

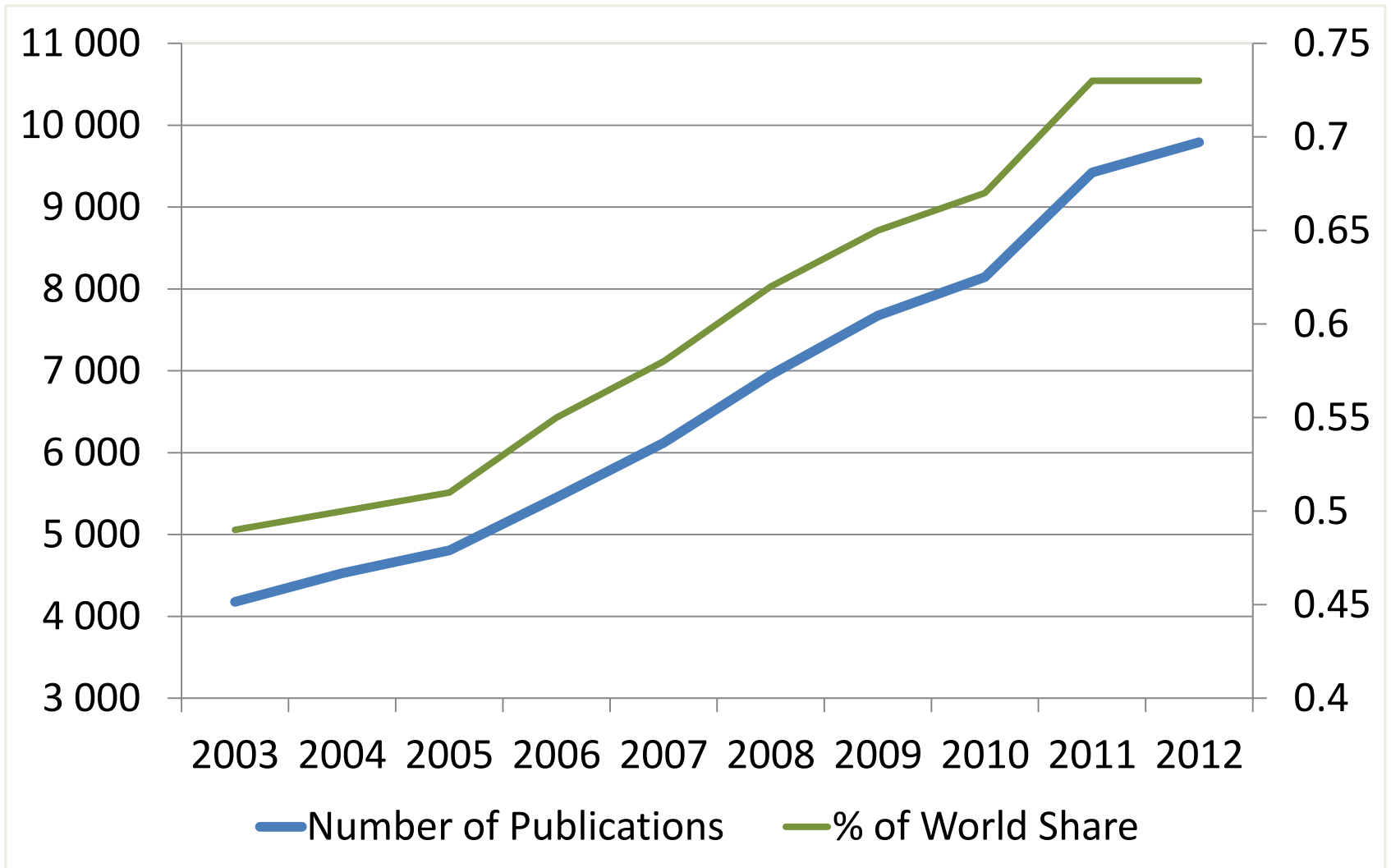
Science in South Africa: Bird's eye view

Thomas Auf der Heyde

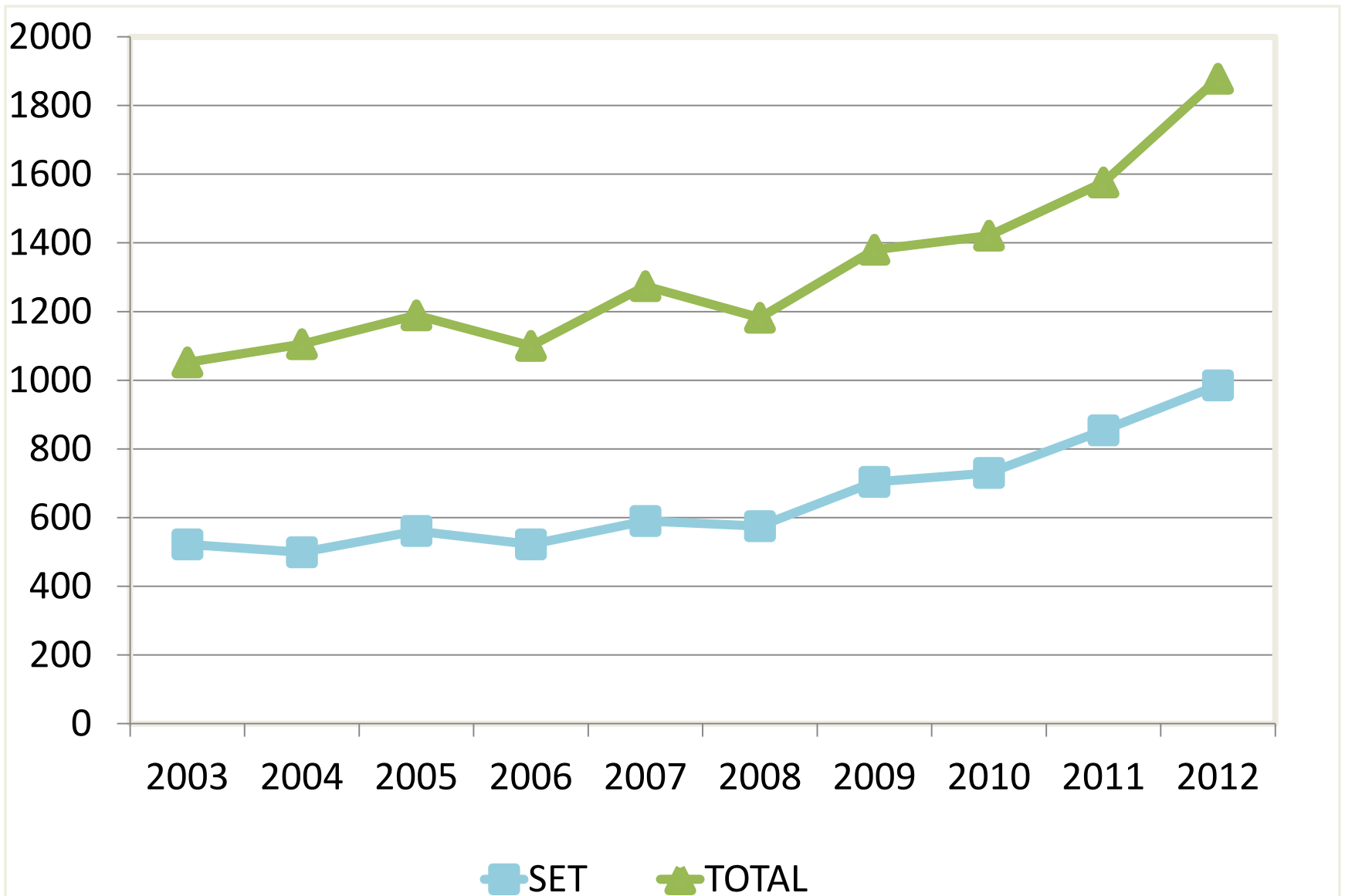
Department of Science and Technology

25 July 2015

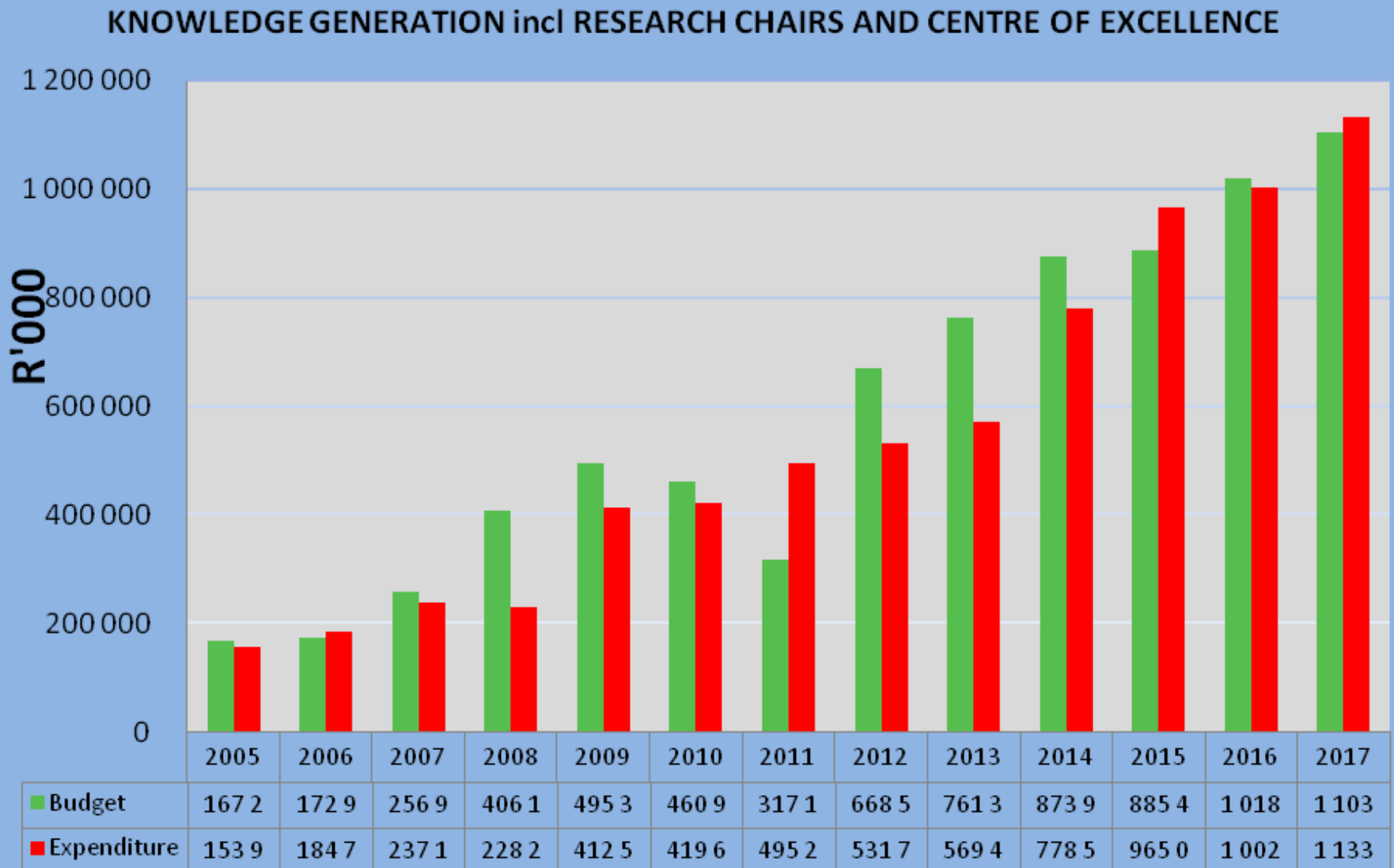
Research output



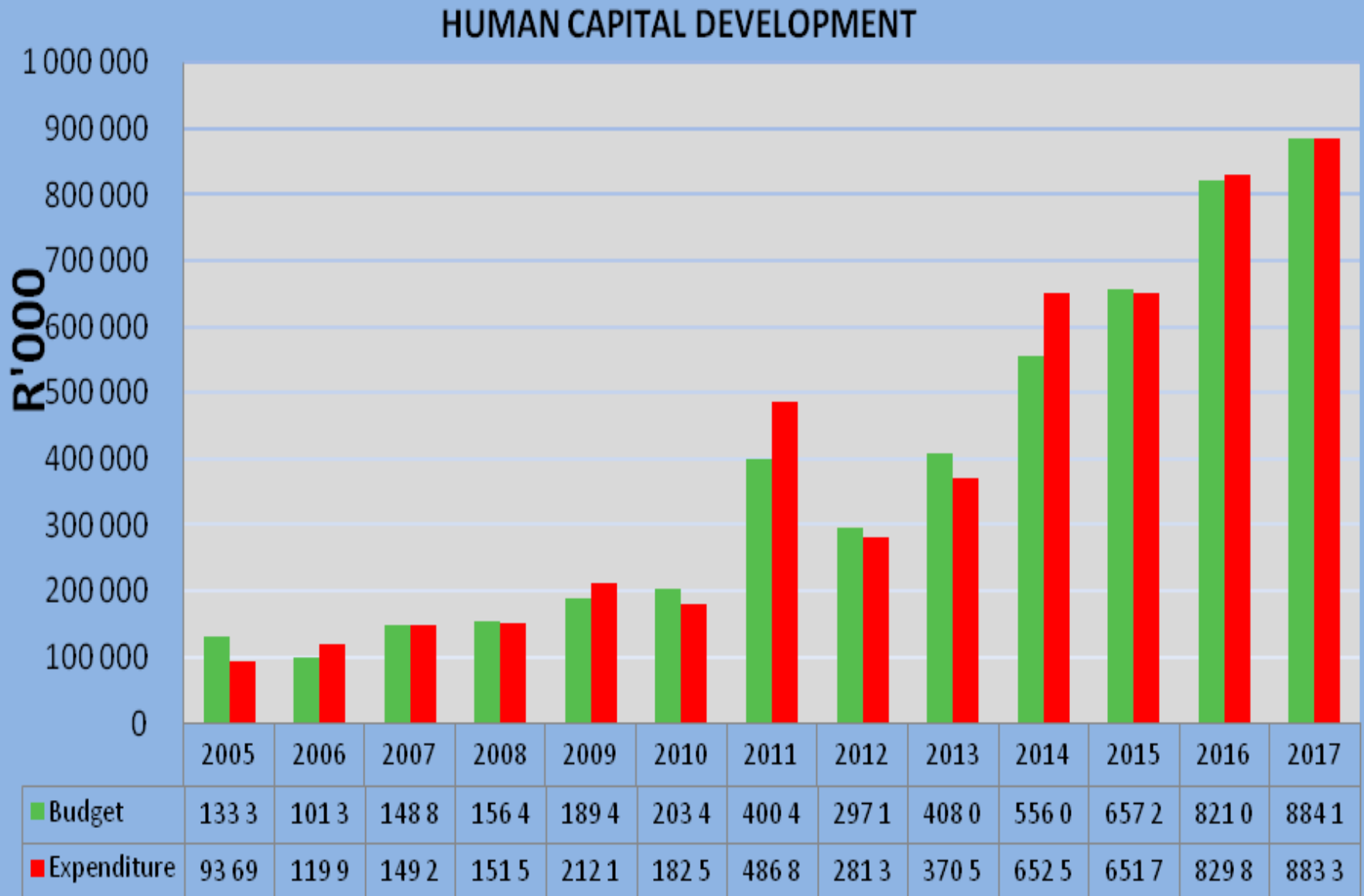
Doctoral output



Research investment



HCD investment

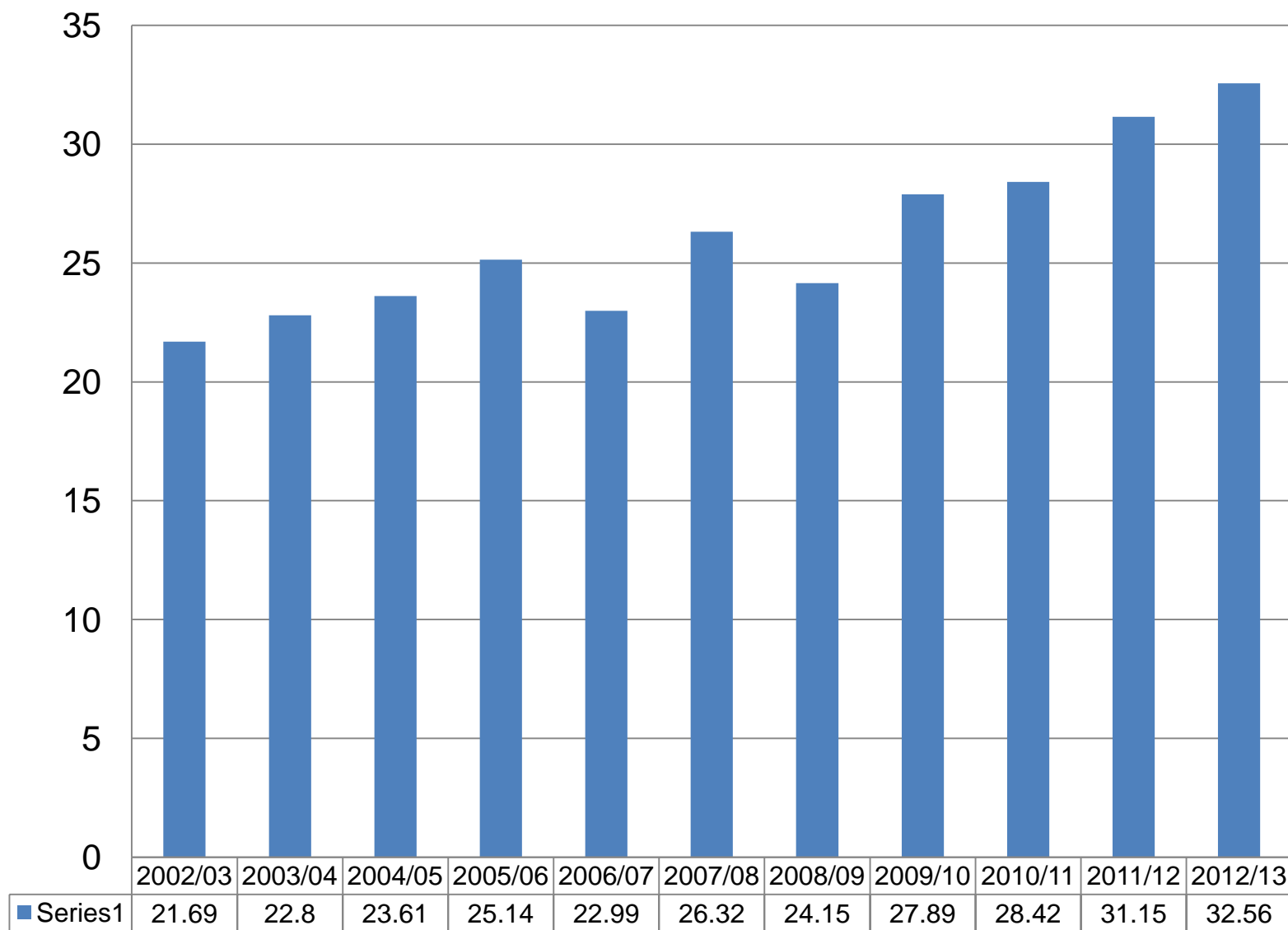


Number of students supported

	2010/11	2011/12	2012/13	2013/14
Honours students	462	1692	2 846	3 149
Master's students	268	3478	3 087	3 704
PhD students	234	1913	1779	2 265

Per capita support trebled

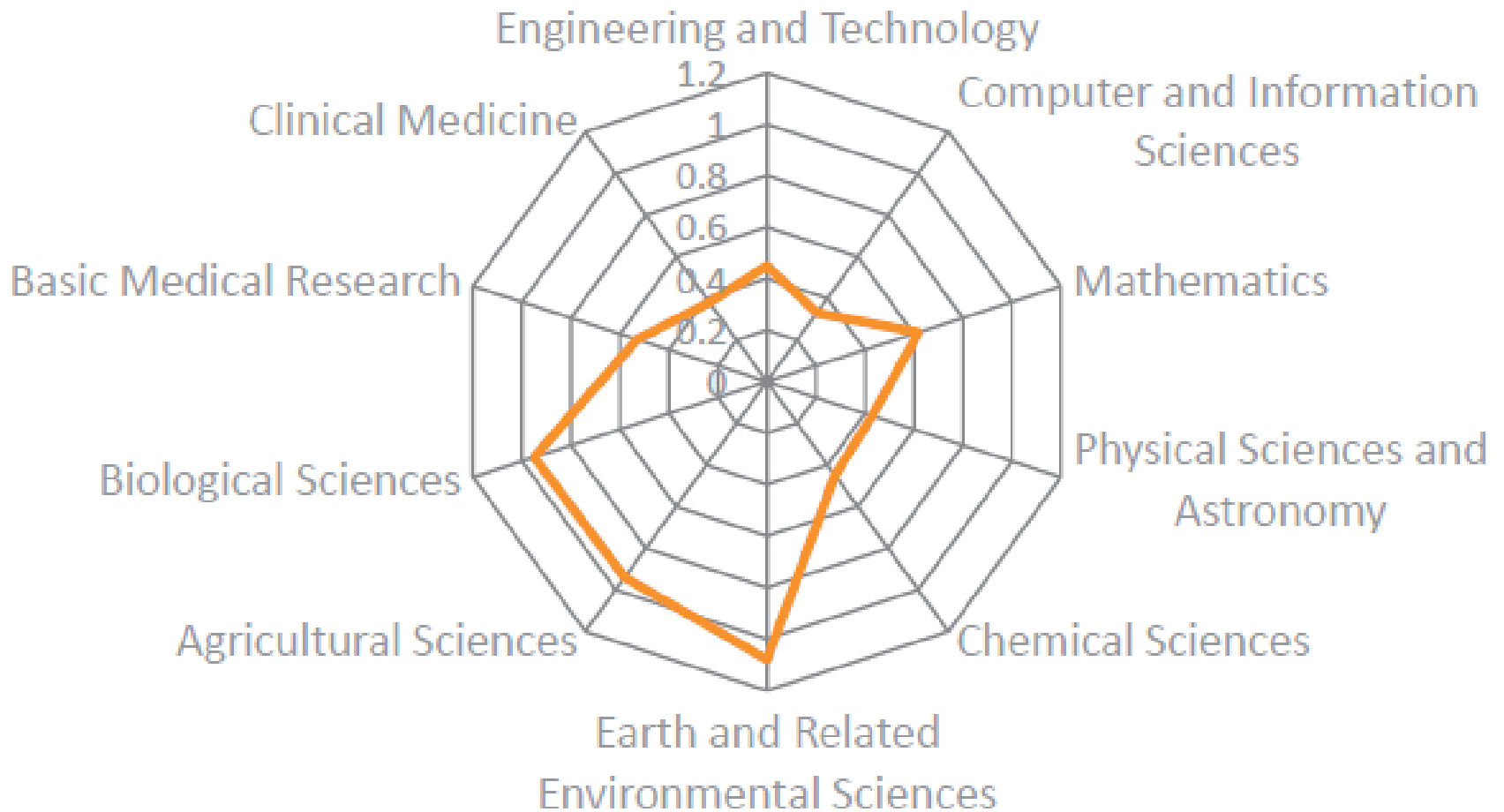
PhD grads / million population



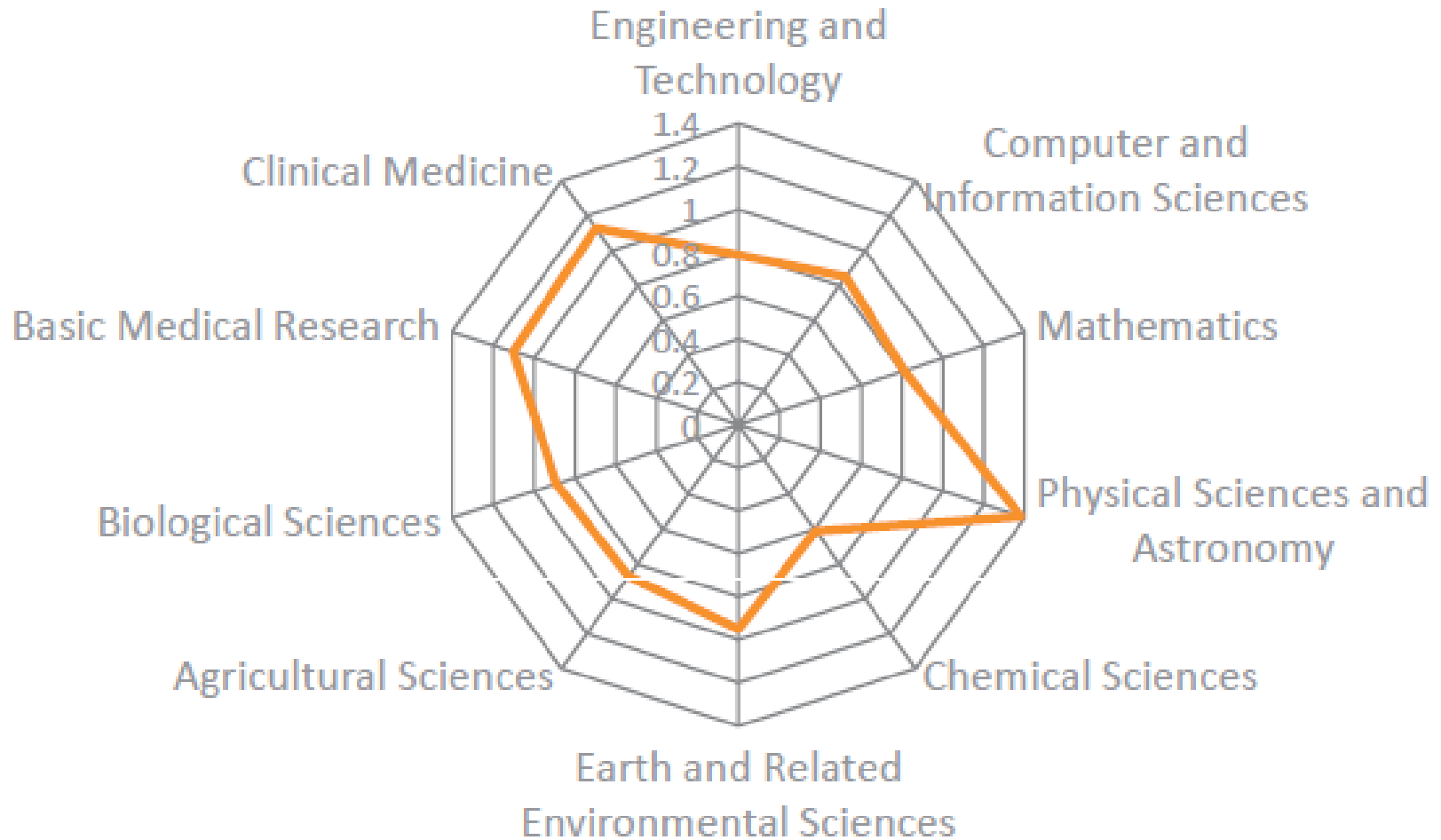
Research efficiencies

	SA	Brazil	China	India	Russia	Japan	UK	USA
# ISI papers (k)	9.7	37.3	186	48	28	77	103	369
# Citations (k)	6.4	14.3	88	19	11.8	43	87	282
% World output	0.73	2.78	13.90	3.59	2.09	5.75	7.71	27.51
# Papers/Mill popul	192	192	138	38	196	604	1 638	1 176
# papers per 100 FTE Researchers	52	28	14	32	6	12	40	26
Citations per 100 FTE Researchers	34	11	7	13	3	7	34	20
Papers/100m \$ R&D Expenditure	244	147	105	198	84	55	262	90
Citations/100m \$ R&D Expenditure	161	56	49	78	35	31	220	69

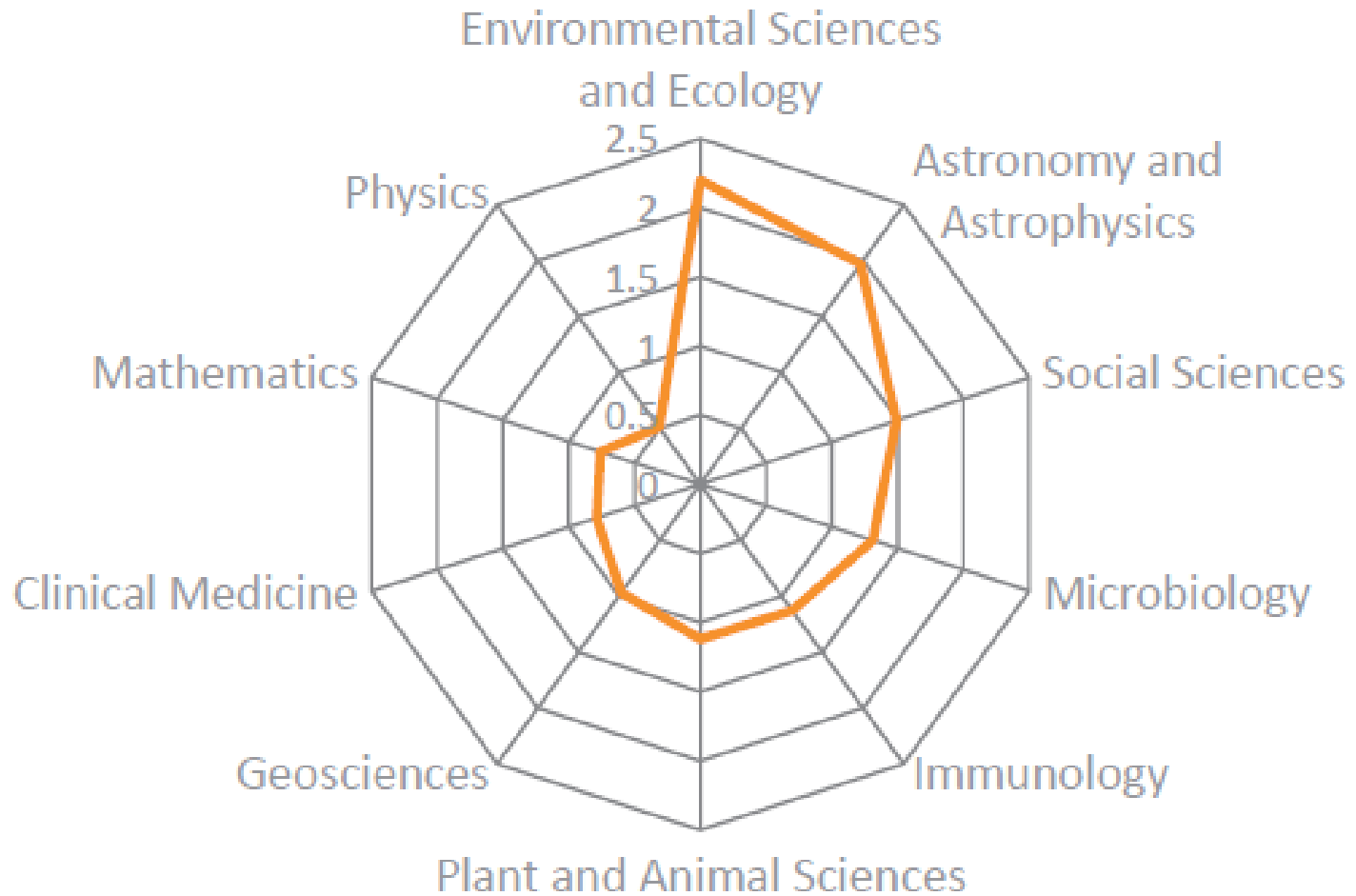
Percent World Share of Papers in Select OECD Science Fields (2008 - 2012)



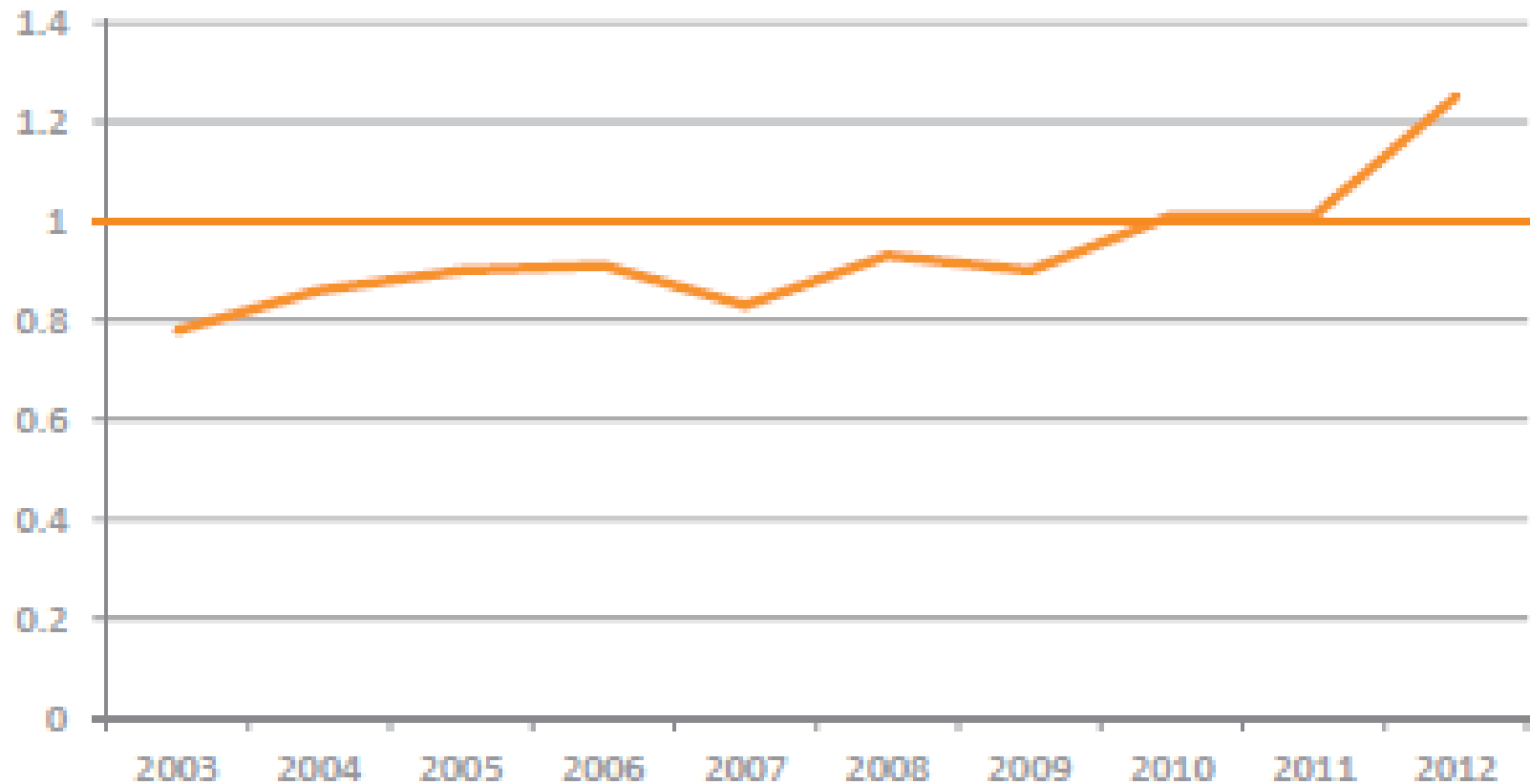
Relative Citation Impact of Papers in Select OECD Science Fields (2008 - 2012)



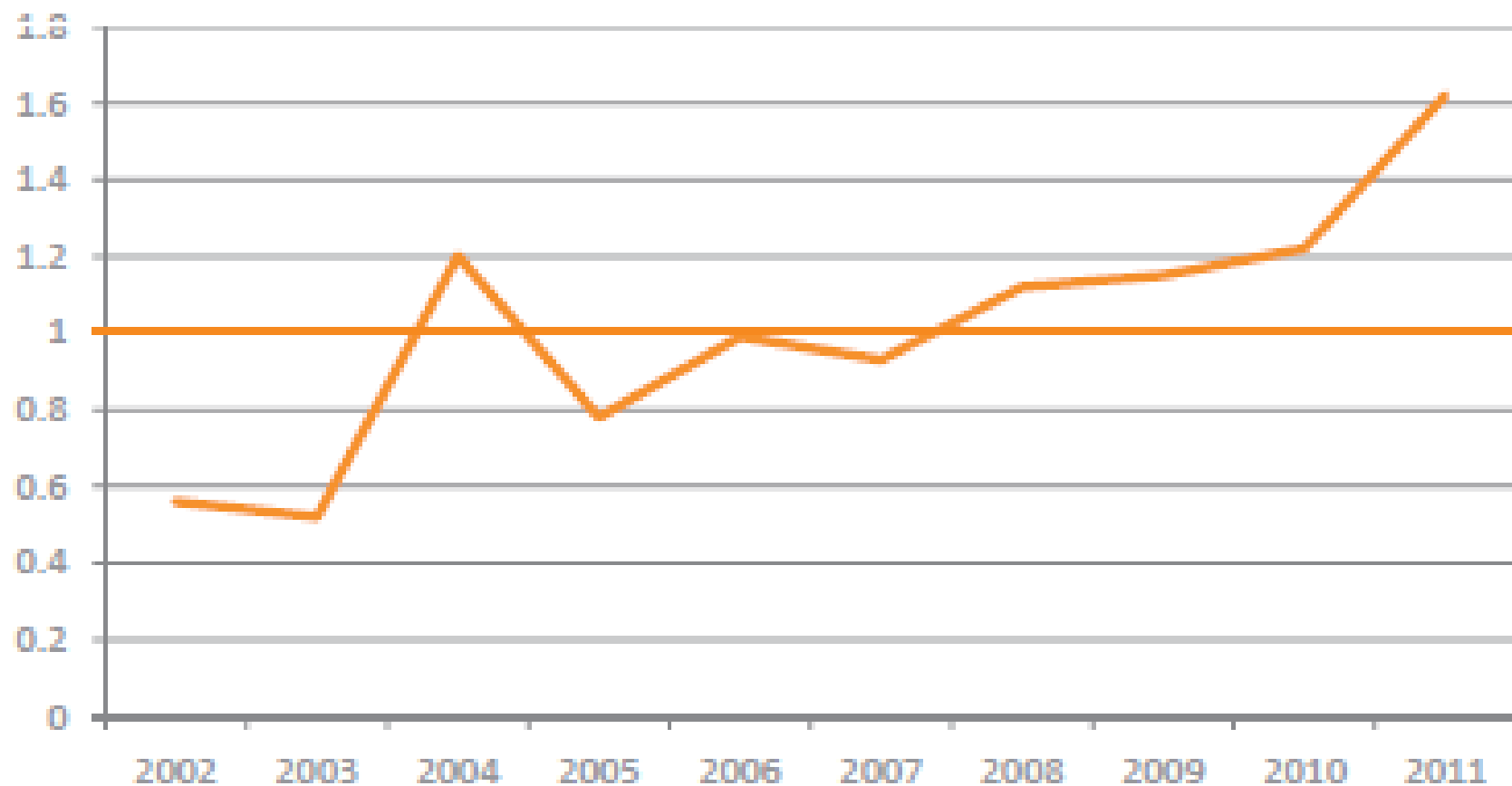
Top 10 ESI Fields by Percent World Share of Highly Cited Papers (2002 - 2011)



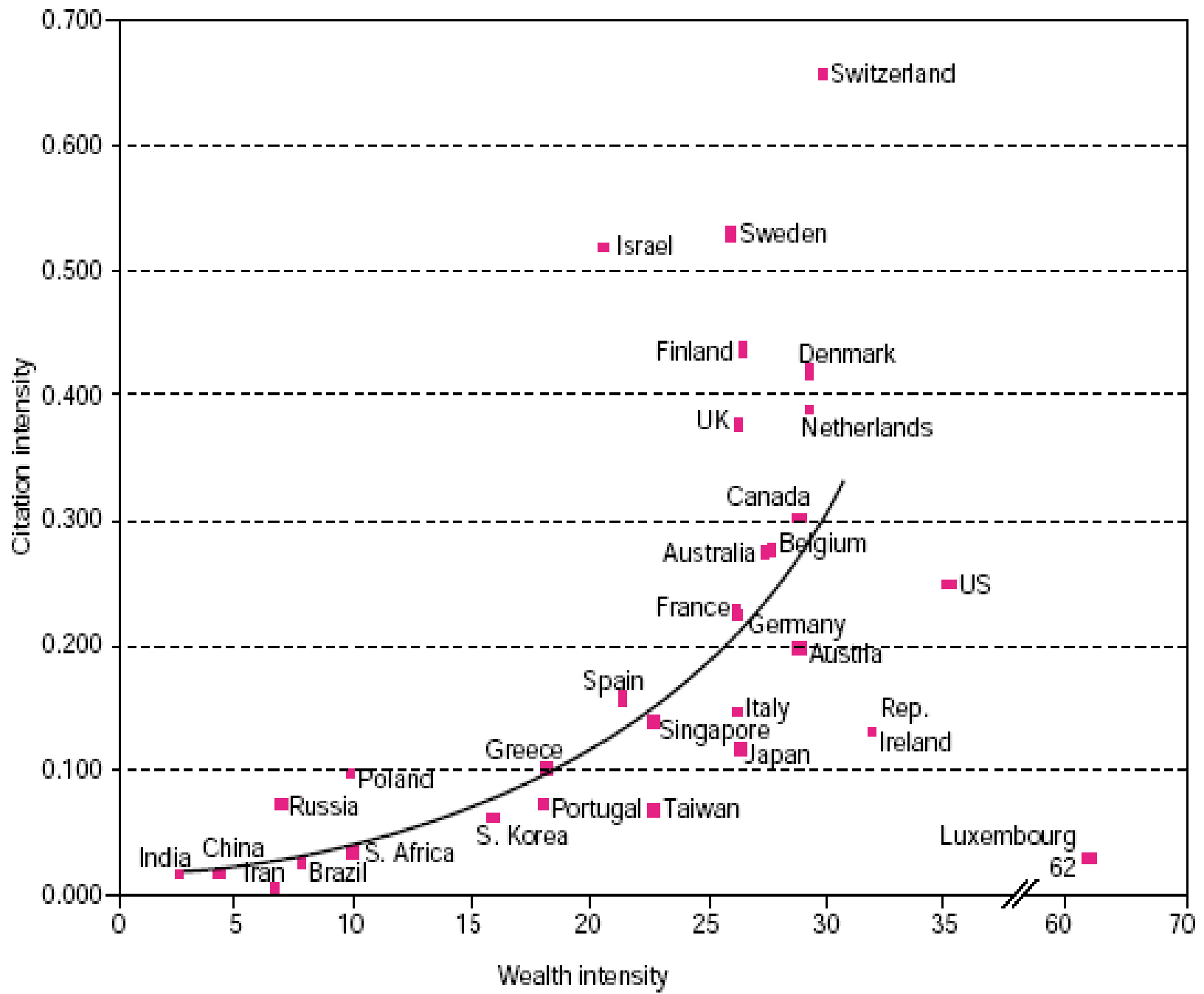
Relative Citation Impact of Papers Indexed in Web of Science (2003 - 2012)



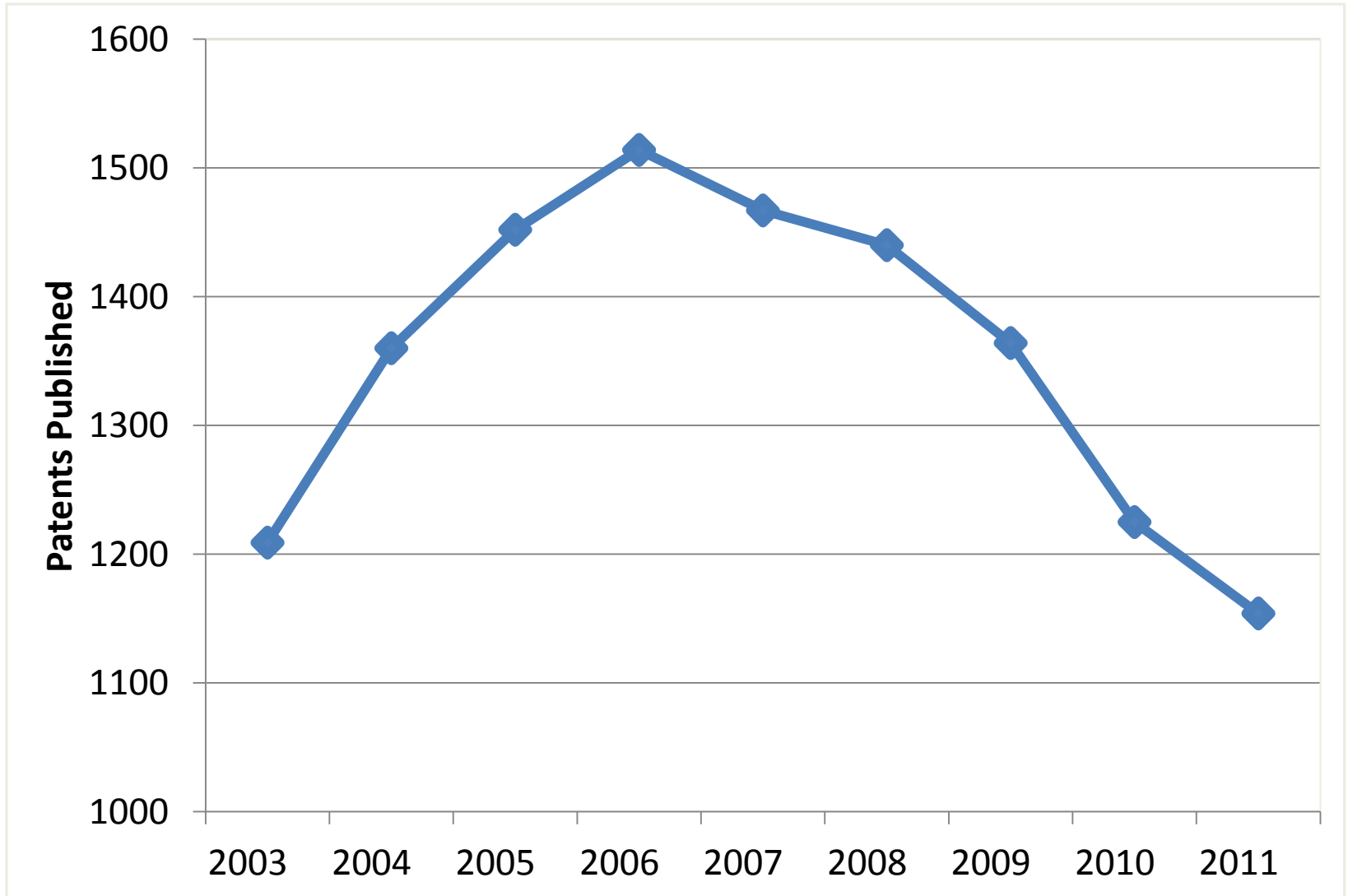
Percent of Highly Cited Papers Based on National Output (2002 - 2011)



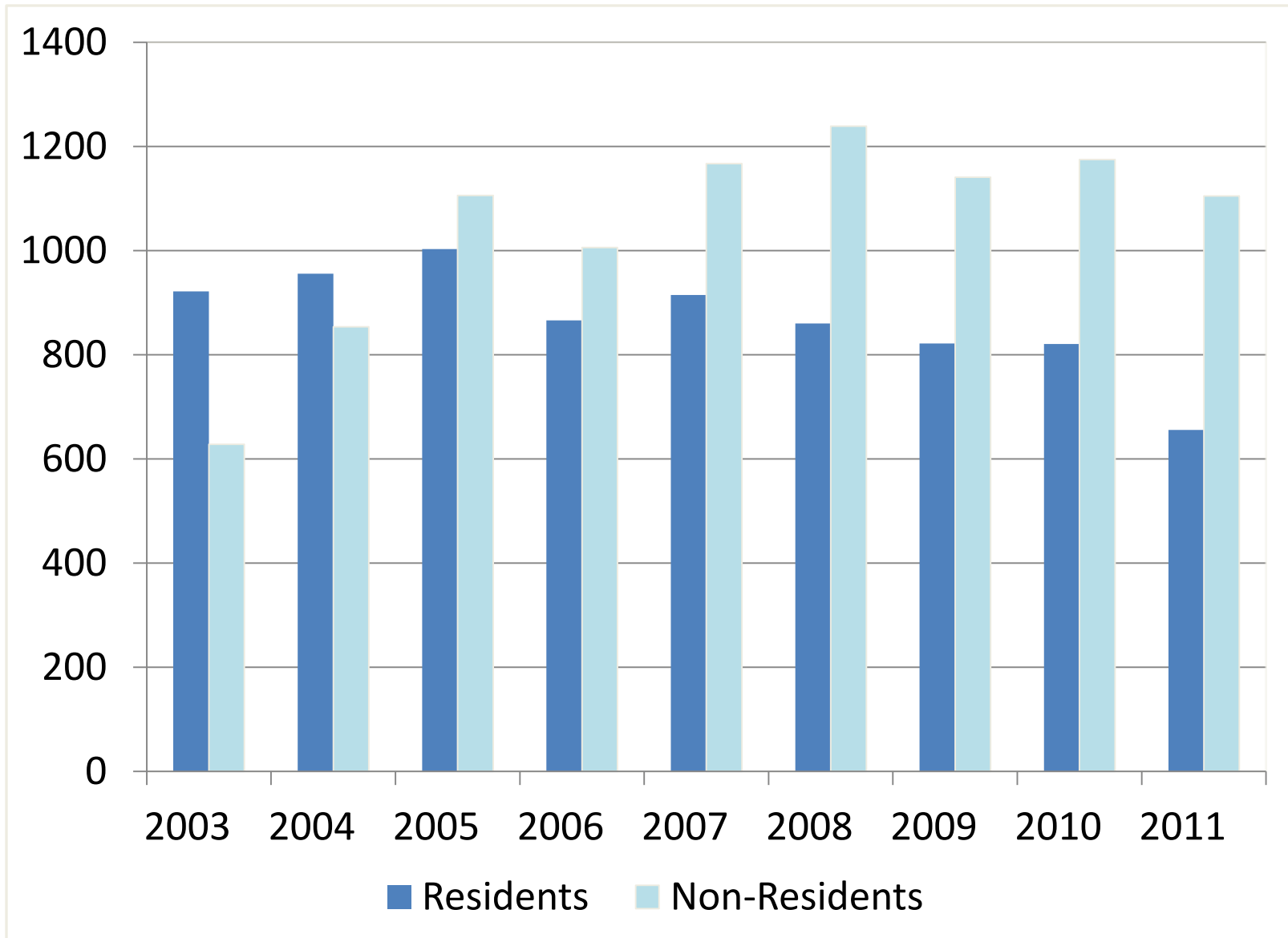
Innovation



Patent publication



Origin of patent publication



- Demographic drop-off

For 2010	U/B	H	M	D
Number enrolled	440 000	57 000	46 000	11 600
Number of graduates	61 000	20 500	4 600	1 400
% of black enrolled	73	79	65	58
% of female enrolled	57	63	48	42

For 2012	U/B	H	M	D
Number enrolled	781 711	85 500	49 560	13 965
Number of graduates	120 394	33 284	10 331	1 878
% of black enrolled	83	78	66	60
% of female enrolled	58	63	48	43

Imperatives

- Research output
- Mentorship
- Transformation
- Communication
- Modernisation
- Innovation