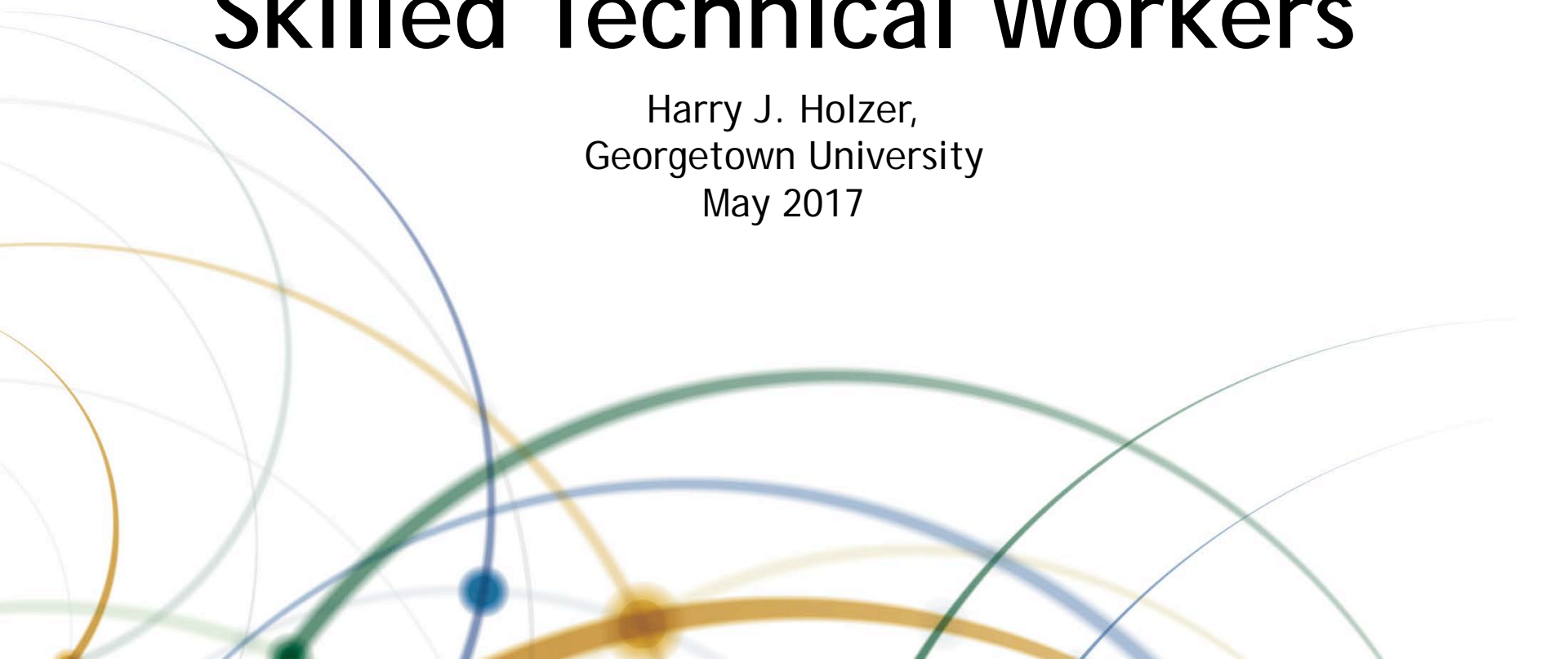


The National Academies of
SCIENCES • ENGINEERING • MEDICINE

BUILDING AMERICA'S SKILLED TECHNICAL WORKFORCE

Understanding the Market for Skilled Technical Workers

Harry J. Holzer,
Georgetown University
May 2017



Adequate (Optimal) Supply of Skilled Technical Workers: Why Does It Matter?

Interests of Workers, Employers and the Nation Overall

- Workers: Earnings, Inequality - Ability to Join Middle Class
- Employers: Productivity and Profits
- US Overall: Competitiveness and Innovation Over Time; Standards of Living and Economic Growth

As a Nation: Are We Developing Sufficiently Skilled Technical Workforce?

- International Comparisons and US Skills Assessments: No
- Perceptions of Employers, Public Officials, General Public: No (Report by the National Science Board, 2015)
- Little Rigorous Economic Evidence of *Aggregate* Imbalance or Shortfall
- Stronger Evidence of Imbalances between Demand and Supply in Specific Occupations and Regions - Especially in Key Sectors (Health Care, Advanced Manufacturing, IT, Construction, Transportation/Logistics)

Economic Evidence and its Limitations

- Quantitative Evidence: Wage Gaps and Their Growth; Vacancy Rates and Durations
- Limitations of Each
- Qualitative Evidence: Reports of Difficulty Filling Jobs by Employers
- Limitations - Subjective and Frequent
- Punch Line: Might Be an Aggregate Shortfall but Hard to Prove; Those in Particular Occupations, Industries and Regions Easier to Establish

Economic Model: Labor Demand Shifts and Supply Adjustments

- Labor Demand Shifts: Technological and Production Changes, Globalization, Price Changes, Business Models
- Immediate Effects: Higher Wages for Workers, Vacancies for Firms
- Supply Responses: Workers and Firms Invest in Education and Training - Strong Incentives of Each to Respond
- New Equilibrium: Higher Employment of Workers in Skilled Technical Occupations and Industries

What Might Limit the Adjustments?

Demand and Supply Factors

Supply Problems: Students and Workers

- Students: Weak Preparation and Low Preferences for Math/Science
- Worsens Over Time by Changing Demographics - Retirements of Baby Boomers, More Minorities and Immigrants

Demand Problems: Employers

- Unwilling to Invest in General Training, Low-Skill Workers
- Move Towards Contingent Workers

Costs of Adjustments For All - Relative to Perceived Returns!

Temporary (Lags) v. Permanent (Market Failures)

What Might Limit the Adjustments?

Market Failures

Multiple and Fragmented Participants: Poorly Aligned and Coordinated

- Students/Workers
- Firms and Industry Associations
- Unions
- Education Institutions and Training Providers
- Civic/Philanthropic Organizations

Poor Information

Weak Incentives

Outdated Regulations - Required Credentialing, Licensure

Conclusion

- Many Sources of Shortfalls in Skilled Technical Workforce
- Aggregate v. Occupation-, Sector-, or Region-Specific
- Short-Term (Lags) v. Long-Term (Market Failure)
- Costly to Students/Workers, Employers, US Overall!
- Requires Consider Promising/Proven Strategies, Broad Range of Policy and Practice Changes

Thank You.

