Skills2Capabilities

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Building up Employability: Evidence from VET Curricula Updates in the Netherlands

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Outline

1. Summary
2. Quantifying VET Skill Supply in the Netherlands
3. Results
4. Discussion

Section 1. Summary

Background

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- We:
  - **quantify the skills** described in the vocational education training (VET) curricula.
  - identify **changes** in skills supply within curricula over time
  - find a positive relation between social and technical skills intensity and **labor market outcomes**
  - find positive returns to **technical skill updates**

Section 2. Quantifying VET Skill Supply in the Netherlands

Data Description: Curricula text data from SBB

- VET curricula defined at national level (SBB; Foundation for Cooperation on Vocational Education, Training and the Labour Market)
- Available years from SBB: 2012-2023
- Process completed: 2012-2015
- 685 curricula; 21% programs updates in 2013-2015

Skill Quantification: An Example

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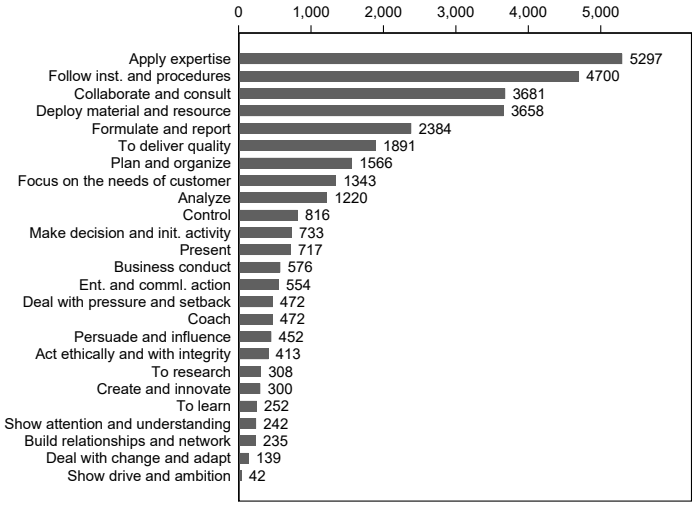
- Each VET program i has set of skills j that are composed of practices p that describe the skill.
- Education Program: Fashion/custom clothing employee
- $Skill_1$: Collaborate and consult
- Practice list within $Skill_1$, $N_{Practices_1} = 7$:
  - Know the normal image of a pattern design
  - Know the required pattern techniques
  - Simple pattern calculation
  - Simple pattern drawing
  - Listening to instructions
  - Exchange information
  - Filling in forms, drawing up messages/advertisements/quotes/ procedures, taking notes

Skills description

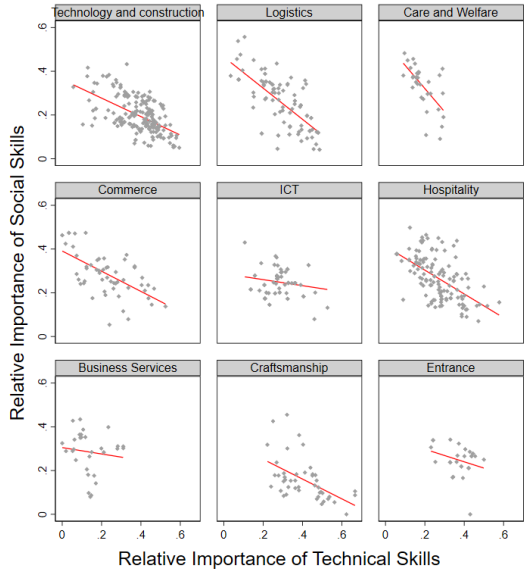


Skill Quantification: Index Construction

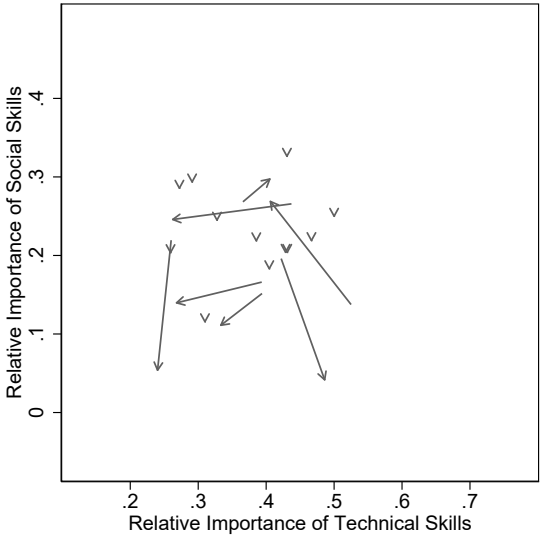
- The intensity of skill j in diploma i is calculated as:
- $$Skill_{ijt} = \frac{N_{Practices_{ijt}}}{N_{TotalPractices_{it}}},$$
- where $Practices_j$ are the smallest units that define a skill.
- In this way, we **measure the number of skills** within curricula and **how complex these skills are**.

Section 3. Results

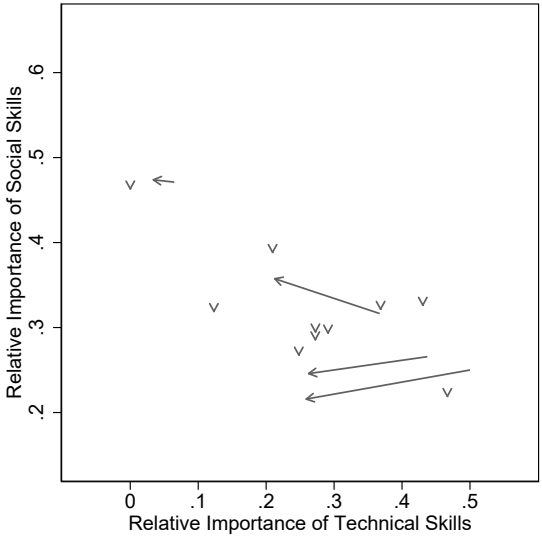
Social and Technical Skills in Base Year (2012)



Skills supply change: Tech skills intensive VET programs



Skills supply change: Social skills intensive VET programs



Skills and Labor Market Outcomes

We combined two data sets:

1. Skill supply in VET curricula (2012-2015)
2. Survey data from VET graduates (MBO Monitor) to observe labour market outcomes; 1.5 y after graduation

Assumption: individuals should have acquired the skills listed in curricula

	Employed	Mismatch	Monthly Wage	Working Hours	Hourly Wage
(1) Social	0.163 ***	-0.128 ***	549.482***	-0.038***	4.802***
	(0.0034)	(0.0037)	(7.0137)	(0.0921)	(0.0527)
(2) Technical	0.388***	-0.262***	1214.19***	2.320***	9.392***
	(0.0075)	(0.0084)	(16.2771)	(0.2087)	(0.1239)
N.obs	107,654	77,407	64,585	74,896	62,804

Note: regressions include controls such as Education Program Levels, Year, Race, and Gender.

Exogenous Shock: Exposure to the curricula updates

- Do curricula updates lead to better labour market outcomes?
- 2SLS to compare VET graduates from cohorts before and after update

	Mismatch	Hourly Wage
(1) Updates	-0.027***	0.661***
	(0.0034)	(0.0540)
(2) Social Skills	-0.307***	6.695***
	(0.0391)	(0.5189)
(3) Technical Skills	-0.606***	13.632***
	(0.0768)	(1.075)
N.obs	77,407	62,804

Note: regressions include controls such as Education Program Levels, Year, Race, and Gender.

- YES

Section 4. Discussion

Findings and future work

- Findings:
  - Face-validity of index: programs that are in more social(/technical) score higher on social(/technical) skill supply.
  - Updates: few, not very systematic.
  - VET programs strong in social / technical skills have better labour market outcomes.
  - VET revisions towards stronger social / technical skills lead to better labour market outcomes.

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  - Face-validity of index: programs that are in more social(/technical) score higher on social(/technical) skill supply.
  - Updates: few, not very systematic.
  - VET programs strong in social / technical skills have better labour market outcomes.
  - VET revisions towards stronger social / technical skills lead to better labour market outcomes.
- Future work:
  - $\longrightarrow$ finish constructing the indices for the year 2016-2023
  - $\longrightarrow$ look into the returns to other skills updates
  - $\longrightarrow$ fact check the curricula updates implementation with local schools
  - $\longrightarrow$ combine with administrative data and track these individuals for a longer period