

A Universidade do Porto no SCImago Institutions Rankings SIR 2017

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<http://www.scimagoir.com>

1. Metodologia do SIR

O SCImago Institutions Rankings SIR é produzido pelo Scimago Lab, Espanha.

“SIR Methodology

General considerations

The SCImago Institutions Rankings (SIR) is a classification of academic and research-related institutions ranked by a composite indicator that combines three different sets of indicators based on research performance, innovation outputs and societal impact measured by their web visibility.

It provides a friendly interface that allows the visualization of any customized ranking from the combination of these three sets of indicators. Additionally, it is possible to compare the trends for individual indicators of up to six institutions. For each large sector it is also possible to obtain distribution charts of the different indicators.

For comparative purposes, the value of the composite indicator has been set on a scale of 0 to 100. However the line graphs and bar graphs always represent ranks (lower is better, so the highest values are the worst).

SCImago Standardization: In order to achieve the highest level of precision for the different indicators, an extensive manual process of disambiguation of the institution's names has been carried out. The development of an assessment tool for bibliometric analysis aimed to characterize research institutions involves an enormous data processing task related to the identification and disambiguation of institutions through the institutional affiliation of documents included in Scopus. The objective of SCImago, in this respect, is twofold:

1. Definition and unique identification of institutions: The drawing up of a list of research institutions where every institution is correctly identified and defined. Typical issues on this task include institution's merge or segregation and denomination changes.
2. Attribution of publications and citations to each institution. We have taken into account the institutional affiliation of each author in the field 'affiliation' of the database. We have developed a mixed system (manual and automatic) for the assignment of affiliations to one or more institutions, as applicable. As well as an identification of multiple documents with the same DOI and/or title.

Thoroughness in the identification of institutional affiliations is one of the key values of the guaranteed standardization process, in any case, the highest possible levels of disambiguation.

Institutions can be grouped by the countries to which they belong. Multinational institutions (MUL) which cannot be attributed to any country have also been included.

The institutions marked with an asterisk consist of a group of sub-institutions, identified by with the abbreviated name of the parent institution. The parent institutions show the results of all of their sub-institutions.

Institutions can be also grouped by sectors (Universities, Health, Government,...).

For the ranking purposes, the calculation is generated each year from the results obtained over a period of five year ending two years before the edition of the ranking. For instance, if the selected year of publication is 2016, the results used are those from the five year period 2010-2014. The only exception is the case of web indicators which have only been calculated for the last year.

The inclusion criterion is that the institutions had published at least 100 works included in the SCOPUS database during the last year of the selected time period.

The source of information used for the indicators for innovation is PATSTAT database.

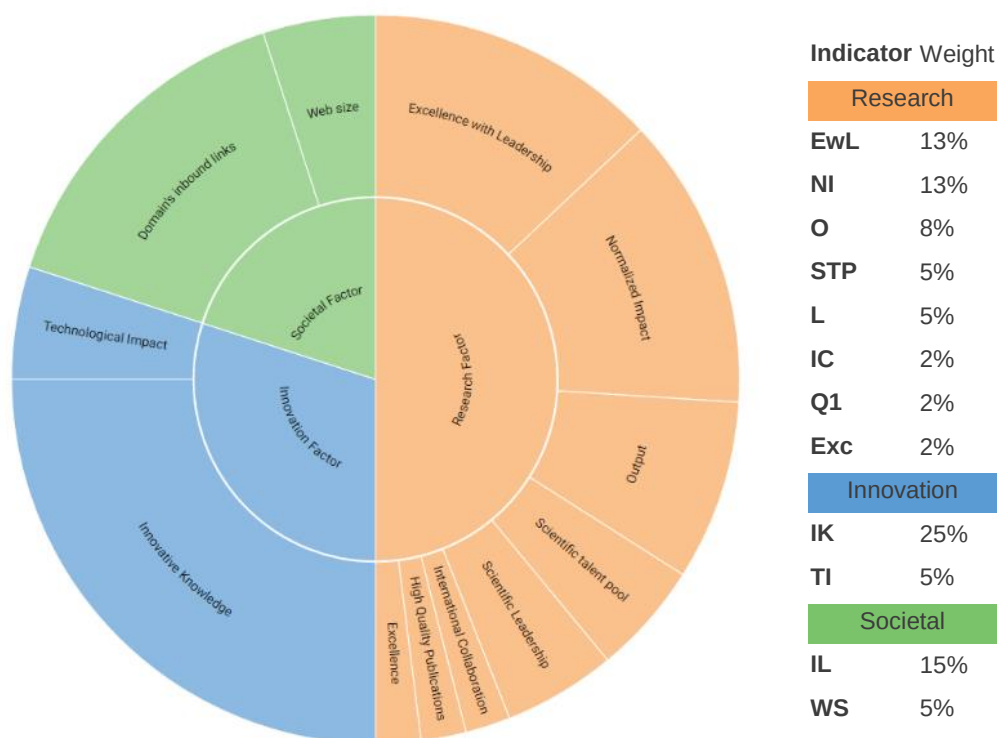
The sources of information used for the indicators for web visibility are Google and Ahrefs.

The SIR is from now a LEAGUE TABLE. The aim of SIR is to provide a useful metric tool for institutions, policymakers and research managers for the analysis, evaluation and improvement of their activities, outputs and outcomes.

Indicators

Indicators are divided into three groups intended to reflect scientific, economic and social characteristics of institutions. The SIR includes both, size-dependent and size-independent indicators; that is indicators influenced and not influenced by the size of the institutions. In this manner, the SIR provides overall statistics of the scientific publication and other output of institutions, at the same time that enables comparisons between institutions of different sizes. It needs to be kept in mind that, once the final indicator has been calculated out of the combination of the different indicators (to which a different weigh has been assigned) the resulting values have been normalized on a scale of 0 to 100.

Score Indicators



Research:

- Output (O):** Total number of documents published in scholarly journals indexed in Scopus (Romo-Fernández, et al., 2011; OECD, 2016). Size-dependent indicator.
- International Collaboration (IC):** Institution's output produced in collaboration with foreign institutions. The values are computed by analyzing an institution's output whose affiliations include more than one country address (Guerrero-Bote, Olmeda-Gómez and Moya-Anegón, 2013; Lancho-Barrantes, Guerrero-Bote and Moya-Anegón, 2013; Lancho-Barrantes, et al., 2013; Chinchilla-Rodríguez, et al., 2010; 2012). Size-dependent indicator.
- Normalized Impact (Leadership Output) (NI):** Normalized Impact is computed over the institution's leadership output using the methodology established by the Karolinska Institutet in Sweden where it is named "Item oriented field normalized citation score average". The normalization of the citation values is done on an individual article level. The values (in decimal numbers) show the relationship between an institution's average scientific impact and the world average set to a score of 1, --i.e. a NI score of 0.8 means the institution is cited 20% below world average and 1.3 means the institution is cited 30% above average (Rehn and Kronman, 2008; González-Pereira, Guerrero-Bote and Moya-Anegón, 2011; Guerrero-Bote and Moya-Anegón, 2012). Size-independent indicator.
- High Quality Publications (Q1):** the number of publications that an institution publishes in the most influential scholarly journals of the world. These are those ranked in the first quartile (25%) in their categories as ordered by SCImago Journal Rank (SJRII) indicator (Miguel, Chinchilla-Rodríguez and Moya-Anegón, 2011; Chinchilla-Rodríguez, Miguel, and Moya-Anegón, 2015). Size-dependent indicator.
- Excellence (Exc):** Excellence indicates the amount of an institution's scientific output that is included in the top 10% of the most cited papers in their respective scientific fields. It is a measure of high quality

- output of research institutions (SCImago Lab, 2011; Bornmann, Moya-Anegón and Leydesdorff, 2012; Bornmann and Moya-Anegón, 2014a; Bornmann et al., 2014b). Size-dependent indicator.
6. **Scientific Leadership (L)**: Leadership indicates the amount of an institution's output as main contributor, that is, the amount of papers in which the corresponding author belongs to the institution (Moya-Anegón, 2012; Moya-Anegón et al., 2013; Moya-Anegón, et al.,). Size-dependent indicator.
 7. **Excellence with Leadership (EwL)**: Excellence with Leadership indicates the amount of documents in Excellence in which the institution is the main contributor (Moya-Anegón, et al., 2013). Size-dependent indicator.
 8. **Scientific talent pool (STP)**: Total number of different authors from an institution in the total publication output of that institution during a particular period of time. Size-dependent indicator.

Innovation:

1. **Innovative Knowledge (IK)**: Scientific publication output from an institution cited in patents. Based on PATSTAT (<http://www.epo.org>) (Moya-Anegón and Chinchilla-Rodríguez, 2015). Size-dependent.
2. **Technological Impact (TI)**: Percentage of the scientific publication output cited in patents. This percentage is calculated considering the total output in the areas cited in patents, which are the following: *Agricultural and Biological Sciences; Biochemistry, Genetics and Molecular Biology; Chemical Engineering; Chemistry; Computer Science; Earth and Planetary Sciences; Energy; Engineering; Environmental Science; Health Professions; Immunology and Microbiology; Materials Science; Mathematics; Medicine; Multidisciplinary; Neuroscience; Nursing; Pharmacology, Toxicology and Pharmaceuticals; Physics and Astronomy; Social Sciences; Veterinary*. Based on PATSTAT (<http://www.epo.org>) (Moya-Anegón and Chinchilla-Rodríguez, 2015). Size-independent

Societal impact:

1. **Web size (WS)**: Number of pages associated to the institution's URL according to Google (<https://www.google.com>) (Aguillo et al., 2010). This indicator is size-dependent.
2. **Domain's inbound links (IL)**: Number of incoming links to an institution's domain according to ahrefs (<https://ahrefs.com>). This indicator is size-dependent.

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ONLY RANKS, FAR MORE THAN RAW DATA

Scimago Institutions Rankings is a science evaluation resource to assess worldwide universities and research-focused institutions.

Scimago Institutions Rankings has been developed by [Scimago Lab](http://www.scimagoir.com). Data source: [Scopus](https://scopus.com)¹

¹ <http://www.scimagoir.com/methodology.php>, accedido a 24 julio de 2017.

2. Evolução² das posições da U.Porto no SIR Global de instituições de ensino superior

A ordenação por defeito do SIR, até à edição de 2015, foi sempre feita pelo Indicador Output. A partir de 2016, passou a ser feita pelo indicador composto, o que retira sentido à comparação de posições relativamente aos anos anteriores a 2016.

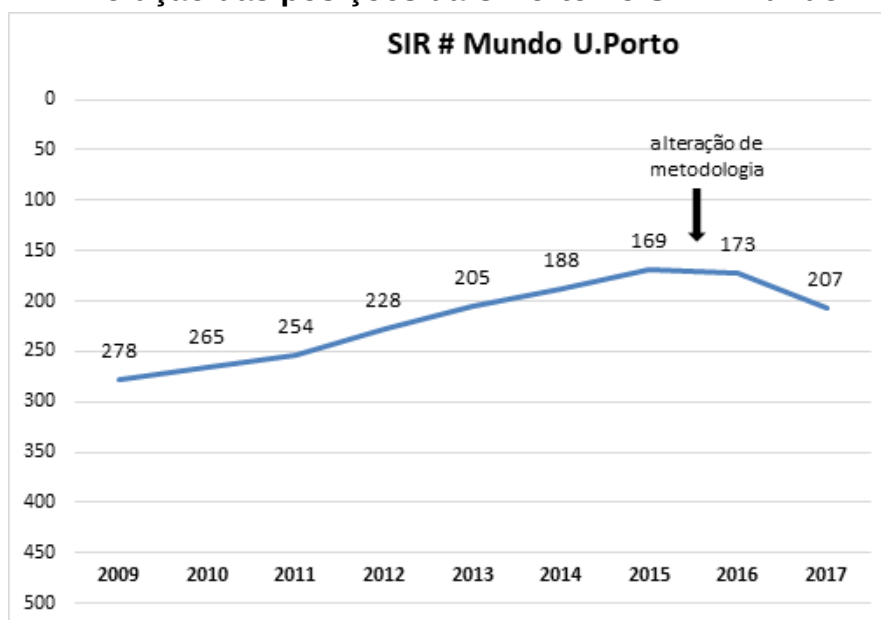
É de salientar que até 2016 a Turquia era considerada, pelo SCImago Institutions Rankings, como um país da Europa. A partir de 2017 deixou de ser considerada, tendo o Azerbaijão integrado a listagem da Europa pela primeira vez.

O SIR, na sua edição Global, inclui instituições dos setores: Higher Education, Health, Government, Private e Others. Neste relatório consideram-se apenas as Instituições de Ensino Superior (IES).

Tabela 1
Evolução das posições da U.Porto no SIR

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Mundo	278	265	254	228	205	188/2713	169/2838	173/2894	207/2966
Europa	95	90	77	76	61	63/844	55/874	64/889	69/859
Iberoamerica	17	15	14	10	9	10/271	8/281	5/291	5/316
Portugal	2	1	1	1	1	2/22	2/22	2/25	2/27

Gráfico 1
Evolução das posições da U.Porto no SIR – Mundo

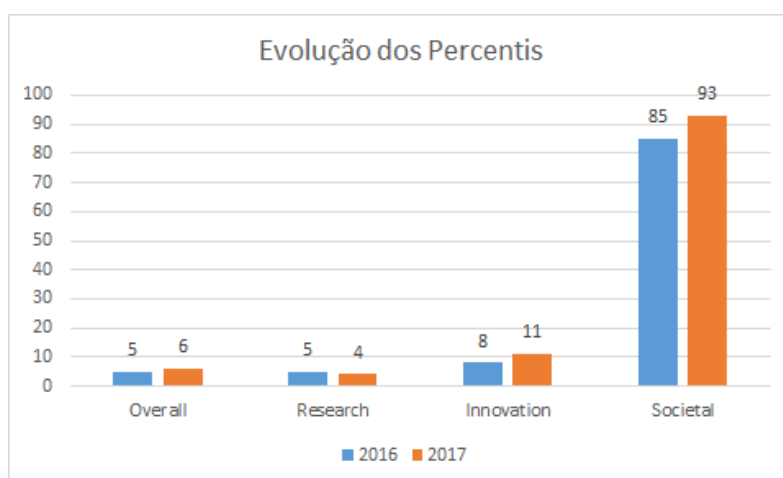


² A informação das edições de 2009 a 2013 foi retirada de “Evolução das posições da Universidade do Porto nos rankings universitários”, janeiro de 2014, in https://sigarra.up.pt/up/pt/conteudos_service.conteudos_cont?pct_id=20113&pv_cod=55GoHdmanvlg; a informação da edição de 2014 foi acedida em <http://www.scimagoir.com> a 5 novembro de 2014; a informação da edição de 2015 foi acedida a 15 julho de 2015; a informação de 2016 foi acedida dia 4 de julho de 2016; a informação de 2017 foi acedida dia 24 de julho de 2017.

Tabela 2
Evolução dos Percentis da Universidade do Porto no SIR (2016-2017)

	2016	2017
Overall	5	6
Research	5	4
Innovation	8	11
Societal	85	93

Gráfico 2
Evolução dos Percentis da Universidade do Porto no SIR (2016-2017)



3. Universidades portuguesas no SIR 2017

Tabela 3
Evolução 2015-2017 das posições das Universidades portuguesas no SIR

	# Mundo			# Europa			# Iberoamerica			# Portugal		
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Universidade de Lisboa	93	167	178	20	60	59	2	3	4	1	1	1
Universidade do Porto	169	173	207	55	64	69	8	5	5	2	2	2
Universidade de Coimbra	377	392	413	139	170	154	24	23	20	3	5	3
Universidade Nova de Lisboa	465	323	441	178	138	169	31	14	25	6	3	4
Universidade de Aveiro	417	395	458	157	171	176	26	24	27	4	6	5
Universidade do Minho	462	344	462	177	147	177	29	17	28	5	4	6
Universidade da Beira Interior	1304	1052	949	492	454	371	108	66	60	9	10	7
Universidade do Algarve	1237	1539	1047	466	609	405	103	124	73	8	17	8
Instituto Politécnico do Porto	1419	1230	1061	533	519	411	125	87	75	10	12	9
Cooperativa de Ensino Superior, Politécnico e Universitário	-	1811	1163	-	689	451	-	151	82	-	20	10
Universidade da Madeira	2372	854	1180	773	365	457	219	52	84	19	8	11
Universidade Católica Portuguesa	1994	1019	1193	697	438	463	173	62	85	14	9	12
Universidade Trás-os-Montes e Alto Douro	1203	1406	1405	455	578	529	99	107	103	7	16	13
Instituto Politécnico de Bragança	2158	847	1440	736	362	543	193	50	106	16	7	14
Instituto Politécnico de Lisboa	1799	1614	1777	645	637	623	154	130	134	13	18	15
Instituto Politécnico de Leiria	2205	1969	1797	741	741	626	199	166	139	17	21	16
Universidade de Évora	1491	1778	1841	557	679	637	128	147	142	11	19	17
Instituto Politécnico de Coimbra	2072	1314	1878	713	546	642	182	99	147	15	14	18
Universidade Lusófona de Humanidades e Tecnologias	2515	1280	1885	807	534	646	236	94	149	21	13	19
ISCTE Instituto Universitário de Lisboa	1734	2101	2118	628	764	696	149	184	173	12	23	20
Universidade dos Açores	2228	1343	2132	743	555	699	201	101	176	18	15	21
Universidade Fernando Pessoa	2592	2091	2152	824	762	704	244	182	180	22	22	22
Instituto Politécnico de Setúbal	2473	2362	2497	795	818	762	233	213	228	20	24	23
Instituto Politécnico de Viseu	-	1229	2565	-	518	767	-	86	238	-	11	24
Instituto Superior de Psicologia Aplicada	-	2363	2594	-	819	772	-	214	244	-	25	25
Instituto Politécnico de Viana do Castelo	-	-	2658	-	-	785	-	-	259	-	-	26
Universidade Aberta	-	-	2826	-	-	816	-	-	286	-	-	27
Nº IES	2838	2894	2966	874	889	859	281	291	316	22	25	27

Tabela 4
Percentis das Universidades portuguesas no SIR 2017

	Overall	Research	Innovation	Societal
Universidade de Lisboa	5	3	13	8
Universidade do Porto	6	4	11	93
Universidade de Coimbra	12	9	23	5
Universidade Nova de Lisboa	13	12	18	7
Universidade de Aveiro	14	10	28	7
Universidade do Minho	14	11	25	3
Universidade da Beira Interior	35	31	53	6
Universidade do Algarve	39	38	44	15
Instituto Politécnico do Porto	39	34	58	8
Cooperativa de Ensino Superior, Politécnico e Universitário	44	58	35	19
Universidade da Madeira	44	49	41	20
Universidade Católica Portuguesa	45	54	46	11
Universidade Trás-os-Montes e Alto Douro	52	44	63	22
Instituto Politécnico de Bragança	54	40	65	72
Instituto Politécnico de Lisboa	66	66	58	44
Instituto Politécnico de Leiria	67	62	64	44
Universidade de Évora	68	51	84	38
Instituto Politécnico de Coimbra	70	68	62	44
Universidade Lusófona de Humanidades e Tecnologias	70	60	72	50
ISCTE Instituto Universitário de Lisboa	77	64	82	73
Universidade dos Açores	77	58	92	50
Universidade Fernando Pessoa	78	71	76	94
Instituto Politécnico de Setúbal	87	82	82	72
Instituto Politécnico de Viseu	89	71	98	72
Instituto Superior de Psicologia Aplicada	90	81	90	72
Instituto Politécnico de Viana do Castelo	91	85	88	72
Universidade Aberta	96	87	100	93

Gráfico 3

Percentis das Universidades portuguesas no SIR 2017, por Overall

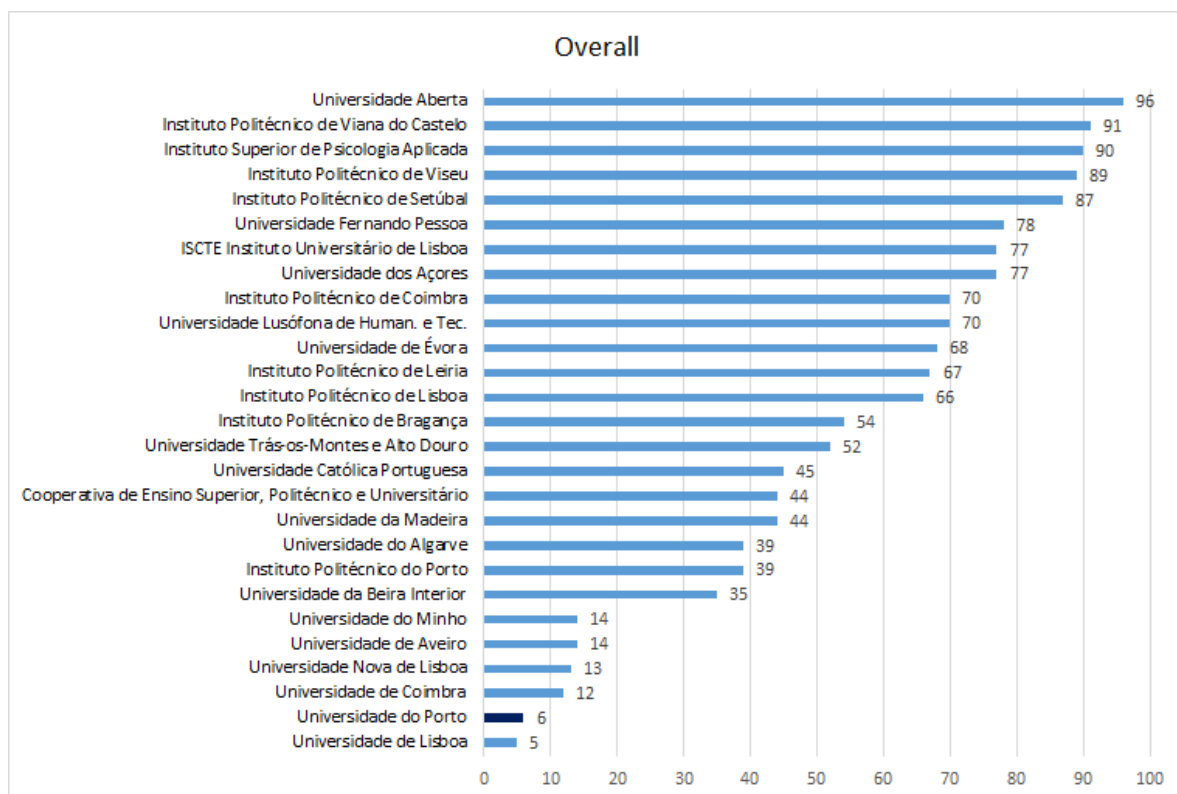


Gráfico 4

Percentis das Universidades portuguesas no SIR 2017, por Research

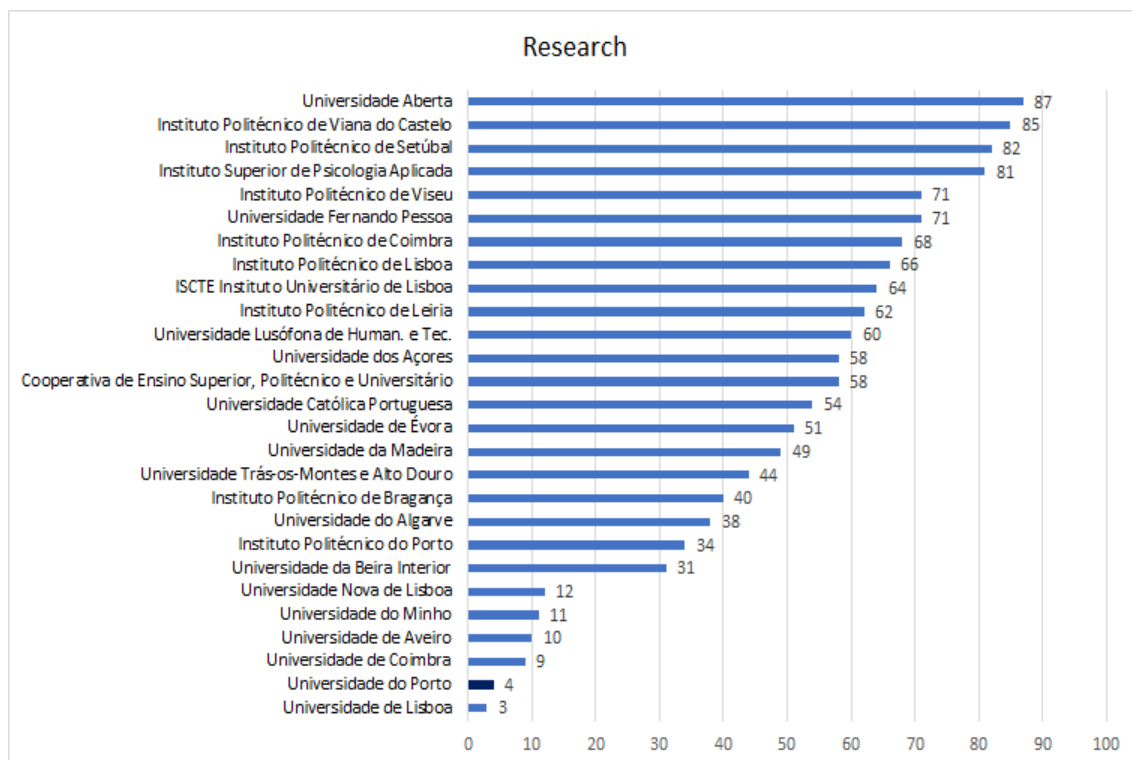


Gráfico 5
Percentis das Universidades portuguesas no SIR 2017, por Innovation

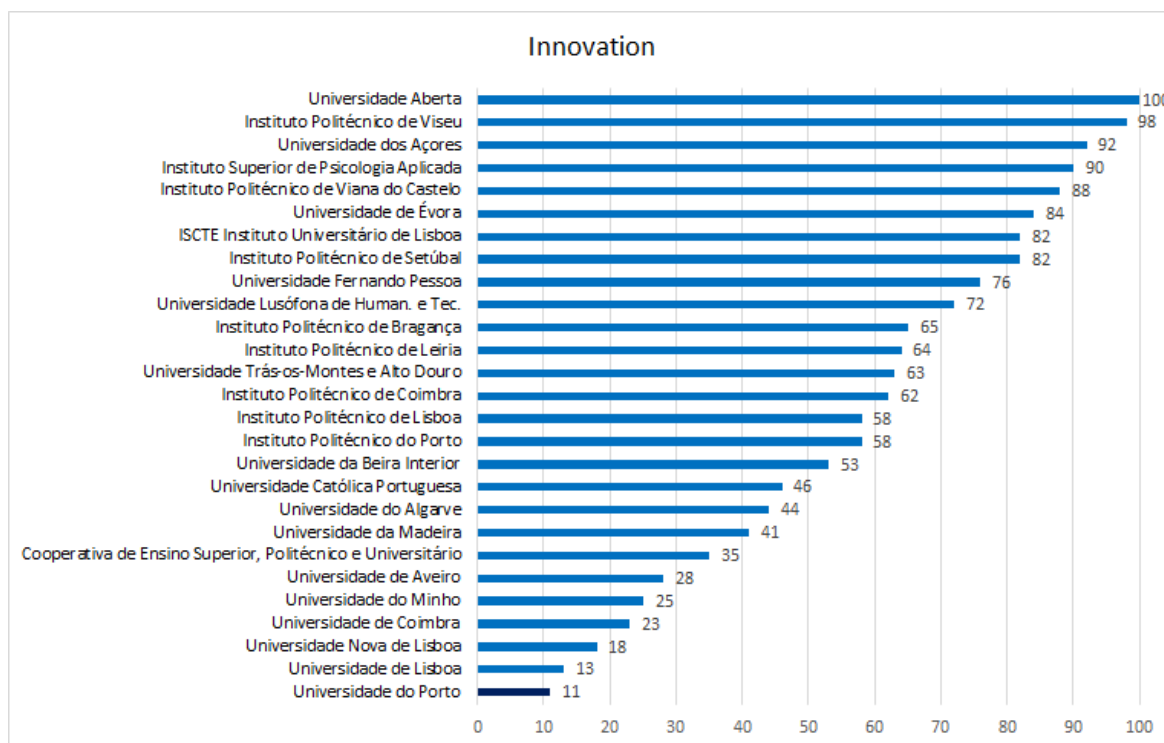


Gráfico 6
Percentis das Universidades portuguesas no SIR 2017, por Societal

