

State of the Railway World

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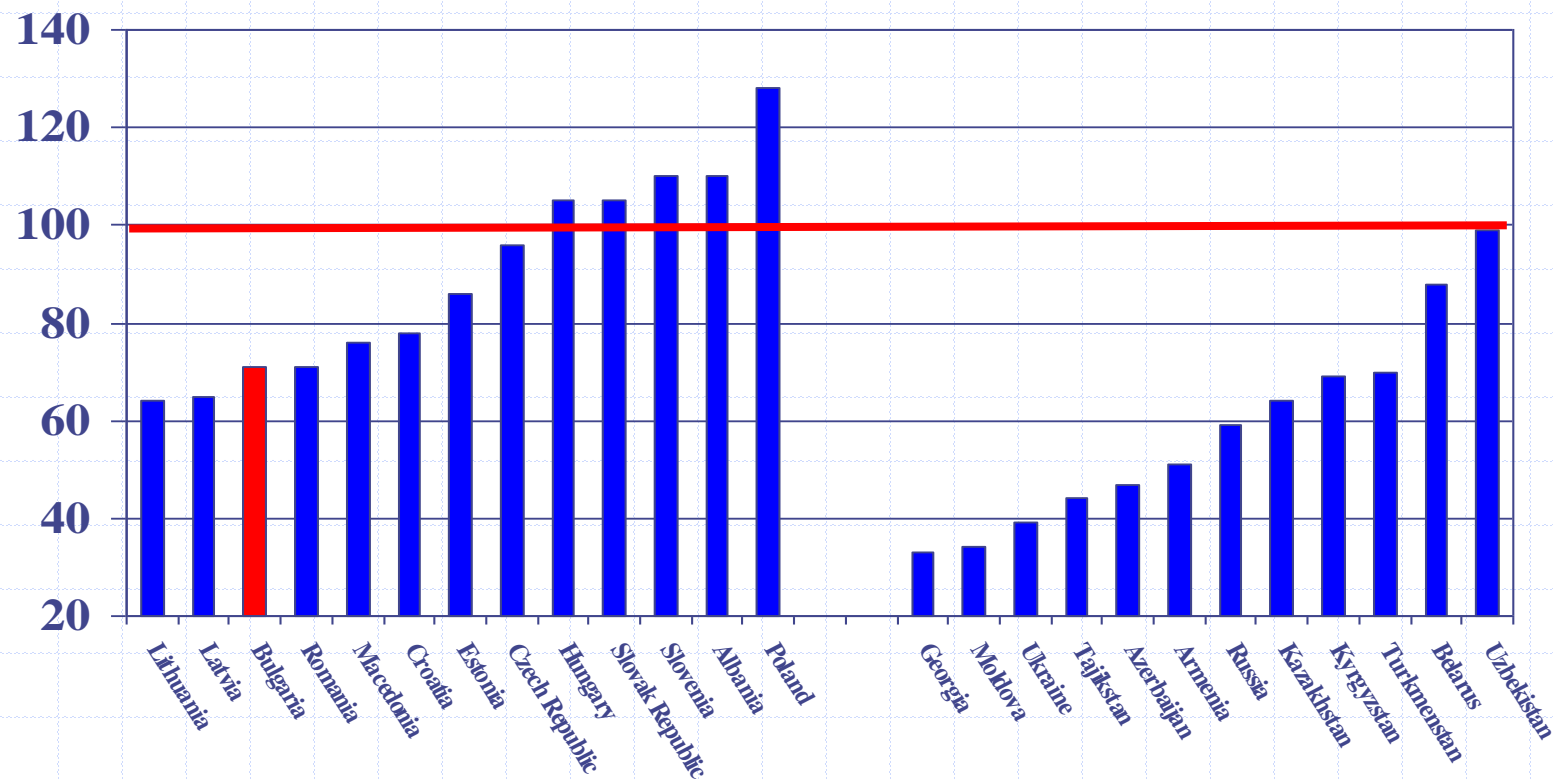


Rail reform is happening everywhere (not just Bosnia Herzegovina)

- ◆ Railway deficits unaffordable
- ◆ Regional pressures (especially E.U. policy)
- ◆ Globalization drives out inefficiency
- ◆ Failure and collapse are possible
- ◆ The experience of the former socialist countries – especially E.U. accession candidates
- ◆ **Paradigm Change**: what do we need railways for?

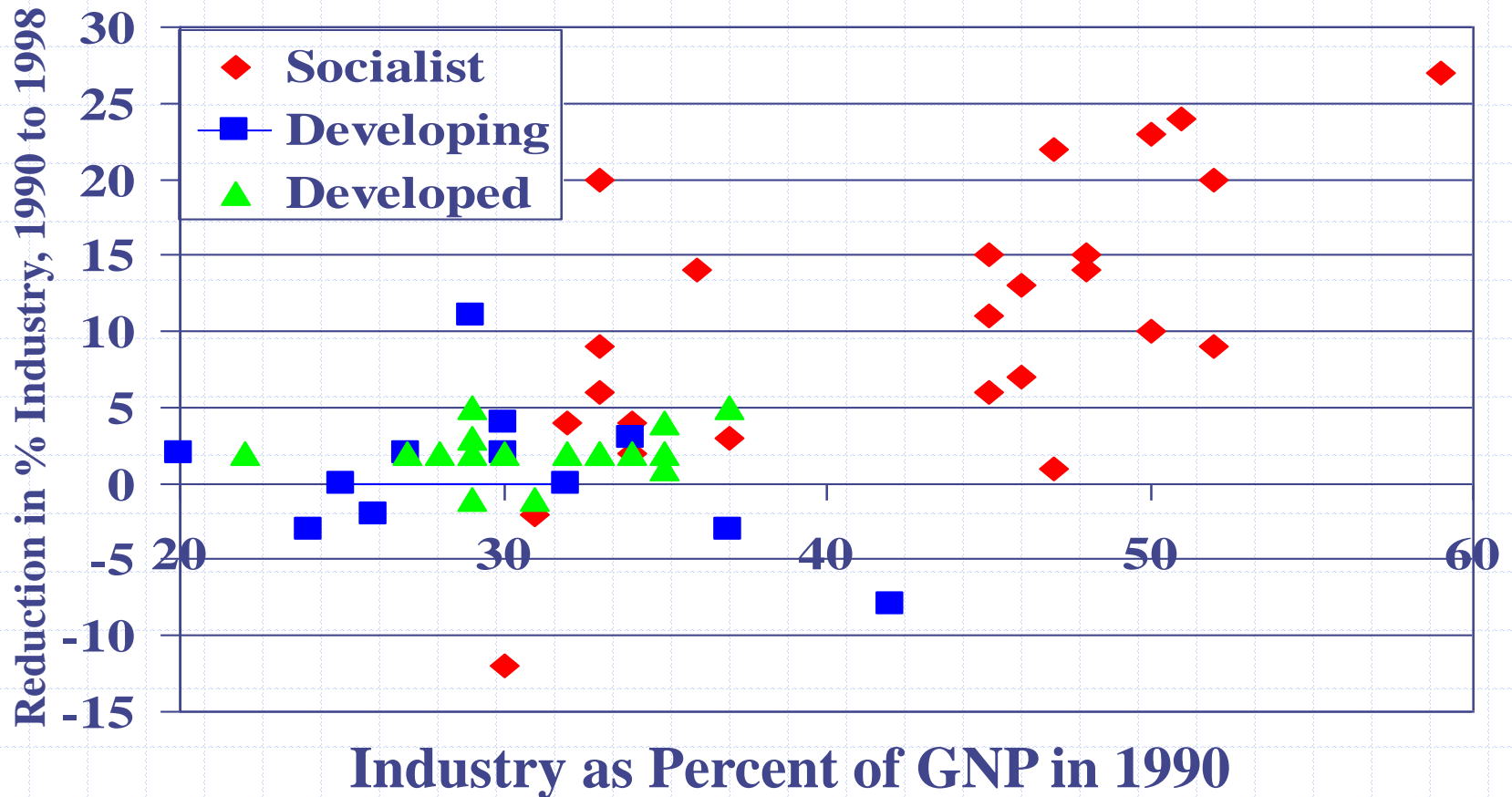
The transition is still underway

GDP: 2000 vs. 1988 (%)



The shift in economic structure

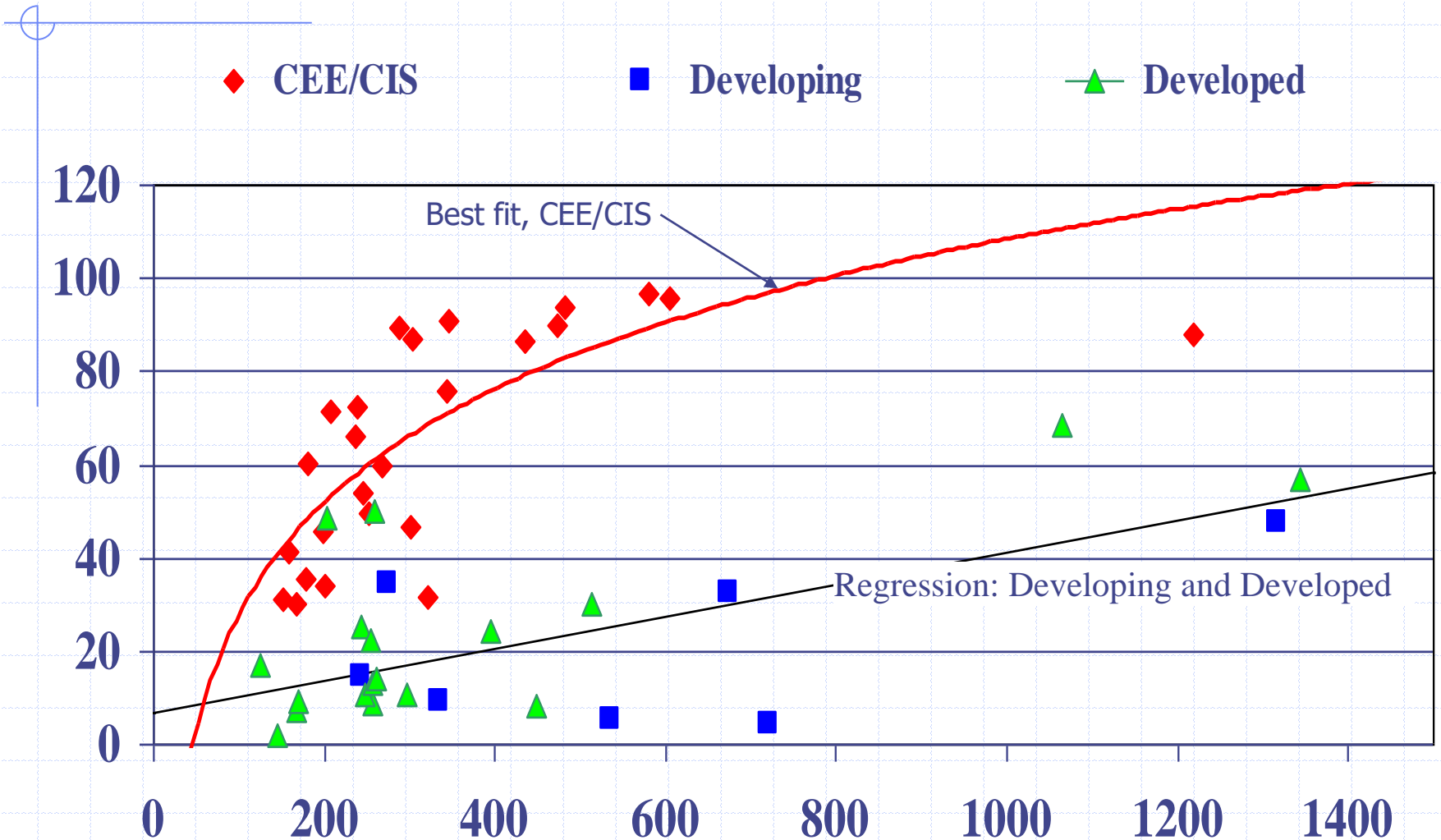
(Industry as Percent of GNP: Change 1990 to 1998 versus percentage in 1990)



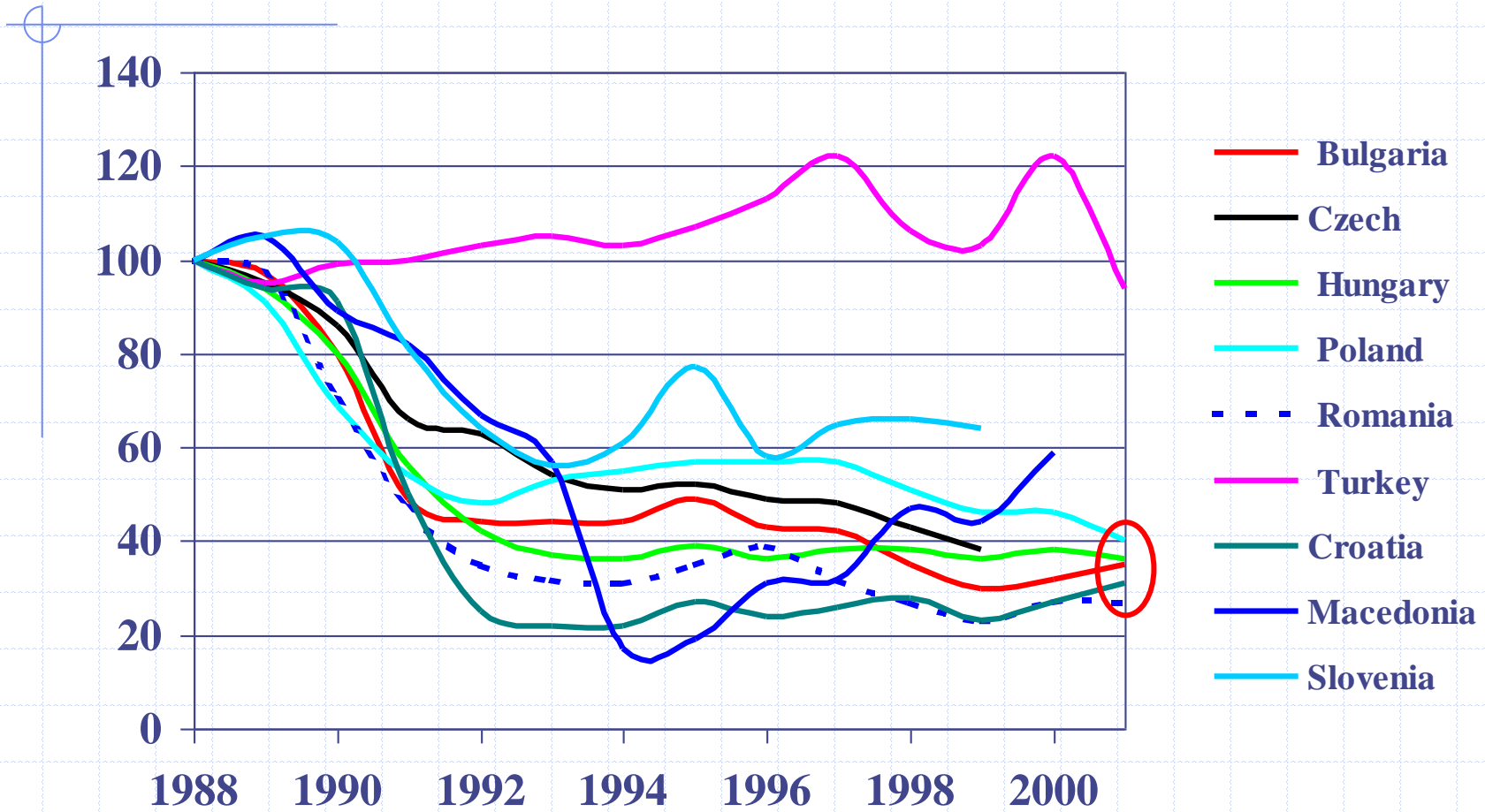
Conclusion: socialist countries had the highest percent of GNP as industry in 1990, and they showed the highest reduction in industry percentage between 1990 and 1998

Rail Share in Transition countries is still unusually high

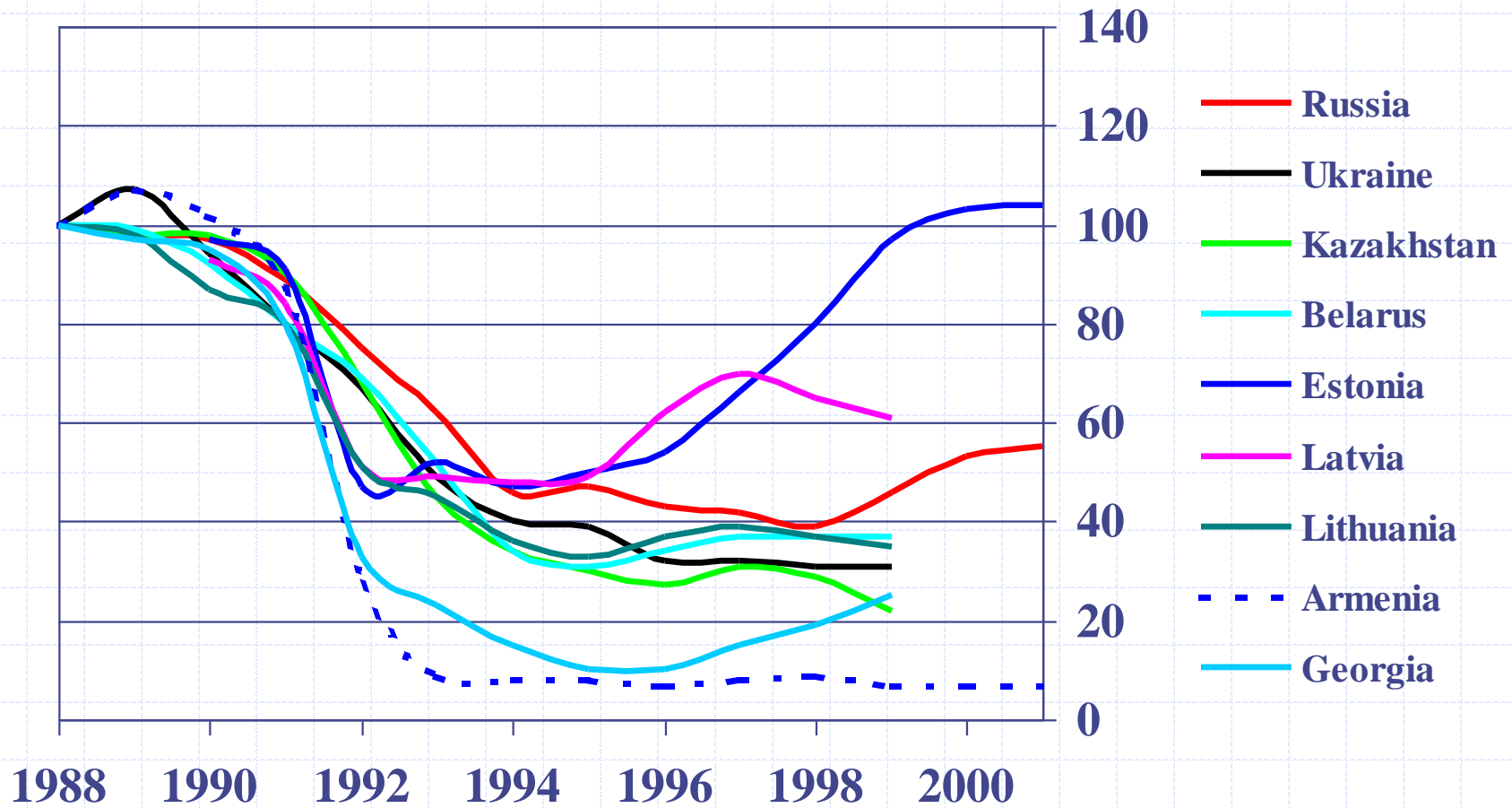
(Rail Share of Rail + Truck Traffic (%) versus Average Rail Length of Haul 1998)



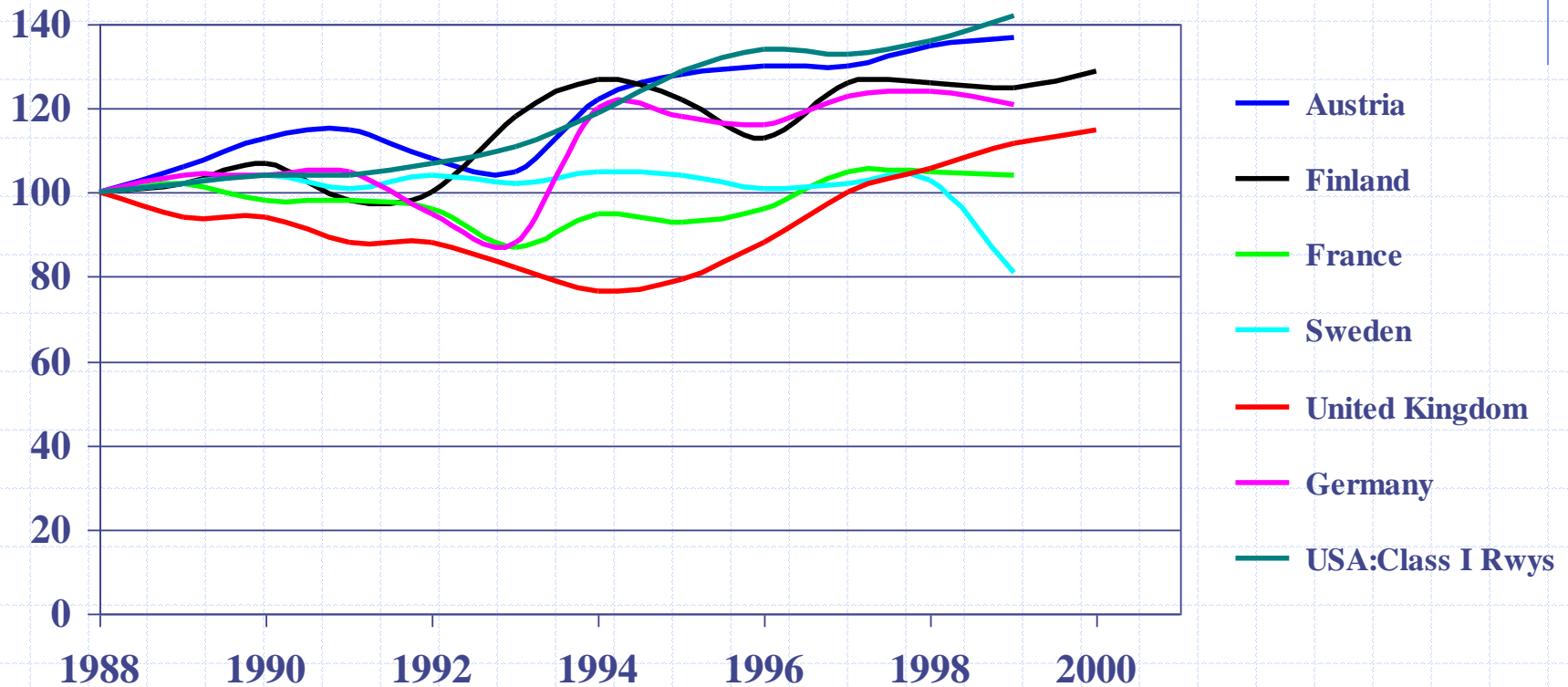
Ton-Km trends by CEE railways and Turkey



Ton-Km trends by CIS railways

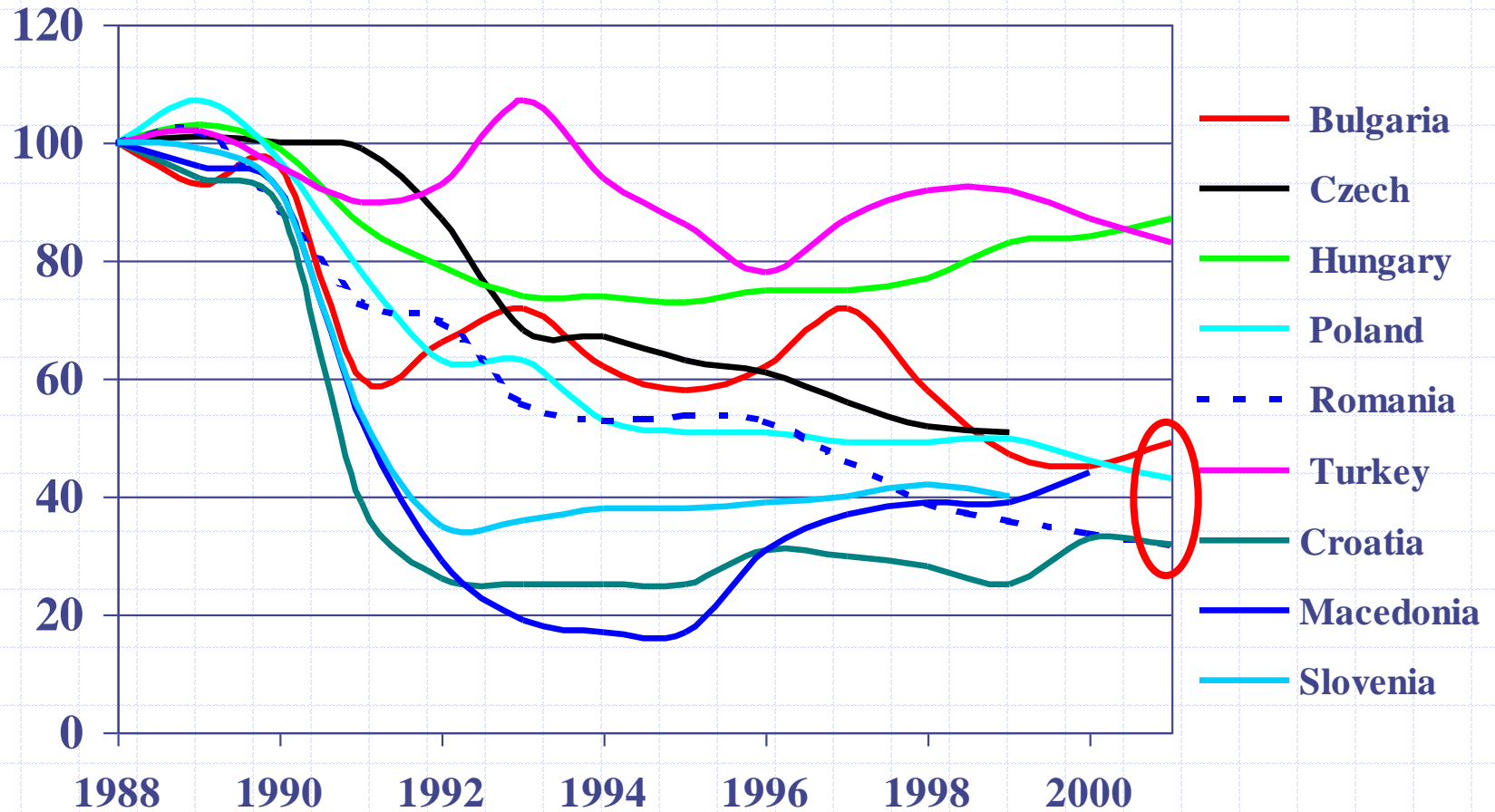


Ton-Km trends by Western railways

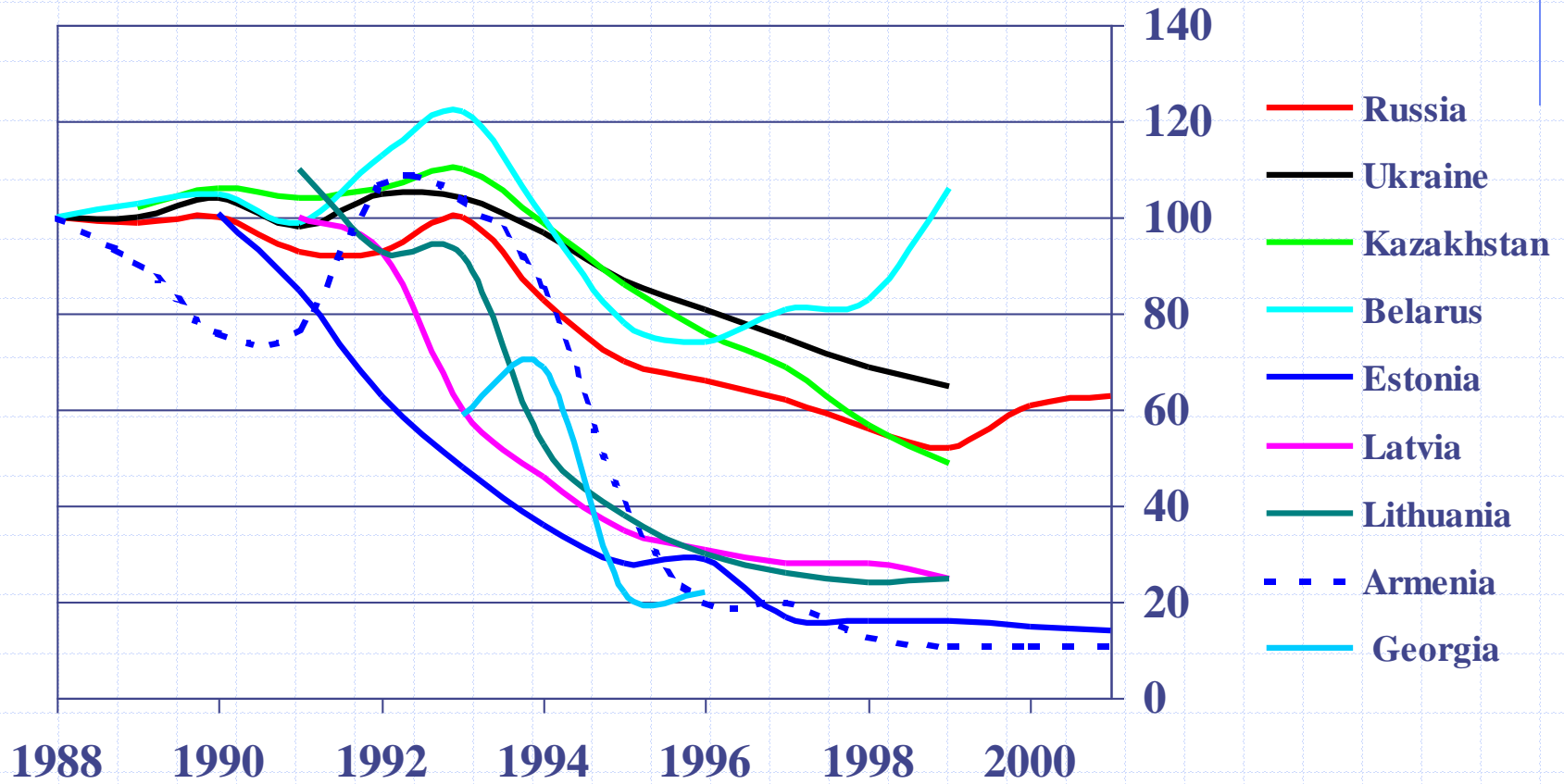


Note: Germany after 1993 includes DR traffic

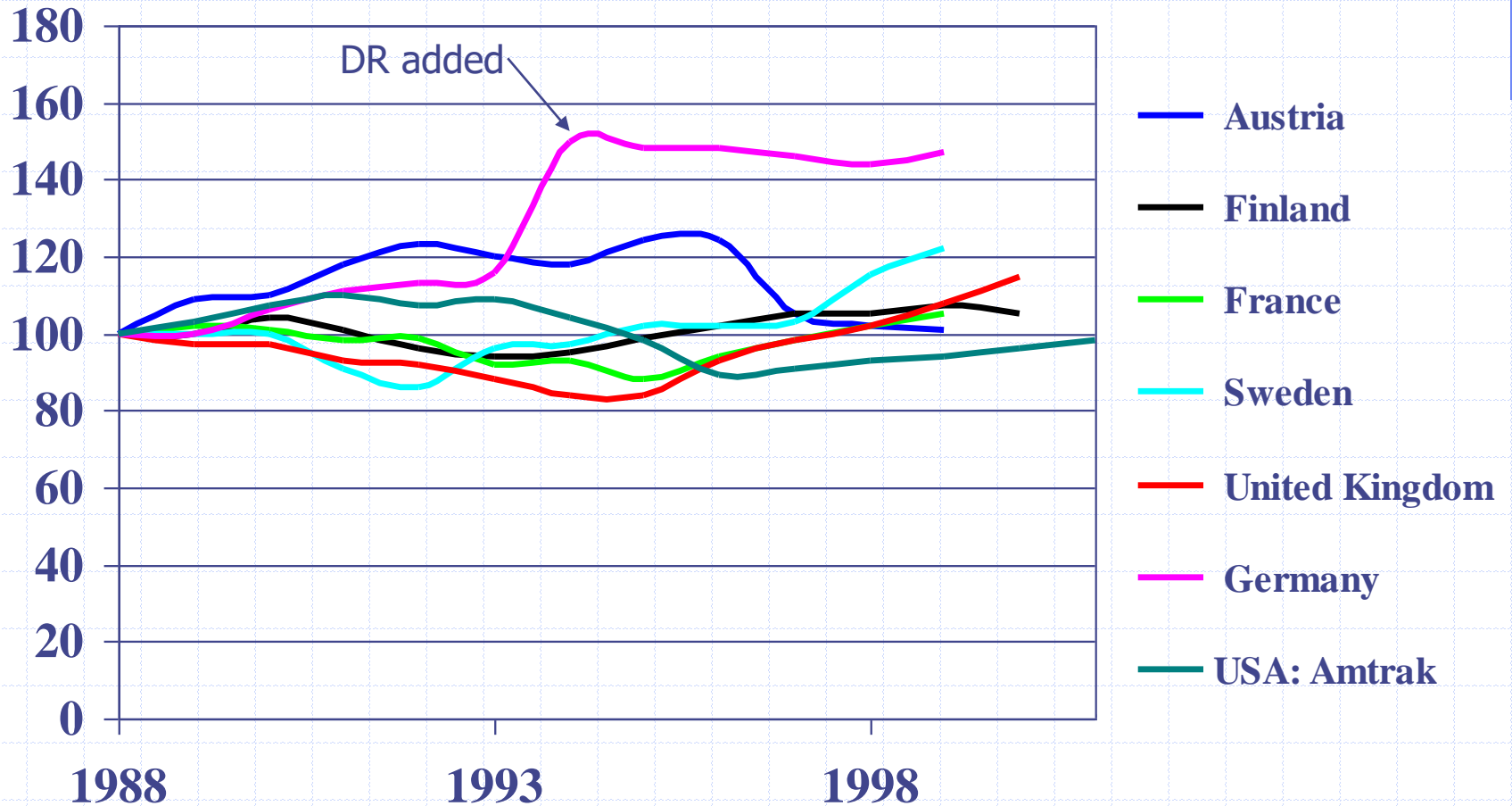
Passenger-Km trends by CEE railways and Turkey



Passenger-Km trends by CIS railways



Passenger-Km trends by Western railways



Services, structure and competition

- ◆ Intercity, Suburban/Regional and Freight are different markets, need focused management
- ◆ Get rid of non-core
- ◆ Organization options emerging:
 - Monolithic (the old, existing)
 - Dominant operator controls infrastructure, incremental user pays for access
 - Infrastructure separation: all users pay for access
- ◆ Ownership – can be public, private, or partnerships

Structure and ownership interactions

Ownership →

Structure ↓

	Public Ownership			Partnerships: Operating Concessions or Franchises			Private Own
	Infrastructure	Passenger Services	Freight Services	Infrastructure	Passenger Services	Freight Services	Infrastructure
Integral/Monolith	Belarus, Russia (2000)	Belarus	Belarus	Argentina, Brazil, Mexico	Argentina, Brazil	Argentina, Brazil, Mexico	New Zealand
Integral, with accounting separation	China, EU 91/440	China, EU 91/440	China, EU 91/440	Poland (LHS)		Poland (LHS)	
Dominant integral with separated minority operators and accounting separation	Kazakhstan, India	India, China, Amtrak, VIA, Chile (Merval), Brazil (CPTM)	India, China	Brazil (Band.)		Chile, Brazil (Band.)	US, Canada, Japan
Separated infrastructure	Poland, Slovenia, EU (2001/12), Russia, Bulgaria, Sweden, Germany	Sweden, Germany, Bulgaria, Macedonia	Sweden, Germany, Bulgaria, Macedonia	Estonia	Sweden, Poland (SKMWKD), Romania	Estonia, Russia	UK

No single solution, mixtures possible, not static

The Commission Orders require

- ◆ Infrastructure separation
 - accounting, but headed for institutional
 - access fee non-discriminatory, recommend “social marginal cost pricing”
- ◆ Subsidized operating services must be by PSO **contract** and moving toward requiring contracts to be **competed**
- ◆ Since freight and intercity passenger services may **not** be subsidized, strong emphasis on transparent line of business separations

Competition objectives

◆ IN the Market

- Parallel tracks (U.S. for example)
- Trackage rights (U.S. and Canada)
- Competitive access (E.U., Canada, Russia, possibly China – and here)

◆ FOR the Market

- Exclusive concessions, positive or negative, for **PSO-type services** such as commuters. Can include operating subsidies and investments

Rail versus rail competition in Europe: competition **FOR** and **IN** the market

- ◆ Competition for domestic passengers: Germany, Denmark, Italy, Netherlands, Portugal, Sweden and U.K.
- ◆ Systems already open for freight competition: Austria, Italy, Germany, Netherlands, Sweden and U.K. Add Poland, Romania and Russia (?)

The approach here (?)

- ◆ The basic approach is similar to E.U. but will need to go farther to be consistent:
 - Separate passenger and freight and eliminate cross subsidies
 - Fully institute PSOs (competition **for** markets?)
 - Rationalize infrastructure access fees (cannot discriminate against freight): “social marginal cost” for access fees. Need harmonization
 - Eliminate subsidies: PSO for social services
- ◆ Unique opportunity to preserve rail role, and great cost if this is not done

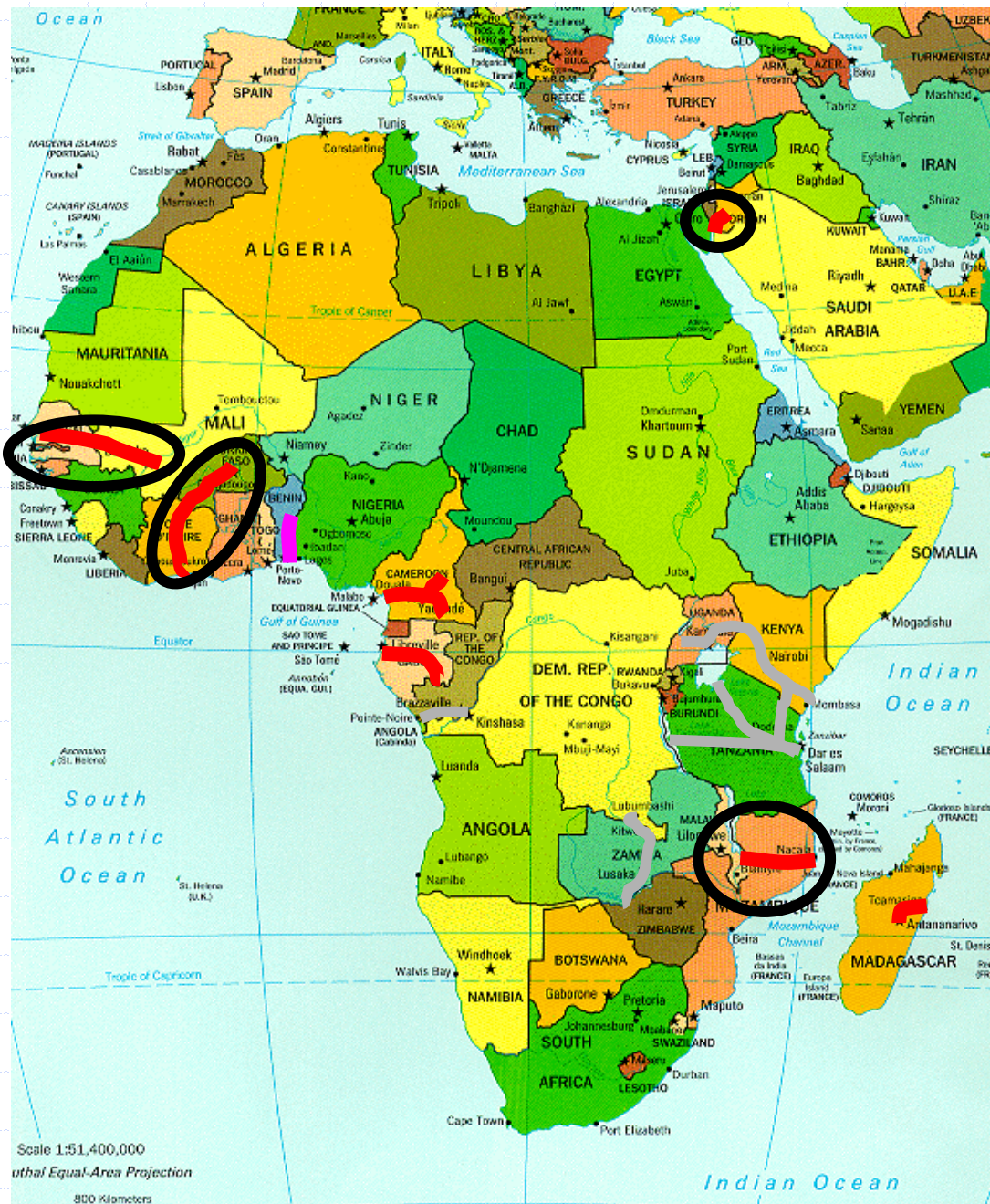
There is **now** very wide experience with change

- ◆ **Latin America – mostly freight (25) and passenger (10) concessioning, but some privatization (1)**
- ◆ **Africa – concessioning (5+)**
- ◆ **E.U. -- privatization and franchising: the U.K. experience is interesting, and positive**
- ◆ **CEE countries – restructuring and accession conformation**
- ◆ **Japan -- privatization**
- ◆ **India, China, Russia – restructuring to meet market competition**
- ◆ **Experience has been strongly (with exceptions) positive**

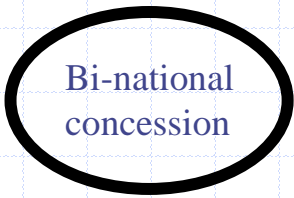
Ample experience with concessioning and privatization: **it works**

- ◆ Concessions and privatized railways are far larger and more complex than here – and they have been quite successful
- ◆ Most important concessioning issues here
 - Concessioning versus privatization (Argentina versus UK)?
 - Sale of assets versus shares
 - Level and structure of access charges on infrastructure
 - Separate concessions for passengers, or State operation?
- ◆ Poland is now approaching this issue, and Estonia has already done so





Concessioned



Bi-national
concession

Being concessioned



Scale 1:51,400,000
 Equal-Area Projection
 800 Kilometers

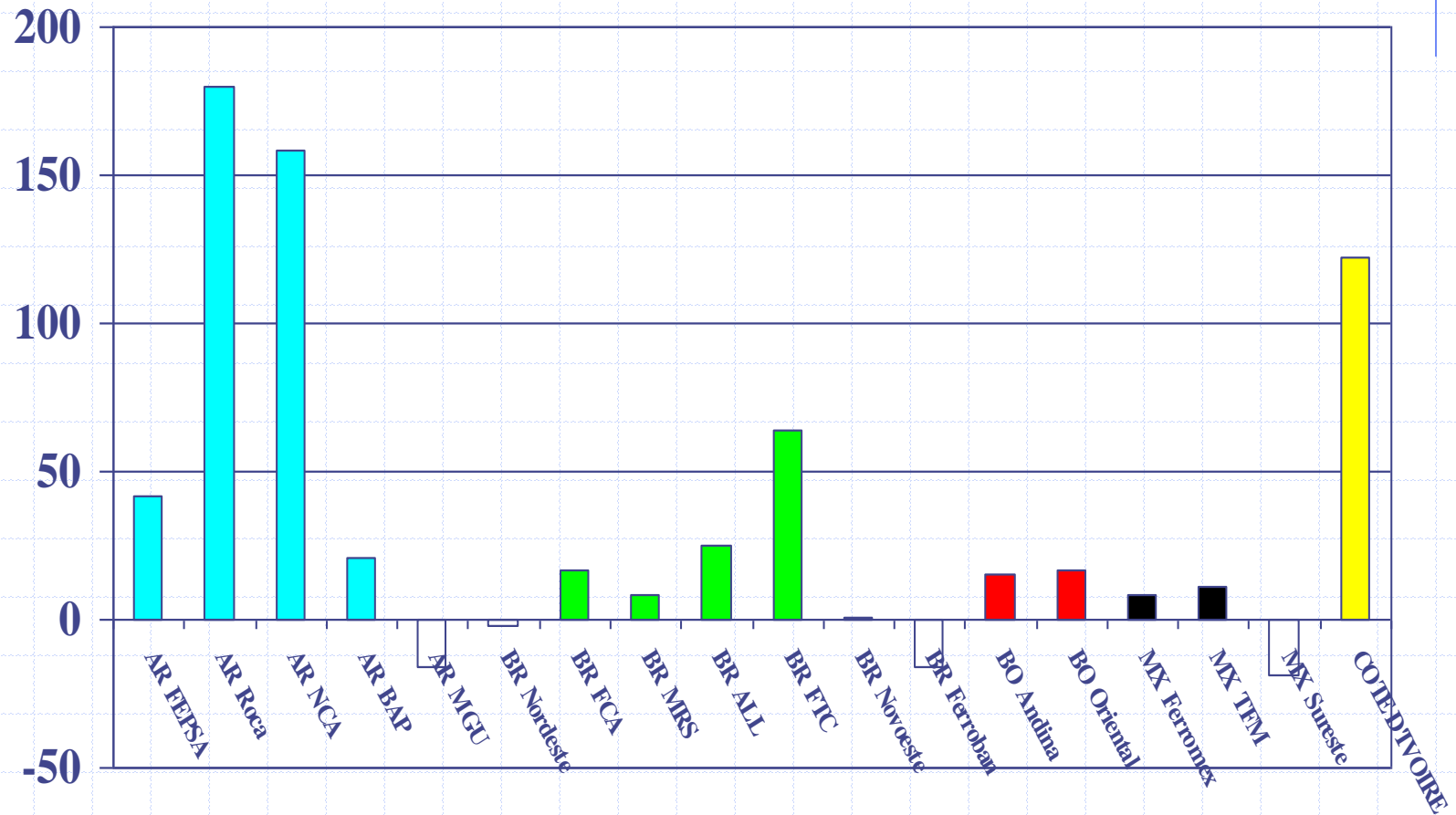
Freight Concession Comparisons

	Year	Km of line	Ton-Km (000,000)	Pass-Km (000,000)	Employees	TU/Employee (000)	TU/Km (000)
Argentina							
Ferroespresso Pampeano	2000	5,094	877		810	1.08	172
Nuevo Central Argentino	2000	4,512	2,490		1,311	1.90	552
Ferrosur Roca	2000	3,342	1,263		772	1.64	378
Buenos Aires al Pacifico	2000	5,252	2,268		914	2.48	432
Ferrocarril Mesopotamico -- FMGU	2000	2,739	495		339	1.46	181
Bolivia							
Empresa Ferroviaria Oriental	2000	1,244	626	192	461	1.77	658
Empresa Ferroviaria Andina	2000	1,499	557	72	324	1.94	420
Brazil							
Ferrovias Centro-Atlântica S.A.	2000	7,263	7,268		2,596	2.80	1,001
Ferrovias Novoeste S.A.	2000	1,621	1,588		639	2.49	980
Companhia Ferroviária do Nordeste	2000	4,381	709		694	1.02	162
MRS Logística S.A.	2000	1,675	26,837		2,988	8.98	16,022
América Latina Logística	2000	6,355	10,285		2,018	5.10	1,618
Ferrovias Tereza Cristina S.A.	2000	174	259		142	1.82	1,489
Ferrovias Bandeirantes S.A.	2000	4,236	5,984		3,174	1.89	1,413
Chile							
FEPASA	2000	2,379	1,189		521	2.28	500
Ferromor	2000	2,229	743		360	2.06	333
Ferrocarril Arica-La Paz	2000	206	59		95	0.62	286
Mexico							
TFM	1999	5,176	17,256		3,694	4.67	3,334
Ferromex	1999	10,724	20,638	80	8,666	2.39	1,932
Sureste	1999	1,479	4,734		2,097	2.26	3,201
FCCM	2000	1,869	1,017		352	2.89	544
Cote d'Ivoire/Burkina Faso -- SITARAIL	2000	639	523	126	1,673	0.39	1,016
New Zealand -- Tranzrail	2000	3,904	4,078	470	4,064	1.12	1,165

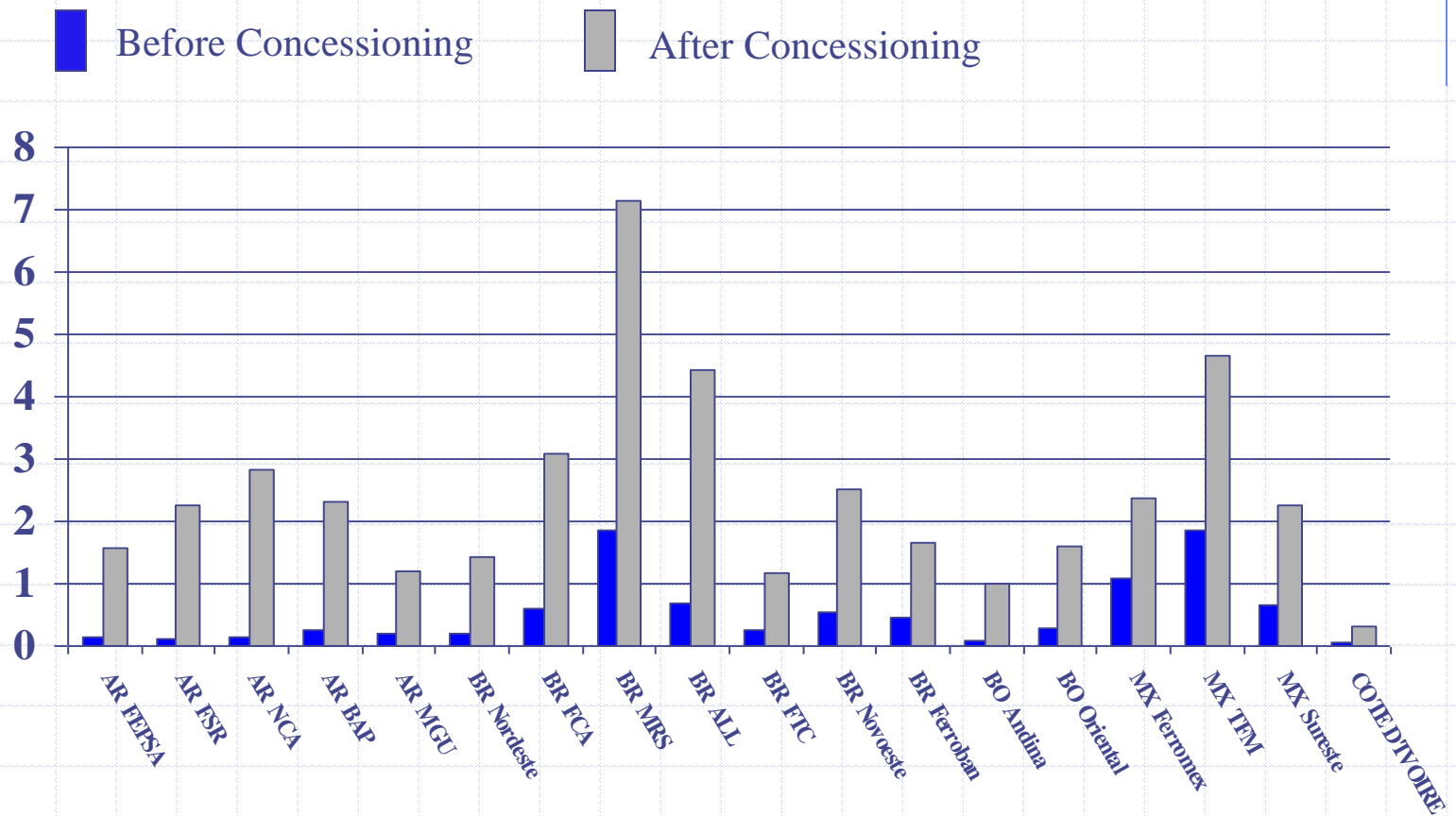
Passenger Concessions/Franchises

	Year	Km of line	Ton-Km (000,000)	Pass-Km (000,000)	Employees	TU/Employee (000)	TU/Km (000)
Argentina							
Ferrovias	2000	54		617	615	1.00	11,363
Transmet -- San Martin	2000	56		1,152	656	1.76	20,571
Transmet -- Belgrano Sur	2000	66		312	657	0.47	4,727
Transmet -- Roca	2000	261		2,472	2,227	1.11	9,471
TBA -- Mitre	2000	186		1,456	1,648	0.88	7,828
TBA -- Sarmiento	2000	184		2,619	1,398	1.87	14,234
Metrovias -- Urquiza	2000	32		434	440	0.99	13,563
Metrovias -- Subte (Metro)	2000	47		1,124	2,056	0.55	23,915
Brazil							
Supervia	2000	200		2,247	2,236	1.00	11,235
Rio Metro	2000	35		487	1,534	0.32	13,914
U.K.							
UK system	2000	26,605	19,500	39,010	52,000	1.13	2,199

Percent change in Ton-Km since concessioning



Labor productivity before and after concessioning (000,000 TU/Employee)



Payments for concessions (\$ millions)

	Freight		Passenger		
	Fees to Government	Committed Investments		Net Operating Subsidy	Cost of Capital Program
Argentina			Argentina		
FEPSA	36	218	Mitre	84	271
NCA	49	411	Sarmiento	(178)	276
Ferrosur Roca	15	166	Roca	(70)	48
BAP	71	344	San Martin	(45)	523
FMGU	2	58	Belgrano Sur	166	121
Brazil		1197	Belgrano Norte	197	87
FCA	317		Urquiza	102	82
ALL	216		Metro (Subté)	(439)	61.6
Novoeste	60		Brazil		
Tereza Cristina	19		Supervia (sub'n)	36	-244
MRS Logistica	889		Oportrans (Metro)	292	
Nordeste	16				
Bandeirantes	245		Total	145	
Chile					
Fepasa	30				
Ferronor	13				
Bolivia					
FCO	26				
FCA	13				
Mexico					
TFM	1,400				
Ferromex	552				
Ferrosur	377				
Total	4,346				

note: a negative number is a payment to government

Annual tariff savings from concessions

Calculation of savings from lower rates						
	Initial Year	Tariff in initial year (PPP\$/Ton-Km)	Tariff in ending year tariff (PPP\$/Ton-Km)	Ton-km in ending year	Total savings (million of PPP \$)	% tariff reduction
Cote d'Ivoire	95	0.123	0.106	523	8.9	13.8
Argentina Broad Gauge	93	0.039	0.036	6,898	20.7	7.7
Argentina Standard Gauge	94	0.032	0.043	495	(5.4)	-34.4
Bolivia FCO	96	0.147	0.123	626	15.0	16.3
Bolivia FCA	96	0.061	0.098	557	(20.6)	-60.7
Brazil:						
FCA	96	0.051	0.032	7,268	138.1	37.3
Novoeste	96	0.043	0.027	1,588	25.4	37.2
Nordeste	96	0.056	0.026	709	21.3	53.6
MRS	96	0.027	0.022	26,837	134.2	18.5
ALL	96	0.044	0.033	10,285	113.1	25.0
Tereza Cristina	96	0.120	0.101	259	4.9	15.8
Bandeirantes	98	0.038	0.023	5,984	89.8	39.5
Chile Fepasa	94	0.089	0.053	1,189	42.8	40.4
Chile Ferronor	96	0.072	0.046	743	19.3	36.1
Mexico -- TFM	97	0.054	0.043	17,256	189.8	20.4
Mexico -- Ferromex	97	0.041	0.036	20,638	103.2	12.2
New Zealand	92	0.104	0.081	4,078	93.8	22.1
Total					994.2	

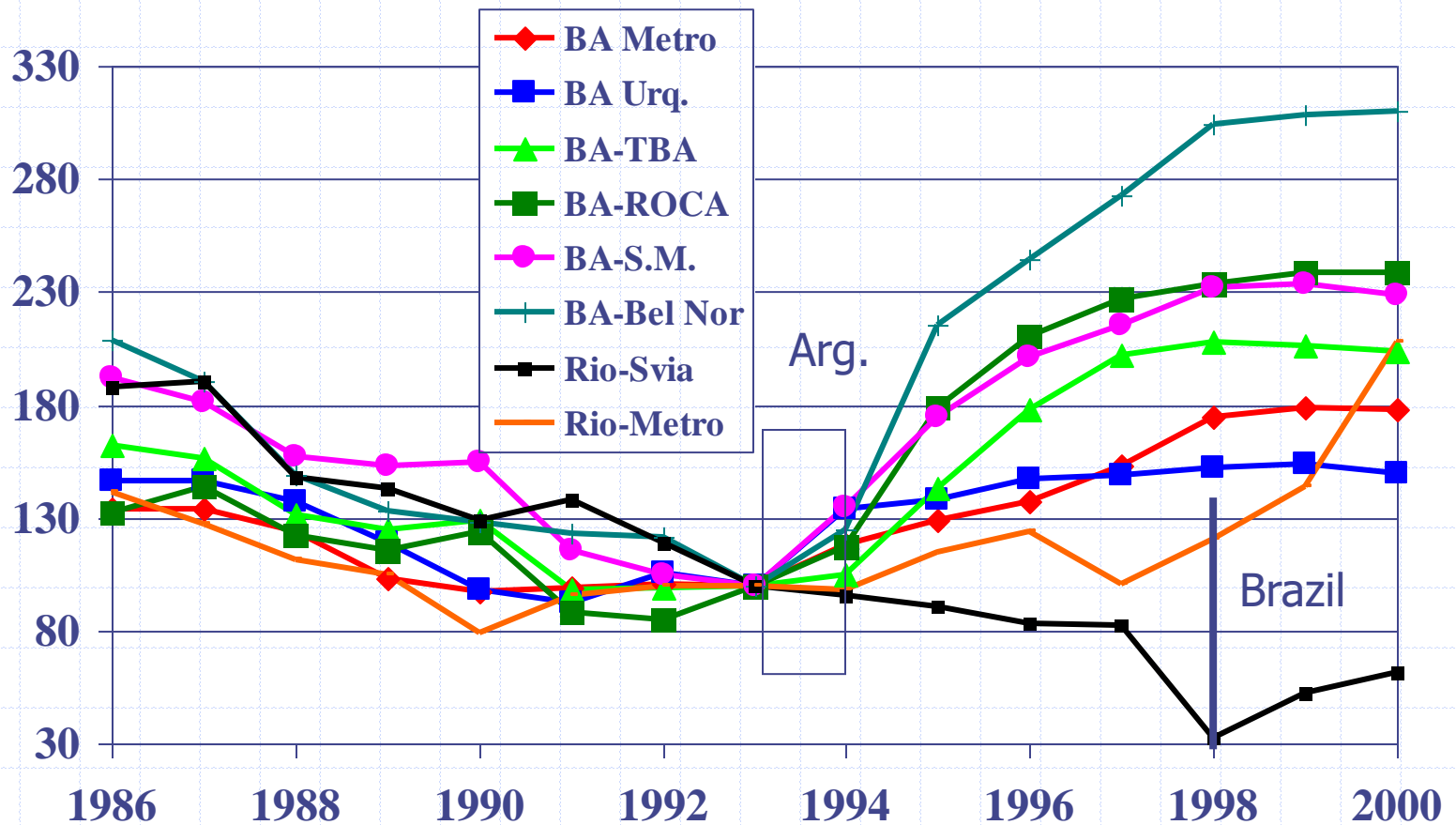
Form of the suburban and metro concessions in Latin America

(and similar for the U.K. and E.U. franchises)

- ◆ Stated system to be operated
- ◆ Stated tariff policy (maximum)
- ◆ Stated service quality required (quantity, frequency, on-time, cleanliness, etc)
- ◆ Defined capital program in total – bidder chose the timing
- ◆ Competition for minimum cost to Government of subsidy and capital program (12% NPV)
- ◆ Awarded in the 1994/1996 timeframe
- ◆ Demand growth (200 to 400%), productivity up 300 to 400%

Ridership response to concessioning

(1993=100)



Note: Belgrano Sur removed in order to enhance detail of others.

Lessons for restructuring

- ◆ Many approaches “work” – so don’t do nothing.
- ◆ Get objectives and expectations right
- ◆ Mixed approaches can be best – avoid dogma
- ◆ Resolving social issues – especially labor – is critical to success

Assisting the labor transition

- ◆ Early retirement
- ◆ Severance benefit, based on final wages and length of service
- ◆ Relocation (including housing)
- ◆ Retraining before/after, general or specific vocational?
- ◆ Good communications
- ◆ Help to start new businesses?
- ◆ Worker (former and continuing) participation in new enterprises?

Results to date

- ◆ Three examples: Argentina, Brazil and Mexico
- ◆ Other recent experiences: Poland and Estonia, Cote d'Ivoire/Burkina Faso, Bolivia, Peru, Croatia
- ◆ How many employees affected
- ◆ Impact on productivity and costs

Example labor programs

	Employment Before/After	Early Retirement	Severance Benefits	Relocation Assistance	Retraining	Worker Participation in New Company
Argentina	82,000/12,900	50/55	1 month salary per year of service	No	No	Yes (3%)
Brazil	54,000/14,300	25/20 years service	1 to 2 months salary per year of service	Yes	Yes -- rail-specific and little used	No
Mexico	46,800/16,000	None- but sale value funded pensions	Single payment for value of Government employment rights	No	No	No
Poland	205,000/165,000	50/55	PZI 20,000/30,000, defined by unemployment rate in area of employment	No	Yes -- little used	No
Estonia	4,481/2,464	Up to 2 years with 50 % wages	Standard in law: 2-4 months bonus, plus notice payments plus 6 months unemployment	No	Yes -- centrally provided	No

Labor force changes

	Labor Force in Year Before Concessions	Labor Force in Most Recent Year	Percent Reduction
Freight Concessions			
Argentina	67,000	5,300	92.1
Brazil	49,896	12,251	75.4
Bolivia	3,900	785	79.9
Mexico	46,823	16,000	65.8
Cote d'Ivoire/Burkina Faso	1,811	1,673	7.6
Passenger Concessions			
Buenos Aires Suburban	15,000	7,600	49.3
Buenos Aires Subté	4,750	2,100	55.8
Rio Suburban	4,170	2,236	46.4
Rio Metro	3,272	1,534	53.1