



The Case for a BIC Manufacturing Academy

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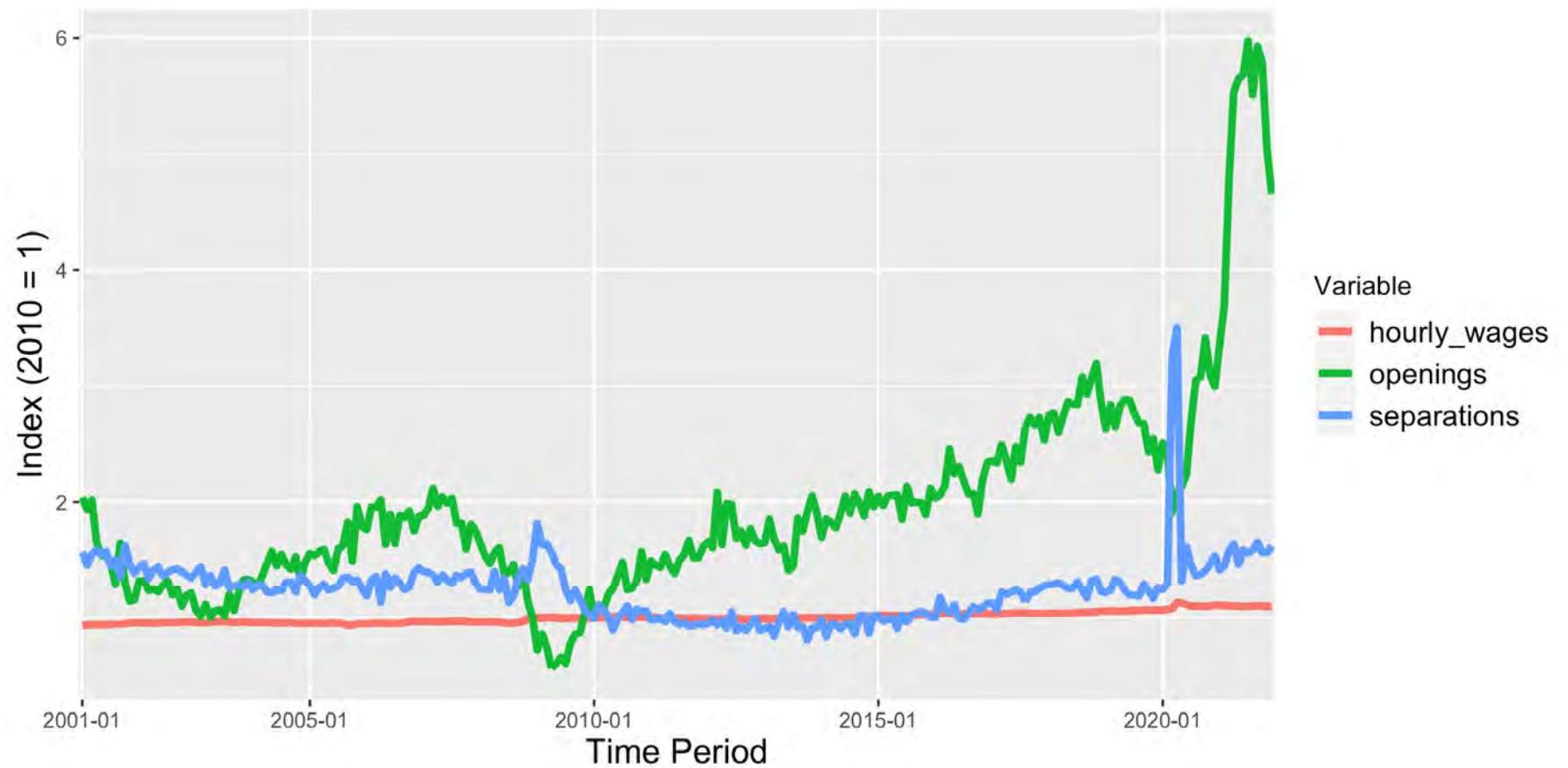
Executive Director

MIT Work of the Future Initiative

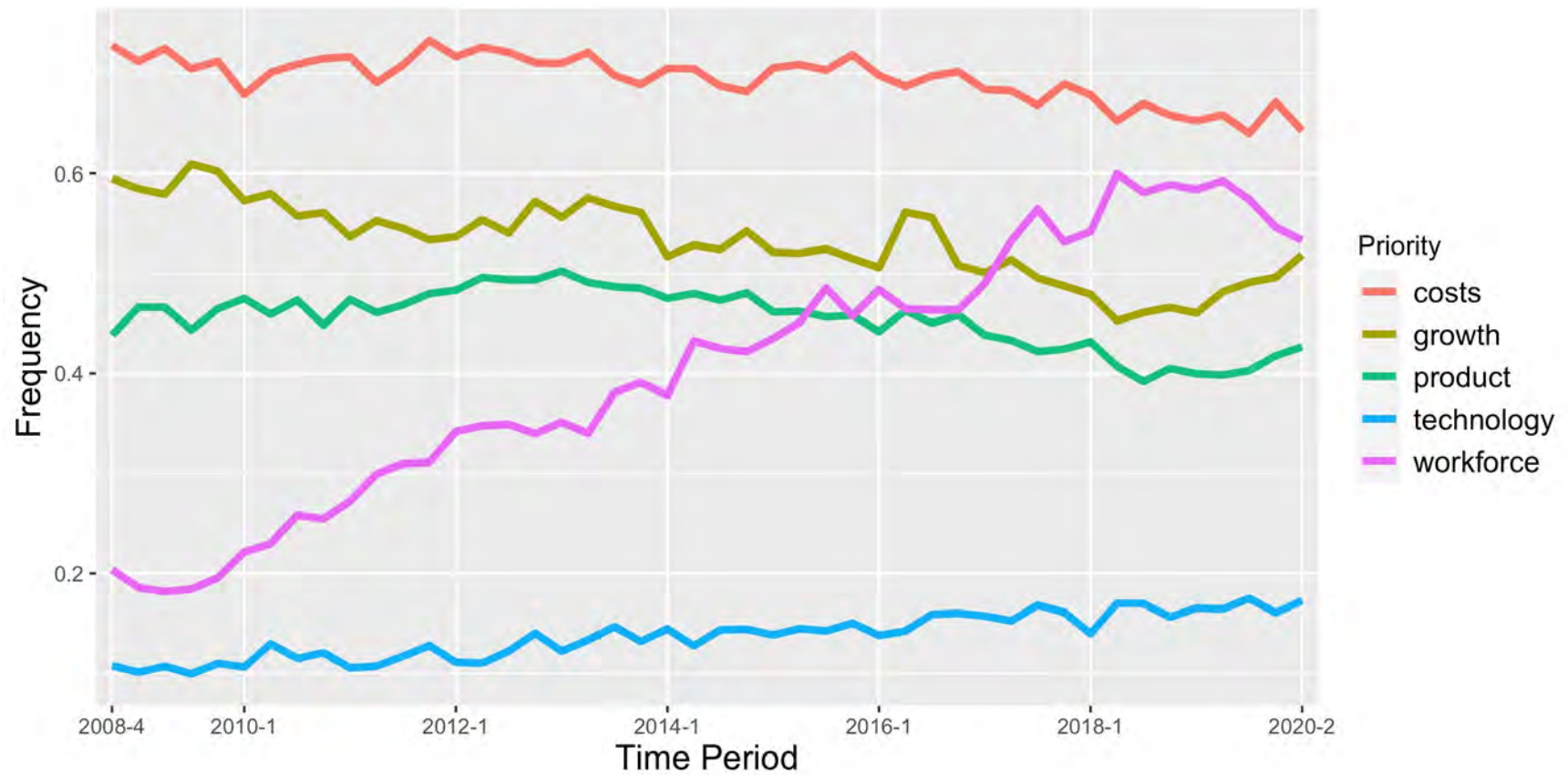
Summary: BIC Manufacturing Academy

OBJECTIVE	PROPOSAL
Training efficiency + Knowledge spillovers	Regional apprenticeship program
Advanced technologies throughout the supply chain	Technology bootcamps
Advanced training to meet technological capabilities	Open advanced manufacturing courses

Persistent workforce challenges



Persistent workforce challenges



Three Parts

1. Technology gap
2. Wage gap
3. Skill shortage

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Technology gap

Technology in Manufacturing

Robots: 10% of firms

Cloud applications: 29%

Specialized equipment: 39%

Specialized software: 42%

Digital skill requirements

Production: 18.6% of new jobs

Maintenance / repair: 14.6%

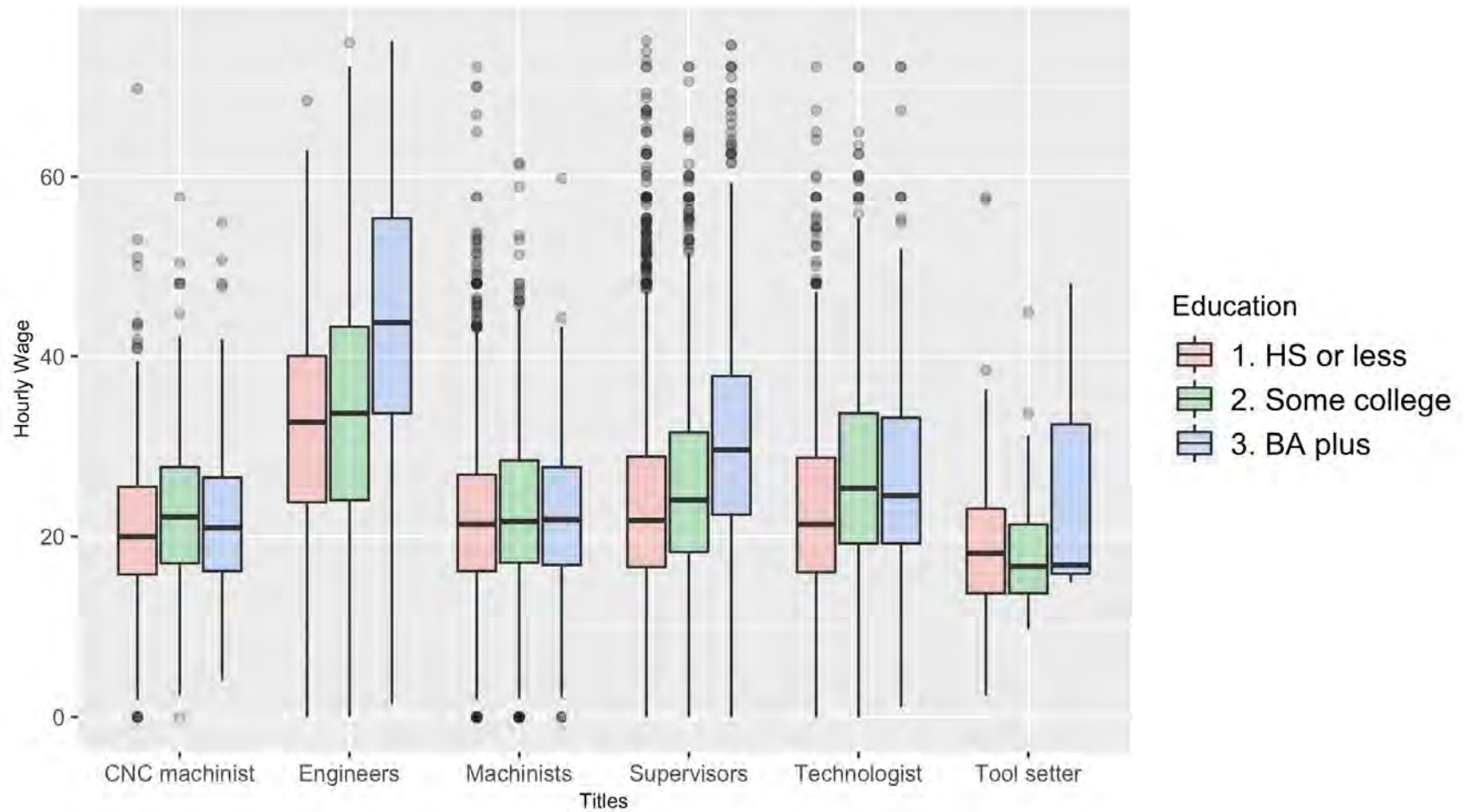
Administrative support: 46%

Business operations: 58.7%

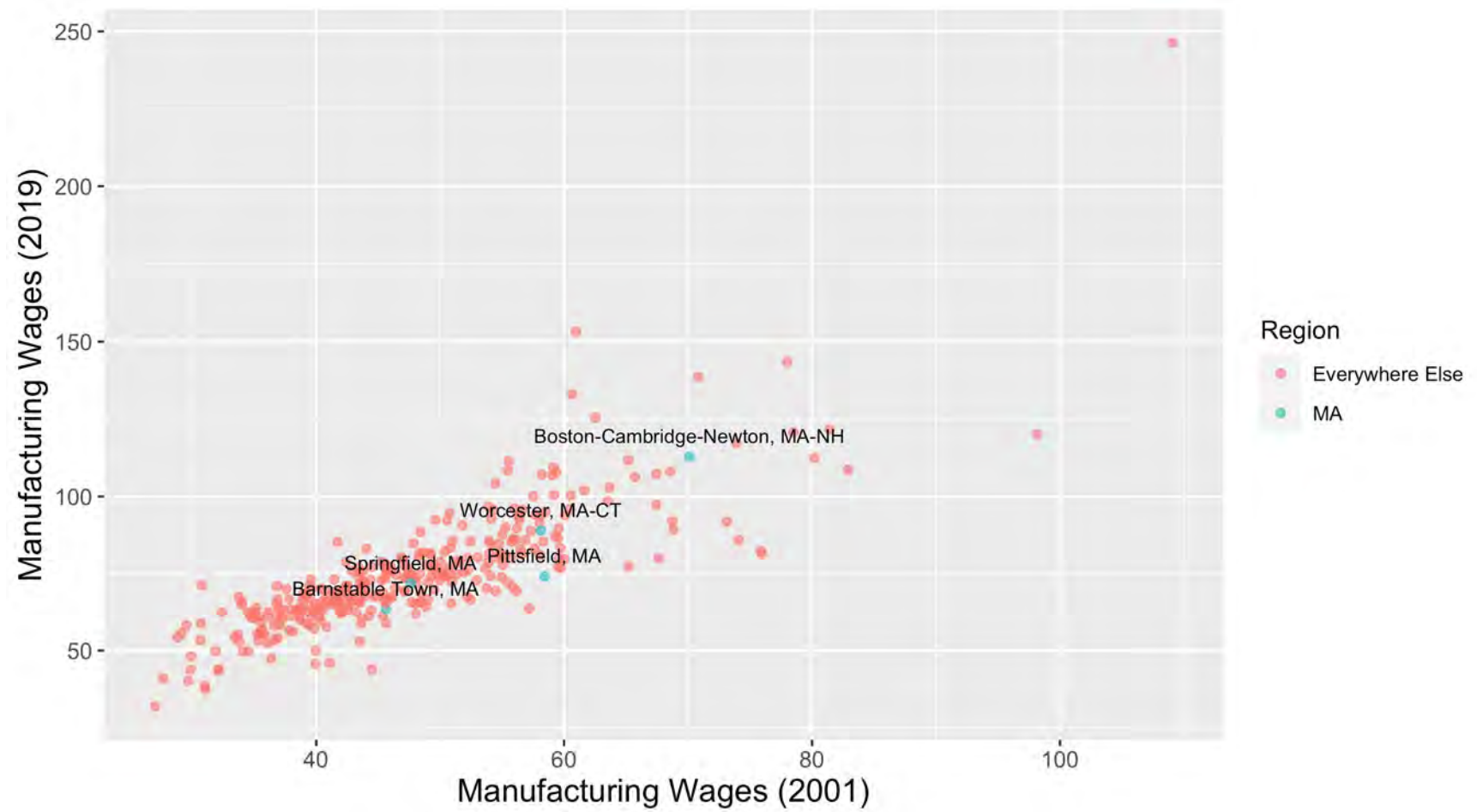
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A New Model



A New Model



Three Challenges

1. Technology gap
2. Wage gap
3. Skill shortage

What's broken?

'Hire for will, train for skill'

Collaborative training models



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HOMIE ALONE

The Home Alone Puzzle

1. When firms pursue new business and technology development opportunities, they are often on their own.
2. However, regional economic development policies have established numerous organizations (like BIC) to support firms.
3. Why is it so hard for these organizations to deliver change?

Three Illustrative Cases

PLACE	GROWTH FACTORS	KEY ACTORS
AMES, IA	Technology adoption Engineering workforce	<ul style="list-style-type: none">• Iowa State University• CIRAS (Iowa's MEP)• Alliant Energy (the regional utility)
COLUMBUS, IN	Foreign investment Knowledge spillovers	<ul style="list-style-type: none">• Cummins Engine• Community education coalition• Statewide community college network
TULSA, OK	Infrastructure Welding workforce	<ul style="list-style-type: none">• Industry-tailored training system• Aerospace production infrastructure• Inland port

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