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Local Import Competition in a Lumpy Country

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Motivation

- Effects of trade on labor
  - Consistent theme in the writings of Richard Brecher
    - Brecher 1974. "Minimum Wage Rates and the Pure Theory of International Trade," *QJE*
    - Brecher et al. 2002. "Unemployment and Growth in the Long Run: An Efficiency Wage Model with Optimal Savings," *IER*
    - Brecher & Chen. 2010. "Unemployment of Skilled and Unskilled Labor in an Open Economy: International Trade, Migration, and Outsourcing," *RIE*

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Motivation

- Effects of trade on labor
  - Recent empirical work finds effects are large and long-lasting
    - Autor et al. 2013. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States," *AER*

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Motivation

- I will look at effects of
  - Increased import-competition
  - In a "lumpy country" where
    - Labor cannot move between locations
    - Capital can move freely
  - And, later, a nontraded good also cannot move between locations

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Motivation

- Capital mobility implies that it may be owned outside the local region, much as in Brecher's work on foreign-owned factors.
  - Brecher & Bhagwati. 1981. "Foreign Ownership and the Theory of Trade and Welfare, *JPE*
- I will assume that all capital is owned outside the local region.

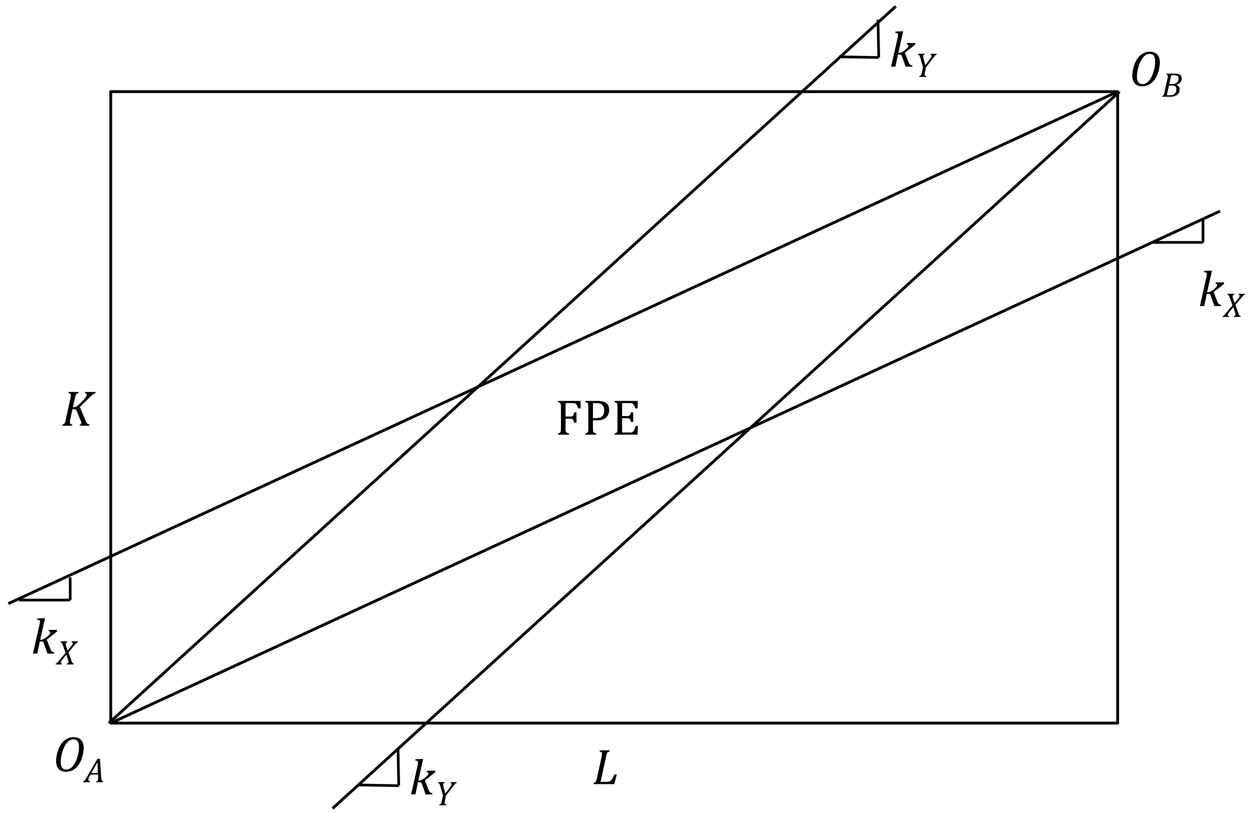
Plan

- Specialization and import competition in a 2-region, 2-factor, 2-good economy
- Focus on a single specialized region
  - Producing
    - 1 traded good
    - 1 non-traded good
  - Effects on
    - Prices of goods and factors
    - Overall production and consumption

Lumpy Country

- Assumptions
  - 2 factors: K and L
  - 2 goods:
    - L-intensive X
    - K-intensive Y
    - Both goods are traded freely at given prices p_X and p_Y on world markets
    - These imply factor ratios k_X and k_Y if both goods are produced
  - 2 regions of a single country: A and B
    - Region A is very small (smaller than shown)

Figure 1: Factor allocations in a lumpy country



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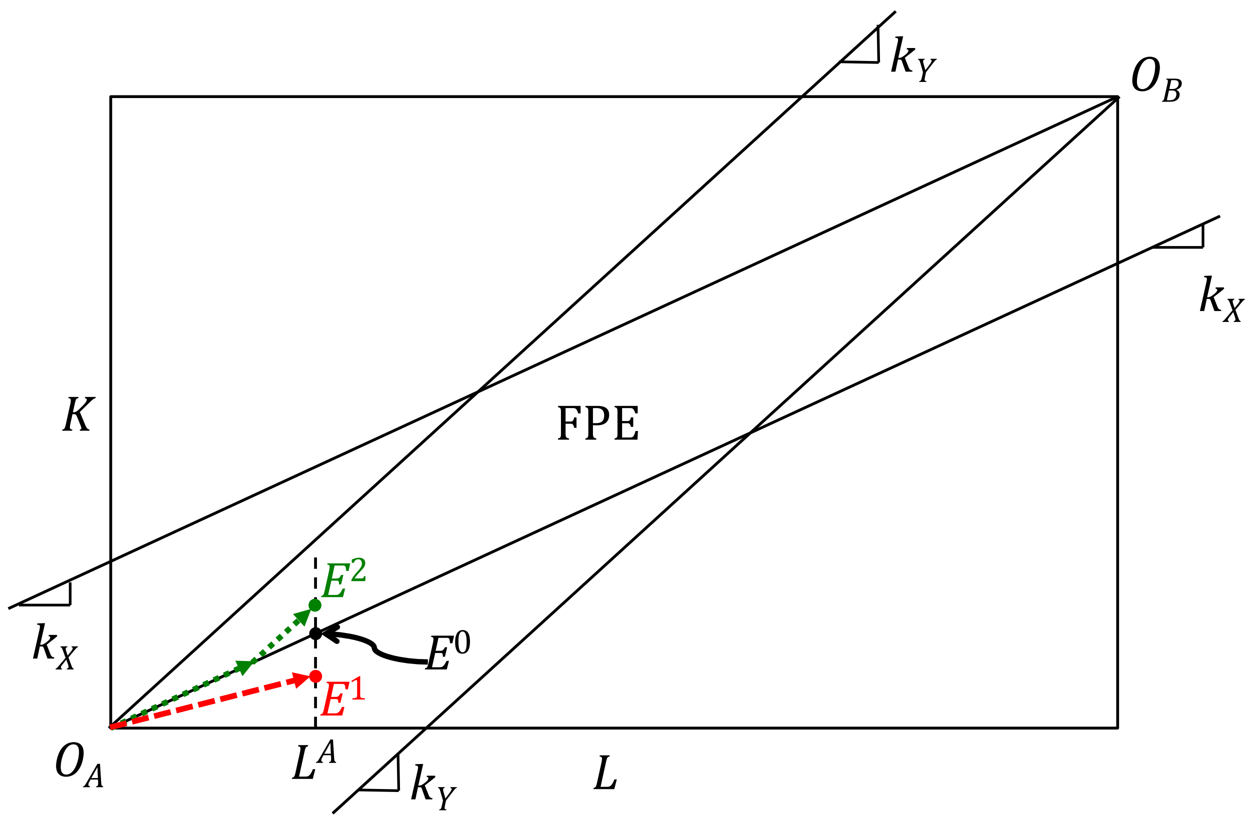

Lumpy Country

- Implications
  - If region A has labor endowment L^A.
    - And capital at E^2, it will produce both goods and share factor prices with region B
    - And capital at E^1, it will produce only X and have
      - Lower wage
      - Higher rental

        than region B
  - If capital is mobile, it would
    - Stay at E^2,
    - But move from E^1, to E^0
  - I'll assume it starts at E^0, producing only X

Increased Import Competition

- Fall in p_X
  - Causes
    - Fall in w/r if FPE
    - Fall in both k_X and k_Y
  - This rotates the FPE cone clockwise
- Region A, initially specialized in X, is now in the interior of the FPE set

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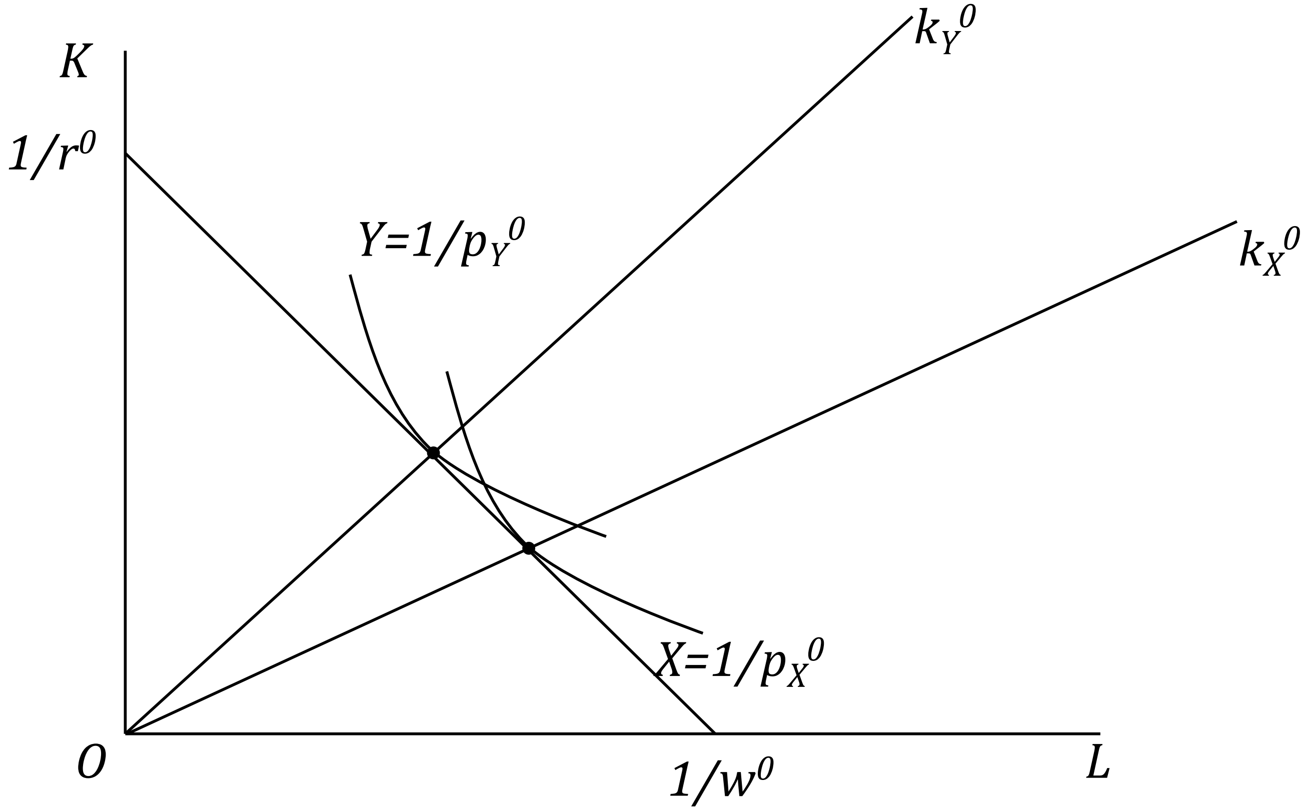
Figure 2: Fall in Price of Good *X* in Lerner Diagram



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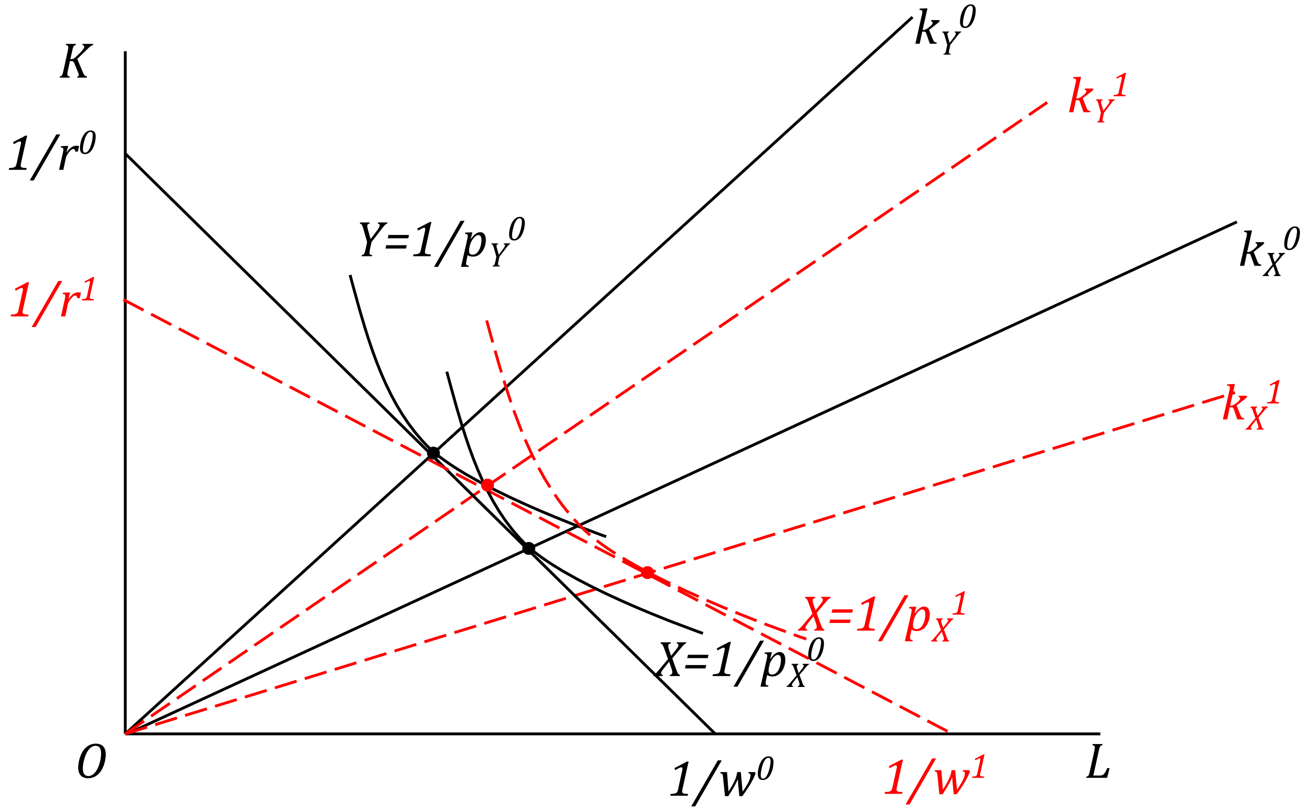

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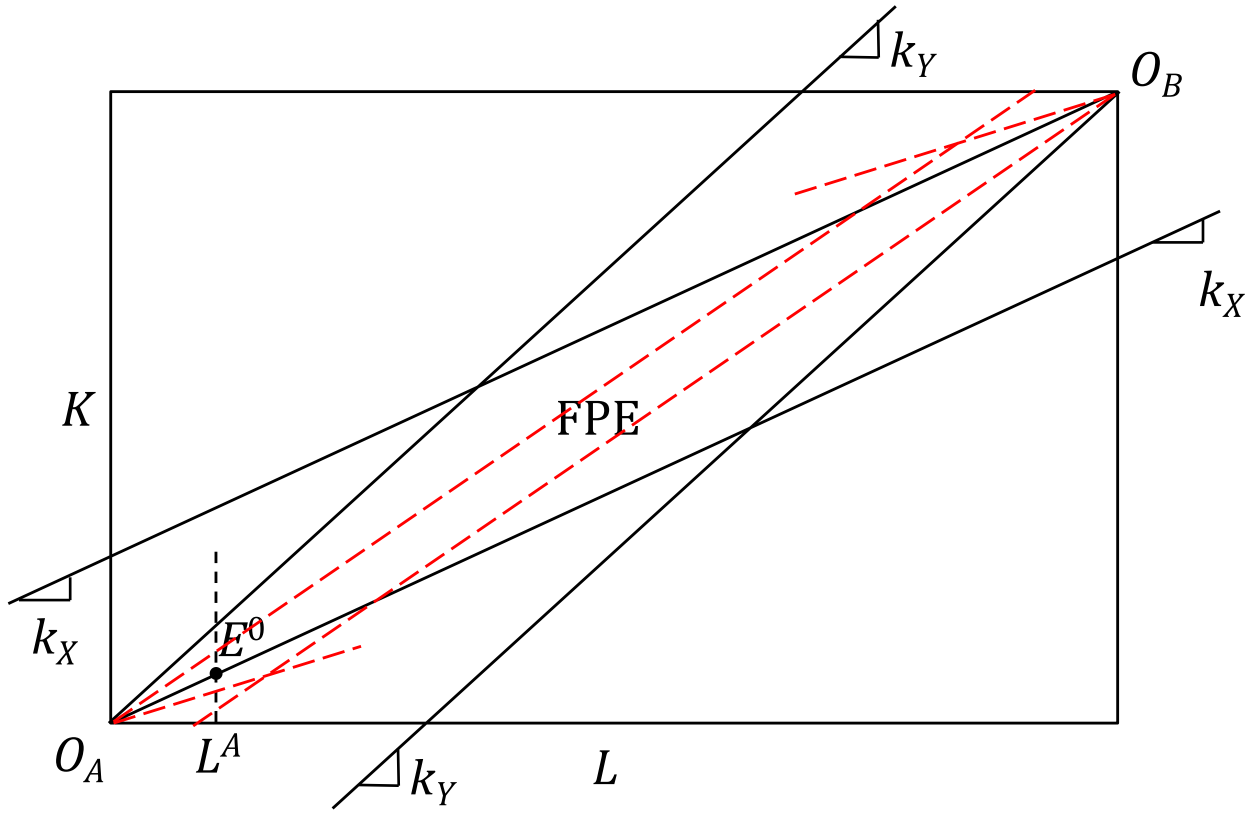
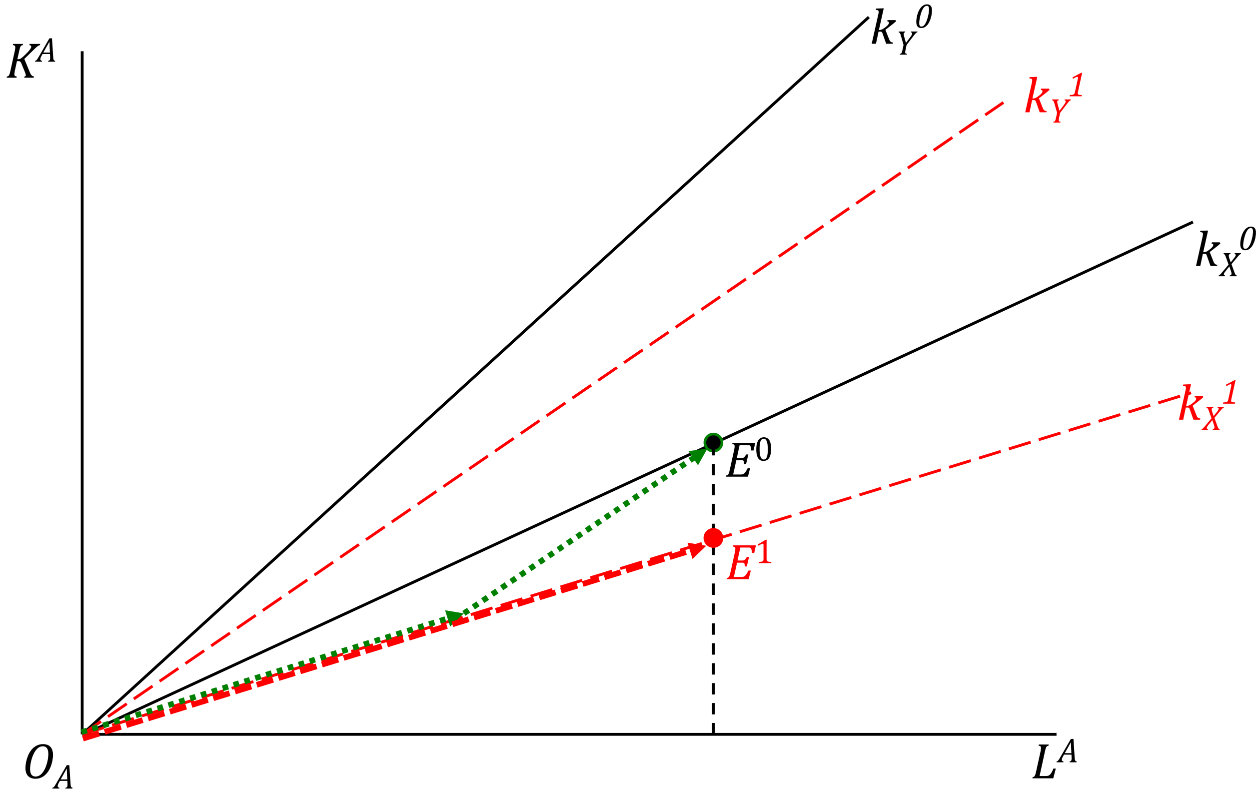


Figure 3: Effects of a Fall in Price of Good X on Region A



Increased Import Competition

- With mobile capital, result is indeterminate.
- Possibilities:
  - Capital stays in A, but reallocates from X to Y
  - Capital leaves A, until all can be employed in X
- I will assume the second, that capital exits region A
  - Small adjustment costs would seem to justify this.

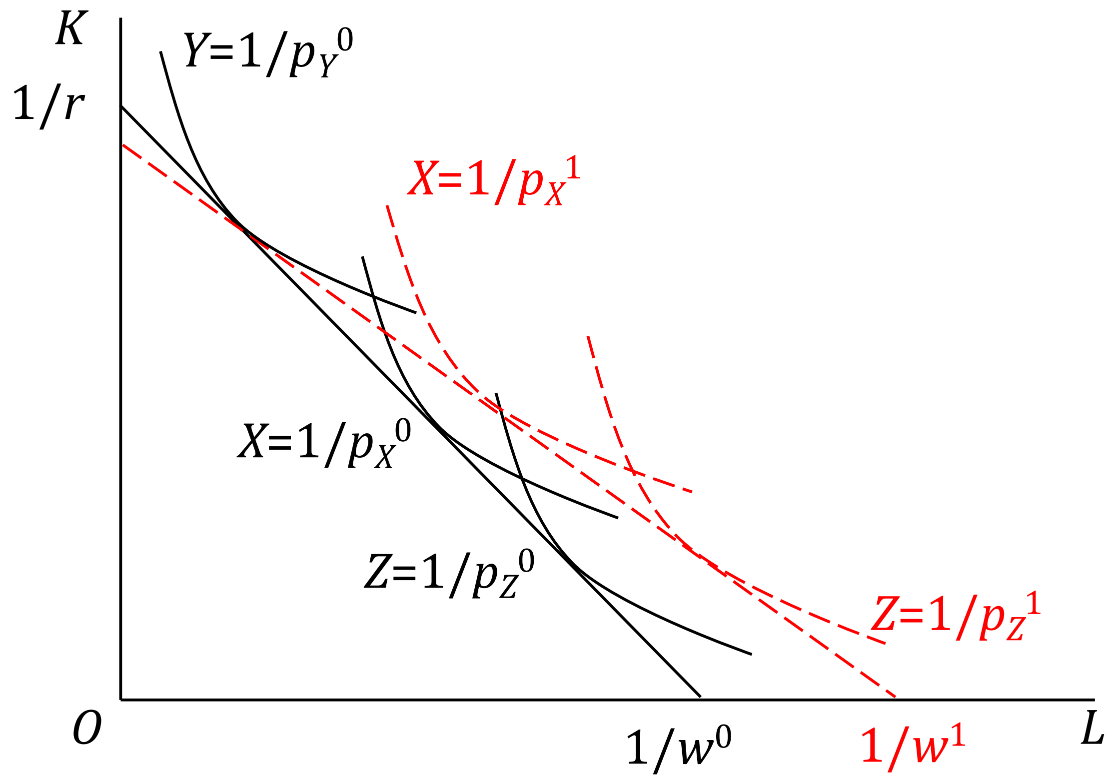
Increased Import Competition

- Implications of the lumpy-country model for the effects of increased import competition on a locality specialized in the import-competing good:
  - Wage falls in real terms (same as Stolper-Samuelson)
  - Capital exits the location to capture increased real return elsewhere

Adding a Non-traded Good

- Suppose now that we have 3 goods
  - Traded good X, produced in region A
  - Traded good Y, not produced ever in region A
  - Non-traded good Z
    - May be L-intensive or K-intensive compared to X, Y
- Region A
  - Takes as given:
    - $p_X^0 > p_X^1$ due to trade
    - $p_Y^0 = p_Y^1$ due to trade
    - $r^0 < r^1$ due to capital mobility and the fall in p_X
  - Need to determine: p_Z

Figure 4: Effects on Wage and Price of Nontraded



Effects of Fall in p_X

- Wage falls, more than p_X
- Price of non-traded good, p_Z
  - Rises if Z is more K-int than Y
  - Falls less than p_X if Z is
    - Less K-int than Y
    - More K-int than X
  - Falls more than p_X if Z is less K-int than X
  - Rises relative to w regardless
- Thus real wage falls

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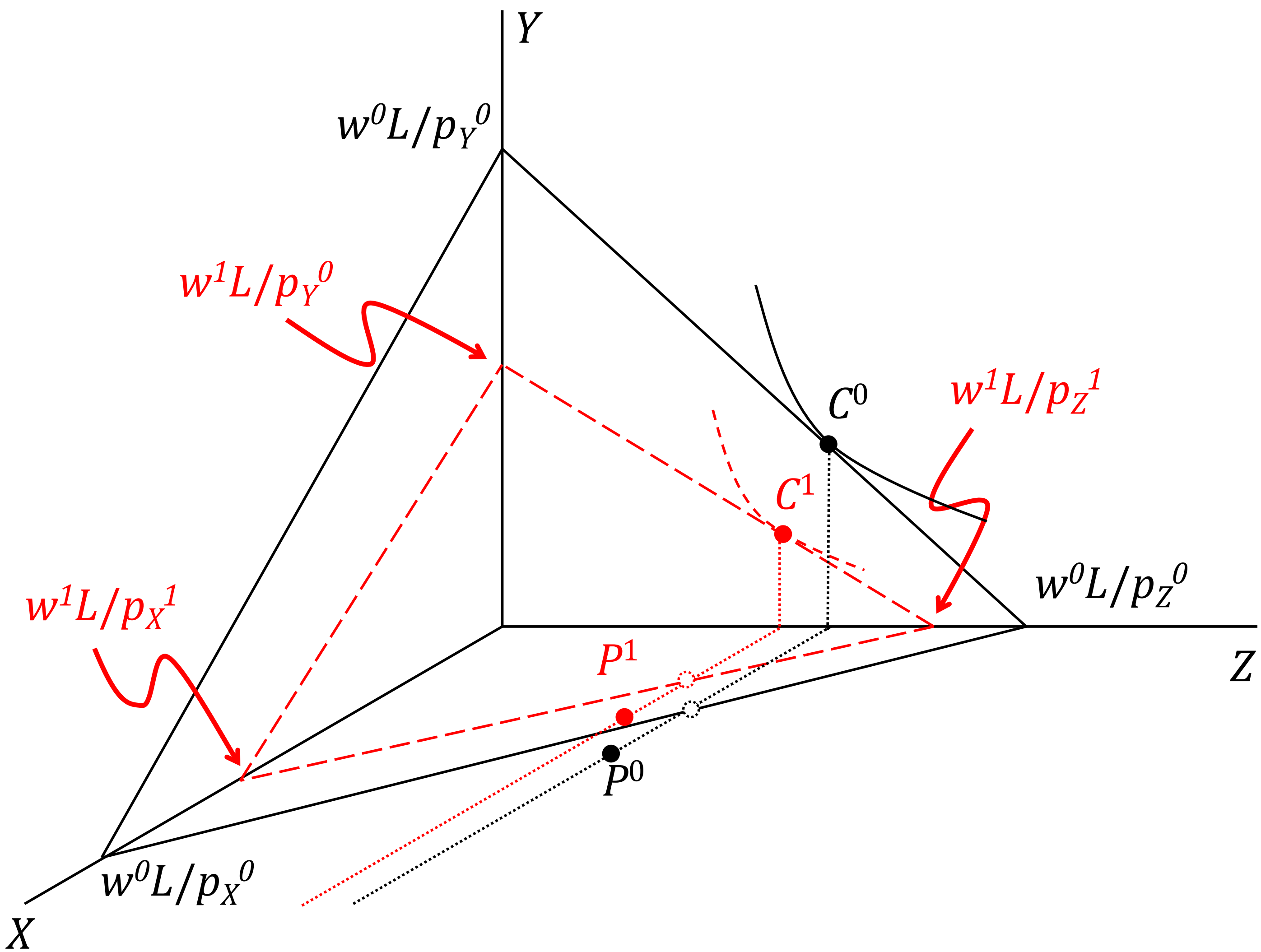
Consumption

- Figure 4 shows consumption possibilities before and after the fall in p_X
- These are not anchored by production possibilities because of capital mobility and absent ownership
- Assuming X is not consumed locally,
  - Preferences appear in Y-Z space
  - Production appears in X-Z space
- Fall in p_X reduces the size of the region's economy in all dimensions.

Figure 4: Regional Consumption Possibilities and Choices



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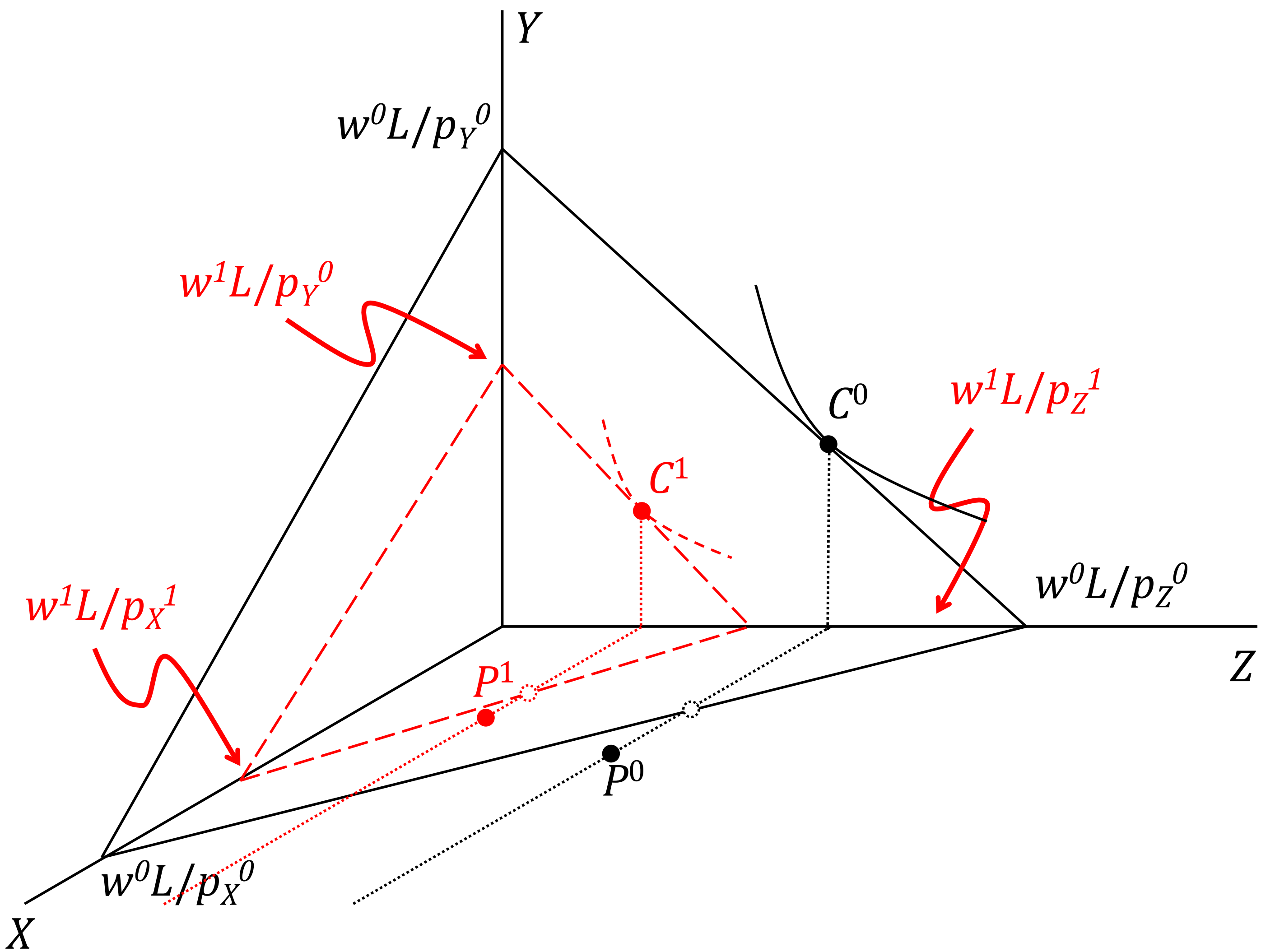

Conclusion

- This version of a lumpy country model suggests that an increase in competition from imports (and thus a fall in their price) for a locality that specializes completely in import-competing production will
  - Lower the real wage
  - Cause capital to flow out to other regions
  - Shrink the size of the local economy, probably including non-traded goods and services.