



The return to work status one year after vocational retraining as a proxy variable for long term income trajectories?

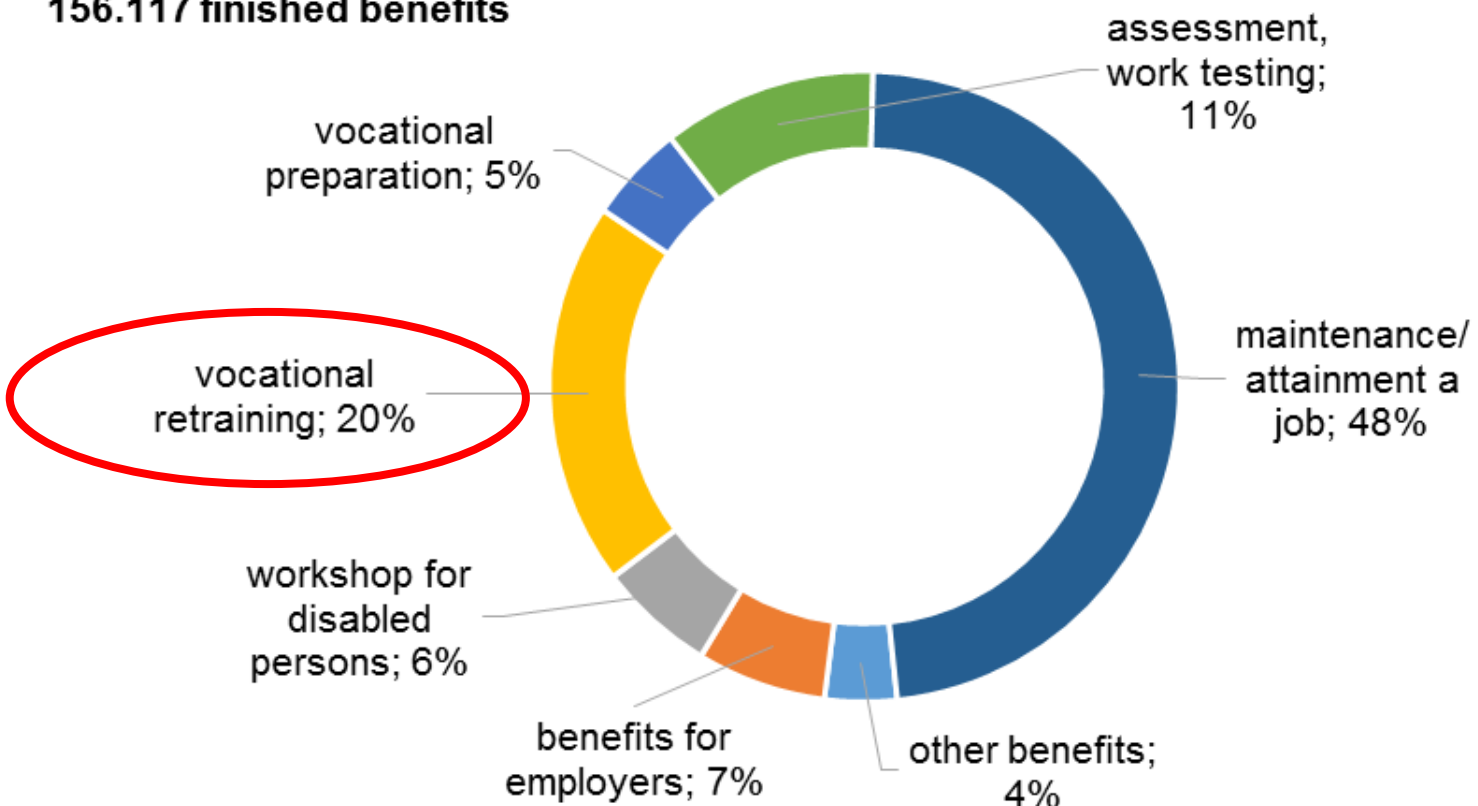
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GPI* Vocational Rehabilitation 2016

156.117 finished benefits



- Aim: return to work for people with disability due to chronic diseases AND a need for changing the working environment
- Increasing numbers and expenses
- Vocational retraining as cost driver: 346 Mio € and 52 % of all vocational rehabilitation costs (GPI 2016).

*German Pension Insurance "Rehabilitation" 2016 (Reha-Bericht 2018, p.55, own calculation).

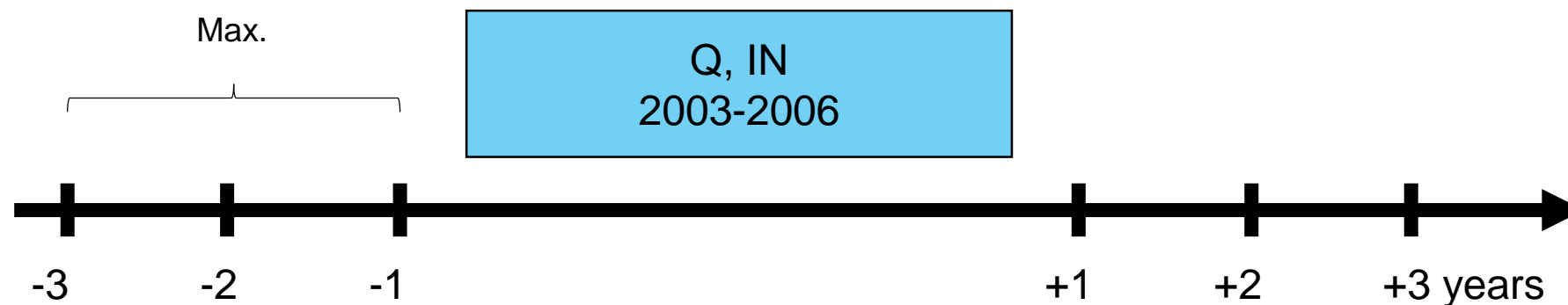
- Types of vocational retraining
 - Qualification (Q): „education of a new profession“, up to 2 years
 - Integration (IN): „training of special competences“ and „work experience“, up to 9 months
- Studies in Germany
 - Predictors of return to work: age, income, subjective health, labour market
(Streibelt & Egner 2013, Hetzel & Streibelt 2016)
 - Return to work: limited evidence for vocational retraining esp. long term
(e.g. Hetzel & Streibelt 2016, Bethge & Streibelt 2015, Neumann et al. 2010, Wuppinger & Rauch 2010, Slesina et al. 2010)

- Questions

1. How develops earned income after vocational retraining?
2. Can the return to work status (12 months follow-up) predict long term income trajectories?

- Data

- Administrative data of GPI: scientific use file* (40% random sample)
- Panel data



* FDZ-RV SUFRSDLV09B

- Fixed effects panel regression (e.g. Brüderl & Ludwig 2015, Allison 2009)
 - ⊕ causal effects
 - ⊕ controls of unobserved time-constant heterogeneity
- Outcome: average daily earned income per year (employer-reported)
- Predictors
 - Q/IN
 - age, age²
 - year, year², year³
 - interactions with year
 - year * rur (regional unemployment rate)
 - [year * RTW (employment status at 12 month follow-up)], „only for question 2“

persons with at least 1 VR in 2002-09	69.220	
- persons because of structural reasons	5.548	
<i>missing residence</i>		1.517
<i>residence abroad</i>		207
<i>duration of VR 0 or missing</i>		88
<i>duration of VR less than 43 days</i>		3.736
- persons because outside time frame	38.828	
<i>end of youngest VR 2007 or later</i>		25.404
<i>start of youngest VR 2003 or earlier</i>		13.424
- persons with missings	4.553	
<i>return to work at 12 months follow-up</i>		1.391
<i>income in all 3 years before</i>		125
<i>income at least in 1 of 3 years after</i>		3.037
= sample: persons with start and end of youngest VR in 2003-06	20.291	

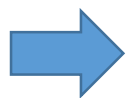
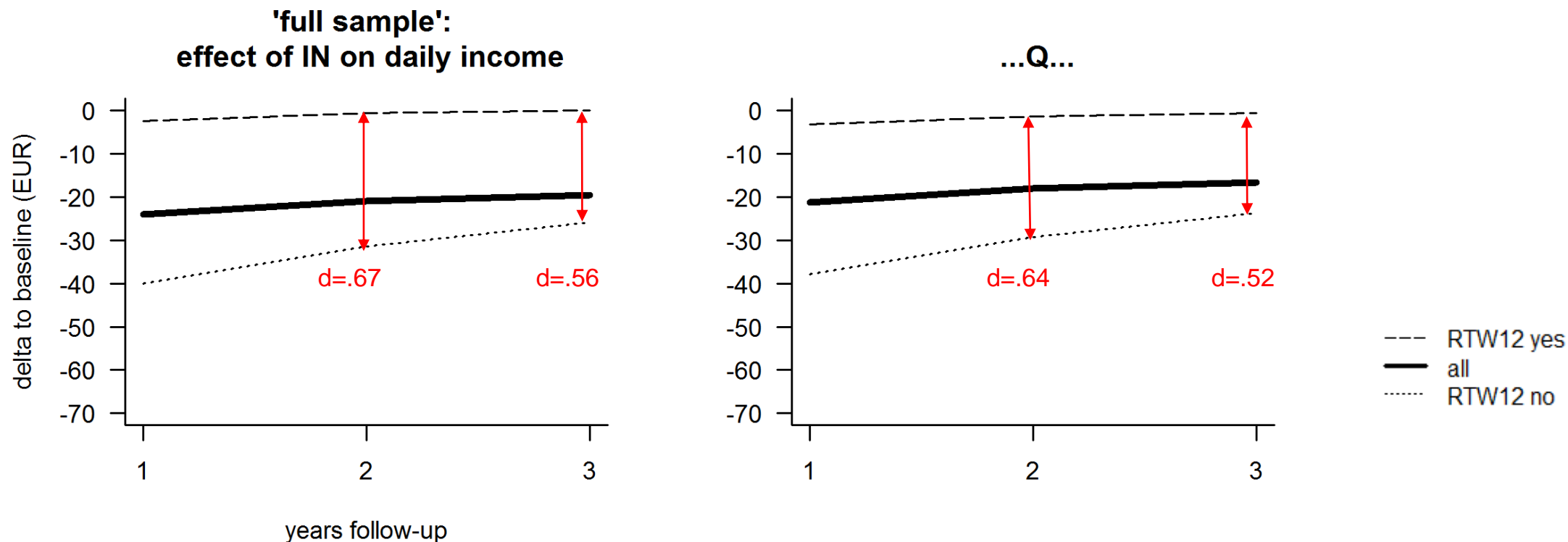
VR = vocational retraining, data: FDZ-RV SUFRSDLV09B.

	all		income before>0		income before=0	
	IN n=8.270	Q n=12.021	IN n=6.428	Q n=9.922	IN n=1.842	Q n=2.099
women (%)	30	31	29	31	31	33
age (years)	45±7	41±7	45±7	41±7	44±7	42±7
higher education^ (%)	50	61	52	64	43	46
unemployed before (months) (%)						
0	13	22	14	24	7	10
>0-18	53	52	60	56	28	32
>18	35	27	26	20	64	59
psyche/addiction (%)	14	13	13	12	17	18
return to work° (%)	43	54	46	58	34	36
daily income 0*	59±40	66±41	76±29	80±30	0±0	0±0
daily income 1 st year	31±33	42±37	33±33	46±37	23±31	26±33
daily income 2 nd year	32±33	45±38	34±33	49±38	25±32	28±32
daily income 3 rd year	32±33	46±39	35±33	50±39	25±32	28±33
Δ02 nd	-27±46	-21±44	-42±38	-31±39	25±32	28±32
Δ03 rd	-27±47	-20±45	-42±39	-30±40	25±32	28±33

Q vs. IN:

- younger
- higher education
- less months unemployed before
- higher income before
- outcome
 - higher RTW
 - higher income
 - „better“ delta of income

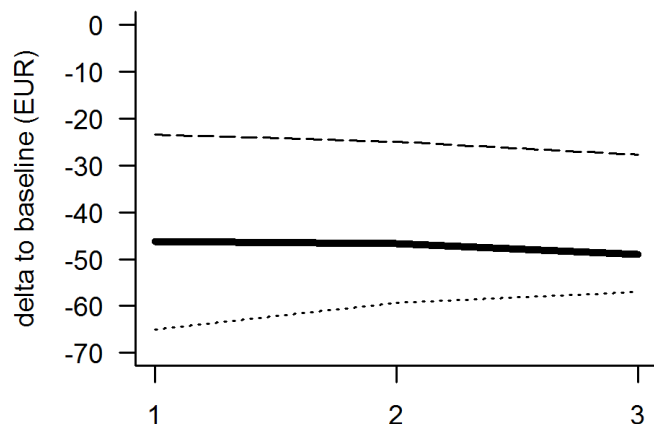
^ vocational school/ university, ° 12 months follow-up, * max 3 years before, data: FDZ-RV – SUFRSDLV09B.



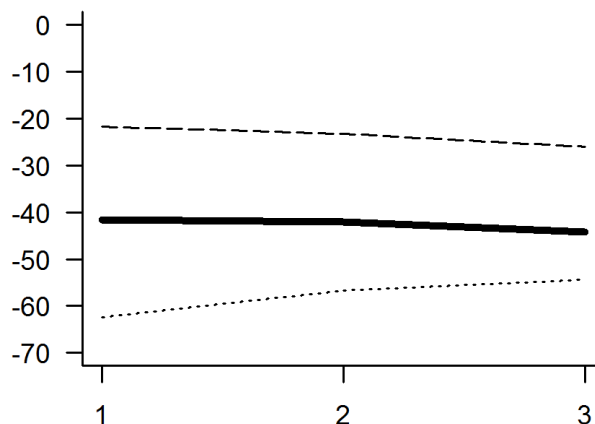
Message:

- Loss of income: ~20,- EUR per day / ~600,- EUR per month.
- Constant over the years, for IN and Q similar.
- Middle effect-sizes of RTW on income – even after 3 years.
- Average overall-effect! What about persons without income before?

**'before income >0':
effect of IN on daily income**



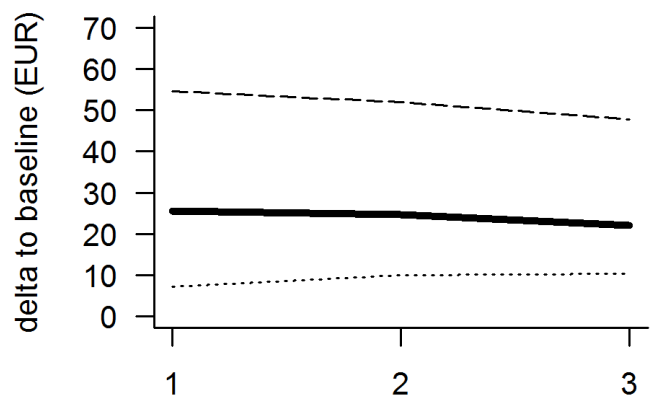
...Q...



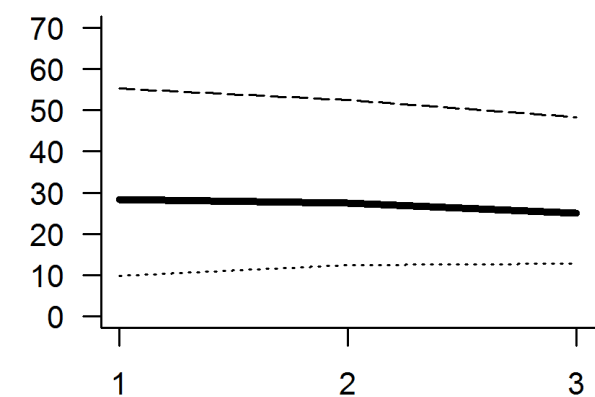
Persons with income before:

- Loss of income (~50 € per day / ~1500 € per month)
- RTW d>.72 large effect-sizes

**'before income = 0':
...IN...**



...Q...



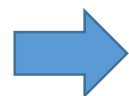
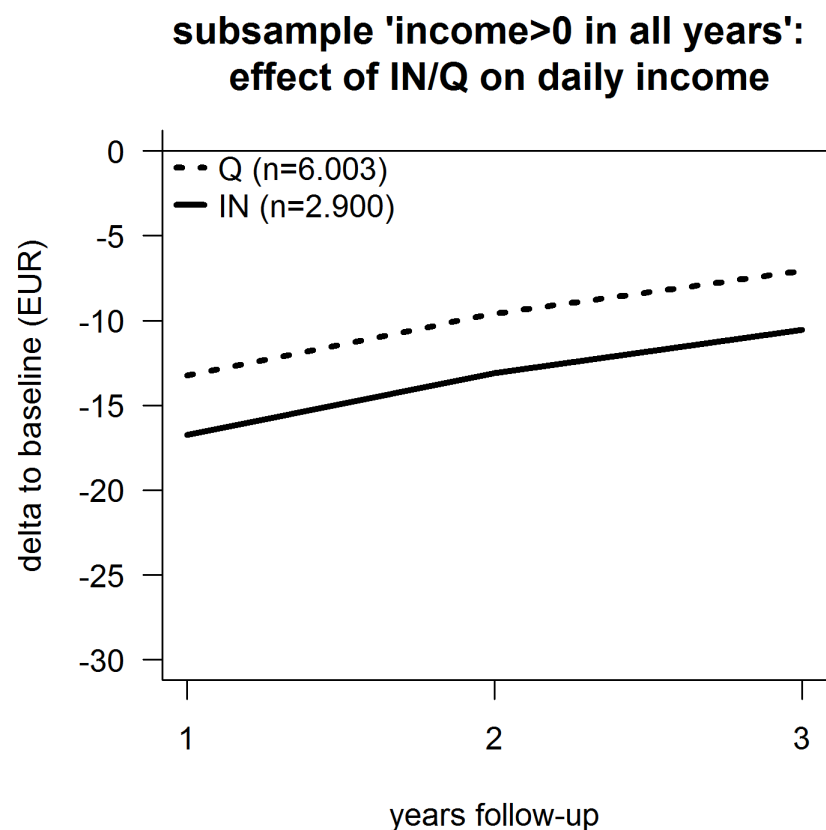
Persons without income before:

- Gain of income (~30 € per day / ~900 € per month)
- RTW d>1,08 large effect-sizes

--- RTW12 yes
— all
..... RTW12 no

years follow-up

- Up to here overall-effects → correct for groups of persons.
- But: „How much will I earn if I work all years after vocational retraining?“



Message for „all-time-workers“

- after 3 years: near baseline

- Loss of income because of part-time job?
- Effects of sequences of interventions?
- Even fixed effects regression can be biased!
 - time-variant unobserved heterogeneity
 - reverse causality
- Non-experimental data.

- Q with higher baseline of income than IN – but both show similar deltas.
- Overall effect: loss of income after vocational retraining.
- Increase of occupational participation for persons without before-income.
- Persons working all years after vocational retraining reattain baseline.
- Early return to work is key to higher income.
- RTW 12 months follow-up is a good proxy for long term income trajectories.

Thanks for your attention! If interested:

The Return to Work Status One Year After Vocational Retraining: Is it an Indicator for Long Term Occupational Participation?

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