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# Effects of China's recent development in the rest of the world
# With special attention to Latin America

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**Abstract**

In one respect, China's economic awakening is bad for those economies that have been technological ahead of China and that China is now catching up to. The special feature of China's advance in recent decades has been its harnessing a high volume of Chinese saving to domestic investment projects involving technology transfer through cooperative arrangements with overseas corporations in the West, especially the US. The openness of export markets to China has served to amplify the resulting investment opportunities. The result has been a phenomenal increase of productivity and of the supply of exports. The negative effect for the US and other advanced economies in the West stems from the resulting import substitution by China, thus a decline in overseas demand for US exports, hence a deterioration in the US terms of trade and resulting decline in the real factor rewards that US producers can afford to pay to domestic inputs, including labour, particularly low-skill manufacturing labor. Of course, there are in other respects some important gains for the West from China's commercial success and economic development.


*Keywords:* China; Technology transfer; US terms of trade; US real wages

As economic discussion was dominated in the 1980s by the stagnation in both east and west Europe and in the 1990s by investment booms brought by the information/communications revolution, so this decade is pondering the effects that the

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awakening that the now rather large Chinese economy is having on the economies of the rest of the world. I would agree that some, if not all, of the direct impacts are almost visible, such as the impacts on each country's exports to China and its imports from China; China is clearly the source of the changes; these clear impacts do not require much commentary, if any. However, the direct impacts have in turn further effects on the rest of the world – on relative prices, the gains from trade, and so forth; it requires some interpretation using economics (of one kind or another) to specify and assess these ultimate effects – since several forces (not just China) are impacting on the rest of the world. Identifying and understanding the key effects requires some commentary, some analysis.

I will argue here that some effects of China's development are good and some are bad. In particular, I will argue that China's awakening is – at least in one very important way – bad for those economies that have been *technologically ahead* of China and that China is now catching up to; this awakening may also be bad for those economies that had advanced part-way toward catching up with the technological leaders and are now being technologically surpassed by China.

The Chinese awakening the effects of which I will be discussing has been brought about by two phenomena in China: one is the emergence of an entrepreneurial mechanism that harnesses a high volume of Chinese saving to domestic investment projects relying on Western technology transfer made possible through cooperative arrangements with overseas corporations. This mechanism has proved to be a powerful engine of growth for China. The other is the expansion of China's foreign trade, which widened investment opportunities. These phenomena have made possible China's export drive (exports are now nearly 40% of GDP) and its technical progress in the production of manufactures; these forces have generated both a steady migration of labor to city factories where wages are much better and a steady rise of factory wage rates, so that, after 20 years, the economic welfare of the Chinese is vastly increased. These same two phenomena, technology transfer and external trade, are also behind large effects being felt in the rest of the world.

One direct impact overseas of this Chinese development is the impact on economic policy thinking. The conventional view that underdevelopment is deeply entrenched, so nations cannot easily extricate themselves from it, is now seen as challenged – if not untenable – by the example of China's rapid 20-year advance. Moreover, the advance was made *without* mass private privatization of existing enterprises and *with* a banking system under considerable state control—not exactly the "neo-liberal" formula for development. Of course, fast growth of productivity and wages is not the whole substance of economic development: true development in a country means that the people are exercising their abilities in problem solving, exploring their talents, having achievements and experiencing personal growth. Urbanization and industrialization (through a Harriss–Todaro migration from rural areas) and even technology transfer are not enough to produce engaging jobs and foster processes of innovation and discovery. Furthermore, China's route from underdevelopment cannot be imitated by LDCs that are already extensively urban and industrialized.

I want to start by considering an effect of this Chinese development on the economies of the world having *advanced* technologies—the economies that are making the technological transfer to China, that China is now imitating and on the way to catching up to (though it may not catch up fully). That subject is not of direct and special interest in Latin American countries but anything of great consequence for the future of the world is almost certainly important to understand in Latin America and elsewhere. Later I will consider the effects on economies that are *behind* the technological leaders. Then I will take up a related effect that falls on economies that have previously moved down the same road the Chinese took or would have done so had the Chinese not gone so successfully down that road.

## 1. Effects on advanced economies of technical catch-up in China

Consider the following parable of a two-country world, one advanced, like the West (North America and Europe), the other now finally advancing on the path taken earlier by the advanced country, like the East (China and some other southeast Asian economies). I will often call the West "our" country and the East "their" country. To keep matters simple, let me suppose that these countries both produce just two goods, consumer good A and consumer good B; they are made with labor alone: no land or capital is used. I suppose that both countries are fundamentally alike in the tastes of their consumers and the diligence of their workers; the *people* are alike.

Suppose further that in some *distant* past the two nations possessed and practiced the same technology – a primitive one – and there was the same quality of labor in both industries; so production of good B had the same relative cost in terms of good A in both countries. Since the two nations have inherently the same tastes, thus the same preferences for present consumption as against future consumption, neither nation wanted to save or dissave by lending to or borrowing from the other; so there was no trade between these two countries—they operated in an autarky, independent of one another. In this autarky, both countries were in a steady state, with unchanged real wage rate and unchanged relative price.

In my parable, at some point in the *more recent* past one of these countries – namely, *our* country, i.e., the West – makes and puts into practice an important technical advance, while the other country remains confined to the old, primitive technology, at least for a time. Further, this technical advance is not completely general: its force is mainly or wholly directed toward reducing the labor requirement of producing *one* of the two goods, so one of the goods, say good B, experiences a reduction in its cost in terms of good A. (For simplicity of exposition, I will suppose that the entire technical advance is directed toward the one good, the good I am labeling B.) If at first no foreign trade were to occur in response and none were expected, a new no-trade steady state would have come into existence in which the product wage of an hour of labor allocated to producing good A (i.e., the economy-wide hourly wage paid in terms of good A) would be unchanged while the product wage of an hour of labor producing good B (i.e., the economy-wide hourly wage paid when expressed in terms of good B) would be increased. So economic welfare of the population in our economy would have increased – the more the greater their initial output of good B. Citizens in our country would have gained from the unique technical advance over the technology that had prevailed in the primordial past.

*With* trade, however, the population of our country enjoyed, according to my parable, an *additional* gain—the gain from trade with the other country, which did not advance. In *each* of the two countries, the size of the gain from trade is a function of the magnitude of the cost reduction in our country—essentially the size of the technical advance in our country (without which trade would have served no purpose and there would have continued to be no trade). Our country's gain from trade was relatively large if our country was relatively small in population, since in that case our exports did not drive down very much the relative price of good B in the world market; so our country got a strong improvement in the terms at which it exchanged good B for good A. (But the other country also gained, since good B was relatively costly there, so trade permitted it to import good B for good A at a lower cost than it could do under autarky.) All this was a great blessing for our country!

Now suppose that the other country (the East) becomes able through technology transfer and trade to put into practice in producing good B the advanced technology that our country (the West) for year had unique possession of. The consequence for economic welfare in our country is striking and transparent: adoption by the other country of the advanced methods of producing B that have long prevailed in our country reduces the relative cost of producing good B – the cost in terms of good A – to the same level as in our country. But foreign trade and the gain from such trade derive from a difference in relative cost – in the setting of my parable, at any rate (where tastes are the same, so no preference-driven lending or specialization). Therefore, trade comes to an end between the two countries. Furthermore, the gain from trade obtained by our country vanishes. Our country still enjoys the elevation of the product wage in producing good B that would have prevailed without trade, as I pointed out earlier. But the *value* of that wage in terms of its purchasing power over good A, which had been boosted by trade with a country where B is relatively scarce and therefore, had a relatively high price in terms of good A, must then decline to the level that would have prevailed under autarky. Therefore, economic welfare in our country is decreased – the West is harmed – by the other country's adoption of the advanced technology in the production of the good (good B) that it was importing.

Obviously this parable stands as a warning that when China in cooperation with businesses in the West institute technologies that transform the Chinese economy's production possibilities into a configuration that is very similar to what exists in

North America and Europe, we have to expect that North America and Europe will lose the gains that derived from the uniqueness of the technologies it is using—and hence lose in terms of economic welfare. This conclusion does deserve at least the four qualifications that have come to my mind: the first is that the West may be able to retain elements of comparative advantage and thus some gains from trade by keeping its technologies generally one step ahead of the East. The second qualification is that many of the advanced economies' comparative advantages will survive because of the locational advantage that they have, being in the midst of a large country with an extensive inland. The third qualification is that the setting of my parable abstracts from the enhanced return to capital that people in the West can earn on their wealth by investing it in the industrialization of the East; but what Westerners earn in extra returns on their wealth will not offset what they lose in the form of lost wages—witness the loss of wages in my parable, which is not compensated at all by increased earnings on wealth. The fourth qualification is that some of the technical advances in China are directed at production of a third good that is neither exported nor imported by the West. It appears possible that the advanced West can gain from such technical advances in China, though not without some disruptions in the form of plant closings and frictional unemployment. (I will come back to this problem a little later.)

A remark on the foregoing model of the effect on the advanced economies of China's awakening. It might be wondered whether the problem caused by China is really the pressure on the West's *exports* coming from China and more generally southeast Asia; the problem might be thought to be the increased supply of new *imports* into the West from southeast Asia. The truth is a mixture of these two. However, a glance at US data shows that US exports in real terms (at constant chain-weighted prices) have indeed *fallen* since 2000, in spite of the strong growth of the GDP in the past 2 years; in fact, exports have fallen to a level only a little higher than the 1997 and 1998 levels. Here is a more precise calculation: from 1997 to the 4th quarter 2003, real GDP rose 27%; real exports rose only 5%, so real exports were about 22% "off the pace." For your information, real imports rose 40% in this span, so they rose 13% ahead of the pace. Thus, the export decline is not only distinctly present; it is actually more impressive than the import rise. It may be true that this export decline (as well as the import rise) is – in part, at any rate – the result of a real exchange rate appreciation in the West vis-à-vis China and southeast Asia; but this real-exchange re-configuration is presumably a result of the technical progress in China and southeast Asia that I have been analyzing. Lastly, I would acknowledge that in an earlier period, 1987–1997, the situation in the US is quite different, with real exports rising more (140%) than real GDP rose (33%)—and more than real imports rose (94%). I suggest that trade liberalization and containerization reducing transport costs were operating in that period to boost foreign trade generally—both exports and imports. The recent period, roughly from 1997, appears to show Chinese and southeast Asian pressure on US production for export as well as US import-competing production.

## 2. Effects on some less advanced economies: Latin America, Indonesia, etc.

Mexico and Indonesia are examples of countries that have been making substantial investments in various manufactures for export. (As advanced technologies spread, one country after another became eligible in the judgment of the global capital market for an investment in manufacturing using the advanced methods. Mexico might be at the Ricardian "extensive margin.") It now finds itself with drastically worsened terms of trade and its fledgling export sector endangered, thanks to the exported manufactures surging out of China. Although Raul Prebisch's warning to Latin American economies against export orientation appeared to have been proven groundless by the success of the miracle economies of east Asia – Taiwan, Korea, and so on – it seems that Mexico, lulled into a false security by such success stories, now suffers the Prebisch curse for its daring.

There is more to the China problem for Latin America than the disequilibrium story of unanticipated disruption and profitless investments, such as Mexico reveals. Mexico's experience can also be read as meaning that, for other less developed economies not yet embarked on an export drive, the door has been slammed shut on the possibility of such a development. This barrier must add to the gloom hanging over much of Latin America these days.

This is too facile, of course. Why should the rest of the world (and Latin America in particular) yield to China rather than the other way around? At one level, the purely formal answer is that parts of the rest of the world had a tenuous comparative advantage in manufacturing when China and east Asia were burdened for a time with institutional arrangement that were not favorable to new ventures and to inward foreign direct investment; the cessation of wars and international tensions have also encouraged development there. With that past behind them, their strong potential comparative advantage has come to the fore. (My wife and I have just come back from an eye-opening stay of 11 days in Vietnam, visiting Hanoi and Saigon: we felt we were seeing the future.) China and much of the rest of east Asia are belatedly annihilating various areas (not all areas but many areas) of comparative advantage possessed by parts of the rest of the world, including parts of several Latin American economies. This theoretical answer does not contradict the neoclassical theory of the gains from trade. That theory explains that countries having a comparative advantage somewhere can gain from trade with the rest of the world. If the latter changes so that a country finds itself with a diminished comparative advantage or none at all, its potential gain from trade will have diminished or vanished as well. The theory remains valid.

The more substantive answer, the deeper answer, to the question, "why China, why not us?" has to dig into Chinese conditions. To be *comparatively* excellent at manufacturing it might suffice for China to be comparatively *awful* at farming. Perhaps part of the story *is* that China has very poor land, much of it non-arable and remote. And their languages do not give them the comparative advantage in services that, by good luck, the Indians have. In fact, however, the Chinese *have* a great talent for manufacturing. Western industrialists investing in China say that workers there exhibit a willingness to learn and to keep their nose to the grindstone (industriousness) that is unusual. They also cite Chinese dexterity, which comes from generations of handicraft work, and a genetic distaste for drinking alcohol. Few nations, if any, have all of these attributes. In my own observation, after a few visits, the Chinese are drawn to a materialist life of earning, not just working, and of seeking wealth, not just social status and belonging—more than the Europeans are and more even than the Americans.

This presentation is all about the *effects* of China's rise, not its causes. But I must comment that the economic advance there is not entirely a mechanical matter of moving labor to the cities and equipping it with up-to-date technology and capital in order to realize its long-suppressed comparative advantage. Any large and developed economy has hundreds or thousands of comparative advantages: the task is to pick them out and to exploit them successfully. China has strenuously widened the availability of university education in the country, sending some students to Singapore and the UK as needed, and it has included business schools in this effort. This effort is necessary for China to choose investments in generally good directions and to be able to provide capable managers for the commercial ventures undertaken. But let me return to the *effects* of China's advance on the rest of the world.

The tentative conclusion I incline to draw from the above discussion is that Latin America has suffered a blow; but it must not be imagined that as a consequence it cannot hope to have further economic development and cannot further develop in part through foreign trade and investment. Every Latin American economy has plenty of comparative advantages, many of them small, of course, but, generally speaking, some of them large and waiting to be discovered and implemented.

## 3. Another negative effect on the rest of the world

Another dimension of the negative impact of China's advance (and that of other Asian nations) on the rest of the world is the effect on the distribution of factor rewards to work, in particular, the reward to relatively low-wage work. In the United States the relatively disadvantaged workers depend disproportionately on factory work; I believe that is typically the case in Latin America too. So, as China draws its endless hordes of workers from the rural region in the west and middle of the country, where they have little productivity, to newly created high-productivity jobs in the southeast, thus driving down the relative price of manufactures in world markets, another effect is to reduce the already low real wage that manufacturers in the West can afford to pay to low-wage workers. In the early and mid-1990s, there was worry in the US that overseas supplies of manufactures were driving down low-end wages; but the evidence of a weakening of prices of manufactures and of imports generally was modest at that time. At the time, I rationalized the weakness of the evidence with the thought that many of the disemployed workers left the labor force or remained unemployed stubbornly looking for something acceptable to them rather than acquiesce in a lower wage; then the investment boom arrived, terminating the debate.

Now, however, there is evidence before our eyes of a wave of plant closings brought by an increased supply of Chinese and southeast Asian manufactures into the US This surge is perhaps the main explanation (others are the Iraq war and the surge of US productivity gains) of why in the 2001–2003 downturn employment did not merely subside to the normal level of 1995–1996 but instead overshot the mark, reaching almost $6\frac{1}{2}\%$ in mid-2003 (before ebbing to a little below 6% since then). In the US there continues to be hope that employment will ultimately recover to the level that was normal in the mid-1990s and that low-end wages, while reduced, will be reduced only a *little more* since the US is no longer very dependent on manufacturing for jobs—it is predominantly a service economy; it may also help the US that it is a large economy, therefore less import-dependent than small economies. (This hope has been shaken lately, though, with the realization that many service jobs, even middle-income service jobs, are now being “outsourced” to India and other countries in Asia.) Low-end workers in Latin America, I am afraid, are more vulnerable.