

# The value of incomplete education – the case of Suriname

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# Versions and reference

- Please refer to these slides as: Tamira E Sno & Ganzeboom, Harry BG (2022). “The value of incomplete education – the case of Suriname”. First presented at ISSP Research Session, Bratislava SK, June 19 2022.
- Slight **revisions and additions** on June 20 2022

# Expectations / Conclusions

- ISSP has a history of regarding highest completed qualification as the most valid measure of educational attainment.
- This practice disregards the potential value of incomplete education. This creates (random) measurement error and may lead to a downward bias in predictive power of education (in socio-economic attainment).
- In Suriname, highest attended education (whether completed or not) is a better predictor of income and occupational status attainment than highest completed education – this may be true in other countries too.
- The ISCED 3-digit measure is able to capture and repair part of this bias, but the ISSP practice to emphasize highest completed education obstructs this potential.
- We recommend to make educational measurement – at the national level – more open to incomplete education.

# History of educational measurement in ISSP

- Since its beginning in 1985, ISSP has attempted to measure educational attainment as follows:
  - A country-specific measure of highest completed education: XX\_DEGR.
  - A cross-national harmonized measure of highest complete education: DEGREE, now EDLEVEL.
  - An independent cross-national measure of the duration of education: EDUCYRS.
- XX\_DEGR: The country-specific information is rarely used. Using it requires expert knowledge on education systems around the world. Its contents sometimes changes within countries between rounds.
- DEGREE: has had various definitions, as well a measurement scales.
- EDUCYRS: is intended to be a independent measurement of level of education, but there have been multiple occasions that countries disregard this ruling, and have recoded duration from highest qualification.

# ISCED-2011

- In 2019 ISSP adopted ISCED-2011 as its cross-national coding frame for country-specific education.
- ISCED-2011 is a 3-digit coding frame that is broadly organized as follows:
  - Digit 1 measures **level of education** on a 0-8 scale.
  - Digit 2 measures **orientation of education** (at the same level), with as major distinctions: (3) academic orientation (4) professional [vocational] orientation.
  - Digit 3 measures **completion** and access to higher levels:
    - 1 – incomplete
    - 2 – partial completion
    - 3 – complete but no access to higher level
    - 4 – complete and access to higher level.
- NB1: While level of education is primarily measured by the first digit, it is clear that the second and third digit are relevant to measure the true level of education.
- NB2: the ISSP practice of asking for highest completed education is inconsistent with the intention of ISCED-2011 to be sensitive to incomplete education.

# ISCED-2011 further notes

- There exist two manuals on ISCED-2011: Unesco (2012) and OECD (2012). We have found the Unesco manual more convenient.
- Digit 3 takes on a different meaning at levels 600 and higher
  - 1 – Incomplete
  - 5 – first degree (3-4 years)
  - 6 – long first degree (5+ years)
  - 7 – second or further degree

# Theory: human capital

- A standard theory about causes and consequences of educational attainment is that of human capital investment: education represents human resources [skills] that are built up by investment (=foregoing consumption).
- From a HC perspective, the duration of education is a theoretically more valid measure of educational attainment than qualification – which is one of the reasons why economists prefer duration.
  - Duration of education represent the amount of benefits (earnings) forgone by being in education. This holds for both the students and society.
- If obtaining a qualification ('credential') makes education more valuable than its duration, this is interpreted in HC as rent exploitation.

# Against the HC perspective

- There are of course other reasons why many (economists or not) prefer duration over qualification in analytical work.
  - Duration is a clear-cut ratio-level measure, with a metric that is easily comparable between countries, between points in time, and with aging (experience).
- But there are also many reasons why to prefer qualification measurement over duration:
  - A completed qualification may still represent a HC investment.
  - In fact, failing to complete an education can be seen as a signal of negative HC.



# Research question

- What is the value of an incomplete education in Suriname?
  - How does it measure up relative to (A) completing the education and (B) not starting the education?
- Can this value be captured by ISCED-2011 – which accommodates incomplete levels?

# Research design

- Data: Four waves of SURMOB: 2012 (contains Social Inequality IV), 2015 (Work Orientations IV), 2018 (Role of Government V; Social Networks III), and 2020 (and Religion IV; Social Inequality V).
- However, our analysis uses information that is not available in the ISSP standard files, such as: career measurement of education and status of occupation at first entry into the labour market.
- We compare income and occupational status attainment by seven renditions of education in Suriname:
  - SR\_DEGRxx: highest attended level of education, whether completed or not. Incomplete qualifications are measured by half scores
  - SR\_DEGRx: highest attended level of education. This variable is obtained by rounding SR\_DEGRxx, it disregards completion.
  - SR\_DEGR: highest completed level of education. **This is the variable that archive wants us to deposit.** Notice that this measure cannot be constructed from SR\_DEGR.
  - SR\_ISCEDx: highest attended level of education, whether completed or not. It uses digit3=1 for incomplete equalifications.
  - SR\_ISCED: highest completed level of education, coded in ISCED-2011. **This is the variable that archive wants us to deposit**
  - DEGREE: The harmonized ISSP variable, which is a recode of SR\_DEGR.
  - EDLEVEL: the first digit of SR\_ISCED.
- We compare the predictive power of the seven representations on personal income and status of occupation at entry in the labour market (ISEI1). No controls (needed).

# Education in Suriname

- Suriname has a highly ‘stratified’ education system, i.e. there are multiple tracks within four broad levels of education (primary, lower secondary, higher secondary, tertiary).
- SURMOB distinguishes 16 programmes (‘qualifications’) , which can be complete or incomplete.
  - Ambiguous: whether ‘No Education’ is to be regarded as complete or incomplete.
- SR is very low educated with lots of respondents not or only attending primary education.
- Around 52% of all respondents did not complete their highest attended level of education.
  - NB: the ‘incompletion’ refers to the highest attended level. This is not the same as dropout at each level.
- Incompletion happens at all levels of the educational hierarchy, including the primary level.

**Table 1: Percent Incomplete by Qualification**

	HIGHEST PROGRAM ATTENDED	N	INCOMPLETE
1	Did not go to school - illiterate	400	0%
2	BO [Special education]	90	86%
3	GLO [6 yr Primary]	1661	64%
4	EBO [Primary + 1 yr Vocational]	148	49%
5	LBGO, ULO [Primary + 4 yr lower level]	1037	58%
6	LTO [Primary + 4 yr Vocational]	435	54%
7	MULO [Primary + 4 yr midlevel]	1147	57%
8	COVAB [MULO + Nurses Training]	61	39%
9	Natin, AMTO [MULO-LTO + 4 yr vocational]	335	59%
10	Pedag.instellingen [MULO + 4 yrs Teacher Training]	454	35%
11	IMEO [MULO + 3 yrs Commercial Training]	328	45%
12	HAVO [Higher Secondary 2 yrs]	254	46%
13	VWO [Higher Secondary 3 yrs]	178	41%
14	HBO [Tertiary Vocational 2-4 yrs]	441	46%
15	Universiteit BSC [Tertiary Academic 3 yrs]	121	63%
16	Universiteit MSC [Tertiary Academic 5 yrs]	225	56%
	<b>TOTAL</b>	<b>7315</b>	<b>52%</b>

SURMOB 2012 2015 2018 2020

**Table 2: ISCED Mappings of Qualifications in Suriname**

	HIGHEST PROGRAM ATTENDED	ISCED complete	ISCED incomplete	
1	Did not go to school - illiterate	010	010	Less than primary
2	BO [Special education]	030	020	Less than primary
3	GLO [6 yr Primary]	100	030	Primary
7	MULO [Primary + 4 yr midlevel]	244	241	Lower secondary academic
4	EBO [Primary + 1 yr Vocational]	253	251	Lower secondary vocational
5	LBGO [Primary + 4 yr lower level]	254	251	Lower secondary vocational
6	LTO [Primary + 4 yr Vocational]	254	251	Lower secondary vocational
12	HAVO [Higher Secondary 2 yrs]	344	341	Upper secondary academic
13	VWO [Higher Secondary 3 yrs]	344	341	Upper secondary academic
8	COVAB [MULO + Nurses Training]	353	351	Upper secondary vocational
9	Natin, AMTO [MULO-LTO + 4 yr vocational]	354	351	Upper secondary vocational
10	Pedag.instellingen [MULO + 4 yrs Teacher Trai	354	351	Upper secondary vocational
11	IMEO [MULO + 3 yrs Commercial Training]	354	351	Upper secondary vocational
15	Universiteit BSC [Tertiary Academic 3 yrs]	645	641	Bachelor academic
14	HBO [Tertiary Vocational 2-4 yrs]	655	651	Bachelor vocational
16	Universiteit MSC [Tertiary Academic 5 yrs]	746	741	Master academic

**Table 3: Predictive power of five representation of Surinamese education on occupational status and personal income (Mult R)**

		#Cat	ISEI1	PINC
SR_DEGRxx	Highest attended, complete or incomplete	31	<b>.680</b>	<b>.423</b>
SR_DEGRx	Highest attended	16	.641	.379
SR_DEGR	Highest completed	16	<b>.672</b>	<b>.405</b>
DEGREE	Highest completed	7	.571	.357
ISCED	Highest attended, complete or incomplete	18	.643	.403

**Table 4a: Loss and Gain of Partial Completion**

	OCCUPATIONAL STATUS (ISEI1)				
	COMPLETE	PARTIAL	LOSS	NORM	GAIN
1.00 Did not go to school - illiterate	19.4				
2.00 BO [Special education]	23.4	23.2	-0.1	19.4	3.8
3.00 GLO [6 yr Primary]	24.6	21.2	-3.3	19.4	1.8
4.00 EBO [Primary + 1 yr Vocational]	26.2	24.6	-1.6	24.6	0.0
5.00 LBGO,ULO [Primary + 4 yr lower level]	33.9	26.6	-7.3	24.6	2.0
6.00 LTO [Primary + 4 yr Vocational]	31.9	27.3	-4.6	24.6	2.7
7.00 MULO [Primary + 4 yr midlevel]	39.7	29.9	-9.8	24.6	5.3
8.00 COVAB [MULO + Nurses Training]	48.5	37.1	-11.4	39.7	-2.6
9.00 Natin, AMTO [MULU-LTO + 4 yr vocational]	40.3	32.5	-7.8	39.7	-7.2
10.00 Pedag.instellingen [MULO + 4 yrs Teacher Training]	68.4	43.2	-25.2	39.7	3.5
11.00 IMEO [MULO + 3 yrs Commercial Training]	44.2	41.2	-3.0	39.7	1.5
12.00 HAVO [Higher Secondary 2 yrs]	45.9	37.8	-8.0	39.7	-1.9
13.00 VWO [Higher Secondary 3 yrs]	45.1	41.0	-4.1	39.7	1.3
14.00 HBO [Tertiary Vocational 2-4 yrs]	59.0	49.9	-9.0	45.9	4.0
15.00 Universiteit BSC [Tertiary Academic 3 yrs]	55.9	43.3	-12.6	45.1	-1.8
16.00 Universiteit MSC [Tertiary Academic 5 yrs]	62.7	51.7	-11.0	45.1	6.6
<b>Total</b>			<b>-7.9</b>		<b>1.3</b>

	PERSONAL INCOME (PERCENTILE)				
	COMPLETE	PARTIAL	LOSS	NORM	GAIN
1.00 Did not go to school - illiterate	31.1				
2.00 BO [Special education]	42.5	35.4	-7.2	31.1	4.3
3.00 GLO [6 yr Primary]	41.7	38.5	-3.1	31.1	7.4
4.00 EBO [Primary + 1 yr Vocational]	46.3	43.0	-3.3	41.7	1.3
5.00 LBGO,ULO [Primary + 4 yr lower level]	48.7	40.7	-8.0	41.7	-1.0
6.00 LTO [Primary + 4 yr Vocational]	62.4	56.8	-5.7	41.7	15.1
7.00 MULO [Primary + 4 yr midlevel]	54.9	46.2	-8.8	41.7	4.5
8.00 COVAB [MULO + Nurses Training]	66.4	61.7	-4.7	54.9	6.8
9.00 Natin, AMTO [MULU-LTO + 4 yr vocational]	68.3	58.0	-10.3	54.9	3.1
10.00 Pedag.instellingen [MULO + 4 yrs Teacher Training]	68.3	41.8	-26.5	54.9	-13.1
11.00 IMEO [MULO + 3 yrs Commercial Training]	65.5	53.2	-12.3	54.9	-1.7
12.00 HAVO [Higher Secondary 2 yrs]	60.7	54.8	-6.0	54.9	-0.1
13.00 VWO [Higher Secondary 3 yrs]	57.8	48.6	-9.1	54.9	-6.3
14.00 HBO [Tertiary Vocational 2-4 yrs]	76.1	61.0	-15.1	60.7	0.3
15.00 Universiteit BSC [Tertiary Academic 3 yrs]	73.7	64.2	-9.4	57.8	6.4
16.00 Universiteit MSC [Tertiary Academic 5 yrs]	82.2	59.0	-23.2	57.8	1.2
<b>Total</b>			<b>-10.2</b>		<b>1.9</b>



# Summary of the results

- Incomplete qualifications score on average much below completed qualifications: -6.7 point ISEI and -10.1 percentile point personal income.
- However these same incomplete qualification score on average better than what they would have obtained on their highest completed education: 1.3 points ISEI and 1.9 percentile point personal income.
- Taking into account full and partial completion is significantly better than highest completed level (but not by much).
- **Highest completed level is significantly better than highest attended.**
- The biggest loss of predictive power is when country-specific measurement becomes cross-national measurement.

# Can ISCED-2011 / ISLED capture the loss?

- Only a little bit
- ISCED makes it possible to accommodate incomplete qualifications.
- But ISCED merges different qualifications within codes that should not be combined from a Surinamese perspective.
- So there are gains and losses now we use ISCED as out coding frame.