

Strutture, strumenti e strategie di gestione del fabbisogno di manodopera qualificata in Svizzera.



IUFFP

ISTITUTO UNIVERSITARIO
FEDERALE PER LA
FORMAZIONE PROFESSIONALE



Jürg Schweri
Lorenzo Bonoli

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Structure of the presentation

- Data and research centres
- Observatory IUFFP
- Data from Federal Statistical Office (ESPA, STATENT, STATEM, no. AVS etc.): Example premature termination of apprenticeship contracts
- Specific surveys:
 - Barometer of apprenticeship places (SEFRI)
 - Transitions from Education to Employment TREE
 - Swiss Household Panel SHP: Example Horizontal Mismatch
 - Cost-Benefit Surveys in training firms
 - Skill needs: Report SECO, Example Career Study Health Care Assistants

Data and research centres

General:

- Federal Statistical Office
- FORS

Research on vocational education:

- IUFFP
- Leading Houses (SEFRI)
- Various institutes at universities

Swiss Observatory for Vocational Education and Training OBS IUFFP

- Part of division «Research + Development» at IUFFP
- Active as of this year
- aim: «L'Osservatorio svizzero per la formazione professionale identifica, monitora e analizza gli sviluppi in ambito sociale, economico e tecnologico determinanti l'evoluzione della formazione professionale.»

Ambiti d'attività e temi prioritari



Statistiche Ufficiali : Ufficio federale di statistica

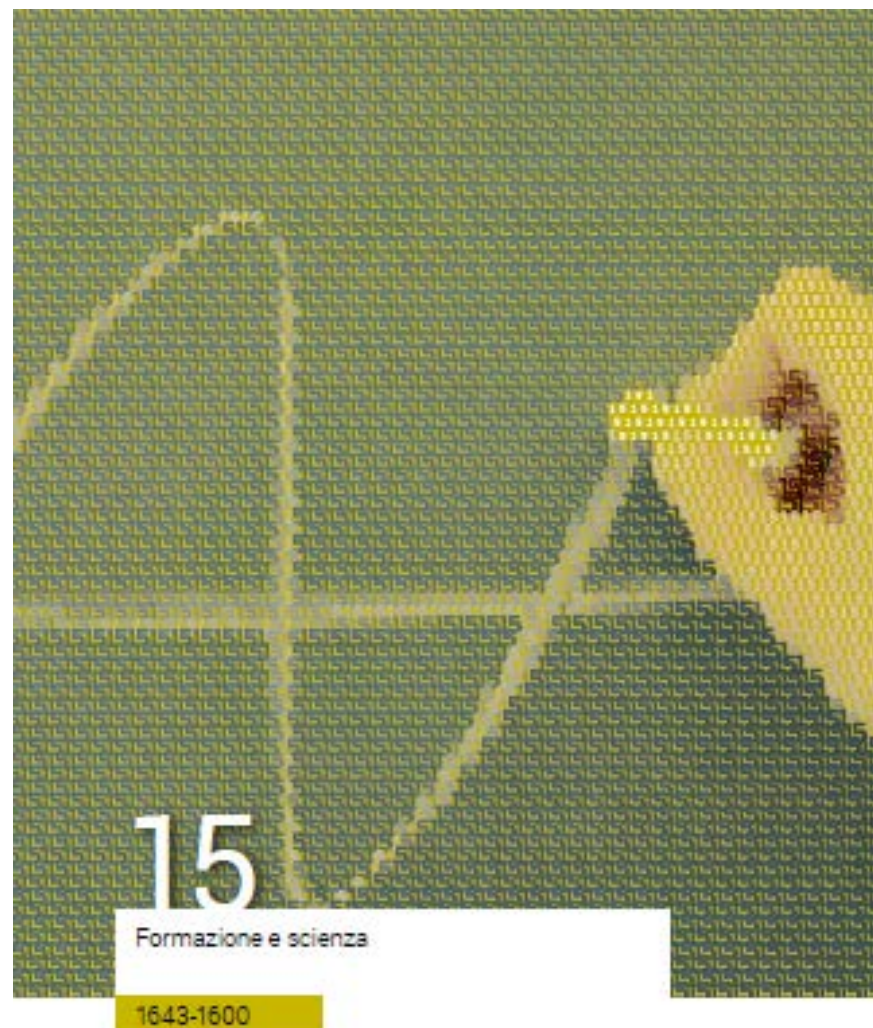
- Statistica strutturale delle imprese (STATENT)
- Statistica dell'impiego (BESTA / STATEM)
- Rilevazione sulle forze di lavoro (SAKE / ESPA)
- Education statistics; new: personal identifier «AVS number» => Example: premature termination of apprenticeship contracts
- Education indicators

Premature termination of apprenticeship contracts

- Mandate of FSO to IUFFP
- Recommend a general methodology how to calculate the longitudinal share of premature contract terminations
- Calculate longitudinal share of premature contract terminations for *two-year apprenticeships*
- Results for three- and four-year apprenticeships will follow in 2017 and 2018 (data not yet available)

Data

- Information on every apprentice in Switzerland in 2012-2014
- Yearly information linked by personal identifier
- Matched employer-employee data
- Study on premature contract termination:
 - 5409 individuals
 - that started a two-year apprenticeship in summer 2012



Scioglimento del contratto di tirocinio, ripresa, successo

Risultati relativi alla formazione professionale
di base su due anni con certificato federale
di formazione pratica (CFP), 2016



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Dipartimento federale dell'interno DFI
Ufficio federale di statistica UST

Neuchâtel 2016

Definitions

Premature termination of apprenticeship contract

= Termination of contract before the regular period of 2, 3 or 4 apprenticeship years (depending on occupation)

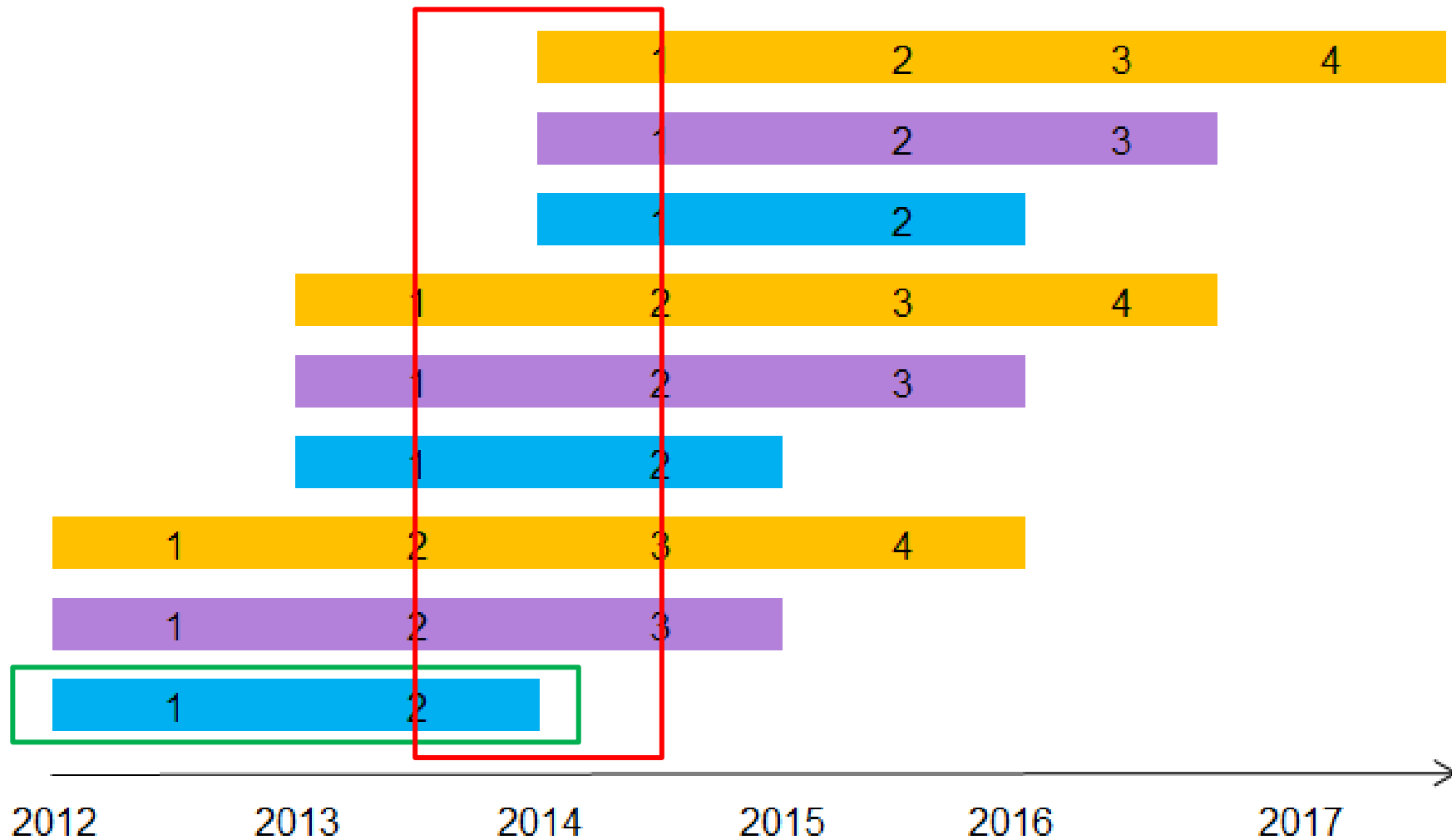
Premature terminations may be due to:

- Dropping out of education
- Change of training firm
- Change of occupation or level of apprenticeship (AFC → CFP or CFP → AFC)

Drop-out

= Premature termination without reentry into a certifying education on secondary II level

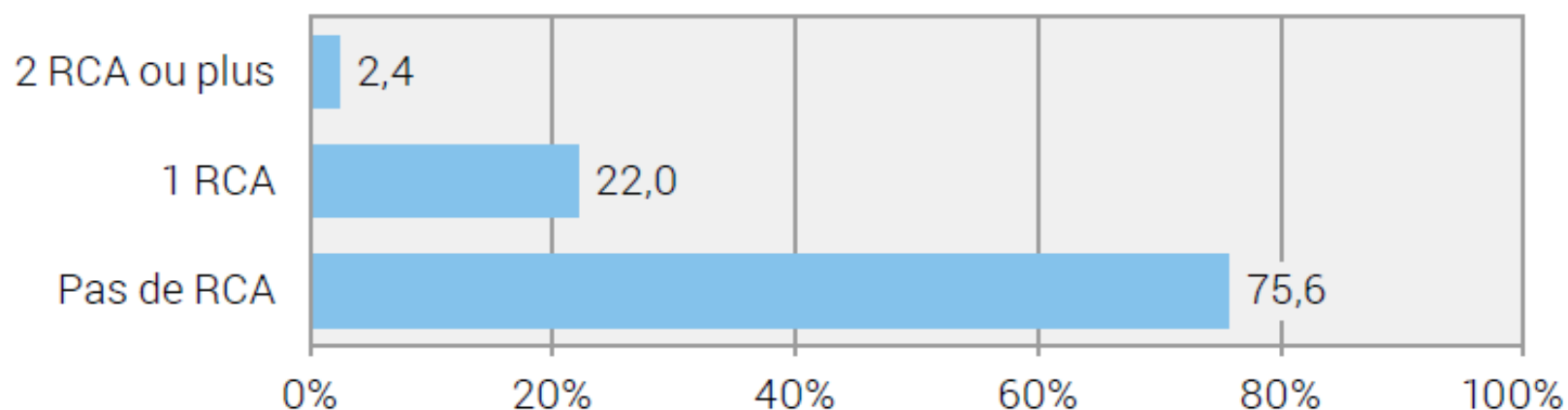
Graphical representation of different kinds of shares



Longitudinal share: Schmid et al. (2016)

RCA par personne

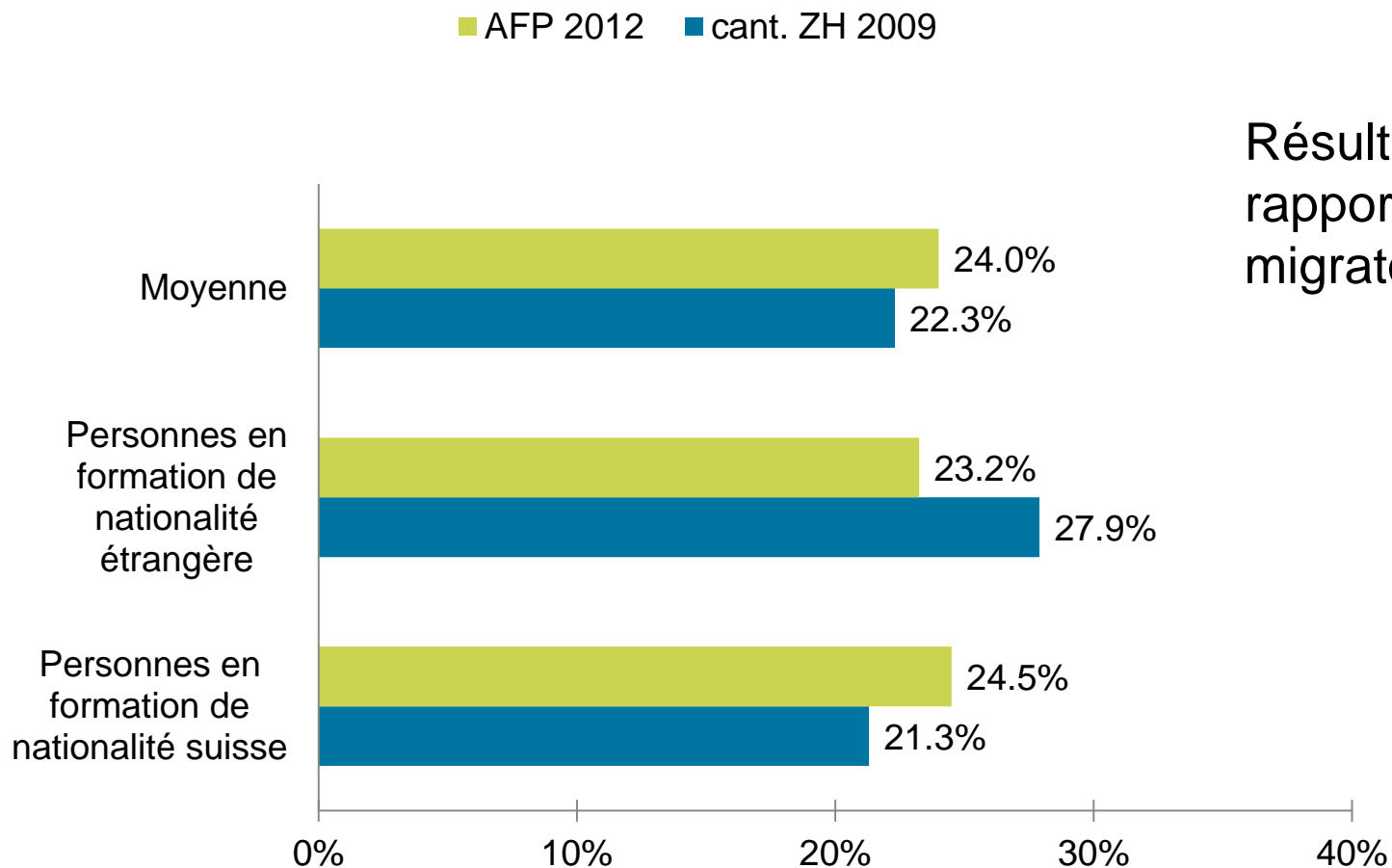
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Sources: OFS – SFPI; IFFP – Mandat résiliation du contrat d'apprentissage

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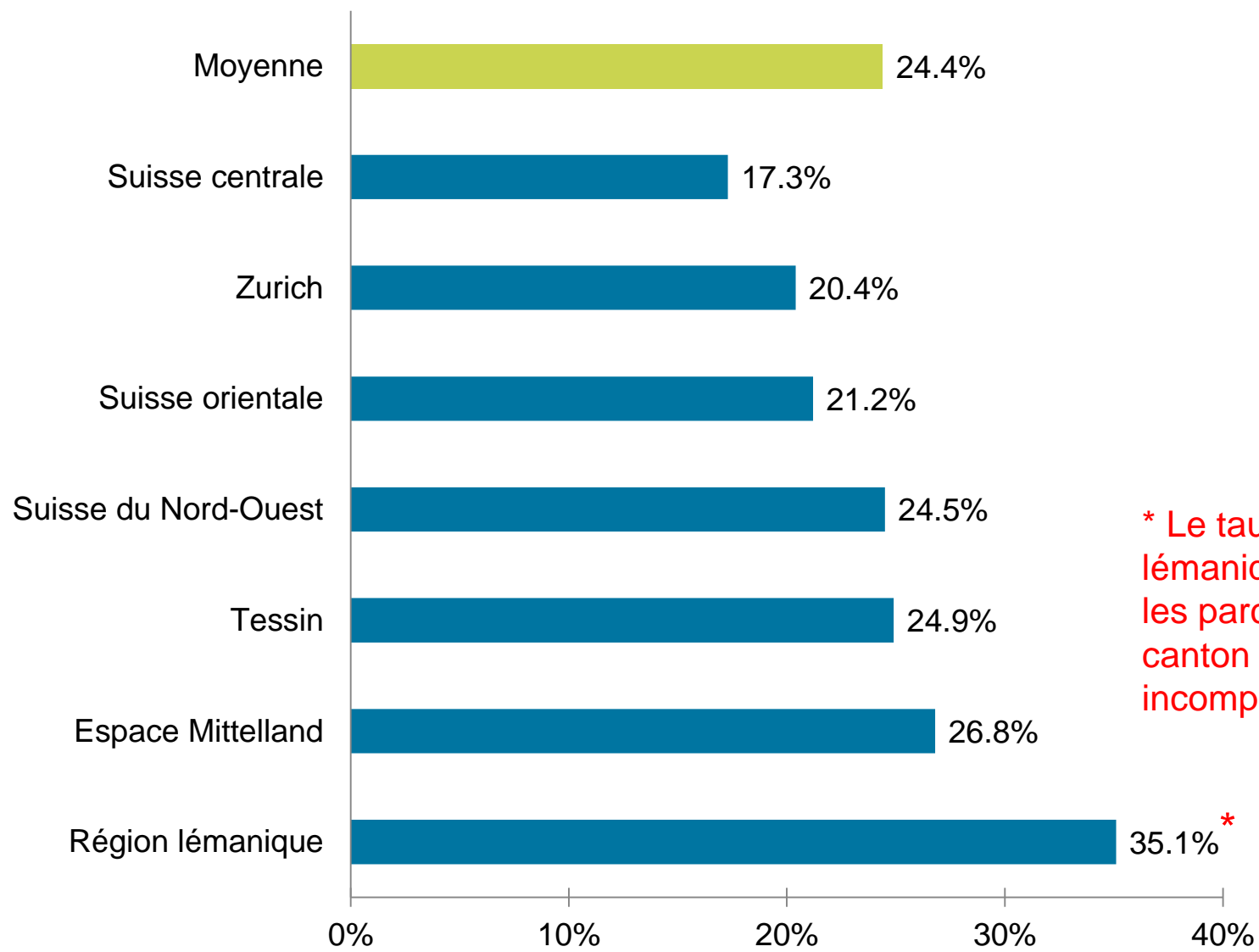
Migration status



Résultats divergents par rapport au contexte migratoire

Sources: Magshoodi & Kriesi 2013; Schmid & Neumann 2016;
représentation graphique interne

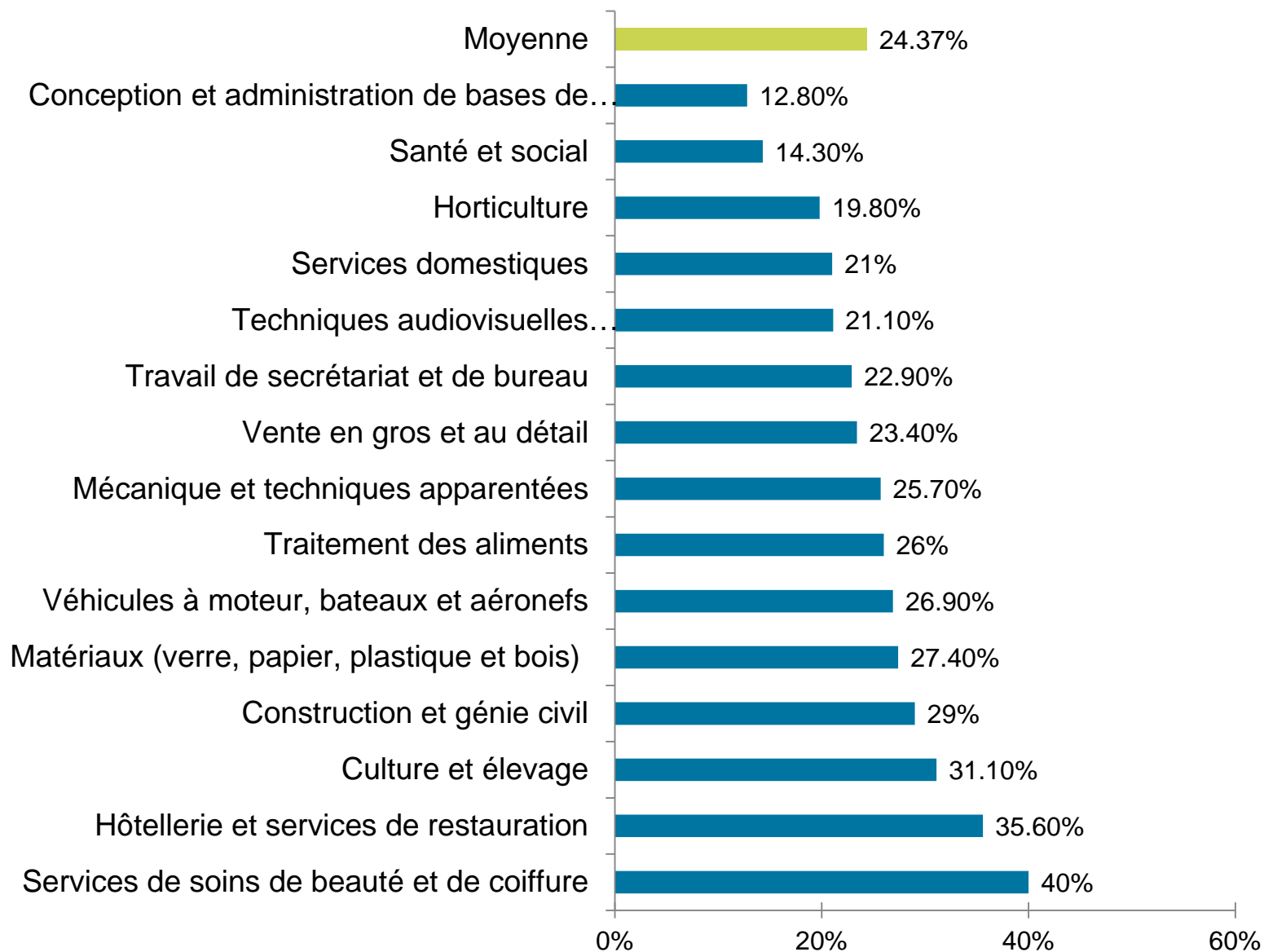
Regions



* Le taux de RCA de la Région lémanique est provisoire car les parcours de formation du canton de Genève sont incomplets.

Source: Schmid et al. 2016

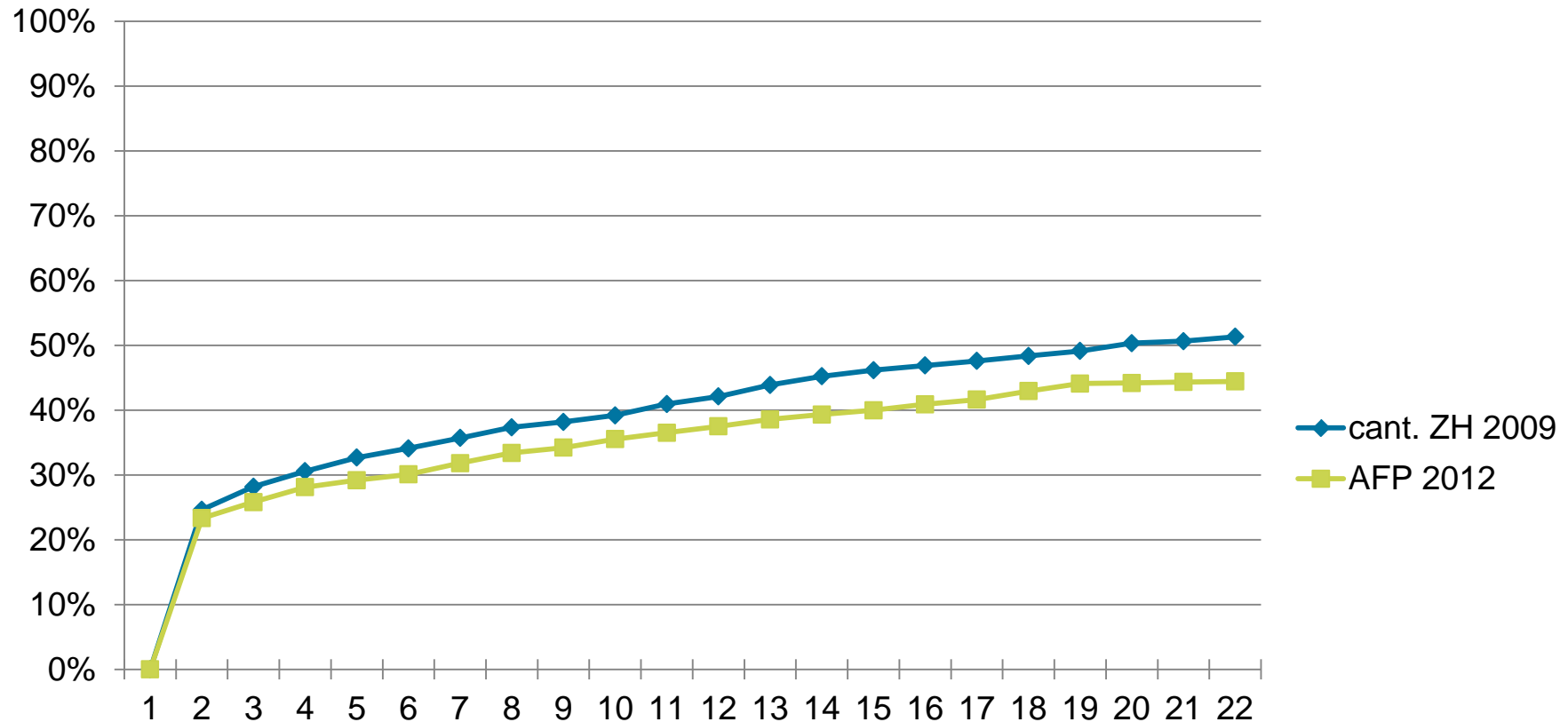
Vocational domain



Source: Schmid & Neumann 2016;
Les domaines de formation comptant moins de 20 contrats d'apprentissage ne sont pas représentés

Reentry after contract term.

Comparaison canton de Zurich (ensemble CFC) et AFP Suisse: délai avant la réentrée



Mois suivant une première résiliation du contrat d'apprentissage

Sources: Maghsoodi & Kriesi 2013; Schmid & Neumann 2016;
représentation graphique interne

Specific surveys

- Barometer of apprenticeship places
- Transition from Education to Employment TREE
- Swiss Household Panel SHP: Example Horizontal Mismatch
- Cost-Benefit Surveys (Univ. Berna / IUFFP)
- Skill needs: Report SECO, Career Survey in Healthcare

Tree

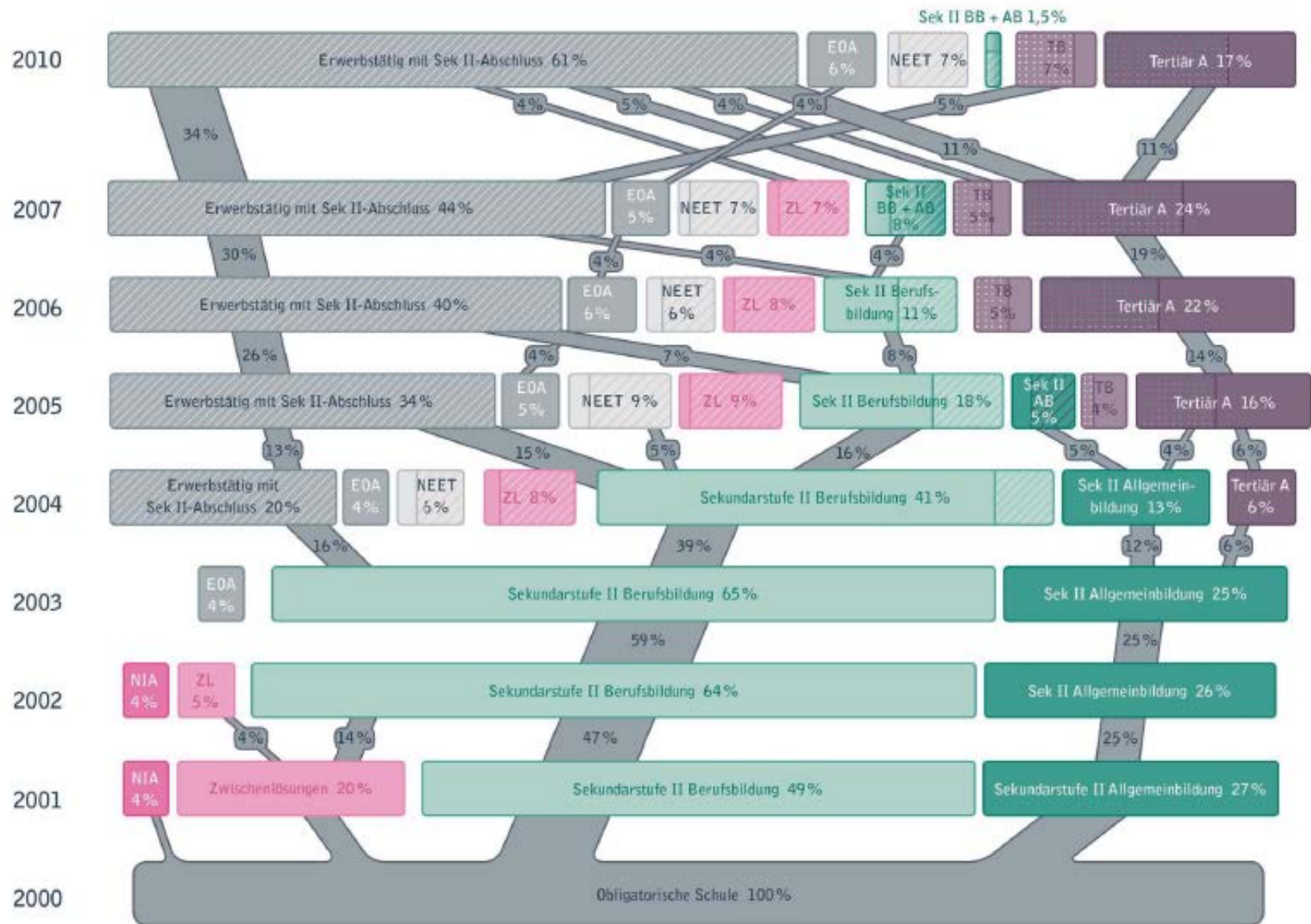


Abbildung 2: Ausbildungs- und Erwerbsverläufe 2000-2010

SHP: Horizontal Skills Mismatch

- ▶ Robst (2007) analyzes students (not) working in their field of study in the US
- ▶ He finds wage penalties of 10% for horizontal mismatch
- ▶ Nordin et al. (2010) find wage penalties of 20% for mismatched men and 12% for mismatched women in Sweden
- ▶ Hypothesis: the more specific the education, the higher the penalty
- ▶ Thus, wage penalty must be high in Switzerland due to firm-based vocational education

Two types of horizontal mismatch

- ▶ Divergence between learned and current occupation
 - ▶ Does the formal education system enable successful changes between different occupations?
 - ▶ Time-lag involved between learned occupation and current occupation
- ▶ Divergence between skills a worker possesses at a certain point of time and skills needed at the current job
 - ▶ Is the combination of schooling, continuing education and on-the-job training able to keep workers' skills matched with labor market needs?
 - ▶ Skills updating/adjusting assumed (continuing training, training-on-the-job, formal education)

Swiss Household Panel SHP (1999-2012)

- ▶ Individuals between 20 and 60 years, employed at least 50%, who reveal full information about wages, occupation and qualification variables
- ▶ Full-time annual wages between 24'000 and 300'000 CHF
- ▶ Two samples:
 - ▶ Full sample: 7'947 individuals (36'462 person-year observations, whereof 16'239 concern women and 20'225 concern men)
 - ▶ Bio subsample includes retrospective information on learned occupation: 2'475 individuals (16'252 person-year observations, whereof 6'778 concern women and 9'474 concern men)


Subjective mismatch variables

Self-assessed qualification in comparison with current job.

Possible answers are

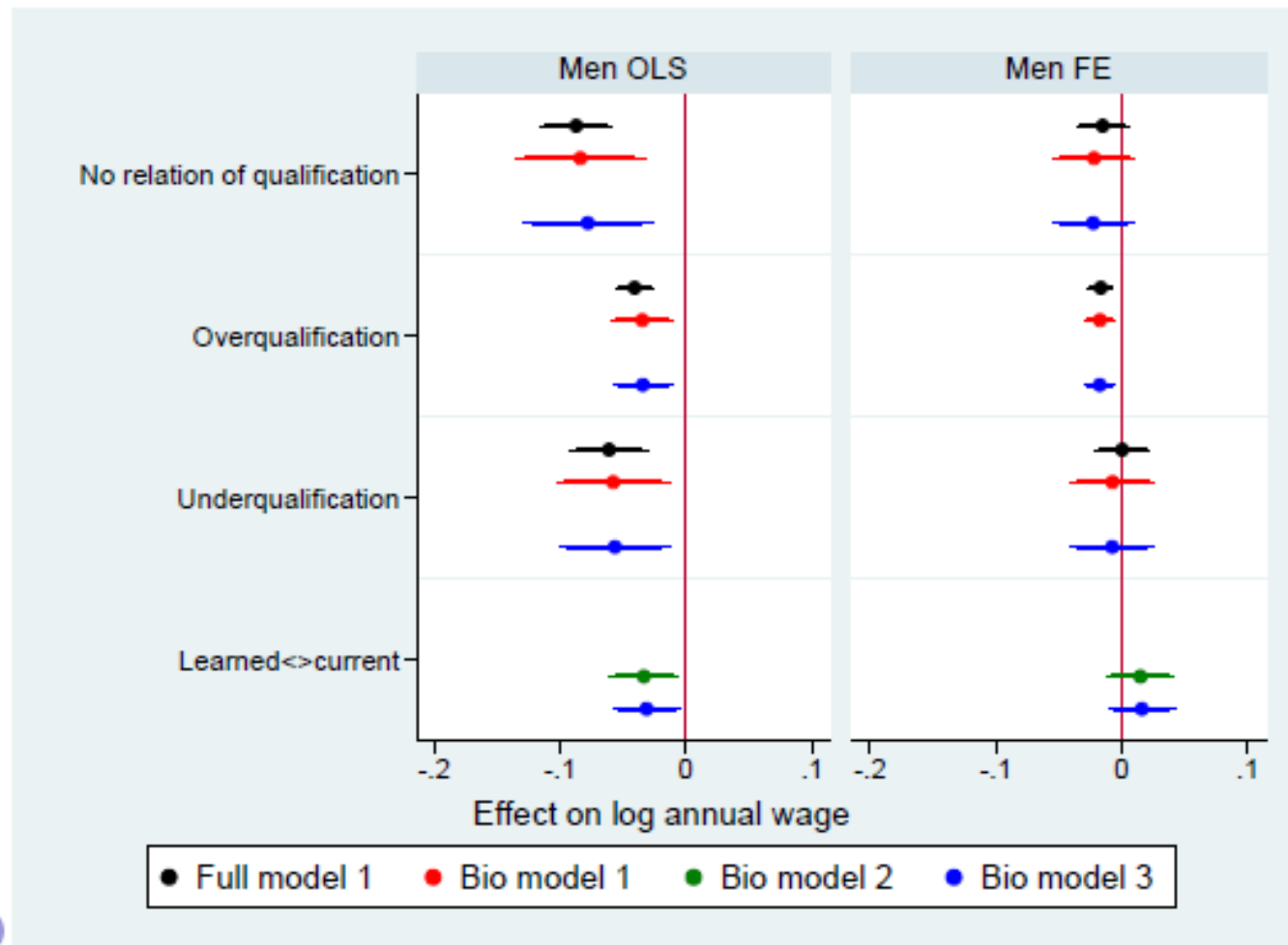
- ▶ qualifications correspond to job (adequate qualification)
- ▶ **own qualifications do not relate to job** > subjective horizontal mismatch
- ▶ qualifications are not sufficient (underqualification)
- ▶ qualifications are superior to job (overqualification)

Objective variable on horizontal mismatch

Comparison of a set of at most 5 learned occupations with the current occupation today, based on 2-digit ISCO classification 

- ▶ Match if at least one of the learned occupations is equal to the current occupation
- ▶ Mismatch if there is no learned occupation equal to the current occupation
- ▶ Examples: no mismatch when moving from **cook** [512] in the field [51] to **waiter or barkeeper** [513] in the same field. However, moving from **cook** [512] to **salesperson** [520] is a change on the 2-digit aggregation level of occupations.

Figure: Results for Men

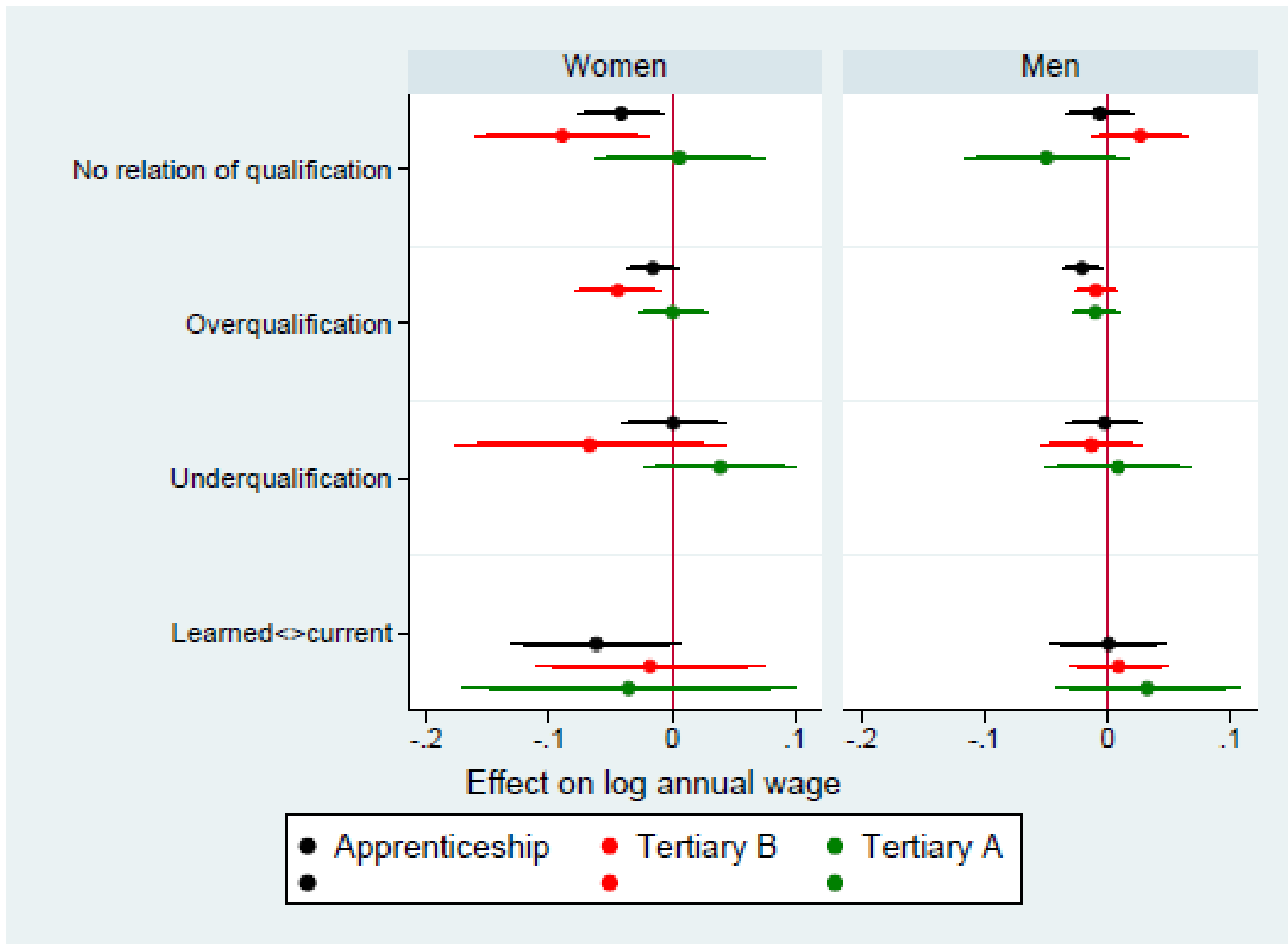


Results

Notes: This figure provides a graphical illustration of the results from multivariate regression (OLS and fixed effects regressions of log of annual wage on covariates and mismatch variables). Each dot refers to the estimated coefficient, the thinner left- and right-hand lines refer to the 95% confidence interval, and the thicker lines refer to the 90% confidence interval.



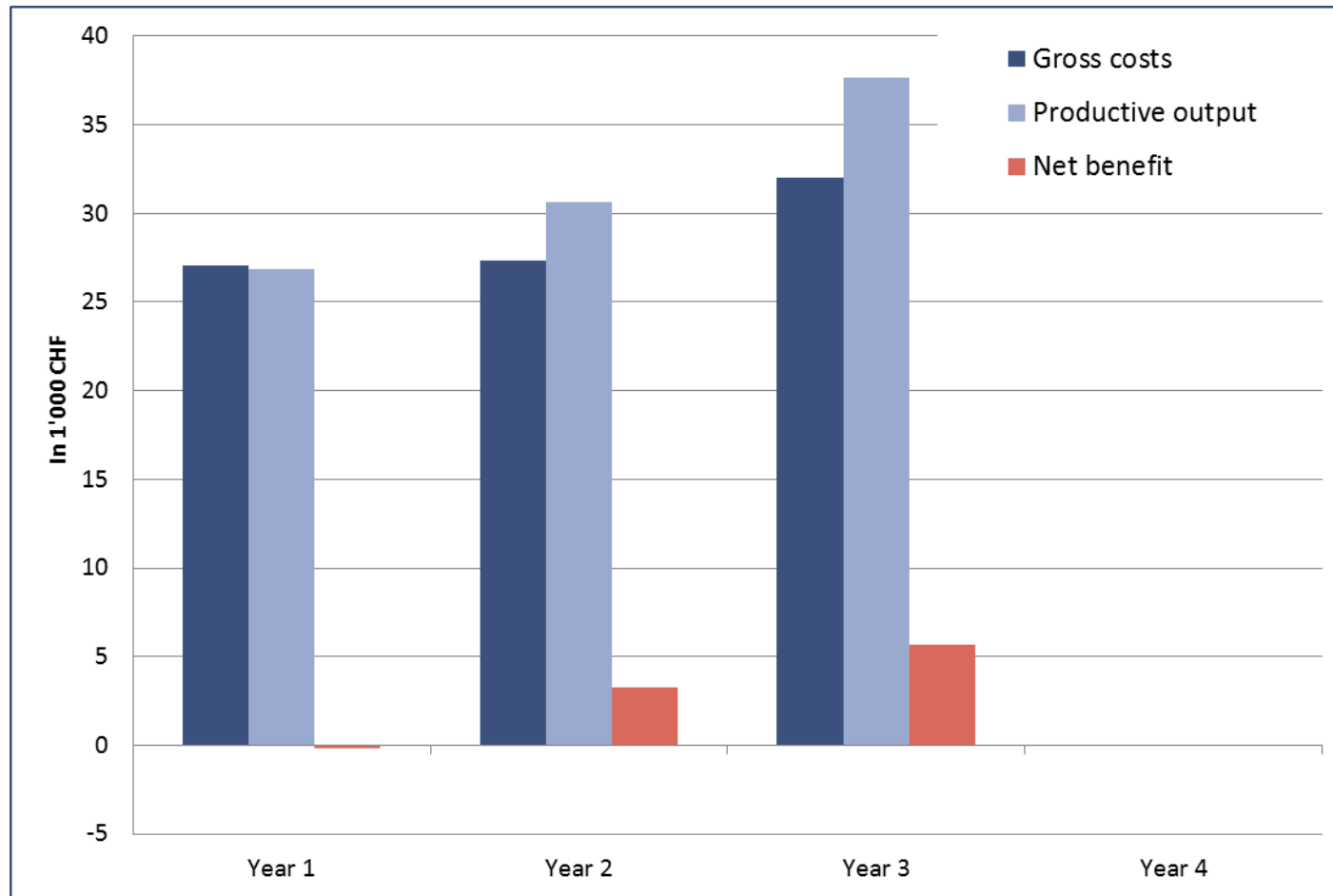
Figure: Educational Groups FE



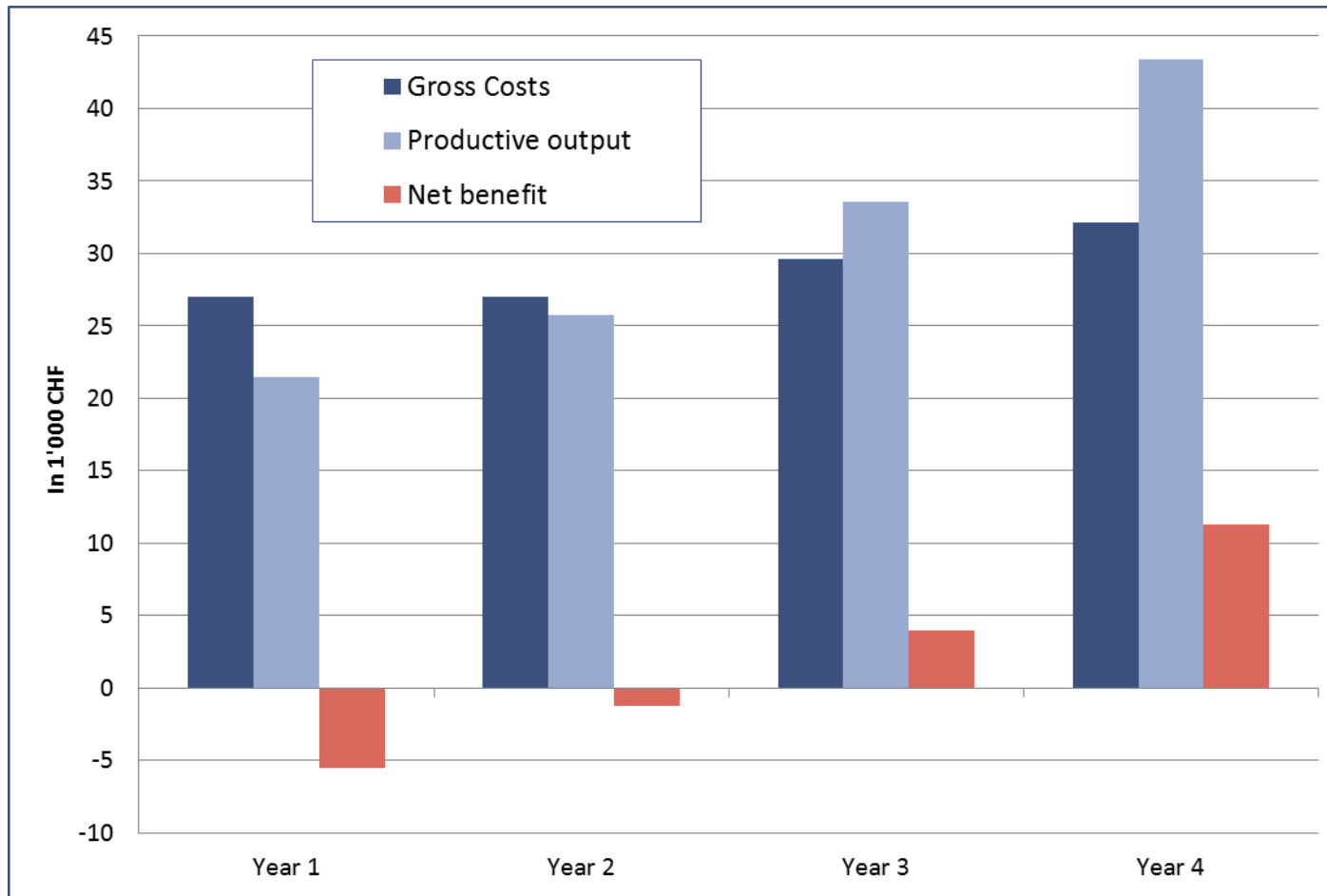
Cost-Benefit surveys

- Data on firms' costs and benefits for training apprentices
- Since 2000, four national surveys on costs and benefits by the University of Bern or IUFFP (Schweri et al. 2003, Mühlemann et al. 2007, Fuhrer & Schweri 2010, Strupler & Wolter 2012)
- Further surveys by IUFFP targeted at specific occupations (ex. nurse training)
- Most recent national survey: Strupler and Wolter (2012)
- 2400 Swiss host companies (random sample)

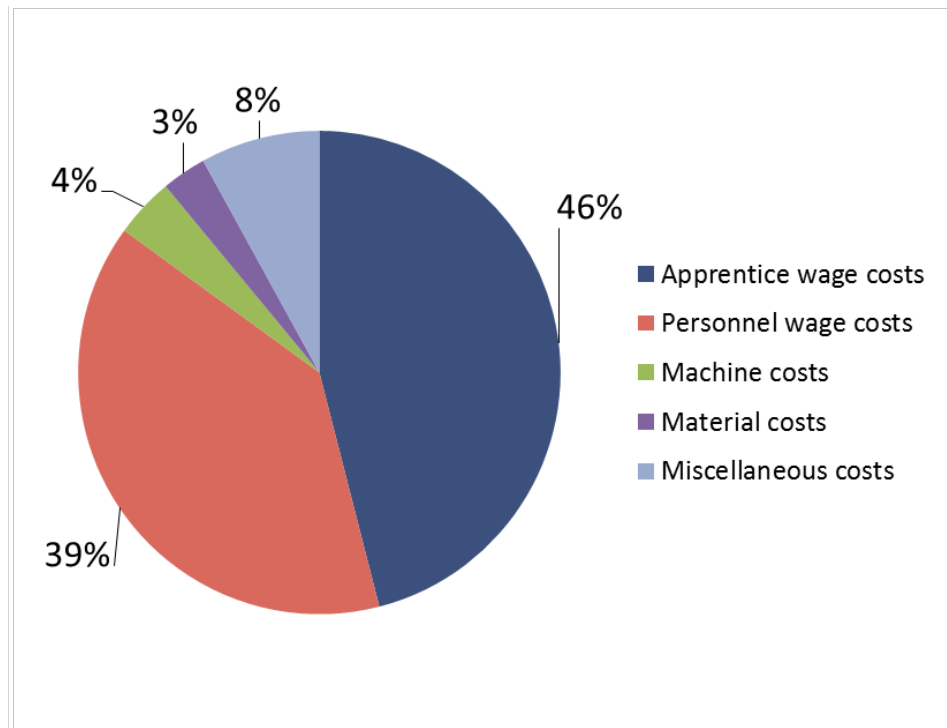
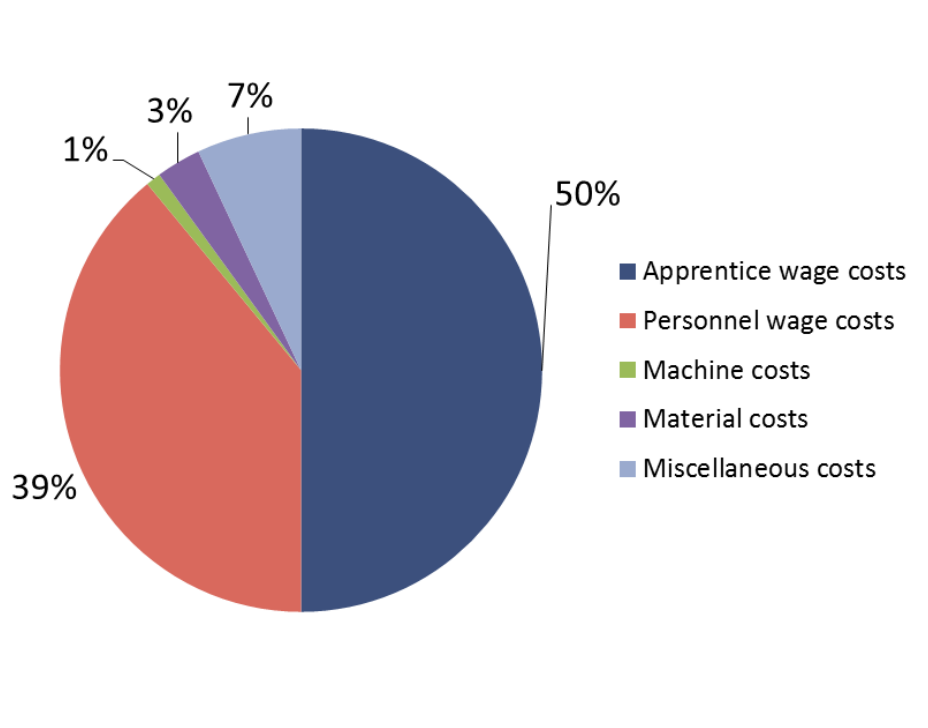
CB, 3-year apprenticeships



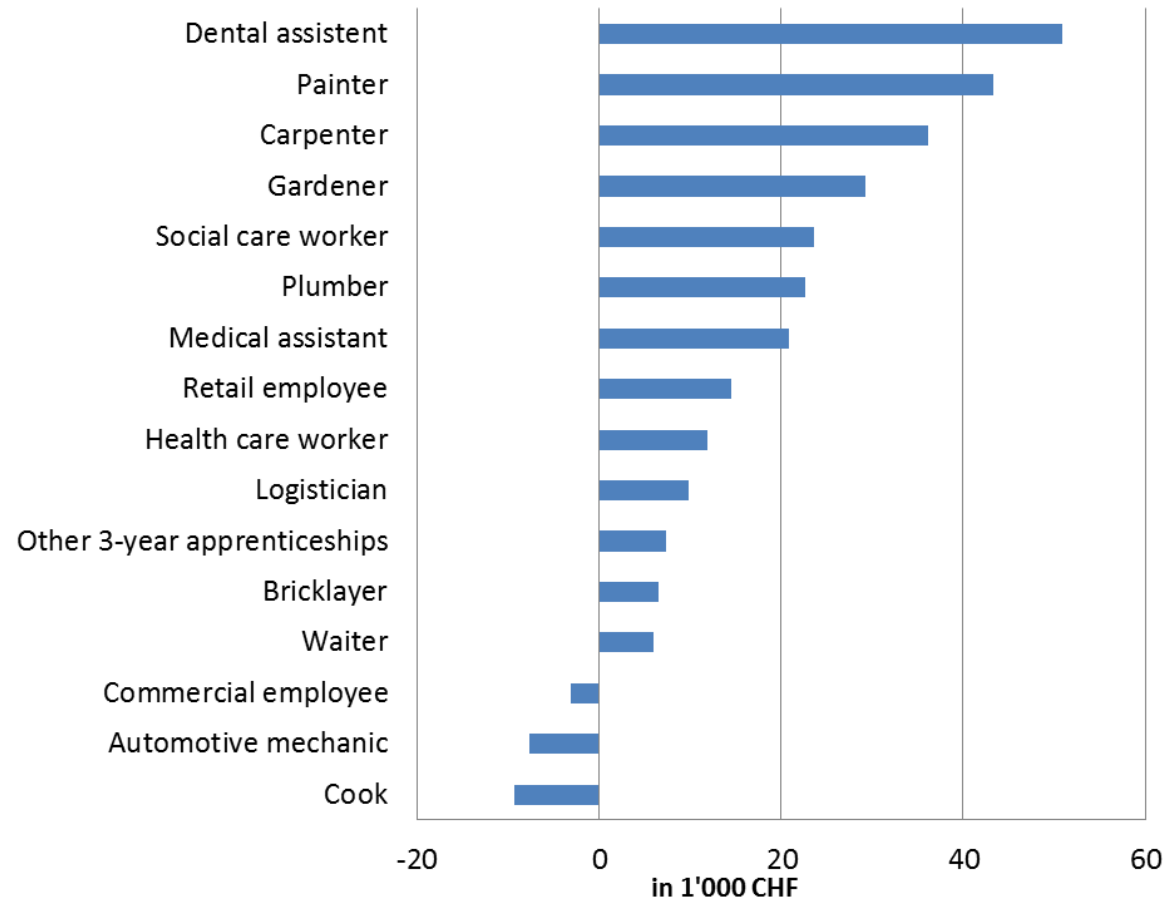
CB, 4-year apprenticeships



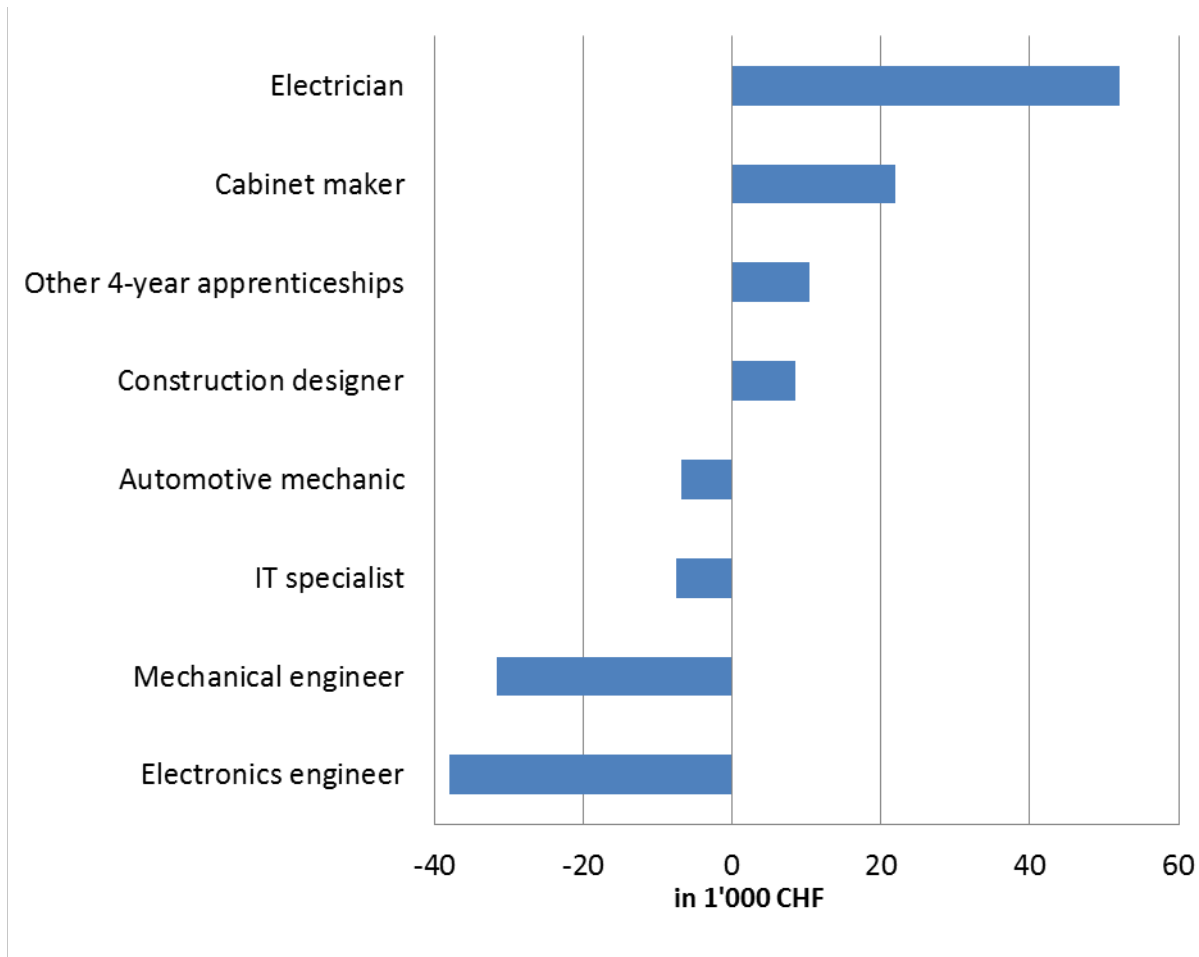
Gross Costs



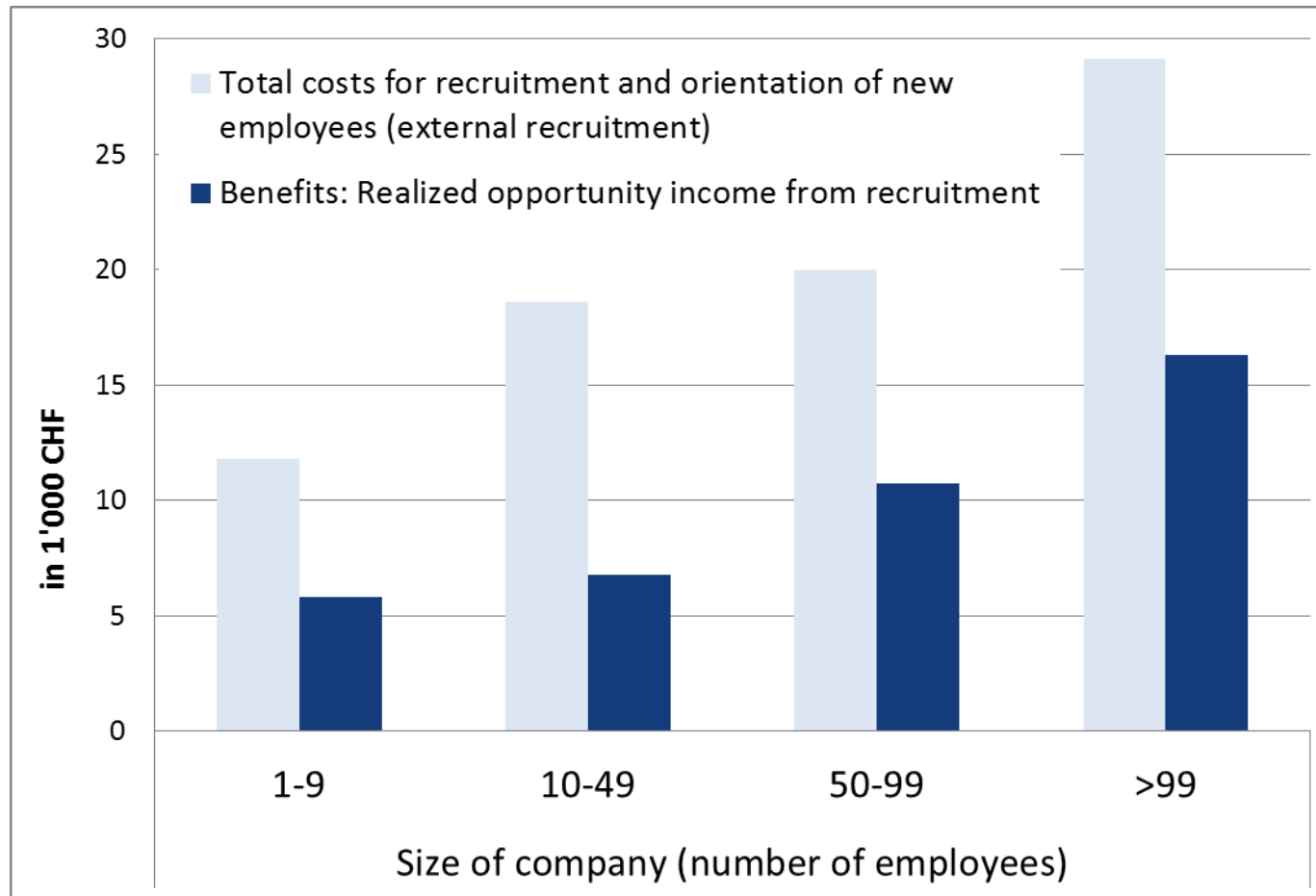
Net costs per occupation (3y.)



Net costs per occupation (4y.)



«Opportunity benefits»



Report SECO

Fachkräftemangel in der Schweiz - Ein Indikatorensystem zur Beurteilung der Fachkräftenachfrage in verschiedenen Berufsfeldern (in tedesco)



Autore/i: B,S,S. Volkswirtschaftliche Beratung AG

Prezzo: gratuito, disponibile solamente in formato PDF, nessuna versione stampata

Studie im Auftrag des Staatssekretariats für Wirtschaft (SECO)

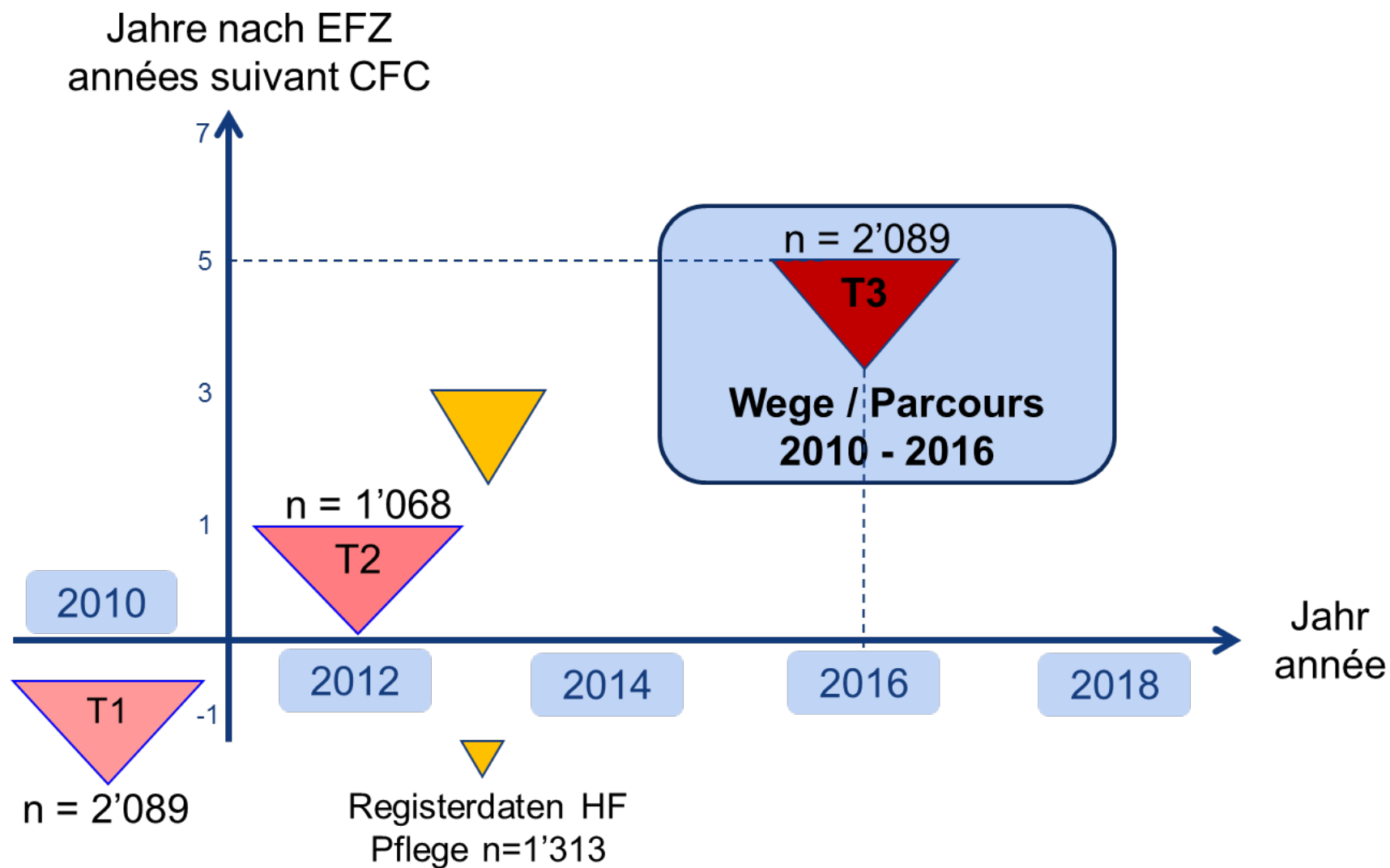
Skill needs in healthcare

- Motivation: shortage of nurses
- Study on occupational career of health care assistants (HCA)
- HCA: 3-year apprenticeship, most important pool of recruitment for nurses
- Nursing: additional 2 to 3 year education (professional college or univ. of applied sciences)

Career survey healthcare

- Cooperation with healthcare association “OdASanté”
- Full cohort of Healthcare Assistant Students (HCA)
- Longitudinal survey at 2 points in time (2010 – 2012) at
 - End of upper-secondary apprenticeship training, n=2089
 - One year after its completion, n=1068

Design



One year after apprenticeship

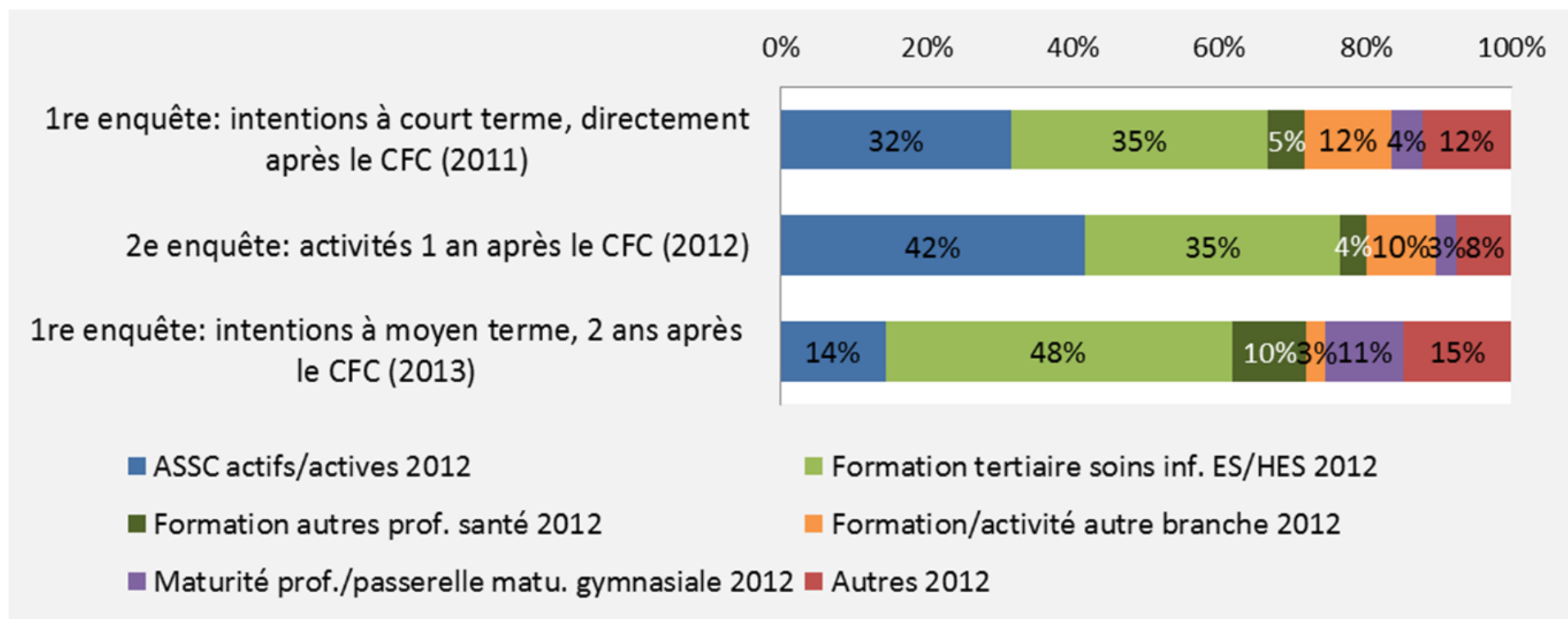


Illustration 5 : Vie professionnelle un an après l'obtention du CFC comparée avec les intentions déclarées en 3^e année d'apprentissage pour le court et le moyen terme

Remarques : données en pour-cent. Barre supérieure : intentions à court terme, soit directement après l'obtention du CFC en 2011 (tirées de la 1^{re} enquête, n=2089). Barre du milieu : activités exercées un an après l'obtention du CFC, soit en 2012 (n=1068). Barre inférieure : intentions à moyen terme, soit pour 2013, deux ans après l'obtention du CFC (tirées de la 1^{re} enquête, n=2089).

Role of wage expectations for enrolment in college

Table 6

Mlogit regression of realized career choice (1 year after graduation from training, 3 options) on expected returns

	(1) Working as healthcare employee	(2) Studying nursing	(3) Other option
Proportions in sample	0.406	0.355	0.239
Expected returns to nursing college	-0.285** (0.130)	0.561*** (0.120)	-0.276** (0.111)
N	910		

Average marginal effects of a multinomial logit model. Standard errors in parentheses; significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Covariates included in model: see list in 4.4.

Conclusion

- Apprenticeship system is close to the labour market by design
- Governance of VET system through partnership with a strong role for professional associations
- Planning of the VET sector supported by:
 - Register and survey data
 - Infrastructure for research
- Our strategy:
 - Own surveys on specific topics, with value added for the VET field and academic research
 - Make use of promising data provided by FSO and others, for counseling and research