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Cooperation in Research and Higher Education

Sveriges internationella forskningssamarbeten – hur bör de utvecklas?

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Inledning

- Forskningsvärlden förändras mycket snabbt
- Internationella forskningssamarbeten är avgörande för svensk forsknings framgångar
- Globala analyser är en bristvara

Studiens huvudfråga:

Hur samarbetar Sverige med tillväxtländer inom forskningen?



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Data för 1996 - 2016

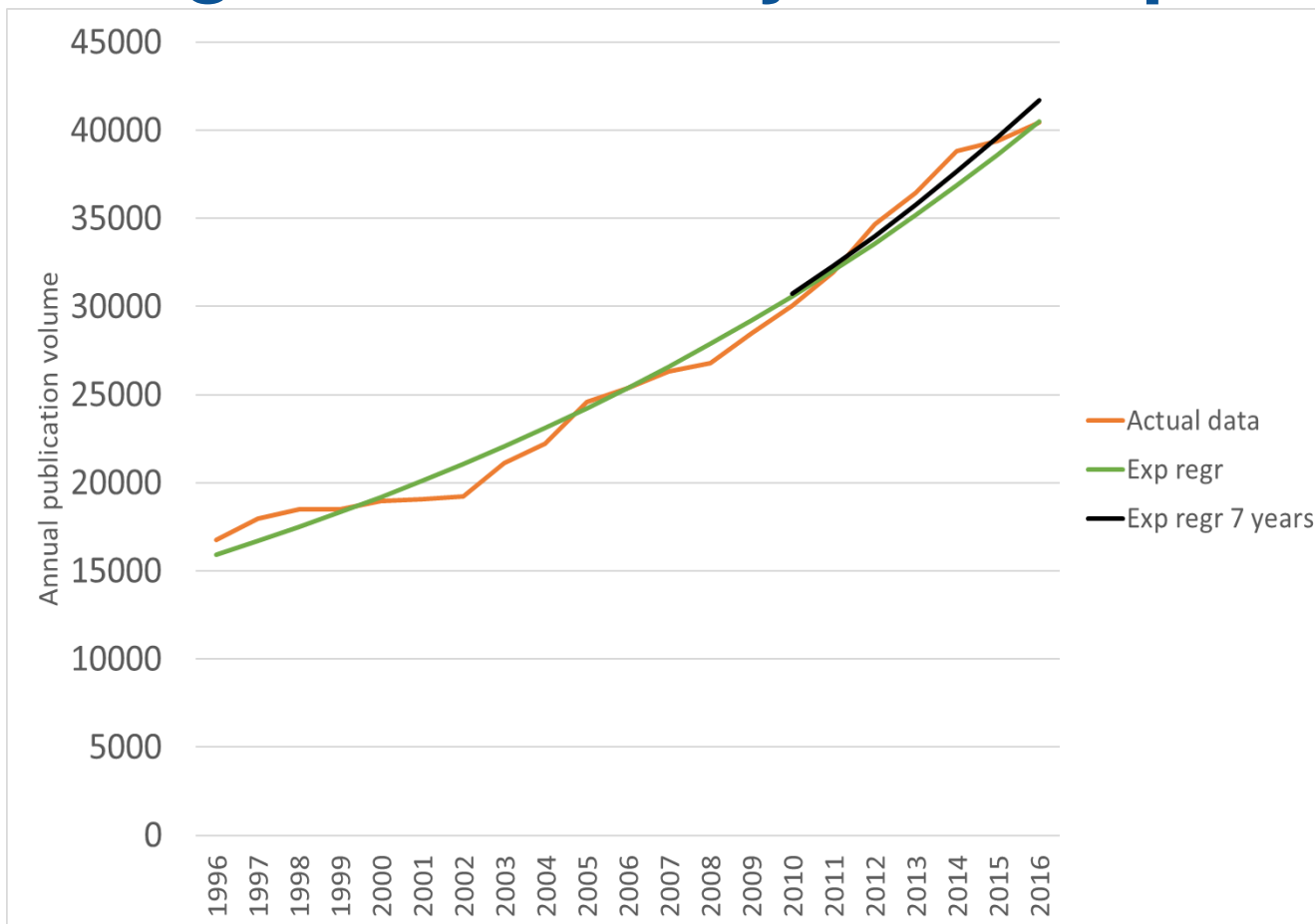
- Publikationsdata från Elsevier Scopus/SciVal
- Ekonomiska data och befolkning från Världsbanken och SCB:
 - GDP
 - Investeringar i forskning och utveckling
 - Handelsbalans



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Regressionsanalys - exempel



Tillväxten för tidsperioderna 1996 – 2016 (25%) och 2010 – 2016 (75%) vägs samman till ett tillväxtmått



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Gruppindelning

Grupp	Publikationer 2016	Antal länder
L	>10,000	47
M	>1,000	44
S	>150	51
XS	<=150	65

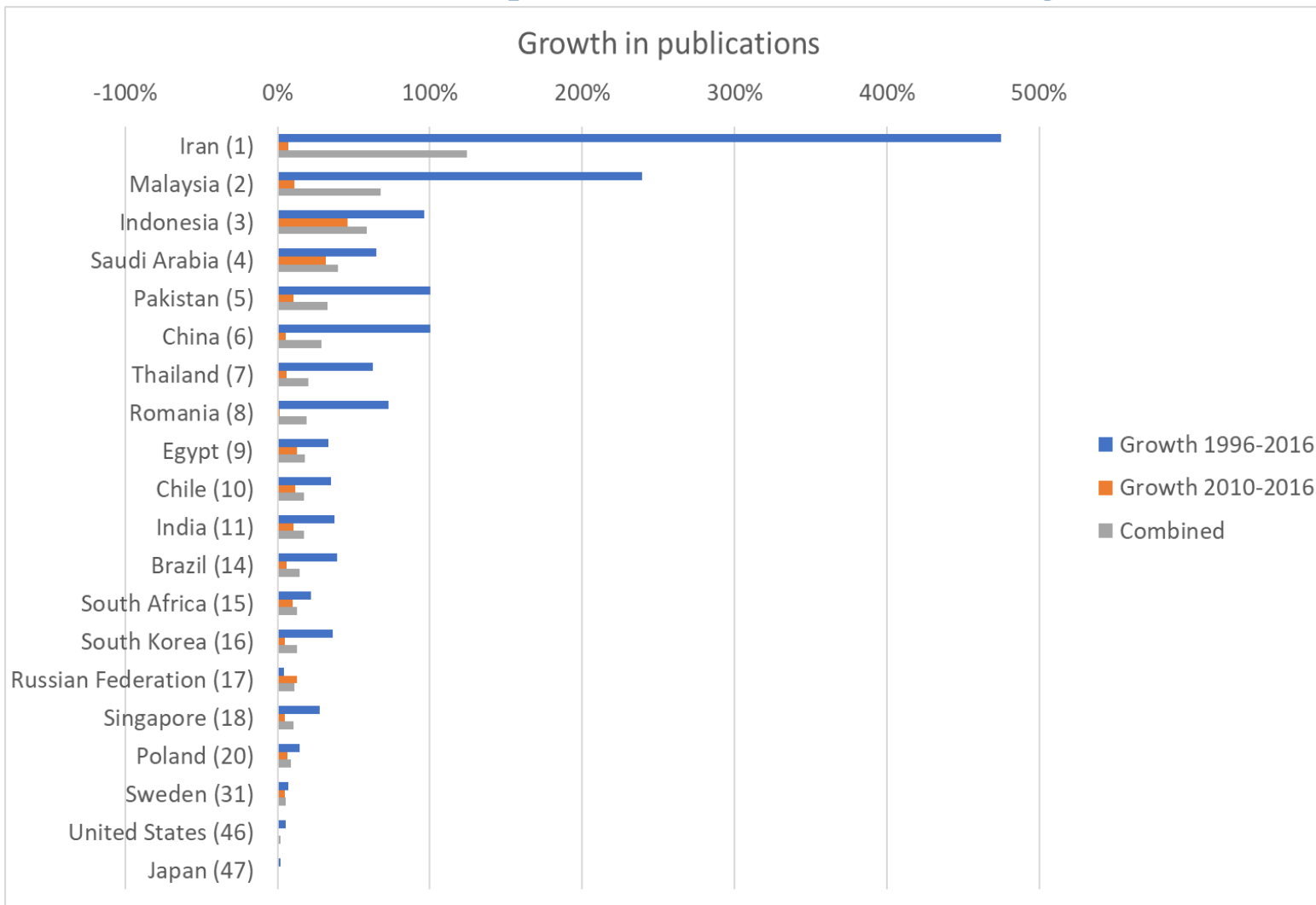




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Tillväxt i publikationsvolym

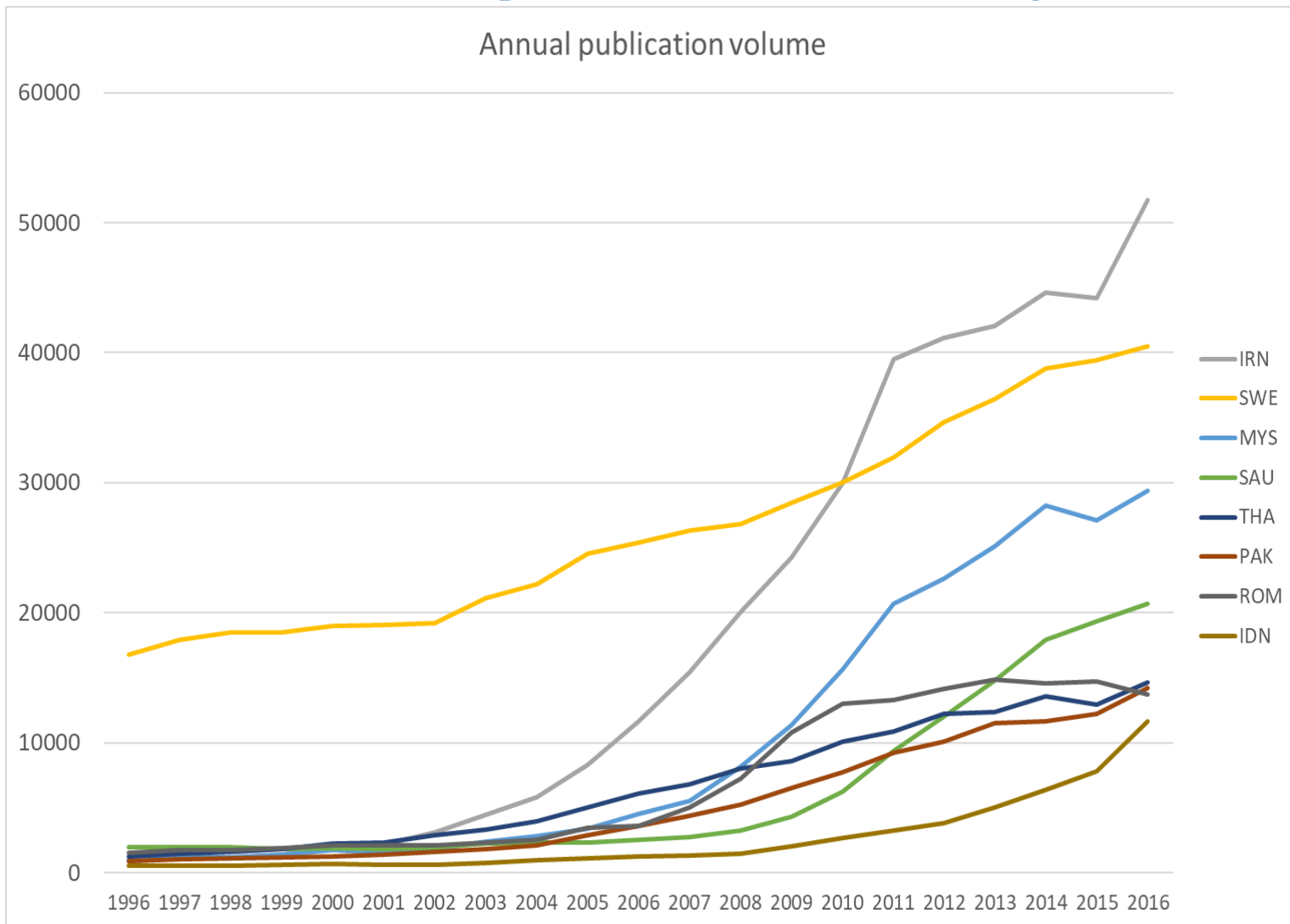




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Tillväxt i publikationsvolym

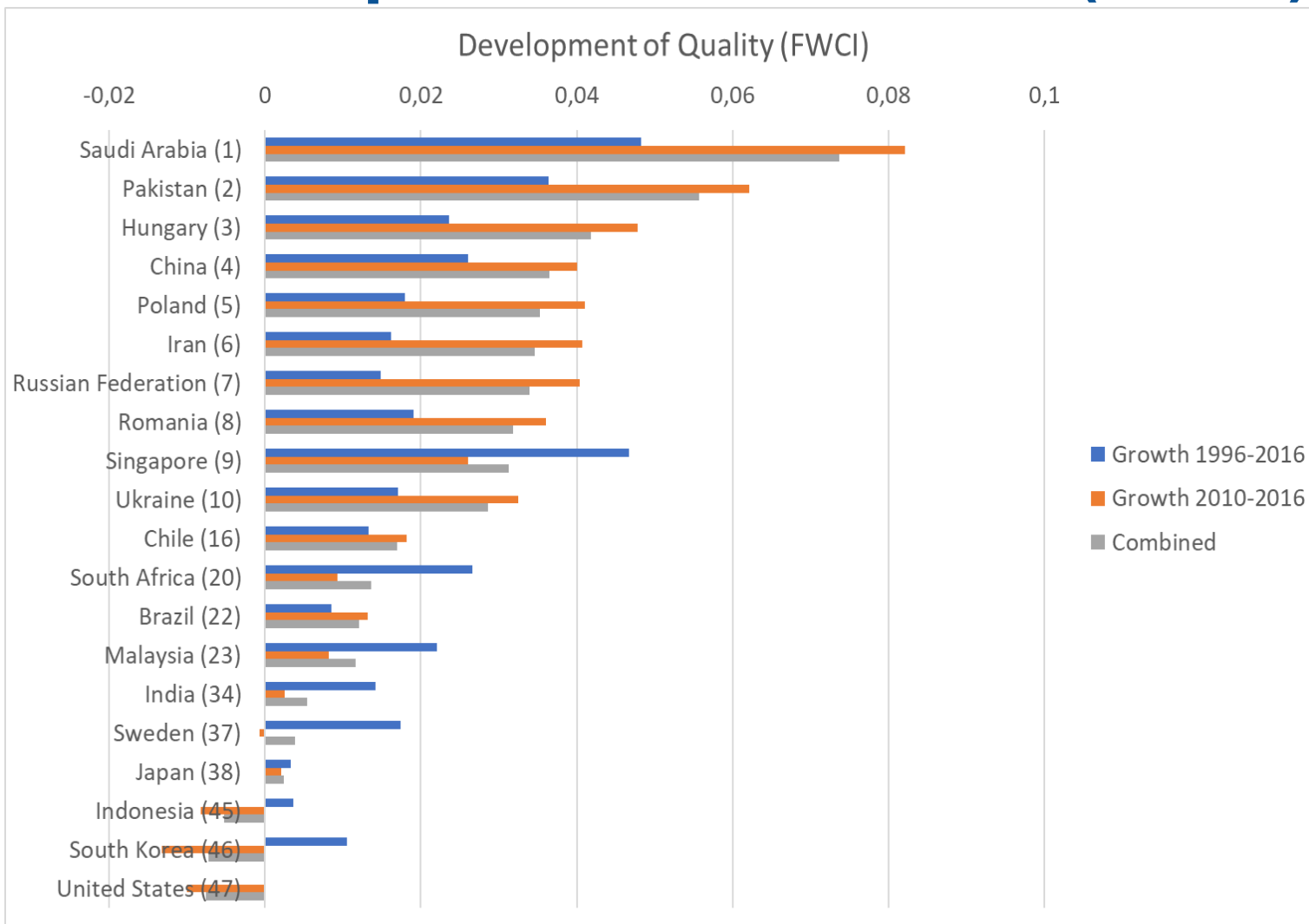




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Tillväxt i publikationskvalitet (FWCI)



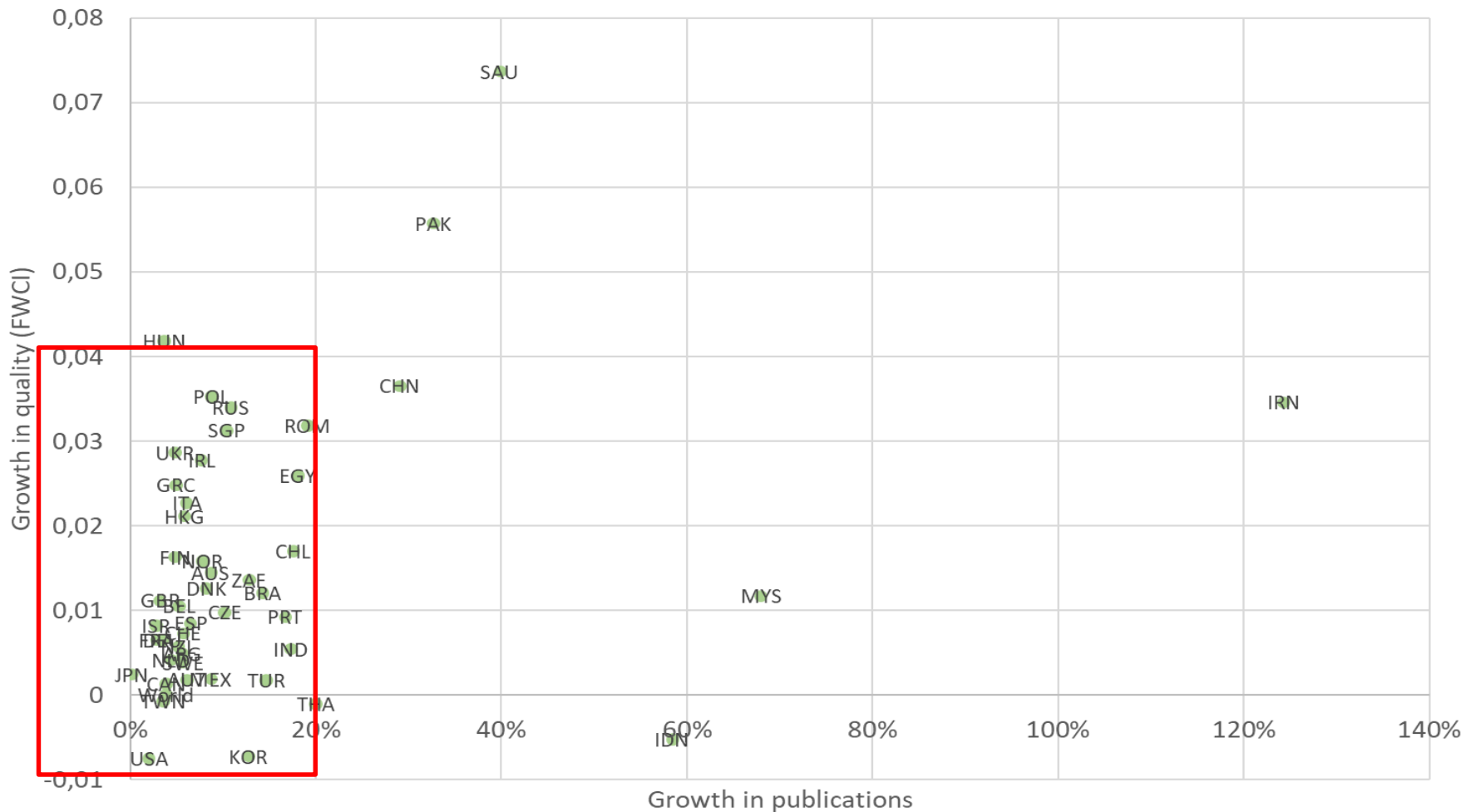


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Publikationer – volym och kvalitet

Development of publications - volume and quality





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Publikationer – volym och kvalitet

Development of publications - volume and quality





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Publikationer - sammanvägd position för tillväxt i volym och kvalitet

Rank	Volume	Quality	Average
Saudi Arabia	4	1	2,5
Iran	1	6	3,5
Pakistan	5	2	3,5
China	6	4	5
Romania	8	8	8
Egypt	9	12	10,5
Russian Federation	17	7	12
Poland	20	5	12,5
Malaysia	2	23	12,5
Chile	10	16	13



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Sveriges samarbeten – nytt måttetal

Ny indikator utvecklades för att spegla ett lands
samarbetsmönster;

Normalised Collaboration Intensity Index (NCII)



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Normalised Collaboration Intensity Index

	International co-publications
Sweden	10
Denmark	8
Norway	6
Finland	4
Total	28



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Normalised Collaboration Intensity Index

	International co-publications	Share of all intn'l co-publ (excl Sweden)
Sweden	10	
Denmark	8	44%
Norway	6	33%
Finland	4	22%
Total	28	



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Normalised Collaboration Intensity Index

	International co-publications	Share of all intn'l co-publ (excl Sweden)	Co-publ with Sweden Theoretical
Sweden	10		
Denmark	8	44%	4,4
Norway	6	33%	3,3
Finland	4	22%	2,2
Total	28		



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Normalised Collaboration Intensity Index

	International co-publications	Share of all intn'l co-publ (excl Sweden)	Co-publ with Sweden Theoretical	Sweden Actual
Sweden	10			
Denmark	8	44%	4,4	3
Norway	6	33%	3,3	4
Finland	4	22%	2,2	3
Total	28			



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Normalised Collaboration Intensity Index

	International co-publications	Share of all intn'l co-publ (excl Sweden)	Co-publ with Sweden Theoretical	Actual	NCII
Sweden	10				
Denmark	8	44%	4,4	3	68%
Norway	6	33%	3,3	4	120%
Finland	4	22%	2,2	3	135%
Total	28				



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Länder med relativt stort Sverigesamarbete

Country	NCII
Norway	394%
Finland	366%
Denmark	336%
Hungary	214%
Greece	179%
Czech Republic	163%
Poland	162%
Netherlands	154%
Austria	152%
Romania	147%
South Africa	137%
Ireland	133%
Belgium	126%
Switzerland	123%
Germany	120%
Italy	118%
Russian Federation	116%
Spain	115%

Large only (>10,000
publ 2016)

Large and medium
(>1,000 publ 2016)

Country	NCII
Iceland	538%
Armenia	497%
Estonia	405%
Georgia	398%
Norway	394%
Finland	366%
Denmark	336%
Latvia	302%
Belarus	282%
Lithuania	265%
Slovenia	230%
Hungary	214%
Slovakia	179%
Greece	179%
Uganda	178%
Serbia	171%
Morocco	164%
Czech Republic	163%



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Länder med relativt litet Sverigesamarbete

Country	NCII
Saudi Arabia	27%
Hong Kong	28%
Egypt	33%
Indonesia	37%
South Korea	40%
Malaysia	41%
China	46%
Singapore	48%
Taiwan	56%
Thailand	58%
Mexico	58%
India	64%
Japan	66%
United States	66%
Canada	69%
Iran	70%
Brazil	75%
Pakistan	75%

Large only (>10,000
publ 2016)

Large and medium
(>1,000 publ 2016)

Country	NCII
Algeria	13%
Tunisia	14%
Macao	25%
Saudi Arabia	27%
Hong Kong	28%
Egypt	33%
Kuwait	35%
Qatar	36%
Venezuela	36%
Indonesia	37%
Lebanon	39%
South Korea	40%
Malaysia	41%
Cameroon	42%
Jordan	45%
China	46%
Kazakhstan	46%
Singapore	48%

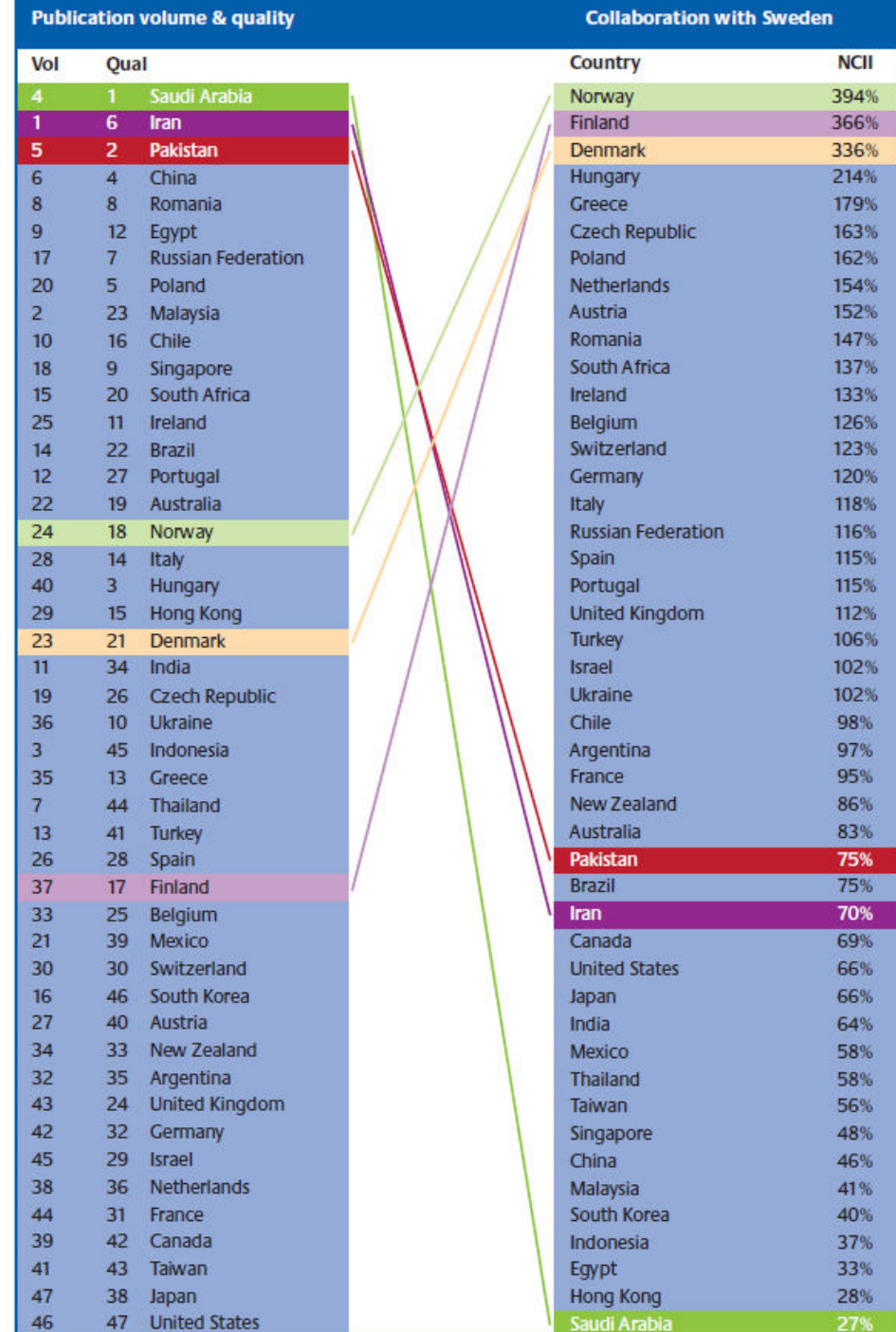


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Mismatch!

Tillväxt i publikationer, volym
och kvalitet, i jämförelse med
NCII





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Sveriges och Finlands samarbeten

Rank	Volume	Quality	Average	Sweden	Finland
Saudi Arabia	4	1	2,5	27%	42%
Iran	1	6	3,5	70%	86%
Pakistan	5	2	3,5	75%	125%
China	6	4	5	46%	38%
Romania	8	8	8	147%	139%
Egypt	9	12	10,5	33%	81%
Russian Federation	17	7	12	116%	215%
Poland	20	5	12,5	162%	187%
Malaysia	2	23	12,5	41%	49%
Chile	10	16	13	98%	81%

NCII



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Slutsats och rekommendationer

Sverige samarbetar mest med länder som likt Sverige har låg eller måttlig tillväxt i forskningen.

Rekommendationer:

- Aktörer i det svenska kunskapssystemet bör analysera och vid behov utveckla sina akademiska samarbeten så att de beaktar den förändrade akademiska världskartan
- Sverige bör säkra kvalificerad omvärldsanalys avseende akademisk utveckling.