

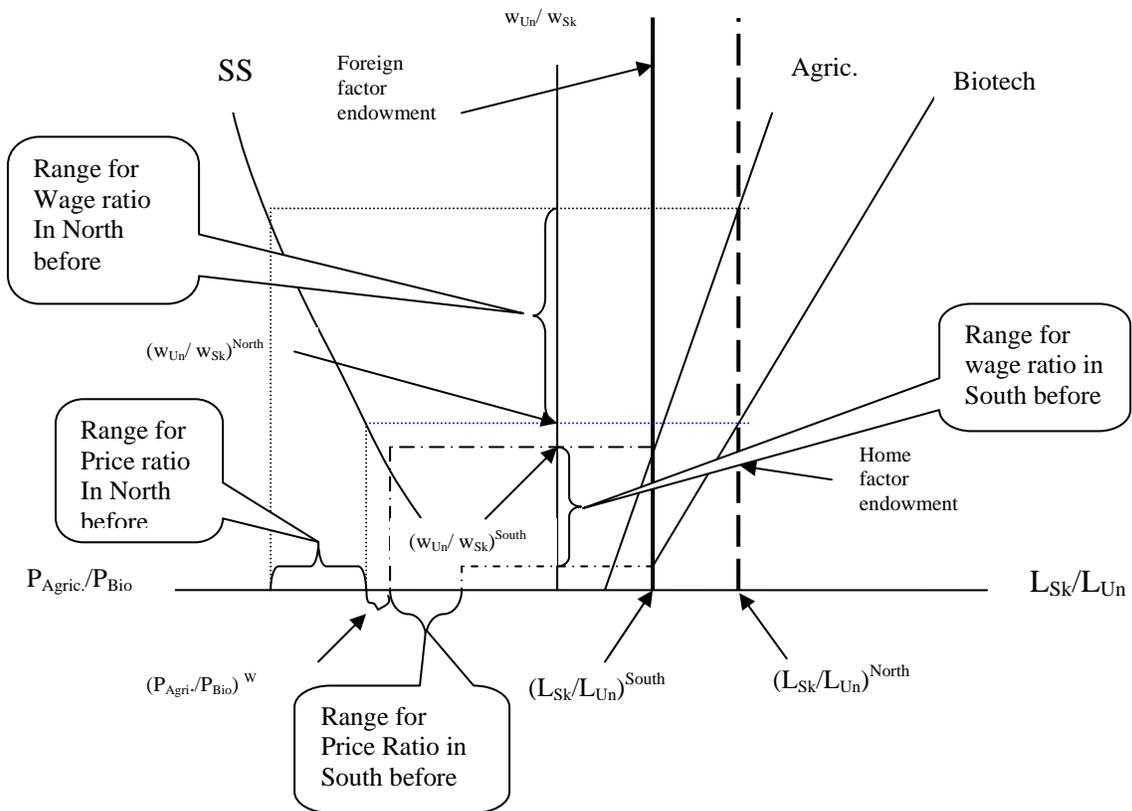
**More on Trade and Income Inequality**

**1. Interpretation in a Heckscher-Ohlin World**

Consider a two country world, with “North” relatively abundant in high skilled labor and “South” relatively abundant in unskilled labor.

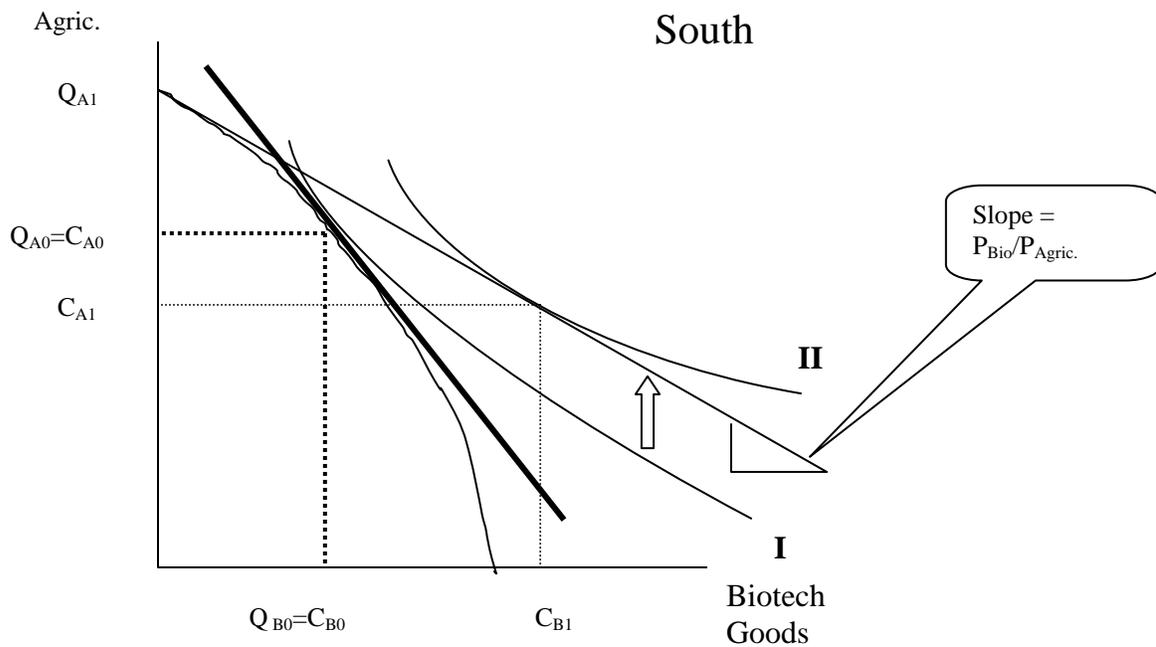
Assume high skilled labor is used intensively in biotechnology, while low skilled labor is used intensively in agriculture.

Assume North and South are initially engaged in free trade. What happens if trade is opened up between the two economies, in terms of production patterns?



In the picture above, endowments are such that there is no factor price equalization, and the relative price of Agricultural goods relative to Biotech goods are in the indicated ranges. The economies are incompletely specialized. After trade is opened up, the price ratio moves to the range indicated as  $(P_{Agric}/P_{Bio.})^W$ . The relative wage ratios move to the extremes of the ranges. North and South now specialize, as indicated by “After”. North produces biotech, South agriculture.

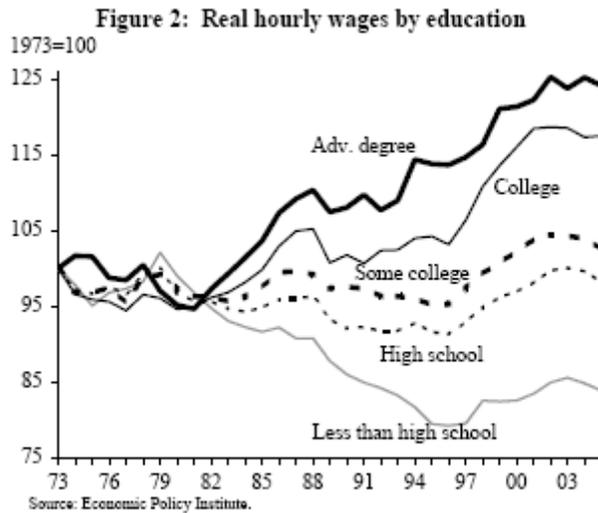
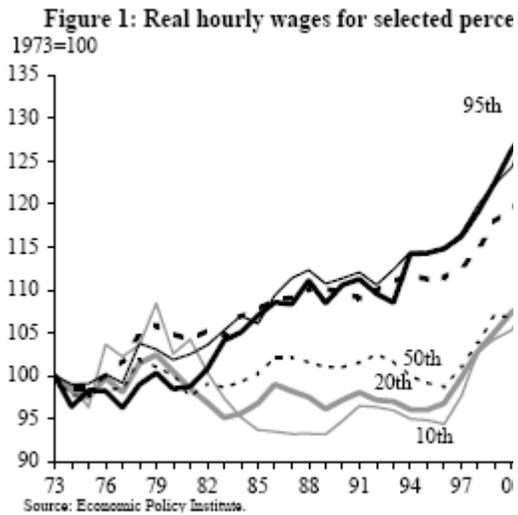
Note that “South” benefits from the opening up. This can be seen by reference to the production possibilities frontier (PPF) for South.



Initially, South is *not* specialized, so  $Q_{A0} = C_{A0}$  and  $Q_{B0} = C_{B0}$ . When trade is closed, then South must produce what it consumes. This means that the Indifference Curve is tangent to the price line which is also tangent to the PPF. When trade opens up, then  $Q_{A1} > 0$ , and  $Q_{B1} = 0$ ; the relative price is given by  $P_{Bio}/P_{Agric.}$ , and the utility level is associated with Indifference Curve II. Notice further that the relative price line is now flatter, indicating that it takes fewer units of Agriculture to purchase a single unit of Biotech, i.e., Biotech is now less expensive. Finally, note that consumption is on Indifference Curve II, which is higher than Indifference Curve I, indicating that there is a increase in welfare for South.

## 2. Empirics

### 2.1. The United States: HO and other interpretation



Janet Yellen, “Economic Inequality in the United States,” FRBSF Economic Letter 2006-33-34; December 1, 2006. <http://www.frbsf.org/publications/economics/letter/2006/el2006-33-34.html>

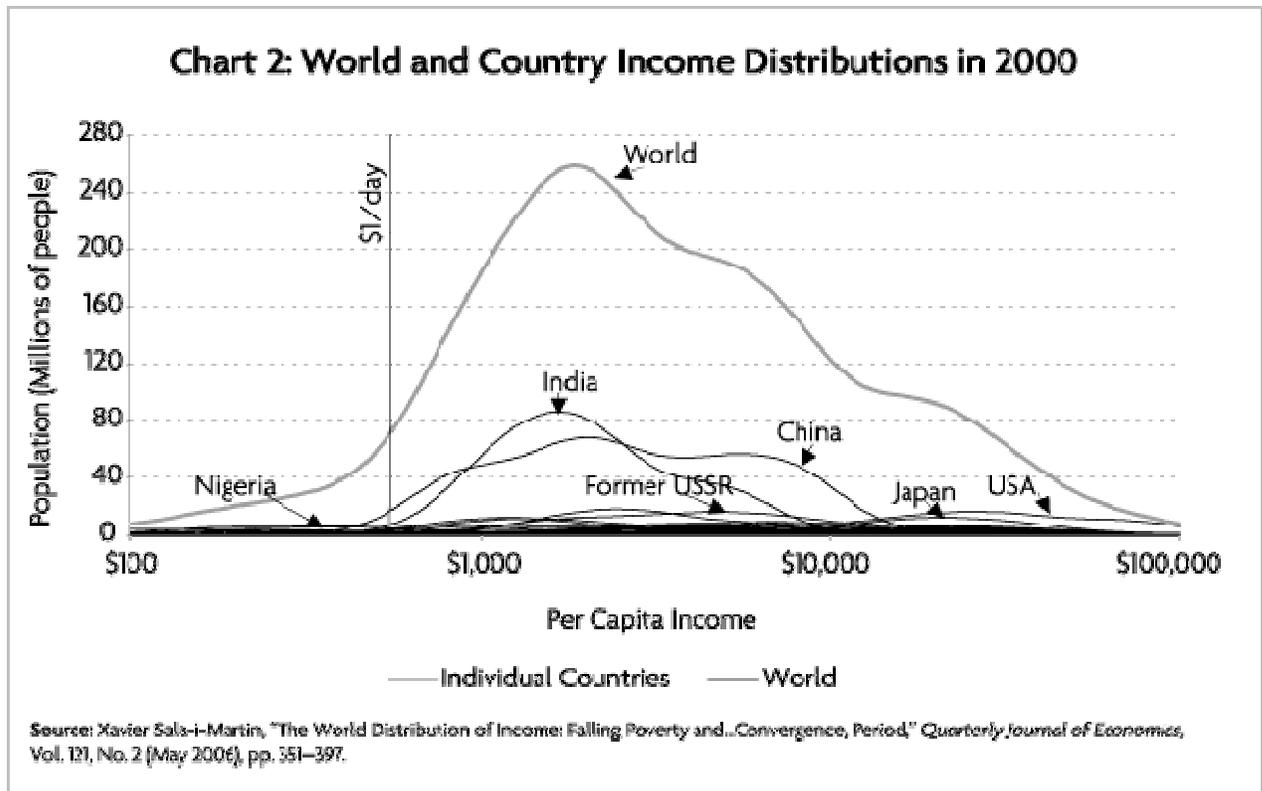
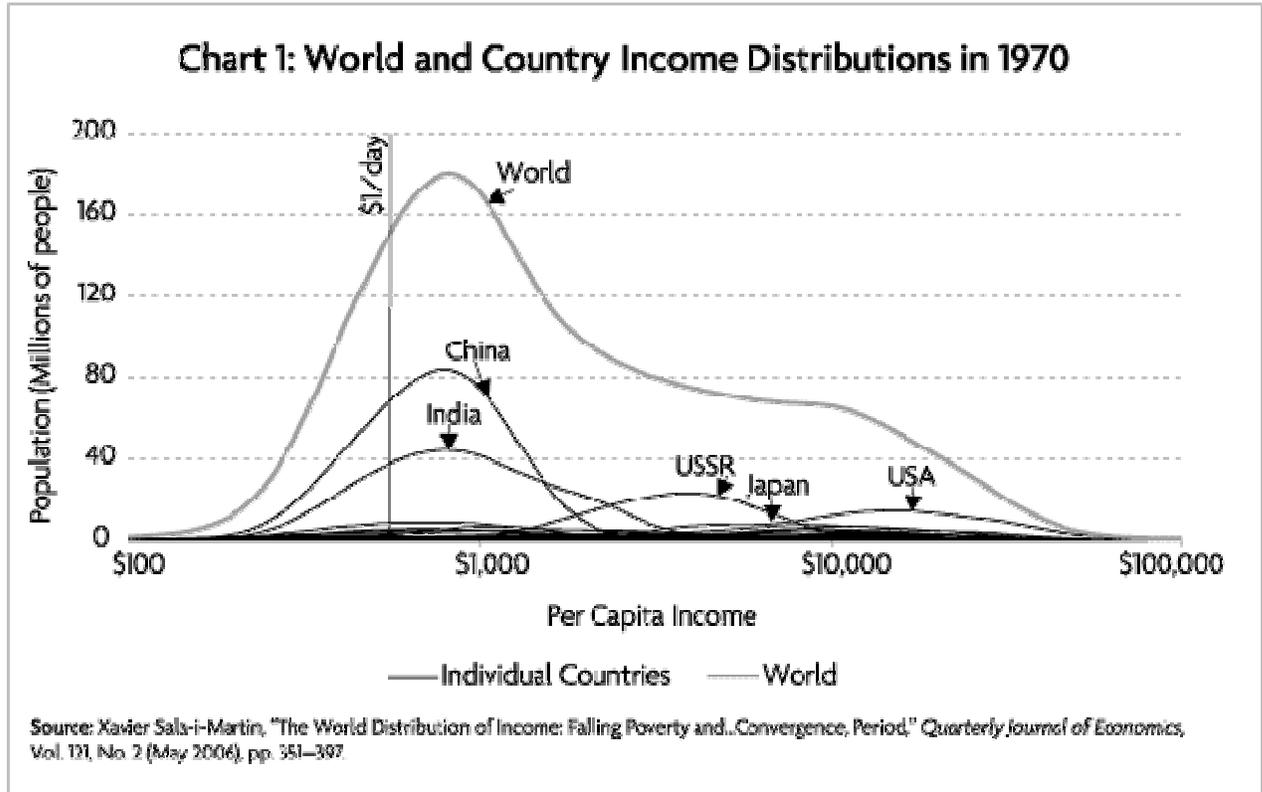
Table 4  
Post-displacement outcomes, 1979-99  
by industry level of import-competition

	High Import Competition Mfg.	Medium Import Competition Mfg.	Low Import Competition Mfg.
Share reemployed at survey date	.634	.654	.668
For reemployed: Mean change in log earnings:	-.132 (.475)	-.126 (.469)	-.086 (.475)
Median change	-.047	-.062	-0.027
Share with no earnings loss or earning more	.36	.34	.38
Share with earnings losses greater than 15%	.35	.36	.34
Share with earnings losses greater than 30%	.25	.25	.26

Taken from Kletzer (2001), table 3.3

Lori Kletzer, 2003, “Trade related job loss and wage insurance,” mimeo.

## 2.2 The World



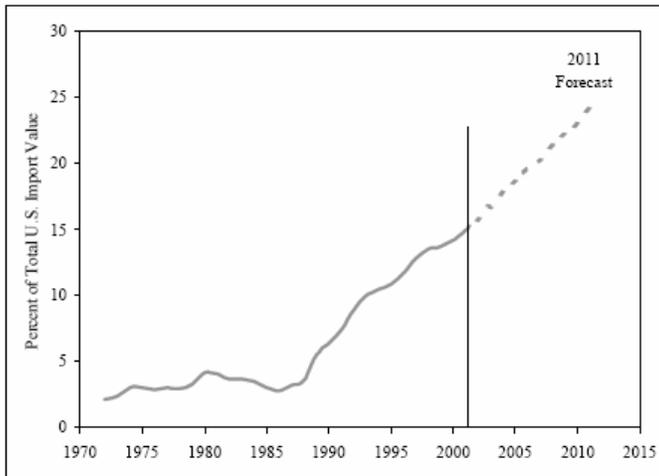
### 3. Prospects

- ***Import penetration from low-wage countries is accelerating:*** The share of U.S. manufacturing imports originating in China and other very low-wage countries increased between 1981 and 2001, from 4% to 15%. Our forecast, based on current product-market entry by low-wage countries, indicates that increases in this share will accelerate, to 24%, by 2011.
- ***The industries most at risk are low-skill, low-wage and employ relatively few workers:*** Imports from low-wage countries have been, and will continue to be, concentrated in low-wage, low-skill, labor-intensive sectors like Apparel and Footwear. It is important to note that these sectors employ relatively few workers compared to industries where the U.S. retains comparative advantage.
- ***The industries least at risk are high-skill, high-wage:*** Industries consistent with U.S. comparative advantage – i.e. industries that are skill-intensive and pay above average wages – will continue to outperform. Even within industries that face high levels of low-wage competition, some firms will survive and thrive by adjusting their mix of products.
- ***Reallocation, reallocation, reallocation:*** Industries with relatively little competition from low-wage countries saw employment *increase* an average of 2.3% per decade over

the past thirty years. By contrast, industries facing the highest levels of low-wage country competition experienced employment declines averaging 12% per decade. The net result of these trends is a reallocation of U.S. manufacturing towards U.S. comparative advantage. Competition from low-wage countries has fostered the growth of high-wage, high-skill and high-productivity industries and has hastened the decline of uncompetitive sectors.

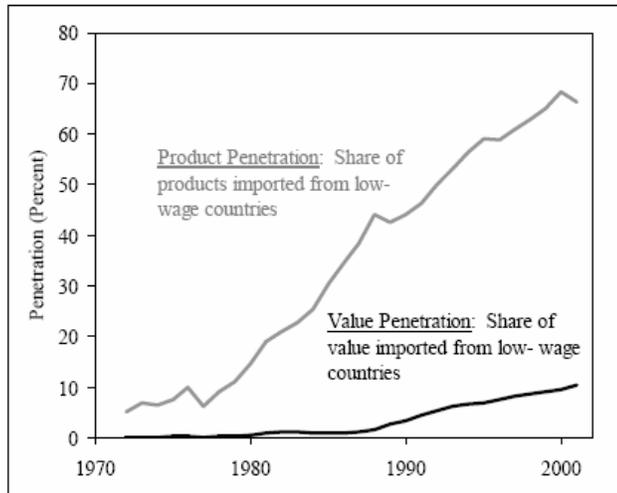
From Bernard et al. (2004).

**Figure 1: U.S. Manufacturing Imports from Low-Wage Countries**



Notes: Figure displays actual and forecast share of the value of U.S. imports originating in low-wage countries from 1972 to 2011. Countries are classified as low wage if their per capita GDP is less than 5% of U.S. per capita GDP on average between 1972 and 2001.

**Figure 3: Low-Wage Countries First Establish a Beachhead and Later Gain Market Share**



Notes: Product penetration is the number of products imported from at least one low wage country divided by the total number of products imported each year. Value penetration is the total value of low-wage country imports divided by the total value of imports.