

Do Firms Benefit from Apprenticeship Investments?

Why Firms Do and Do Not Invest

IZA World of Labor Symposium on Youth Employment

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Thank you very much

Honor to participate in this
symposium on youth

Increasing Agreement on the Desirability of Apprenticeship

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Youth development, earnings, learning by doing, maturity, pride

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without firms, employers

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In others, apprenticeship slots
are limited, mainly because of
low number of employer offers

So why do employers offer apprenticeships?

Do firms that train apprentices earn a measurable return?

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Or is apprenticeship training mainly a cultural obligation?

Contexts of Apprenticeship Systems

Timing of apprenticeships vary by age

Public financing of classroom training

Wages of apprentices

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Scope of occupational standards

Assessments and value of certification

Involvement of trade unions

Plan for today

- What is the standard theory?
- How has the theory been revised to account for actual practice?
- What is the evidence on returns to firms offering apprenticeships?

Why, in theory, should firms spend on training?

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Firms have no incentive to pay for general training, where "general" means adding skills that can be used outside the firm, including occupational skills

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Firms do finance "specific" training

Firms may provide general training if workers accept below market wage

Revisions to theories adapt to the reality that firms finance general training

Markets are imperfect; frictions make it hard for workers to move from one firm to another without cost

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Hiring of skilled workers is costly

Firms learn about trainees as they learn; other firms know less

General skills complement specific skills

New theories argue:

Markets are imperfect; frictions make it hard for workers to move from one firm to another

Firms learn about trainees as they learn

General skills often complement specific skills

Offer of extensive training may attract applicants by their desire for training

Some occupational skills can only be learned at workplaces

Other Theoretical Justifications

Training allows firms to create real options—the option but not the obligation to use the trained worker in special tasks; this option has value

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Teaching and learning can promote innovation for firms

Learning occupation skills in the context of company practice works well

Apprenticeship As Special Case

Apprenticeships combine training with production, providing current returns

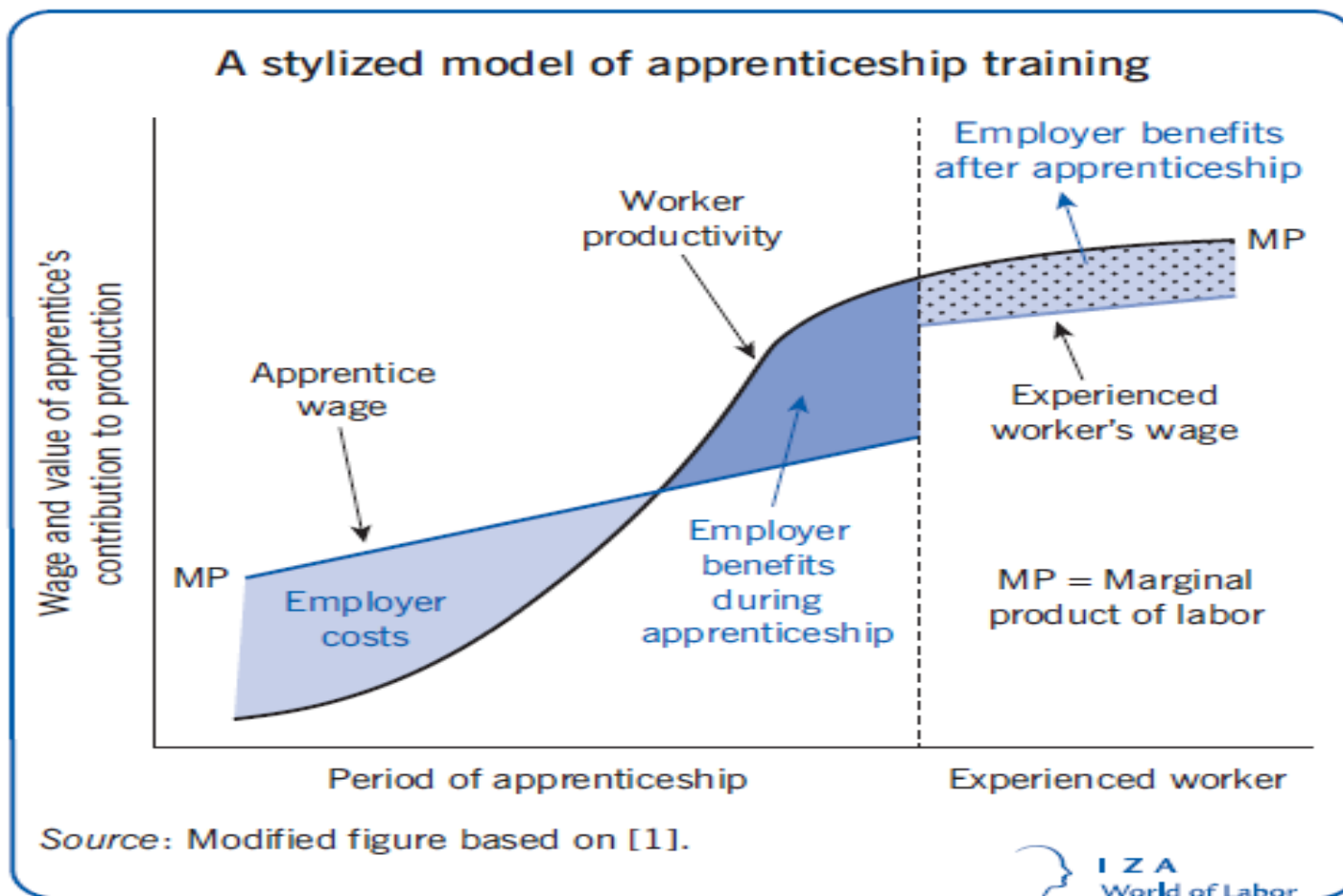
Apprenticeship As Special Case

Apprenticeships combine training with production, providing current returns

Apprentices often accept lower wages in return for learning occupation

Apprentices take structured program, yields documented competencies that gives employers confidence

<http://wol.iza.org/articles/do-firms-benefit-from-apprenticeship-investments>



Potential Barrier for Companies

CEOs know skills are critical to innovation, to insure high quality production, to maintain equipment at a high level, to avoid errors, and to prevent damage and injuries

That's why they say "People are our most important asset.."

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CEOs say “People are our most important asset..”

CEOs also “...we can only manage what we measure...”

Yet measurement is often weak in skill development

Accounting biased against investments in training

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In financial accounting, training incurs costs assigned to the current year; this does not reflect how much investment is used up in the current year; result: *Human capital assets are not on the balance sheet*

So, how should we look at firm decisions?

Leader of German affiliate in the US said he bases his investment decision on faith

Sees future of his company as requiring more skilled workers

German companies start skills initiative in the US because of lack of workers with good technical skills, no infrastructure

What are the costs and benefits to firms?

Costs: Wages for apprentices, trainers
Setup costs, standards, curricula, courses
Recruiting, selecting apprentices

Benefits: Production value during program
Reduced recruitment, training costs for skill
Assurance that skills meet high standards
Option value of extra own-trained workers
Gains in innovation

Not easy to measure, even for firms already hiring apprentices; large variations across firms, industries

Most comprehensive study covers over 3,000 Swiss/German firms using apprenticeships

Study revealed high average annual costs of 15,500 in Germany and 18,000 in Switzerland.

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German firms have short-run losses but save in hiring costs by retaining high share of apprentices

Time in production is a key factor

Swiss apprentices devote 83% of their time to productive tasks, compared to only 57% of time of German apprentices

60% of Swiss firms offering any apprenticeships strongly benefit

Other Gains for German Firms

Some studies find that gains to German firms are concentrated among those apprenticeships with high quality

One study finds apprenticeships in trade, commercial, craft, and construction occupations increase profits

Gains come from higher productivity of apprentices, not lower wages

Hiring Costs Can Be Substantial

Cost-benefit survey data from 2000 and 2004 show hiring costs show hiring costs in Switzerland range between 10 and 17 weeks of wages of skilled workers

Another study of Germany based on recent cost-benefit surveys find average hiring costs of eight weeks of wages for skilled workers

Hiring costs are a key determinant of training offers in Switzerland

Some studies in Germany document the impact of training on innovation; one study found that a 10 percentage point increase in training led to an 11 point rise in innovation

US evidence indicates high returns to employers from training (Bartel 2000); Companies doing more training outperform others in long-term profits and returns

Evidence from Canada

Canadian estimates of employer costs and benefits of apprenticeships in 15 occupations, 433 employers, 16+ per occupation. All were four-year apprenticeships.

Average gross costs ranged from about \$78,000 for cooks to \$275,000 for construction electricians. In-program benefits—measured as the revenue generated by the apprentices—varied widely ranging from \$120,000 for cooks to \$338,000 for construction electricians.

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For all 15 occupations, employers earned a positive return. The average benefit was 1.38 times the average cost. Any post-program benefits would add to the economic returns.

Limited Evidence from the UK

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Engineering and construction showed higher net costs than retail and business administration

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But all employers at least break even when considering the immediate post-apprenticeship period when wages of former apprentices are less than their productivity with the firm

Surveys of England's apprenticeship sponsors show employer satisfaction is high

No ROI Study in the US, But

97% of sponsors (97%) would recommend the program—86% “strongly” recommend it

80%: helps meet demand for skilled workers

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70%: raises productivity, strengthens worker morale, pride and improves worker safety

56%: Improves retention, meets licensing

Poaching not a significant problem for 3 of 4

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If apprenticeship systems are so good, why don't more countries have large systems?

What accounts for who does and does not use apprenticeship?

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Some firms focus on worker value, others concentrate on sales, pricing, wages, not much on training, labor an available input

But culture alone cannot explain gaps in some U.S. states and in England

Institutions matter in explaining differences

Who pays for classroom instruction can affect the costs of providing apprenticeships

Germany's labor restrictions on firing and cultural factors play a role, but so does its structure of chambers of commerce, etc.

Even in US, Davis-Bacon law affects construction apprenticeship

So are countries without rigid labor laws doomed?

The evidence suggests the answer is no.

With appropriate orientation about skills, institutions, and political commitment, apprenticeship can extend widely

Change Orientation of Policymakers

Recognize the value of occupational and employability skills as equally important as academic skills & deserving support

England and South Carolina prove it is possible to build institutions that can promote apprenticeships

Key steps moved employers from
not offering apprenticeships to
offering apprenticeships

Branding the overall initiative

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Branding the overall initiative

Effective marketing to firms

Some government financing, incentives or at least paying for the training outside the workplace

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Uses national and firm-based marketing; FE schools and training providers work at the individual employer level

Moves from marginal to the mainstream

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Apprenticeships jump eight-fold, from under 800 to 6,400; companies investing in apprenticeship rise from 90 to over 660

State and retail marketing critical

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Keep it simple—help with registration, related courses, and resources

What does the experience of England and South Carolina tell us about why firms do or do not offer apprenticeships?

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Firms were not optimizing before the initiative, but with useful information, help in making the transition, funding for at least the related course, many will take offer apprenticeships

An optimistic finding to be sure but I believe it is realistic as well