1. Introduction
China overtook Japan as the world’s second biggest economy at the end of 2010. If China achieves to keep a similar rate of growth it would replace USA as the world’s top economy in about one to two decades. However, due to its huge population even with the same GDP as USA, average Chinese citizen will have about one fourth of the per capita income of an average US citizen.

To fight against the negative effects of the global financial crisis, China declared a stimulus plan of RMB 4 trillion (US$586 billion) on Nov. 9th, 2008. The current inflation problem in China is partially attributed to this excessive liquidity pumped into the economy during the 2008 to 2009 period.

The stimulus program and excess liquidity led to the overheating of the Chinese economy. The second quarter in 2011 China’s GDP grew at a rate of 9.5% slowing down from 9.7% in the previous quarter, according to the National Bureau of Statistics.

In Fig. 1 we can see the GDP growth rates for the last four years. As a result of the global financial crisis the GDP growth fell down to the level of 6.2% during the first quarter of 2009. However, with the stimulus program the GDP growth bounced back as high as 11.9% in 2010.

China is trying to cool down its overheated economy. Recent, data supports that overheated economy is not cooling down rapidly. For example; industrial production growth in June also came in much faster than expected, rising 15.1% from a year earlier, compared with 13.3% in May. Economists had expected it to slow to 13.1%. Non-rural fixed asset investment growth, a key gauge of construction activity, slowed slightly to rise 25.6% from a year earlier in the January-June period, compared with 25.8% growth recorded in the January-May period. Retail sales in June rose 17.7% from a year earlier, compared with a 16.9% rise in May.

2. Policy Tools of the Central Bank
The People’s Bank of China (PBOC) is the central bank of the People’s Republic of China, which is established in 1948. It has the power to control monetary policy and regulate financial institutions in mainland China. It should be noted that compared to other countries Central Bank in China is practically not independent from the ruling Communist Party. Recently, Central Bank has been supporting the controlled appreciation of the RMB against other currencies.

Abundant liquidity and elevated commodity, energy, and food prices
drove China's inflation to a three year high of 6.4% in June; unsettling Beijing which worries rising prices may stir social unrest.

The goal of the Central Bank is to eliminate excessive liquidity and prevent any bubbles in the property sector through a “soft landing”. For the moment all indications support for a soft landing with the growth rate slowing down during the last two quarters. Price stability and stable growth is a priority for the Chinese government. For this purpose all the necessary tools are being used. The toolbox of Chinese government also includes heterodox measures such as price ceilings and increasing reserve requirements. Next, we briefly discuss some of these policy tools.

2.1 Required Reserve Ratio
The reserve requirement ratio is a central bank regulation that sets the minimum reserves the commercial banks must hold out of their deposit and notes from customers. In the west it is not a common policy tool to fight against inflation, due to the possibility of increasing liquidity problems in the banking sector. However, China often resorts to this method as a policy tool. Since 2010, required reserve ratio has been increased twelve times.

The use of this policy is not likely to create any liquidity problems in the banks in China. This is because China’s banking industry is mostly state owned. The biggest four banks in China are state owned; Bank of China, China Construction Bank, Industrial and Commercial Bank of China, and Agricultural Bank of China. Each of these banks has their own specialization areas. They are established to have expertise in different industries and support the growth of their specialized industries. Due to their role in supporting the Chinese economy they often have higher ratios of non-performing loans or lower quality assets. This situation does not reduce the confidence in these banks since a default of one of these banks is almost equivalent to the default of the Chinese treasury. Often, reserve requirement increases are coordinated with all the major banks. Hence, banking industry has the support from the Central Bank to adjust to a new ratio before announced. Therefore, the structural difference in the banking industry allows China to use this policy more effectively. It should be noted that the banking industry is still not independent from the political decisions of the government. For example, depending on the government growth plans banks are supposed to lend more heavily to certain industries.

Another major difference in China is that in case of a liquidity problem of one bank another bank with excess liquidity might be ‘asked’ to lend. The fact is that if the central government put a certain goal as a priority all the banking industry will have to follow this goal. Any attempt to take advantage of another bank’s liquidity shortage by another bank would not be tolerated.

The latest rise, effective on June 20, means banks have to set aside 21.5 percent of their capital in reserve, a record high. Analysts estimate that it will freeze capital worth about 370 billion RMB (56.92 billion U.S. dollars). The move came as the National Bureau of Statistics (NBS) reported a 5.5 percent increase in the Consumer Price
Index (CPI) in May, a 34 month high. During the next month June CPI\(^1\) increased by 6.4% on year by year basis to a three year high.

The use of reserve requirements as a policy tool in China is partially due to the risk of an asset bubble. The aim of the Central bank is not only to reduce liquidity but also to reduce the loan portfolios of commercial banks. Therefore, even if the banking industry has non-sufficient liquidity the Central Bank will provide the necessary liquidity. Hence, the other goal, which is to reduce the loan portfolios of banking, will be achieved. Therefore, this policy tool is designed to eliminate the special risks in the Chinese economy.

2.2. Appreciation of RMB (Yuan)

Since 2005, RMB exchange rate has been allowed to float in a narrow band around a fixed base rate determined by the Central Bank. RMB futures are starting to be traded at the Chicago Mercantile Exchange on August 22\(^{nd}\) 2011. The futures will be cash-settled at the exchange rate published by the People's Bank of China and will be traded on the Globex electronic trading system. Offshore RMB deliverable forwards have already been developed in Hong Kong since 1996. However, the details of the forward and futures market for RMB is beyond the scope of this research report. Next, we discuss the relationship between the value of RMB with the international environment and the fight against inflation.

\(^1\) It should also be noted that the recent hike of 6.4% came from a 12% jump in the average pork prices in China. Pork constitutes a significant portion of the CPI basket in China.

FED is giving the signs that if the economic weakness in US economy is persistent it will ease monetary policy. Expansionary policies of FED are increasing the pressure on the Chinese government due it’s about $3 trillion foreign exchange reserves. Chinese government is mainly worried about the decreasing value its reserves. However, the problem of China is not only keeping the value of its reserves. At the same time expansionary monetary policies in the USA is creating a higher international capital flow to the Chinese economy. We should note that this happens even though the capital flows in China are restricted. This happens often in the form of investment into property projects jointly with Chinese companies.

![Figure 2. Appreciation of RMB (Yuan) against US Dollar](image-url)

During the first quarter of 2010 USD/RMB was fixed around 6.83. As can be seen in Fig. 1 Chinese currency RMB started to appreciate in a controlled way in the last two quarters of 2010. This appreciation seems to continue until inflation and increasing property prices are controlled. By allowing to appreciate the Central Bank is sustaining a lower expansion in its monetary base. However, if appreciation of RMB happens too rapidly export industries will face difficulty.
The current exchange rate of USD/RMB came down to 6.45 levels as of July 2011. If the current international conditions persist, it would not be surprising to see the parity to move towards 6.30-6.40 band in the next two quarters. The Central Bank is using this tool in a very cautious manner since export sector is the leading force of economic growth. Therefore, the use of this policy tool to fight against rising commodity prices due to cheaper US dollar will be limited. In the long run appreciation of the RMB is also consistent with the goal of Beijing in order to let RMB to be a fully convertible reserve currency.

2.3. Interest Rates
People's Bank of China increased interest rates for the third time this year on July 6, and fifth time since last October, making it clear that taming inflation is a top priority. Benchmark one-year lending rates were raised 25 basis points to 6.56 percent, and benchmark one-year deposit rates were raised 25 basis points to 3.5 percent.

Depending on the inflation data in the coming months, Central Bank still has some further room for increasing the benchmark rates further. However, it should be noted that traditionally the saving rates in China are very high. Many economists claim that average Chinese citizen saves about 40% of his disposable income. Therefore, the effect of interest rate increases on the saving rates of Chinese people is very limited. Traditionally, very high saving rates show little variation during the last two or three decades and should not be expected to change rapidly. Very large increase would hurt the economy and can cause a ‘hard landing’, but small increases will be supported by other policy tools. As can be seen in Fig. 2 interest rates are already approaching towards its highest levels since 2004. Therefore, a few more interest rate hikes can be expected together with appreciation of . A major risk for the Chinese economy would be; not being able to control inflation at interest rate levels of 7.50%. Realization of this risk would again cause a ‘hard landing’ in the Chinese economy.

![Benchmark Interest Rates](image)

Figure 3. Benchmark interest rates in China, 2004-2010

Raising interest rates is being used by Chinese Central bank to tame inflation and prevent an asset bubble in the property sector. However, the effects of raising interest rates on the property demand and prices have been partially successful. In some cities property prices started to decline, but cannot be observed in all the cities.

2.4. Other policy options
When inflation gets to record highs Beijing started to use radical measures such as price controls. The effect of price controls is mainly creating a psychological effect on the public. Price controls might distort economic efficiency in an economy. However, the use of these tools is mostly for
convincing people that the government is determined to take any action for this cause.

Another type of non-conventional measure includes applying different reserve requirements depending on the size of the loans or the size of the commercial bank. The goal here is to protect small and medium enterprises.

In order to reduce the possibility of a property bubble, an increasing supply of housing projects targeting lower income families is being launched. There have been new restrictions on loans for second house buyers for certain cities such as Beijing and Shanghai. These are some of the other policy tools that the government has been using against inflation. As we mentioned, if the interest rates go above 7.5% level and still would not be effective to control inflation, then this would be the start of a bigger problem. A large hike above this level would cause the local government debts to be out of control. Recently, local government debt is announced by the government audit agency to total about $1.66 trillion dollars. Therefore, a large interest rate hike is not likely, since it will significantly increase the interest payments of local governments.

Furthermore, most of the revenue of local governments is coming from land sales for property development projects. Therefore, Central Bank will have to consider these possible effects and it is not very likely that interest rates will go much further above 7.5% level.

As we discussed, several policy tools are being implemented to tame inflation. The policy tools are expected to show their effects starting in the last two quarters of 2011. The likelihood of a financial crisis due to the property bubble, at least in the short term, is very low. However, the coming data in the next quarter will be crucial to re-evaluate the likelihood of a ‘hard landing’.

Chinese sustained a relatively stable growth path in the last three decades. However, keeping similar growth rates in the coming years is getting more difficult due to the loss of low wage advantage, skilled labor shortage, and structural problems in the banking sector. China’s manufacturing industry is in transformation. Low cost labor intensive industries will have to be substituted by high-tech export industries.

China has ambitious goals in terms of its financial markets and economy. Therefore, having a closer look to this large economy is not only important to utilize any financial opportunities in China, but also important due to its implications on the global financial markets. During the financial crisis China helped to the global growth with a large stimulus plan. China is gradually opening up its financial markets. An example of this is the qualified foreign institutional investor scheme, which allows foreign financial institutions to invest in (RMB) denominated equities in China, including its Shanghai and Shenzhen stock markets. At the same time, China is also eliminating some of the restrictions on Chinese companies for overseas investment.

\[2\] This number is announced by the government, we should mention that some economists’ estimates are higher than this level.