XV Inforum Meeting. Traunkirchen, Austria. September 2006

The impact of oil price increases in traffic flows of Spanish ports.

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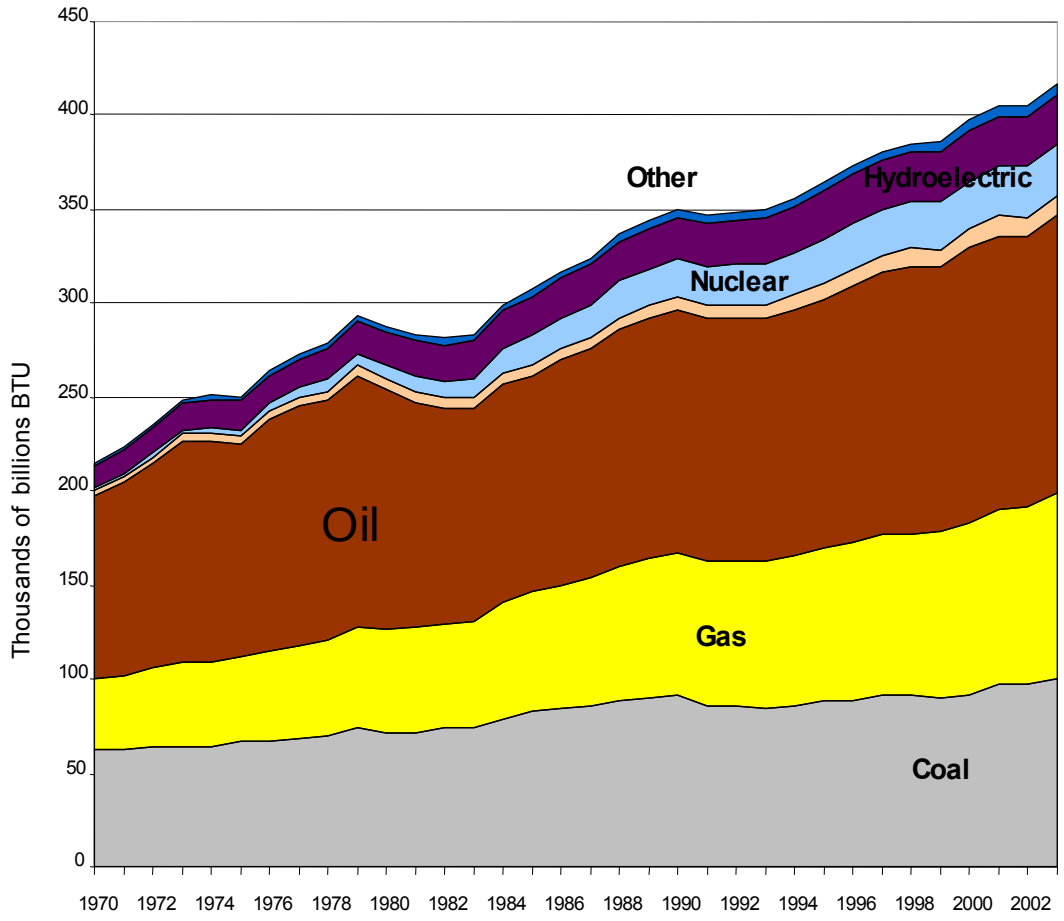
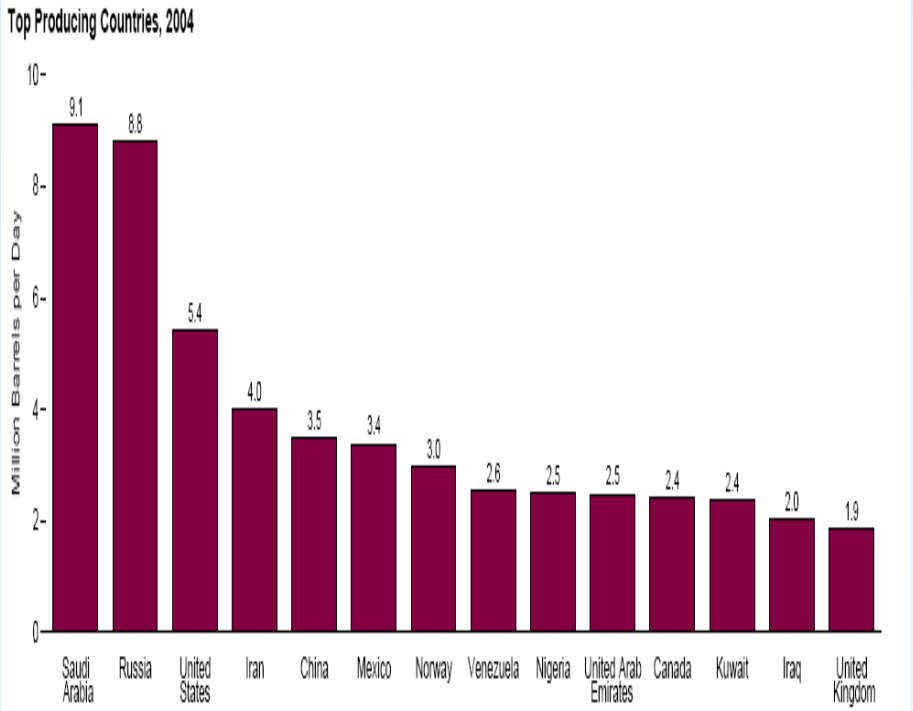
World energy sources. 1970-2003

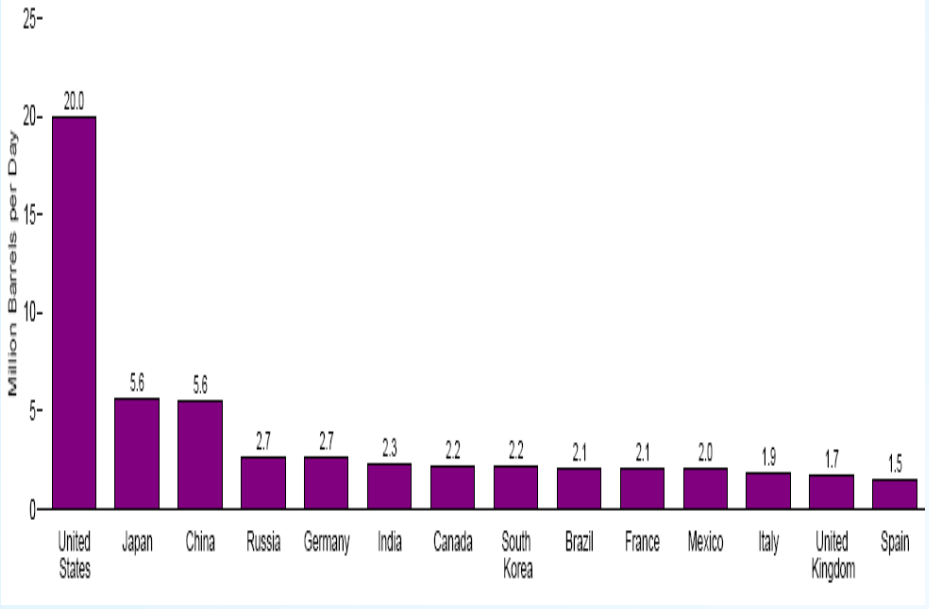


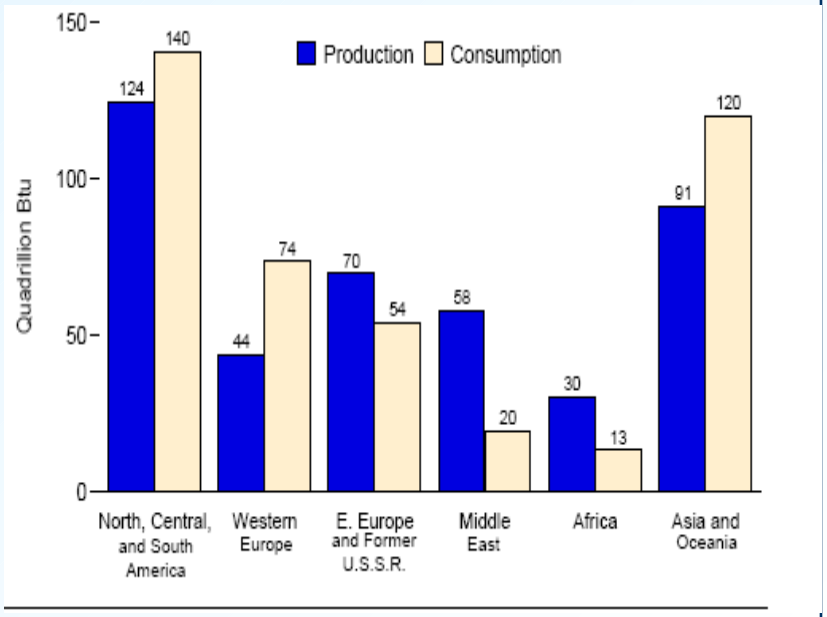
Oil highest share 35% but less than the 45% it had in 1970.

Natural gas from 17% in 1970 to 24% in 2003. Coal has lost 5 percentage points and nuclear has increased 6 pp.

Oil producers, consumers and world balance of energy production and consumption

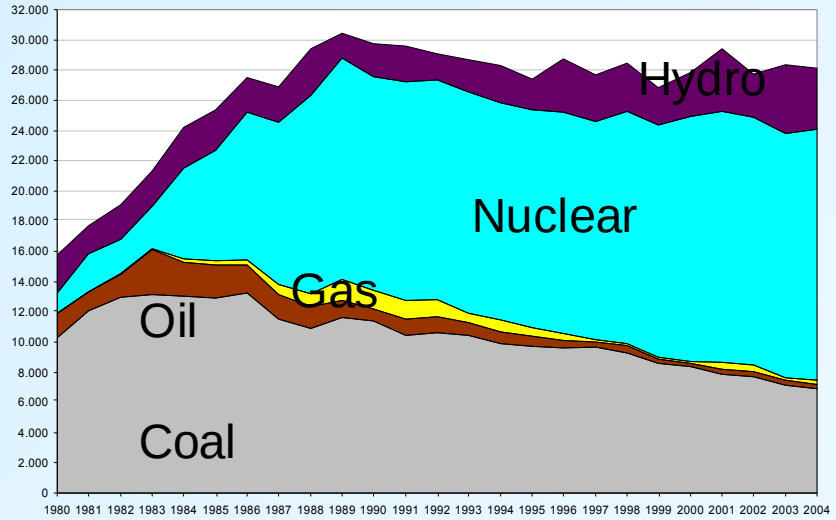


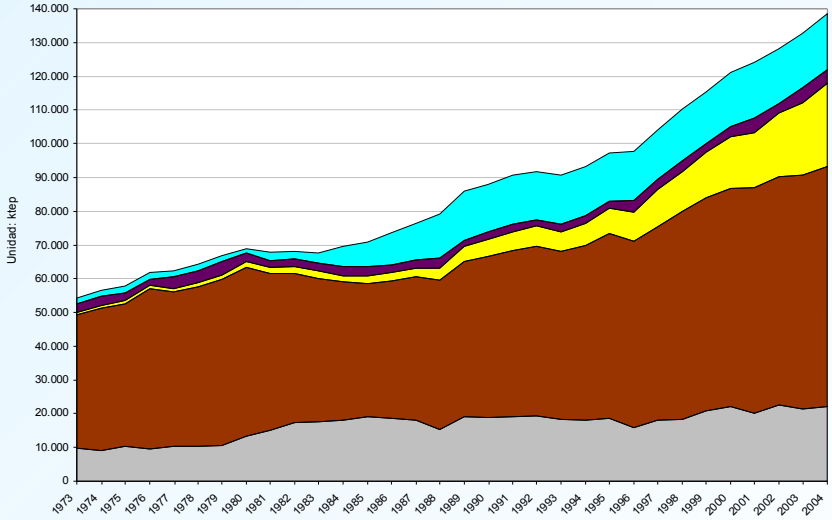




A look at the Spanish energy data

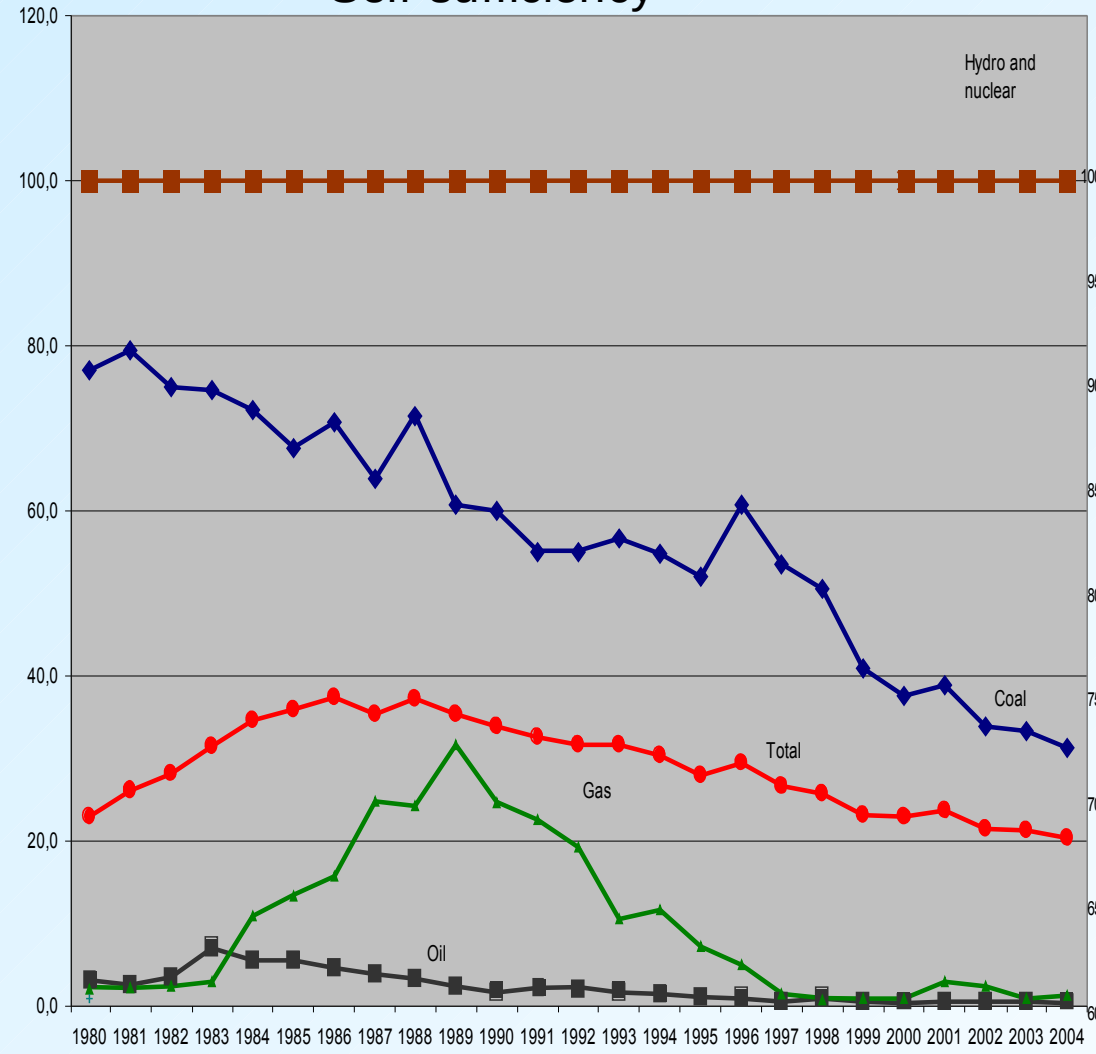
The production and consumption of energy. Spain 1980-2004 (ktep)





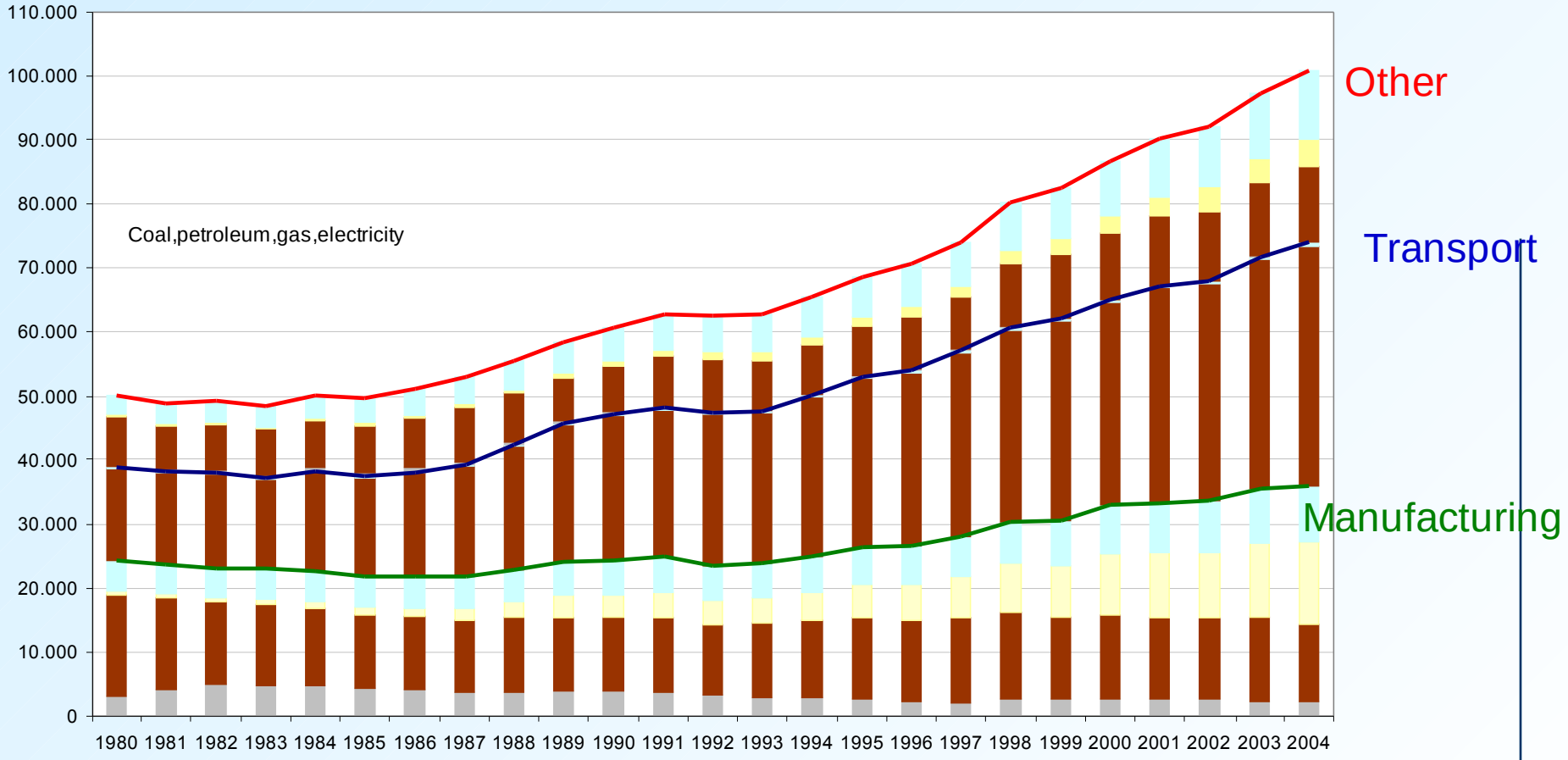
Ratios of self-sufficiency of different energy sources. 1980-2004 (100=complete sufficiency internal prod);(100= complete dependency on imports)

Self-sufficiency



Dependency

Consumption of final energy by industry. Spain. 1980-2004



Manufat:Gas from 3 to 36, petrol. from 65 to 33

Other: gas 15, petrol from 70 to 45, elect from 25 to 40

Oil in the input-output tables
(Input output tables of 1986-1994, 1995 and 2000)

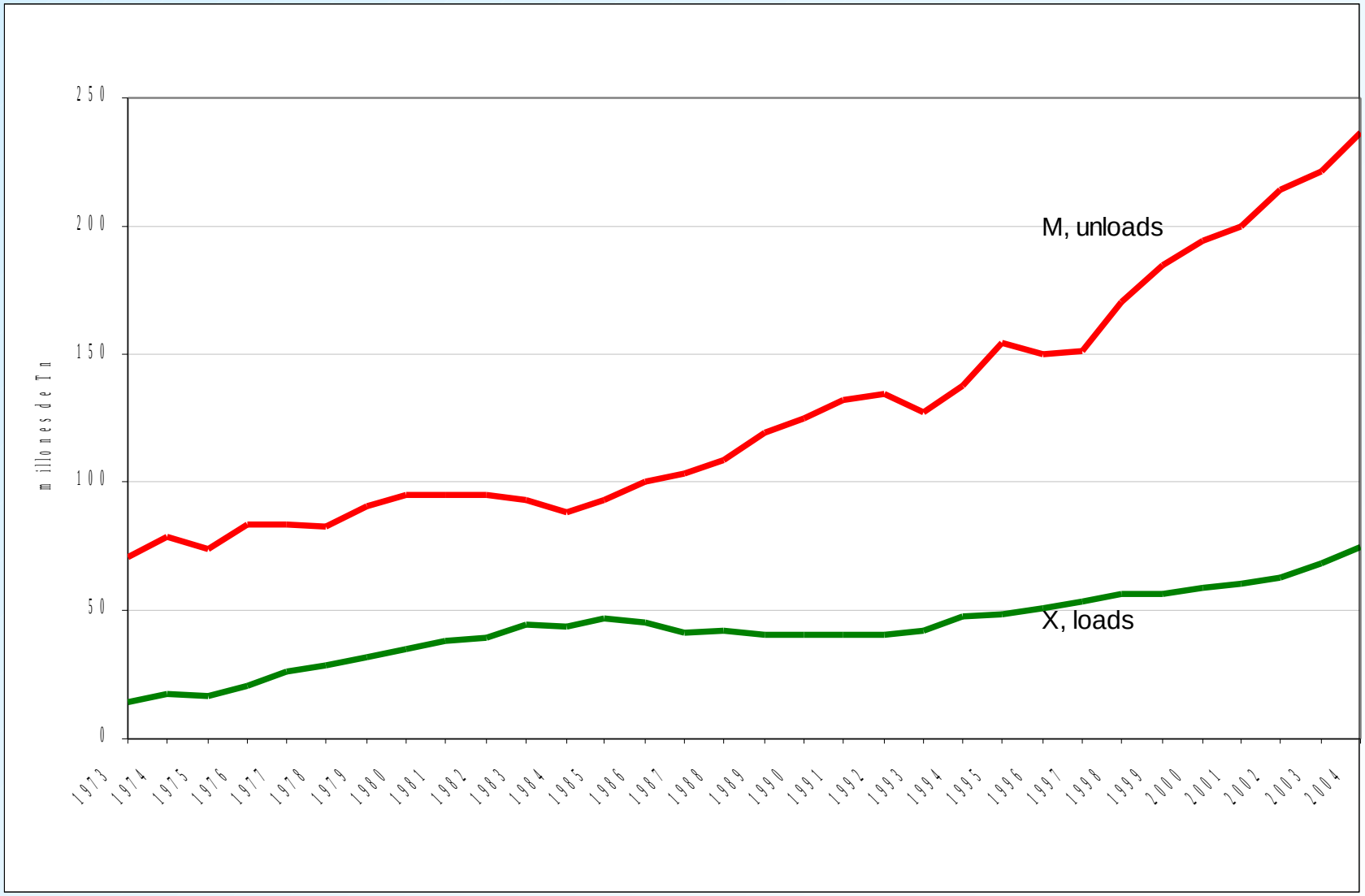
1986	85% of petroleum sales
Petroleum	27,95%
Manufactured gas	10,96%
Air transportation	9,58%
Sea transportation	9,08%
Road transportation	8,35%
Railroads	3,26%
,Vidrio.	2,69%
,Tierra cocida;	2,44%
Other non-metallic minerals	2,33%
Paper	2,15%
Agriculture	1,75%
Cement	1,48%
Chemicals	1,33%
Electricity	1,18%

2000	85% of petroleum sales
Petroleum and others	30,56%
Distribution of water	28,38%
Air transportation	6,11%
Sea transportation	4,76%
Electricity	4,04%
Other transports	4,00%
Chemicals	3,65%
Other non-metallic minerals	2,22%
Fish	1,92%

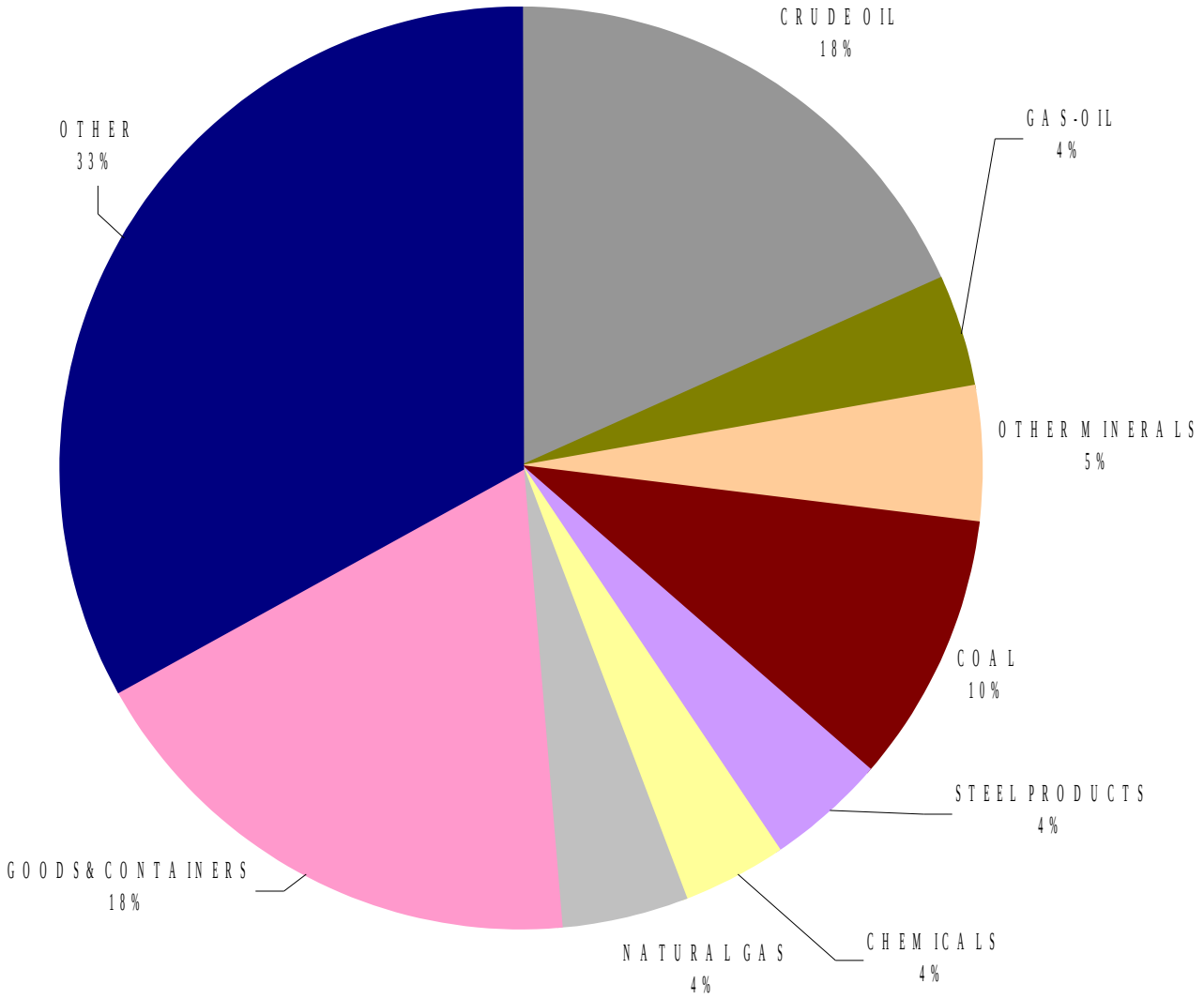
In the last table of 2000, oil as a “key” sector has increased its relevance.

Oil price increases scenarios and principal results with MIDE and BTM models.

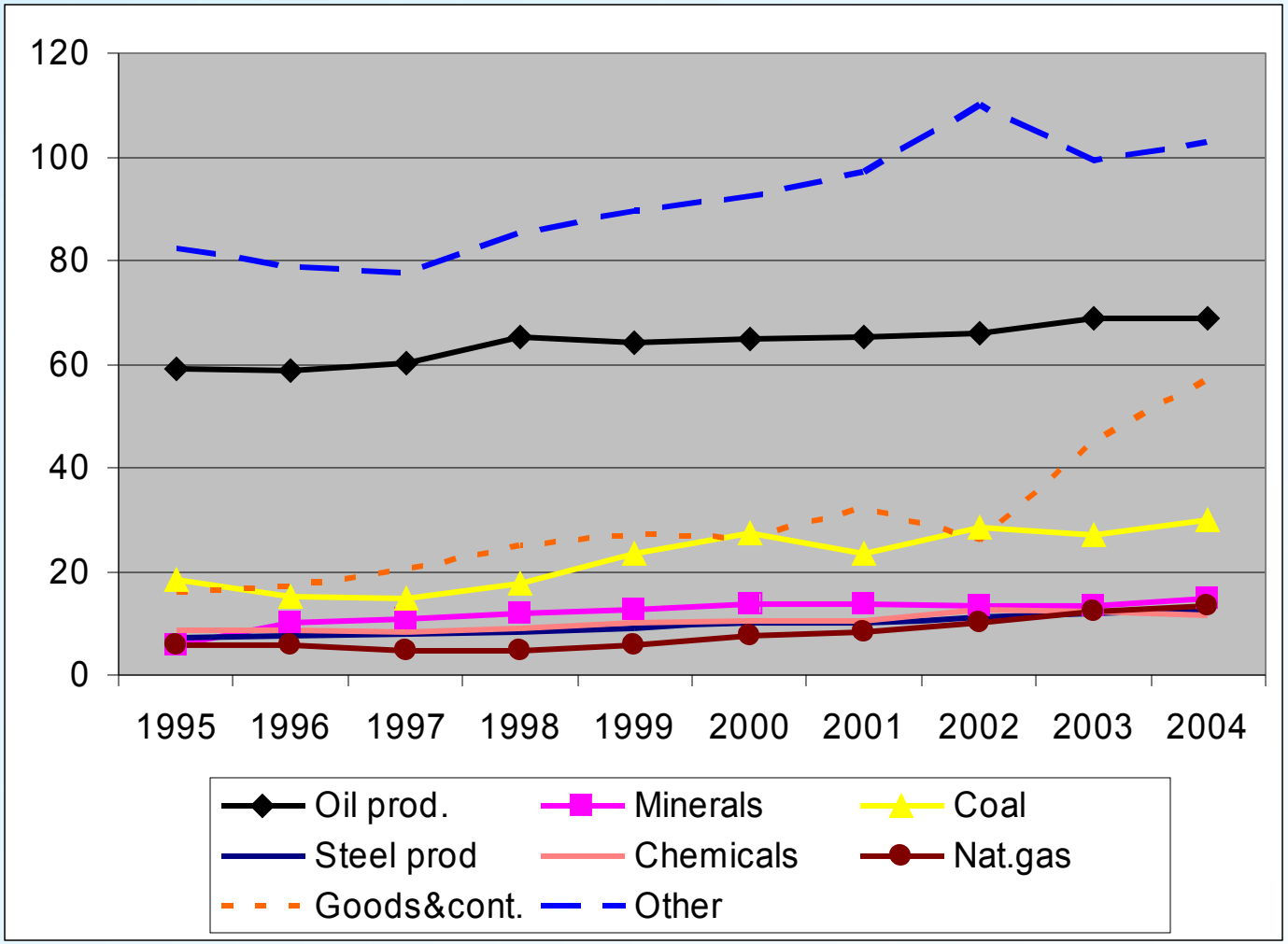
Evolution of total traffic flows in Spanish Ports. (Mill.Tones)



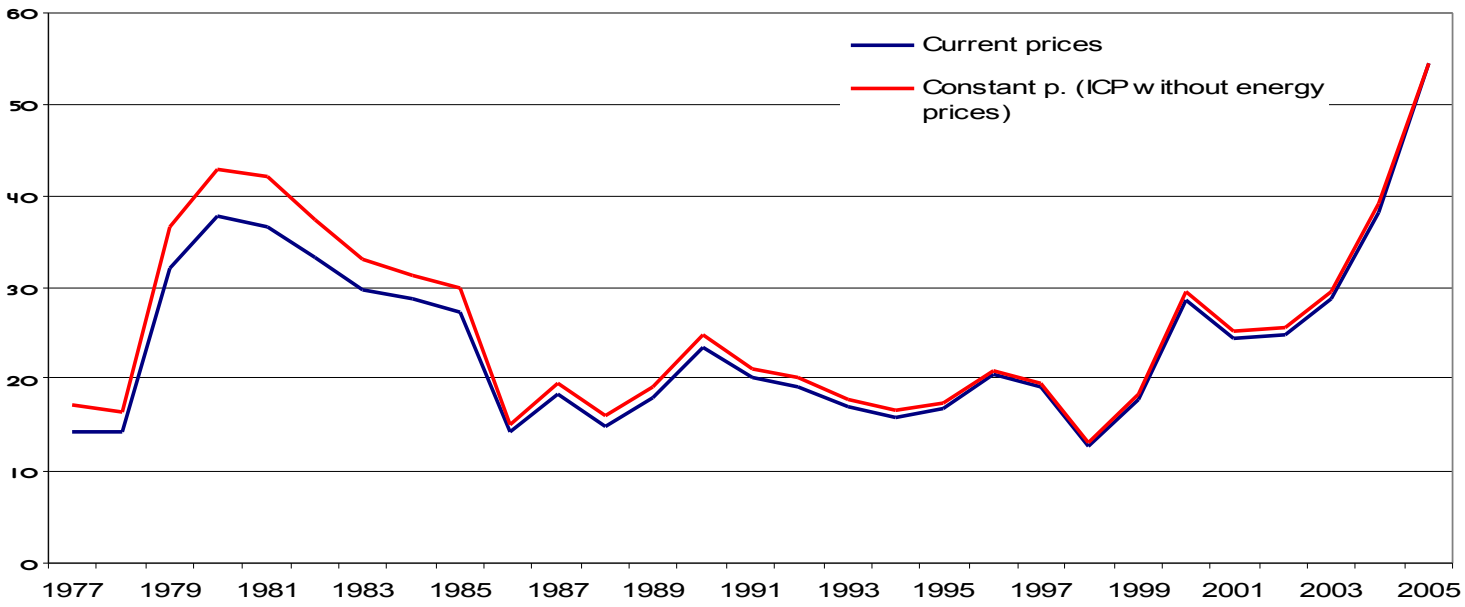
Structure of traffic flows in the Spanish Ports. 2004

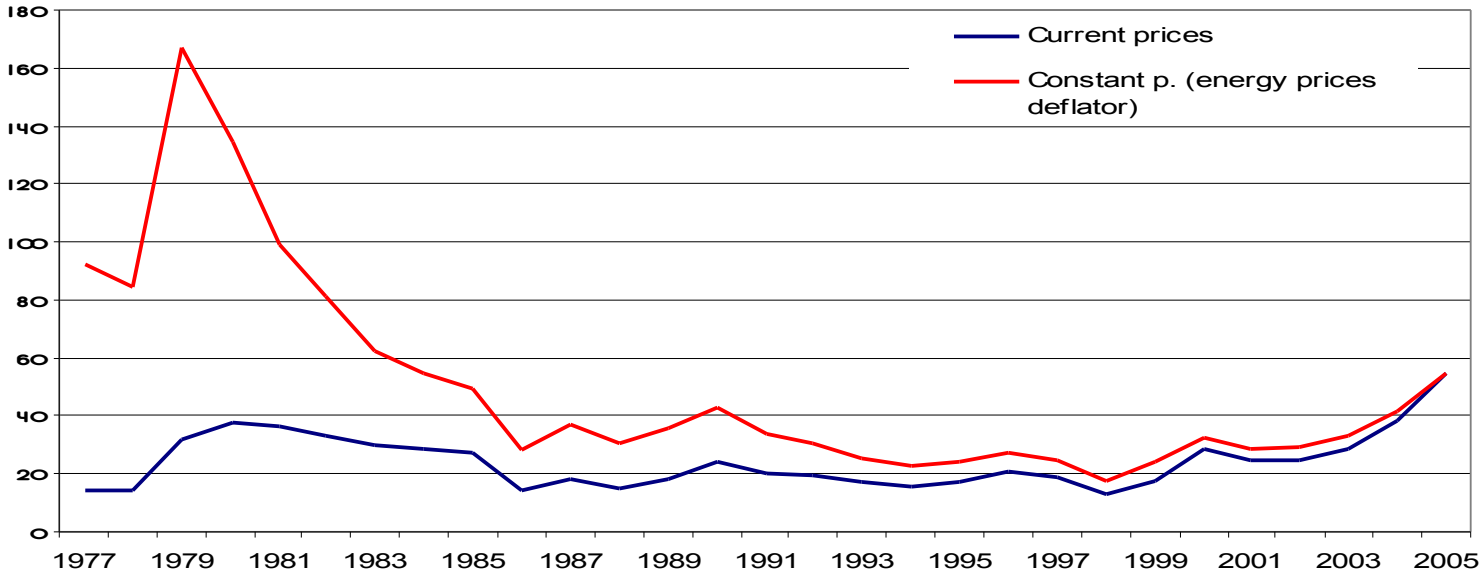


Evolution of traffic flows in Sp. Ports by industry. 1995-2004.

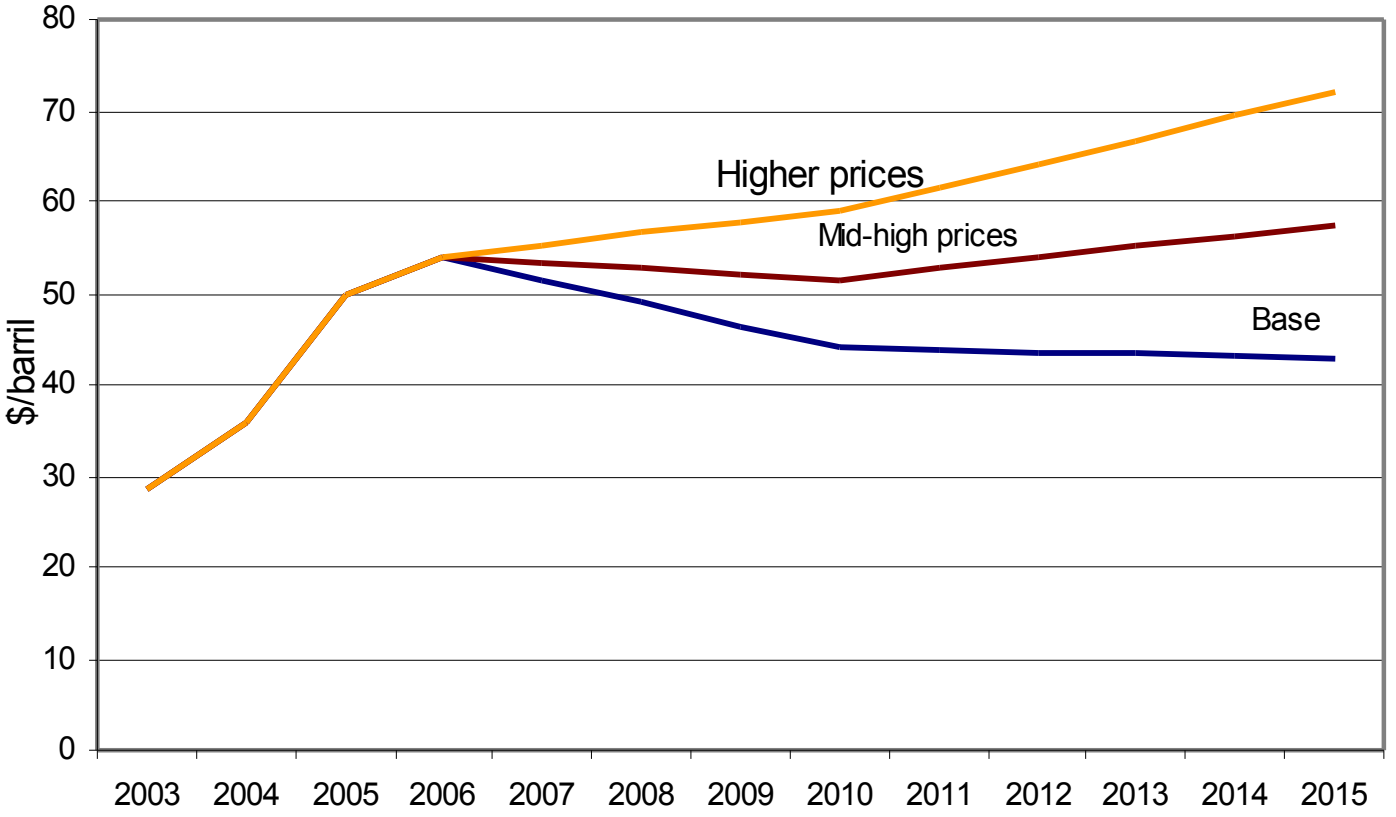


Evolution of oil prices. 1977-2005. Current and constant prices (with and without energy prices in the deflator





Scenarios of oil prices



Opt: 43% increase in 2015

Pes: 80% increase in 2015

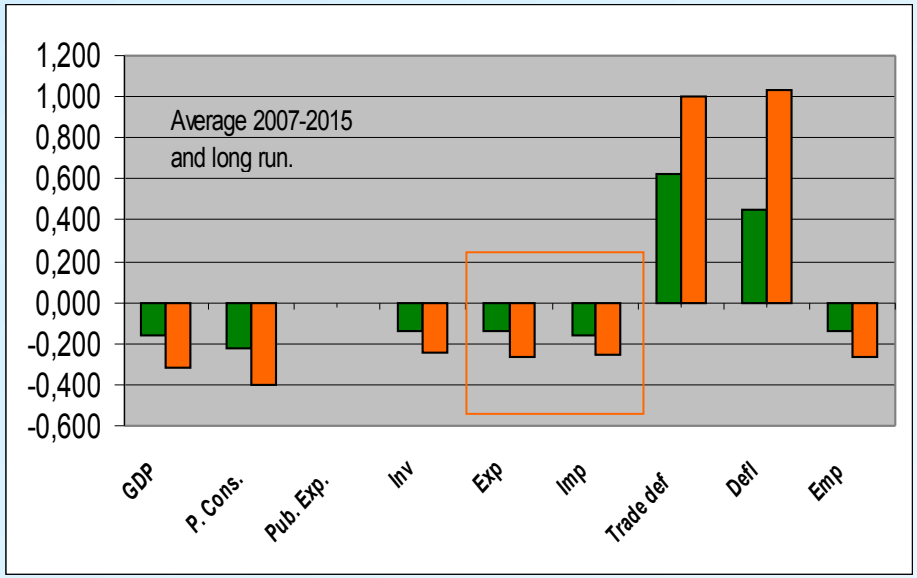
Main hypothesis of scenarios and main macro results

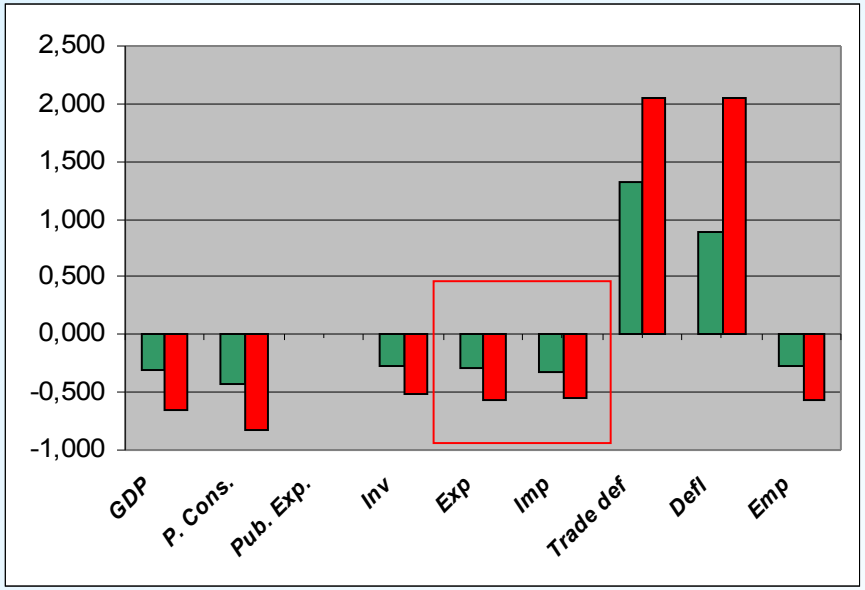
	2010	2015
1st (opt)	increase in oil price by 14%	increase in oil price by 43%
2nd (pes)	increase in oil price by 31%	increase in oil price by 80%
3rd (efi)	decreases in row coeff. oil by 5% and electricity 12%	decreases in row coeff. oil by 11% and electricity by 15%
4th (gov)	increase public spending 2.4%	increase public spending by 3%

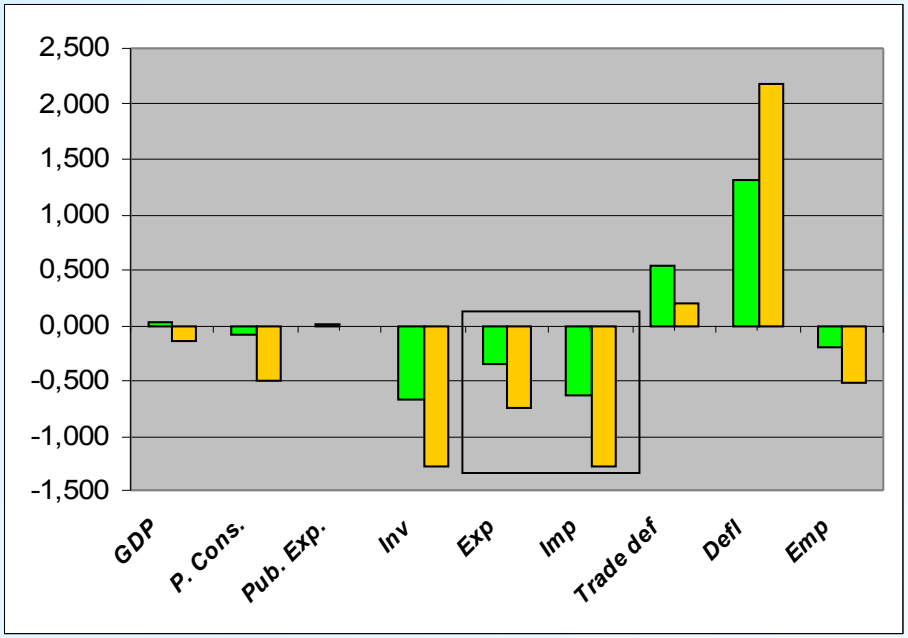
	GDP	Cons	G	I	X	M	Tr.Def	Emp	Defl
1st (opt)	-	-	0	-	-	-	+	-	+
2nd (pes)	--	--	0	--	--	--	++	--	++
3rd (efi)	0	-	0	--	--	---	0	--	++
4th (gov)	0	--	++	+	--	-	++++	+	++

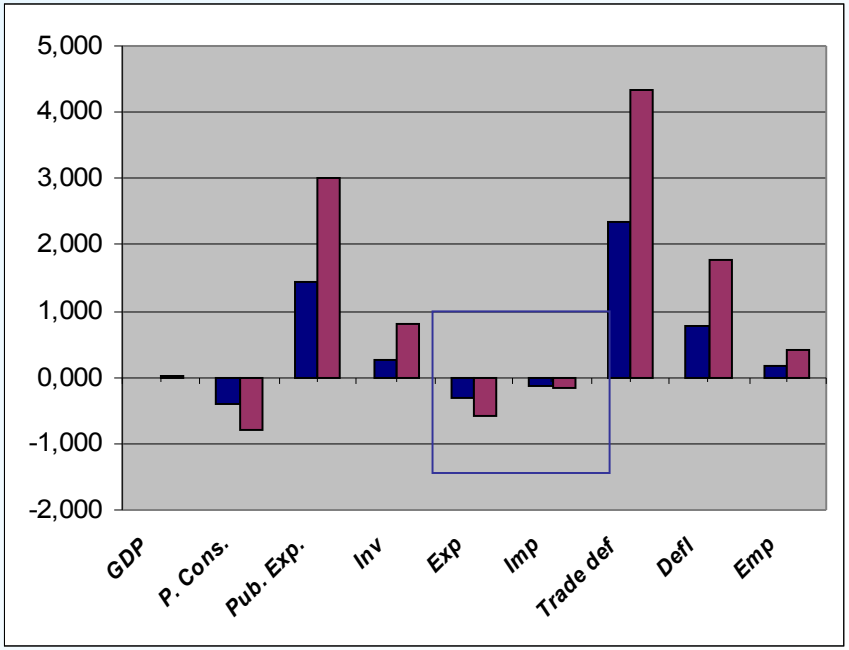
	GDP	Cpriv	Cpub	I	X	M	Trade def	Emp	Defl.
Opt	-0,3	-0,4	0	-0,3	-0,3	-0,3	1	-0,3	1
Pess	-0,7	-0,8	0	-0,5	-0,6	-0,6	2	-0,6	2
Efi	-0,2	-0,5	0	-1,3	-0,7	-1,3	0,2	-0,5	2,2
Gov	-0	-0,8	3	0,8	-0,6	-0,2	4,4	0,4	1,8

Principal macro results for the different scenarios. Average & Long run.

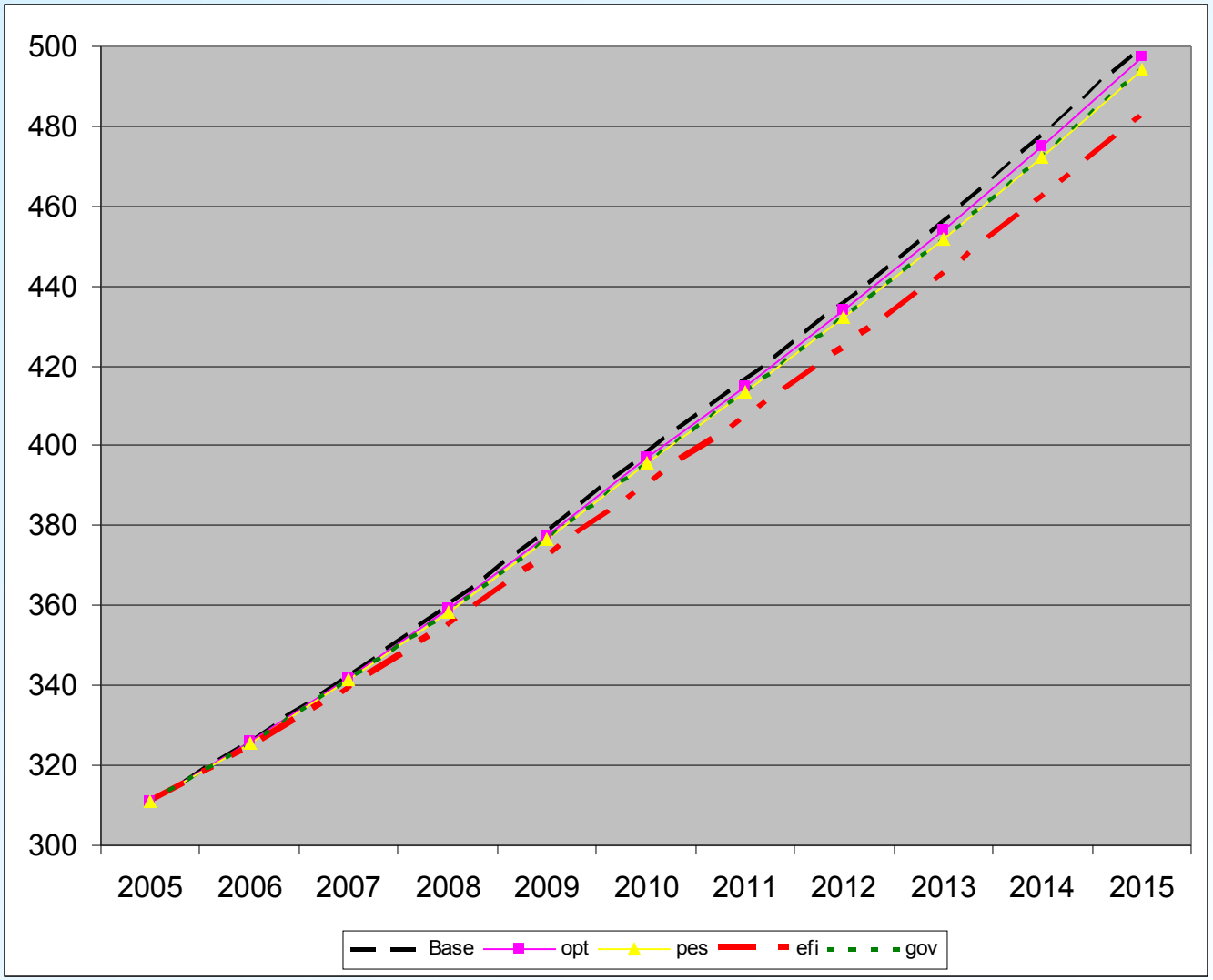








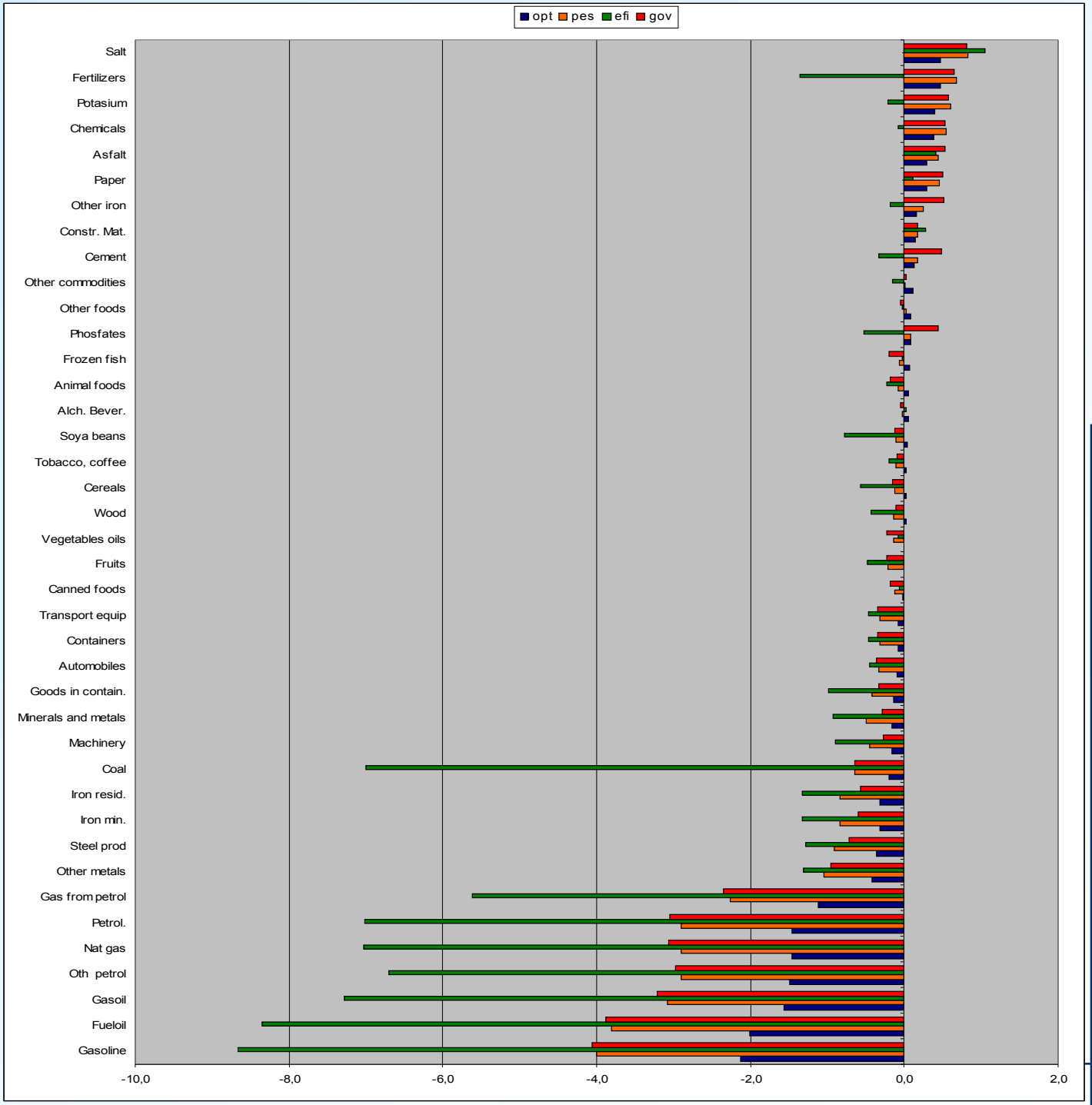
Traffic flows evolution according to scenario results



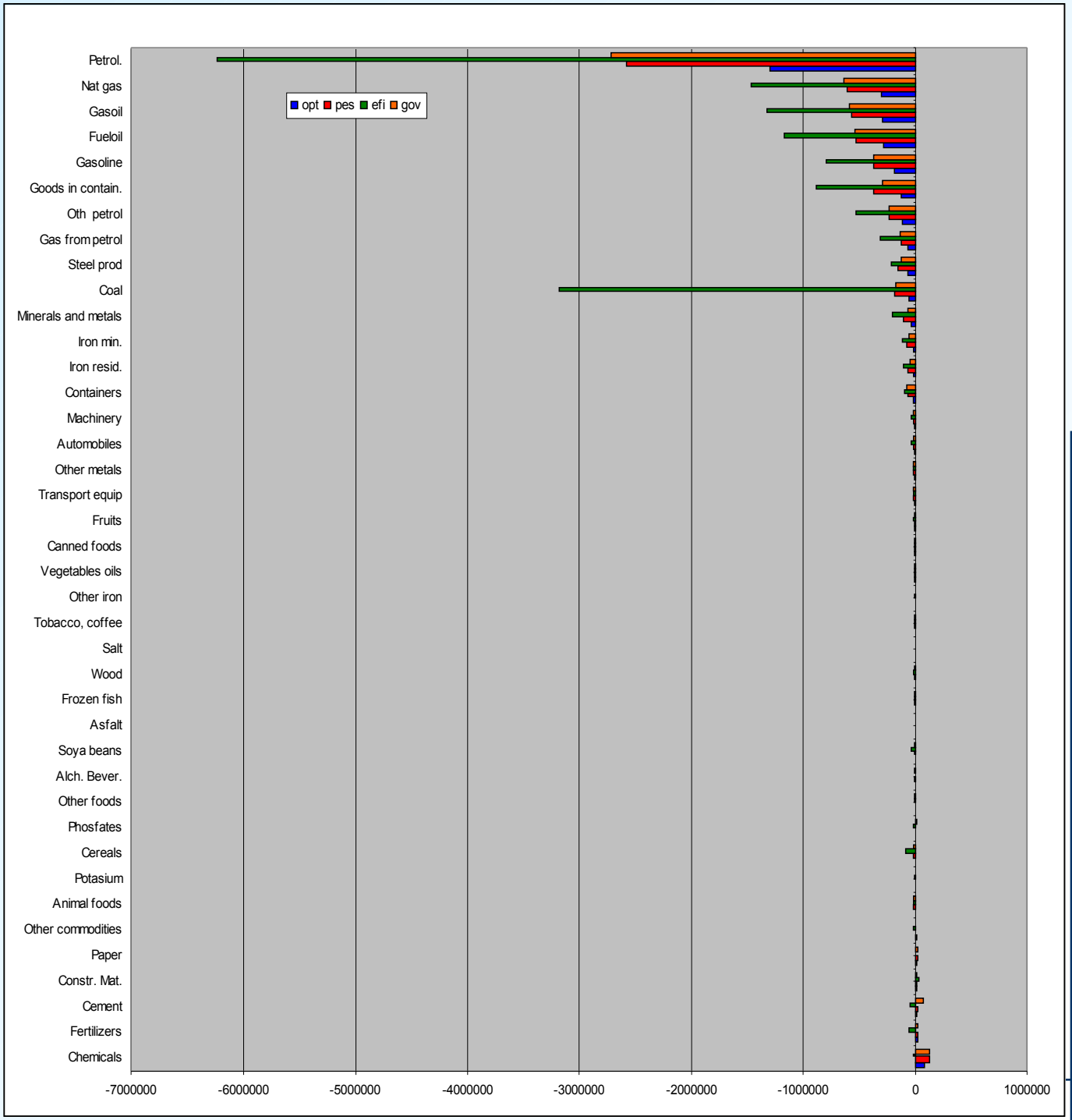
% change of traffic flows in relation to base

Opt: -0,5; pes: -1,2; efi:-3,4;gov:-1,2

% change r.t.base of Sectoral Traffic flows



In terms of tones, the action concentrates in about 12 sectors. Most of them energy related



85% of the changes in traffic flows corresponds to 6 sectors and the same in all scenarios

opt			pes			efi			gov		
Petrol.	-1295289	45	Petrol.	-2575965	42	Petrol.	-6231556	37	Petrol.	-2711326	44
Natgas	-305213	11	Natgas	-606518	10	Coal	-3176118	19	Natgas	-638068	10
Gasoil	-286082	10	Gasoil	-562447	9	Natgas	-1465057	9	Gasoil	-587489	10
Fueloil	-279651	10	Fueloil	-530958	9	Gasoil	-1328073	8	Fueloil	-541480	9
Gasoline	-195261	7	Goods in con	-371114	6	Fueloil	-1166152	7	Gasoline	-373446	6
Goods in con	-121472	4	Gasoline	-368045	6	Goods in cor	-878951	5	Goods in co	-294804	5
Oth petrol	-116973	4	Oth petrol	-227510	4	Gasoline	-795698	5	Oth petrol	-233489	4
Gas from petr	-61860	2	Coal	-178380	3	Oth petrol	-526079	3	Coal	-177109	3
Steelprod	-59779	2	Steelprod	-151309	2	Gas from pet	-310738	2	Gas from pe	-129248	2
Coal	-56365	2	Gas from petr	-124619	2	Steelprod	-214546	1	Steelprod	-118823	2
Minerals and	-35830	1	Minerals and	-108278	2	Minerals and	-206186	1	Containers	-71763	1
Iron min.	-28120	1	Iron min.	-73269	1	Iron min.	-115818	1	Minerals an	-63947	1
Iron resid.	-24164	1	Containers	-66064	1	Iron resid.	-101149	1	Iron min.	-51735	1
Containers	-16358	1	Iron resid.	-63171	1	Containers	-95692	1	Iron resid.	-43785	1
Machinery	-7408	0	Automobiles	-24945	0	Cereals	-82266	0	Automobile	-26675	0
Automobiles	-6671	0	Machinery	-20160	0	Fertilizers	-57444	0	Animal food	-22954	0
Other metals	-4843	0	Cereals	-18487	0	Cement	-48232	0	Cereals	-22662	0
Transport eq	-4243	0	Transport eq	-17215	0	Machinery	-39244	0	Transporte	-18667	0
Fruits	-402	0	Other metals	-11908	0	Automobiles	-33477	0	Machinery	-11771	0
Canned food	-232	0	Animal foods	-10433	0	Soya beans	-32916	0	Other metals	-10774	0
Vegetables o	-102	0	Fruits	-7849	0	Animal food	-27824	0	Fruits	-8331	0
	-2.906.318		Wood	-6672	0	Transport eq	-24998	0	Vegetables	-5680	0
			Soya beans	-4757	0	Wood	-20215	0	Wood	-5052	0
			Vegetables o	-3544	0	Fruits	-18102	0	Soya beans	-5021	0
			Canned food	-1507	0	Chemicals	-17456	0	Frozen fish	-3326	0
			Alch. Bever.	-1115	0	Other comm	-16547	0	Canned foo	-2261	0
			Tobacco, cof	-1097	0	Other metals	-14833	0	Alch. Bever	-1406	0
			Frozen fish	-1055	0	Phosfates	-14397	0	Other foods	-1278	0
				-6138390		Potasium	-2676	0	Tobacco, co	-907	0
						Vegetables o	-1835	0		-6183278	
						Tobacco, co	-1824	0			
						Other foods	-922	0			
						Canned food	-676	0			
						Frozen fish	-640	0			
						Other iron	-82	0			
							-17068417				

85% of the ++ changes in traffic flows corresponds to 4 sectors almost the same in all scenarios

Other iron	72	0									
Tobacco, cof	292	0									
Salt	841	0									
Wood	1101	1									
Frozen fish	1109	1									
Asfalt	1124	1									
Soya beans	1596	1									
Alch. Bever.	1744	1	Other iron	108	0						
Other foods	2162	1	Other foods	491	0				Other iron	225	0
Phosfates	2276	1	Salt	1456	1				Salt	1444	0
Cereals	4343	2	Other commo	1472	1				Asfalt	2061	1
Potasium	5056	3	Asfalt	1694	1				Other comm	3162	1
Animal foods	7236	4	Phosfates	2532	1				Potasium	7250	3
Other commo	12843	7	Potasium	7597	3				Phosfates	12034	4
Paper	14813	8	Constr. Mat.	18040	8	Alch. Bever.	746	2	Constr. Mat	18305	6
Constr. Mat.	16043	8	Paper	23382	10	Asfalt	1613	4	Paper	25638	9
Cement	18833	10	Cement	26170	11	Salt	1851	5	Fertilizers	27856	10
Fertilizers	19980	10	Fertilizers	28806	12	Paper	6086	15	Cement	69961	24
Chemicals	85610	43	Chemicals	126557	53	Constr. Mat.	30118	75	Chemicals	121815	42
	197.074			238305			40414			289750	

Main conclusions

1. Oil price increases *reduce GDP and household consumption* as expected. It also *reduces both imports and exports*.
2. Given the increases in oil prices, *the changes in growth don´t look big* but take into account that *oil prices have increased for everyone (BTM).*
3. *Action in traffic flows* in Spanish ports really occurs at the sectoral level, where the energy products and specially petroleum products get mostly affected.
4. In fact, we could say that the *effects are strong for the 37% of t.flows (oil products and goods&contain.), medium for the 23% (coal, gas, minerals and steel prod.), positive for 8% (chemicals, paper, const. Mat) and irrelevant for 32%*
5. The scenario of *eficiency returns GDP to base* (and the original trade deficit) at the cost of the *largest reduction in imports and the largest negative impact on the deflator.*
6. The scenario of *increasing government spending returns GDP to base at the cost of both an increased public deficit and an increased trade deficit*.