite the central government's announcement of new stimulus spending on fixed-asset investments including the construction of additional steel mills, Chinese regulators have reportedly warned state-owned banks against lending to steel plants because the companies have been illicitly borrowing extensively and using the proceeds of banks loans to speculate on real estate and stocks.¹ The regulatory directive, which was not made public, stated that steel companies were using the same collateral to guarantee multiple loans with which to make property and stock market bets.²

*"If all this investment remains unprofitable for the long term, there will be serious risk to the banking system. The problem is it's become a tool for local government officials to compete and a hotbed for corruption."*³

- Yi Xianrong, Researcher at the Chinese Academy of Social Sciences

*"It's a lesson on the limits of stimulus. The more you do it, the less and less you'll get out of it. You've already tapped all the good investments out there. A second time, you'd just be shoveling money out the door. It will just compound their problems."*⁴

- Patrick Chovanec, Associate Professor at Tsinghua University

¹ "China Warns on Lending to Steel Plants," by Simon Rabinovitch and Leslie Hook, Financial Times (June 04, 2012). The article is accessible at:

<http://www.ft.com/intl/cms/s/0/12763b2c-ae29-11e1-b842-00144feabdc0.html#axzz20NkBFoN8>

² Id.

³ "China Feels After-Effects of Economic Stimulus," by David Pierson, Los Angeles Times (August 16, 2011). The report is accessible at: <http://articles.latimes.com/2011/aug/16/business/la-fi-china-economy-20110817>

⁴ Id.