

The arithmetic of factor demands.

	Computer L/K	Shoes L/K	Output ratio Computer:shoes	Aggregate K/L
Autarky	1/1	50/1	50:50	$1*.5 + 50*.5$ = 25.5 / 1
Free trade (if sector L/K were fixed)	1/1	50/1	90:10	$(1*.9 + 50*.1)$ = 5.9 / 1
Free trade But now increase use of labor within each sector by 10%	1.1/1	55/1	90:10	$1.1 * .9 + 55*.1$ = 6.5/1

Shoes are labor intensive and computers are capital intensive.

First row: Suppose that in autarky, the economy has a 50:50 mix of the two goods, then the aggregate L/K ratio is about 25.5 / 1.

Second row: Now, the US trades with Mexico, and shifts production so that 90% of output is computers and 10% is shoes. Suppose that both sectors fix their ratio of L/K, but weight the two sectors 90:10 instead of the autarky 50:50. The result is a dramatic fall in the use of L/K, down to 5.9 to 1.

Third row: that drop in the aggregate demand for labor will push wages down and cause firms to hire more labor within each sector. Suppose labor usage rises by 10% in both places, but stick with the 90:10 computer:shoe output ratio. The aggregate use of labor rises to 6.5

But note: even though both sectors are using more labor than in autarky, in the aggregate the economy uses a lower L/K ratio because of the large compositional shift toward computers.