

# SKILLS DEMANDS, SHORTAGES (?), AND PUBLIC POLICY FOR THE MANUFACTURING WORKFORCE

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Production in the  
INNOVATION ECONOMY

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# THREE QUESTIONS

- What skills do manufacturing firms need?
- Are there shortages?
- What are appropriate and useful policies?



# WHAT WE DID

- Interviewed firms throughout the country
- Surveyed a large nationally representative sample of manufacturing establishments. Extensive questions on skills, hiring, competitive strategy, and human resource practices.

We think the survey is unique in its coverage  
Questions on skill were very concrete and specific

- Visited community colleges, high schools and labor market

# THE BOTTOM LINE

Skill demands have risen modestly and at a pace that make most jobs accessible to most people.

Three quarters of establishments are able to find the workforce they need but a significant minority is having difficulty. The retirement wave could exacerbate this.

Effective policies and institutions exist to address this problem but they are scattered and not well supported.

# KEY FINDINGS ABOUT SKILLS

- Between 60% and 75% require basic reading, or writing, or arithmetic but only half require all three
- 63% require computers at least several times a week
- Demand for at least one level of advanced hard skills ranges from 23% for writing, 38% math, to 42% computer, and 53% reading
- Demand for interpersonal skills is widespread.
- An illustrative bundle: at least one advanced math skill, able to read more than a simple instruction manual, use a computer at least once a week: 21% of establishments demand this bundle

# SHORTAGES

There has been a great deal of concern about shortages and mismatch.

But consider:

- Millions of former manufacturing employees are still unemployed
- Wages have not risen as one would expect if there was a shortage



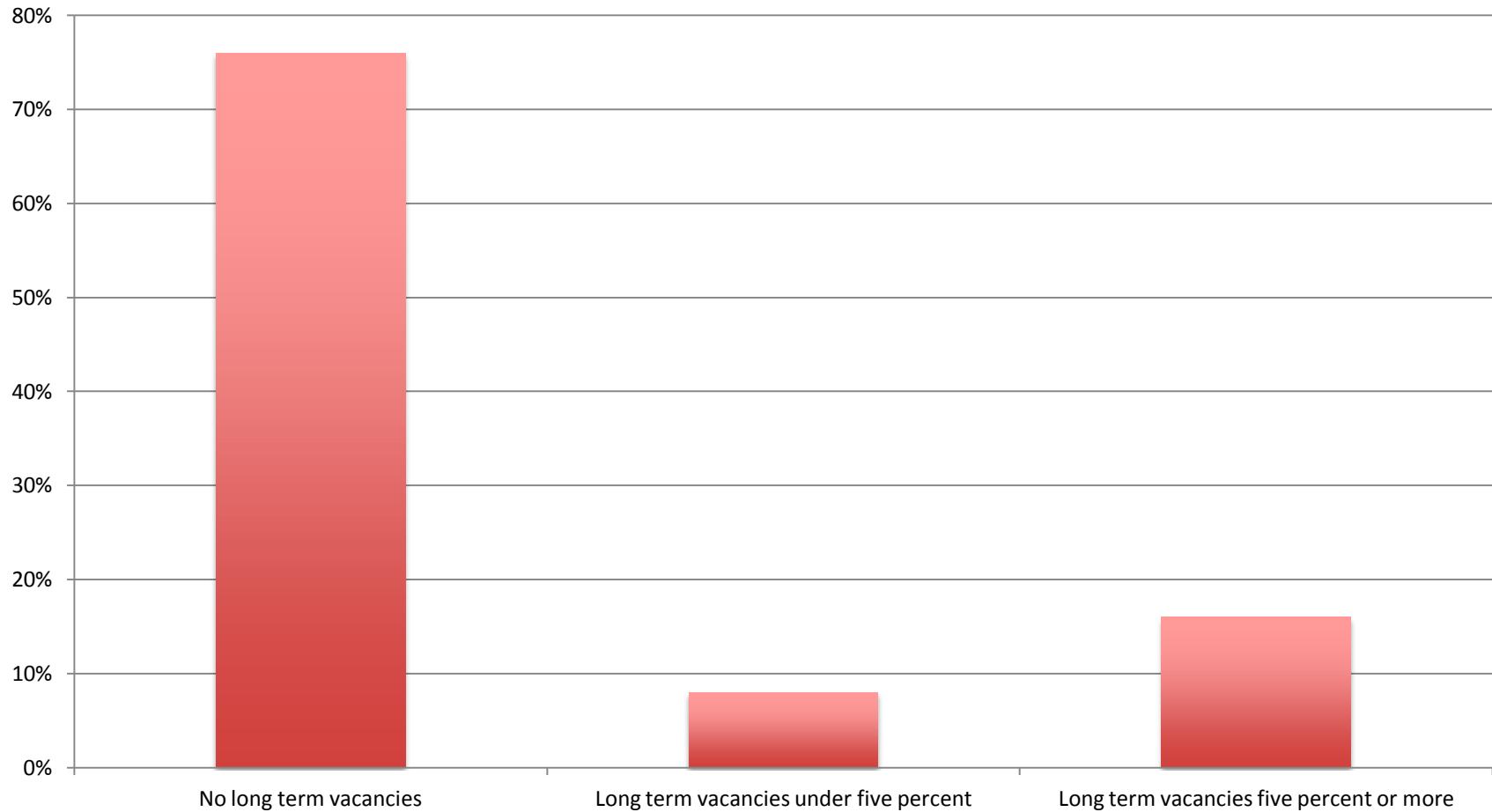
# IN GENERAL LABOR SUPPLY AND HIRING NOT A PROBLEM

- In our survey median time to identify a candidate is four weeks
- Once a candidate identified hiring success rate is 95 percent.

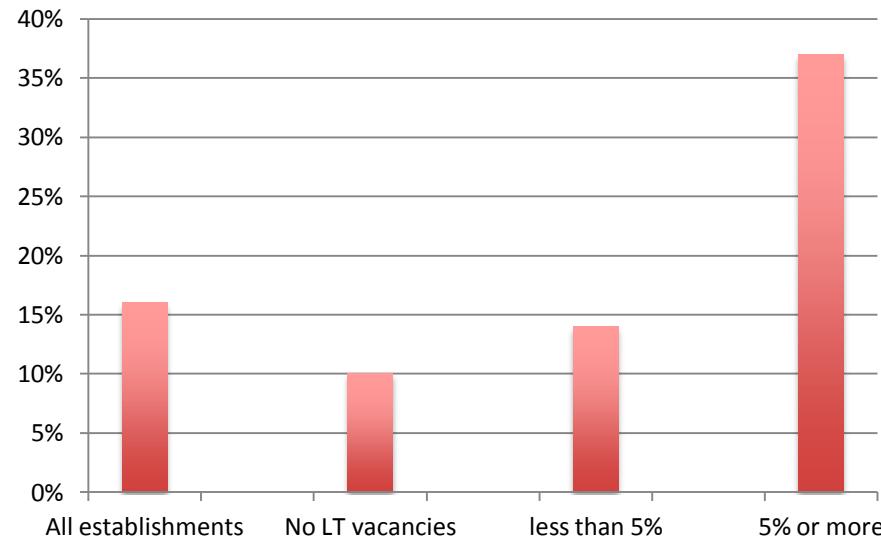
But.....

- There is still much talk of shortages, including in our interviews, and so it is worth investigating
- We asked a series of concrete fact-based questions about long term (3 months) unfilled vacancies

# SHORTAGES: PERCENT OF ESTABLISHMENTS WITH LONG TERM VACANCIES (THREE MONTHS OR MORE) AS SHARE OF CORE PRODUCTION EMPLOYMENT



# PERCENT SAYING THAT LACK OF ACCESS TO SKILLED WORKERS IS A MAJOR OBSTACLE TO FINANCIAL SUCCESS (BY EXTENT OF LONG TERM VACANCIES)



For comparison, between 16% and 20% cited each of the following: weak demand, taxes, regulation

# WHEN THERE ARE VACANCIES IT IS BECAUSE OF SKILLS, NOT ATTITUDES

Percent citing skills as most important problem:  
50%

Percent citing attitudes, character, drugs as most important problem: 7%



# CONCLUSION ABOUT SHORTAGES

In general labor shortages and mismatch is not a problem. But there is a sub-set of establishments—perhaps 25 percent—for whom it is.

What can we say about these establishments?  
What distinguishes them?

# CHARACTERISTICS OF FIRMS WITH LONG TERM VACANCIES

- Smaller
- Seek a skill not generally used by other firms in their region
- Seek advanced math and advanced reading skills
- Engage in frequent product innovation

(The above based on regression analysis)

# WHY WE CARE

Only 25% but

- These establishments are the most innovative.
- The coming retirement wave may create a problem for even more establishments.



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# MOVING FORWARD



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# BIG PICTURE

Change in skill production system

- decreasing firm size
- shorter job tenures
- weakening of HR function
  - = less internal training

Increased reliance on external training

- yet connections are weak and inconsistent

# POLICY

Key role for intermediaries

Improving community colleges

Is the decrease in internal training in employers  
real long term interest?



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# THE BOTTOM LINE (REDUX)

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