Issues Paper on ISIC 85 - Education

38th Voorburg Group Meeting

Rebecca Perl-Kapferer, MSc
Referent f. Statistics, Service Producer Price Index, Statistics Austria

Vienna/Tel Aviv: 5th of March 2024

www.statistik.at

Independent statistics for evidence-based decision making

STATISTICS AUSTRIA
The Information Manager

Are existing surveys feasible to measure an internationally comparable SPPI for education?

If so: how?

What is education?

- Knowledge transfer achieved by teaching

What is taught?	How is it taught?	Who teaches?
• Field or profession • Level of education	• Form of education • Means of communication	• Institutions • Public vs. private sector

Used classifications – industry level

ISIC, Rev. 4 – *International*	
85	*Education*
851	Pre-primary and primary education
852	Secondary education
853	Higher education
854	Other education
855	Educational support activities

NACE, Rev. 2 – *Europe*	
85	*Education*
85.1	Pre-primary education
85.2	Primary education
85.3	Secondary education
85.4	Higher education
85.5	Other education
85.6	Educational support activities

NAICS, 2022 – Mexico & US	
61	*Educational services*
6111	Elementary and secondary schools
6112	Junior colleges
6113	Colleges, universities, and professional schools
6114	Business schools and computer and management training
6115	Technical and trade schools
6116	Other schools and instruction
6117	Educational support services

Used classifications – product level

CPC, Rev. 2.1 – *International*	
92	*Education services*
921	Pre-primary education services
922	Primary education services
923	Secondary education services
924	Post-secondary non-tertiary education services
925	Tertiary education services
929	Other education and training services and educational support services

CPA, Rev. 2.1 – *Europe*	
85	*Education services*
85.1	Pre-primary education services
85.2	Primary education services
85.3	Secondary education services
85.4	Higher education services
85.5	Other education services
85.6	Educational support-services

NAPCS, 2022 – Mexico & US	
341	*Educational services*
341010101	Basic education and skills programs
341010102	Trade, career, technical and professional development training programs
341010103	Higher career, technical, academic and advanced research qualification programs
341010104	Exam preparation and tutoring services
341010105	Student services
341010201	Educational support and consulting services

So given these differences, are there similar points of interest in the conducted surveys?

If so: what are the comparable results?

Turnover measures

Sweden

- Short-Term Statistics (STS)
  - Based on KAU* level
  - Based on VAT-data
  - Production Value Index
  - Turnover per service sector
- Administrative data
  (i.e. number, sex and salaries of employees, operating expenses, etc.)
- targeted turnover-coverage per strata of 90%

black = monthly
blue = quarterly

* kind-of-activity

Mexico

- Statistical Business Register of Mexico (RENEM)
  - Economic Census
  - National Economic Surveys
- Administrative data
  (i.e. number, sex and salaries of employees, operating expenses, etc.)
- mix between probabilistic and non-probabilistic methods

black = every 5 years
blue = monthly & annually

US

- International Price Program (IPP)
  - Import/Export Price Indexes (MXP)*
  - Data provided by IPEDS**-data system
- Administrative data
  (i.e. number & origin (in-state, out-of-state, foreign) of students, etc.)
- Sample provided by IPEDS**-data system

black = monthly & annually

* only export prices = used for ISIC 85
** National Center for Education Statistics' Integrated Postsecondary Education Data (IPEDS) Data System

Market conditions

Sweden (2020)	Mexico (2018)	US (2021)
• *Revenue*:* 5 801.27 MEUR • *Value added:* 3 586,39 MEUR	• *Revenue**:* 11 014.30 MEUR	• *GDP portion:* MEUR 29 599.73
• *Nr. of enterprises:* 30 095 • 2.6% of country's enterprises	• *Nr. of enterprises:* 53 524 • 1% of country's enterprises	
• *Employees: 75 508*	• *Employees:* 817 536	

• *Growth since 2010:*
  • *Revenue*:* 56%
  • *Value added:* 67%
  • *Nr. of ent.:* 51%
  • *Employees:* 41%
	• *Growth since 2013:*
	  • *Revenue**:* 44%
	  • *Nr. of ent.:* 14%	

MEUR = Million Euros (all money-values in papers were conversed from national currency to Euros)

*measured in net turnover **measured in income

Comparison of relevant indicators per school type

Excerpt from the issues paper (provided by Austria for the 38th VBG Meeting)

School Type	Sweden			Mexico		
	Enterprises (n)	Employees (n) (FTE)	Revenue (Net turnover) MEURO	Enterprises (n)	Employees (n)	Revenue (Income) MEURO
Pre-primary education	9 589[1]	13 159[1]	1 113.32[2]	10 877	92 238	601.12[2]
Primary education	4 829[1]	109 070[1]	1 545.93[2]	2 939	47 571	449.17[2]
General Secondary Education	---	---	---	793	16 119	178.96[2]
Upper secondary education	1 307[1]	35 035[1]	1 225.74[2]	---	---	---
Terminal Technical Middle Education	---	---	---	330	2 851	23.35[2]
Higher Middle Education	---	---	---	2 304	42 797	515.06[2]
Schools that combine multiple education levels	---	---	---	6 983	249 021	3 065.74[2]
Universities and other post-secondary education	---	---	259.11[2]	---	---	---
Higher Technical Education	---	---	---	313	4 702	58.23[2]
Higher Education	---	---	---	4 104	252 108	5 192.29[2]
Business, Computer and Management Training Schools	---	---	---	1 017	8 447	106.02[2]
Trade Schools	---	---	---	2 978	13 225	106.35[2]
Cultural, sports and recreational education	---	---	206.60[2]	---	---	---
Driving schools	---	---	207.44[2]	---	---	---
Education for the labour market	---	---	420.34[2]	---	---	---
Educational support and other education services	---	---	456.22[2]	---	---	---
Management consultancy activities	---	---	105.27[2]	---	---	---
Arts, entertainment, personal services	---	---	107.88[2]	---	---	---
Other activities	---	---	148.21[2]	20 219	80 394	648.69[2]

Table 6. Comparison of different indicators by product/school types in Sweden (2020) vs. Mexico (2018). For the conversion to Euros (of SEK and Mex. Pesos respectively), the exchange rate on September 11th 2023 was used.

[1] Data drawn from statistia.de (see references), since no respective data was provided in Sweden's turnover and output paper.

[2] To ensure compatibility between all money-values given in papers, values were conversed from national currency to Euros on 22.09.2023.

Concentration within industry

Sweden (2020)

- *Concentration of revenue*
  - Primary education = 27%
  - Pre-primary education = 19%

- *Micro-enterprises* (9 or less employees)
  - 96% of enterprises
  - 21% of workforce
  - 24% of revenue

- *Large enterprises* (250 or more employees)
  - 1% of enterprises
  - 30% of workforce
  - 32% of revenue

Mexico (2018)

- *Concentration of revenue*
  - Post-secondary education = 50%
  - Primary & pre-primary education = 1%

Public regulations

Sweden

- Majority of education = provided by public institutions
- Ministry of Education
  - Provides curriculum
  - Responsible for quality assurance
- All funding available = from
  - Taxes
  - Grants (=exception)

Mexico

- Majority of education = provided by public institutions
  - 90% of students in compulsory education
- Extensive reforms (since 2010)
  - Cater education offered to current work environment (i.e. foster STEM subjects)
  - Reach rural areas
  - Cater to needs of indigenous pupils

US

- Public vs. private institutions
  - Percentage of pupils = comparable to Europe & Mexico
  - Expenditure per student = among highest in OECD-countries
- Education System = regulated by each states government
- Age limits & curricula can vary between states

Can we use these existing surveys to calculate an international comparable SPPI?

If not: what would necessary?

Discussion contributions

Experiences to learn from

Melanie SANTIAGO (US/BLS)
Andrew BAER (IMF)
Bonnie MUPRHY (US/BLS)
Rebecca PERL-KAPFERER (AUT/Statistics AUT)

US: Post-secondary education & colleges SPPI → based on tuition fees, costs for housing & food

- Data source = secondary data → provided by National Center for Education Statistics' Integrated Postsecondary Education Data (IPEDS) Data System*
- Proposed *new* Index = experimental
  - Supposed to also cover additional services by education-providers
  - possibly contribution published for 39th VBG-Meeting
- existing XPI = currently not published for ISIC 85*

Other than that no indices published → even though several countries** collect detailed data (prices & administrative data)

for more info on this, please look into the paper at:
*p. 10, s.2.3.3
**p. 4, Introduction
***p. 11, s.5.1.1 & 5.2.2
****p. 11, s. 5

Challenges

- General problems
  - How to reach public education-providers? → other sample-criteria necessary than revenue***
  - How to grant comparability between indices of different countries? → education-systems differ vastly → set of universal core-services/-factors necessary
- Monitored services
  - For SPPI: primarily economically significant actions/prices are of interest → how to translate this to teaching services?
    - Most public institutions don't have prices for individual services → paid salaries are funded by taxes
    - Difficulty for all education-institutions: **which services** to monitor? – **how** to monitor them? → are salaries (i.e. grouped by experience/qualifications) a permissible factor, to monitor price-development for teaching services (i.e. teaching, tutoring, preparation time, etc.)?
  - Education services vs. publishing services: where to draw the line? → live-teaching (by education-institutions) held online (due to COVID, extra occupational post-secondary education, etc.) vs. pre-recorded online courses with student support on demand (on platforms like udemy, coursera, udacity, etc.****

Concluding remarks

- It will be interesting to see, if an internationally comparable SPPI is possible eventually → possible, international efforts to use new data sources (see *Future Topics*, presentation on March 5th 2024) will help to provide data useable for this endeavour
- Possibly contributions for 39th VBG-Meeting might provide new insights

Please address queries to

Team SPPI @ Statistics Austria
- epi.dl@statistic.gv.at
- SPPI Website

STATISTIK AUSTRIA
Guglgasse 13, 1110 Wien