

**Train to gain –  
The benefits of employee-financed training  
in Germany**

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# Overview

- Topic of interest      Continuing vocational training
- Determinants of training      Reasons for differences in training participation
- Theoretical background and implications      Human capital theory and continuing vocational training
- Data and definitions      What data sources do we use?
- Method      How can we measure individual benefits?
- Results and Discussion      What story do the numbers tell?



# Topic of interest

- Increasing focus on continuing vocational training as an answer to problems resulting from demographic and technological changes (e.g. EU-Papers and national programmes/studies)
- Participation in continuing vocational training differs strongly across socio-demographic groups
  - *Persons with higher educational attainment are more likely to participate than those with a lower educational attainment*
  - *Younger persons have a higher probability than older persons to participate*
  - *Individual invest less often in their training than firms (1/3 to 2/3)*
- What are the reasons for differences participation rates?

## Reasons for differences in training participation could be:

- Access to training (e.g. selection of participants by companies or labour administration)
- Motivation of employees or unemployed persons
- Financial restrictions for potential participants or companies
- Lack of information about training possibilities due to missing consultation services
- Difficulties to reorganise work during the absence of employees (especially in SMEs)
- Institutional framework, e.g. labour markets, education systems, welfare systems etc.
- **Differences in benefits of training**

**Basic message of human capital theory (HCT):** An individual/company invests in education and training if the expected benefits exceed the costs

With respect to training participation rates HCT implies:

- *higher benefits for well educated than for less well educated participants*
- *higher benefits for younger than for older participants due to a longer repayment period*

With respect to the financing HCT implies:

- *higher individual benefits for participants who finance training, lower benefits for participants of company financed training*



# Data and definitions

- Definition of continuing vocational training: Work-related training courses of employees (at the time training takes place) at the age of 20 to 64
- Employee-financed training vs enterprise-sponsored training
- Benefits: Monthly real gross wage, unemployment risk, career improvement, matching of skills and job requirements
- Results show the average, permanent effect of an average training event on wage / unemployment risk / career / matching
- Data sources: Sozio-oekonomisches Panel (SOEP), 1997-2004
- Method: Adjusted fixed-effects panel regression model (Fitzenberger/Prey, 2000; Büchel/Pannenberg, 2004)

Adjusted linear fixed-effects panel regression of the form:

$$y = \alpha_0 \textit{pretrain} + \alpha_1 \textit{train} + \alpha_2(\textit{train}*\textit{counts}) + \alpha_3(\textit{train}*\textit{volume}) + \beta X + v + \epsilon$$

- Where  $\alpha_0$  **pretrain** is a dummy indicating, whether participants and non-participants differ significantly in the year before training participation
- Where  $\alpha_1$  **train** is the baseline effect of training for participants
- Where  $\alpha_2$  (**train\*counts**) is the count effect of training
- Where  $\alpha_3$  (**train\*volume**) is the volume effect of training
- $\beta X$  is a vector of observable time-variant variables
- $v_i$  is the individual-specific constant
- $\epsilon$  is the time-variant error-term

# Presentation of Results

## Training effects on wages and unemployment risk of participants

	Germany			
	real gross wage		unemployment risk	
	company financed	privately financed*	company financed	privately financed*
all persons	2.68*** ←	1.58* ←	-1.44***	-1.76***
male	4.34*** ←	2.93*** ←	-2.87***	-2.30***
female	1.19	0.66	-1.02*	-1.05***
20-44	3.22***	1.84	-0.27	-0.8
45-64	2.19**	0.82	-3.59*** ←	-2.81*** ←
ed. attainment low	3.84*	-1.08	-4.33*** ←	2.8
ed. attainment medium	3.29***	2.92* ←	-1.87***	-2.51***
ed. attainment high	4.04*** ←	-0.01	-1.69***	-1.29*

\* At least partly privately financed. Expenses are not mirrored in the shown effects



# Presentation of Results

## Training effects on career and matching of participants

	Germany			
	career		matching	
	company financed	privately financed*	company financed	privately financed*
<b>all persons</b>	1.05** ←	0.92	1.02**	2.03*** ←
<b>male</b>	1.99***	0.83	1.62**	2.25***
<b>female</b>	1.02	1.13	0.5	1.76**
<b>20-44</b>	1.15*	1.78** ←	1.31**	2.69***
<b>45-64</b>	1.10**	0.02	0.1	0.31
<b>ed. attainment low</b>	0.64	2.78	4.70** ←	-2.3
<b>ed. attainment medium</b>	1.13	2.20** ←	1.01	5.57*** ←
<b>ed. attainment high</b>	2.34** ←	-0.52	0.2	-1.60**

\* At least partly privately financed. Expenses are not mirrored in the shown effects

## The results reveal with respect to the implications of traditional human capital theory:

- Benefits differ across socio-demographic groups, no clear link between participation rate and training effects
- Wage and career gains from company financed training exceed those of employee financed training *but...*
- ....employee financed training has a similar effect on unemployment and a stronger effect on matching of skills and job requirements
- Question to be addressed in future research: The link between training types, productivity and wages



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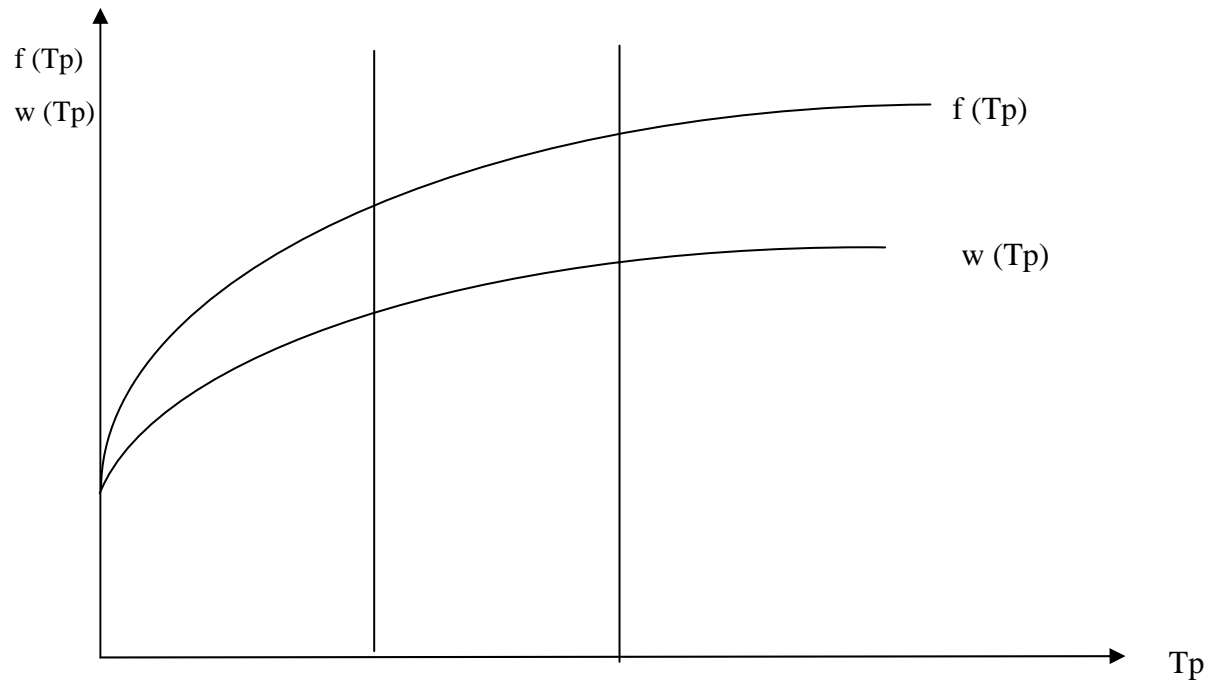
# Thank you for your attention!

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## Possible explanation:

Wage Compression due to asymmetric information?



- Jürges & Schneider (2004) find no significant wage effects for different groups of employees.
- Christensen (2001) finds that training significantly reduces employees' risk to be laid off.
- Büchel/Pannenberg (2004) find positive effects on wage and employment situation for younger participants; no significant effect for older participants
- Pischke (2000) analyse the wage effects of training during working hours and during leisure time and finds that both training forms have a positive but insignificant impact on wages