Department of Economic & Social Affairs

DESA Working Paper No. 142
ST/ESA/2015/DWP/142

June 2015

Will Inequality Lead China to the Middle Income Trap?

*S. Nazrul Islam**

ABSTRACT

China has departed from the East Asian model of development by letting inequality to rise to a high level, which is contributing to China's current problems of macroeconomic imbalance, declining efficiency of capital, and rising social tensions. If inequality persists, China may get caught in the "inequality-trap," which may then lead it to the "middle income trap (MIT)." Fortunately, China still has the levers to pull to reduce inequality and avoid MIT. Measures along both the "wage route" and the "redistributive route" can be adopted for this purpose. In addition, China may pursue the "cooperative route" to more equitable distribution.

JEL Classification: O1, O4, O5

Keywords: China; Middle Income Trap; Inequality Trap; Inequality; Redistribution; Cooperatives

* S. Nazrul Islam is the Acting Chief of the Global Economic Monitoring Unit of Development Policy Analysis Division of the United Nations Department of Economic and Social Affairs (UN-DESA). He would like to thank all who commented on previous versions of this paper. In particular, he would like to thank the two anonymous reviewers whose comments helped to improve the paper. Special thanks are due to Nicole Hunt who provided help in gathering data and producing the graphs. The views expressed in this paper are author's personal and may not be ascribed to any of the organizations to which he belongs. Please send your comments to islamn@un.org.

CONTENTS

1. Introduction 1
2. China enters the Middle Income Group 1
3. The Middle Income Trap 2
4. Inequality and Growth 3
5 Inequality and the Middle Income Trap 6
6. China's inequality in a comparative perspective 8
7. Causes of China's inequality 10
8. China's inequality problem and its consequences 12
9. Different ways to address inequality 18
10. Conclusions 21

References 23

Typesetter: *Nancy Settecasi*

UNITED NATIONS
Department of Economic and Social Affairs
UN Secretariat, 405 East 42nd Street
New York, N.Y. 10017, USA
e-mail: undesa@un.org
http://www.un.org/en/development/desa/papers/

Will Inequality Lead China to the Middle Income Trap?

1 Introduction

With a per capita income of $5,445 in 2011 (World Bank 2012), China is in the middle income category, and in its upper group. China's entry to the middle income group has raised the question whether it will be able to avoid the 'middle income trap (MIT),' which refers to prolonged stay in the middle income category and failure to move ahead to the high income category.

Many researchers have pointed to inequality as a reason for MIT. In fact, there appears to be an "inequality trap" which is associated with MIT. The inequality trap refers to a situation when high income inequality itself makes reduction of inequality difficult. As a result, inequality persists.

The hallmark of the "East Asian model" of development has been the combination of high growth with equitable distribution. China has deviated from this model and has let inequality to reach a high level. In fact, China's inequality dynamics now resemble those observed in MIT countries. This resemblance raises the question whether China too will get caught in the "inequality trap," leading to MIT. The purpose of this paper is to examine this and related questions. Why did inequality rise so high in China? Was high inequality necessary for China's growth? Are there signs of an inequality trap? How can high inequality hamper China's further growth and lead it to MIT? What can China do to reduce inequality and avoid MIT?

The discussion of the paper suggests that inequality indeed has become an obstacle to China's further progress. The current macroeconomic imbalances, decline in efficiency of capital, rise in social tensions, etc. can all be traced, in part, to high inequality in income and asset distribution. China seems to be at a cross-roads. It can either get caught in an "inequality trap," leading to MIT, or it can reduce inequality and avoid MIT. Fortunately, China still has the economic and political levers it can use to avoid the inequality trap and MIT. The question is whether China will use these levers in time and effectively.

The discussion of the paper is organized as follows. Section-2 notes China's entry to the middle income category. Section-3 discusses the notion of MIT and identifies the countries that may be said to belong to MIT. It also shows that the literature points to inequality as a reason for MIT. Section-4 discusses the relationship between inequality and economic growth, in general. Section-5 examines the relationship between inequality and MIT, in particular. Section-6 compares China's inequality record with that of the successful East Asian economies, on the one hand, and of MIT countries, on the other. Section-7 discusses the reasons behind the rise of inequality in China. Section-8 examines the ways in which inequality may lead China to MIT. Section-9 discusses the different ways in which China can reduce inequality and thus reduce the likelihood of falling into MIT. Section-10 concludes.

2 China enters the Middle Income group

According to the World Bank's definition, the middle income category comprises of countries with per capita GNI lying between $1,026 and $12,475 (of 2011). This is a very wide range, with the upper bound being more than ten times higher than the lower bound. It is therefore no wonder that it is the most numerous category, comprising 88 countries and accounting for about half of the world's population. The World Bank therefore distinguishes two sub-groups, with a "lower middle income group," comprising of countries with per capita GNI between $1,026 and $4,035, and an "upper middle income group" comprising of countries with per

capita GNI between $4,036 and $12,475 (all figures are for 2011).[1]

With a per capita income of $5,445 in 2011 (World Bank 2012), China is in the middle income category, and already in its upper group. China's middle income status has given rise to considerable discussion, which is not surprising, given the weight of China in the world, in terms of both population and size of the economy. A question that is frequently asked is whether China will fall into the "middle income trap." To answer this question, we first need to know what the "middle income trap" is.

3 The Middle Income Trap

The "middle income trap" refers to the phenomenon of stagnation of countries in the middle income category. These countries have raised their per capita income level from low to middle income status, but have failed to progress further and reach the high income category. Whether or not this situation should be characterized as a "trap" is disputed.[2] However, after Kharas, Kohli, Gill, and Sood, have coined and put forward this expression, it has become popular.[3] Questions regarding the analytical worthiness of the term MIT may remain, but there is no doubt that it has a descriptive value, and it helps to pinpoint the problems that are afflicting a prominent sub-group of middle income countries. But, which are the MIT countries?

To answer this question systematically, we examine per capita income of all the countries of the world for 1980, 1990, 2000, and 2010 and notice their classification in terms of "low income (LI)," "lower middle income (MIL)," "upper middle income (MIU)," and "high income (HI)" categories. Note that the classification of countries into various income groups was introduced by the World Bank in 1987, and it is possible to draw upon World Bank documents directly for the classification in 1990, 2000, and 2010. For the classification in 1980, however, we follow the World Bank's methodology used for its classification in 1990.

This classification allows us to identify many patterns. Two of them are rather straightforward, namely "LI-LI-LI-LI" and "HI-HI-HI-HI." These represent countries that are consistently in the low and high income groups, respectively. The notion of MIT does not specify how many years a country has to be in the middle income category in order to be characterized as a MIT country. Also, it is not clear whether they have to be consistently in the MIU category, or they can be in the broad MI category and move up and down between MIL and MIU. Even if the latter, broader definition is adopted, there is no doubt that the countries following the "MIU-MIU-MIU-MIU' pattern may be termed as MIT countries *per excellence*, because these countries reached the upper MI group a long time ago, and yet for some reason have failed to move up and graduate to the HI category. As per the exercise above, these countries include Argentina, Botswana, Brazil, Gabon, Latvia, Lithuania, Mauritius, Mexico, Seychelles, South Africa, St. Lucia, Turkey, and Uruguay. Leaving out the transitional, small, and small-island economies, we have in this category Argentina, Brazil, Mexico, South Africa, and Turkey.

In contrast to these countries are the East Asian economies such as Japan, South Korea, Taiwan PoC

1 Seeforfurtherdetails:(http://web.worldbank.org/WBSITE/EXTERNAL/EXTOED/EXTMIDINCCOUN/0,,-contentMDK:21453301~menuPK:5006209~pagePK:64829573~piPK:64829550~theSitePK:4434098,00.html). Some scholars point out that the World Bank's classification of the countries into Low, Middle, and High income groups does not have any analytical basis and instead is an arbitrary exercise motivated entirely by its lending operations. Individual countries can be in and out of a category simple because of exchange rate changes, with no major change in their domestic economies.

2 Some scholars have pointed out that a country, after reaching the lower bound of the Upper Middle Income (MIU) status, can grow its per capita income at the rate of 3 percent per annum for 30 years and reach a per capita income of $9,511. It would still be in the MIU category and thus be a candidate to be characterized as being caught in the MIT.

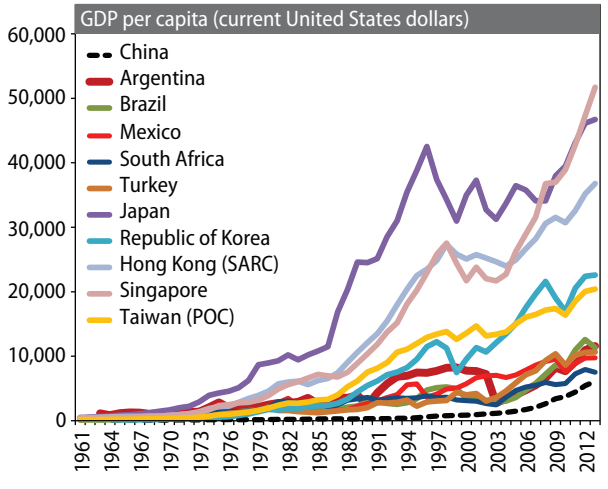
3 See, for example, Gill and Kharas (2008), Kohli and Sood (2009), and Kharas and Kohli (2011). For some popular discussions on MIT, see Asian Development Bank (2011), Paus (undated), and The Economist (2011).

(Province of China), Hong Kong SARC (Special Administrative Region of China) and Singapore, which, after reaching the middle income status, moved forward and reached the high income level. Figure 1 shows the per capita GDP trajectories of these two groups of countries. One can see how the per capita GDP trajectories of Singapore, Hong Kong (SAR), South Korea, and Taiwan (PoC) have moved up to get closer to the GDP trajectory of Japan (Singapore now has even crossed Japan's level), while GDP trajectories of the MIT countries huddle together at a much lower level.

Given the above contrasting historical record, it is not unexpected to ask whether China will be able to follow its successful East Asian neighbors or it will meet the fate of MIT countries. In order to answer this question it is necessary to know the possible causes of MIT.

An interesting literature indeed has emerged on MIT. Some scholars have tried to discuss the relevant issues at a descriptive and "proximate cause" level. Others have tried to go deeper and identify more fundamental reasons why a country may fall into MIT. Despite these differences in approach and emphasis, the researchers generally point to inequality as a possible cause of MIT. To check whether or not inequality may cause MIT, it is first necessary to note the relationship between growth and inequality, in general.

Figure 1
Per capita GDP trajectories of China, successful East Asian economies, and Middle Income Trap countries, 1961–2012



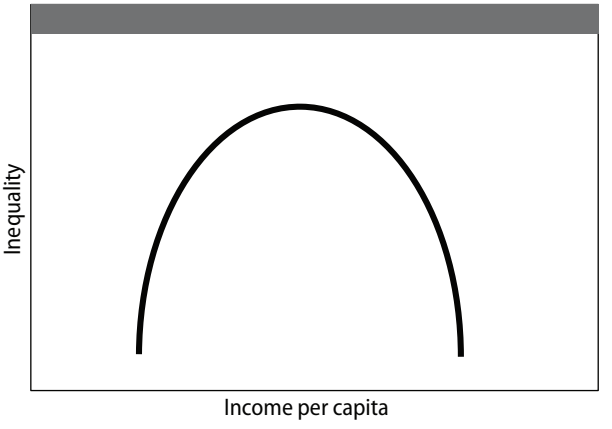
Source: Based on data from World Development Indicators Database; and Taiwan Statistical Data Book (February 2014).

4 Inequality and growth

The modern analysis of the relationship between inequality and growth started with Kuznets (1955). His discussion led to the so-called 'Kuznets Hypothesis (KH),' according to which inequality will initially increase and then decrease as a country develops and its per capita income rises. With income measured along the horizontal axis and inequality along the vertical axis, KH therefore suggests an inverted U-shaped curve (Figure 2). Structural transformation involving shift from agriculture to manufacturing, migration from rural to urban areas, the necessity of high investment rate for financing this transformation, etc., were seen as the economic processes underpinning the Kuznets Curve (KC). Ahluwalia (1976a, 1976b), Robinson (1976), Chenery, Robinson, and Sirquin (1986) and others elaborated these arguments further. Barro (2000) added nature of technological progress as another reason that can justify Kuznets Curve. According to this interpretation, only a few benefit initially from a technology, raising inequality. However, with time more people share the benefit, bringing inequality down.

Testing Kuznets Hypothesis has always been a problem, mainly because of absence of relevant data.

Figure 2
Kuznets Curve showing relationship between inequality and development



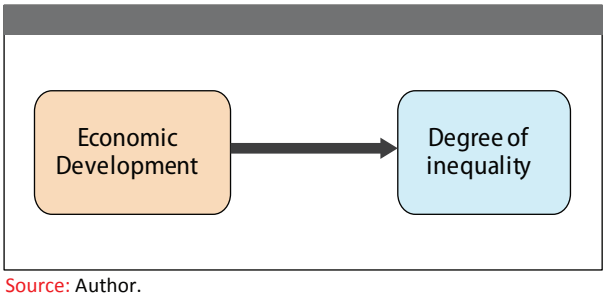
While KH refers to inequality dynamics *within* a country, the data on inequality available (until recently) were generally *across* countries. Using cross-sectional data, some researchers did report evidence for KC (see, for example, Ahluwalia 1976a and 1976b). Some researchers use several cross-sections, either separately or in the form of a panel. However, even those researchers who find support for KC in cross-section or panel data, note that KC can explain little of the variation in inequality (see, for example, Papanek and Kym (1986) and Barro (2000)). Anand and Kanbur (1993) find weakening of the cross-section relationship (between income level and inequality) over time. Li, Squire, and Zou (1998) note that even if Kuznets Curve finds some support in cross-sectional data, it does not hold for evolution of inequality over time within countries. In recent years, more researchers have offered evidence refuting KH. For example, Deininger and Squire (1996) note that apparent cross-sectional evidence of KC may actually be reflecting regional characteristics of countries rather than the economic regularities pointed out by Kuznets.[4] Fields (2001) and Palma (2011) both show that KH does not hold.[5]

Meanwhile, Japan and the East Asian Newly Industrializing Economies (NIEs), namely South Korea, Taiwan (PoC), Hong Kong (SARC), and Singapore, provided a strong rebuttal of the Kuznets Hypothesis, by growing without sharp increase in inequality.

Surveying the evidence, Piketty characterizes Kuznets Hypothesis as "a product of the Cold War," whose main purpose was "to maintain the undeveloped countries within the orbit of the free world" by generating optimism about the growth process in these countries despite disappointing initial outcomes regarding distribution (Piketty 2014, p. 14). Piketty draws attention to the fact that, as long as the rate of return to capital, r, is greater than rate of growth of the economy, g, the share of capital in national income is bound to grow. He further notices that it is the general tendency of capitalism to have $r > g$, and thus inequality to rise. During 1930-1975, particularly following the Second World War, it was possible to have $g > r$ and inequality to decline. However, this was rather an exception, owing mainly to the Great Depression and the Second World War, which resulted in a significant loss of the capital stock that needed to be rebuilt through faster growth. Left to itself, capitalism inherently leads to rise in inequality, as is happening again since the 1980s.

Despite above arguments and evidence against KC, two things are clear. First, Kuznets looked at the relationship primarily from the development-end, using per capita income as a measure of the level of development (Figure 3). Second, Kuznets took a dynamic view, examining the impact of industrialization (development) process on inequality over time.

Figure 3
Kuznets view of the inequality-development relationship



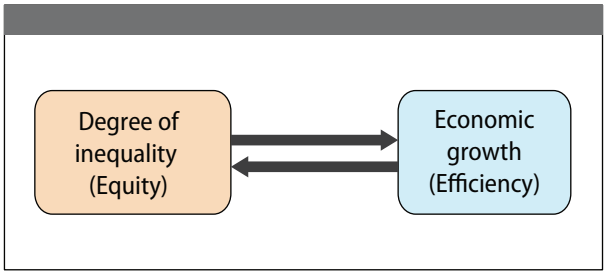
Source: Author.

Other researchers however took a more "comparative static" view and looked at the relationship from the inequality-end (or from both ends) (Figure 4). This viewpoint led to the "growth-equity" trade-off hypothesis, according to which economic growth may suffer if the goal of equity is pursued actively and vice-versa. This trade-off has sometimes been termed as the "equity-efficiency" trade-off too. Considerable

4 In particular, they point out that inequality is generally high in Latin American countries, many of which also happen to be middle income countries. By contrast, countries of Asia and Africa are poorer and also happen to have lower inequality. At the other end, developed countries of Europe have lower inequality and high income. It is this regional variation that is picked up in the cross-section data rather than any economic regularity.

5 Benabou (1996) presents a summary of various empirical studies. Barro (2000) and Banerjee and Duflo (2003) also offer reviews of studies inspired by the Kuznets Hypothesis.

Figure 4
Growth-inequality trade-off



Source: Author.

research, both theoretical and empirical, has gone into this trade-off hypothesis, and, in the process, many different arguments have been put forward as to why inequality may or may not harm growth.[6]

For example, one strand of arguments emphasizes "credit constraints" and "indivisibility" of investments. The idea here is that, under credit constraints, inequality may render many people unable to make socially desirable investments, and as a result, growth may suffer. Indivisibility of investments aggravates this harmful impact, because in that case small savings cannot help much in overcoming the effects of the credit constraints. Galor and Zeira (1993) and Piketty (1997), among others, put forward these arguments and provide empirical support for them.

The second strand of arguments draws on electoral politics. The idea here is that, in a situation of inequality, the median income will be lower than mean income. As per "Median Voter Theorem," the electorate will then vote for redistribution from high to low income people. The prospect of such redistribution will reduce the incentive to invest and thus will harm growth. These arguments and empirical support for them can be seen in, among other, Perotti (1993), Bertola (1993), Alesina and Rodrik (1994), Persson and Tabellini (1994), and Benabou (1996).

The third strand of arguments also runs through politics, but not necessarily electoral. The idea here is that inequality will lead to socio-political unrest, which will scare investors away and thus harm growth. Hibbs (1973), Venieris and Gupta (1986), Gupta (1990), Alesina and Perotti (1996), and Benhabib and Rustichini (1996), among other, present these arguments and the empirical support for them.

The fourth strand of arguments notes that inequality restricts consumption demand, constrains the home market, and thus acts as a barrier to growth. Kharas and Kohli (2011) and Stiglitz (2013), among others, present these arguments. Much of the "under-consumption theory" is also built on this strand of arguments. See, for example, Bowles (2012) and Penzner, Magdoff, and Sweezy (2013).

There are arguments in the opposite direction too. For example, some researchers note that the savings rate is generally higher for higher income people, so that, given the size of the national income, the total amount of saving will be higher in an unequal society than in an equal one. Thus, other things equal, investment and growth will be higher in an unequal society. In fact, this is one of the arguments that are often used to rationalize the rising part of the Kuznets Curve. Based on fixed effects estimates, Forbes (1997) and Li and Zou (1998) present findings of positive relationship between inequality and growth. Barro (2000) however thinks that these findings are not reliable because of paucity of observations and possible correlated measurement errors within countries.

Some researchers have emphasized possible non-linearity in the relationship between inequality and growth. Kuznets Hypothesis itself proposes a non-linear relationship, whereby rise of per capita income has different effect (both in magnitude and direction) at different income levels. Other researchers have drawn attention to other types of possible non-linearity in this relationship. For example, Barro (2000) thinks that the effect of inequality on growth may vary depending on the per capita income level of a country. According to his findings, inequality harms growth when a country's income level is low, but can be beneficial when a country's income his high. He explains this non-linearity by referring to credit constraints, which are pervasive

6 The following summary of the arguments draws considerably on Barro (2000).

in low income countries but are less important in high income countries. Banerjee and Duflo (2003), on the other hand, emphasize a different type of non-linearity, suggesting that the impact of inequality on growth may vary depending on the degree of inequality itself. They think that failure to allow for this non-linearity has been a serious flaw of the existing empirical research into the relationship between inequality and growth and explains why results have varied from one another.

Despite the research above, inequality generally receded from the attention of the policy makers since the 1980s, giving way to paradigms of structural adjustment, market and trade liberalization, poverty reduction, etc. However, the tide seems to have turned in recent years, with inequality again getting attention. First of all, many Latin American countries have taken up inequality as an important issue and some of them have had notable success in reducing inequality (Cornia 2014). Second, several prominent economists have published books drawing attention to and advocating action on inequality by the world community (see, for example, Milanovic 2011, Stigtitz 2013, Piketty 2014). Even the World Bank and IMF researchers have joined the fray, arguing strongly in favor of reduction of inequality as a way to promote sustained growth (see, for example, Berg and Ostry 2011, Ostry, Berg, and Tsangarides 2014, and Milanovic 2011). Third, the United Nations has identified inequality as one of the issues to focus on in formulating the Sustainable Development Goals (SDG) that are supposed to take the place of the Millennium Development Goals (MDG) whose reference period expires in 2015.[7] Fourth, World Economic Forum (WEF), in its recent annual meeting, too put emphasis on the issue of inequality.[8]

7 See Document: Focus Areas at United Nations Sustainable Development Knowledge Forum, available at http://sustainabledevelopment.un.org/focussdgs.html

8 See World Economic Forum, Global Risks 2014 Report available at http://www.weforum.org/reports/global-risks-2014-report

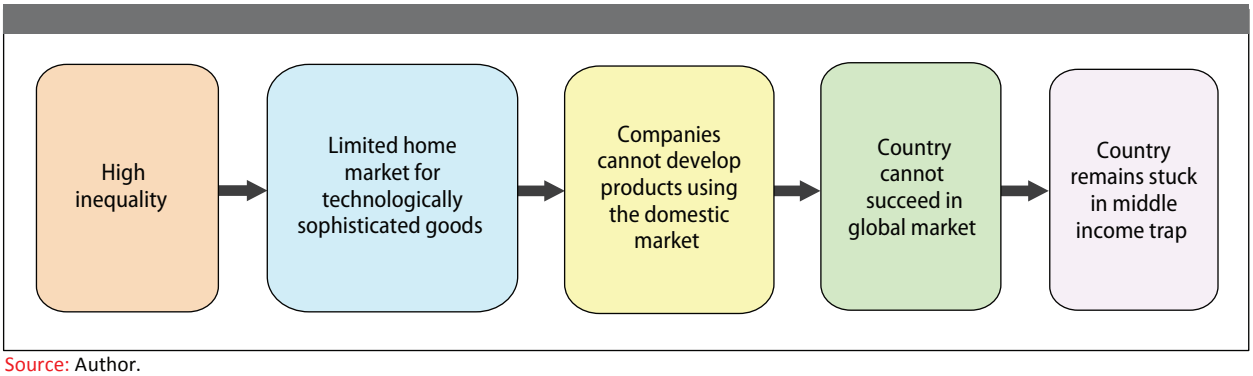
Overall, therefore, the dominant view now is that inequality needs to be addressed if growth is to be sustained. The question is whether inequality is particularly damaging when a country is at the middle income stage, and, if so, which of the arguments above play a more important role in that regard.

5 Inequality and the middle income trap

Many researchers have indeed pointed out that inequality may be particularly harmful for countries that are trying to graduate from middle to high income category. As already noted, Barro (2000) argues that inequality may affect growth negatively when a country's income is low but not when the income is high. More pertinent, in this regard, are the works by Kharas and Kohli (2011), who, as noted earlier, played an important role in coining and popularizing the term "middle income trap." These researchers characterize middle income countries as those which can no longer compete (because their wages are now high) in the international market with low-wage countries, but at the same time are unable to compete with developed countries in producing skill, knowledge, and capital-intensive products and services. In order to overcome this challenge, these scholars suggest that countries need to switch their development strategy once they have moved up from low to the middle income stage.

Elaborating on their view, Kharas and Kohli (2011) note that the price elasticity of demand (in the international market) for low-wage products is high. Therefore, for success in the international market, low-income countries do not have to worry about *demand* and instead can focus only on *supply*. However, after a country has entered the middle income stage, and its wage level has risen, it has to succeed in exporting technologically more sophisticated products. Success in the world market of these products however requires a long period of product development using the *domestic market*. Yet, a large domestic market for technologically sophisticated products cannot emerge if the distribution of income in the

Figure 5
Kharas and Kohli view of the relationship between inequality and middle income trap



Source: Author.

economy is too unequal. As a result, inequality may lead a country to MIT (Figure 5).

With regard to ways to reduce inequality, Kharas and Kohli put emphasis on *redistribution*. They note that some countries (particularly in Latin America) tried to bolster domestic demand through debt financing of consumption. However, increasing debt burden ultimately proves unsustainable and results into crises (Kharas and Kohli 2011, p. 285).

Lin (2012) too thinks that high degree of inequality is harmful for graduation of a middle income country to the high income one. He agrees that success in graduating to high income status requires moving from low-wage, labor-intensive manufacturing to high productivity, technologically sophisticated production and export.[9] Focusing on China, Lin identifies three current problems, namely (i) excessive investment and insufficient consumption, (ii) excessive money supply and credit, and (iii) excessive trade supply (meaning export). He thinks that the root of all these problems lies in inequality (Lin 2012, p. 247). Lin also notes the harmful impact of inequality on social and political stability. He thinks that further increase in inequality in China will cause tensions and resentment among low-income groups, undermining social harmony and stability (Lin 2012, p. 17).

However, Lin differs from Kharas and Kohli with regard to the ways in which the problem of inequality should be tackled. Unlike Kharas and Kohli, Lin thinks that the problem of inequality should be dealt with at the stage of "functional distribution" of income, i.e., when income is divided between labor and capital. As is known, the income of labor takes mainly the form of wages and salaries, while the income of capital takes the form profit, dividend, interest income, capital gains, etc. Thus, given the level of employment, higher wages will lead to more labor income and less inequality in the society. In Lin's view, the best way to achieve more equitable functional distribution is to follow the Comparative Advantage Following (CAF) development strategy, under which factor prices are allowed to reflect the true factor proportions of the economy. He contrasts CAF strategy to Comparative Advantage Defying (CAD) strategy, under which factor prices are allowed to be distorted. Lin thinks that a combination of CAD strategy with redistribution is what led the Latin American countries to MIT. By contrast, the East Asian economies succeeded because they followed, by and large, the CAF strategy.[10]

9 However, he thinks that such a transition will be the automatic outcome as long as a country follows its comparative advantage and does not try to defy it. Many have however contested this "automatic" view of Lin. See in particular the debate between Lin and Chang (2009).

10 As noted already, Lin's view that the industrial structure of an economy will get upgraded almost automatically in response to market forces has been challenged by many researchers, in particular by Chang. See for example Lin and Chang (2009) for a debate between these two scholars.

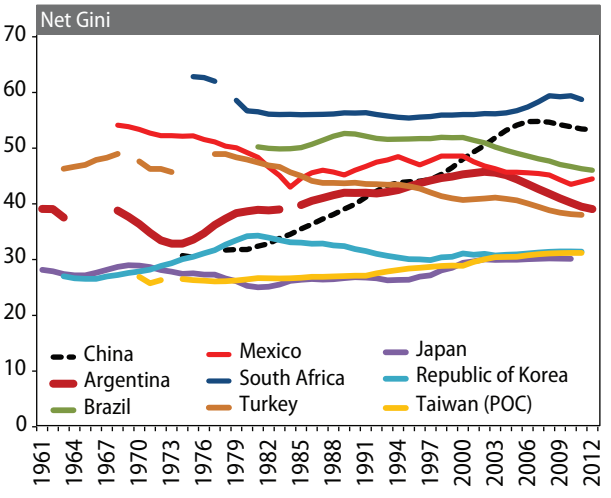
The discussion above suggests that inequality can indeed become a special problem for the middle income countries. Will that be the case for China too? To investigate this question, we need first to examine inequality dynamics of China and compare these with those of the other relevant countries. For this purpose, however, we need inequality data.

An encouraging recent development in this regard is the emergence of data sets on inequality, covering a wide range of countries and many years. This has been the result of work by many individuals and organizations, including Deininger and Squire (1996), Milanovic (2012), UNU-WIDER (2008), and Luxemburg Income Study (2009). These researchers and organizations, in turn, could benefit from household income and consumption surveys and other inequality data collection efforts of national governments and researchers and organizations within individual countries. Building up on the above mentioned data sets, Solt (2009) has created a data set on comparable Gini coefficients of inequality covering about 140 countries and going back to 1960. He also distinguishes between "market Gini," which measures the inequality of income distribution before government taxes and transfers, and "net Gini," which measures inequality of income distribution after taxes and transfers have been taken into account. The difference between these two Gini coefficients gives a measure of the extent of "redistribution." Thanks to these data sets, within-country inequality dynamics can now be seen directly, instead of being gauged indirectly using cross-section data and making many questionable assumptions. This paper uses the most updated version (4.1) of the Solt data set.

6 China's inequality in a comparative perspective

One feature of China's recent transformation is its conversion from an egalitarian society to an unequal one. Figure 6 plots the net Gini for China, the successful East Asian economies, and MIT countries. The Figure shows that there is a clear separation between the Gini curves of the successful East Asian

Figure 6
Inequality Dynamics in China, Middle Income Trap countries, and East Asian economies, 1961–2012



Source: Author, based on Standarized World Income Inequality Database, Version 4.1, March 2014.

economies and those of MIT countries. While the ones for the former hover around 30 percent, those for the latter wander between 40 and 60 percent.

Looking at the Gini curves of the successful East Asian economies, we can see that inequality in Japan actually decreased during its growth spurt (1960s and 1970s), despite some bumps along the way (Figure 6). The net Gini fell below 30 pct. Though inequality has since increased, the net Gini in Japan still remains close to 30 percent. Thus, Japan displayed a mild U-shaped pattern, which is opposite to what Kuznets had hypothesized.

The experience of Taiwan (PoC) has been similar to that of Japan. Its Gini coefficient decreased during its growth spurt, with the net Gini falling below 26 percent. It remained close to that low level for quite some time, and only in recent years has increased to some extent, though still remains below 32 percent. Thus, Taiwan (PoC) too displays a mild U-shaped pattern, opposite to the inverted-U shape postulated by Kuznets.

In South Korea, inequality fluctuated during the initial years (1965-1981) of the growth spurt. However, the net Gini never crossed 36 percent, and since 1981 inequality in South Korea decreased, with the

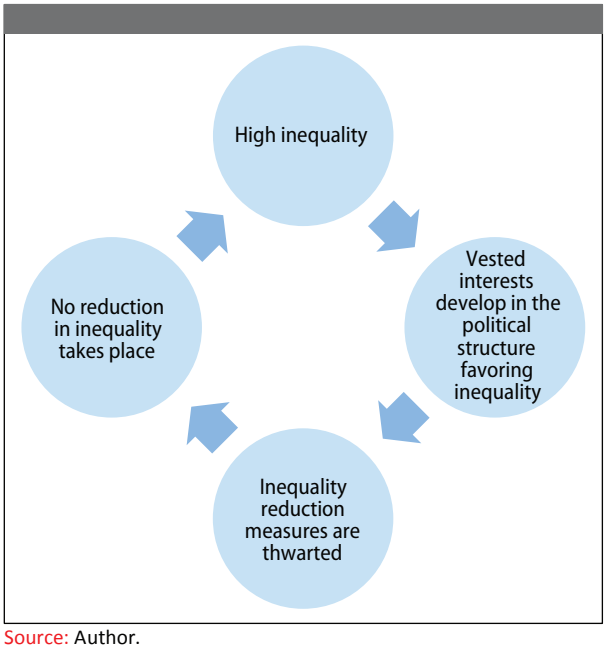
net Gini falling below 30 percent during 1996-2000. Since 2000, the net Gini in South Korea has experienced mild increase, though it still remains close to the 30 percent mark. Thus, leaving aside the initial episode, South Korea too defied the Kuznets hypothesis.

Hong Kong (SAR) and Singapore, being entirely urban economies, did not have to go through structural transformation and accompanying rural-urban migration. As a result, the inequality experience of these two city-economies is not comparable with that of other East Asian economies discussed above and of China. Nevertheless, Solt (2009) data show that even Hong Kong (SAR) and Singapore avoided large increase in inequality during their growth spurt, though they both started from relatively higher levels of inequality.

The MIT countries, on the other hand, display very different inequality dynamics, both in terms of level and patterns of change. For example, we see extremely high inequality in South Africa, where the net Gini is still close to 60 percent. It is instructive to note that transition from the Apartheid regime to democracy and the rule of African National Congress failed to usher in sustained reduction of inequality in South Africa. Similarly, inequality in Brazil, Argentina, Mexico, and Turkey has been high and still remains high, despite some decrease in recent years. The net Gini for these countries has remained between 40 to 50 percent for about three decades since the 1970s. Since 2000, inequality in these countries has witnessed some decline. However, the net Gini in these countries still remains at or above 40 percent.

These inequality dynamics show that neither the rising part of the Kuznets Curve proved true for the successful East Asian economies during their growth spurt, nor the declining part could be valid either for them or for MIT countries. In fact, the failure of MIT countries to reduce inequality suggests that there may be an "inequality trap" that accompanies the "middle income trap." The inequality trap may arise because high inequality over time creates in the political structure of the society vested interests which then prevent steps towards reduction of inequality. Thus, high inequality itself may make it difficult to bring inequality down, giving rise to the inequality trap (Figure 7). As a result, inequality may perpetuate, until some force, either domestic or external or an interaction of the two, acquires sufficient strength to alter the status quo.

Figure 7
Inequality Trap



Source: Author.

Figure 6 also plots the net Gini for China. We see that after decreasing during 1978-1983, inequality in China has increased steadily, with its net Gini crossing 50 percent in 2004. By doing so, China's Gini moved away from the territory of Gini's of the successful East Asian economies and entered the territory of Gini's of MIT countries. Though China's Gini too has decreased since 2004, its Gini curve is now above those of all MIT countries, except South Africa. Thus China has not only deviated from the East Asian development model, it has ensconced itself firmly in the league of MIT countries, so far as inequality level and trends are concerned.[11] No

11 Other formal and anecdotal evidence also point to a similar conclusion. For example, China now ranks second (next to

wonder that the question has arisen whether China is heading toward an "inequality trap," which will then lead it to the middle income trap. To address this question, it is first necessary to look at the causes of the rise of inequality in China.

7 Causes of China's inequality

China's inequality is a widely discussed issue. For recent surveys, see, for example, Knight (2013), Shi, Chuliang, and Sicular (eds.) (2013), and Ramstetter, Dai, and Sakamoto (2009). In general, there is a widespread agreement that inequality now has become a challenge for China. According to a survey conducted by Xinhua, 37 of 50 prominent Chinese economists thought inequality is threatening China's sustainable development (Tong 2011). Instead of attempting a full review of the literature on inequality in China, we focus below on some salient aspects of the causes of China's inequality.

China's inequality has many dimensions. Three important ones are regional, rural-urban, and social. Regional inequality in China generally refers to inequality across provinces or other broadly defined regions, such as "coastal" vs. "inland." Measuring rural-urban inequality in China can be problematic, because the boundaries of cities in China are often set based on politico-administrative considerations, and hence do not always conform to what they should be from the economic point of view. Finally, the social inequality in the above classification refers to inequality across various income-groups.

It needs to be noted that the above three dimensions of inequality are not completely distinct and instead overlap to some extent. For example, since certain provinces are more rural than others, regional inequality also reflects rural-urban inequality. Similarly, since rural average income is now significantly lower than the average urban income, and average income in inland provinces is lower than in coastal provinces, social inequality will also reflect both rural-urban inequality and regional inequality. Nevertheless, distinguishing these dimensions is helpful in understanding China's inequality, its causes, and ways to reduce inequality.

Different forces play different roles in changing inequality along these three dimensions. For example, geographical reasons have a special role in regional inequality in China. Opening up to the external world has been an important driving force behind China's recent growth. Clearly, the coastal provinces had an important geographical advantage from the viewpoint of this (outward looking) development strategy. However, this geographical advantage was reinforced by the government policy of "selective" opening up, whereby only certain coastal cities were first opened up for outside investment and trade.[12]

Government policies had an important role in rural-urban inequality dynamics. As noted above, inequality in China decreased during 1978-1984 period. This was mainly because the reforms during that period focused on the rural economy, and as a result the rural income rose faster than the urban income. These rural reforms involved not only institutional changes, but also favorable price policies for rural areas. After the focus of the reform shifted to the industry and the urban economy, the growth of rural income started to lag behind the growth in urban income, and the rural-urban inequality started to rise. According to Lin (2012, pp. 164-5), the current urban-rural income ratio is 3.3:1, which is already one of the highest in the world. The rural and urban growth rates since 1998 have been 4.5 and 8.5 percent per annum, respectively. If this differential persists, the urban-rural income ratio will increase to 4.9:1 by 2020.[13]

With regard to aggravation of social inequality, clearly the policy of switching to market and private entrepreneurship played the most important role.

the USA) in the number of billionaires.

12 For discussion of China's regional inequality, see Kanbur and Zhang (2005), Fan, Kanbur, and Zhang (2008, 2011), Li and Gibson (2012), Tsui (2007). See also Sakamoto and Islam (2008).

13 For further discussion of China's rural-urban inequality, see Tong (1999, 2011) and Sicular, Ximing, and Shi (2008).

During the earlier phases of China's development, industrialization was carried out primarily under the public sector, and as a result social inequality during those phases did not increase by that much.

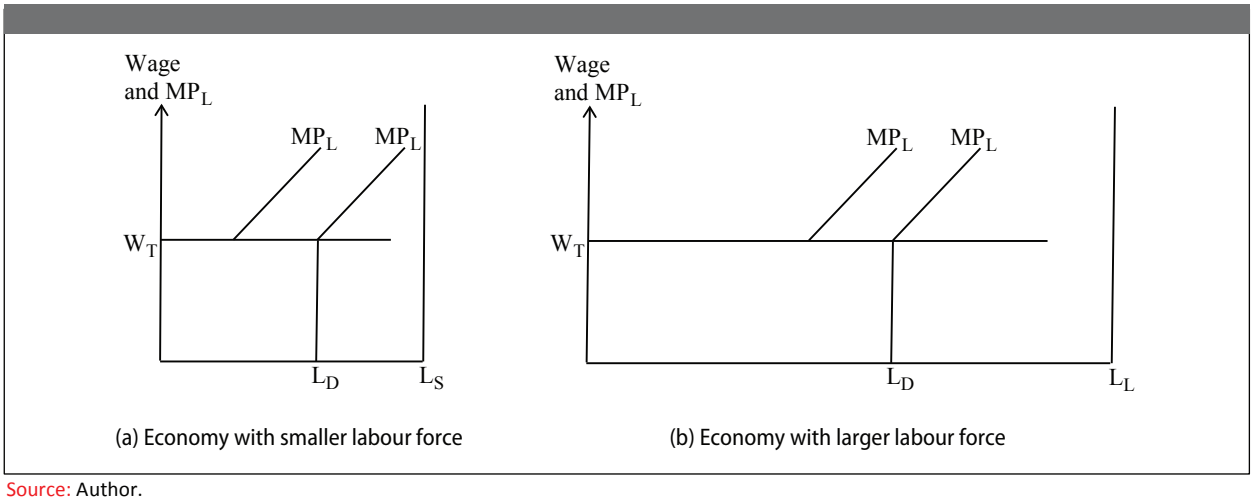
It needs to be noted that the successful East Asian economies also relied on market forces and private entrepreneurship for their growth. However, as we saw, these economies did not experience large increase in inequality. What explains the difference? Can the huge size of China's labor force (relative to other East Asian economies) provide the answer?

Viewed from the Lewis perspective, an economy with a larger traditional sector has the potential to generate a larger volume of surplus as a result of transfer of labor from the low productivity traditional sectors to the high productivity modern sectors. This can be seen in Figure 8, where L_S and L_L denote the size of labor force of a small and large economy, respectively, W_T is the wage rate in the traditional sector, MP_L denotes the schedule of marginal product of labor in the modern sector, and L_D is the point showing the division of the labor force between the traditional and modern sectors. Clearly, if the wage remains constant at W_T, as the Lewis model assumes, a much larger volume of surplus (profit income) will be generated in the larger economy, and, if concentrated in a few hands, this may lead to greater inequality in the large economy than in the small economy.[14]

However, much depends on the wage level in modern sectors and also on the distribution of surplus created in the modern sectors. Therefore, it is not a foregone conclusion that a larger economy undergoing the Lewis process will have higher inequality. For example, Japan is much larger than Taiwan (PoC) in terms of size of the labor force, and yet inequality dynamics in these two economies during their growth spurts followed very similar pattern. Thus size alone cannot explain why China deviated from the East Asian model. There must be other institutional and policy specificities that lie behind the rise of inequality in China.

One of the institutional specificities of China is the *Hukou* system, which divides its citizens into two social categories based on their registered residence. This system prevents about 125 million Chinese migrants, who live and work in the cities, from acquiring urban residence status and be entitled to the rights that this status confers. As a result, they have a "second-class citizen" status, so to speak, deprived

Figure 8
Large and small economies undergoing the Lewis growth process



Source: Author.

14 It may be noted that the same process will also lead to greater rural-urban and regional inequality (assuming that rural-urban migration also represents migration across-regions.

of many essential public and social utilities and often severed from their families and children, who are forced to live in the villages. The insecure social situation also prevents the migrants from effective collective bargaining regarding wages and benefits, thereby restricting an important avenue through which the issue of inequality could be addressed, as we shall see.

There is no doubt therefore that the *Hukou* system aggravates social inequality. It also aggravates rural-urban inequality, because migrants' average income is higher than the rural average income. The *Hukou* system aggravates regional inequality too, because many migrants are from inland provinces working in coastal ones. At the same time, it should be noted that rural-urban and regional inequality is also mitigated to some extent by the remittances sent home by the migrants and the physical and human resources they carry back home once they return (if they do).

Hukou is not the only specific Chinese institution that aggravates the inequality problem. China's land system also embodies considerable non-economic inequities. The decision making rights with regard to land are determined more by one's position in the politico-administrative hierarchy than by one's economic position. Unfortunately, these decisions often go against the interest of the common villagers. No wonder that disputes concerning land rights are the most frequent source of social conflicts in China. Thus institutions and policies play an important role in the rise of inequality in China.

Was high inequality necessary for China's fast growth? One justification for higher inequality during the initial phase of development, as noted earlier, is that it leads to more savings (by the rich), and hence more investment and faster growth. Sometimes, Rostow's theory regarding stages of growth, Lewis model of growth, or Harrod-Domar model (with fixed capital coefficient) are cited in support of this argument.

However, the propensity to save may be high even among low income families. This seems to be particularly true for oriental societies such as of China, Japan, and India. Second, an efficient financial system can mobilize small savings of many and make them available for investment. In fact, China has been quite successful in such financial intermediation (Lu 2009). In particular, during the initial years of reform, it could mobilize rural savings through Rural Credit Cooperatives (RCC) and other financial institutions and make them available for investment elsewhere in the economy (McKinnon 1994). Similarly, in Japan, the postal service (*Japan Post*) played an important role in collecting small savings of both the rural and urban population and making them available for investment. In fact, effective mobilization of small savings through the postal service has been an important reason why Japan's growth spurt did not require high inequality. Financing investment by mobilizing small savings allowed wider diffusion of profit/interest income, helping to keep inequality in check and even to reduce it.

Thus, it is difficult to say that high degree of inequality was an indispensable condition for China's recent growth. Meanwhile, inequality has now have become a serious challenge to China's further progress.

8 China's inequality problem and its consequences

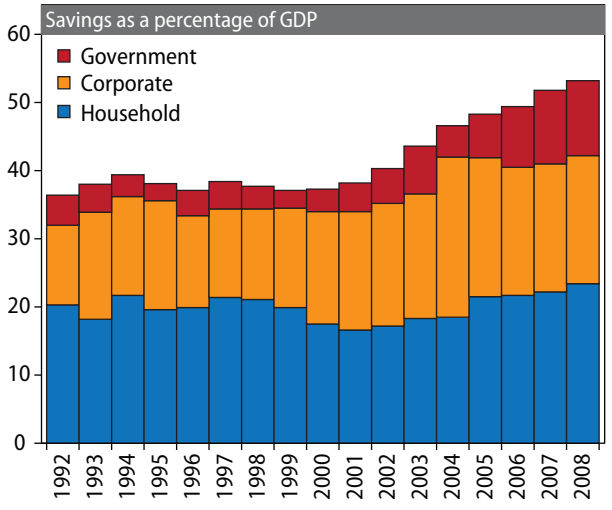
The different ways in which inequality can affect growth, in general, and in MIT countries, in particular, were discussed in Sections 4 and 5, respectively. In this section, we examine which of these effects are particularly relevant for China.

Analysis shows that high inequality may harm China's growth prospects through several channels. The *economic channel* works via high savings rate, misallocation and waste of investment, and declining efficiency of capital. The *social channel* works via discontent created by worsened relative economic situation of many citizens, resentment against politico-administrative sources of inequality, additional grievance caused by environmental injustice, which is a derivative of economic inequality. The two channels are inter-connected. On the one hand,

economic slowdown and reduction of employment growth resulting from declining capital efficiency will aggravate social tensions. On the other hand, rising social unrest may harm the investment climate, reinforcing the impact of inequality through the economic channel. Figure 9 provides a schematic presentation of these two channels, the interaction between them, and the combined effect.

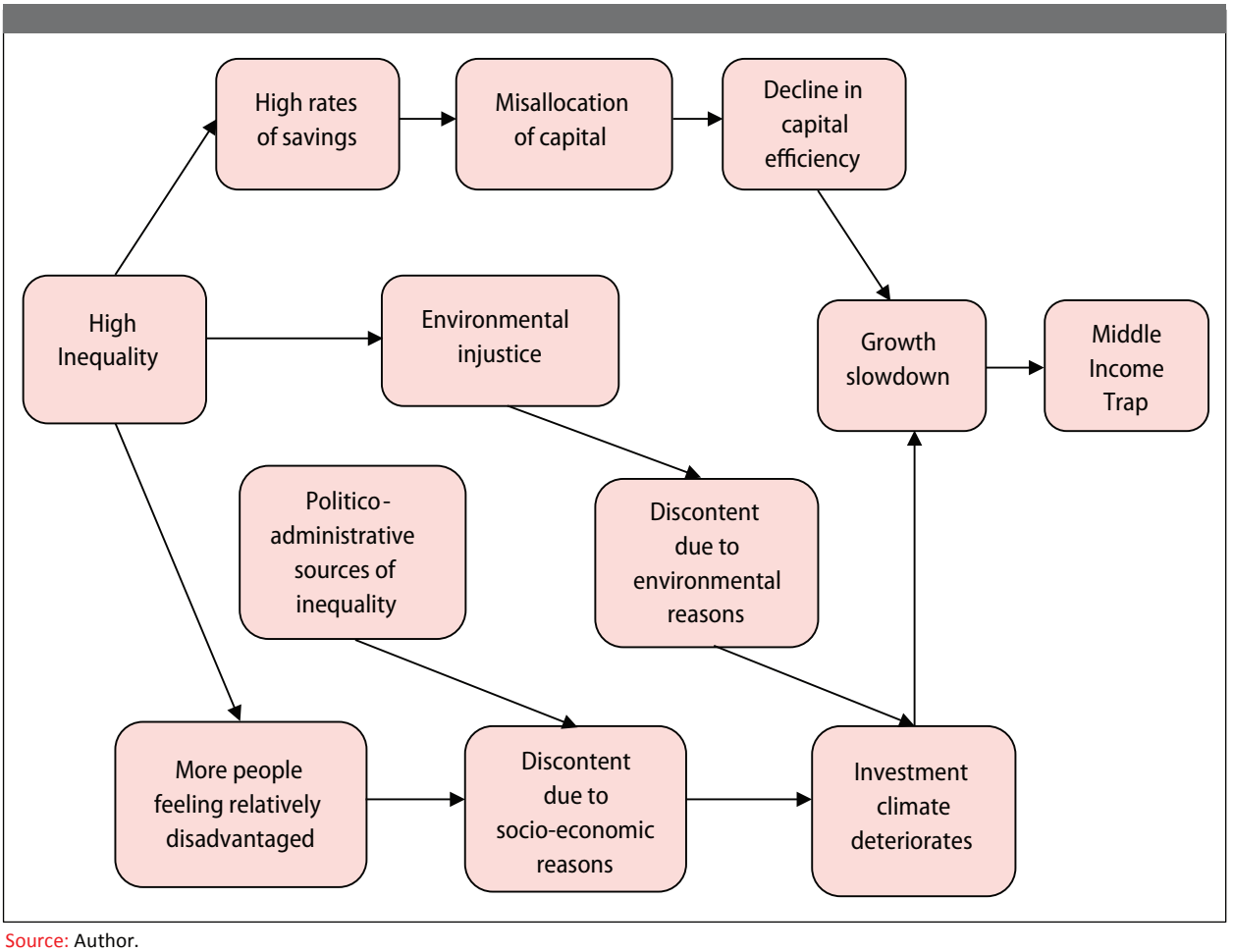
To see how the economic channel works, we may proceed from noting that one consequence of high inequality is high rate of savings. While savings in developed countries constitute generally about 10 to 20 percent of the national income, the share of savings in national income in China now exceeds 50 percent (Figure 10). Savings is of course necessary for investment and growth. High rates of domestic savings have been one reason why China could grow

Figure 10
Savings in China, by sector, 1992–2008



Source: Bank for International Settlements (BIS) Working Papers No. 312, "China's high saving rate: myth and reality", June 2010. Table 3, pg. 10.

Figure 9
Channels potentially leading China from inequality to Middle Income Trap



Source: Author.

fast for the last more than three decades. However, the lopsided distribution of national income toward savings is now causing problems too.

To see these problems more clearly, we may proceed from the following National Income identity for an open economy:

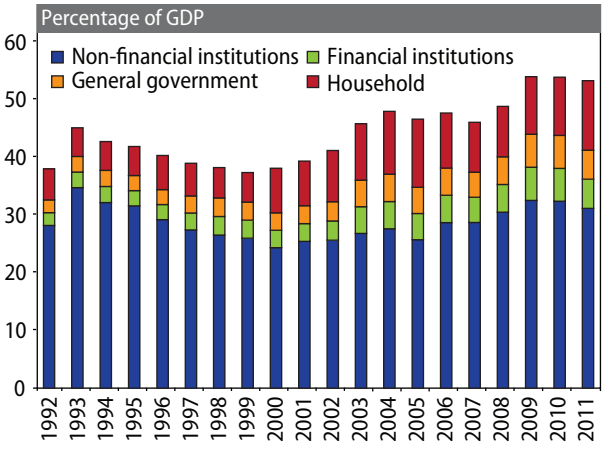
(1) $S = I + (X-M)$,

where S denotes savings, I denotes investment, X denotes export, and M denotes import. In other words, savings have to be absorbed by either investment or net export. This explains the high pressure on the Chinese economy to sustain both high rates of investment and high rates of export growth.

The Chinese economy has been successful in both investment and export for a long period of time. As a result, rate of investment and ratio of export to GDP have increased to very high levels (Table 1 and Figures 11 and 12). Investment rate in China was already 39.6 percent during 1991-1995; it increased to 40.5 percent during 2001-2003. Figure 11 shows that this rate further increased to being close to 50 percent in more recent years. Table-1 shows that the Chinese investment rates are much higher than those in Japan (32.6 percent during 1961-1970), South Korea (29.6 percent during 1981-1990) and Taiwan (PoC) (21.9 percent during 1981-1990). Similarly, China has seen spectacular growth of export. The ratio of export to GDP increased from about 10 percent in 1984 to about 40 percent in 2007 (Figure 12). However, there are now challenges with regard to both export and investment.

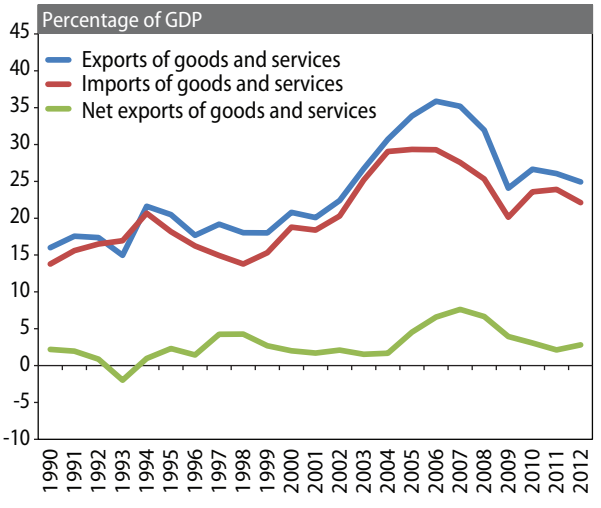
First, the ratio of export to GDP has undergone sharp decline since 2007. As a result, the ratio of *net* export to GDP has decreased from over 5 percent in 2007 to about 2 percent in 2011. This decline, of course, is due, in part, to global recession. However, there may be more than a business cycle component here. With the rise in its per capita income and wages, China is facing pressure in the world market of labor-intensive products. To keep up export growth, China has to graduate to export of technology/knowledge/capital intensive products.

Figure 11
Private and Public Investment in China, 1992–2012



Source: National Bureau of Statistics of China, Annual Yearbooks, available at http://www.stats.gov.cn/english/statisticaldata/AnnualData/.

Figure 12
China's Export, Import, and Net export, as percentage of GDP, 1990–2012



Source: China Statistical Yearbook 2013 (http://www.stats.gov.cn/tjsj/ndsj/2013/indexee.htm).

However, as Kharas-Kohli argued, inequality may result in a small domestic market, which may then constrain development of technologically sophisticated products using the home market. One might think that this argument would not apply to China, because it population and economy are so huge that the absolute size of its middle class will be fairly large, even if inequality is high. However, as Lee and Shi (2013) note, China still remains largely a low-cost

Table 1
Investment rate, GDP growth rate and Incremental Capital-Output Raio (ICOR) in China and successful East Asian economies

Country	Tome Period	Investment rate (% of GDP)	Annual average GDP growth rate (%)	Incremental capital–output ratio (ICOR)
		(a)	(b)	(a/b)
China	1991-95	39.6	11.6	3.4
	1996-00	37.6	8.4	4.5
	2001-03	40.5	8.0	5.1
	1991-2003	39.1	9.5	4.1
Japan	1961-1970	32.6	10.2	3.2
South Korea	1981-1990	29.6	9.2	3.2
Taiwan	1981-1990	21.9	8.0	2.7

Source: RIETI Newsletter, June 18, 2004 (http://www.rieti.go.jp/en/china/04061801.html).

producer of products innovated by other countries, rather than a pioneer in development of new, technologically sophisticated products by its own companies. If this situation persists, maintaining high ratios of net export to GDP may become difficult for China even when the global economy recovers.

Second, there are problems with regard to absorption of Chinese savings through investment too. A large part of the savings ends up being in public hands. This happens in several ways. First, there are savings generated by publicly owned and controlled enterprises, which still comprise a significant part of the economy, particularly in sectors involving minerals (thereby earning rent) and infrastructure (Imai 2009). Second, a large part of private savings also comes under public control via the banking system, which is largely under public ownership. As a result, a significant part of the savings goes to finance investments undertaken by public enterprises and authorities, including local governments.

More importantly, even investments by private companies often require explicit or implicit approval (blessings) of public authorities, particularly when these investments require acquisition of land, over which public authorities have direct or indirect control. Private companies themselves are often eager to have the public approval of their investments because of the implicit "socialization of risk" that it provides. Public authorities come to the rescue of bad private investments if these were undertaken with their approval and if they benefited, either legally or illegally, from these investments. This kind of collusive behavior often leads to bad investments. As a result, the efficiency of investment in China is declining.

Evidence of this decline can be seen in many forms. One of these is the declining total factor productivity (TFP). Islam, Dai, and Sakamoto (2006, 2009) show that average annual TFP growth rate declined from 4.59 percent during 1978-1984 to 3.21 percent during 1991-2002. The study also shows that economy-wide rate of return to capital declined at a compound average rate of 0.97 percent during the entire 1978-2002 period. A more recent study focusing on the cities also concludes that TFP during 1995-2007 did not grow as fast as it did during 1984-1994 (Xu and Yu 2012, p. 25).

A second and more direct source of evidence of declining capital efficiency is provided by rising incremental capital-output ratio (ICOR). As can be seen from Table 1, ICOR in China increased from 3.4 during 1991-1995 to 4.5 during 1999-2000, and further to 5.1 during 2001-2003. These may be compared with estimated ICOR of 3.2 for Japan and South Korea and 2.7 for Taiwan during the respective high growth periods of these economies (REITI, 2004).

Anecdotal evidence also suggests that a significant part of the capital in China is wasted on huge unproductive infrastructure projects, construction of large, ornamental government buildings, etc. A particular example of misallocation and waste of capital is provided by China's real estate bubble, which may better be called the "apartment bubble," to distinguish it from the "housing bubble" of the USA. The apartment bubble helps to see the undesirable effects of inequality from both the investment (supply) and the consumption (demand) sides.[15]

From the investment side, we already saw how high inequality is generating high rates of savings, causing excessive investment, including investment on construction of unsuitable apartments, and declining capital efficiency. On the consumption side, inequality constrains the demand for apartments, because ordinary Chinese citizens lack the income to buy them. In particular, as noted earlier, more than 125 million migrant workers, who live and work in cities, cannot enter the urban housing market not only because of their low income but also because of the *Hukou* system. By contrast, the affluent Chinese have the income to buy multiple apartments, and they are indeed doing so, but mainly for speculative purposes (i.e. to gain from expected appreciation of the apartment prices).[16] However, this speculative demand has often led to construction of wrong type of apartments and in wrong locations. For example, more high priced, luxury apartments have been built, and they have been built in places far removed from centers of work opportunities for ordinary citizens, who cannot yet afford private cars to commute to work. As a result, millions of apartments constructed in recent years remain vacant (creating 'ghost cities'). Inequality therefore is both causing over-supply of wrong type of apartments and constraining the demand for them.

Institutional specificities regarding China's land system play a role here too. On the one hand, residents of rural areas are not free to sell their land to developers. On the other hand, land available for urban development is limited, and the local governments enjoy effective monopoly on its supply. As a result, they can extract a huge amount of rent, which increases the price of the apartments, pushing them out of the reach of the average people, not to speak of migrant workers.

If the currently observed decline in capital efficiency persists, China will have to invest increasing amount of capital to achieve the same rate of growth. Thus, a vicious circle may develop, with high inequality generating more savings, leading to inefficiency of capital, which then necessitates more capital to sustain the same rate of growth, requiring more savings and hence more inequality! (Figure 13) This is a concrete example of how high inequality itself may make reduction of inequality difficult, leading to the inequality trap.

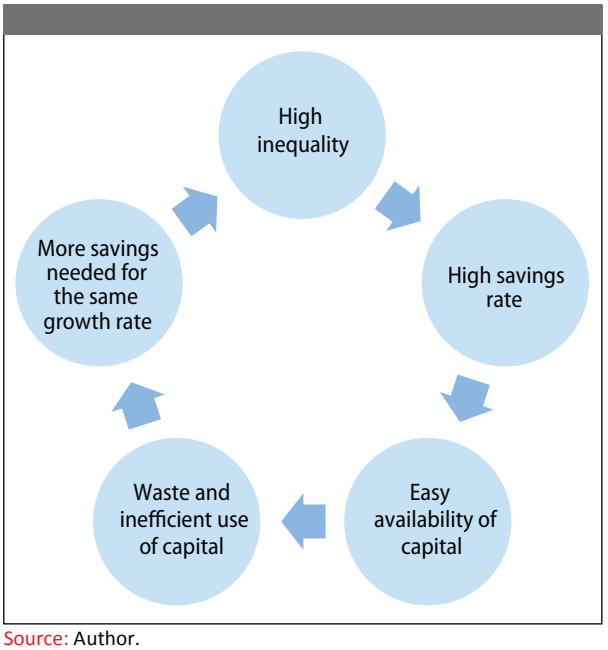
Another way in which inequality may threaten China's growth prospects is by aggravating social unrest. Political and social stability has played an important role in facilitating China's growth for the last more than three decades. The necessity of this stability was vindicated further by the contrasting experience of the USSR, where political turmoil drowned out economic reform (Islam 2011). However, rising inequality may disturb China's socio-political stability too.

Though China's fast paced growth over the past decades has lifted more than 600 million people out of poverty, the relative position of many has worsened. Psychologists find that people are often motivated

15 Calling China's current "real estate" bubble as "apartment bubble" is of course an oversimplification, because apart from apartments, China's recent construction boom involved infrastructure, office and commercial buildings, etc. However, apartment buildings certainly comprise the largest component of the construction boom.

16 The Chinese government has recently imposed restrictions on the number of apartments that one can buy, hoping to contract the housing bubble, reduce demand for apartments, and bring down their prices. However, first of all, such administrative methods do not fit well with a market economy. Second, it is not too difficult for interested Chinese buyer to find ways to skirt these restrictions. Thus, instead of buying multiple apartments in the same city, one can do so in different cities. Similarly, instead of buying them under one's own name, apartments may be bought under relatives' names. It is therefore difficult to say how far these administrative restrictions will serve the purpose.

Figure 13
Capital inefficiency trap



Source: Author.

more by their relative position in the society than by their absolute position.[17] As a result, there is considerable amount of discontent, which is heightened by the fact that many perceive the distributional outcome to be unfair, because it is not always the result of impersonal market forces but of arbitrary, selective, politico-administrative factors such as the *Hukou* system, the land system, family relationships, connections, position in the politico-administrative hierarchy, etc. Thus, much of the rural-urban inequality is perceived to be the result of politico-administrative origin, and hence unfair.

According to a recent survey by "Giant Interactive Group," an online game developer, and "yiguan.cn," an IT market analysis website, 529 million Chinese identify themselves as an "unprivileged loser"[18].

Chen Jiping, a former member of CPC Committee of Political and Legislative Affairs, recognized on March 2, 2013 that China witnessed from 30,000 to 50,000 so called mass-incidents each year.[19] According to the *Human Rights Watch*, the number is still higher, about 250 to 300 protests per day.[20] *The Atlantic* puts the figure for 2011 at 180,000, i.e. over 400 each day.[21] *The Economist* puts China among the "High Risk" group from the viewpoint of social unrest in 2014.[22]

Two additional factors are making the situation unpredictable. First is the emergence of environmental injustice as another source of discontent and social protest. In its pursuit of GDP growth for the last three decades, China paid less attention to the environmental consequences. Furthermore, vindicating the Power Weighted Social Decision Rule (Boyce 1994, 2007), many polluting industries have been set up in areas inhabited by the poor and politically weak. As a result, the phenomenon of "environmental injustice" is very much true in China as in many other, including developed, countries (Dorling 2010, Dobson 1998).

However, social resistance is also gradually building up against "environmental injustice." While previously most of the protest incidents were caused by economic grievances, more protests in recent years are caused by environmental issues. A recent

17 See, for example, Frank (1999) and Sen (1983) for relevant discussion. Emphasizing the point, Lin cites Confucius dictum that "inequality is worse than scarcity," and worries that inequality may cause tensions, "bitter resentment among low-income groups," "undermining social harmony and stability" (Lin 2012, p. 17).

18 See (http://www.nakedcapitalism.com/2013/07/some-datapoints-on-global-political-risk-3.html. The widely used Chinese word for "unprivileged loser" is diaosi.

19 http://www.nakedcapitalism.com/2013/07/some-datapoints-on-global-political-risk-3.html (accessed on April 3, 2014)

20 "There are 250–500 protests each day, with anywhere from ten to tens of thousands of participants." http://www.hrw.org/world-report/2013/country-chapters/china (accessed on April 3, 2014)

21 According to The Atlantic, "Social unrest is so common in the country, in fact, that an estimate of 180,000 "mass incidents" occurred in 2011 alone. In other words, an average of over 400 disturbances to the public order happened every day that year in China." http://www.theatlantic.com/china/archive/2013/05/why-china-can-handle-social-unrest/276094/ (accessed on April 3, 2014)

22 http://www.economist.com/blogs/theworldin2014/2013/12/social-unrest-2014 (accessed on April 3, 2014).

example is the protest in Kunming city in 2013 over production of paraxylene.[23] It is important to note that environmental injustice issues may connect the rural and urban protests. A combination of protests against social and environmental injustice may therefore prove more volatile.

The second factor is the rise in the use of Internet and social media, as a result of which it is now easier to organize protests and to spread the news about them across the country and even to the outside world. Efforts by authorities to suppress the news and contain the events may have less success in future than was the case in the past.

There is therefore a real danger that inequality may harm China's growth prospects and lead it to MIT. What can China do to avoid this danger? What are the ways in which China can reduce inequality before the vested interests get encrusted in the political structure making reduction of inequality difficult?

9 Different ways to address inequality

There are broadly two ways to reduce inequality. One is to let the functional distribution of income be more labor friendly. The other is to redistribute after the functional incomes have already been allocated. The first may be called the "direct route" and the second may be called the "indirect route." For easy understanding, the first route may also be called the "wage route," and the second as the "redistributive route."[24]

9.1 Improvement of the functional distribution of income

China's dilemma with regard to the wage route is understandable. There is the worry that wage increase may lead to loss of competitiveness in the global market. We noticed earlier that maintaining the export growth rate is now proving a challenge, and so China may not want to aggravate this challenge by allowing premature wage growth.

As Islam and Yokota (2008, 2009) show, China is moving towards the Lewis Turning Point, and labor shortages and wage increases in some of the coastal cities are reflections of that process.[25] However, China is a large country with substantial formal and informal restrictions still holding on labor migration. The reported labor shortages and wage increases in certain coastal cities therefore may not mean that China as a whole has yet crossed the Turning Point. In fact, according to Fan (2005), a total of 300 to 400 million people in China need to be relocated to non-farming sectors in the next 40 to 50 years. Li (2012) also draws attention to a huge pool of unemployed and under-employed labor remaining in the Chinese countryside. In view of the above, it is not surprising that many Chinese policy makers worry that wage increase may abort the Lewis process.

Another dilemma in this context arises from China's commitment to market reforms. This commitment may make China reluctant to intervene in the labor market and influence wage setting.

However, these dilemmas do not mean that China should feel paralyzed regarding steps along the wage route. For example, China may pay more attention to upgrading the quality of its labor force and to climbing up the ladder of skill intensity of commodities produced, so that wages can increase without undermining export growth. As noticed earlier, Kharas and Kohli pointed to this type of efforts as an important component of the development strategy appropriate for a middle income country.

In his discussion on ways to improve the functional distribution of income, Lin (2012) puts emphasis on facilitating expansion of the small and medium enterprises (SME). In his view, the "four large

23 See The Guradian story on "Chinese protest at planned chemical plant over pollution fears," May 16, 2013.

24 See Islam (2009) for further details.

25 Other studies showing China moving toward the Lewis Turning Point include Kwan (2007), Cai and Wang (2008), Zhang, Yang, and Wang (2010), and Das and N'Diaye (2013).

banks" model is appropriate for a developed economy and not for a developing economy like China, which rather should have a large number of small and medium sized banks. In Lin's view, the oligopolistic banking structure, together with its public ownership — which puts the banks under various politico-administrative restrictions and restricts competition among themselves — is hindering the growth of SMEs, which are however the main actual and potential source of employment growth. Thus, reform of the banking sector, allowing more capital to flow to SMEs may be an important way towards more equitable functional distribution of income.

Also, it may be noted that the *laissez faire* policy implies freedom for the Chinese workers to form trade unions and engage in collective bargaining regarding wages, benefits, etc. In particular, *laissez faire* would require abolition of the remaining *Hukou* restrictions, allowing migrant workers a permanent footing in the cities. As noted earlier, without such a footing it is difficult for them to organize and bargain. China appears to have a "love-hate" relationship with its migrants. It cannot do without them, while at the same time, it does not want to embrace them fully. China needs to find a solution to this conundrum soon, because the phase of enjoying migrants' labor without giving them adequate rights cannot go on forever (Islam 2009, pp. 10-11). Abolition of the *Hukou* system will also allow China to benefit from the additional economic surplus generated by full integration of the labor market, allowing free flow of production factors across the economy and resulting equalization of their returns.

However, it is important to note that abolition of *Hukou* may lead to further increase in the number of migrants and depress their wages in the short run. Also, this abolition needs to proceed step-by-step, dovetailing the dispersed urbanization strategy that China needs to follow (Islam 2009).

Thus, much can be done along the wage-route to address China's inequality problem, and in the long run, this route has to be the dominant one. However, in view of the limitations and dilemmas above, it is necessary to consider the redistributive route too.[26] In fact, the wage-route dilemmas may make the redistributive route more attractive to the Chinese policy makers.

9.2 The redistributive route

It is one of the empirical regularities of development that the role of redistribution increases as the economy gets richer. In fact, the increased role of redistribution is one of the channels through which the Kuznets hypothesis of reduction of inequality at higher stage of development may work. Greater role of redistribution with time has been true for many western developed countries, where Dickensian capitalism gradually transmuted into varieties of welfare capitalism. In many of these countries, more than 50 percent of the national income is now collected by the government and spent for various public purposes, including transfers to people whose earned income is low.

This regularity seems to have been true for East Asian developed economies too. Solt (2009) data shows that the vertical distance between the market Gini and net Gini curves has increased for almost all these economies. The increase is particularly prominent for Japan, Taiwan POC, and Singapore. In case of South Korea, significant redistribution seems to have been practiced at a very early stage of the growth spurt, and that might have been one reason why the tendency of the net Gini to increase could be reversed. The experience of these economies may hold important lessons for China as it tries to deal with the inequality problem.

26 As another example of the limitations of the functional distribution route, note that how much net increase in labor income will expansion of SMEs (small and medium enterprises) bring about depends to a large extent on the opportunity cost of the labor employed. Second, the process will also lead to profit income. The net effect on inequality is therefore uncertain. Unless the wage/profit ratio in the incremental employment is greater than at the base level, the functional distribution will not be more equal. This shows again that increasing the wage/profit ratio is important.

It is well known that China's market oriented reforms were accompanied by significant withdrawal of the state from provision of various public services, including those related with education and health. This withdrawal has been particularly noticeable in rural areas, where abolition of the Communes also meant the end of the public services that they provided. Similarly, as noted above, public services are absent or lacking for the estimated 125 million migrant workers. Thus the task of abolition of the *Hukou* system is related with the tasks of building a universal social security system (including unemployment and pension benefits) and a system of provision of essential public services, including education and healthcare. China cannot hope to graduate to the high income category unless these essential tasks are accomplished.[27]

In his discussion, Lin (2012) notices that China's tax rate is already high. That being the case, significant problems must lie in tax collection, because otherwise it is difficult to reconcile high tax rates with high inequality as reflected in high Gini coefficients. Thus China may need to address issues of both tax rates and enforcement of the rates. Installation of an effective tax system is another task that needs to be accomplished in tandem with the tasks of building an effective social security system and a system of public service delivery.[28]

China therefore needs to proceed along both the wage route and the redistributive route to reduce inequality. In fact, the two routes have to be viewed as complementary to each other. For example, full realization of the benefits of abolition of the *Hukou* system is not possible without a combination of the wage route and the redistributive route. However, a particular way in which China can attempt to reduce inequality is through promotion of cooperative ownership.

27 See Ravallion (2012) for relevant discussion.

28 For discussions of China's recent tax reform initiatives, see http://www.chinadaily.com.cn/bizchina/tax_reform.htm

9.3 Enhanced role of cooperative ownership?

China has the unique potential to promote cooperative ownership of both productive and consumptive resources. It is important to note that cooperative ownership of productive resources can be an effective way of improving functional distribution of income, because cooperatives allow the members to benefit not only from wages, but also from profit. Of course, distribution of shares among employees of joint stock companies is also one way of sharing profit. However, unlike joint-stock companies, where shareholders may not be the employees and employees may not be the shareholders, in a cooperative all employees are also the shareholders. Thus, profit sharing has a more potent role in a cooperative.

China has a rich tradition of cooperative effort and enterprise. Apart from the cooperative efforts of the pre-reform years, China witnessed the explosion of Township Village Enterprises (TVEs) following the reform. In a few years, TVEs were employing about 125 million rural workers and accounted for about 42 percent of China's industrial output and 35 percent of export in 1994 (Islam 2009). It is true that many TVEs were actually owned by private individuals, who were wearing "red hat," i.e. registering their enterprises as cooperatives because outright private enterprise was still not allowed or was frowned upon. Similarly, cooperatives flourished in Chinese cities when on October 17, 1981, the CPC Central Committee and the State Council issued *Several Decisions on Opening up the Door, Enlivening the Economy, and Solving Employment Problems in Cities and Towns*, allowing "individual economy" as a "necessary complement" to the socialist collective economy (Coase and Wang 2013). These individual economies were not allowed to hire more than seven workers. Enterprises aspiring higher scale of operation therefore had to take the form of cooperatives, which were already allowed under "street committees." Again, it is true that many of these cooperatives were also examples of wearing "red hat" for convenience. However, it remains the fact that there

were significant traditions of cooperative enterprise in both rural and urban China in not too distant past. China may therefore revive and encourage co-operative forms of ownership as a way to mitigate inequality.

It may be noted that there is a resurgence of cooperative and "solidarity" economy in various parts of the world, particularly in Latin American and Southern European countries. Responding to this upsurge, the United Nations Research Institute for Social Development (UNRISD) organized a special conference in May 2013 on "Potential and Limits of Social and Solidarity Economy."[29] The evidence presented at this conference demonstrates the enormous range of initiatives that have already been implemented and the wide range of ideas that are now explored (UNRISD 2013). Important among these initiatives are cooperatives directed toward production, trade, and consumption.

While these cooperatives in most cases are bottom-up initiatives taken by people themselves, it is clear that with state backing they can reach new scale and height. China is particularly suited for providing such state backing within its economy. First of all, China still professes "socialism" to be its goal, so that the Chinese state is ideologically committed to promoting collectivist undertakings. Second, the banking sector in China is still largely under state ownership and control. Thus, the Chinese state also has the means of promoting cooperative enterprises. Reduction of inequality through cooperative ownership, rather than only through conventional policies concerning functional distribution and redistribution, can make China a developed country with some distinctiveness that is more in conformity with its professed ideology.

29 The papers and presentations of this conference can be freely downloaded from the following website: http://www.unrisd.org/unrisd/website/events.nsf/%28httpAuxPages%29/69C2EE8E0C8A0849C1257B5F00300E40?OpenDocument&category=Conference+Papers+and+Outputs

10 Conclusions

Whether or not China will be able to graduate from middle income to high income status is a question of wide interest. After all, China represents about one-sixth of the world population, so that the future of China's growth process affects not only China but the world as a whole.

China has many things that are favorable for being successful in avoiding the middle income trap. One of them is its size. It is already the second largest economy of the world and the largest exporter. China therefore is less constrained by the dual problem of limited size of the domestic market, on the one hand, and difficulty in being successful in the world market, on the other.

However, underneath these strengths, weaknesses lurk. First of all, China's success in the world market so far has been mostly in the area of labor intensive manufacturing. Over time, China is entering the market of technologically sophisticated goods. However, this transition is still not fully assured. Second, China is facing macro-economic imbalances, with very high levels of savings that need to be absorbed in the form of either investment or net export. Yet, net export growth is falling and efficiency of investment is declining. Third, a combination of discontent concerning socio-economic issues with discontent over environmental issues poses a threat to socio-political stability.

Research shows that inequality of income and asset distribution lies at the root of many of these problems. China has deviated from the East Asian model of "growth with equity" and has let inequality to rise to the levels observed in countries that belong to the middle income trap. Unless inequality is addressed soon, China may fall into the "inequality trap," which may then lead it to the middle income trap.

Fortunately, China's inequality is of recent origin, and hence vested interests favoring inequality might not yet have become entrenched in the political structures of the country. Second, despite the rise of

the private sector, a significant part of the economy, including large part of the banking sectors, is still under public ownership and control. As a result, the state still has the means and levers to influence the direction of the economy and society. Thus, China can reverse its course and move toward a more equitable society, provided it has the political will to do so.

It is encouraging that the Third Plenum of the 18th Central Committee of the Chinese Community Party, held in November, 2013, put emphasis on the inequality issue and declared many initiatives to address it.[30] For example, it declared promoting "social fairness and justice" as one of the basic principles of China. It decided to rectify government's overemphasis on GDP growth and prevent over capacity in manufacturing sectors. It recognized "rural-urban dual structure" as a main obstacle to integrated development" and announced that *Hukou* reform will be accelerated and farmers will be given a greater role in China's modernization. It promised more balanced allocation of public resources between rural and urban areas. It announced important reforms to the land system in order to improve efficiency and ensure fairness. It promised to "improve collective bargaining" between capital and labor in deciding salaries and pay raises. It also expressed support for "employee stock ownership to form a vested community of capital owners and workers." It announced financial sector reform allowing formation of small and medium sized banks in the private sector and promoting interest rate liberalization and capital account convertibility. It also announced important tax reforms. It promised to establish "a fairer and more sustainable social welfare system." It promised more opportunities for inland and border provinces. It declared to "optimize the income distribution system." It decided "to reform the project of preventing and reconciling social conflicts." It promised to put in place "the strictest possible rules to protect the ecological system."

These decisions, if implemented properly, should help China to reduce inequality. In that case, the recent trend of inequality in China to decrease will prove durable, and China will move away from the league of MIT countries and come back to the company of the successful East Asian economies which combined growth with equity. Whether China will be able to do so and thus avoid MIT will be one of the most important development outcomes to observe in the coming years.

30 See China Daily, November 16, 2013 for the full text of the decisions taken at this Plenum.

References

Ahluwalia, Montek (1976a), "Income Distribution and Debt," *American Economic Review*, 66(5): 128-135

Ahluwalia, Montek (1976b), "Inequality, Poverty, and Development," *Journal of Development Economics*, 3:307-342

Anand, Sudhir and Ravi Kanbur (1993), "The Kuznets Process and the Inequality-Debt Relationship," *Journal of Development Economics*, 40:25-72

Alesina, Alberto and Dani Rodrik (1994), "Distribution Politics and Economic Growth," *Quarterly Journal of Economics*, 109: 465-490

Alesina and Perotti (1996), "Income Distribution, Political Instability, and Investment," *European Economic Review* 81(5):1170-1189

Asian Development Bank (2011), *Asia 2050: Realizing the Asian Century*, Manila: Asian Development Bank

Banerjee, Abhijit and Esther Duflo (2003), "Inequality and Growth: What Can Data Say?" *Journal of Economic Growth*, Vol. 8 (September), pp. 267-299

Barro, Robert J. (2000), "Inequality and Growth in a Panel of Countries," *Journal of Economic Growth*, Vol. 5 (March), pp.5-32

Benhabib, Jess and A. Rustichini (1996), "Social Conflict and Growth," *Journal of Economic Growth*, 1 (1): 129-146

Benabou, R. (1996), "Inequality and Growth," *NBER Macroeconomics Annual*, 11-73

Berg, Andrew G, and Jonathan D. Ostry (2011), "Inequality and Unsustainable Growth: Two Sides of the Same Coin?" IMF Discussion Note, SDN/11/08 (April 8), Washington D.C.

Bertola, G. (1993), "Factor Shares and Savings in Endogenous Growth," *American Economic Review*, 83:1184-1198

Bowles, Samuel (2012), *The New Economics of Inequality and Redistribution*, Cambridge: Cambridge University Press

Boyce, James K. (1994), Inequality as a Cause of Environmental Degradation," *Ecological Economics*, 11:169-178

Boyce, James K. (1997), "Inequality and Environmental Protection," in Jean-Marie Baland, Pranab Bardhan, and Samuel Bowles (editors), *Inequality, Cooperation, and Environmental Sustainability*, pp. 314-348, Oxford: Oxford University Press

Cai, F. and M. Wang (2008), "A Counterfactual of unlimited surplus labor in rural China," *China and the World Economy*, 16: 51-65

Chenery, Hollis, Sherman Robinson, and Moshe Sirquin (1986), *Industrialization and Growth: A Comparative Study*, Oxford: Oxford University Press for the World Bank

Coase, Ronald and Ning Wang (2013), *How China Became Capitalist*, New York: Palgrave-Macmillan

Cornia, Andrea Giovanni (ed.) (2014), Falling Inequality in Latin America: Policy Changes and Lessons, WIDER Studies in development economics, Oxford: Oxford University Press

Das, Mitali and Papa N'Diaye (2013), Chronicle of a Decline Foretold: Has China Reached the Lewis Turning Point? IMF Working Paper No. 26, International Monetary Fund, Washington DC

Deininger, Klaus and Lyn Squire (1996), "A New Data Set Measuring Income Inequality," *World Bank Economic Review,* 10(3): 565-91

Deininger, Klaus and Lyn Squire (1998), "New Ways of Looking at Old Issues: Inequality and Growth," *Journal of Development Economics,* 57(2):259-287

Dobson, Andrew (1998), *Justice and Environment: Conceptions of Environmental Sustainability and Dimensions of Social Justice*, Oxford: Oxford University Press

Dorling, Danny A. (2010), "Social Inequality and Environmental Justice," *Environmental Scientist*, 19(3): 9-13.

Evans-Pritchard, Ambrose (2012), "China risks 'middle income trap' without free market revolution," The Telegraph, February 27, 2012

Fan, Gang (2005), "Coming collapse or continued economic growth?" in David H. Brown and Alasdair MacBeans (eds.), *Challenges for China's Development: An Enterprise Perspective*, London: Routledge

Fan, S., R. Kanbur, and X. Zhang (eds.) (2008), *China's Regional Disparities: Experience and Policies.* Itacha, NY: Cornell University Press.

Fan, S., R. Kanbur, and X. Zhang (2011), "China's Regional Disparities: Experience and Policy," *Review of Development Finance* 1:47-56

Fields Gary (2001), Distribution and Development: A New Look at the Developing World, Russel Sage Foundation (New York) and MIT Press (Cambridge, Mass.)

Forbes, K. (1997), "A Reassessment of the Relationship between Inequality and Growth," Unpublished Paper, MIT

Galor Oded and Zeira (1993), "Income Distribution and Macroeconomics," *Review of Economic Studies*, 60:35-52

Gill, Indermit and Homi Kharas (2008), *An East Asian Renaissance: Ideas for Economic Growth*, Washington DC: World Bank

Gupta, D. (1990), *The Economics of Political Violence*, New York: Praeger

Gustafsson, B., L. Shi, and T. Sicular (eds.), *Inequality and Public Policy in China*, Cambridge, UK, and New York: Cambridge University Press.

Hibbs, D. (1973), *Mass Political Violence: A Cross-sectional Analysis*, New York: Wiley

Imai, Ken (2009), "Exploring the Persistence of State Corporate Ownership in China," in Nazrul Islam (ed.), *Resurgent China: Issues for the Future*, pp. 237-257, Palgrave-Macmillan, Basingstoke, UK

Islam, Nazrul (2011), "Was the Gradual Approach Not Possible in the USSR? A Critique of the Sachs-Woo 'Impossibility Hypothesis'," *Comparative Economic Studies*, Vol. 53, pp. 83-147

Islam, Nazrul (ed.) (2009), *Resurgent China: Issues for the Future*, Palgrave-Macmillan, Basingstoke, UK

Islam, Nazrul and Kazuhiko Yokota (2008), "Lewis Growth Model and China's Industrialization," *Asian Economic Journal*, Vol. 22, No. 4, pp. 359-396

Islam, Nazrul and Kazuhiko Yokota (2009), "China's Industrialization viewed from the Lewis Growth Model," in Nazrul Islam (ed.) *Resurgent China: Issues for the Future*, pp. 123-148, Palgrave-Macmillan, Basingstoke, UK

Islam, Nazrul, Erbiao Dai, and Hiroshi Sakamoto (2006), "Role of TFP in China's Growth," *Asian Economic Journal*, Vol. 20, No. 2, pp. 127-159

Islam, Nazrul, Erbiao Dai, and Hiroshi Sakamoto (2009), "Alternative Estimates of TFP Growth in China: Evidence from Application of the Dual Approach," in Nazrul Islam (ed.) *Resurgent China: Issues for the Future*, pp. 289-331, Palgrave-Macmillan, Basingstoke, UK

Kanbur, R. and X. Zhang (2005), "Fifty Years of Regional Inequality in China: A Journey through Central Planning, Reform, and Openness," *Review of Development Economics*, 9(1): 87-106.

Kharas, Homi and Harindar Kohli (2011), "What is the Middle Income Trap, Why Do Countries Fall into It, and How Can It Be Avoided?" *Global Journal of Emerging Market Economics*, Vol. 3, No. 3, pp. 281-289

Knight, J. (2013), "Inequality in China: An Overview," *The World Bank Research Observer*, July 18, pp. 1-19

Knight, J. and L. Song (1995), *The Rural-Urban Divide: Economic Disparities and Interaction in China*, Oxford: Oxford University Press.

Kohli, Harinder and Anil Sood (eds) (2009). *India 2039: Affluent Society in One Generation*. Washington DC: Centennial Group.

Kwan, C. H. (2007), "China Shifts from Labor Surplus to Labor Shortage: Challenges and Opportunities in a New Stage of Development," RIETI

Lee, Keun and Li Shi (2013), "From the Beijing Consensus to Middle Income Trap in China," Paper presented at the conference on "Quest beyond the Middle Income Status: International Experience and China's Prospects," organized by Shanghai University of Finance and Economics, held in Shanghai on July 3, 2013

Li, H., L. Squire, and H. Zou (1998), "Income Inequality is Not Harmful for Growth: Theory and Evidence," *Review of Development Economics*, 2:318-334

Li, H. and H. Zou (1998), "Explaining International and Intertemporal Variations in Income Inequality," *Economic Journal*, 108:26-43

Lin, Justin Y. (2012), *Demystifying the Chinese Economy*, Cambridge: Cambridge University Press

Lin, Justin and Ha-Joon Chang (2009), "Should Industrial Policy in Developing Countries Conform to Comparative Advantage or Defy It? A Debate between Justin Lin and Ha-Joon Chang," *Development Policy Review*, Vo. 27, Issue 5, pp. 483-502

Lu, Ding (2009), "Banking and Financial Sector Reform in China: Experience and Prospects for the Future," in Nazrul Islam (ed.) *Resurgent China: Issues for the Future*, New York: Palgrave-Macmillan

Luxemburg Income Study (LIS) (2008), Database, available at http://www.lisproject.org/techdoc.htm (multiple countries)

McKinnon, Ronald I. (1994), "Financial Growth and Macroeconomic Stability in China, 1978-1992: Implications for Russia and Other Transitional Economies," *Journal of Comparative Economies*, Vol. 18, No. 3 (June), pp. 438-469

Milanovic, Branko (2011), The Haves and Have-Nots: A Brief and Idiosyncratic History of Global Inequality, New York: Basic Books

Milanovic, Branko (2012), World Income Distribution, World Bank (http://go.worldbank.org/VEJIUOFJO/ WPS 2244, WPS2562, WPS5061, WPS5820

Palma, J. G. (2011), "Homogenous Middles vs. Heterogeneous Tails and the End of the 'Inverted-U': It's all about the Share of the Rich," *Development and Change*, Vol. 42, pp. 87-153

Papanek, Gustav and O. Kym (1986), "The Effect of Income Distribution on Development, the Growth Rate, and Economic Strategy," *Journal of Development Economics*, 23(1):55-65

Paus, Eva (undated), "Latin America's Middle Income Trap," *Quarterly Americas*, http://www.americasquarterly.org/node/2142

Penzner, Magdoff, and Sweezy (2013), Capitalism and the Fallacy of Crude Under-consumption , *Monthly Review*, Vol. 64, Issue 8 (Janury)

Perotti, R. (1993), "Political Equilibrium, Income Distribution and Growth," *Review of Economic Studies*, 60:755-776

Persson, T. and G. Tabellini (1994), "Is Inequality Harmful for Growth: Theory and Evidence," *American Economic Review*, 84:600-621

Phee, Changyong (2012), Indonesia risks falling into the middle-income trap, published on Asian Development Bank (http"//www.adb.org) on March 27, 2012

Piketty, Thomas (1997), "The Dynamics of Wealth Distribution and Interest Rates with Credit Rationing," *Review of Economic Studies*, 64:173-189

Piketty, Thomas (2014), Capital in the Twenty-first century, Cambridge: Belknap Press for Harvard University Press

Ramstetter, Eric, Erbiao Dai, and Hiroshi Sakamoto (2009), "Recent Trends in China's Distribution of Income and Consumption," in Nazrul Islam (ed.), *Resurgent China: Issues for the Future*, New York: Palgrave-Macmillan

Ravallion, M. (2012), "The Emerging New Form of Social Protection in 21st Century China," World Bank, Washington, DC

Research Institute of Economy, Trade, & Industry IAA (RIETI) (2004), *Newsletter*, China in Transition (June 18, 2004) http://www.rieti.go.jp/en/china/04061801.html

Robinson, Sherman (1976), "A Note on the U-Hypothesis Relating Income Inequality and Economic Development," *American Economic Review*, 66(3):437-440

Sakamoto, Hiroshi and Nazrul Islam (2008), "Convergence across Chinese Provinces: An Analysis Using Markov Transition Matrix," *China Economic Review*, Vol. 19, pp. 66-79

Sen, A. K. (1983), "Poor, Relatively Speaking," *Oxford Economic Papers* 35(2): 153-169

Shi, L., L. Chuliang, and T. Sicular (eds.), Rising Inequality in China: Challenge to the Harmonious Society, Cambridge, UK, and New York: Cambridge University Press

Sicular, T., Y. Ximing, B. Gustafsson, and L. Shi (2008), "The Urban-Rural Income Gap and Income Inequality in China," *Review of Income and Wealth*, 53(1):93-126

Solt, Frederick (2009), "Standardizing the World Income Inequality Database," *Social Science Quarterly*, 90(2), pp. 231-242

Stiglitz, Joseph E., Amartya K. Sen, and Jean-Paul Fitoussi (2010), *Mismeasuring Our Lives: Why GP Doesn't Add Up?* Report by the Commission on the Measurement of Economic Performance and Social Progress. New York: New Press

The Economist (2011), Growth Prospects: Beware the Middle-income Trap, *The Economist*, June 23, 2011

Tsui, Kai-yuan (2007), "Forces Shaping China's Interprovincial Inequality," *Review of Income and Wealth*, 53(1): 61-92

UNRISD (2013), "Potential and Limits of Social and Solidarity Economy," Conference presentations, draft papers, podcasts and videos

UNU-WIDER (2008), World Income Inequality Database, Version 2.0c, May 2008, available at http://www.wider.unu.edu/research/Database/en_GB/database/

Venieris, Y. and D. Gupta (1986), "Income Distribution and Sociopolitical Instability as Determinants of Savings: A Cross-sectional Model," Journal of Political Economy, 94:873-883

Whyte, M. (ed.) (2010), *One Country, Two Societies: Rural-Urban Inequality in Contemporary China*, Cambridge, MA: Harvard University Press

World Bank (2012), (http://web.worldbank.org/WBSITE/EXTERNAL/EXTOED/EXTMIDINCCOUN/0,,contentMDK:21453301~menuPK:5006209~pagePK:64829573~piPK:64829550~theSitePK:4434098,00.html)

Xu, Yan and Shu Yu (2012), "Total Factor Productivity among Cities in China: Estimation and Explanation," Economics Program Working Paper Series 12-01, The Conference Board and University of Groningen, March 2012

Zhang, X., J. Yang, and S. Wang (2010), "China has reached the Lewis Turning Point," IFPRI Working Paper, International Food Policy Research Institute, Washington DC

Zhuang, J. (ed.) (2010), *Poverty, Inequality, and Inclusive Growth in Asia*, London: Anthem Press