How Do You Know a Labor Shortage When You See One?

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What Is a Labor Shortage?
* No universal definition
* Economists generally view a shortage as a situation where D>S at prevailing wage for a sustained period
  * This implies “excess” vacancies, but how many?
  * How long must the disequilibrium go on before considered a shortage?
  * Should time to fill vacancies be a criterion?
  * When is a market tight v. having a shortage?
* “Social demand shortage”: less than we would like to have, but market clears; not a shortage in economic sense
* Social demand shortages are important for assessing social policy, but the solutions may be different from policies to deal with an economic shortage
* Social demand shortages are relevant for immigration policy
* Blank-Stigler define shortage as when supply increases less rapidly than number demanded
* Arrow-Capron define dynamic shortage as when steady upward shift in demand curve resulting in unfilled vacancies
* The Blank-Stigler and Arrow-Capron definitions are too narrow—increasing demand is only one explanation why market does not clear
* Important point is that “shortage” means different things to different people

Why Might Labor Shortages Arise?
* Increase in demand for labor, perhaps arising from changing technology, with inability for supply to increase sufficiently or quickly enough
* Decrease in supply of labor to the occupation, perhaps due to retirement or movement to a similar occupation that pays better
* Restrictions in prices, where payments are made by third parties such as government or an insurance company, or where long-term contracts prohibit wage increases
* Time lags that cause adjustments to take place too slowly to alleviate the shortage
* Reason for shortage should be taken into account in developing policies
  * If there is a shortage of home care workers due to low prices paid to home care agencies, does it make sense to solve the problem through immigration?
Dimensions of a Shortage
* **Geographic scope:** Can be local, regional, national, or international
* **Longevity:** Look at how long the shortage has existed and how long you might expect it to last
* **Severity:** How many vacancies are there? How much work is not being done?
* **Sub-specialty shortage:** Is it an entire occupation or just certain specialties? (aerospace engineer v. systems engineer)

Why Might Markets Adjust too Slowly?
* Slow reaction time by employers
* Slow response time by employers
* Slow reaction time by potential entrants
* Slow response time by potential entrants
* Restrictions on occupational entry by government or unions
* Restrictions on wage increases
* Long training/education periods
* Limited capacity to train entrants
* Continuous increases in demand

Adjustments to Shortages by Employers
* Increase recruiting efforts
  * increase advertising in usual outlets
  * advertise in other media
  * expand the recruiting area
  * use public or private employment agencies
  * pay bonuses to employees who bring in workers
* Increase use of overtime
* Reduce minimum qualifications for the job
* Restructure work to use less of “shortage” occupations
* Substitute machinery and equipment for labor
* Train workers for the jobs
* Improve working conditions
* Offer bonuses to new workers
* Offer stock options to workers
* Improve pay and fringe benefits
* Contract out work
* Turn down work
* If you do not see these, can there really be a shortage?
How Do You Know a Shortage When You See One?

* Look for an increase in the number and duration of vacancies--if you can find the data
* Ask employers, but also ask workers
* Look for evidence of the adjustments described above--if missing, ask employers why
* Look at changes in wages, especially relative wages
* For government actions on immigration, rules are needed

Combine Indicators into an Index?

* Malcolm Cohen proposed an index using 7 measures:
  * Employment change in the recent past
  * Occupational unemployment rate in the recent past
  * Wage change in the recent past
  * Training required for the occupation
  * Replacement demand
  * Projected increase in occupational demand
  * Immigrants certified in the recent past

Use an Index Plus Judgment? The UK MAC System

* Employer-Based Indicators
  * Skill shortage vacancies as a percentage of employment by occupation
  * Skill shortage vacancies as a percentage of all vacancies
  * Skill shortage vacancies as a percentage of hard to fill vacancies
* Price-Based Indicators
  * Percentage change in median hourly pay for all employees
  * Percentage change in mean hourly pay for all employees
  * Relative premium to an occupation, given [skill level], controlling for region and age
* Volume-Based Indicators
  * Percentage change in unemployed by sought occupation
  * Percentage change in hours worked for full-time employees
  * Percentage change in employment
  * Absolute change in proportion of workers in occupation less than one year
* Indicators of Imbalance Based on Administrative Data
  * Absolute change in median vacancy duration
  * Stock of vacancies/claimant count by sought occupation.
Alternatives to Indicators
* The approach should depend on the goal
* Indicators or the UK system are useful for dealing with shortages
* Auctions will result in admission of migrants of most value to employers
* Quotas based on skills or education are useful if goal is to increase human capital of the country
* How to decide? Determine the objectives first, and that should point to the best approach