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Income disparities in the transition of China: reducing negative effects by dispelling misconceptions

Siang Ng and Yew-Kwang Ng
Monash University, Australia

Abstract
Despite some conflicting figures, the problem of income disparities has probably increased in China, especially in the recent years. Although income disparity may be a natural outcome of a market economy, there are specific factors in China making it more of a problem. The negative effects of income disparity may be inflated by certain misconceptions. Such misconceptions may be dispelled by some simple economic analysis. In particular, the Marxist theory of exploitation can be shown to be incorrect; the enrichment of a sector can be shown to be beneficial to others in its general thrust; and a slightly higher growth rate with greater income disparity may be beneficial to the lower income groups in the long run owing to the compounding effects, which are usually underestimated.

Keywords
China, Chinese economy, economic reform, income disparity, inequality

1. INTRODUCTION
Despite its high growth rates, low inflation, and increasing foreign reserves, it is widely recognized that China is still facing many difficult economic problems. One that has received recent attention is that of income disparities. This paper neither attempts to look at this problem comprehensively nor to delve deeply into a particular aspect. It neither makes an important conceptual or methodological advance nor some sophisticated empirical findings. Likewise, it neither gives an authoritative diagnosis nor a comprehensive policy recommendation to tackle the problem. Rather, it points out some neglected issues that may significantly help in reducing the negative effects of income disparities due to certain misconceptions. We are tackling something that involves relatively low input but with potentially high returns.

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2. THE SITUATION OF INCOME DISPARITIES

Income disparity in China manifests in at least the following ways:

- inter-regional, including coastal versus inland regions, northern versus southern regions, and inter-provincial;
- urban versus rural areas;
- between groups of individuals, especially between those getting rich by success in business or by the abuse of power and those left behind.

According to a World Bank (1997: 8) estimate, inter-regional disparities account for about a quarter of the total inequality in China. Using data in 1988 from a representative sample of nearly 20,000 households, Khan et al. (1992) discuss some problems on the concepts and components of household income and conclude that ‘income inequality between rural and urban populations clearly dominates inequality in the distribution of income within each population’ (Khan et al., 1992: 1046), with the overall Gini coefficient of 0.382, substantially higher than that for the rural (0.338) and urban (0.233) China. However, since then, the urban Gini coefficient has increased.

It is widely recognized that the economic reforms since 1978, though very successful in achieving high growth rates, have been accompanied by substantial increases in income disparities. Thus, it is even recognized in the Fifth Session of the 14th Plenary of the Chinese Communist Party Congress that ‘for many reasons, regional economic inequalities have widened somewhat’. While this may be true, the extent and details of the widening have probably been somewhat misperceived, as explained below.

First, some people focus on the so-called absolute divergence (by looking at the increase in the standard deviations of provincial per capita GDP) which of course exploded with inflation and economic growth even if relative incomes remained unchanged throughout. To focus on the increase in the absolute divergence is quite misleading, as it can be very large even if inequality decreases. If we want to use standard deviations to measure changes in disparity, we have to use the logs of standard deviations or standard deviations relative to means (i.e. the coefficient of variation). Alternatively, the Gini coefficient, differential growth rates, and a class of Generalized Entropy measures (see Shorrocks, 1984) may be used.

Secondly, the post-1978 reforms in fact resulted in decreases in inter-provincial and urban-rural income disparities at least until 1985, while the period of 1965–78 (containing the decade of cultural revolution 1966–76) witnessed a sharp increase in inter-regional disparity, with the 1952–65 period not showing a consistent and marked trend. This is most evident in the study of Jian et al. (1996) which, in fact, shows that the narrowing of regional divergence was not reversed until 1991. This is generally consistent with the findings of Chinese researchers using also per-capita GDP (e.g. Liu et al. 1994 and Yang 1994). However, using the per-capita family income of residents,
Wei (1996) shows that inter-provincial income divergence, as measured by the coefficient of variation, has increased every year from 1985 to 1995. A common observation among these researchers is that the income divergence between coastal and inland regions has increased while the inter-provincial divergence within each of these regions has decreased, especially up to 1990.

Thirdly, due to a number of reasons – including the underreporting of high incomes, subsidies to urban residents, and the inclusion of some items of investment expenses in the net income of rural residents – the use of even per-capita family income of residents may have understated the true picture of income disparities, especially that between urban and rural areas (see Liu 1996). However, whether income disparities have increased or not depends on how this underestimation has changed over time. This is difficult to assess. The underreporting of high incomes has probably increased in importance but the subsidies to urban residents have decreased in importance.

We performed our independent calculation of the measures of provincial disparities, using the coefficients of variation for both GDP per capita and per-capita family incomes of residents. We were rather surprised to find that the two give very different results, as shown in Table 1. Using GDP per capita, the measure shows a very significant decrease in provincial disparity since 1978, reaching a low in 1990. The reversal since then is not that big, especially

<table>
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<tr>
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<tr>
<td>1995</td>
<td>0.48</td>
<td>0.49</td>
<td>0.39</td>
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</tbody>
</table>

Sources: China Statistical Yearbook, various years. * except Hainan, Tibet
if we ignore the rather low figure of 1990 (a year just after the Tiananmen Square incident). The figure of 0.67 in 1995 is still much lower than that of 0.98 in 1978. However, using the per-capita family incomes of residents, the situation becomes much worse. Although we do not find year-to-year increases, a very big increase since 1985 (possibly since 1983) is clear, with only a reversal in 1990, a somewhat special year as just noted. Since its low in 1983, the coefficient of variation has almost doubled by 1995, whether the unweighted or the population-weighted value is used.

We find this large differential in changes in the provincial coefficients of variation between the GDP and the resident incomes very surprising. As the difference is very big, it is unlikely to be fully explained by data inconsistency. The difference between the two is mainly personal income taxes and subsidies. As the resident-incomes coefficient of variation shows a large increase, while the GDP one shows a decrease, over 1978–95, one would infer that personal income taxes/subsidies was playing a large role in equalizing inter-provincial inequality and that this role has substantially weakened over 1978–90. Since there were no substantial personal income taxes in 1978, the role was probably played by the subsidies (including budgetary and pricing) by the central government that were significantly interprovincially equalizing around 1978, and which have become less important in recent years, if not reversed. (This inference is consistent with the recent result by Tsui, 1996: Table 3, for the period 1978–89.) This weakening effect is quite likely since the central government expenditure has decreased in importance both relative to GNP (from 14.68 percent in 1978 to 3.48 percent in 1995) and relative to local government expenditure (from 90.2 percent in 1978 to 41.3 percent in 1995). If this contention (which should be examined more thoroughly) is correct, an important implication may be drawn. That is, the post-reform increase in income disparities, at least as far as the reported inter-provincial one over the whole 1978–95 period is concerned, is not the direct result of reform and the resulting increased functioning of the market mechanism, but rather that of a changing role of central government redistributive function. This has obviously very important policy relevance. We are not aware of any emphasis on this important point.

The time profile of changes in the rural–urban disparity is similar to that of the provincial divergence, as shown in Table 2. In fact, according to a World Bank estimate, the Gini coefficient within the rural sector also shows a similar time profile of decreasing dramatically from 1978 (0.32) to 1982 (0.22) and increasing thereafter.

For the disparity between groups of individuals, data are less readily available. However, the general consensus is that this has increased very substantially, especially after 1990 (see Chen, 1997; Cheng, 1996; Rozelle 1996).

Owing to the conflicting figures and opposing effects of certain factors not reflected in official figures, it is difficult to judge whether income disparities now are greater than at the beginning of the reform. However, it is more certain that disparities have increased significantly in the last decade.
3. ARE INCOME DISPARITIES A PROBLEM?

The existence of some income disparities is not necessarily a problem. Some degree of income inequality is necessary to maintain an adequate level of incentives. Also, virtually all countries have some disparities between the urban and rural regions, partly due to incomes in kind and cheaper housing in rural areas. Moreover, due to Engel’s law, a growing economy typically needs to transfer its resources (including human) from agriculture to industrial and service sectors. Thus, the existence of some degree of the urban–rural disparity is necessary to call forth the transfer.

Furthermore, there are a number of specific factors making the problem of increasing disparities less of a problem in China. First, ignoring the extra-income privileges of high officials, pre-reform China is a country with artificially low income inequality. Despite recent increases, the Gini coefficient of China is around one third, well below the figure of 0.5 generally regarded as excessive. (This figure has been breached in Hong Kong since 1996.) Thus, a substantial increase from this artificially low base is consistent with efficiency and general policy intention. (It is recognized that excessive inequality may be bad even for efficiency and that certain equality-improving measures may promote growth; see for example Aghion and Bolton, 1997; Bowles and Gintis, 1996; Hoff, 1996; Persson and Tabellini, 1994; Xiao, 1997.) Secondly, the higher incomes of some people to a large extent are now a replacement for high extra-income privileges in pre-reform times. Thirdly, the post-reform faster growth of the coastal region is at least partly a readjustment to the previous policy of favouring inland industrial development on the ground of defence. Fourthly, the fast economic growth currently achieved makes higher inequality easier to accept.

Having said the above, it should be recognized that income disparities are serious problems in China for the following reasons. First, rural people in

<table>
<thead>
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<td>178</td>
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<tr>
<td>1995</td>
<td>1479</td>
<td>5044</td>
<td>3.4</td>
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</tbody>
</table>

Source: Statistical Yearbook of China
China are not completely free to move to urban areas. Formerly, people born to rural families were themselves rural residents destined to remain as peasants. In the era of Mao with the use of quotas in the distribution of many basic items, the urban–rural segregation system was almost perfect, making it one the greatest ironies to the fact that Mao’s victory in the late 1940s, more than any other communist revolutions, was based on the support of peasants. The economic reform after 1978 progressively weakened the segregation. However, it is not until 1996 that it was announced that the formal urban–rural residency distinction was to be replaced by a new system (based on the family–collective distinction) whose details and implementation are not yet quite clear. Moreover, due to the non-availability of the cheap allocated accommodation quarters (‘commodity’ flats available for sale and to let are priced at astronomical levels in comparison to the income of an average peasant), even now peasants have great difficulties in going to the urban areas. The situation is not expected to change dramatically within a few years even with the implementation of the new residency classification.

Secondly, apart from the problem of urban–rural segregation, there are other policy-created inequalities. For example, the special economic zones enjoyed special advantages and entrance to these zones requires special permits. This results in a much higher average income at, for example, Shenzhen than at other cities.

Thirdly, the monopolistic power of certain state enterprises and the unequal original amounts of capital (including land and factory) per-employee also contribute to unjustified income differentials between employees of different enterprises. The unreasonable price structure also plays a similar role. Although this has become less important with the reform, the role of differential incomes through bonuses and other forms has become more important with the reform.

Fourthly, the disparity between the rich and the poor is, to a substantial extent, due not to the natural differences in productivity, but to the use of dubious methods of getting rich, including corruption and other abuses of power. This was a major reason for the demonstrations at Tiananmen Square in 1989. The need to address the unwarranted disparities cannot be over-emphasized.

Fifthly, while the level of inequality so far may not be very high, the rate of increase in inequality has been very fast. For example, in comparison to a sample of countries regarded as having reliable data, China’s inequality was well below the average in the 1980s but rapidly increased to a little above the average in the 1990s (World Bank, 1997: 8; Deininger and Squire, 1996). Nevertheless, a large part of the rapid increase can be offset by the large fall in inequalities over 1978–82.

Sixthly, the Chinese government still insists that it is pursuing socialism, not capitalism. The need to avoid ‘polarization’ has been repeatedly emphasized. In addition, most people, including the more open-minded reformers,
with scant understanding of modern economics, are still influenced by Marxism, especially with respect to its theory of exploitation. Thus, the moral acceptance of even the productivity-warranted disparities is low.

4. REDUCING THE NEGATIVE EFFECTS OF INCOME DISPARITIES: SOME PERSPECTIVES FROM ECONOMIC ANALYSIS

Instead of examining the more widely-discussed problem of how to tackle the problem of income disparities, let us consider how economic analysis may be used to reduce the negative effects of income disparities due to some misconceptions.

4.1. Dispelling the Marxist fallacy on exploitation

Though not many people believe in Marxism in its totality now (its three major components are its philosophy of dialectical materialism and historical materialism, its critique of capitalism based on the surplus theory of value, and its theory of socialism and communism), its theory of exploitation of workers by the capitalists (i.e. the surplus theory of value) still has a very important influence. This is best seen by the fact that even people reputed to be amongst the more liberal reformers still believe in this theory of exploitation. A notable example is Yu Hao Cheng, a reputable liberal on issues of legality. Where the liberals differ from the conservatives is that the former believe that the capitalists should be allowed to exploit workers in order to vitalize the economy. In fact, in the so-called anti-Communist magazines in Hong Kong, one frequently reads articles in favour of the Marxist theory of exploitation. For example, Zheng Ming, arguably the most outspoken critique of the Chinese government, published articles strongly supportive of the Marxist theory of exploitation, such as ‘capitalist exploitation is undeniable’, ‘please give Marxism the respect it deserves’ (for example, see Xiang, 1990).

Even more remarkably, Dr Wang Ting Ting (formerly lecturer in the School of Economics and Finance, University of Hong Kong, currently lecturing in Germany) who recently published many articles in the Mainland and Hong Kong that reveal his proficiency in modern economics, recently wrote: ‘Marx had extremely deep and Hegelian understanding of exchange, but he emphasized more the critique of the capitalist system. So what he saw was more the alienation of people in the exchange relationship, commodity fetishism, and capital as means of extracting surplus value from the employed labour . . . These insights of Marx . . .’ (Wang, 1995: 91). Although Wang did not explicitly mention his agreement, his description of Marx’s exploitation theory as ‘insights’ and ‘deep understanding’ without any disagreement obviously reflects his agreement and even admiration. If Wang’s admiration of Marx is by implication only, the support for Marx’s theory of exploitation is explicit in
an article across the Strait in Taiwan: ‘The labour employment system under capitalism is based on the exploitation of workers, the seizure of surplus value without compensation’ (Hong and Liang, 1995: 227) (both quotations are translated from Chinese by the authors of this paper).

The difficulty in eradicating Marx’s theory of exploitation is partly due to its apparent credibility. People see that there are capitalist billionaires and very poor workers and hence find Marx’s theory of exploitation very credible. It takes some true understanding of economics and/or good logic to know that:

- the labour theory of value is untenable;
- without the use of force and cheating, the employment of workers by capitalists is mutually beneficial (at least in the long run or in the absence of gross ignorance) and does not involve exploitation;
- the existence of positive interests/profits can be explained by the productivities of capital and entrepreneurship without resorting to exploitation;
- low wages are mainly not a result of capitalist exploitation;
- the existence of inequality or even injustice need not mean the existence of exploitation;
- the existence of exploitation is due to the abuse of power, monopoly, tax evasion, cheating, etc, not to the employment of labour as such;
- Marx’s explanation of a falling rate of profit in terms of increased organic composition of capital at an unchanged ‘rate of exploitation’ is internally inconsistent with his theory on the absolute immiserization of the workers. (For an elaboration of these points, see Ng, 1994: Section IV.)

The existence or even the intensification of income disparities in the process of economic development may not be easy to avoid. The understanding of the above points against the Marxist theory of exploitation will be helpful in generating a more tolerant attitude towards income disparities. Thus, ironically, the power of the communist government in Beijing may be made more secure by the widespread teaching of the above anti-Marxist arguments.

4.2. Does the enrichment of the coastal/urban areas benefit the inland/rural areas?

Apart from dispelling the fallacy of the Marxist theory of exploitation, modern economics also provides many insights inclining people to take a more tolerant view of income disparities. First, there is Adam Smith’s concept of the efficiency of the invisible hand of the market and the division of labour. This concept culminated in modern economics as the first and second theorems of welfare economics on the one hand, and as the further analysis of the role of specialization in generating endogenous growth on the other. (An analysis of the latter type, with implications for trade, economic organization, property rights, etc can be found in Yang and Ng, 1993.) Secondly, economic analysis
shows clearly the gain from trade based both on comparative advantage and on economies of specialization. (The third source of the gain from a difference in preference is of lesser importance in practice.) Adding to these two basic insights of economics is the recent demonstration (Ng, 1996) that the enrichment of a sector (individual/region/country) benefits others as a whole at least in its general thrust. Intuitively, as a sector becomes richer, it becomes a bigger trading partner for the rest, making the latter better off. On top of this, the enriched sector also tends to benefit others through investment (which, however, may be taken as a form of trade in a wider perspective) and the transfer of knowledge\textsuperscript{1}. Are the beneficial effects of enrichment applicable to the case of China?

One can apply the theory of beneficial enrichment to see that the enrichment of China should benefit the rest of the world as a whole economically, at least in its general thrust. However, for the problem of income disparities in China, the more relevant issue is whether the enrichment of some sectors (e.g. the urban, the coastal areas) in China benefits other sectors. For this problem, we cannot, strictly speaking, use the theory of beneficial enrichment of Ng to say that other sectors in China may be expected to benefit. Strictly speaking, his theory only says that other sectors in China plus the rest of the world, as a whole, tend to benefit. The existence of a third relevant party makes the theory not applicable, strictly speaking. However, Ng and Ng (forthcoming) generalize Ng’s analysis to the case of \( n \) sectors, showing that whether a proportionate enrichment of a sector benefits/harms another sector depends on whether the latter exports a different/similar set of goods as the former.

It is obvious that rural China exports quite a different set of goods in comparison to urban China. For coastal versus inland China, the sets of goods exported are also significantly different. Due to the statistical practice of classifying similar (but at least somewhat different) goods into the same category, reported data hide some of the differences. Secondly, the data on the goods exported by different provinces in China only include goods exported externally (i.e. to non-Mainland China destinations; Hong Kong and Taiwan are classified as external for this purpose), not including inter-provincial trades. Presumably, inter-provincial trades captures more differences in the different sets of total exports than trade with overseas. Thus, inland China definitely exports different goods to coastal China than those that coastal China exports to inland China. However, both parts of China may export both similar and different goods to the rest of the world. Nevertheless, despite these two problems, we can still see significant differences in the sets of goods exported in the inland and coastal provinces externally (see Appendix A). We may thus infer that these two regions export quite different sets of goods and hence are likely to benefit rather than suffer from the natural economic enrichment of the other region.
4.3. Equality versus growth

While excessive inequality may be detrimental to growth, some degree of inequality may be essential to growth or is an unavoidable result of policies and systems favourable to growth. Thus, there is a significant equality–growth trade-off, at least in the long run. Educating the public on this may be conducive to the acceptance of certain degrees of inequality. This point has been well recognized. What we wish to emphasize here is that most people still underestimate the implication of compound growth. For example, Ng (1992) shows that people are quite unaware of the implication of compound growth and consistently underestimate the number of multiples a dollar now will become some years later, growing at say 10 percent. After being told of the real multiples, they indicated their willingness to change their behaviour (saving more). (Interested readers may try to estimate themselves, without using a calculator, how many (real) dollars a dollar now will become after 50 years, growing at 10 percent p.a. (real rate), before reading the result in Appendix B.) Thus, a simple method to make people more tolerant of some degree of inequality is to make people more aware of the implication of compound growth. In particular, it may be pointed out that, if a policy of higher growth with higher inequality is chosen over one of lower growth and lower inequality, even the lower income groups will have much higher real incomes in the future and will have an income stream of higher present value, provided the growth rate is sufficiently high. In fact, due to the effect of compounding, the growth rate has only to be slightly higher to achieve a spectacular difference over time. (See Appendix B for same illustrative calculations.)

5. CONCLUDING REMARKS

The dispelling of certain misconceptions discussed above is more effective in reducing the negative effects of income disparities due to the natural functioning of the market economy, but less effective, or even ineffective, with respect to disparities due to the abuse of power. Thus, apart from the propagation of economic analysis, the maintenance of law and order and the function of the mass media to reduce corruption and other abuses of power are even more important in safeguarding stability in the transition of China.

Appendix A. Differences in exports by coastal and inland China

We group provinces into coastal (Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Guangxi and Hainan) and inland (Shanxi, Inner Mongolia, Jilin, Heilongjian, Anhui, Jiangxi, Henan, Hebei, Hunan, Sichuan, Guizhou, Yunan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang) regions. The export commodity categories and sub-
Income disparities in the transition of China categories are as classified by the China Statistical Yearbook (Group 1: food, drink and medical goods; Group 2: energy, materials and electronic equipment; Group 3: arts, crafts and agricultural productive materials; Group 4: household goods, clothing and others.)

We then examine the differences between the export categories of the two regions for 1994 and 1995. The result: for the year 1994, all the results are statistically significant (99 percent level of confidence) showing differences in export categories for the coastal and inland regions as shown in Table A1 (we have used an alternative method to measure the differences and also to obtain the result of significant differences).

Table A2 shows the result for the year 1995. Except in the sub-categories 1.7 and 4.5, all results are statistically significant, showing differences in commodity exports in the two regions.

Appendix B. Equality versus growth: some illustrative examples

The average life expectancy is now over 75. Thus, a young person in her/his twenties may expect to live another 50 years or so. However, most people are unaware of the effect of compound growth over such a time span. For example,

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</tbody>
</table>
in the survey reported in Ng (1992), respondents on average estimated that a dollar now will grow at 5 percent to become 2.65 (while the correct figure is 7.0) after 40 years and become 3.5 (correct figure: 18.7) after 60 years, and at 10 percent to become 3.4 (correct figure: 45.3) after 40 years and become 4.2 (correct figure: 304.5) after 60 years, and at 20 percent to become 16.0 (correct figure: 1469.8) after 40 years and become 23.0 (correct figure: 56347.5) after 60 years. (The correct answer for a dollar growing at 10 percent after 50 years is $117.4.)

Even from the viewpoint of just the lower income groups (rather than the whole population), a less equal distribution of income, provided that it leads to a moderate increase in the rate of growth, may be more desirable than more equality and less growth, due to the spectacular effect of compound growth.

Let s be the share in total income of the poorest \( x \) percent of people, with a time horizon of \( T \). The present value of the income stream of the poorest \( x \) percent is

\[
PV = \int_0^T e^{-rt} s Y_0 e^{g(t)} dt
\]

where \( e \) is the base of natural log, \( r \) is the discount rate, \( Y_0 \) is the initial total income, and \( g \), the growth rate, is a function of \( s \), with \( g'(s) \) being negative over the relevant range. Integrating (A1), we have

\[
PV = s Y_0 \left\{ e^{(g-r)T} - 1 \right\} \frac{1}{g - r}
\]

For simplicity, we consider only a given value of \( s \) (i.e. fixed for the whole time horizon) rather than varying over time. Also take \( g = a - bs \) over the relevant range, with \( a, b = \) positive constants. For \( a = 0.15, b = 0.2, 0.25, 0.3 \), we may calculate the various figures for the present value at selected values of \( r, T \) and \( s \), as reported in Table B1.

As may be seen in Table B1, the value of \( b \) (the unfavourable effect on growth of higher share to the lower income groups) has to be fairly small (smaller than 0.2) and/or the (real) discount rate fairly high (higher than 8 percent) before a higher share increases the present value of incomes to the lower income groups. Since we have already allowed for a discount rate, a time horizon of 40 and 50 years is not really long. It is true that if we adopt a utility function with significantly diminishing marginal utility of income and calculate the present value of future utilities, the answer will be somewhat different. However, the effect of diminishing marginal utility may be reflected by a somewhat higher discount rate. If the present value of future utilities is used instead, the discount rate should be correspondingly smaller, especially since a time horizon is already allowed for.
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NOTE

1 International economics in general and international trade in particular has been a well-developed branch of modern economics (see Jones and Kenen, 1984 and Wong, 1995 for excellent surveys). However, many contributions that emphasize specific
pervasive results, while analytically elegant, may be counterproductive in its actual policy influence. For example, even the protagonists of strategic trade theory realize its potential negative usage in the real world.

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