Credit Entropy and the China Credit Syndrome

The China Syndrome

The China syndrome is an expression which describes the worst case scenario of a nuclear meltdown in which molten reactor core products goes into the earth below the reactor through the floor of a reactor building and emerges from the other side of the earth (theoretically, originating in America and emerging from the other side in China). The non performing assets (NPAs) on account of China’s trade with America will similarly blow a hole through the capital of Chinese banks. The day of reckoning is near- ever day that China’s US dollar denominated foreign exchange reserves increases, marks another milestone in the long march towards doom. The drumbeat started in 2000 and is gaining apace with every passing day.

Between 1980 and 1990, when trade between US and China was real (that is, based on real competitive advantage of each country and not through financing of the buyer of goods through purchase of his IOUs without expecting the IOUs to be paid back), China’s reserves jumped from $2.8 billion to $29.6 billion.

In the next decade too, China by and large sold goods to the US and Europe based on its labor cost advantage and its lax environmental regulations. The foreign exchange reserves at the end of 2000 stood at $165 billion.

Credit Entropy in the US-China trade in the decade after 2000

What followed in the decade after 2000 was vendor financing with savings from China used to finance current consumption of goods manufactured in China. Savings are pseudo savings when they go to finance an uncreditworthy purchaser of your goods and services. If a bank lends to a corporation or a household for a productive activity, chances are high that the loan would be repaid. If on the other hand a bank lends for supporting the current consumption of a

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borrower, to hope for repayment is fairly optimistic. The natural direction of flow of credit is towards avenues in which the return on capital employed, taking into account risk, is highest. So, if a pension fund of a rich country invests in a well structured project in a developing country, which translates to higher output and production of goods that are undersupplied, the chances of the fund getting repaid is high because credit is flowing in a natural direction.

When credit flows in an unnatural direction— that is towards a purpose, a sector, a corporation or a country where the return on capital is low, the entropy of such artificial pumping of credit has to generate non performing assets (NPAs) in the banking system somewhere. If the country which is doing the pumping of credit in an unnatural direction (through currency manipulation) is one with high savings rate and one where the accounting at the bank branch level is opaque, the effect of this unnatural flow of credit will not be apparent to everyone. This, in brief, is the saga of trade relations between the United States and China after 2000.

This is what caused Chinese foreign exchange reserves to rise exponentially from $165 billion in 2000 to almost $3 trillion at the end of 2010. To generate each dollar of GDP at home, China needs ever larger amounts of financing of exports to be done. China’s reserves are nothing but receivables from sale of goods to Europe and the US. Till the time societal debt ratio (SDR) in America and Europe were manageable, Chinese exports created real receivables. Now it is merely revenue booking for pushing up GDP like the way US scamster CEO Al Dunlap created receivables at Sunbeam Corporation that would never be converted to cash. Chinese reserves (receivables) will be converted to cash only through quantitative easing. Real Receivables do not keep growing disproportionately compared to sales. Else the receivables are as real as those of Waste Water Management Inc., a company that was indicted for fraud.

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Exports are necessary because, as Nobel laureate Paul Krugman put it, foreign suppliers of imports (such as crude oil) are crass enough to demand that they be paid. But storing the results of exports in reserves that are liable to being repaid through “quantitative easing” is a blunder of elephantine proportions. At the very least, the Chinese should have resorted to some barter financing, by buying up wheat or chicken or pigs from Mid-West farmers to feed their undernourished country side instead of accepting funny money.

In the 1980s, when western banks pumped credit into emerging markets, not towards projects which would generate high returns but for supporting current consumption, it soon translated into bad loans for those banks. These banks had to be bailed out by western tax payers through the IMF mechanism. The same process will be repeated in the China saga with some changes in the plot. One of the following two things will occur. Either the American and European households, in an attempt to clean up their balance sheets will cut down current consumption of discretionary items. That will result in sharply lower volumes for Chinese producers, translating into NPAs for Chinese banks. Else, increasing trade disputes will cause the artificial exchange rate to give way. That will not only sharply reduce the value of China’s reserves but will hit the Chinese producer with a double whammy- lower realization and also lower volumes. The latter scenario would cause NPAs to go up to a greater extent than under the first scenario.

China’s bad loans amounted to $ 911 billion as per an E&Y report in 2006. Most of it would have been linked to deploying resources in low return projects domestically. The next wave of bad loans would be due to trade linkages and the unnatural flow of credit. In thermodynamics, when water is pumped in an unnatural direction against gravity, the entropy of the universe goes up sharply. In credit financing, credit pumped in an unnatural direction will cause the NPAs of the banking system to go up somewhere in the universe. No prizes for guessing where the NPAs are being housed now!

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Linked to the creation of foreign exchange reserves is the usage of reserves to buy natural resource in other countries. China has been buying hot commodity mines all over the world by cutting unsavory deals with local thugs who masquerade as the national government. To us, it seems the money has been ill spent. It is highly unlikely they will be able to mine the ores against the wishes of the natives. More likely, the unhappy natives might start shooting arrows at the juicy part of the rear of the Chinese stationed there forcing them to make a quick exit. It is pointless under such a scenario to rush to the court at The Hague for enforcing contract law. More likely, the natives would at some point do to the despot what the wretched people of Romania did to their godless tin pot dictator in the late 1980s after enduring four decades of tyranny. And the climate of the 21st century is distinctly unpropitious for rushing in heavy boots to rob other people’s resources as Uncle Sam found to its cost in Iraq.

Credit Entropy from converting Savings to Income (GDP)

China’s initial investments in infrastructure, in the decade of the 1980s and the 1990s contributed to improved productivity and GDP growth through efficiency gains. The infrastructure investments in the last decade by local government agencies will not have that effect. The local governments have effectively converted the savings of the Chinese people in local banks into current GDP growth by investing in projects that are unlikely to generate meaningful returns but create employment and fancy infrastructure facilities. Remember, GDP = C + I + G + (X-M), where C is consumption, I is investment, G is government spending, and X-M is net exports. So every time, the savings of the people is deployed in investments, whether in high return projects or low return projects, GDP goes up. China’s household wealth is 70% deployed in bank deposits and 30% in other investments- unlike in the US, where only 12% is in bank deposits. 75% of bank loans go to state owned entities (SOEs). Effectively, if deployed in low return projects, investments are a way to create growth and employment.

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Investments were 48% of GDP in 2009. The problems are revealed only when the piper has to be paid. Bank bail outs would then become necessary.

Linked to this domestic investment play is the real estate play. Land sales to developers makes up half of local government revenue. Local government officials forcibly evict farmers and deliver the land to developers to generate fat revenue for the government. The farmers are moved into small apartments. The state government officials gain in two ways. Firstly, there is the enabling fee paid to the government officials, which might make its way to the purchase of completed apartments post development. Secondly, the local growth generated because of investment in land development helps the officials meet growth targets. The land is purchased both by private developers as well as real estate subsidiaries of SOEs entities. Since the financial crisis of 2008, the biggest bidders for the land have been SoEs, which heavily outbid the private developers aided by cheap bank loans. Land sales were up 70% in 2010.

**The Giants of the Shanghai Composite Index**

The stock price of Guangshen Railway, listed on the NYSE (ticker GSH) is an interesting representative of the China investment story. The stock price on NYSE was $20.8 in May 1997. After more than 13 years, in January 2011, the stock price was $20.2. This was hardly surprising. This majority state owned company, which operates railway lines for freight and passenger transport between Guangshou and Shenzen on Guangdong province and between Guangshou and Pingshi, grew with the booming economy of the Pearl River delta during the last three decades. However, its return on capital employed (RoCE) has been appalling. Hovering between the mid and high single digits, the company should not have exposed itself to the scrutiny on international investors by listing on the NYSE and having H shares listed in Hong Kong.

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Guangshen Railway is one of the 50 constituents of the Shanghai Composite Index, an index populated by SOEs involved in the largest systematic destruction of economic value in the history of humanity on account of massive investment in poor return projects. This was facilitated by access to cheap credit at regulated rates from state owned banks that thrive on the deposits of hard working ordinary Chinese people such as the 150 million migrant labor. With blood, toil, sweat and tears, this labor force is trying to ensure a better standard of living for their children.

The companies of the Shanghai index can be broadly classified into the following categories-state owned banks and insurance companies, state owned infrastructure companies such as expressways, ports and power companies, state owned industrial, chemical and petrochemical companies and a small number of private sector companies. One of the companies of the Shanghai Composite Index that genuinely generates return on capital employed is Kweichow Moutai, the state owned enterprise that brews liquor under the Moutai Brand. The petrochemical giant Sinopec is another entity which produces sound returns, though its subsidiary Shanghai Petrochemicals does not generate healthy returns. Both parent and subsidiary are part of the main stock index.

Among the state owned industrial behemoths are big steel companies like Wuhan Iron and Steel and Baoshan Iron and Steel. Wuhan, the first large iron and steel company after the PRC was founded, sensibly chose not to publish its financials in English. But the stock price performance of this company tells a tale to all, irrespective of whether one is aware of the nuances of the Mandarin language. And God help any company competing with Baoshan Iron and Steel (Baosteel). Untrammeled by petty thoughts such as return on capital employed, and sustaining thanks to access to unlimited cheap credit, the only people who had the right to complain were

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the long suffering minority shareholders- the stock was at the same level that it was 7 years ago. Inner Mongolia Baosteel Union, a subsidiary of Baosteel, had negative return on capital employed in 2009 after a terrible performance in the previous few years. After a merger in 2008, Handan Iron and Steel overtook Baosteel to become the second largest Chinese steel producer. Like its other compatriots, the company is not overly fanatical about ROCE metrics.

The Shanghai Zhenhua Heavy Industries highlights all that is wrong with state owned companies operating in the heavy industries sector. The earnings of this manufacturer of port machinery and steel structures is so bad that even local credit rating agency Xinhua Far East Credit Ratings downgraded its rating to BBB. Its poor return on capital employed, continuous requirement for capital infusion, high receivables and declining profitability constitutes a potent cocktail. The Sichuan Hongda Company, which operates in the chemical, metallurgical and mineral sectors, has made it a habit of generating returns in the low single digits. Another chemical company, Yantai Wanhua Polyurethane, whose core competence is the production of isocyanates, has reasonable though not spectacular RoCE. Jiangsu Huaxicun, which manufactures and sells textile and chemical fiber products harvests RoCE in the low- mid single digits for its efforts.

Jiangxi copper, the largest copper producer in mainland China has had decent RoCE in the recent past, but will be the first one to see its fortunes reversed when the credit binge in China since 2009 comes to an end. Shanghai Automotive, which has joint ventures with GM and Volkswagen, also had decent returns in 2010 on the back of the credit binge. But this terrible company had operating losses in 2007 and 2008. Compounding the operating losses were the losses in equity investments. The English translation of the financials states “should there be any conflict between the English version and the Chinese version, the Chinese version prevails”

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There are three electronics oriented state owned exporters in the Shanghai index that will make any shareholder weep, and not out of joy. Nanjing Panda Electronics, a subsidiary of state owned Panda Electronics Group exports electronics products and has joint ventures with Sony Ericsson, LG, Hitachi etc. The 5 year stock return has been in the low single digits on account of the negative RoCE of the company between 2006 and 2009. Even currency manipulation by the Chinese government on a massive scale could not ensure that the company produced meaningful returns. TCL Corporation manufactures and sells consumer electronics products such as LED, LCD and CRT color TVs and generates negative returns on capital in 2010 after pretty mediocre results in the prior years. The Founder Group sells electronic products like desktop computers, printers and supplies OEMs with input devices such as keyboards, mouse etc. It has recently been operating on wafer thin margins and unimpressive RoCE. The operational cash flow is negative because of the horrific coupling of thin profitability with long working capital cycles.

The Chinese people can justly be proud of the superb infrastructure of their country. Visitors to the Shanghai International Airport marvel at the wonder of this superb airport. The RoCE of the airport, which has been unimpressive in the past (stock price up 25% in 5 years), might improve in the near term. That is unlikely at Shanghai International Port as trade with the developed world will falls as the households of importing countries repair their balance sheets after a two and half decade binge. Another port of the Shanghai Index, Tianjin Port, is the world’s fifth largest in terms of throughput. The RoCE, after being in the single digits in the past, fell to negative in 2009 in line with the fall in global trade post the financial crisis. It would take a brave man to predict that the company’s RoCE would be decent in the next few years, as import of commodities such as coal and iron ore fall. The China Merchants Energy, a shipping company involved in oil transportation and bulk goods transportation generated an RoCE of 2.5% in 2009.

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Even in good times the RoCE never crossed single digits. The company is part of the China Merchants Group, which owns Shenzhen based China Merchants bank. The group, run like a Japanese kieretsu, is owned by the local government and has served as the local government’s financing platform for various projects. The bank is also a part of the Shanghai Index. In the case of expressways, the Jiangxi Ganyue Expressway, which is involved in the construction, maintenance and operation of important expressways, has delivered steady if unspectacular results. China Yangtze Power, GD Power Development, Huaneng Power and Shenergy Company are state owned power generators in the main stock index. The first company generates power from the infamous Three Gorges project. All have low single digit RoCEs and some are leveraged to the gill. Though Daquin Railway is involved in the boring activity of transporting coal from northern Shangxi to the south east coastal areas for power generation, it has had decent RoCE. However, investors should remember that the company is a leveraged play on credit growth in China.

In the services sector, the performance of the state owned enterprises of the Shanghai index is decidedly a mixed bag. Offshore Oil Engineering is involved in contracting for offshore oil exploration and production projects and construction of offshore terminals. The financial returns are terrible and worsening. Shanghai Oriental Pearl is involved in tourism, radio and TV transmission. The stock price today is lower than it was five years ago because the returns are nothing to write home about. Tsinghua Tongfang, a company involved at the low end of the high tech industry, thrives on state subsidy and generates negligible returns. The company is held by Tsinghua Holdings of the prestigious Tsinghua University. China Aerospace owns Long March Launch Vehicle Technology (which is part of the Shanghai Index) has pathetic RoCE and survives because the company has no debt.

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China Mobile is a definite bright spot among state owned companies, that too in the services sector. Taking advantage of its oligopoly status and a captive big market, the company generates impressive returns. However, state owned China United Network, which runs mobile and fixed line networks does not generate high returns. In the airlines sector, it is just impossible for private players to complete with state owned Air China. They can’t get credit from state owned oil companies or credit from state owned banks for expansion. So, as private airlines generate negative returns, Air China’s returns are fairly good. Even airports harass private airlines.

The Poly Real Estate Group is a state owned real estate developer. Its stock is almost at the same level as it was 8 years ago. It has a Hong Kong listed entity that gets assets from the mainland company for real estate development. The pricing involved in the transfer of land is not transparent. A Chinese government agency makes money on the land sold to Poly. This State owned company pushes up land prices by purchasing land with cheap bank loans from state owned banks. Many state owned real estate entities (such as China Overseas land and Investment) are pushing up land prices this way. The government gets money for selling land and land use rights while government employees get bribes for vacating farmers from their land after paying low compensation and shifting ownership to real estate players. The bribe could be used to buy flats in the high end apartment complexes bring built by the developers. Land sales make up half the revenue of local governments. Banks owned by local governments give loans to develop the projects thus completing the circle of folly.

The stocks of state owned banks and insurance have done well based on the premise that such a vast and growing economy and a fast developing middle class should ensure leveraged returns for these financial institutions. This thesis, in the medium term, ignores the poor credit quality

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of most state owned borrowers as discussed earlier, the terrible quality of loans to local government agencies (for local infrastructure projects), the awful play on real estate speculation etc. The big Shanghai listed state owned insurance companies – China Life and Ping An are linked to the banking sector because a chunk of their investments are in bank deposits. In addition they, like banks, have deployed a chunk of their fixed income investment portfolio in the bonds issued by state owned entities generating poor returns. One interesting feature of Chinese insurance companies is that their expense ratios are higher than their loss ratios. When credit entropy of the banking sector gets potent, the sight at the Bank of China, Bank of Communications, CITIC Bank, China Merchants Bank, Hua Xia Bank, ICBC, China Minsheng Banking, Industrial Bank and the Shanghai Pudong Development Bank will not be pretty. In the securities underwriting sector, state owned CITIC Securities, thanks to its direct access to the big state owned firms, has been generating decent returns. However, when those companies go belly up, CITIC Securities’ mandates are likely to dry up.

The private companies of the index have not been star performers either. Take the case of the Yongor Group. It designs, manufactures and sells clothing under the “Yongor” brand. It is also involved in property development. In 2009 it acquired companies in the US. It also has big equity investments in companies such as CITIC Securities. In 2007 it was a big player in speculating in IPOs of various companies with cheap borrowed funds. For the first 9 months of 2007, during the boom, 98.5% of the company’s overall earnings came from dabbling in the shares of Air China. Its core textiles business is struggling with pathetic RoCE. If China stops currency manipulation, this company would be a goner in the blink of an eye. Inner Mongolia Yili Group is a private company involved in making diary products of questionable quality. It was implicated in the “baby milk scandal” when its products contained melamine. We can’t comment on the returns at the company because the financials are available only in Chinese,

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but considering the fact that its net profit is only around $50 million, the company can’t be too big (or it could be using humungous capital to generate poor returns). The Orient Group is a privately owned conglomerate engaged in finance/trading and construction. Operational cash flows at the company were negative between 2006 and 2009.

**Outside the Shanghai Index, the struggling Exporters**

Outside the Shanghai Index, you find the exporters (apparel, toys, shoes, electronic assembly units etc). These are the units that get hit first because they rely on imports for raw materials, components etc. In the global quantitative easing (QE) environment, the prices of raw materials in RMB shoots up much more than the exported finished goods on account of currency manipulation. If an exporter sells a unit of his produce to an American entity for $X, and the exchange rate is Z RMB per USD, the exporter’s sales realization from the sale of one unit of the good is XZ RMB. If the company’s cost is A Yuan, the exporter’s profit is XZ- A RMB. If the cost A includes L RMB of domestic costs and $Y of import costs, his total costs in RMB would be L+ YZ RMB. His Profit would be (X-Y) Z –L. For items in which L>> YZ, the company can survive. But manufacturers who rely on components from Japan or South Korea or raw materials denominated in USD, the impact would be torrid. Even is sectors where L is a substantial chunk of total costs, such as in the case of toymakers, one can’t assume all is well. Jump in global food prices have pushed up labor costs. The toy makers had their first shock during the credit crisis of 2008 when workers were laid off. Even now, the toymakers accept margins as low as 3%, extended payment periods prolonging working capital cycles. Any further change in exchange rates would kill off toymakers such as Zhejiang Huangyan Hongfan Toys, Jiangsu Zhongxin Toys, and Shantou Meichang Plastic Factory. Already orders are slackening off. They really need to find a way to disintermediate the middle men such as Mattel and Hasbro but the Chinese toymakers might not be around long enough to manage that.

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For some reason there is much hand wringing and angst in the US whenever there is talk of any Chinese player in the green energy space. The data does not support concern. Suntech Power Holdings is the largest producer of solar panels in the world with 1800 MW of annual production capacity. Headquartered in Jiangsu province, its indebtedness was almost $1 billion at the end of 2009. The company sells almost 95% of its wares outside China. The company’s operating margins have been on a downward spiral and will get worse as European countries, offering big subsidies for renewable energy back off to conserve precious funds. The company’s middle single digit RoCE, in this working capital intensive business, should set at rest any debates as to whether the company is going to conquer the world. Suntech’s saga is true for most Chinese so-called high tech champions.

There are stars outside the Shanghai index. These are private companies catering to domestic demand (from people whose earnings are linked to servicing exports) and having strong brands. The Li Ning Company, a sports goods company selling sports goods, footwear and apparel is an example of a very profitable company. It is the licensee of Italian sports brand “Lotto”. Private sector car makers have recently reported very big sales growth, on the back of the Chinese government’s stimulus packages. Whether the profitability can be sustained in an environment of high competition is questionable as market share is getting more and more splintered.

Private sector or joint sector infrastructure investments have also been profitable. For example, Shenzhen International Holdings, owned jointly by the Shenzhen government and Cheung Kong Holdings generates solid returns. Its three highway investments, Shenzhen Expressway, Lougda Expressway and Wahang Expressway have been particularly profitable.

There are also many SOEs which rely on local governments for funding. An example is Tianjin Pipe Corp, bought by local government after a spell of insolvency. It relies on cheap credit from

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local banks and the Chinese government’s currency manipulation for survival. Another example is Cheery Auto, a company that can never be accused of ever coming up with an original design, but relies on the designs of global auto makers (the front design of a car could be stolen from one car maker while the rear design could be stolen from another maker).

Because capital is directed to the state sector, new private companies are increasingly ones that require less capital such as search company Baidu, internet retailer Dang Dang (B2C commerce), Online Video company Youku, internet and mobile security company Qihoo 360 etc. Or they have to rely on foreign backers such as battery and car maker BYD.

**Conclusion**

No one can have an iota of doubt about the genius of the Chinese people. But making flimsy contraptions for Wal-Mart by employing humongous amount of capital is a serious wastage of people’s talents and the people’s bank savings. Nor is deploying capital in low return projects to boost GDP and generate employment a sensible long term strategy. The conversion of long term savings into income (GDP) will have adverse long term impact when the loans created with the savings become due. The credit crunch of 2008-09 drove even more money towards the gigantic state owned entities and killed the few companies which could have redeemed China in the long haul. The China model will collapse for the same reason that the Soviet Union did- poor return on capital employed on account of central planning that relies on the benevolence of the butcher or the brewer for dinner. And the impact of the China Syndrome will be felt particularly severely by commodity exporters who are relying on China for redemption.

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