

A Universidade do Porto no SCImago Institutions Rankings SIR 2018

Universidade do Porto. Reitoria.
Gabinete de Estudos Estratégicos e Melhoria Contínua
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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 2018, the results used are those from the five year period 2012-2016. 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.

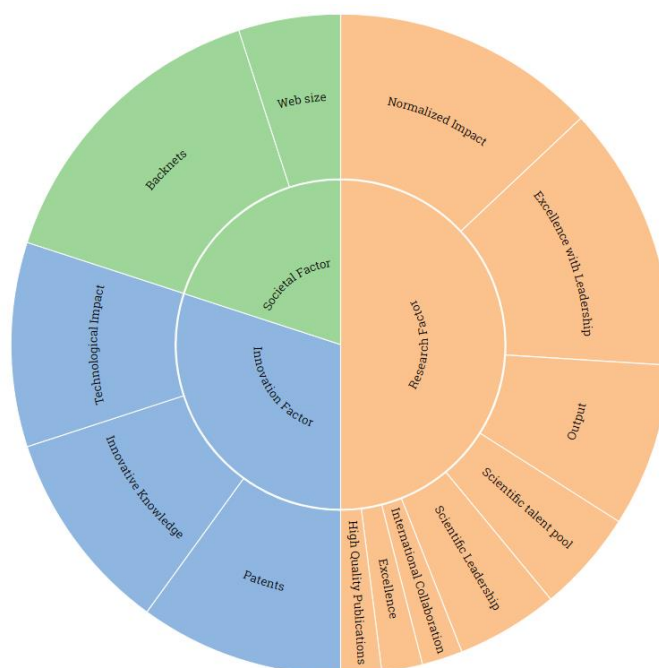
The sources of information used for the indicators for web visibility are Google and Ahrefs.

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



Factor	Indicator	Weight
Research (50%)	Excellence with Leadership (EwL)	13%
	Normalized Impact (NI)	13%
	Output (O)	8%
	Scientific talent pool (STP)	5%
	Scientific Leadership (L)	5%
	International Collaboration (IC)	2%
	High Quality Publications (Q1)	2%
	Excellence (Exc)	2%
Innovation (30%)	Innovative Knowledge (IK)	10%
	Technological Impact (TI)	10%
	Patents (PT)	10%
Societal (20%)	Backnets (BN)	15%
	Web size (WS)	5%

Research:

1. **Output (O):** Total number of documents published in scholarly journals indexed in Scopus (Romo-Fernández, et al., 2011; OECD, 2016). Size-dependent indicator.
2. **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.
3. **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.
4. **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.
5. **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.
3. **Patents (PT):** Number of patent applications (simple families). Based on PATSTAT (<http://www.epo.org>). Size dependent.

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). Size-dependent.
2. **Number of Backnets (BN):** Number of networks(subnets) from which inbound links to the institution website came from. Data extracted from ahrefs database (<https://ahrefs.com>). Size-dependent.

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ONLY RANKS, FAR MORE THAN RAW DATA

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 23 julio de 2018.

2. Evolução² da Universidade do 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.

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	2018
Mundo	278	265	254	228	205	188/2713	169/2838	173/2894	207/2966	235/3234
Europa	95	90	77	76	61	63/844	55/874	64/889	69/859	73/921
Ibero-América	17	15	14	10	9	10/271	8/281	5/291	5/316	5/351
Portugal	2	1	1	1	1	2/22	2/22	2/25	2/27	2/25

Gráfico 1: Evolução das posições da U.Porto no SIR

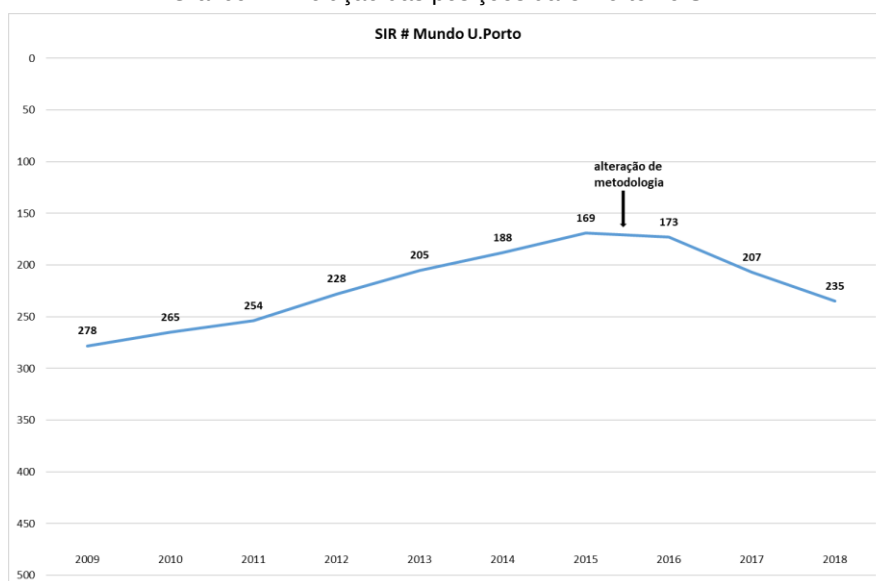


Tabela 2: Evolução dos Percentis da Universidade do Porto no SIR

	2016	2017	2018
Overall	5	6	8
Research	5	4	4
Innovation	8	11	23
Societal	85	93	34

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; a informação de 2018 foi acedida dia 23 de julho de 2018.

3. Instituições de ensino superior portuguesas no SIR 2018

Tabela 3: Evolução 2016-2018 das posições das IES portuguesas no SIR

	# Mundo			# Europa			# Ibero-América			# Portugal		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
Universidade de Lisboa	167	178	167	60	59	48	3	4	3	1	1	1
Universidade do Porto	173	207	235	64	69	73	5	5	5	2	2	2
Universidade de Coimbra	392	413	410	170	154	154	23	20	20	5	3	3
Universidade Nova de Lisboa	323	441	488	138	169	179	14	25	24	3	4	4
Universidade do Minho	344	462	492	147	177	182	17	28	26	4	6	5
Universidade de Aveiro	395	458	515	171	176	190	24	27	28	6	5	6
Cooperativa de Ensino Superior, Politecnico e Universitario	1811	1163	1006	689	451	377	151	82	57	20	10	7
Universidade do Algarve	1539	1047	1136	609	405	422	124	73	66	17	8	8
Universidade da Madeira	854	1180	1148	365	457	427	52	84	67	8	11	9
Universidade da Beira Interior	1052	949	1271	454	371	468	66	60	80	10	7	10
Instituto Politecnico de Braganca	847	1440	1314	362	543	480	50	106	83	7	14	11
Instituto Politecnico do Porto	1230	1061	1347	519	411	495	87	75	88	12	9	12
Universidade Catolica Portuguesa	1019	1193	1510	438	463	542	62	85	103	9	12	13
Instituto Politecnico de Lisboa	1614	1777	1635	637	623	580	130	134	110	18	15	14
Universidade de Tras-os-Montes e Alto Douro	1406	1405	1664	578	529	591	107	103	111	16	13	15
Universidade Lusofona de Humanidades e Tecnologias	1280	1885	1716	534	646	605	94	149	116	13	19	16
Instituto Politecnico de Coimbra	1314	1878	1729	546	642	608	99	147	117	14	18	17
Instituto Politecnico de Leiria	1969	1797	1907	741	626	643	166	139	135	21	16	18
ISCTE Instituto Universitario de Lisboa	2101	2118	1978	764	696	662	184	173	145	23	20	19
Universidade de Evora	1778	1841	2191	679	637	702	147	142	172	19	17	20
Universidade Fernando Pessoa	2091	2152	2272	762	704	718	182	180	183	22	22	21
Universidade dos Acores	1343	2132	2346	555	699	733	101	176	190	15	21	22
Instituto Politecnico de Setubal	2362	2497	2695	818	762	799	213	228	241	24	23	23
Instituto Superior de Psicologia Aplicada	2363	2594	3036	819	772	862	214	244	303	25	25	24
Instituto Politecnico de Viana do Castelo	-	2658	3090	-	785	880	-	259	314	-	26	25
Nº IES	2894	2966	3234	889	859	921	291	316	351	25	27	25

Tabela 4: Percentis das IES portuguesas no SIR 2018

	Overall	Research	Innovation	Societal
Universidade de Lisboa	6	3	28	11
Universidade do Porto	8	4	23	34
Universidade de Coimbra	14	8	32	10
Universidade Nova de Lisboa	17	11	32	13
Universidade do Minho	18	10	35	14
Universidade de Aveiro	18	9	38	18
Cooperativa de Ensino Superior, Politecnico e Universitario	37	51	26	83
Universidade do Algarve	41	35	44	35
Universidade da Madeira	42	50	35	48
Universidade da Beira Interior	45	28	57	33
Instituto Politecnico de Braganca	47	36	50	49
Instituto Politecnico do Porto	48	35	56	31
Universidade Catolica Portuguesa	53	51	54	25
Instituto Politecnico de Lisboa	56	63	47	54
Universidade de Tras-os-Montes e Alto Douro	57	41	66	34
Universidade Lusofona de Humanidades e Tecnologias	59	58	55	48
Instituto Politecnico de Coimbra	59	66	49	73
Instituto Politecnico de Leiria	64	56	65	40
ISCTE Instituto Universitario de Lisboa	66	52	71	42
Universidade de Evora	73	49	87	29
Universidade Fernando Pessoa	75	72	68	53
Universidade dos Acores	77	63	80	44
Instituto Politecnico de Setubal	87	80	81	57
Instituto Superior de Psicologia Aplicada	95	78	98	65
Instituto Politecnico de Viana do Castelo	96	84	95	63

Gráfico 2: Percentis das IES portuguesas no SIR 2018, por Overall

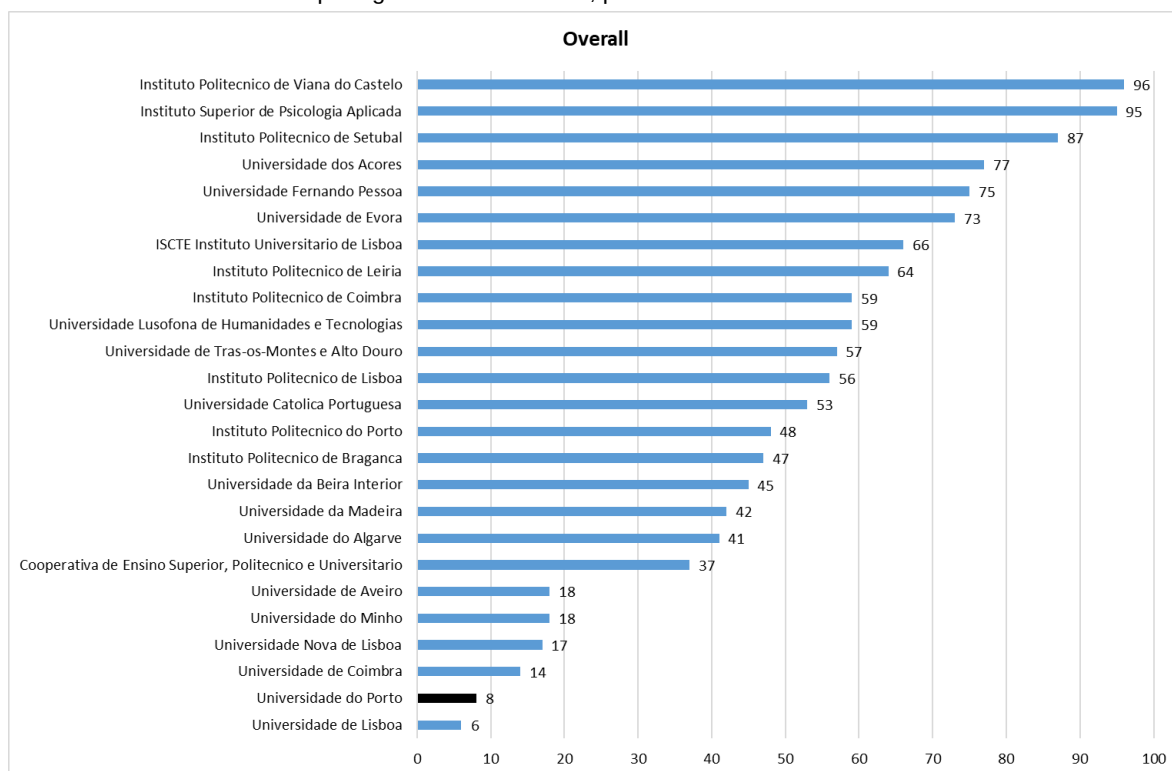


Gráfico 3: Percentis das IES portuguesas no SIR 2018, por Research

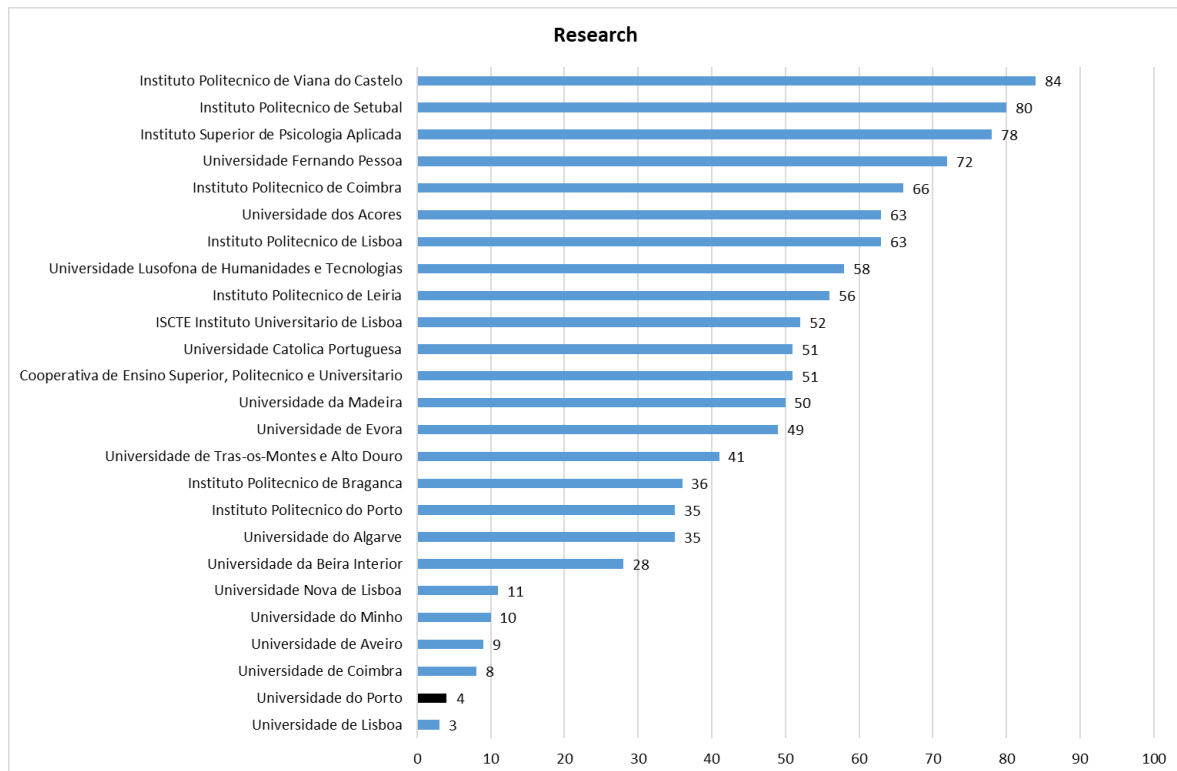


Gráfico 4: Percentis das IES portuguesas no SIR 2018, por Innovation

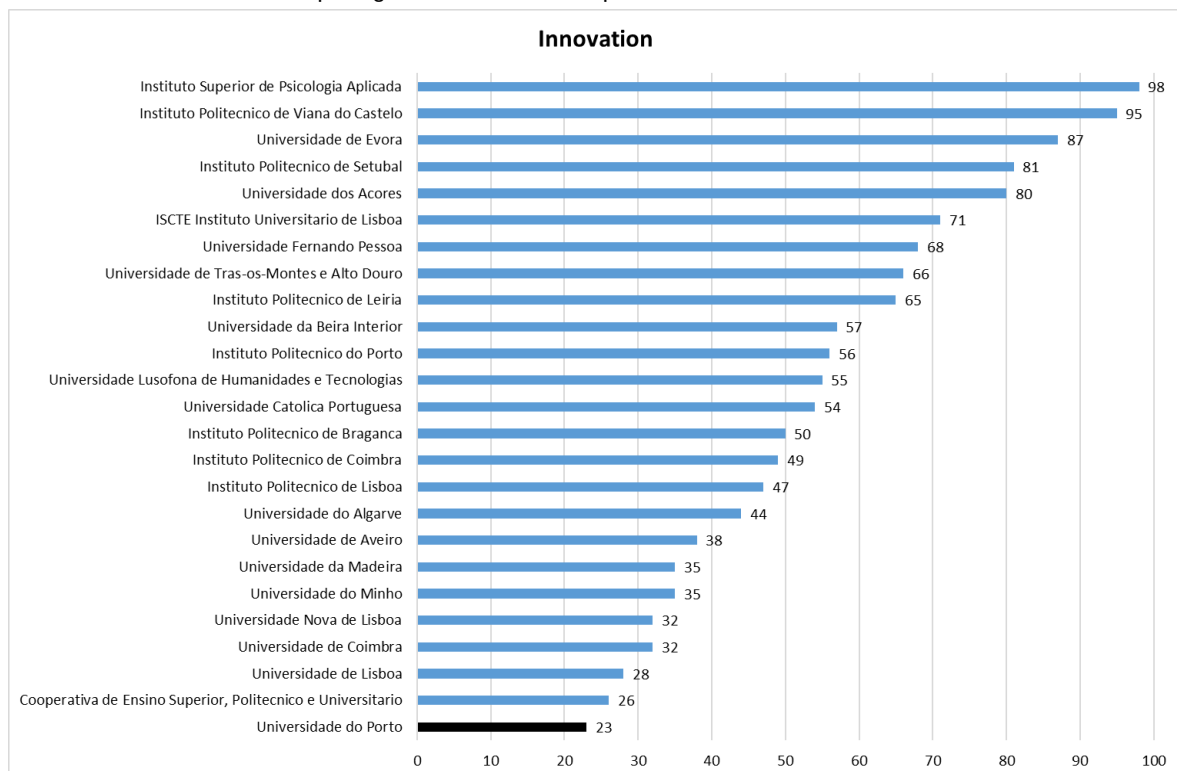


Gráfico 5: Percentis das IES portuguesas no SIR 2018, por Societal

