

Further Training and labour market New evidences from a sociological perspective

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Prof. Dr. Rolf Becker

University of Bern

Department of Sociology of Education

Overview

- Introduction and questions
 1. Theoretical Background
 2. Discussion of theory construction and suggestion of a general model
- Data base
- Empirical Analysis
 1. Recent trends in further vocational training
 2. Access to further vocational training
 3. Effect of further training on wage rates
- Conclusion

Questions

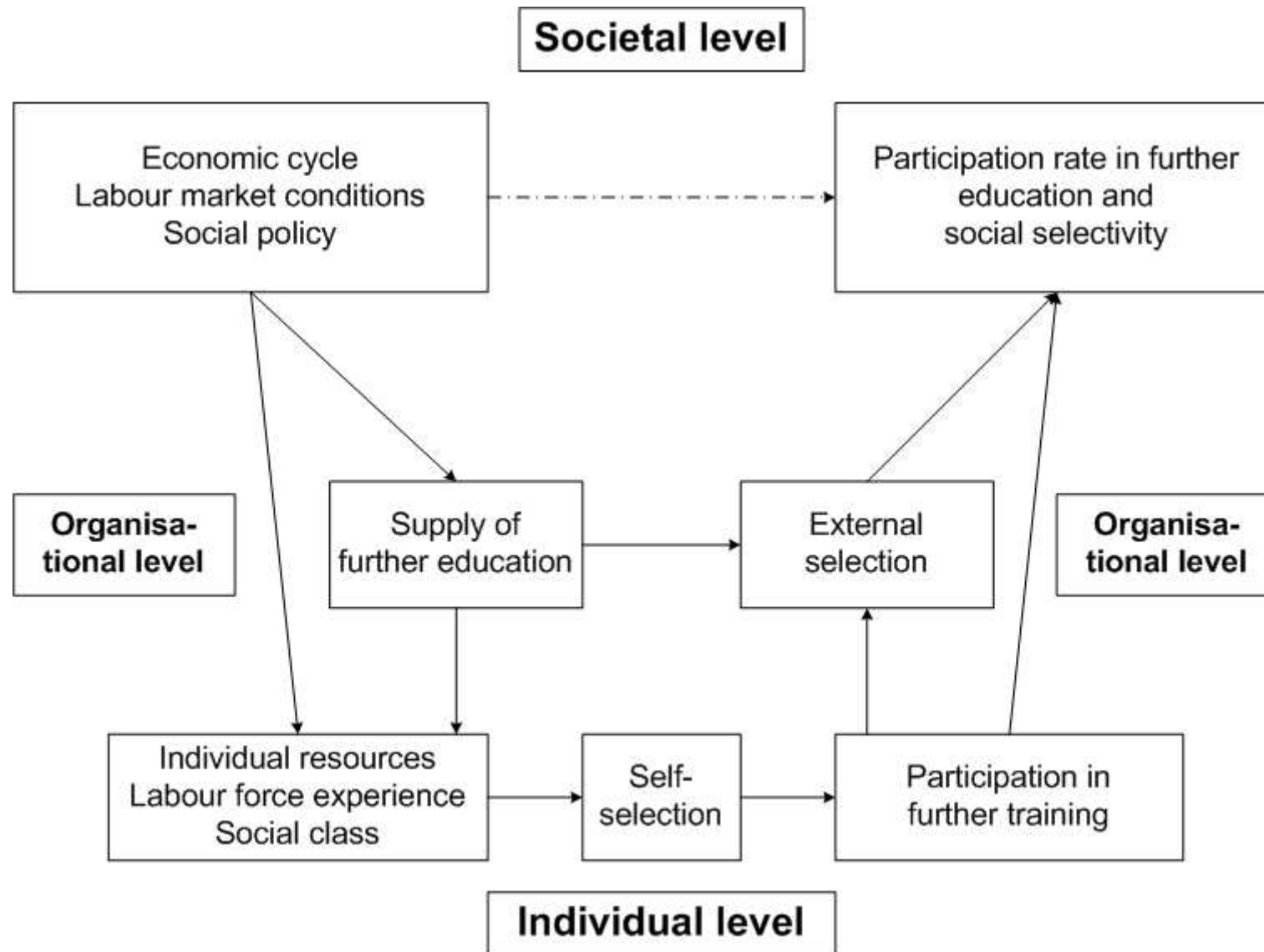
- **Participation in further vocational training: The problem of social selectivity**
 1. Who is participating for what reasons in further vocational training?
 2. At what stages in the life course and how often do they invest in further vocational training?
 3. Which circumstances preconditions are relevant for continued training in the working life?
 4. Which individual resources and options on the one hand and which social opportunities and structures of the labour markets on the other hand channel the access to further education?
- **Effects of further education on career prospects: The problem of social exclusion from benefits of human capital investment**
 1. Which consequences are resulting from investment in further vocational training?
 2. Does further training actually have positive effects on the wages and earnings?

Individual decision on further training

(The extension of RAT model suggested by Erikson & Jonsson, 1996)

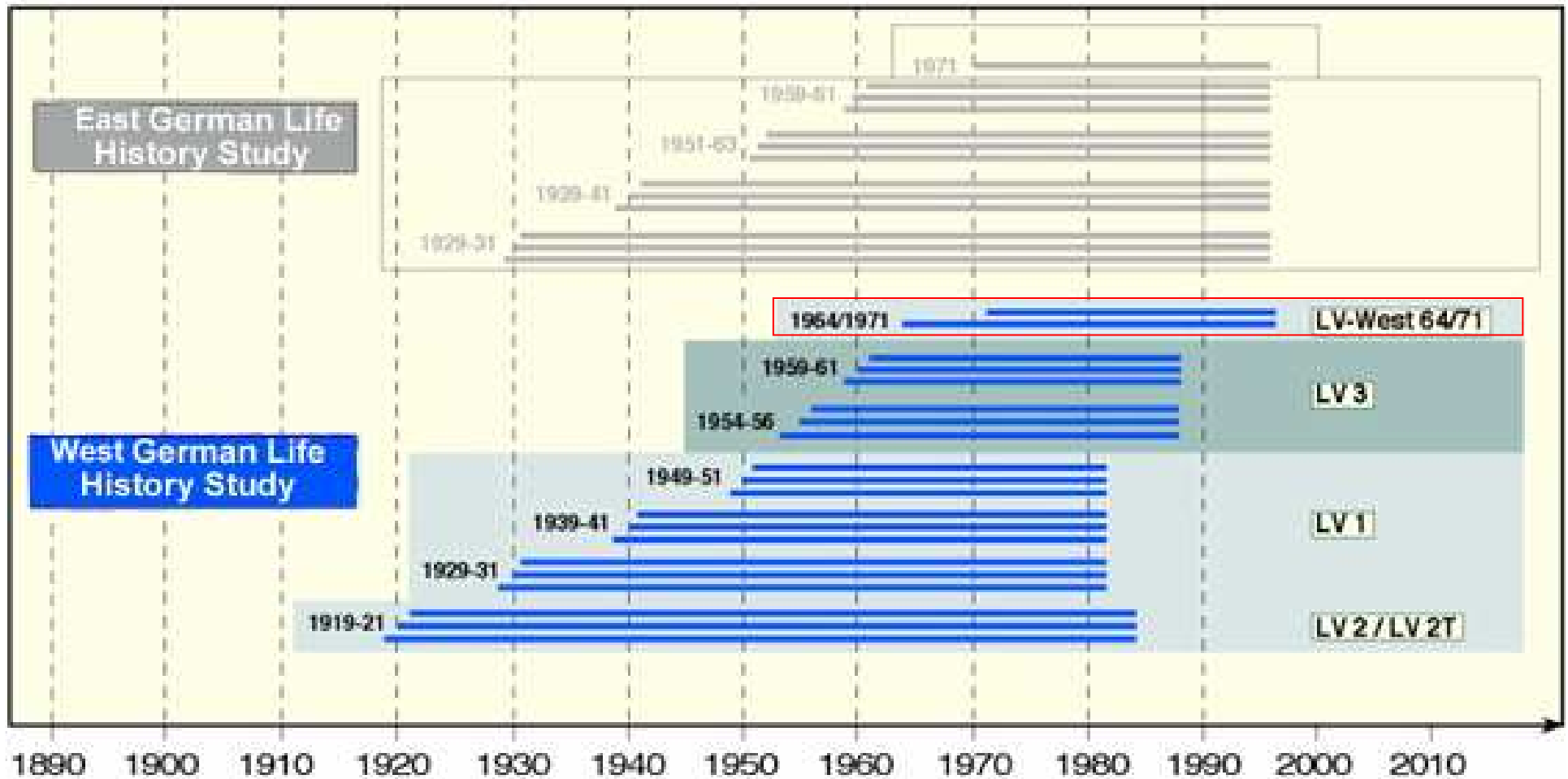
- Choice between two alternatives: Further training ft or other alternatives A as a function of expected utility $EU(.)$ of each of the alternatives
- $EU(.) = f(\text{expected benefits } B, \text{ expected cost } C, \text{ expected success})$: $EU(.) = pB(.) - C(.)$
- Further education, provided that:
 $EU(ft) = pB(ft) - C(ft) > EU(A) = pB(A) - C(A)$
- Individual decision as stochastic process:
 $SEU(ft)_{it} = pB(ft)_{it} - C(ft)_{it} > SEU(A)_{it} = pB(A)_{it} - C(A)_{it}$

Heuristic model for the explanation of participation rate and selectivity of further training

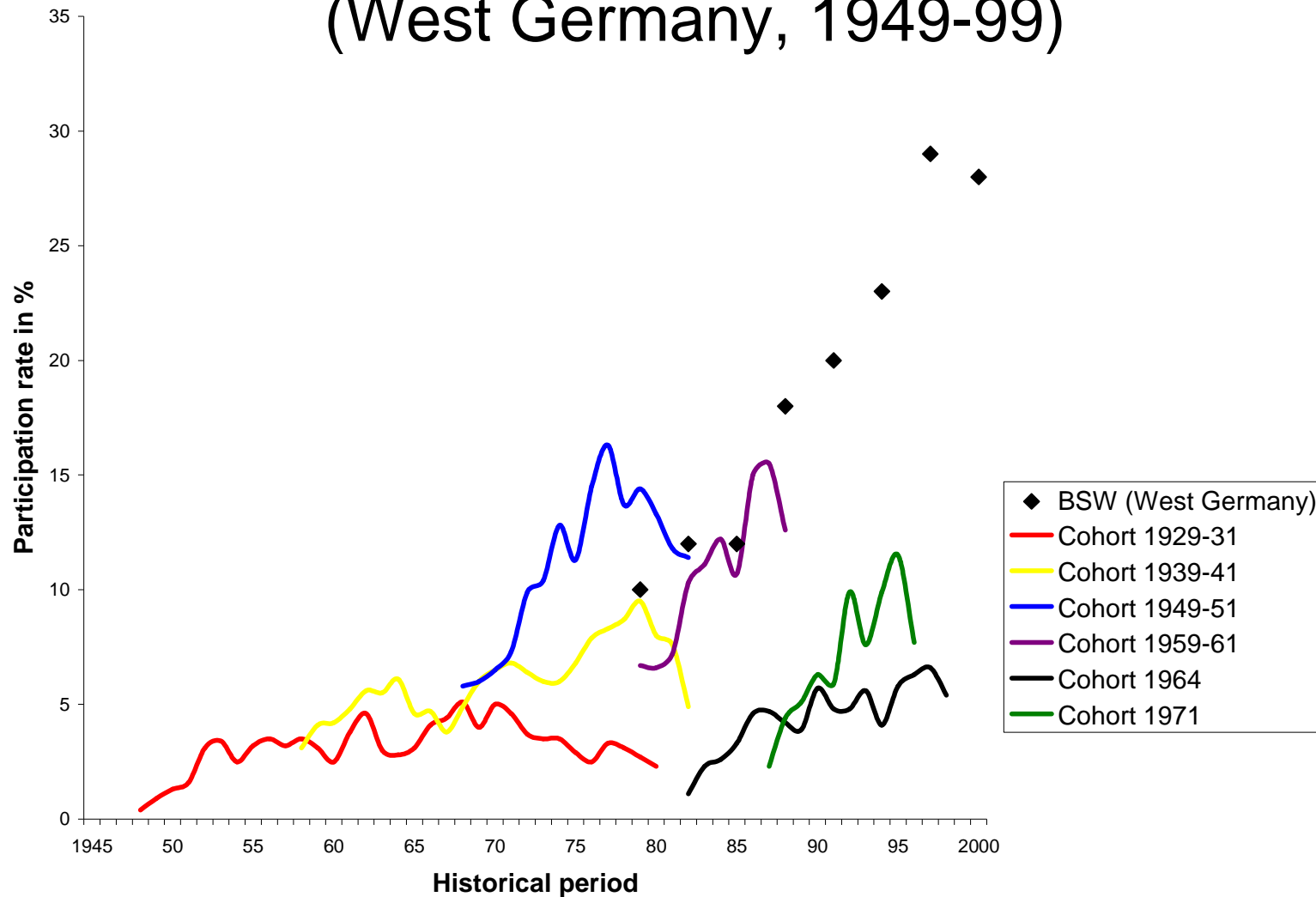


Education, Training, and Occupation:

Life Courses of the 1964 and 1971 Birth Cohorts in West Germany
n = 2,909 persons persons born 1964 and 1971 who were resident in
West Germany between 1998 and 1999



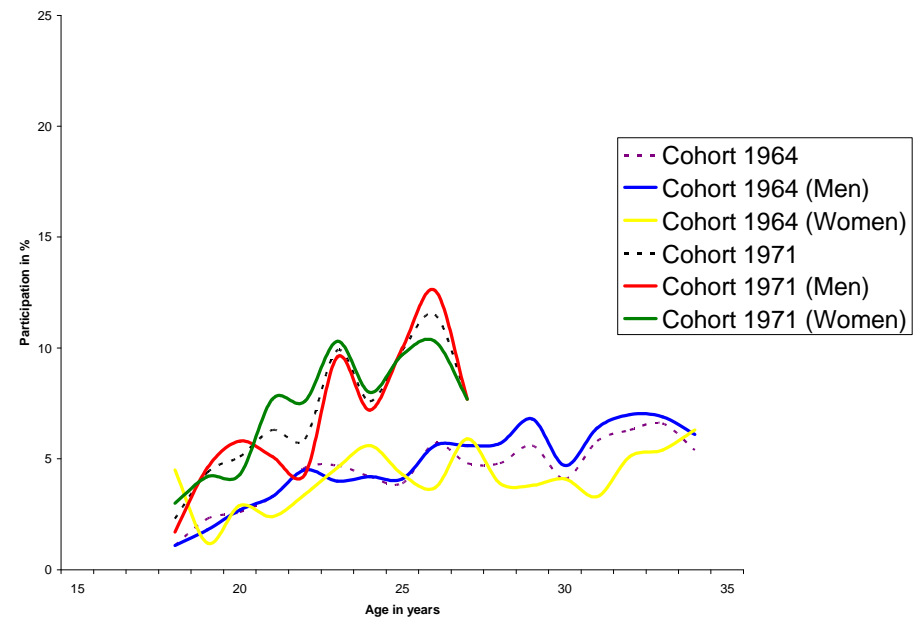
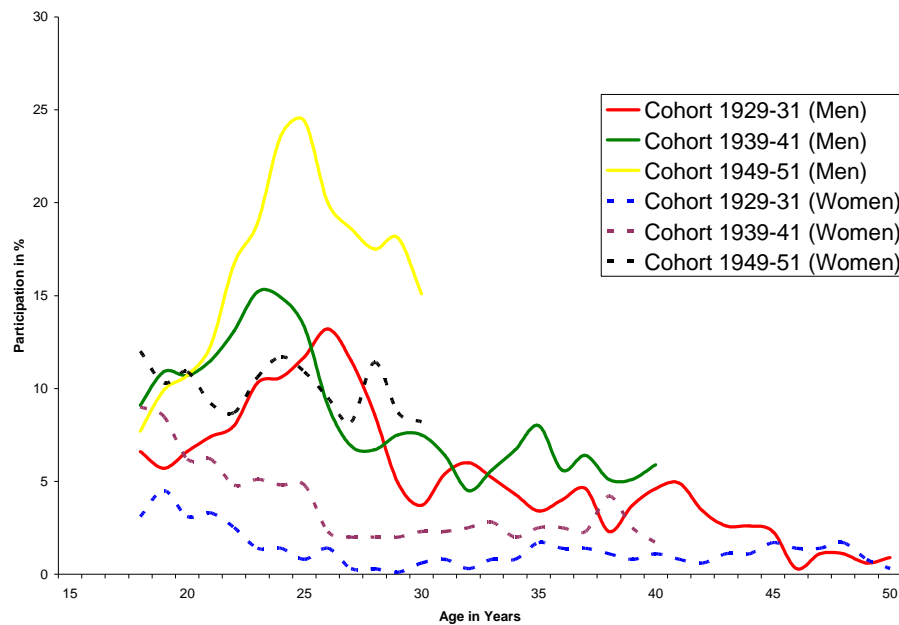
Further training in the life course across birth cohorts (West Germany, 1949-99)



Source: GHLS (Berlin & Yale University); BSW = Berichtssystem Weiterbildung (Kuwan und Thebis, 2005: 23 and 34-35) – own calculations

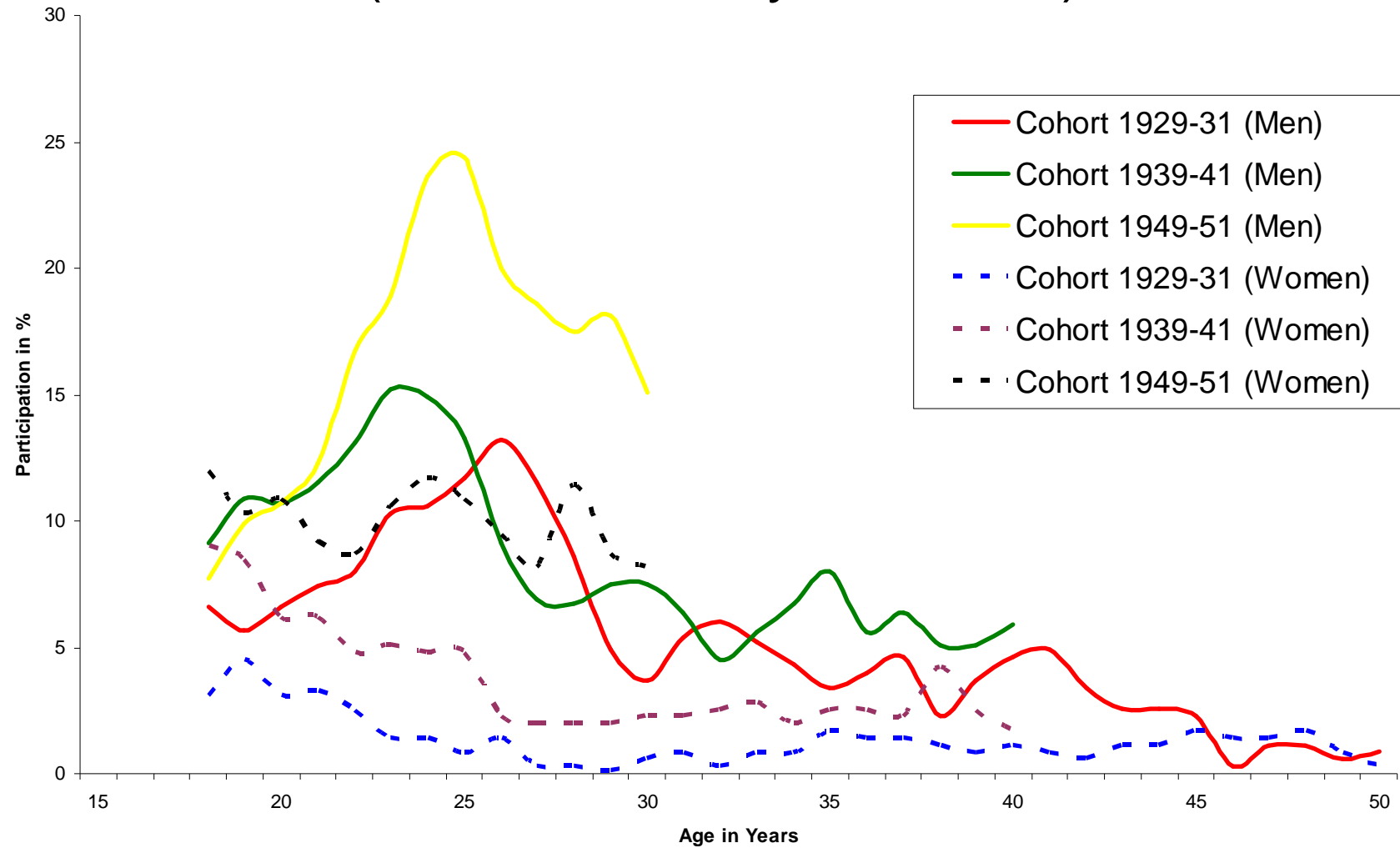
Further training in the life-course of women and men across birth cohorts

(West Germany, 1949-81 resp. 1980-99)

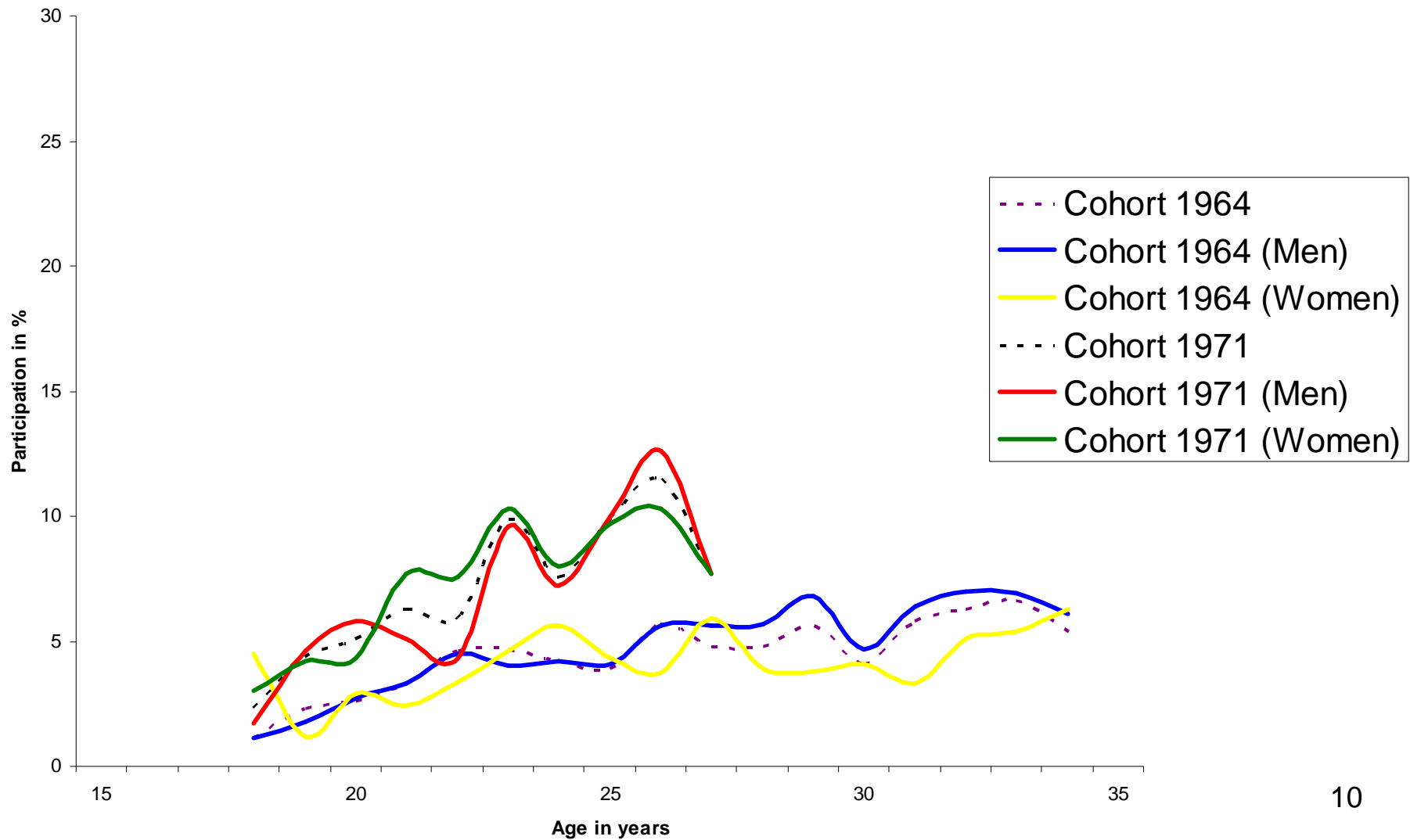


Source: GLHS (Max-Planck-Institut für Bildungsforschung, Berlin, and CIQLE, Yale University) – own calculations

Further training in the life-course of women and men across birth cohorts (West Germany, 1949-81)



Cohort- and gender-specific further training in the life course of women and men born 1964 and 1971 (West Germany, 1980-99)



Occupational career and participation in further training

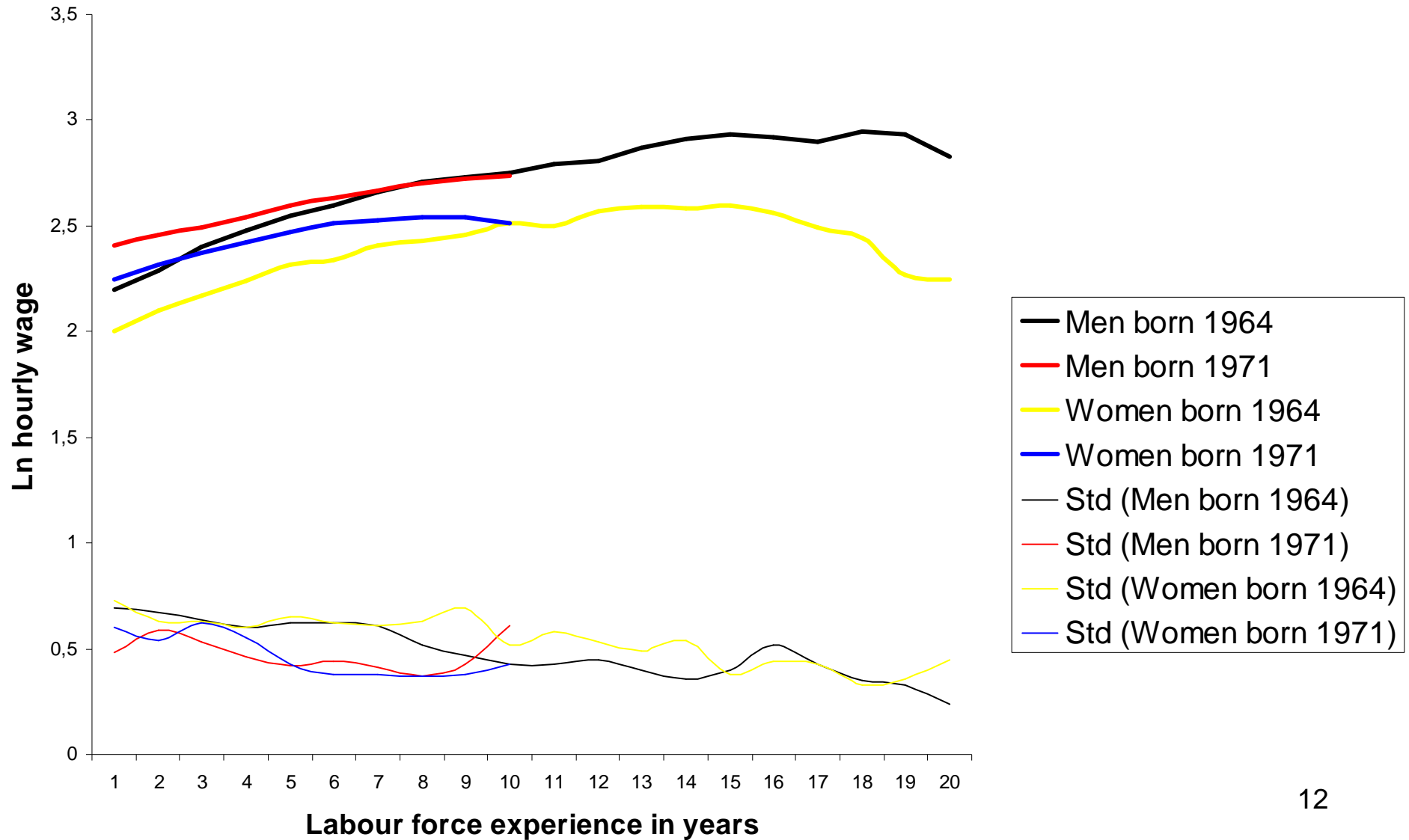
(Discrete Time-Logit Model: odds ratios)

	Total	Men	Women
<i>Individual characteristics</i>			
Male (Ref.: Female)	1.74***		
Cohort 1971 (Ref.: 1964)	1.61***	0.93	1.59***
Male · Cohort 1971	0.59***		
<i>Career characteristics</i>			
Blue-collar worker	1		
Employee	2.34***		
Civil servant	2.35***		
Self-employee	1.62***		
Firm size (ln)		1.11*	1.07**
Job mobility		0.97	0.86***
Permanent employment contract		1.92***	1.89***
Hourly wage (ln)		1.85***	1.74***
Pseudo-R ² (Nagelkerke)	0.042	0.050	0.062
Number of episodes	7,262	2,365	1,798
Number of events	1,760	819	634

* $p \leq 0,05$; * * $p \leq 0,01$; *** $p \leq 0,001$

Source: GLHS – own calculations

Average log hourly wages and standard deviation (Std)



Stochastic differential equation

Dependent variable: ratio of starting wage W_0 (measured as hourly net wage in German marks) and ending wage W_t for each of the job spells

The stochastic differential equation is formalized in the following way:

$$(1) \quad \frac{\log(W_t / W_0)}{\sqrt{t}} = \alpha\sqrt{t} + \beta' x_0 \sqrt{t} + \frac{1}{2} \pi^{3/2} + \frac{\varepsilon(t)}{\sqrt{t}}$$

resp.

$$(2) \quad Y_t = \pi_1 \sqrt{t} + \pi_2 x_0 \sqrt{t} + \pi_3 t^{3/2} + v(t)$$

The error term $v(t)$ is homoscedastic and normally distributed while the average is zero and the variance is constant.

Effects of further training on wage rate

(Stochastic differential equation on log hourly wage rate in job spell n)

<i>Model</i>	Men <i>1</i>	Women <i>1</i>	Men <i>2</i>	Women <i>2</i>
Cohort 1971	-0.021*	-0.009	-0.022	-0.008
$\sqrt{\text{Job duration}}$	0.309***	0.321***	0.327***	0.335***
Job duration ^{3/2}	-0.312***	-0.291***	-0.359***	-0.332***
Job N	0.059***	0.130***	0.062***	0.128***
Job N · Job duration ^{3/2}	-0.050***	-0.104***	-0.050***	-0.101***
Age	-0.002*	-0.004**	-0.004***	-0.004**
Working hours	0.001*	0.001	0.001	0.001
LN Firm size	0.006***	0.001	0.006***	0.002
Further training	0.013	0.015		
<i>Sample selection bias</i>				
P(Further training)			0.306***	0.139*
Adjusted R ²	0,523	0,491	0,528	0,492
Number of episodes	2,565	2,106	2,565	2,106

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Source: GLHS – own calculations

Effects of further training on wage rate

(Stochastic differential equation on log hourly wage rate in job spell n)

<i>Model</i>	Men <i>1</i>	Men <i>2</i>	Women <i>1</i>	Women <i>2</i>
Cohort 1971	-0.022*	-0.021*	-0.009	-0.009
√ Job duration	0.302***	0.302***	0.319***	0.318***
Job duration ^{3/2}	-0.293***	-0.294***	-0.286***	-0.285***
Job N	0.059***	0.060***	0.128***	0.128***
Job N · Job duration ^{3/2}	-0.050***	-0.051***	-0.103***	-0.102***
Age	-0.003*	-0.003*	-0.004**	-0.004**
Working hours	0.001*	0.001*	0.001	0.001
Ln Firm size	0.006***	0.005**	0.001	0.001
<i>Sample selection bias</i>				
Certified further training	-0.046		-0.059	
Duration of further training	0.001		0.001	
# Previous further training	0.033**		0.026*	
# Firm-sponsored training		0.041***		0.040**
# Self-sponsored training		-0.015		-0.024
Adjusted R ²	0.525	0.525	0.491	0.492
Number of episodes	2,565	2,565	2,106	2,106

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Source: GLHS – own calculations

Thank you very much
for your attention!