

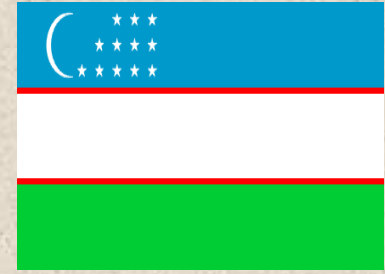
Structural Transformation in the CAREC Region

Norio Usui

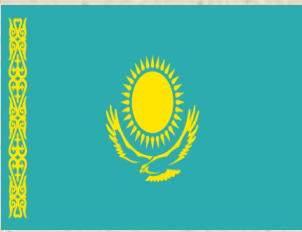
**Central and West Asia Department
Asian Development Bank
21 October, 2009**



Presentation



- Major exports
- Level of sophistication of your export basket → EXPY
- Forest → Product Space
- Unexploited products → PRODY & Distance
- Opportunities → Open Forest
- Summary



Top 20 Exports Kazakhstan

Commodity	Sophistication	1992	1995	2000	2005	2006
Crude petroleum and oils obtained from bituminous materials	14,345	15.47	15.43	51.86	45.36	40.87
Ferro-alloys	8,215	11.20	7.06	3.45	6.12	5.73
Zinc and zinc alloys, unwrought	12,417	4.40	2.07	1.94	2.40	5.18
Copper and copper alloys, refined or not, unwrought	6,564	8.64	9.69	4.09	3.56	3.11
Aluminium ores and concentrates (including alumina)	7,177		0.01	1.87	2.57	2.75
Other coal, not agglomerated	14,058	1.63	0.49	0.87	2.79	2.68
Iron ore agglomerates	20,331	0.59	0.12	1.28	2.75	2.62
Other wheat and meslin, unmilled	13,411		0.06	4.34	1.20	2.11
Petroleum gases and other gaseous hydrocarbons, nes, liquefied	25,582	0.03	0.01	0.12	2.11	2.09
Radio-active chemical elements, isotopes etc	8,899		1.41	1.45	1.08	2.01
Petroleum gases, nes, in gaseous state	15,165		0.02	0.31	1.72	1.75
Other sheet and plates, of iron or steel, worked	18,123	0.02	1.03	1.36	1.77	1.60
Waste and scrap metal of iron or steel	8,710	0.19	0.38	1.39	2.18	1.54
Iron or steel coils for re-rolling	13,254	0.78	1.61	2.03	1.39	1.50
Silver, unwrought, unworked, or semi-manufactured	9,934		2.64	1.42	1.01	1.41
Sheet, plates, rolled of thickness less 3mm, of iron or steel	14,975	0.23	0.72	3.04	2.39	1.32
Iron ore and concentrates, not agglomerated	4,667		0.00	0.74	1.07	1.18
Base metals, nes and cermets, unwrought (including waste and scrap)	12,269	0.65	0.52	0.44	1.44	1.15
Aircraft of an unladen weight exceeding 15000 kg	23,121			0.12	0.05	1.09
Copper and copper alloys, worked	11,577	0.02	0.62	0.14	0.34	0.92
Sub-total		43.9	43.9	82.3	83.3	82.6
Sophistication at the country level (EXPY)		10,709	11,964	12,926	13,186	13,101



Top 20 Exports Kyrgyz Rep.

Commodity	Sophistication	1992	1995	2000	2005	2006
Gold, non-monetary (excluding gold ores and concentrates)	3,180	19.85		38.91	27.44	16.96
Raw cotton, excluding linters, not carded or combed	2,036	4.29	5.25	6.38	7.61	6.34
Electric current	11,995		9.95	15.89	3.88	4.47
Glass, cast, rolled, etc, surface-ground, but no further worked	18,386			0.01	3.62	4.44
Cement	4,523		0.50	0.39	2.48	3.79
Electric filament lamps and discharge lamps; arc-lamps	12,030	0.14	2.45	2.31	2.96	3.13
Beans, peas, other leguminous vegetables, dried, shelled	3,345			0.31	1.70	3.01
Plastic packing containers, lids, stoppers and other closures	12,477	0.03	0.01	1.11	2.71	2.92
Womens, girls, infants outerwear, textile, not knitted or crocheted; blouses	7,436			0.00	0.94	2.28
Milk and cream fresh, not concentrated or sweetened	18,405		0.33	0.10	1.38	2.23
Other parts and accessories, for vehicles of headings 722, 781-783	20,156	2.48	1.06	0.44	1.80	1.78
Womens, girls, infants outerwear, textile, not knitted or crocheted; suits and costumes	4,571			0.00	0.93	1.72
Tobacco, not stripped	2,695		3.14	5.90	1.99	1.71
Construction materials, of asbestos-cement or fibre-cements, etc	8,923		0.42	0.61	1.93	1.62
Waste and scrap metal of iron or steel	8,710		0.15	0.81	2.15	1.60
Margarine, imitation lard and other prepared edible fats, nes	8,390		0.02	0.03	0.33	1.46
Special transactions, commodity not classified according to class	20,059	0.12	0.75		4.12	1.39
Calf skins, raw, whether or not split	4,403	0.53	0.52	0.17	0.64	1.37
Womens, girls, infants outerwear, textile, not knitted or crocheted; skirts	7,691			0.00	0.33	1.26
Other non-ferrous base metal waste and scrap, nes	8,291	2.83	3.83	4.91	0.73	1.04
Sub-total		30.3	28.4	78.3	69.7	64.5
Sophistication at the country level (EXPY)		10,334	11,220	7,421	8,552	9,521

Table with adjusted data for re-exports



Top 20 Exports Mongolia

Commodity	Sophistication	1992	1995	2000	2005	2006
Copper ore and concentrates; copper matte; cement copper	6,543	23.03	36.83	35.92	20.93	23.04
Gold, non-monetary (excluding gold ores and concentrates)	3,180	17.71	15.84	0.44	20.83	12.62
Zinc ores and concentrates	6,325				1.01	8.69
Ores and concentrates of other non-ferrous base metals	4,914	0.01	5.27	1.36	6.45	6.32
Outerwear knitted or crocheted, not elastic nor rubberized; jerseys, pullovers, slip-overs, cardigans, etc	8,045	7.17	2.18	10.82	7.95	5.88
Fine animal hair, not carded or combed	2,819	20.09	9.27	9.41	5.33	5.70
Sheep's or lambs' wool, or of other animal hair, carded or combed	4,384	2.12	3.53	1.51	1.40	4.81
Quartz, mica, felspar, fluorspar, cryolite and chiolite	4,342			4.23	4.60	4.43
Other coal, not agglomerated	14,058		0.00	0.00	3.44	4.18
Womens, girls, infants outerwear, textile, not knitted or crocheted; other outer garments of textile fabrics, not knitted, crocheted	8,522	0.48	2.19	3.69	5.69	3.21
Iron ore and concentrates, not agglomerated	4,667			0.00	0.98	1.90
Nuts edible, fresh or dried	4,411			0.02	0.06	1.57
Under garments of textile fabrics, not knitted or crocheted; mens and boys shirts	6,636		0.85	2.25	1.83	1.40
Outerwear knitted or crocheted, not elastic nor rubberized; other, clothing accessories, non-elastic, knitted or crocheted	8,085	0.07	0.26	1.52	1.73	1.15
Meat of horses, asses, mules and hinnies, fresh, chilled or frozen	8,370		0.00	0.00	0.67	1.13
Under-garments, knitted or crocheted; of cotton, not elastic nor rubberized	7,103	0.03	0.24	0.98	0.78	1.06
Other non-ferrous base metal waste and scrap, nes	8,291	3.72	1.21	0.28	0.85	1.01
Crude petroleum and oils obtained from bituminous materials	14,345		0.91	0.44	0.51	0.93
Men's and boys' outerwear, textile fabrics not knitted or crocheted	6,777	0.12	0.84	7.07	0.78	0.59
Bovine meat, fresh, chilled or frozen	10,244			2.93	0.37	0.58
Sub-total		74.5	79.4	82.9	86.2	90.2
Sophistication at the country level (EXPY)		7,049	6,714	7,297	6,625	6,766

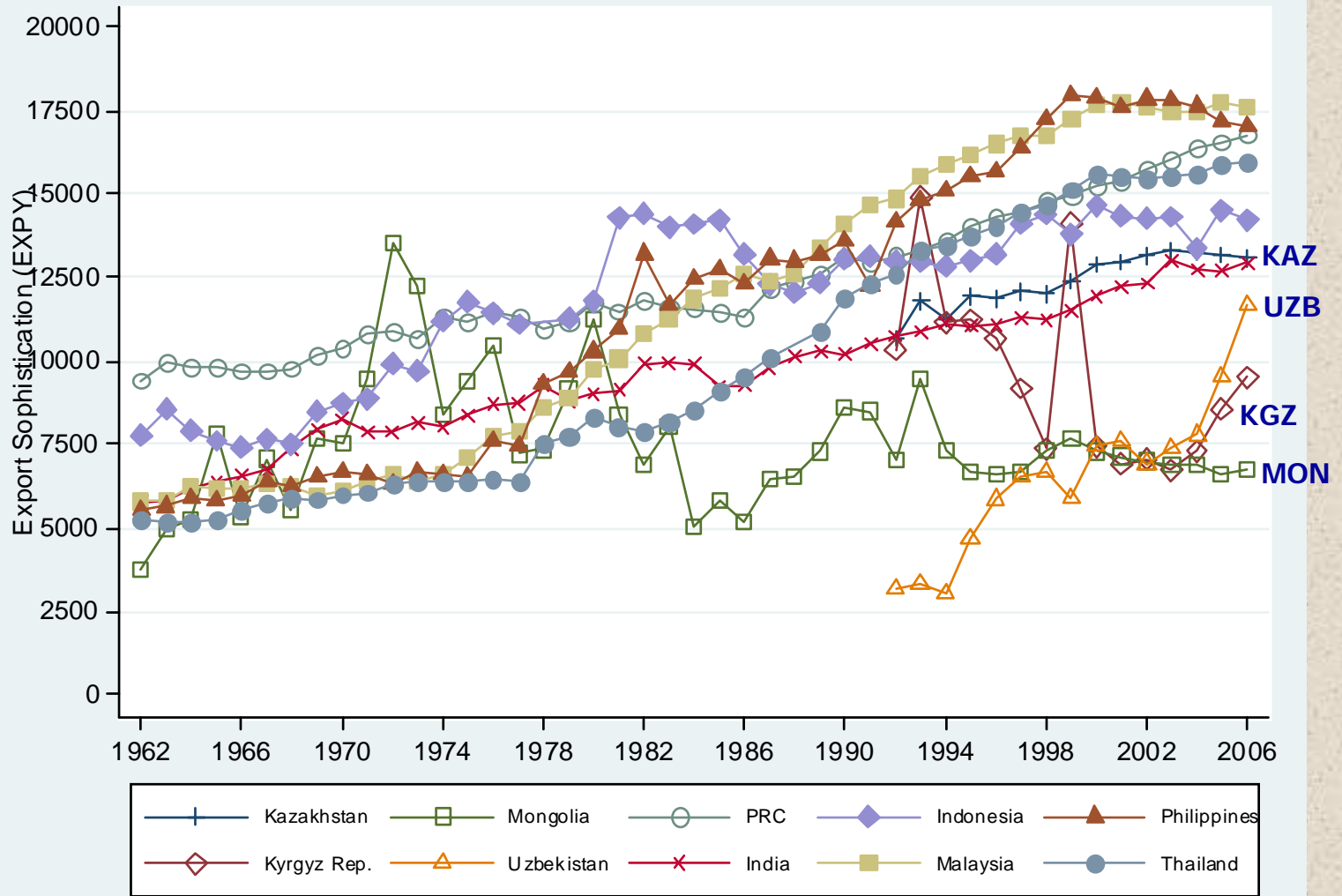


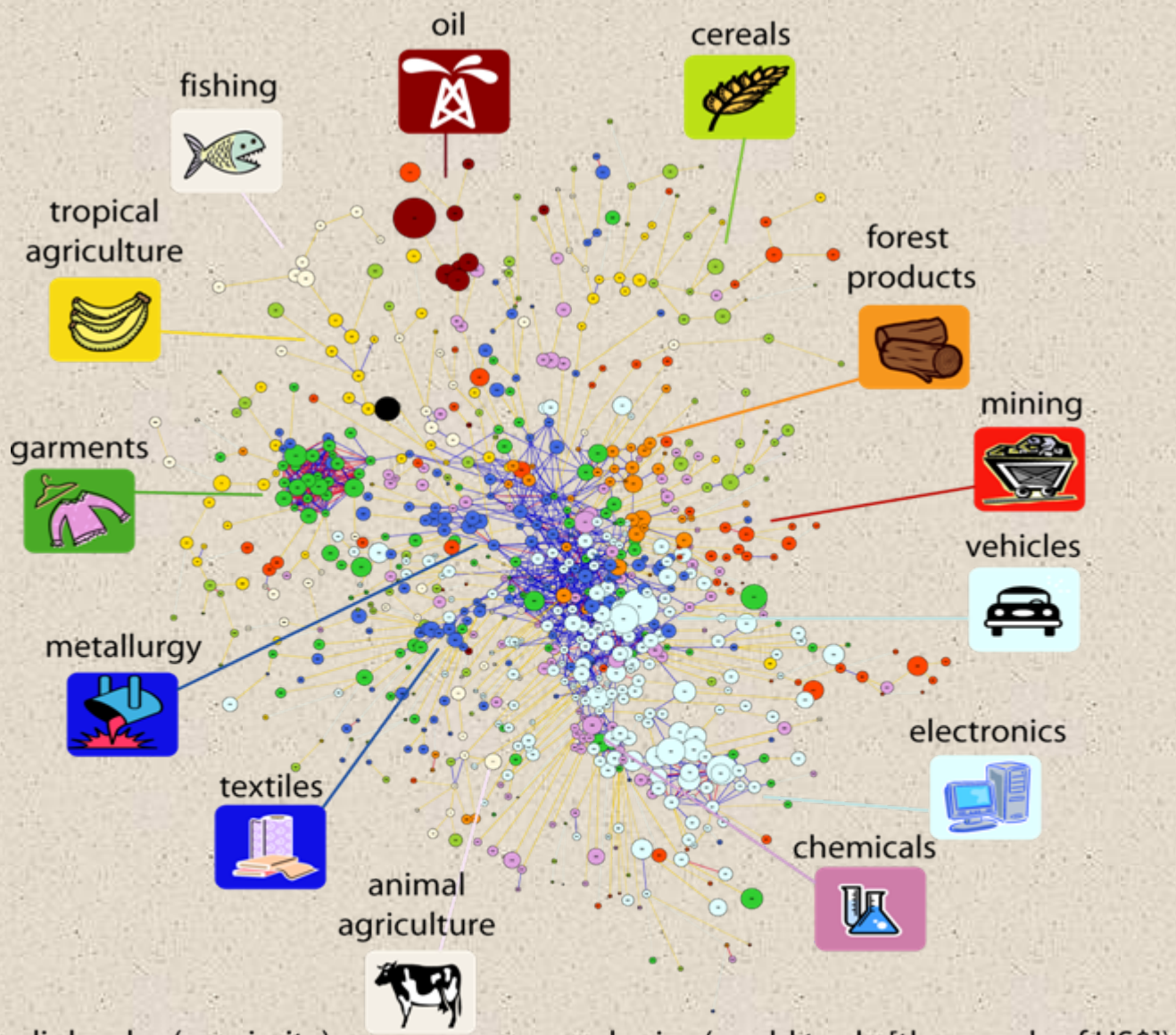
Top 20 Exports Uzbekistan

Commodity	Sophistication	1992	1995	2000	2005	2006
Raw cotton, excluding linters, not carded or combed	2,036	84.75	64.61	38.87	23.62	19.13
Passenger motor vehicles (excluding buses)	21,687	0.01	0.00	2.72	10.71	11.96
Petroleum gases, nes, in gaseous state	15,165		0.01	10.02	10.03	7.94
Radio-active chemical elements, isotopes etc	8,899	0.30	1.23	0.85	4.47	5.73
Fruit, fresh or dried, nes	7,954	0.39	0.02	1.81	4.21	4.95
Cotton yarn	5,631		0.36	3.92	5.00	4.15
Grapes, fresh or dried	10,306		0.01	1.73	3.10	3.82
Copper and copper alloys, refined or not, unwrought	6,564	1.56	0.77	2.24	4.95	2.53
Polyethylene	17,830			0.00	2.63	2.35
Zinc and zinc alloys, unwrought	12,417	0.47	1.93	1.93	1.00	2.22
Gold, non-monetary (excluding gold ores and concentrates)	3,180	0.26	11.55	7.24	4.75	1.90
Other fresh or chilled vegetables	6,593	0.42	0.04	0.80	2.11	1.71
Tomatoes, fresh or chilled	8,038		0.00	0.46	1.60	0.96
Bars, rods (not wire rod), from iron or steel; hollow mining drill	12,897	0.09	0.14	0.74	1.02	0.83
Cotton fabrics, woven, unbleached, not mercerized	4,541	0.21	1.42	1.64	1.20	0.81
Cement	4,523		0.09	0.39	0.53	0.74
Mineral or chemical fertilizers, nitrogenous	16,540	1.27	1.25	1.25	1.40	0.73
Under-garments, knitted or crocheted; of cotton, not elastic nor rubberized	7,103		0.00	0.04	0.60	0.59
Insulated electric wire, cable, bars, etc	8,125	0.04	0.03	0.10	0.57	0.52
Aircraft of an unladen weight exceeding 15000 kg	23,121			1.31	0.54	0.43
Sub-total		89.8	83.5	78.1	84.0	74.0
Sophistication at the country level (EXPY)		3,183	4,694	7,443	9,546	11,663

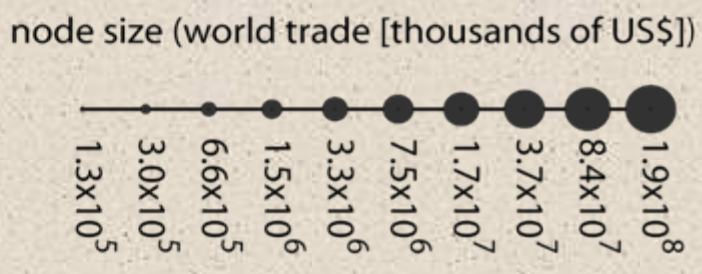
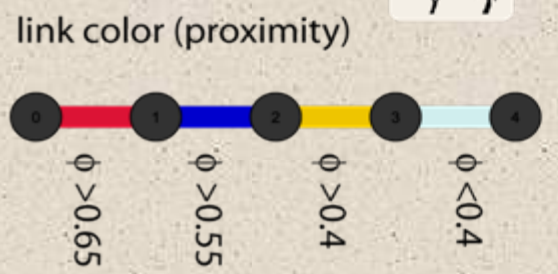
Note: "Special transactions, commodity not classified according to class" (9310) excluded.

Level of Sophistication (EXPY)



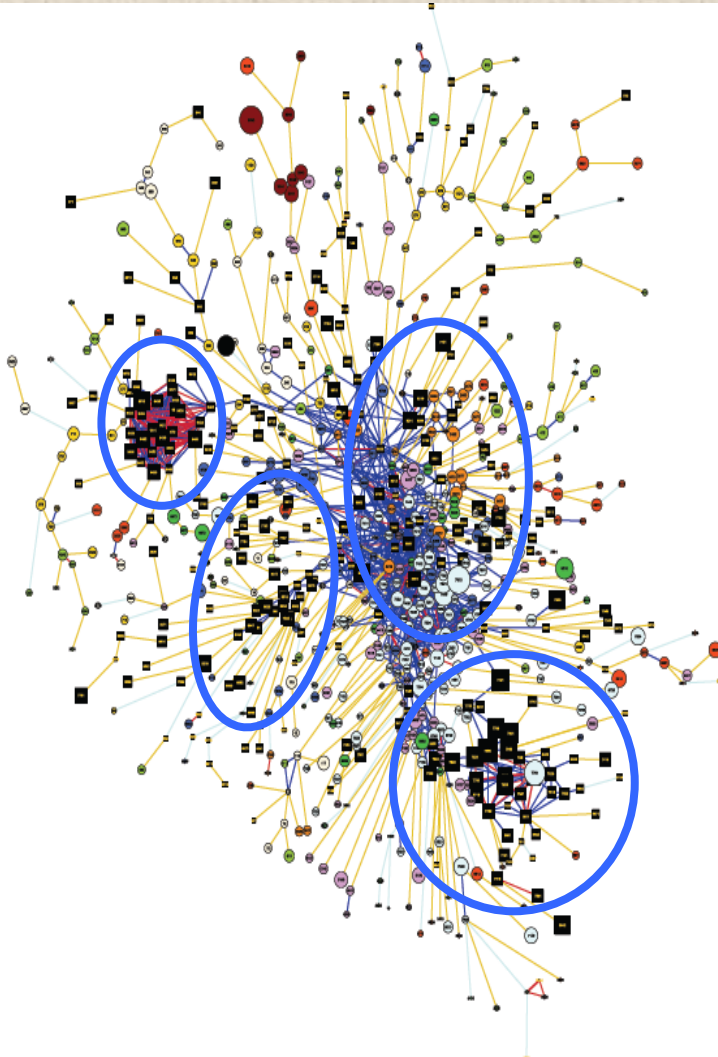


- node color (Leamer Classification)
- 10 Chemicals
 - 9 Machinery
 - 8 Capital Intensive
 - 7 Labor Intensive
 - 6 Cereals
 - 5 Animal Agriculture
 - 4 Tropical Agriculture
 - 3 Forest Products
 - 2 Raw Materials
 - 1 Petroleum

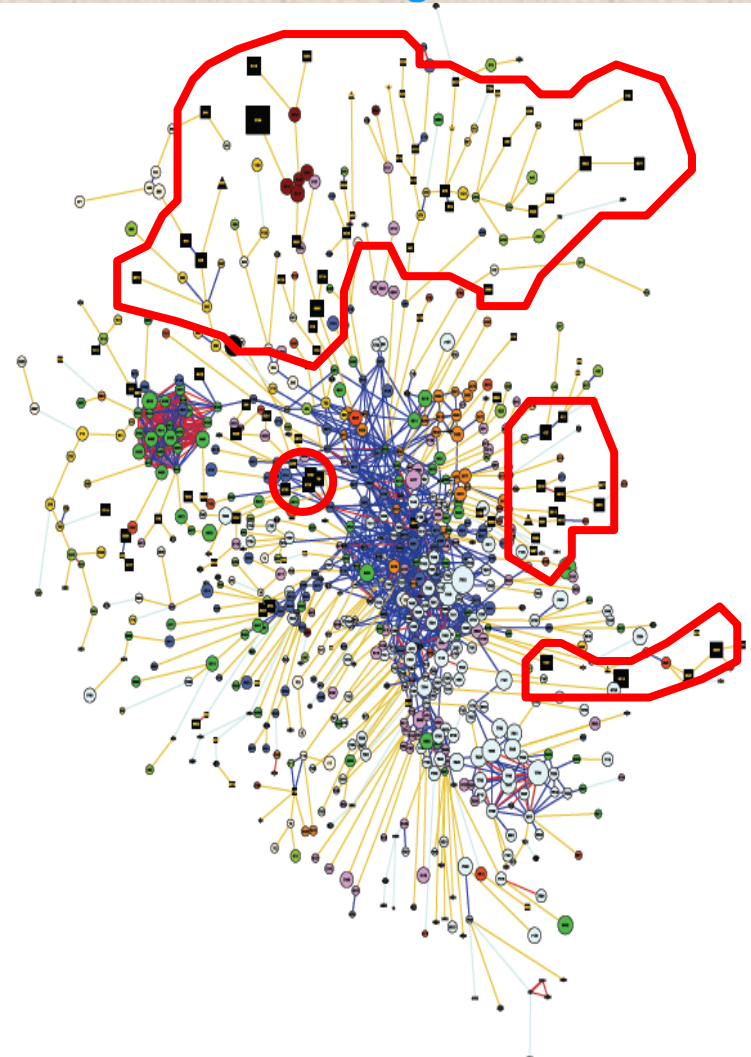


Product space: CAREC countries in 2005

CAREC Countries



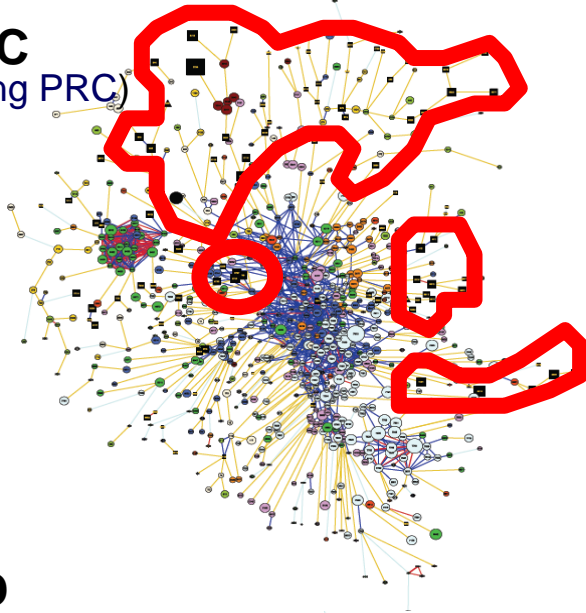
CAREC Countries
excluding PRC



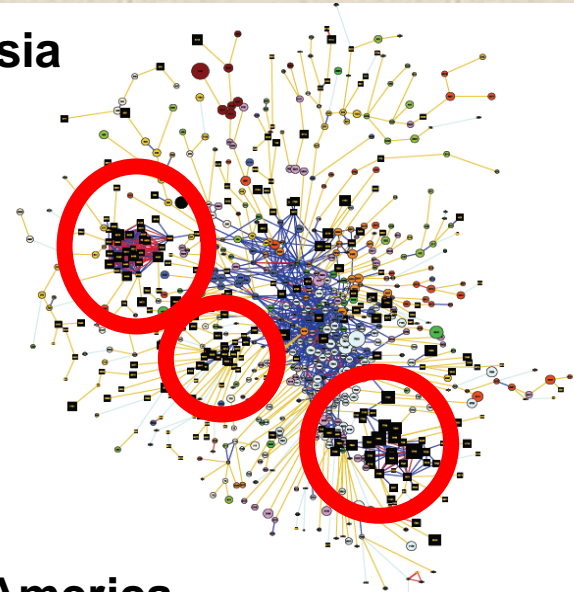
Product space

CAREC countries with comparators in 2005

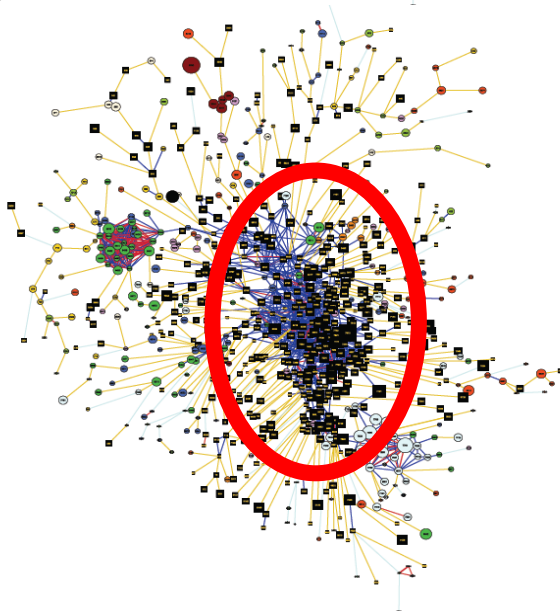
CAREC
(excluding PRC)



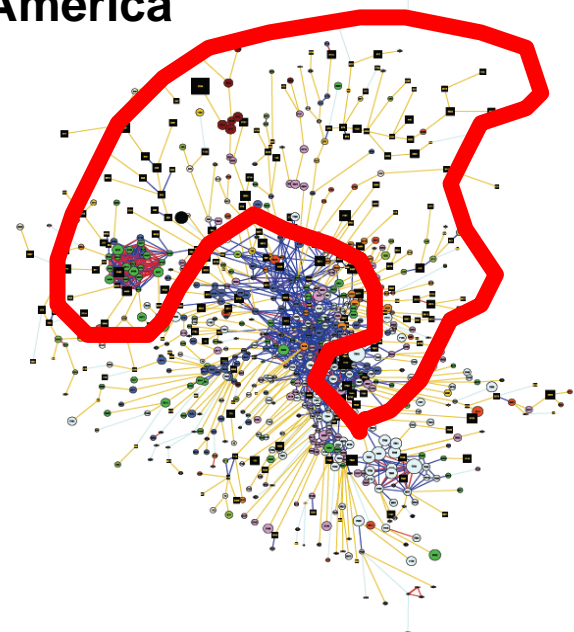
East Asia



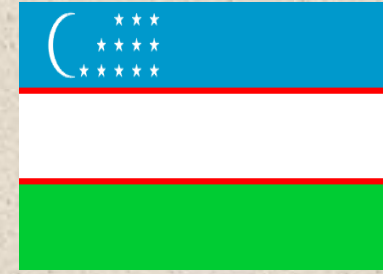
OECD



Latin America



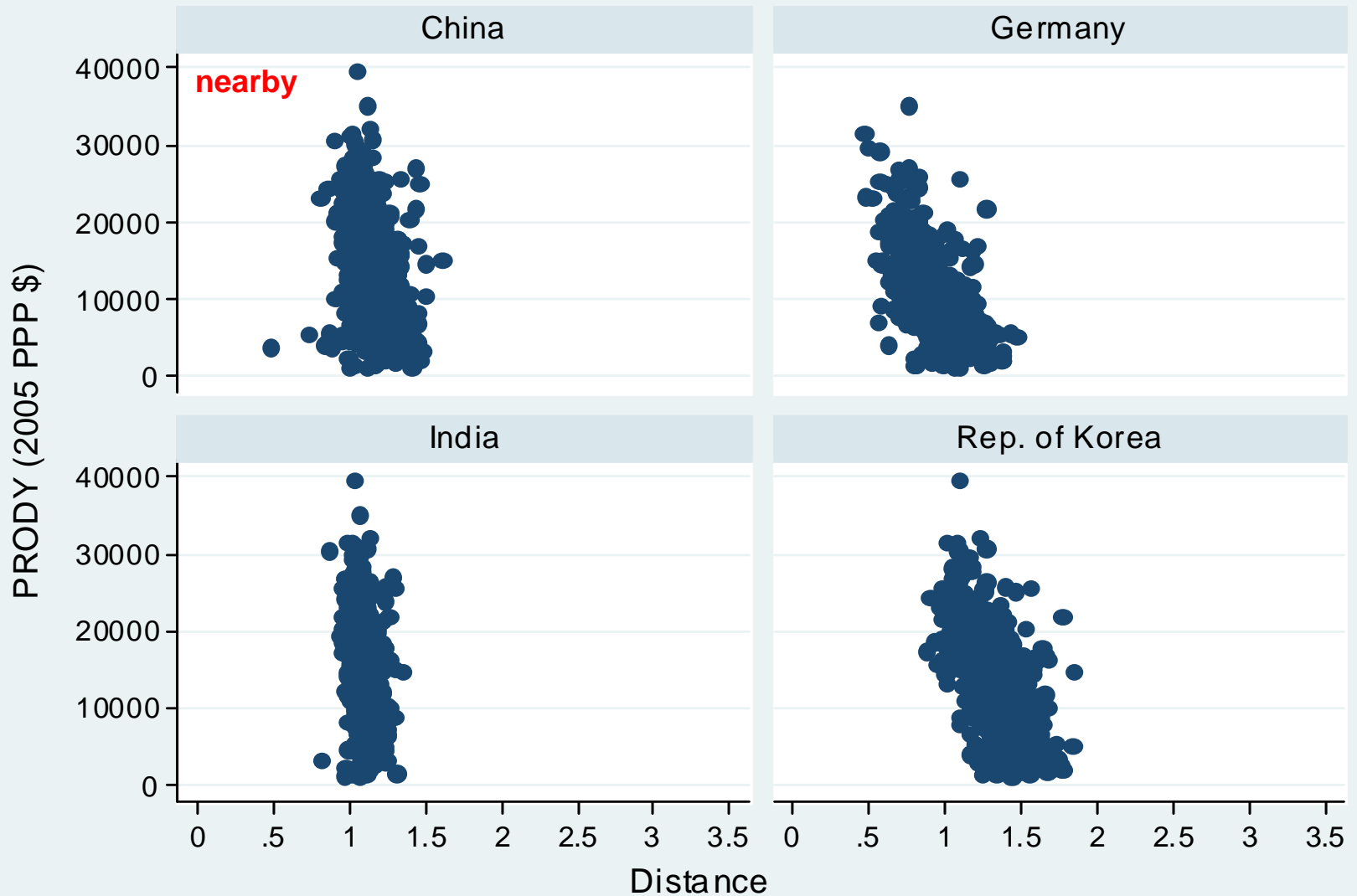
Product space of individual countries



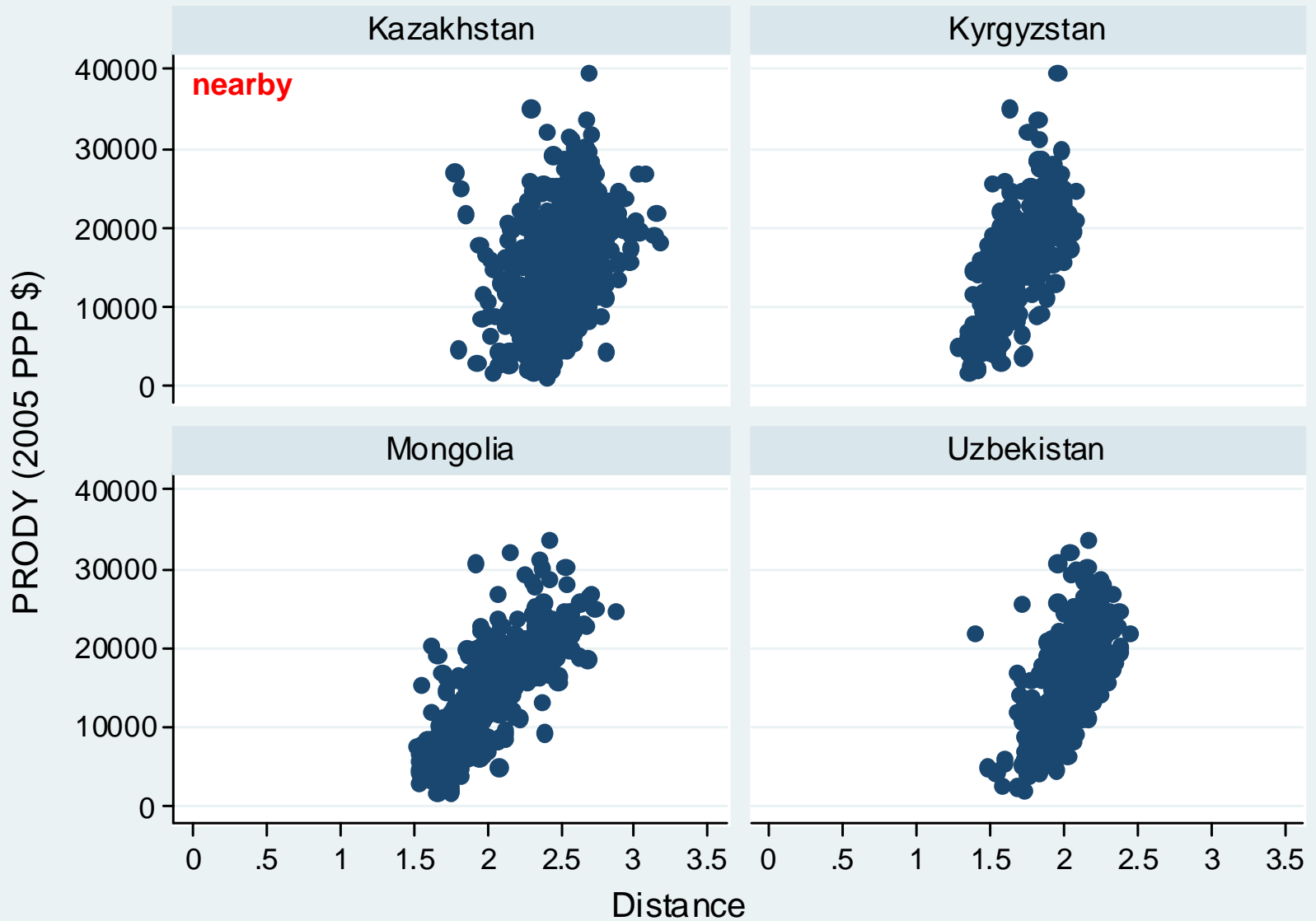
Excluding
"re-exports"

Unexploited Products

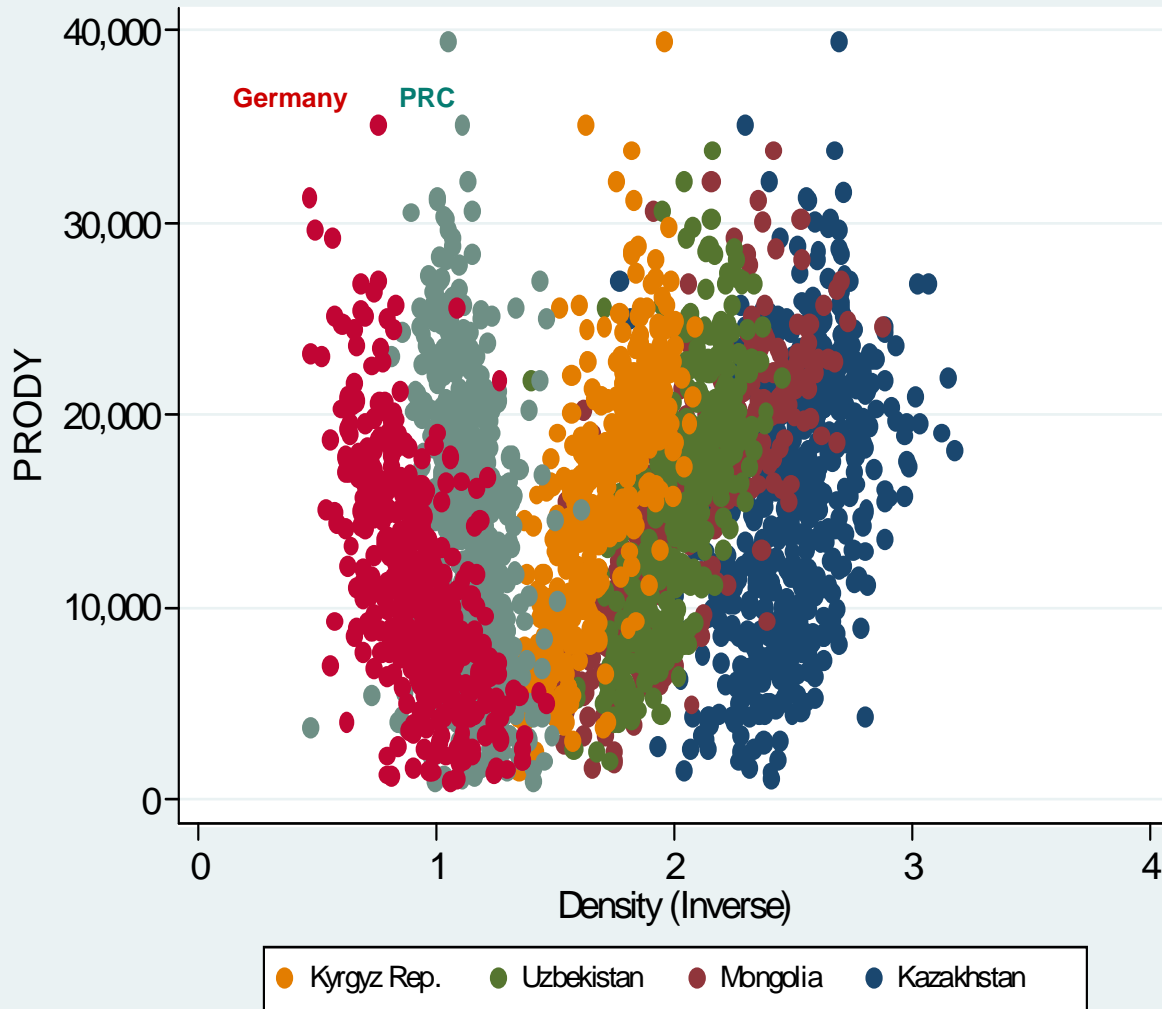
Successful Asian economies and Germany



Unexploited Products



Distance of unexploited export opportunities

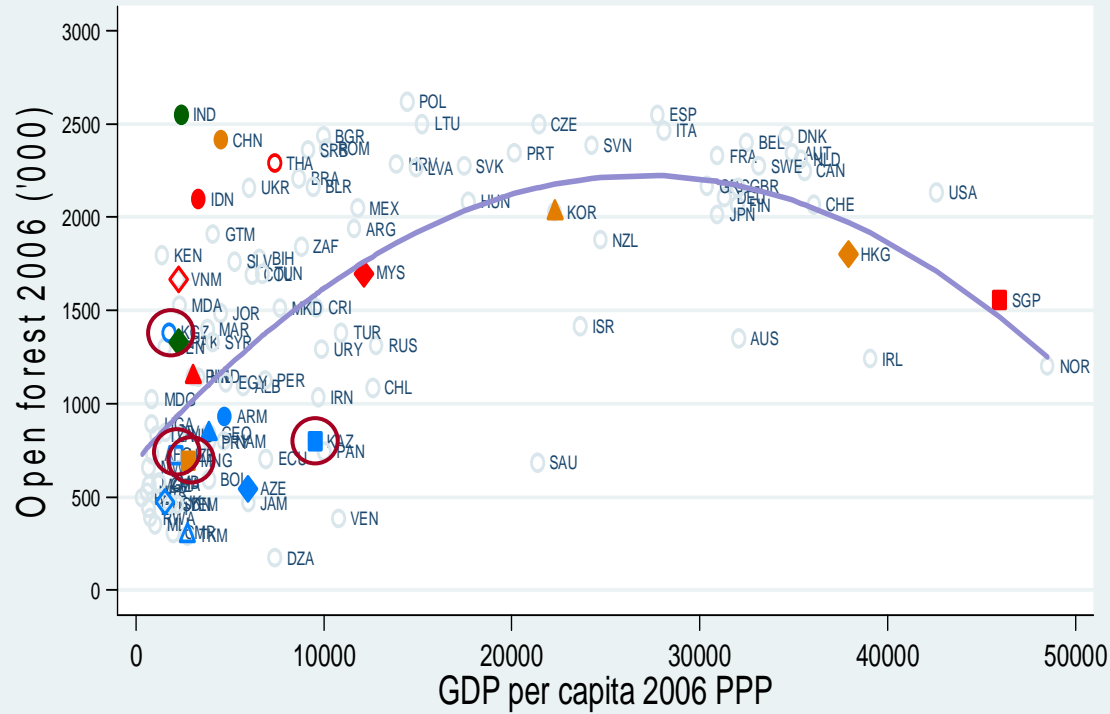


Inputs required to diversify into more sophisticated commodities are relatively far from existing capabilities

Unlike China and Germany, which are among the most diversified economies, Central Asian countries face a trade-off between higher sophistication and density

Export Opportunities

Open Forest (2006)



● Armenia	○ Kyrgyz Rep.	● PRC	● India	▲ Philippines
◆ Azerbaijan	◇ Tajikistan	◆ Hong Kong, China	◆ Pakistan	■ Singapore
▲ Georgia	▲ Turkmenistan	▲ Korea, Rep. of	● Indonesia	○ Thailand
■ Kazakhstan	□ Uzbekistan	■ Mongolia	◆ Malaysia	◇ Viet Nam

All Central Asian countries (except for Kyrgyz Rep.) have lower Open Forest value than what it should be given the level of their per capita income.

Above the line

India

PRC

Indonesia

Thailand

Viet Nam

Kyrgyz Rep.

Pakistan

Below the line

Kazakhstan

Azerbaijan

Turkmenistan

Tajikistan

Mongolia

Georgia

Armenia

Uzbekistan

On the line

Philippines

Singapore

Malaysia

Rep. of Korea

Hong Kong, China

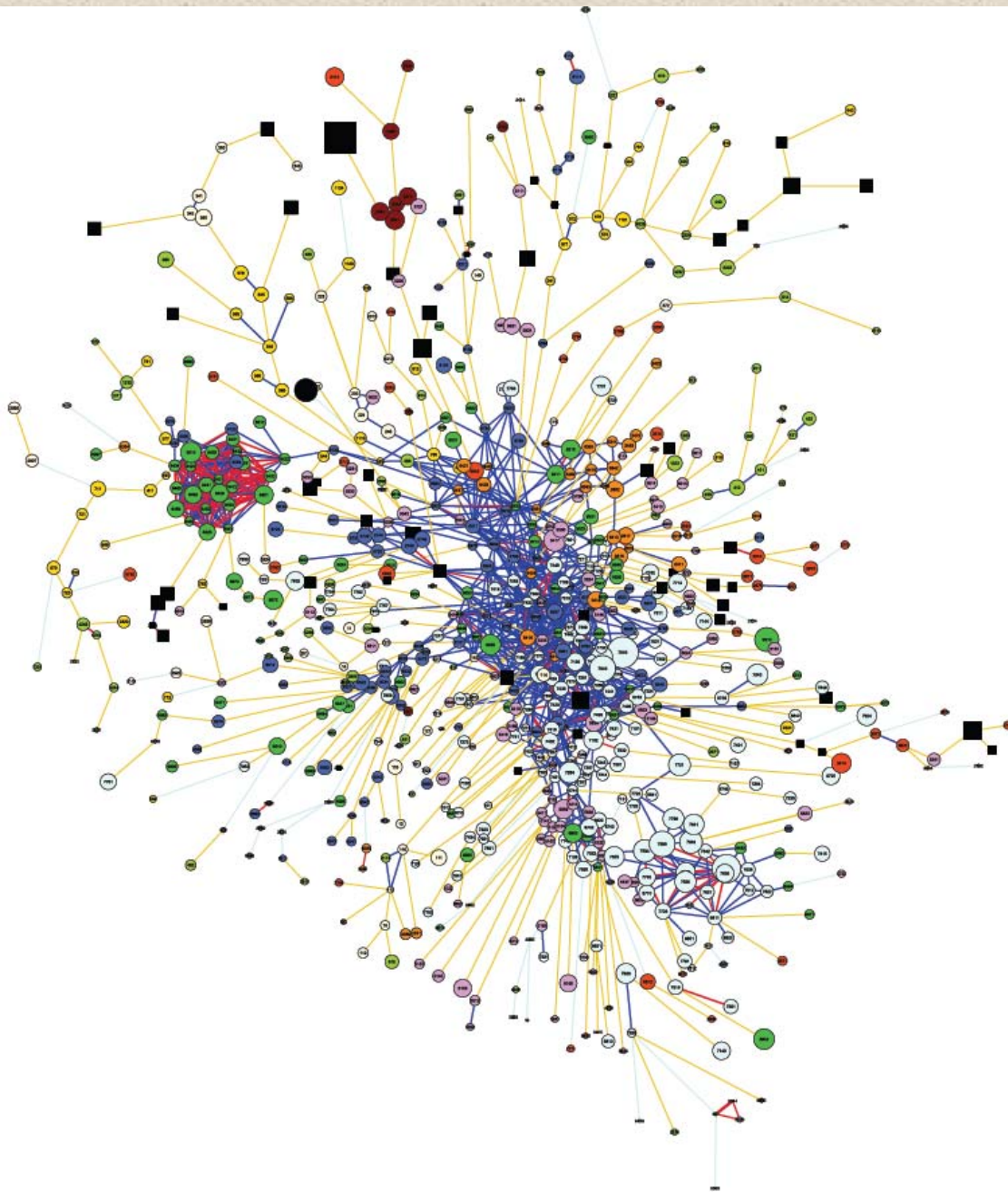
Note: Countries with population less than 2M were excluded.

GDPPC data source: World Bank World Development Indicators (except for Turkmenistan: ADB Key Indicators (2005))

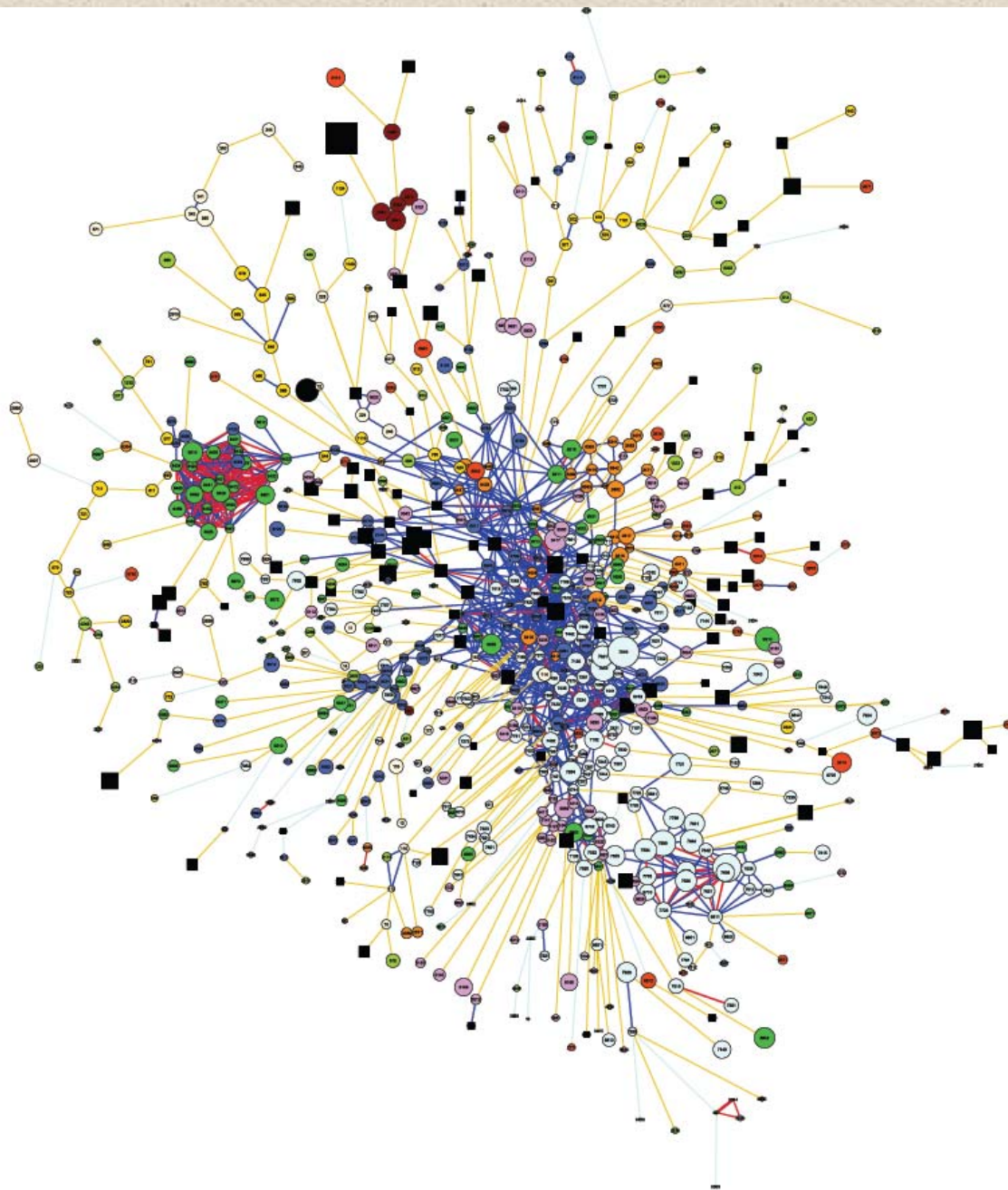
Summing up

- High dependence on resource exports
- Concentration on products with a low level of sophistication
- Level of export sophistication (country as a whole) is explained by resources
- No “monkey” in the dense area of the forest. They are only in the periphery
- Few nearby trees monkeys can jump to

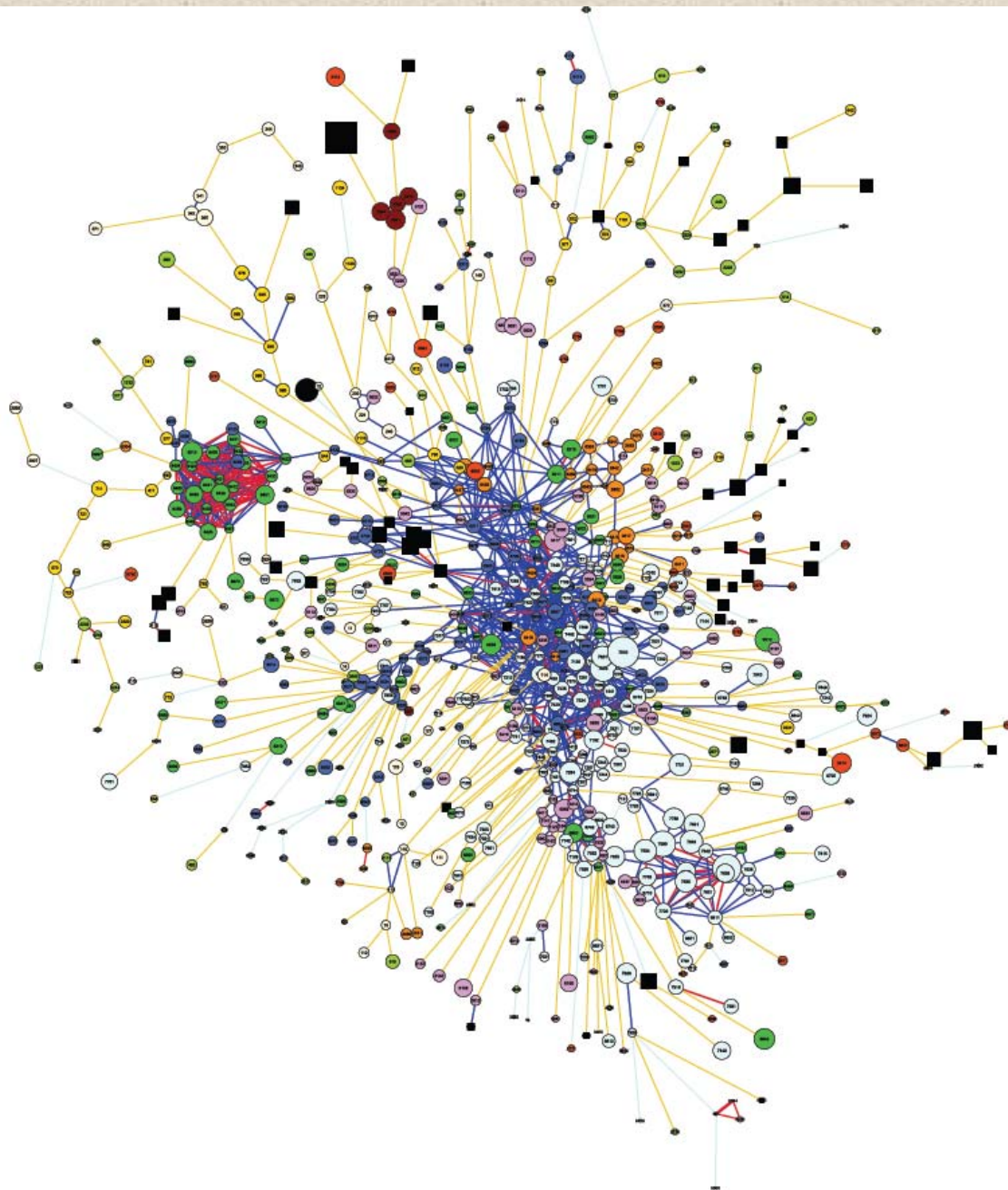
Thank you



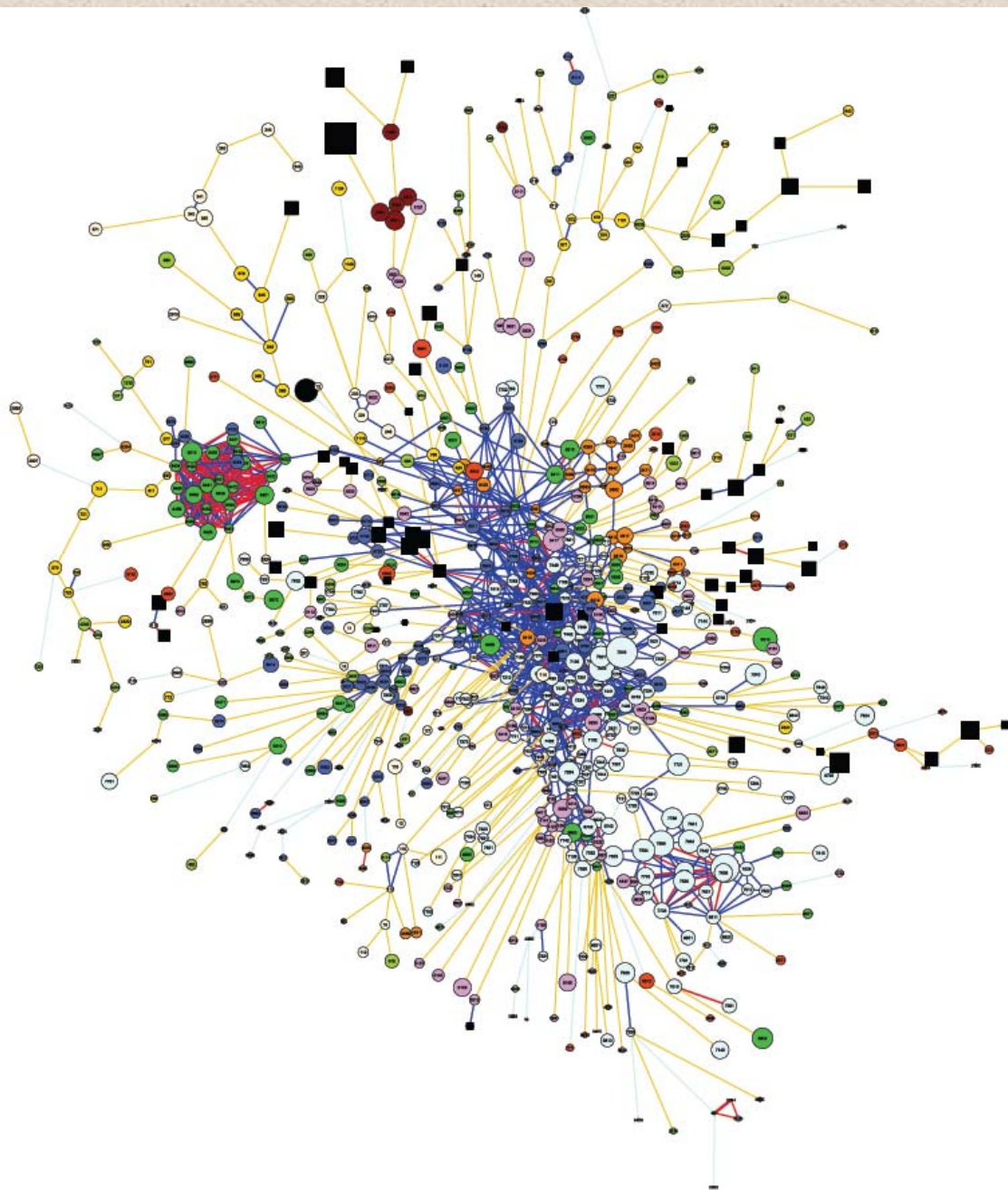
1992



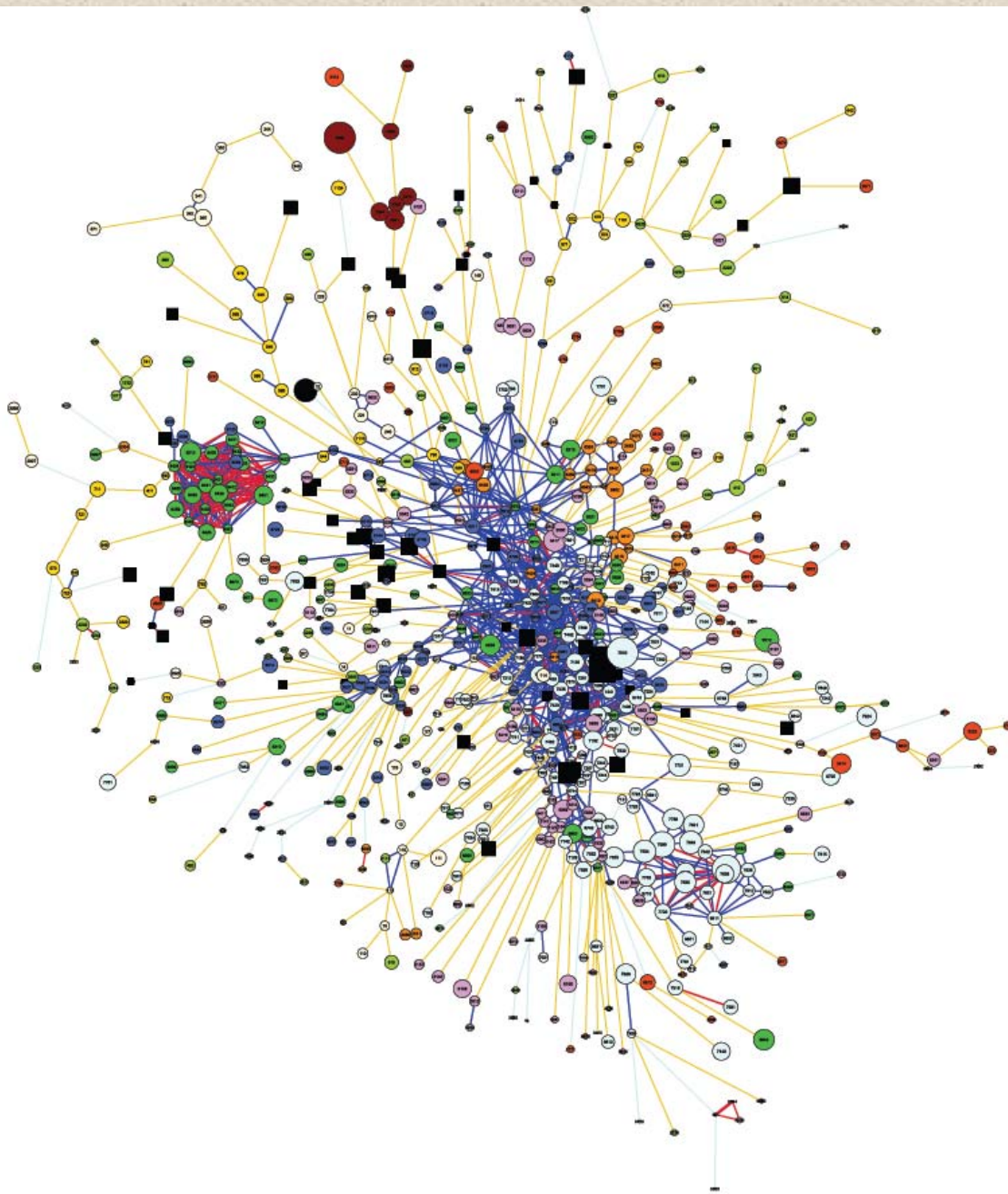
1995



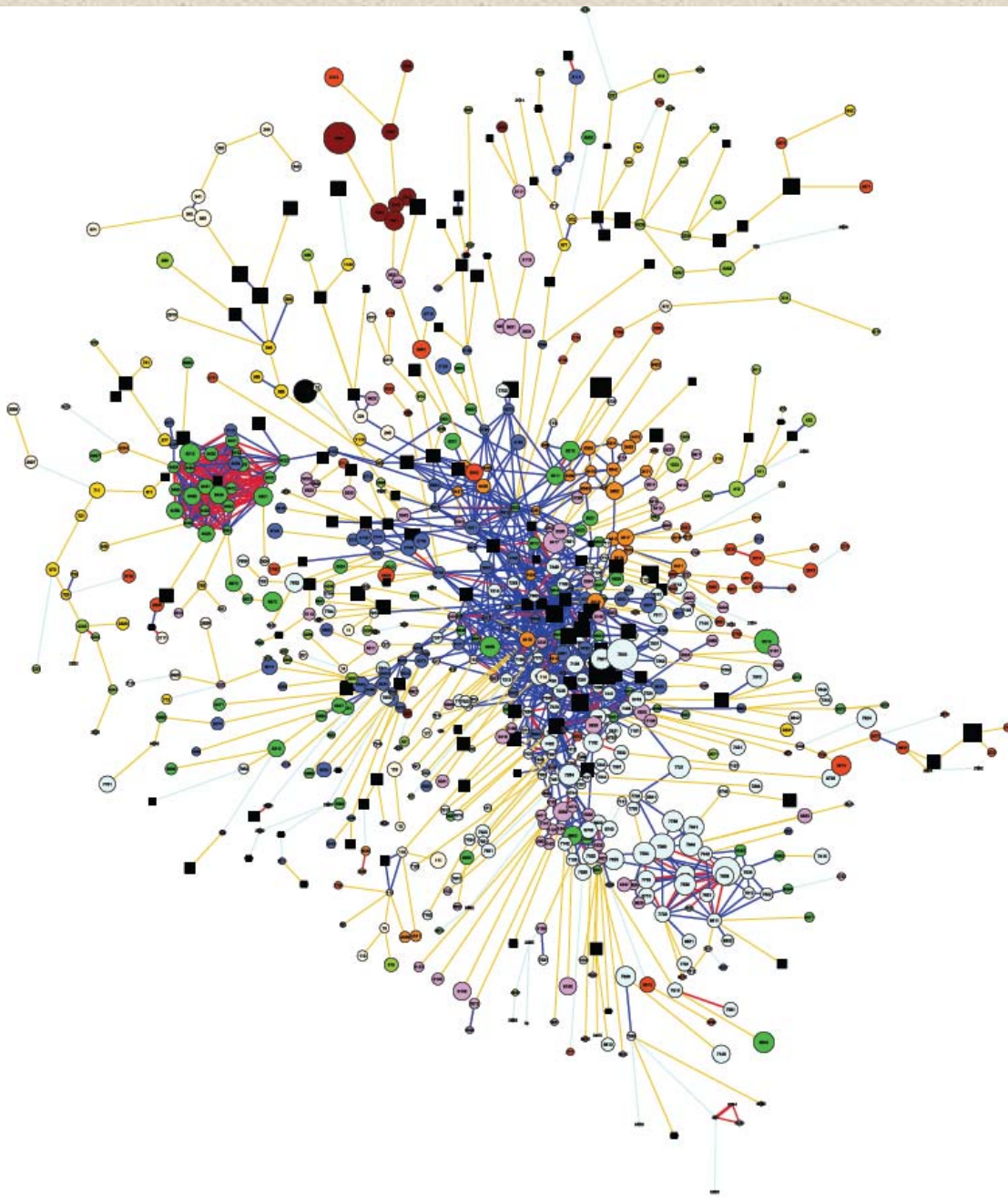
2000



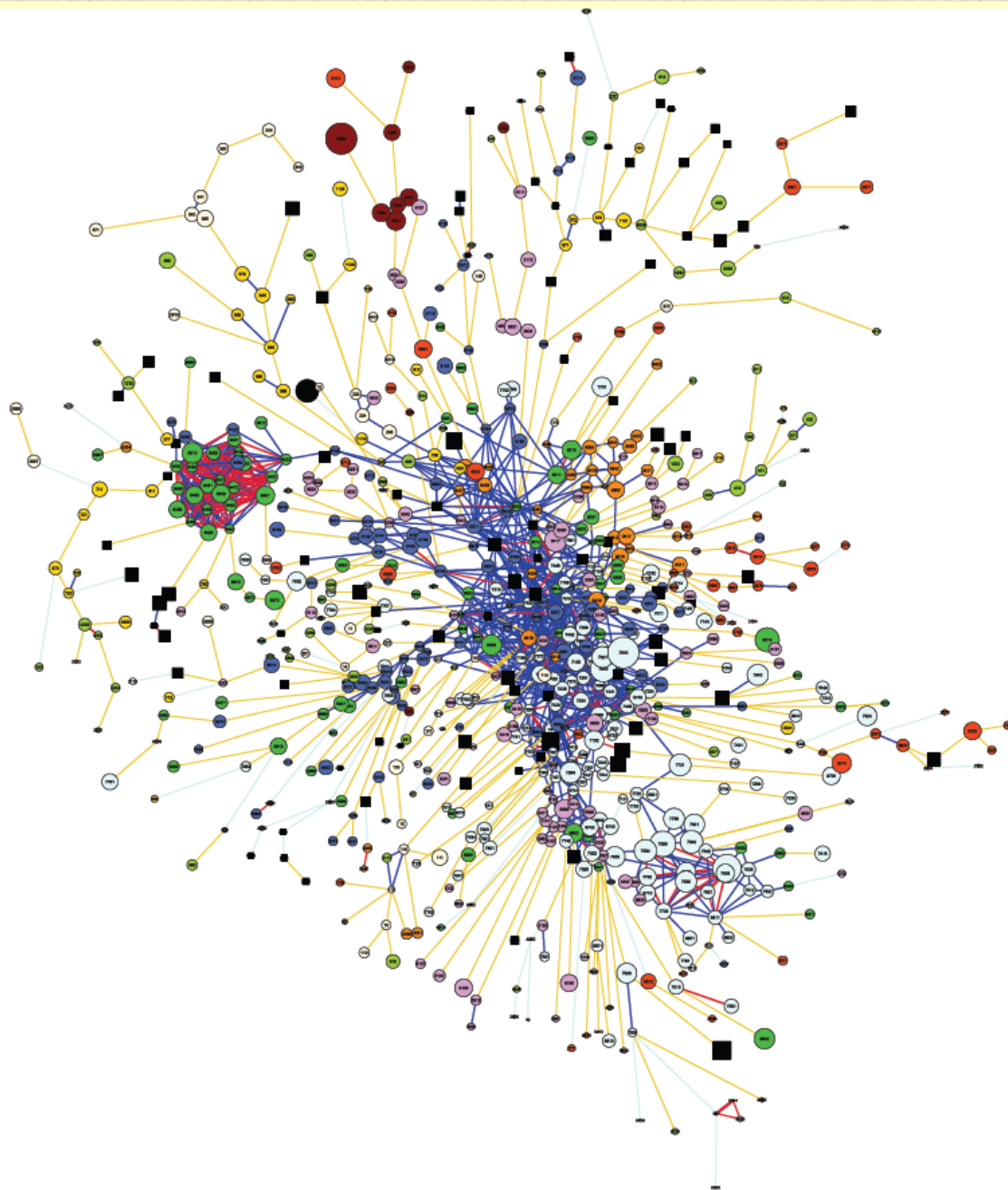
2005



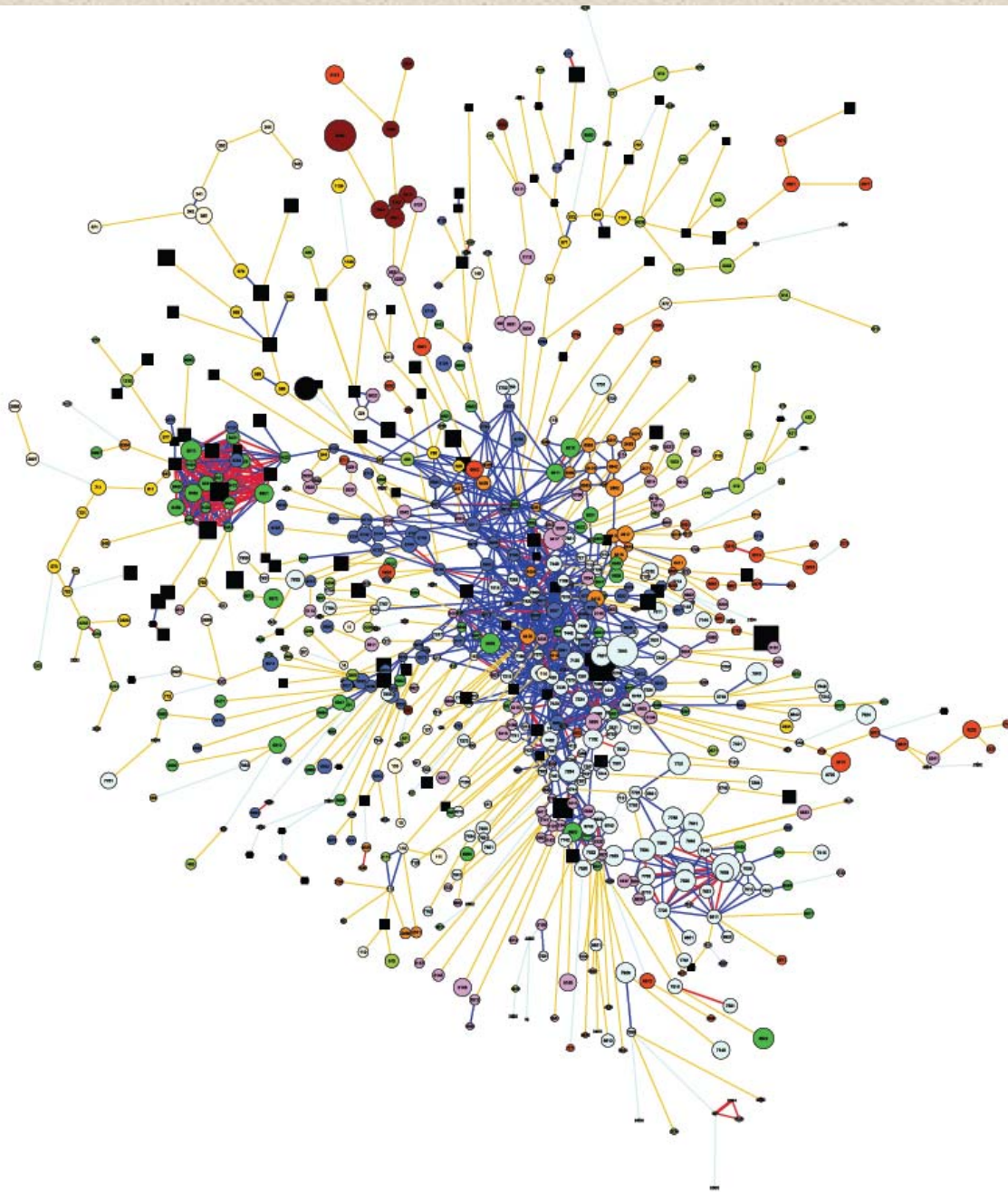
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1995

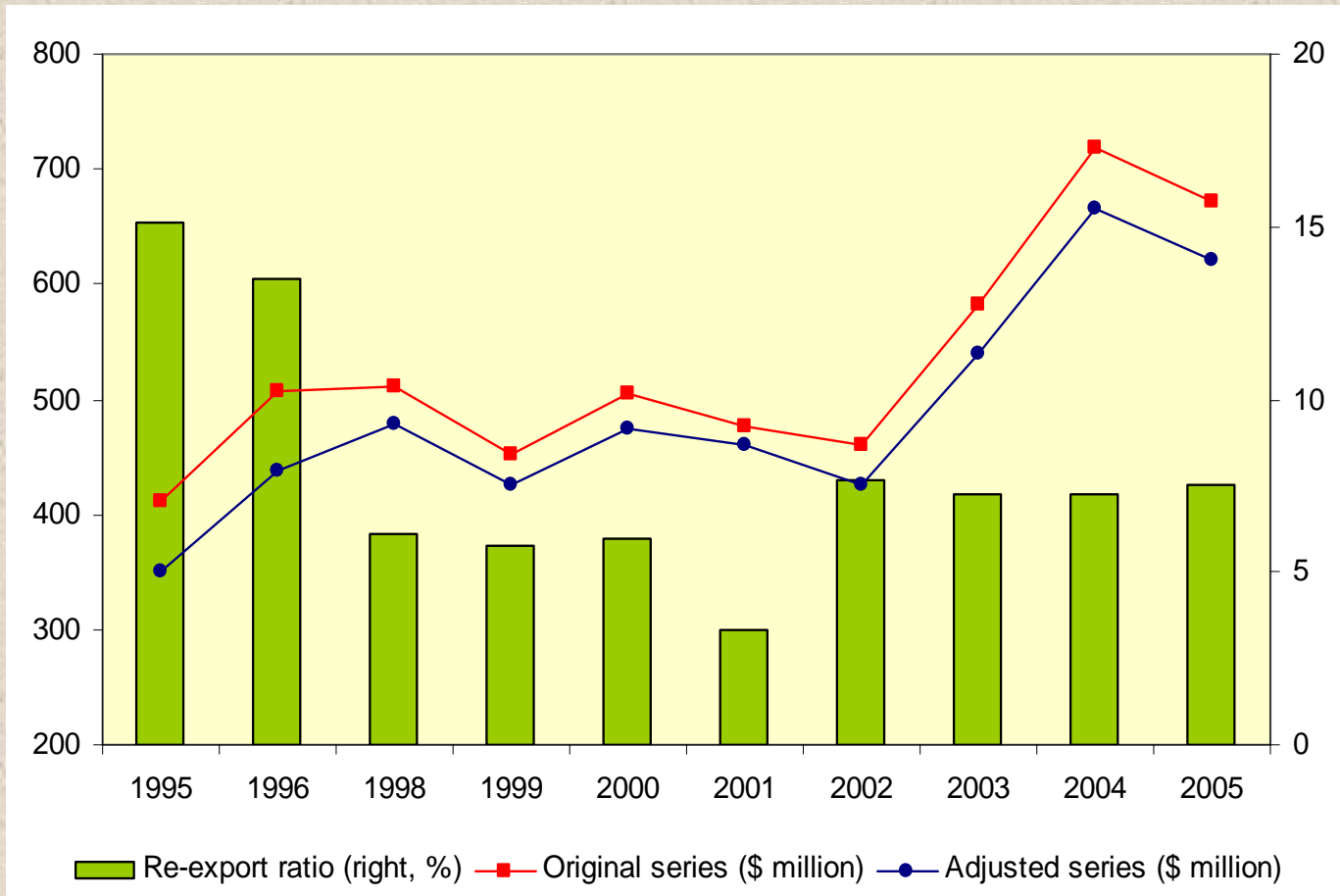


2000



2005

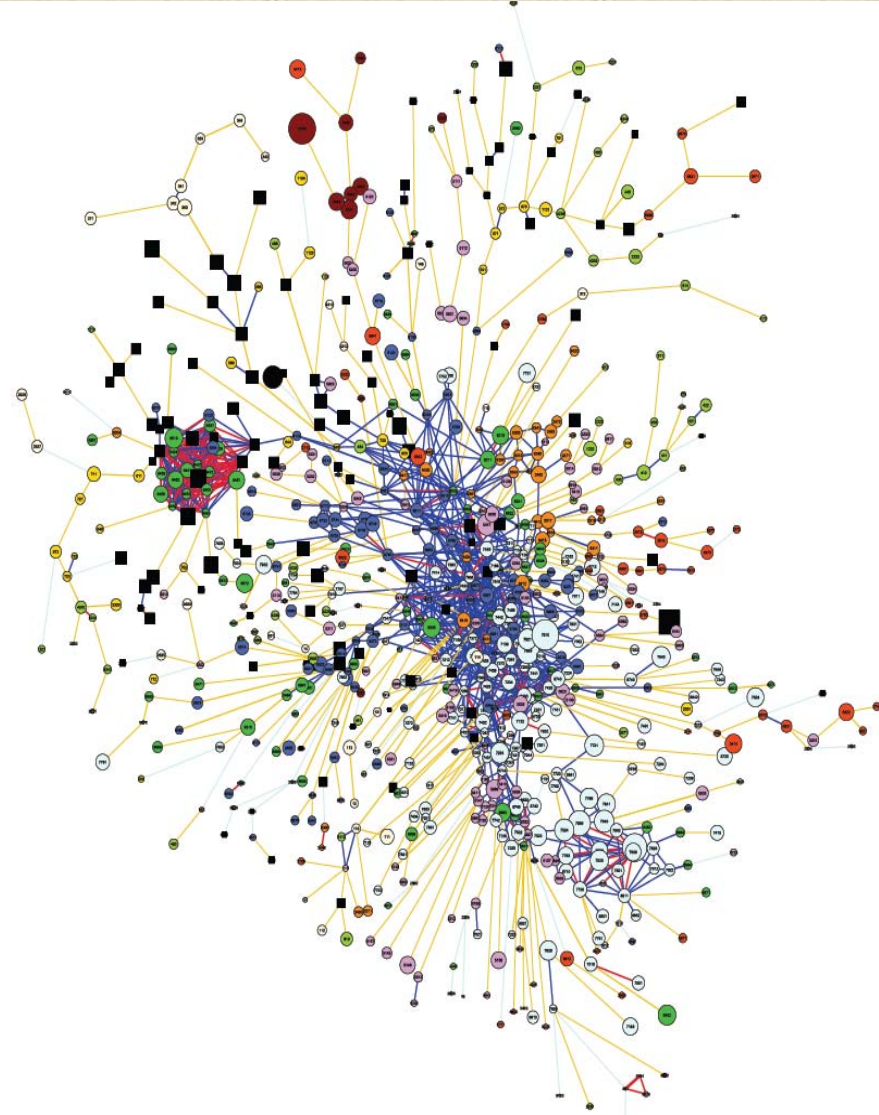
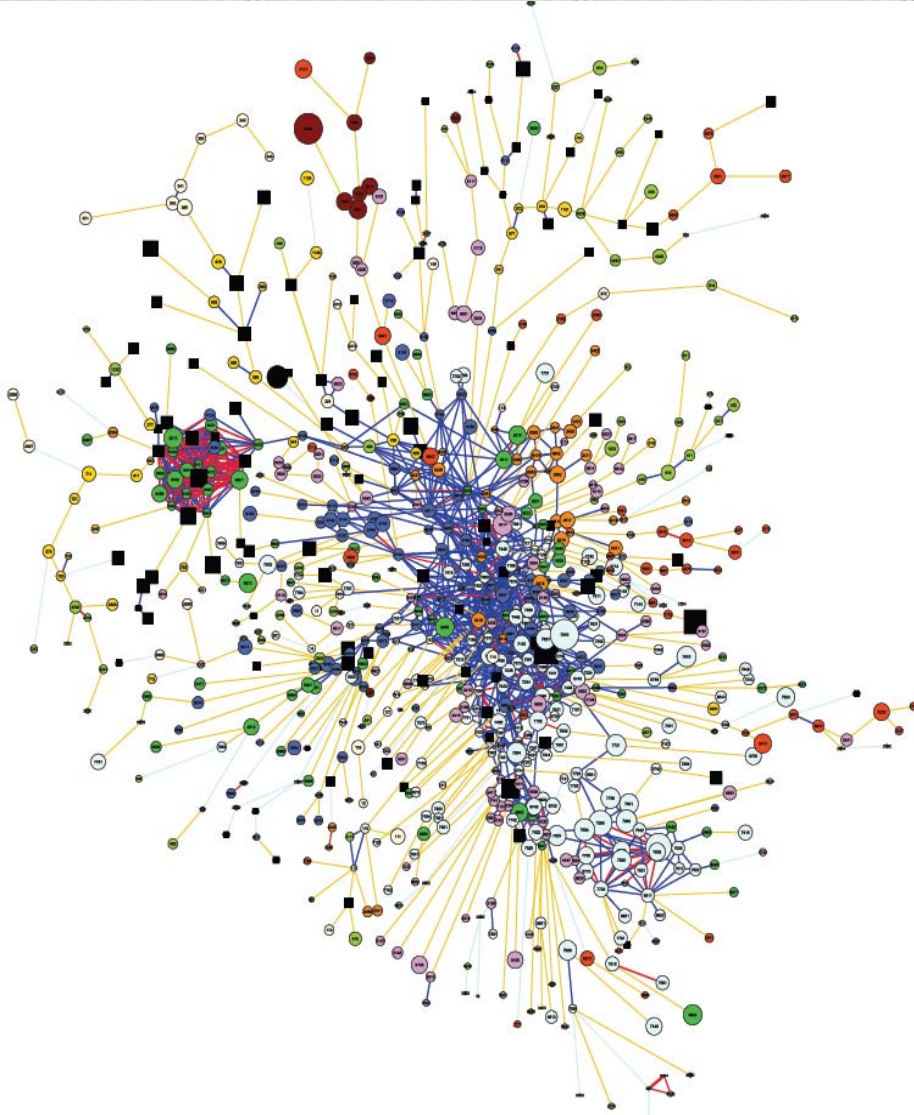
Re-exports in Kyrgyz Rep.

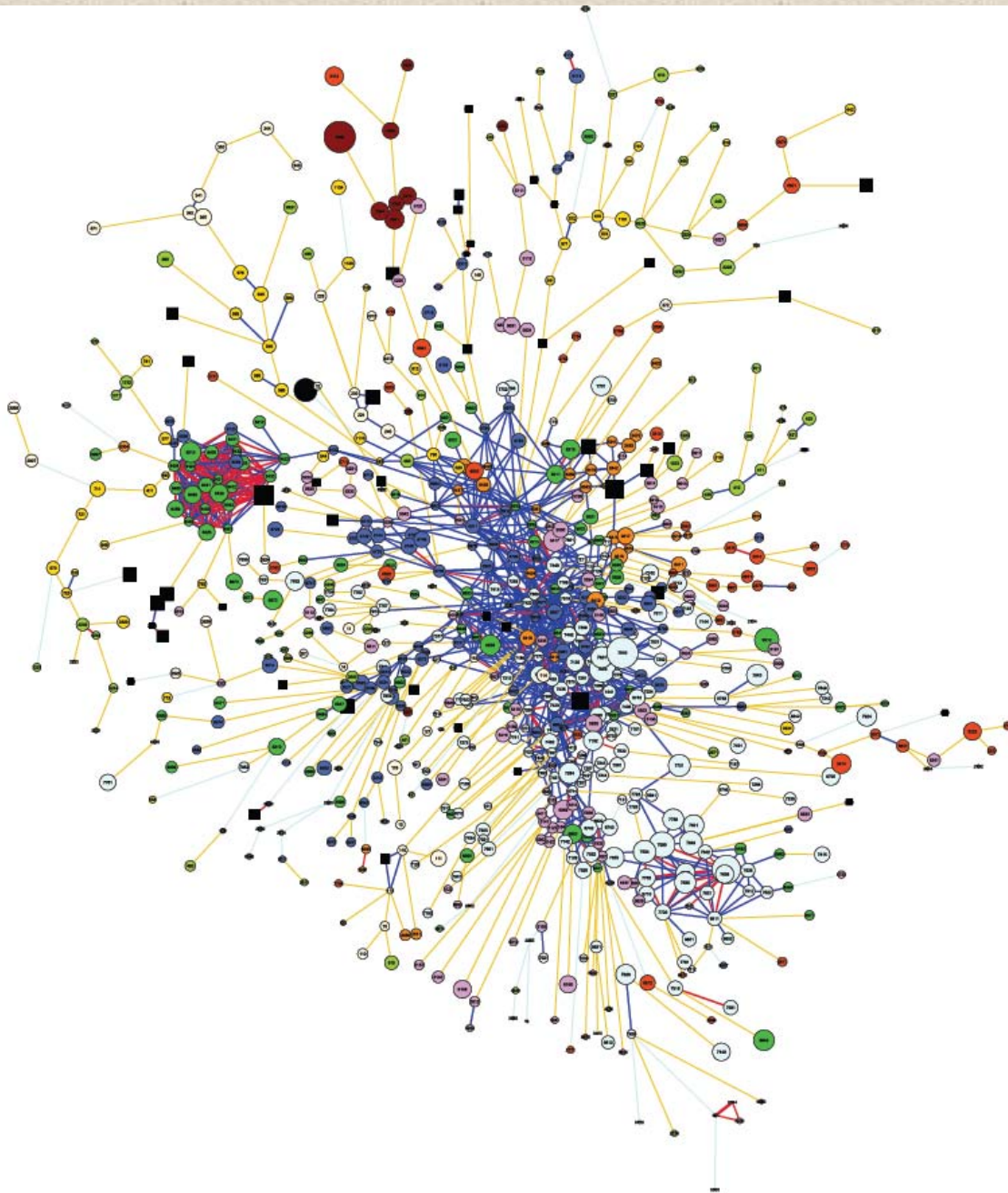




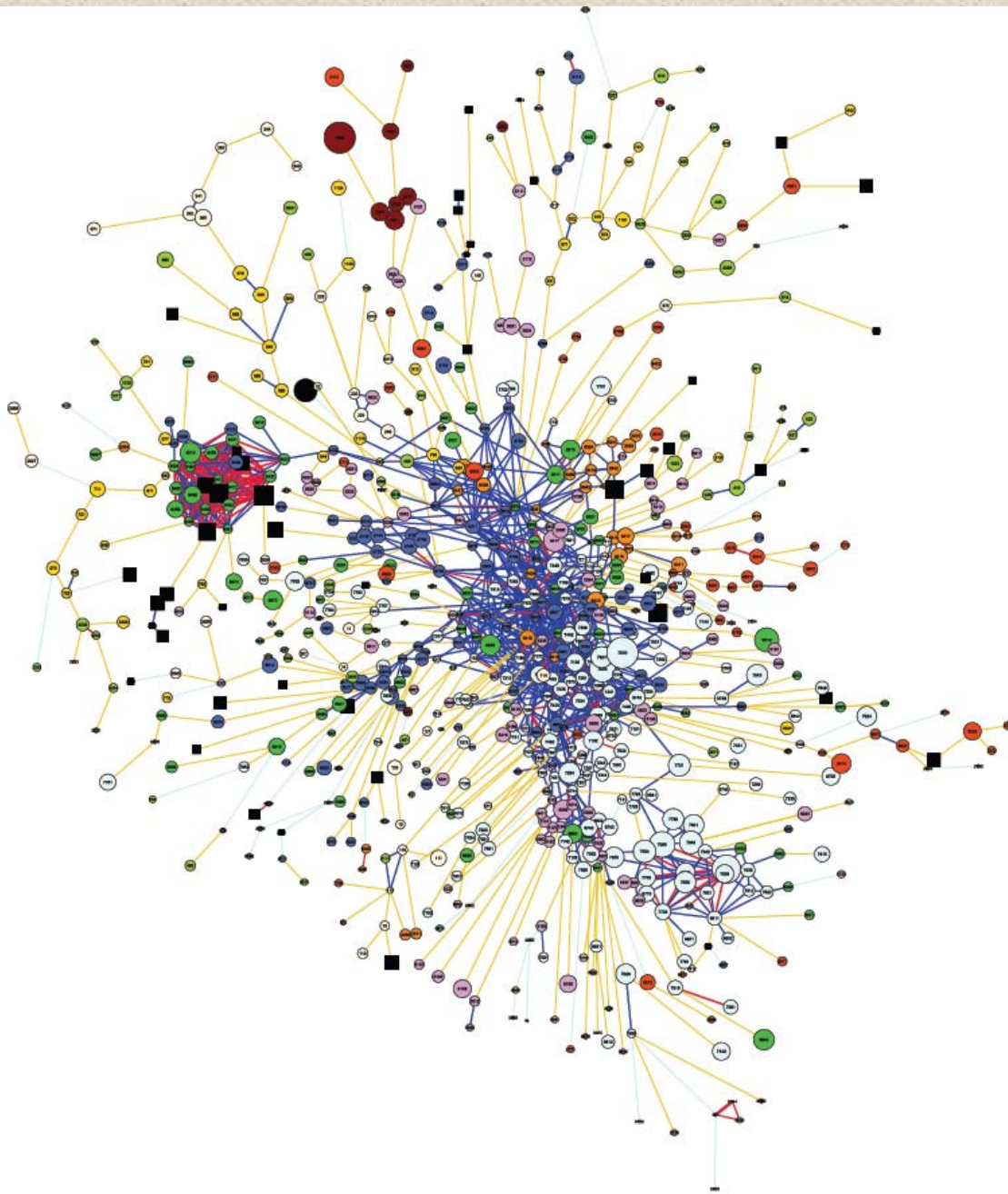
2005

Excluding 're-exports'

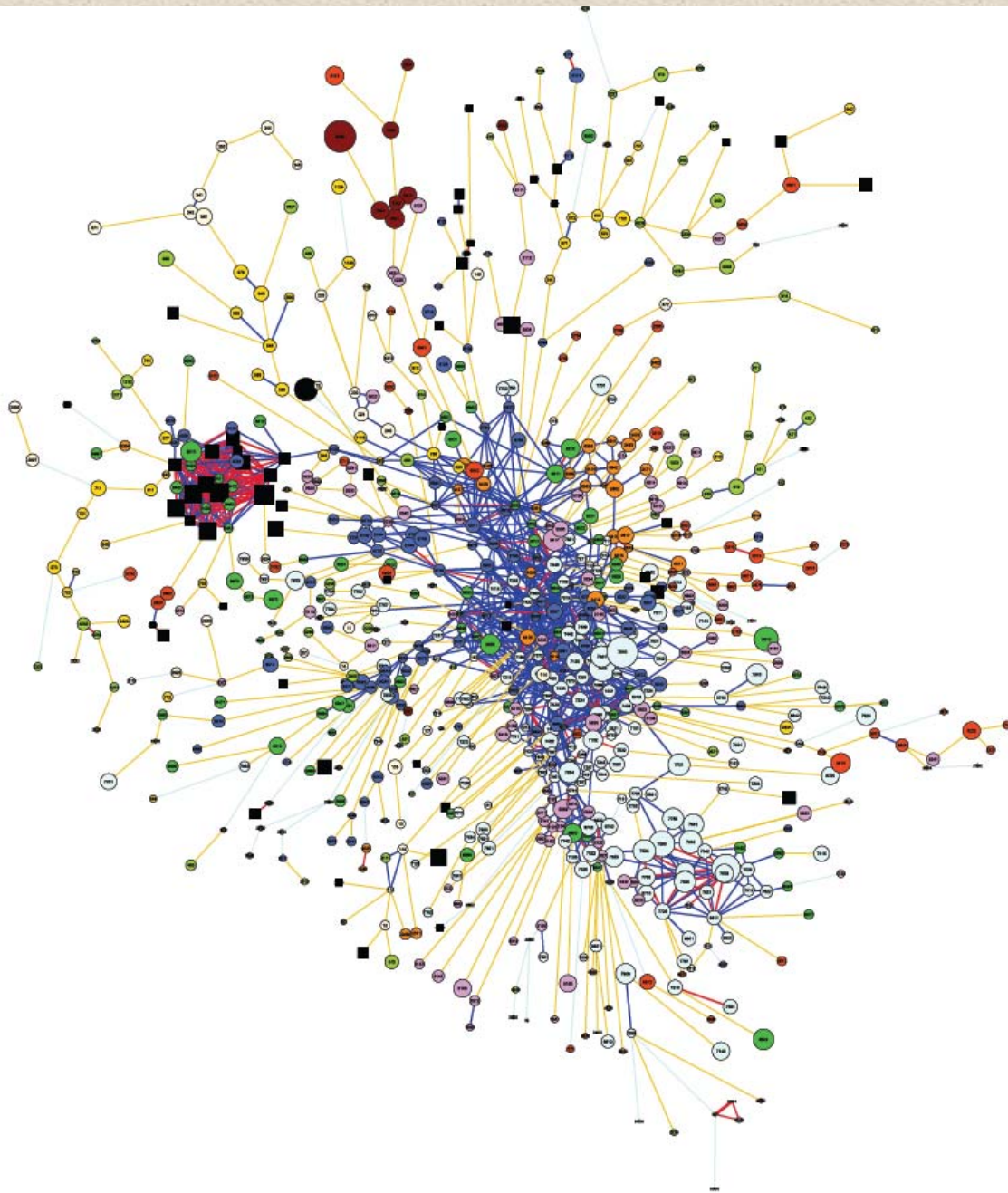




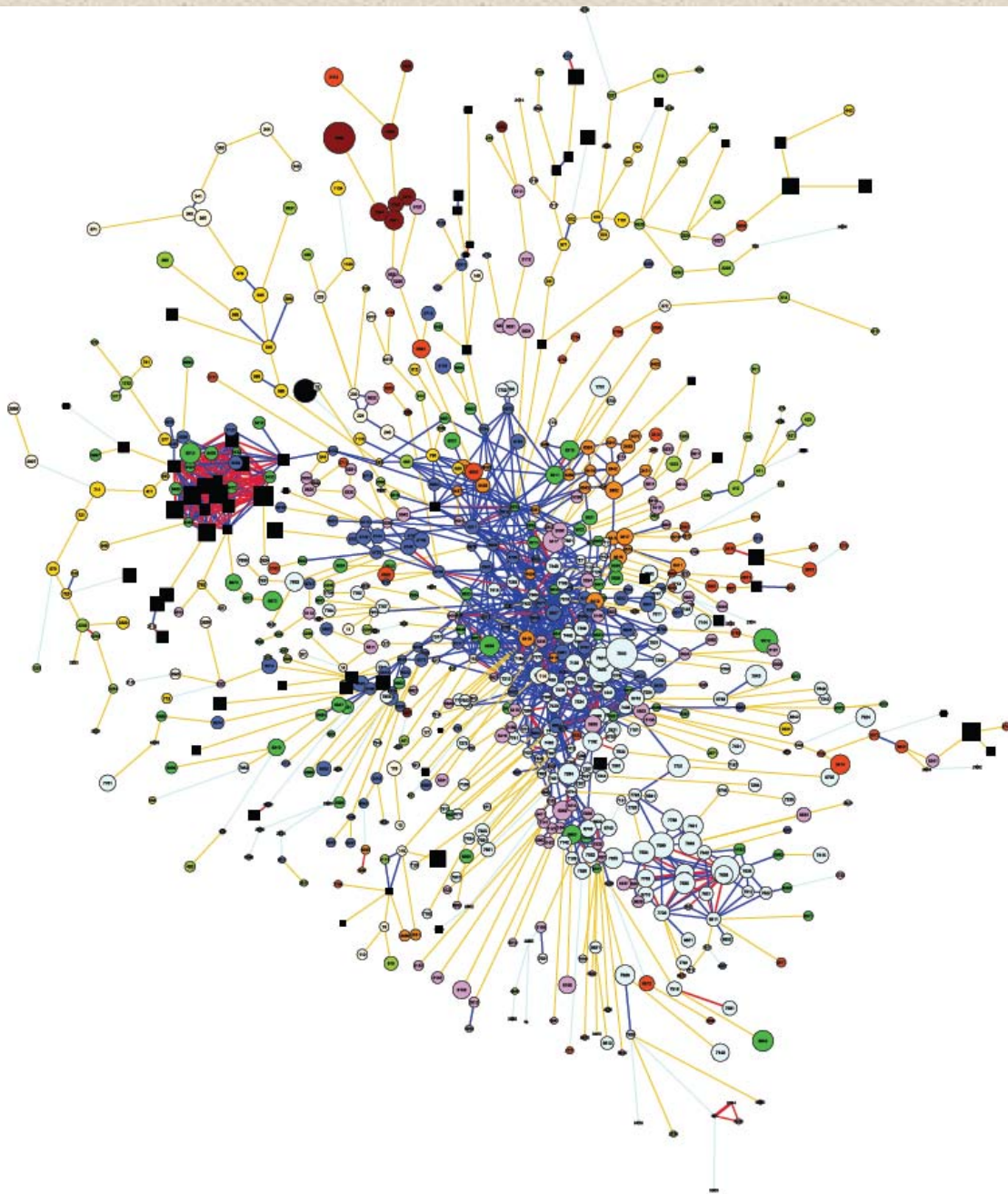
1992



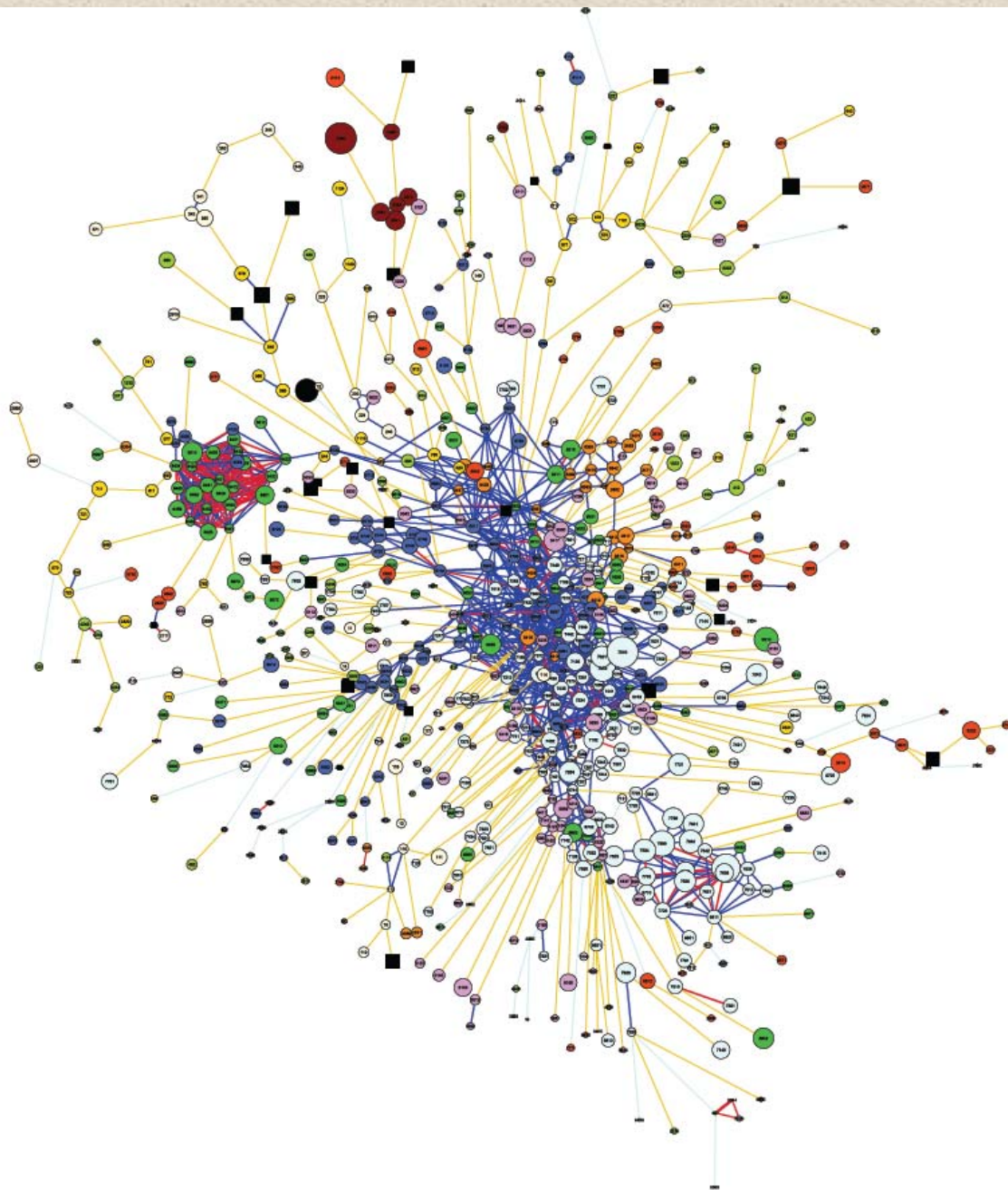
1995



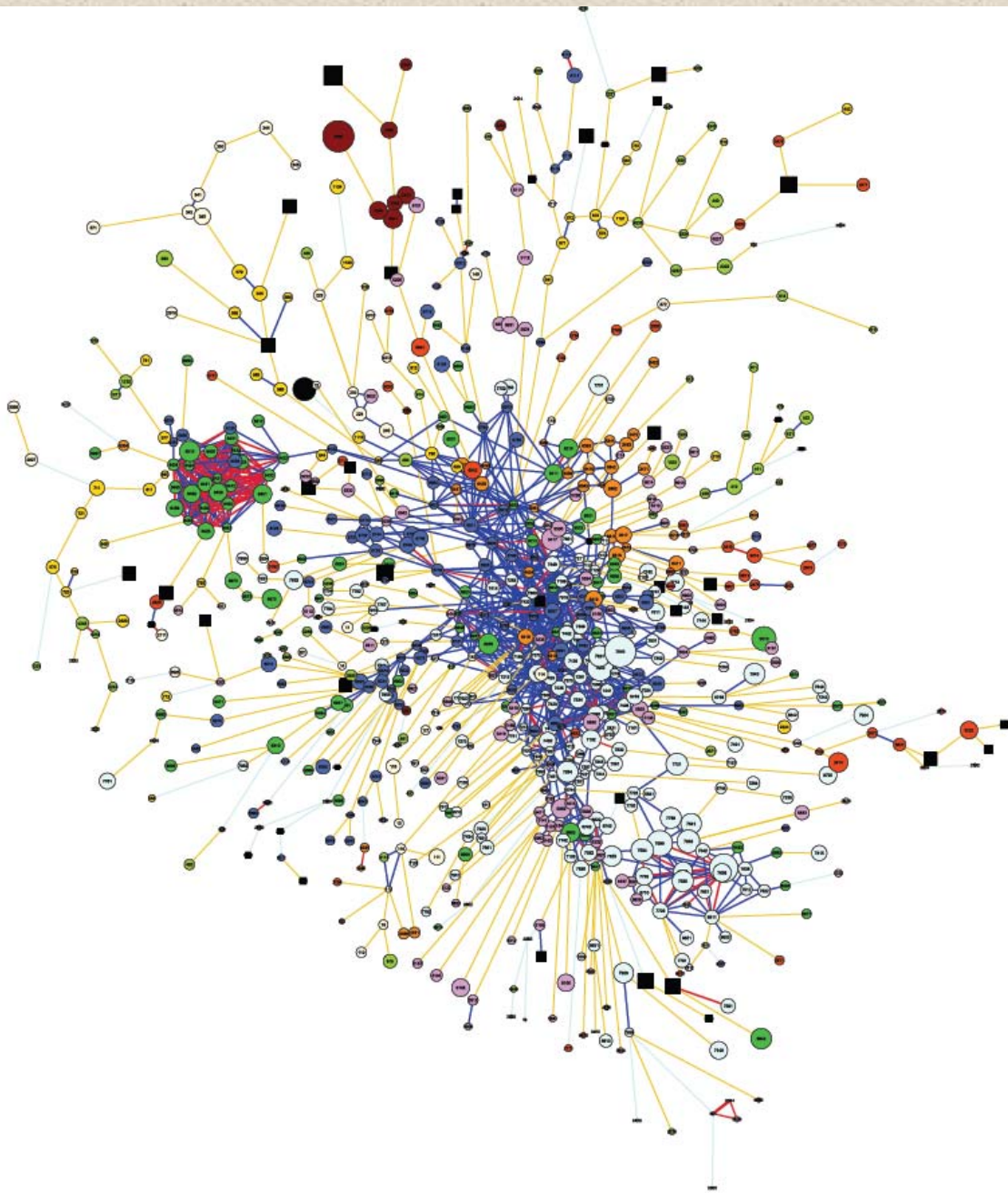
2000



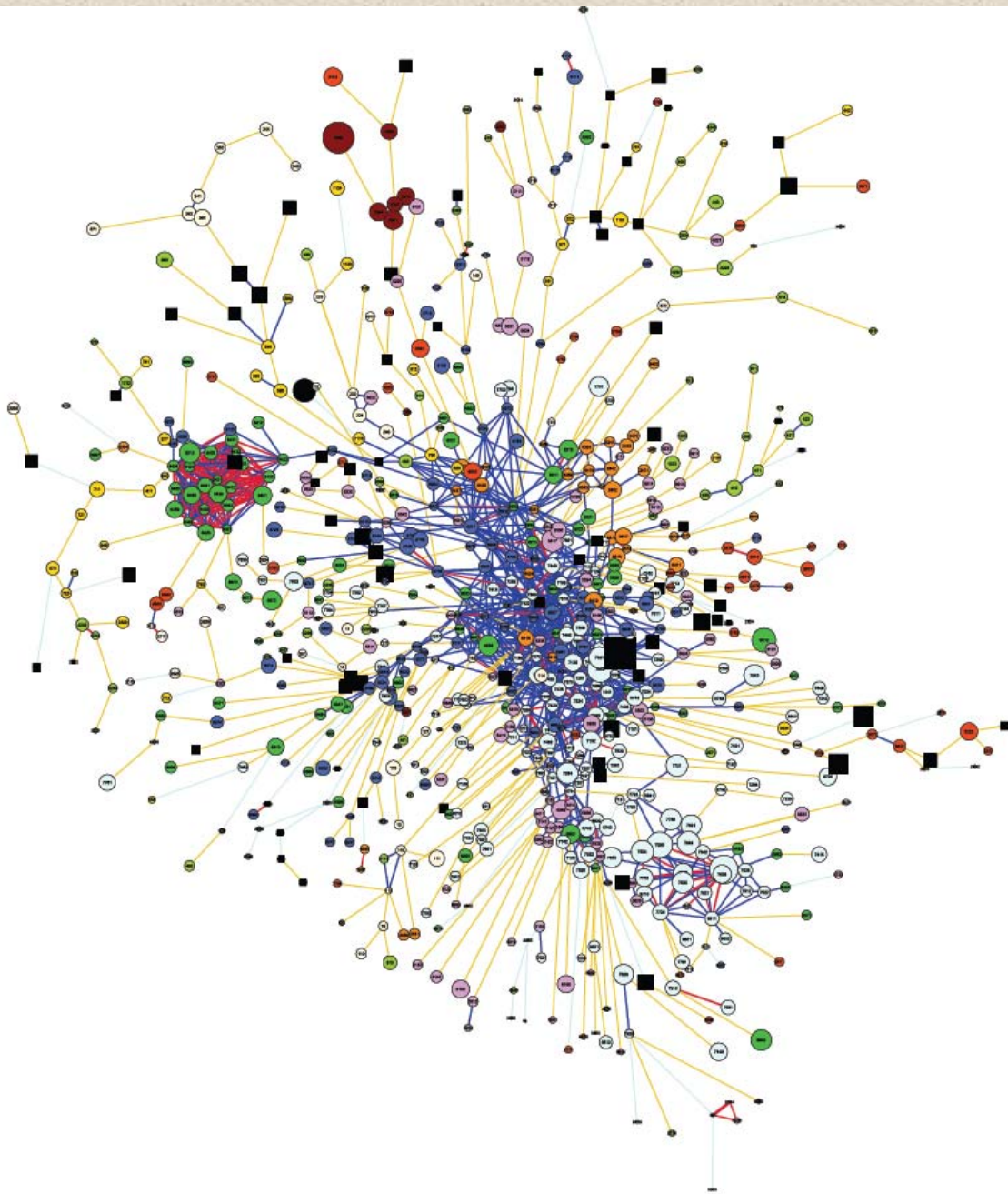
2005



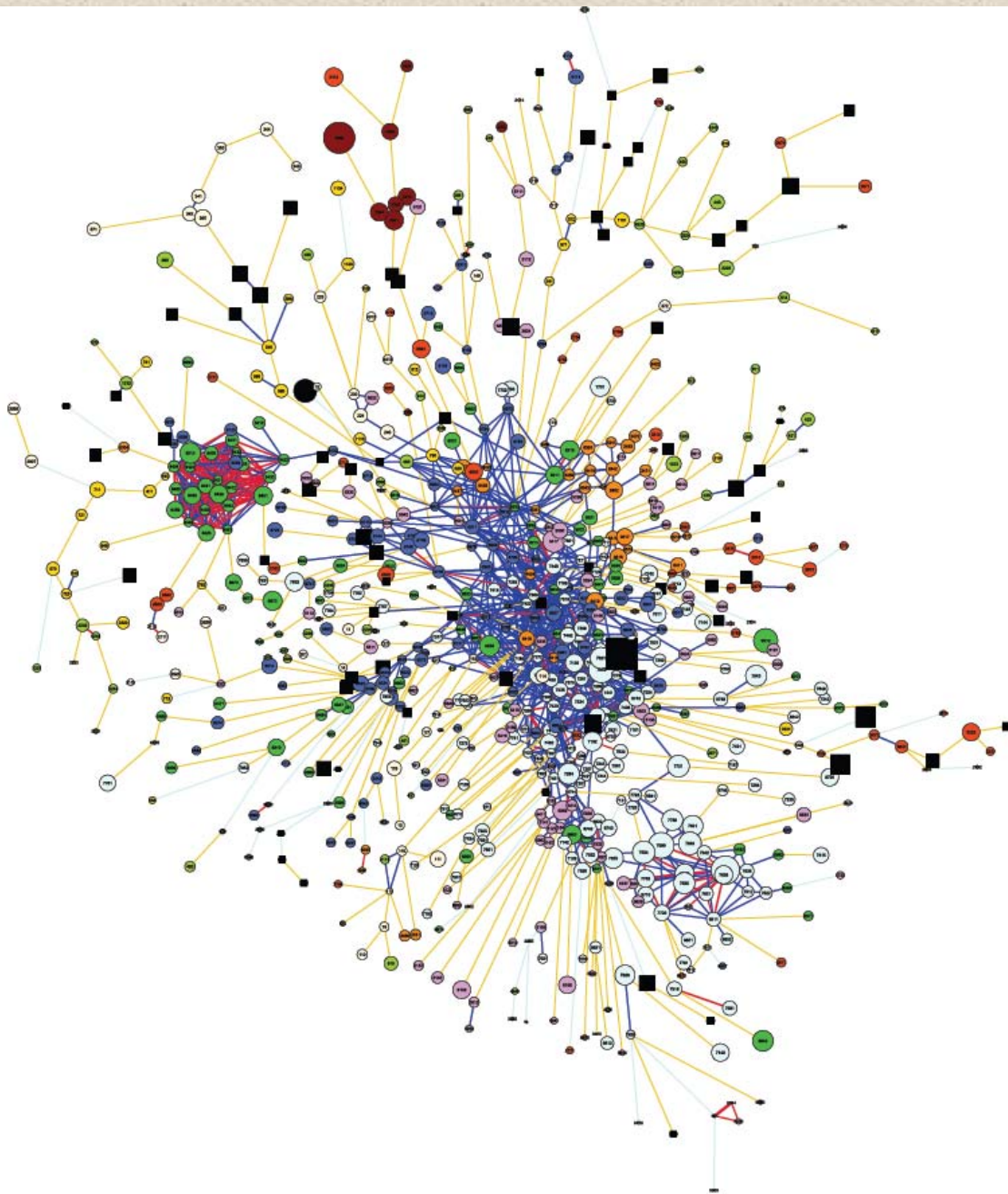
1992



1995



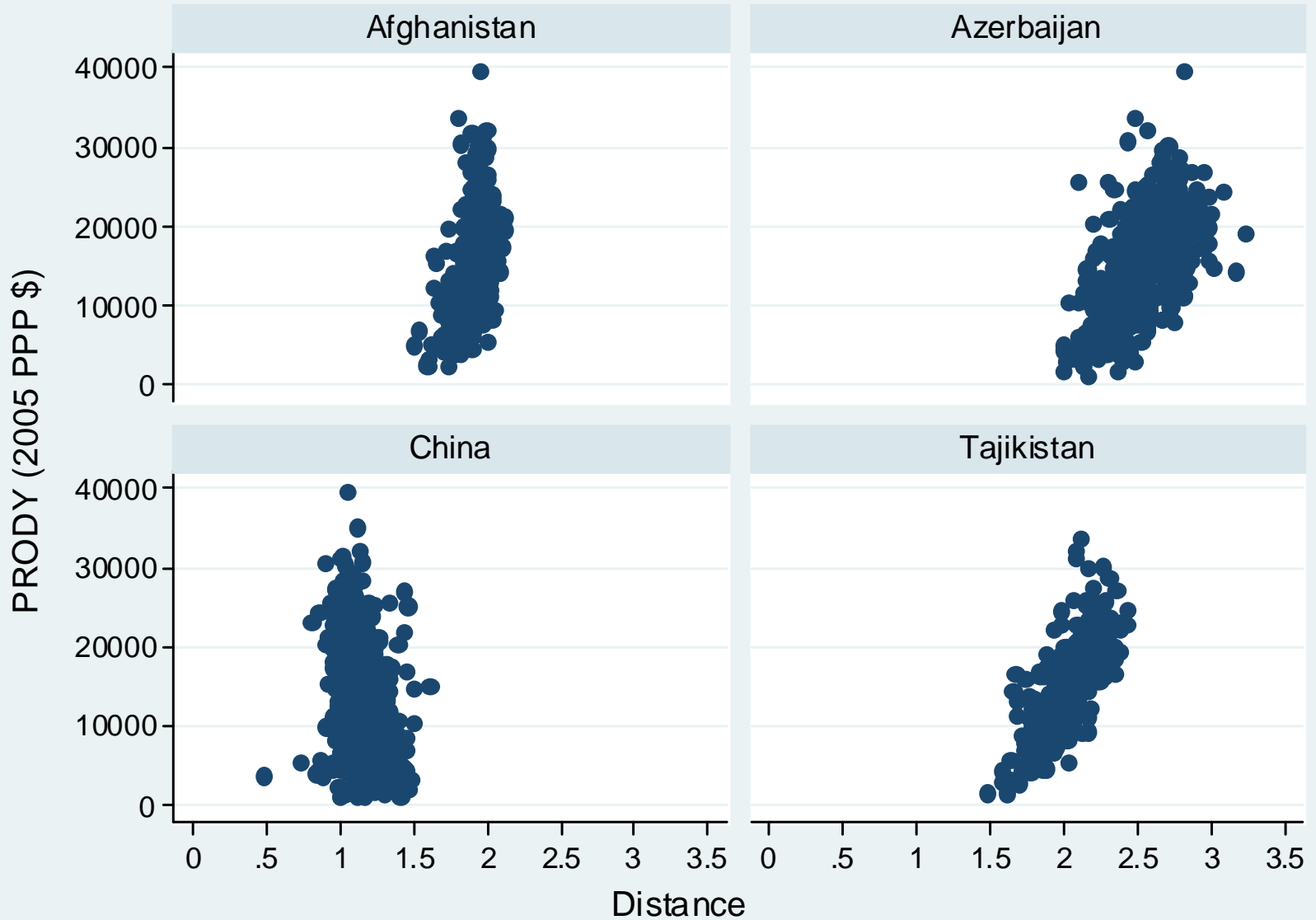
2000



2005

Unexploited Products

(other CAREC countries)



Kyrgyz Rep.

(Adjusted for re-exports)

Commodity	Sophistication	1992	1995	2000	2005	2006
Gold, non-monetary (excluding gold ores and concentrates)	3,180	27.01		41.22	28.41	18.13
Raw cotton, excluding linters, not carded or combed	2,036	5.84	6.21	6.76	7.88	6.77
Electric current	11,995		11.78	16.84	4.01	4.78
Glass, cast, rolled, etc, surface-ground, but no further worked	18,386			0.01	3.74	4.75
Cement	4,523		0.59	0.42	2.55	4.02
Electric filament lamps and discharge lamps; arc-lamps	12,030	0.18	2.89	2.45	3.07	3.35
Beans, peas, other leguminous vegetables, dried, shelled	3,345			0.32	1.76	3.22
Plastic packing containers, lids, stoppers and other closures	12,477	0.04	0.01	1.17	2.78	3.09
Womens, girls, infants outerwear, textile, not knitted or crocheted; blouses	7,436			0.00	0.97	2.43
Milk and cream fresh, not concentrated or sweetened	18,405		0.39	0.11	1.43	2.38
Other parts and accessories, for vehicles of headings 722, 781-783	20,156	3.37	1.25	0.46	1.86	1.90
Womens, girls, infants outerwear, textile, not knitted or crocheted; suits and costumes	4,571			0.00	0.96	1.84
Tobacco, not stripped	2,695		3.71	6.25	2.06	1.83
Construction materials, of asbestos-cement or fibre-cements, etc	8,923		0.50	0.65	2.00	1.73
Waste and scrap metal of iron or steel	8,710		0.18	0.86	2.22	1.70
Margarine, imitation lard and other prepared edible fats, nes	8,390		0.03	0.03	0.34	1.56
Special transactions, commodity not classified according to class	20,059	0.16	0.89		4.27	1.49
Calf skins, raw, whether or not split	4,403	0.69	0.59	0.17	0.63	1.41
Womens, girls, infants outerwear, textile, not knitted or crocheted; skirts	7,691			0.00	0.33	1.32
Cheese and curd	18,561		0.05	0.11	1.02	1.07
Sub-total		37.3	29.1	77.8	72.3	68.8
Sophistication at the country level (EXPY)		10,511	10,731	7,167	8,360	9,152