

Scholars and Literati at the University of Leiden (1575–1800)

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This note is a summary description of the set of scholars and literati who taught at the University of Leiden from its inception in 1575 to the eve of the Industrial Revolution (1800).

1 THE UNIVERSITY

The University of Leiden (*Academia Lugduno-Batava*, formerly Rijksuniversiteit Leiden) was the first university established in the Netherlands. There was demand for a Dutch university behind the lines of the conflict with Spain, so that students would no longer have to travel abroad to pursue their studies. On the 8th of February 1575, shortly after the end of the Spanish siege of Leiden, Wilhelm the Silent inaugurated the *Academia Lugduno-Batava*. Fostered by the economic prosperity of the United Provinces of the Netherlands, the university evolved rapidly. With the appointment of Justus Lipsius in 1578 the university developed into a center of humanities (Schneppen 1960). At the beginning of the seventeenth century during the “Gouden Eeuw” (the Dutch Golden Age) the *Academia Lugduno-Batava* was the leading European university (De la Croix et al. 2020).

2 SOURCES

The University of Leiden has a publicly available digital professor catalogue, the *Leidse Hoogleraren vanaf 1575* (<https://hoogleraren.universiteitleiden.nl/>). The data set is comprehensive and we were not able to add many scholars from other sources to the scholars in the professor catalogue. However, this catalogue only covers full professors, so we are missing the lower-ranked teachers for Leiden.

3 SOME STATISTICS

Table 1 displays some descriptive statistics. The available data on the 275 scholars is mostly complete. Information on the year of birth is available for more than 96% of all scholars. In the periods 1618–1685 and 1734–1800, the year of birth is documented for everybody. The availability of the geographical birth information has a similar scope, except for the early period. Still 85% of the birth places are known for 1527–1617. For more than 75% of the scholars, we find at least one corresponding entry on Wikipedia. At more than 95%, almost all of them left a footprint on Worldcat. While the mean age at death and the life expectancy conditional on surviving to age 30 are similar to observations at other universities, at age 37 the mean age at appointment is relatively high. The value reached its maximum in 1686–1733, when it was close to 43 years.

4 FIELDS

Figure 1, showing the relative importance of fields, broadly defined, reflects a typical pattern. With around one-third of scholars active in humanities, the early focus of the university clearly dominates. In addition, each field of the three remaining traditional faculties (medicine, law and theology) counted for around one-sixth of scholars. The same applies to scholars active in science.

Period		nb.	% birth year	mean age	mean age	life exp.
Start	End	obs	known	at appoint.	at death	at 30
1527	1617	82	90.2	37.5	61.4	59.4
1618	1685	92	100	37	57.5	56.7
1686	1733	33	93.9	42.8	67.6	68.3
1734	1800	68	100	37	64.4	61.5
1527	1800	275	96.4	37.8	61.6	59.8
			% birth place	median distance	% with	% with
			known	birth-institution	Wikipedia	Worldcat
1527	1617		85.4	136	69.5	90.2
1618	1685		95.7	98	69.6	96.7
1686	1733		97	108	87.9	97
1734	1800		97.1	49	83.8	98.5
1000	1800		93.1	101	75.3	95.3

Table 1: Summary statistics by period

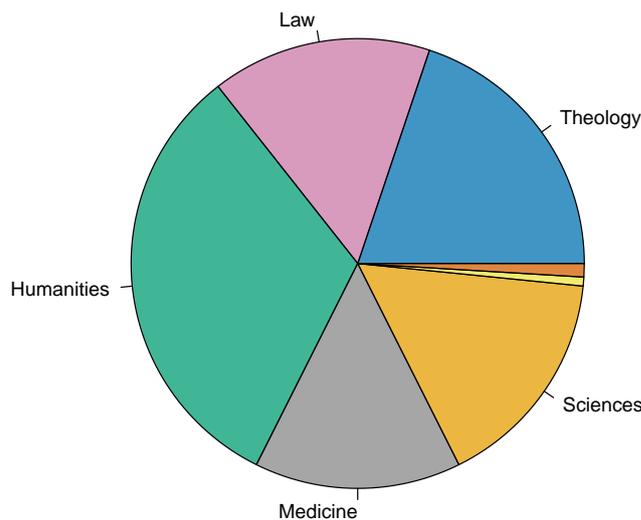


Figure 1: Broad fields at the University of Leiden

5 PLACE OF BIRTH

Figure 2 is a plot of the places of birth of all the scholars ever active at the University of Leiden. Most scholars were born nearby in the Netherlands. The Academia Lugduno-Batava attracted some scholars who were born abroad, mainly in the French, Belgium and German territories.

6 HUMAN CAPITAL OF SCHOLARS AND LITERATI

For each person in the database, we compute a heuristic human capital index, identified by combining information from Worldcat and Wikipedia using principal component analysis. We also compute the notability of the university at each date by averaging the human capital of the scholars active in Leiden 25 years before that date. Details are given in the Appendix. Figure 3 shows the names of all the scholars with a positive human capital index.

The university was established by hiring scholars who had already been active for some time.

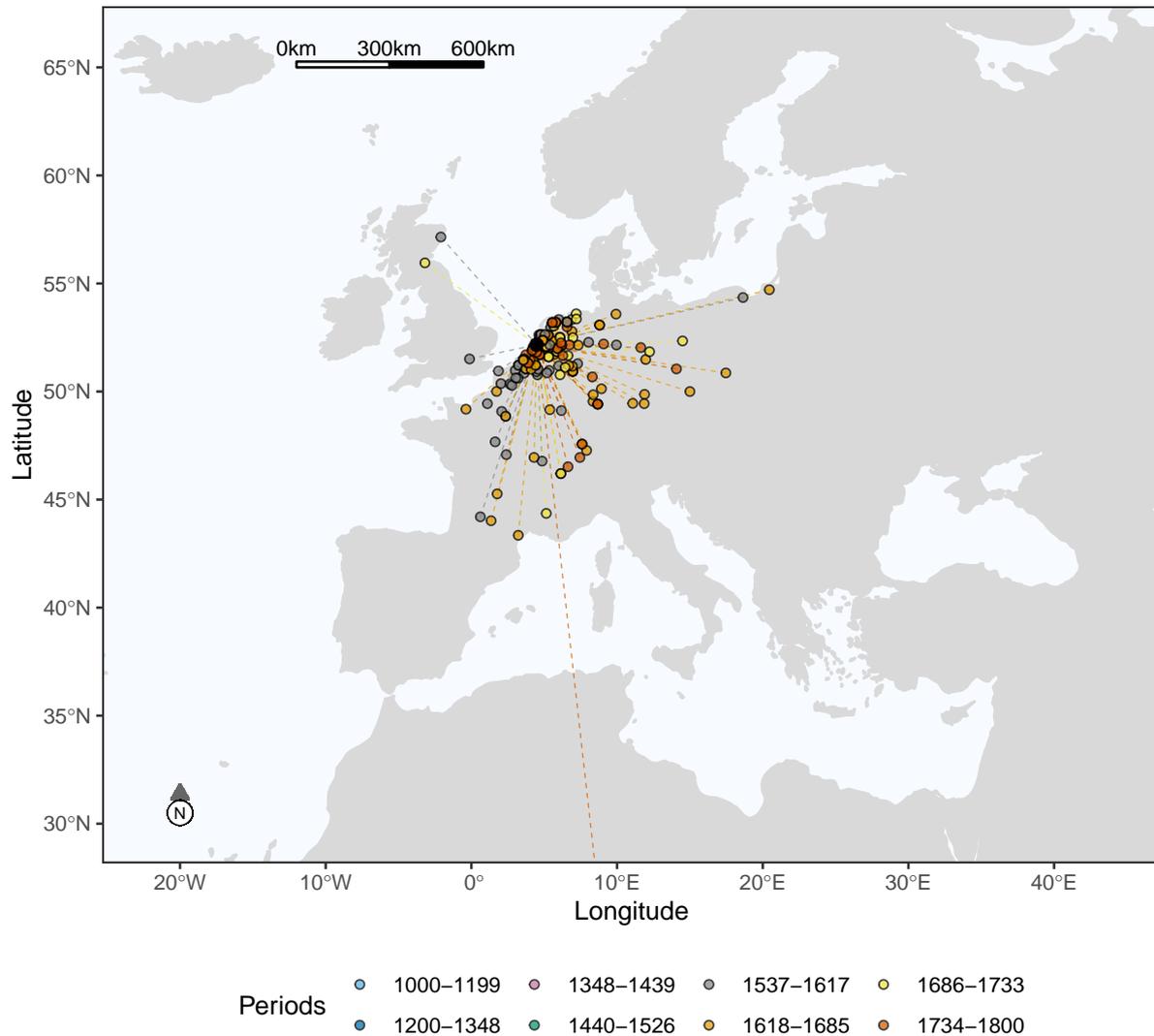


Figure 2: Places of birth of the scholars and literati at the University of Leiden

The orange line plots the notability of the university. It displays the quick rise to an outstanding level. At the beginning of the seventeenth century the University of Leiden even had the highest index of notability. The vertical green lines (rug plot) show the distribution of all scholars over time (beginning of active life), including the obscure ones.

7 TOP 6 PROFESSORS

We now provide a brief overview of the six professors with the highest human capital index.

Justus Lipsius (Overijse 1547 – Leuven 1606) the well-known humanist and philosopher had already many academic positions at universities including Jena and Louvain, before he was appointed to the chair of history in Leiden in 1578. One year later, he switched to the chair of history and law. He initiated the golden age of humanities at the Academia Lugduno-Batava. Together with Isaac Casaubon and Josephus Justus Scaliger, he was a leading figure at the university. Even though he was rector of the university in 1579–81 and 1587–89, his position became untenable in front of Protestants once he defended repression as a way to achieve the religious unity in a state. In 1590, he left the university of Leiden. For additional details see the RETE on Jena (De la Croix and Stelter 2020) and Louvain (Catoire et al. 2021).

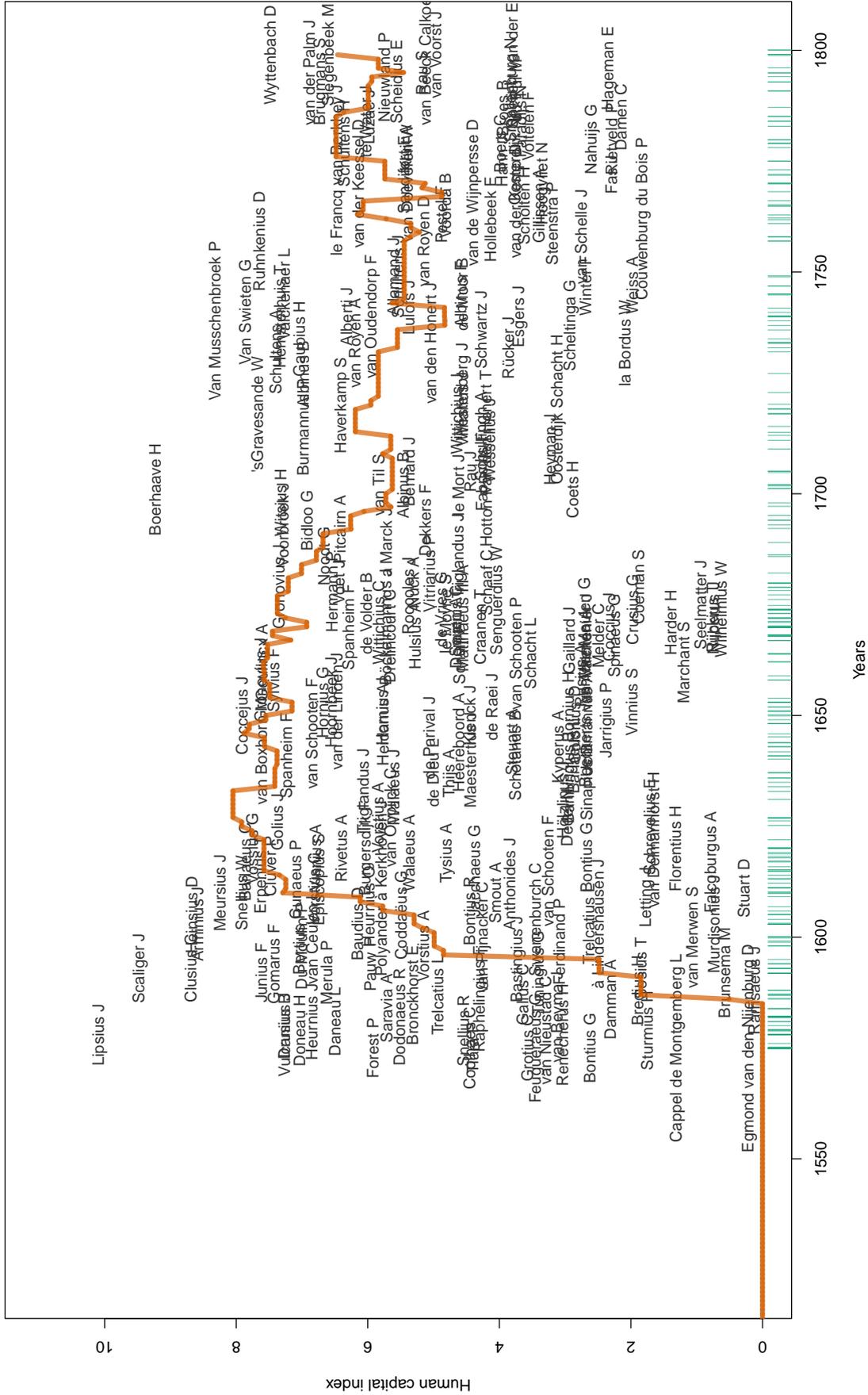


Figure 3: Famous scholars and university notability (orange)

Josephus Justus Scaliger (Agen 1540 – Leiden 1609) was one of the most important scholars in the second half of the sixteenth century. While studying in Paris, he converted from Catholicism to Protestantism. Before starting to teach at the academy in Geneva in 1572, he travelled extensively across Europe with Louis de Chastainer. He stopped lecturing in 1574, as he had a strong aversion to teaching. He did not accept the first offer from the University of Leiden, but in 1593 he accepted their second offer, which granted him an exemption from teaching obligations. He was a leading scholar in philology, but his dominant position was eroded by attacks from the Jesuits. He died in the arms of his friend Daniel Hensius (Hoche 1890). For additional details see the RETE on Geneva (Debois and de la Croix 2020) and Valence (De la Croix and Fabre 2021).

Hermann Boerhaave (Voorhout 1668 – Leiden 1738) studied theology and later on philosophy and medicine. In Leiden, he gave lectures in botany, chemistry and medicine and enjoyed an outstanding reputation as *clinical teacher* all over Europe. Thanks to Boerhaave, Leiden's medical school reached a heyday and it is not surprising that Leiden started to attract students from abroad (Schneppen 1960). He was elected as a member of the Académie Royale des Sciences in Paris and the Royal Society in London. Thanks to his modest life-style, he was not only able to support the poor but also to accumulate wealth, including an impressive botanic garden.

Carolus Clusius (Arras 1526 – Leiden 1609) also known as Charles de l'Ecluse, studied law, philosophy and medicine in Ghent, Louvain, Wittenberg, Montpellier and Paris. He was court gardener in Vienna and discovered, described, and illustrated many species. An appointment to the University of Jena did not work out in 1587 so he had to wait until 1593 when he was appointed by the Academia Lugduno-Batava. Due to his poor health, he was unable to give lectures.

Daniel Heinsius (Gent 1580 – Den Haag 1655) a famous scholar of the Dutch Renaissance who spent almost all his life at the University of Leiden. At the age of 16, he started to study law in Franeker. Just half a year later he moved to the University of Leiden, where he received his first academic position as extraordinary professor for poetry in 1603. Two years later he was also appointed for Greek. In 1607, he followed Merula to become the University of Leiden's librarian. His work sums up the change of epoch from Latin poetry to Baroque (Lefèvre and Schäfer 2008).

Jacob Arminius (Oudewater 1560 – Leiden 1609) also known as Jakob Hermanszoon was a protestant theologian whose work laid the groundwork for the Arminianism, disagreeing with Calvin on predestination. He began to study around 1572 at Utrecht University and from there went to Marburg, Leiden, Basel and Geneva. In 1603 he defended his doctoral thesis in Leiden and became professor of theology. From 1605–06 he was rector magnificus of Leiden University. After his death, his followers established the Dutch Remonstrant movement (Stanglin and McCall 2012).

8 RELATED SCHOLARS

Beyond those who taught at the University of Leiden, at least two important individuals are related to the university. They are counted in the data for all figures but Figure 3.

Simon Stevin (Brugge 1548 – Leiden 1620) was a mathematician, physicist and engineer. He studied from 1583 at Leiden University. His theoretical and practical contributions to various scientific fields are beyond dispute. He also established an engineering school for Prince Maurice of Orange linked to the University. Still, he was never appointed to the university. Among his well-known contributions is the booklet "De Thiende" that proposes a decimal system (Struik 1981).

Baruch Spinoza (Amsterdam 1632 – Den Haag 1677) was a Dutch philosopher who neither belonged to an existing philosophical school of thoughts nor established a new one. The great rationalist was the son of Portuguese Jewish immigrants. In 1656, he was barred from the Jewish community, because of his highly controversial ideas regarding the Jewish doctrine. From 1658 to 1659, aged 25, he studied at the University of Leiden. In 1660 or 1661, Spinoza moved to Rijnsburg (near Leiden), where he began to work on his masterpiece, *Ethica, ordine geometrico demonstrata* (the Ethics). In this book, he denied that God exists outside of the universe; instead, God is the natural world. The Netherlands Organisation for Scientific Research grants a prize in his honor, The Spinoza Prize (Dutch: Spinozapremie, 2.5 million euro).

9 WHO'S WHO ON THE MOON

Another way to measure the notability of individuals is to look for signs of recognition such as street names, names of schools, research institutes, prizes and lunar crater names. The following three professors received this honor, in recognition to their contribution to the advancement of mathematics. Snellius joins Scalinger and Stevin, who were described in the top 6 of Leiden's scholars and literati.

Josephus Justus Scaliger See above.

Simon Stevin See above.

Willebrod Snellius (Leiden 1580 – Leiden 1626), Willebrord Snel van Royen in Dutch, was an astronomer and mathematician. He is known for having calculated the circumference of the earth in 1617, using triangulation methods. In 1613 he succeeded his father, Rudolph Snel van Royen (1546–1613) as professor of mathematics at the University of Leiden.

10 FAMILIES OF SCHOLARS

We counted 17 father-son pairs among the professors at the University of Leiden. Frans van Schooten (1581-1564) was the son of Frans van Schooten, who worked as a baker in Flanders. On the run from the Spaniards, he settled in Leiden around 1584. Van Schooten married Jannetje Hermans in 1609 in Leiden. One of their children was Frans van Schooten Jr. (1615-1660), who would take over the Leiden chair from him. After the death of his first wife, he married Maria Goolen in 1625. This marriage produced Petrus van Schooten (1634-1679), who succeeded his brother Frans in 1661 as professor at the Engineering School. Their human capital index is 3.26 for the father, 6.85 for Frans Jr. and 3.75 for Peter. Here the sons were more productive than their father, which happens more frequently in new universities and in Protestant universities (see De la Croix and Goñi (2020)).

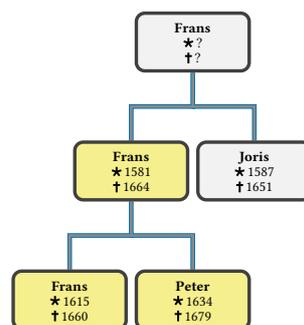


Figure 4: The van Schooten family. Professors at Leiden in yellow squares

11 UNIVERSITY NETWORK

Here, we assume that when a professor occupied a position in more than one university over his/her life, this established a link between those universities. The universities with which Leiden was linked are displayed in Figure 5. The years after the foundation and during the boom in the first part of the seventeenth century are characterized by long-distance links to universities abroad. With the foundation of additional universities in the Netherlands, the Dutch network became dominant in the eighteenth century.

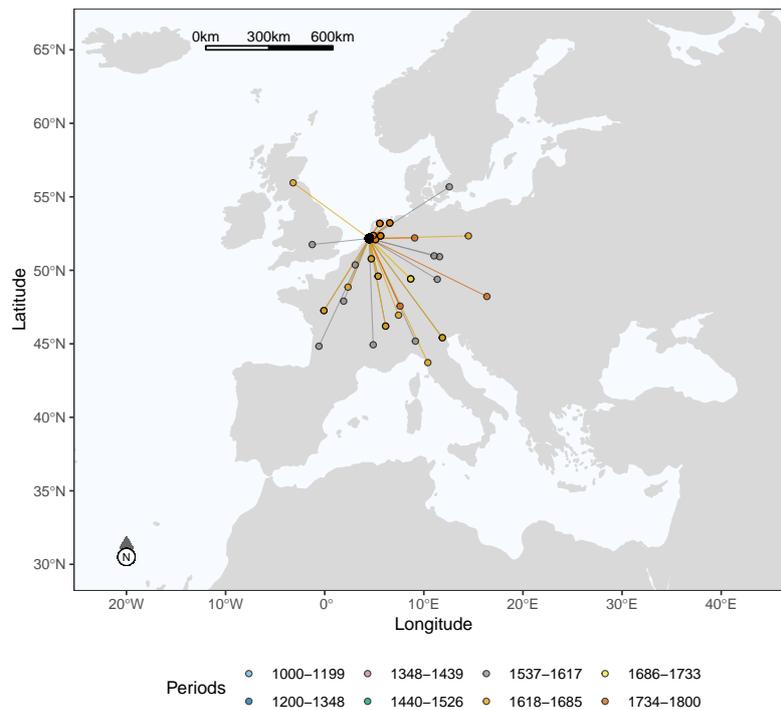


Figure 5: Links between Leiden and other universities through scholars' mobility, by period

APPENDIX

The individual human capital index q_i of an individual i is given by:

$$q_i = -1.76 + 0.43 \ln(\text{nb. characters of the longest Wikipedia page}) \\ + 0.40 \ln(\text{nb. Wikipedia pages in different languages}) + 0.47 \ln(\text{nb. works in Worldcat}) \\ + 0.46 \ln(\text{nb. publication languages in Worldcat}) + 0.47 \ln(\text{nb. library holdings in Worldcat})$$

We assume that having no Wikipedia page is similar to having one page with a length of 60 characters and that having no Worldcat page is similar to having a page with one work in one language held by one library. The constant -1.76 normalizes q_i at 0 when there is neither a Wikipedia page, nor a Worldcat page. The weights (0.43, 0.40, etc) are obtained from the first principal component of the five indicators (De la Croix et al. 2020).

The notability Q of a university aggregates the q of the top 5 individuals who were active in the preceding 25 years using the following formula:

$$Q = \sqrt{\sum_{i=1}^5 \frac{1}{5} \left(\frac{q_i}{s_i} \right)^2}$$

where s_i is the number of universities at which i had an appointment.

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