

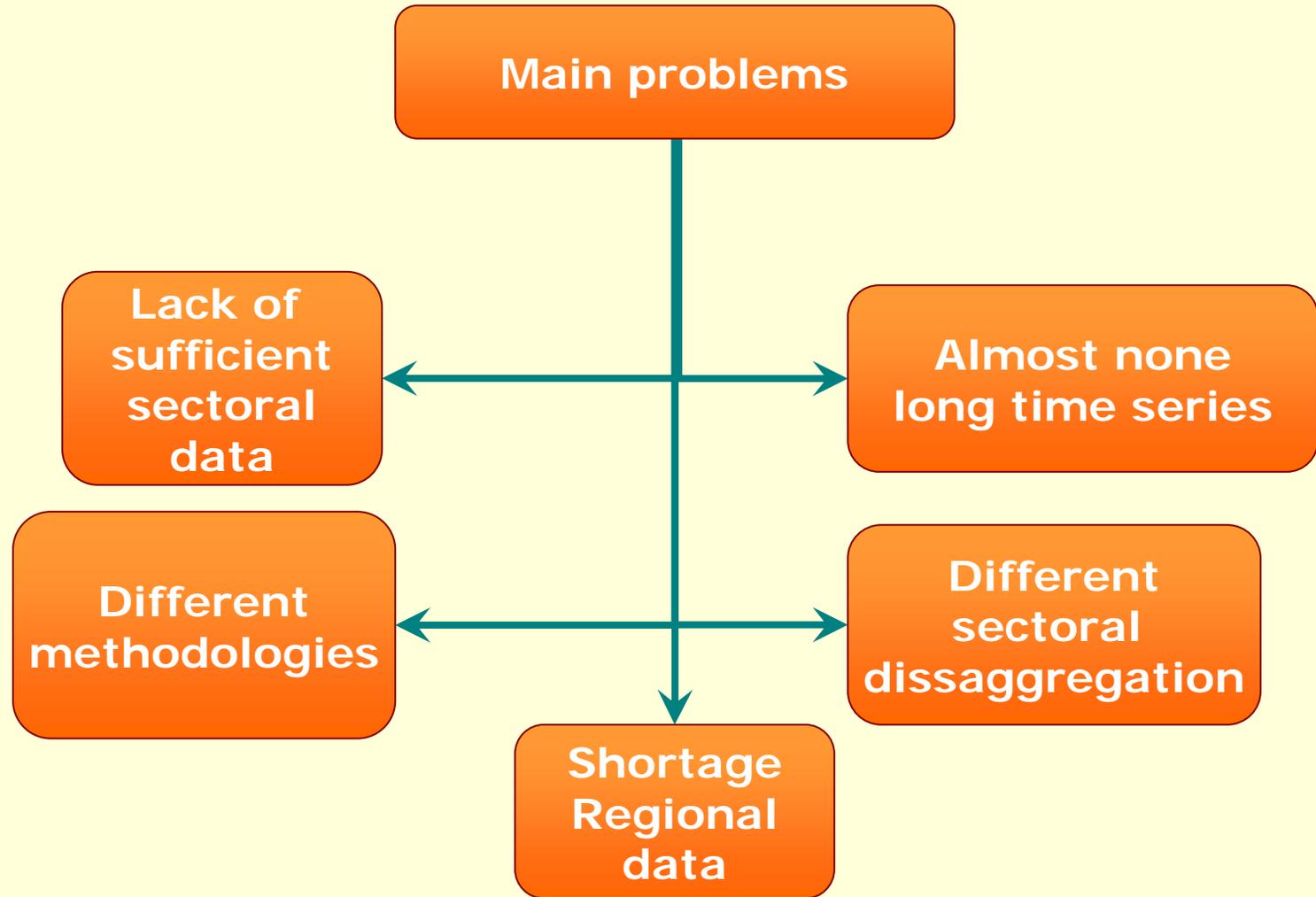
MEDEA : A regional Inforum type model for Andalucía.

Outline of the presentation:

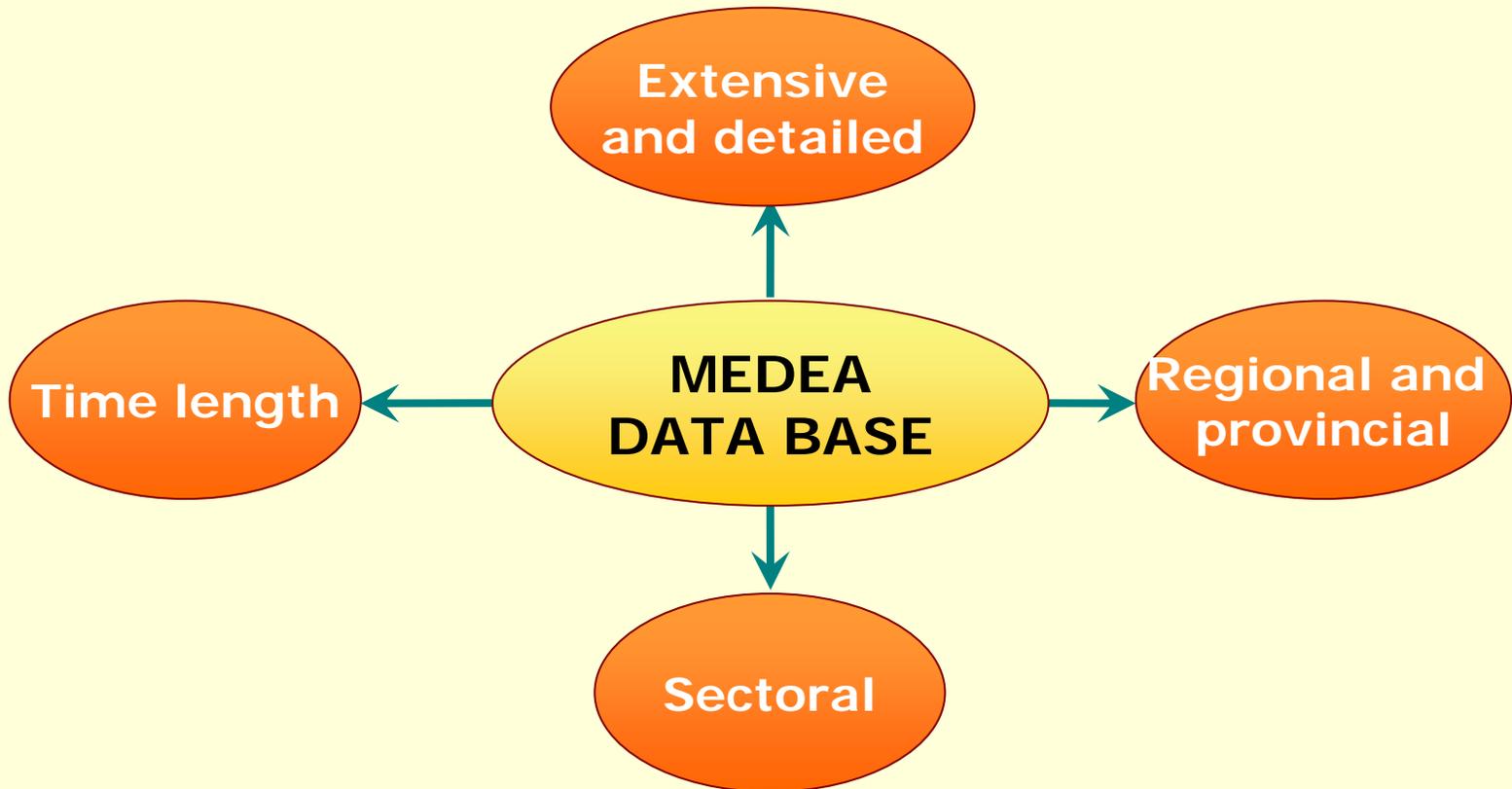
- *Main problems with the database*
- *A brief outline of the model*
- *A few simulations*
- *The user-friendly interphase*

- *The needs and perceptions of the user/client.*

MEDEA: Data Base. To start with



MEDEA: Data Base. Our result



MEDEA: Data base. Main characteristics.

- Clasificación: 30 sectors**
- Period: 1980-2002**
- Units: (1000) euros / (1000) people**
- Base: 1995. I-O table for Andalucía.**

MEDEA: Data base Variables

- Production
- Value added
- Profits
- Wages
- Production taxes

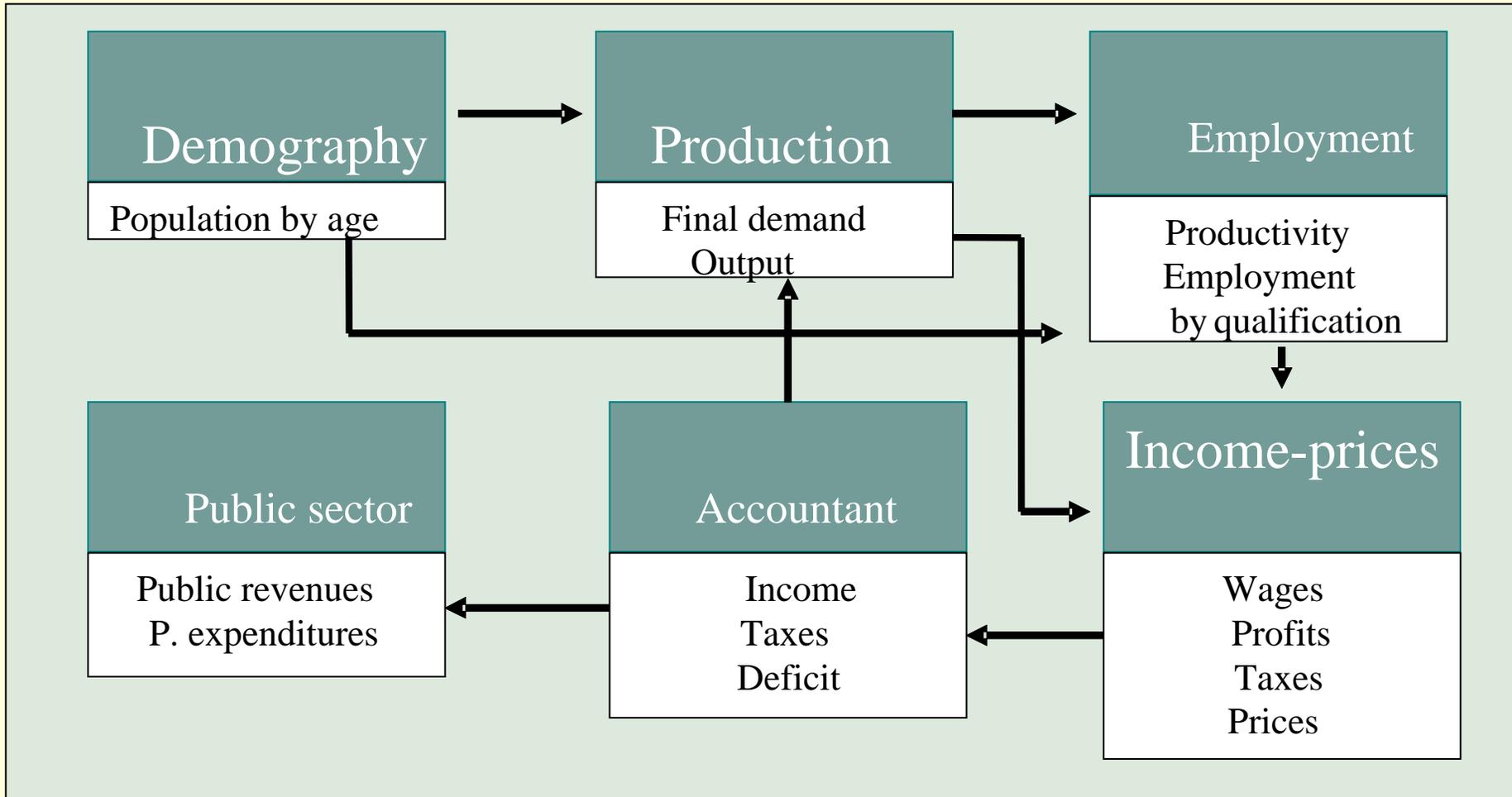
- Employment
- Hours of work
- Investment
- Investment matrix
- Public consumption

- Total exports
- Total imports
- Exports to the EU
- Imports to the EU
- Exports to the rest of the world
- Imports to the rest of the world
- Exports to Spain
- Imports to Spain

Input-Output framework of MEDEA

	DEMAND	GDP Components						Output (q)
	Intermediate Consumptions	Private Consumption (c)	Public Consum. (g)	Gross Fixed Investment (i)	Inventory Change (v)	Export. (x)	Import (m)	
S U P P L Y	1 30	1 30		1 11				$q =$ $Aq +$ $Cc +$ $g +$ $Bi +$ $v +$ $x - m$
	A Matrix	C Matrix Consumption Bridge		B Matrix Investment Bridge				
	Intermediate Consumptions	Total Final Demand						
Primary Inputs	Gross Wages & Salaries + Social Security Cont.	I N C O M E	↓					
	Gross Profits		↓					→ Gross Domestic Product
	Net Output Taxes		↓					
	Import Taxes		↓					
	VAT		↓					
	TOTAL INPUTS		→					↓
			→					Output

Building blocks of MEDEA.



Demographics

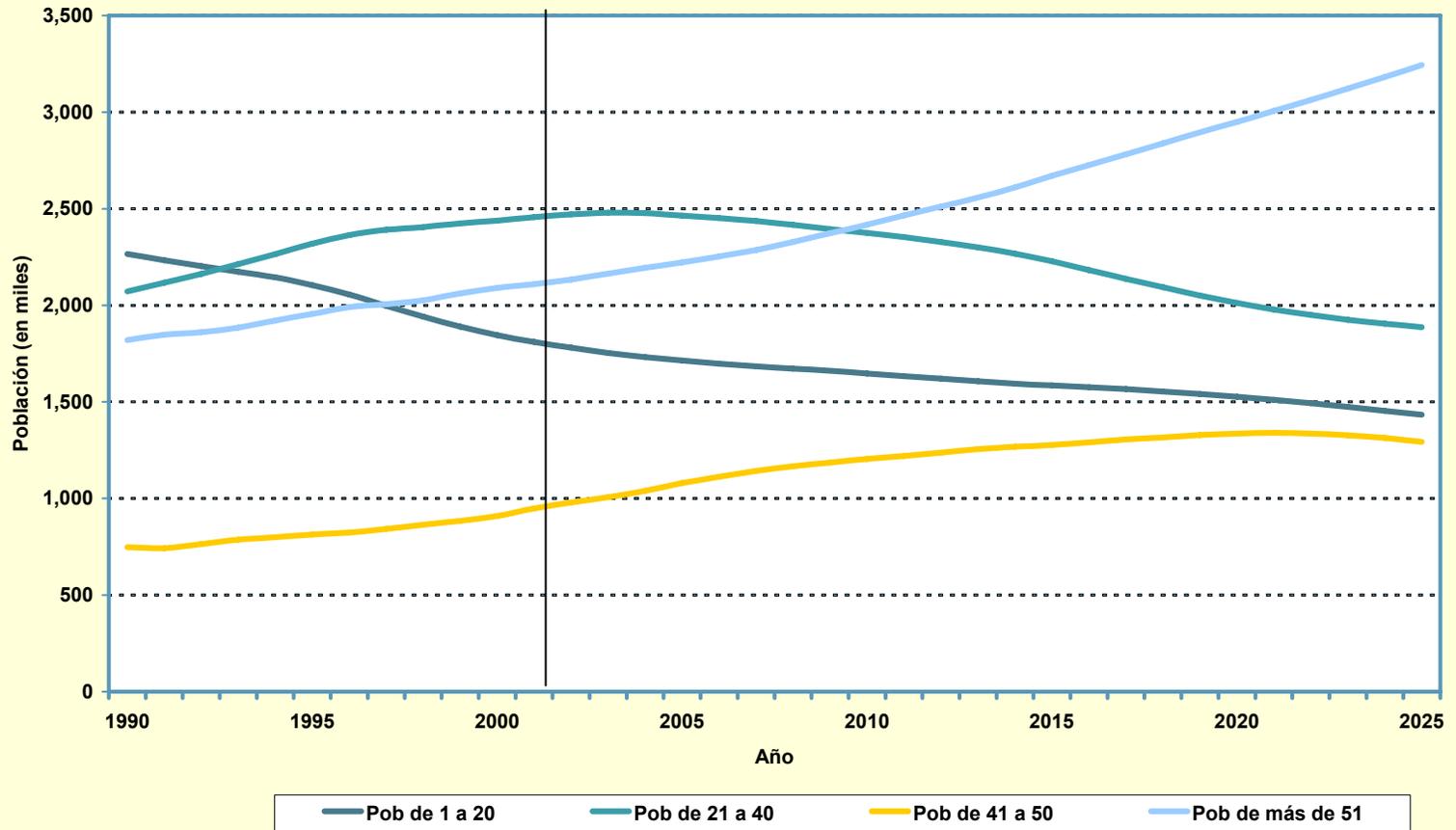
- $frt_i = a + b * 1/t88 + c * 1/t88^2$
- $srf_i = a + b * 1/t88 + c * 1/t88^2$
- $srm_i = a + b * 1/t88 + c * 1/t88^2$
 - $t88t = 0$ $t < 1988$
 - $t88t = t - 1987$ $t \geq 1988$

- $pf1 = pf0[t-1] * srf1 + 0,5 * (nim0 + nim1) * (1 + srf1)^{0,5}$
 - $pf1$ = Women population of 1 year
 - $pf0[t-1]$ = Women population of 0 years in t-1
 - $srf1$ = Survival rate of women 1 year
 - $nim0$ = Net inmigration

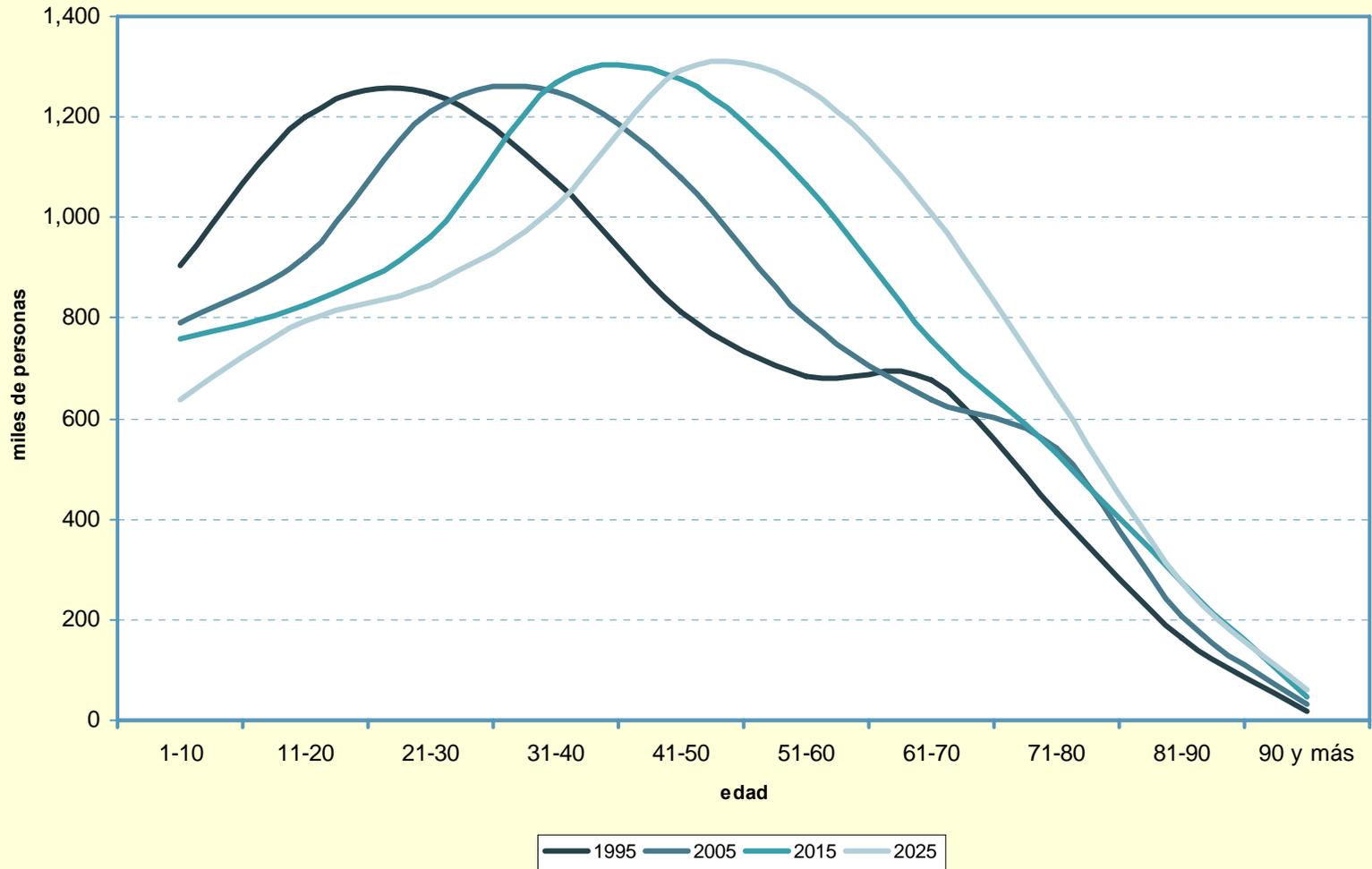
- $pf0 = fpop0 * (frt14*pf14 + \dots + frt55*pf55) * srf0$
 - $frt14$ = Fecundity of women 14 years old
 - $fpop0$ = Women share in poulation of 0 years

Survival function
Fecundity function
Population function

Population by age



Population Evolution



Production : Demand and real output

Private consumption

- $\log(\text{cpc}_t) = f(\log(\text{rdpc}_t))$
 - cpc_t Real per capita consumption
 - rdpc_t Real disposable income per capita
- Shares of sectors follow the 1995 shares that evolve with the national trend.

Investment

$$I_{i,t} = a_i + b_i \text{dep}_{i,t} + c_i \Delta q_{i,t} + d_i \Delta q_{i,t-1} + e_i \Delta q_{i,t-2}$$

$I_{i,t}$ Gross investment of sector i in period t
 $\text{dep}_{i,t}$ Capital stock depreciation of sector i
In period t.

$\Delta q_{i,t}$ Change in output of sector i in period t

$$\text{fcio}_t = \text{bm}_t * \text{inv}_t$$

Public consumption

- $\text{dcgapN}_i = f(\text{pibpcN}, \text{pop}_i)$
- $\text{cgapNio}_t = \text{cgapbr}_t * \text{dcgapN}_t$
- $\text{cgccNio}_t(26) = f(\text{dcgapN.sum})$
- $\text{cgioN}_t = \text{cgccNio}_t + \text{cgapNio}_t$
- $\text{cgio}_t = \text{cgioN}_t / \text{cgdef}_t$

External trade

$$Y = (a + bD + cX) * P^n$$

Y: Dependent variable (imports or exports)

D: Demand variables (foreign or domestic)

X: Time trend

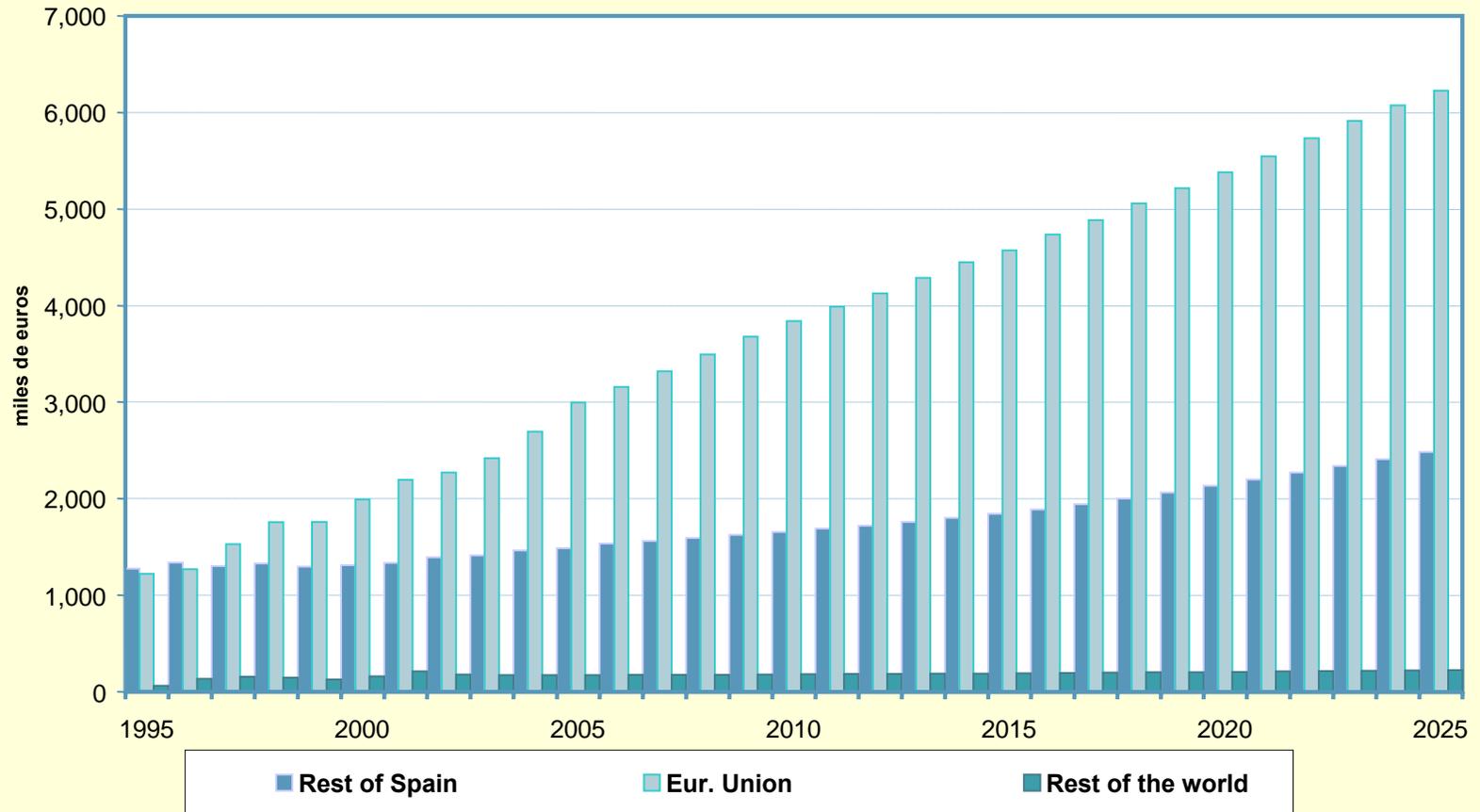
P: Relative prices

a,b,c,y,h Parameters to be estimated

External trade

Exports for Agriculture. Constant prices.

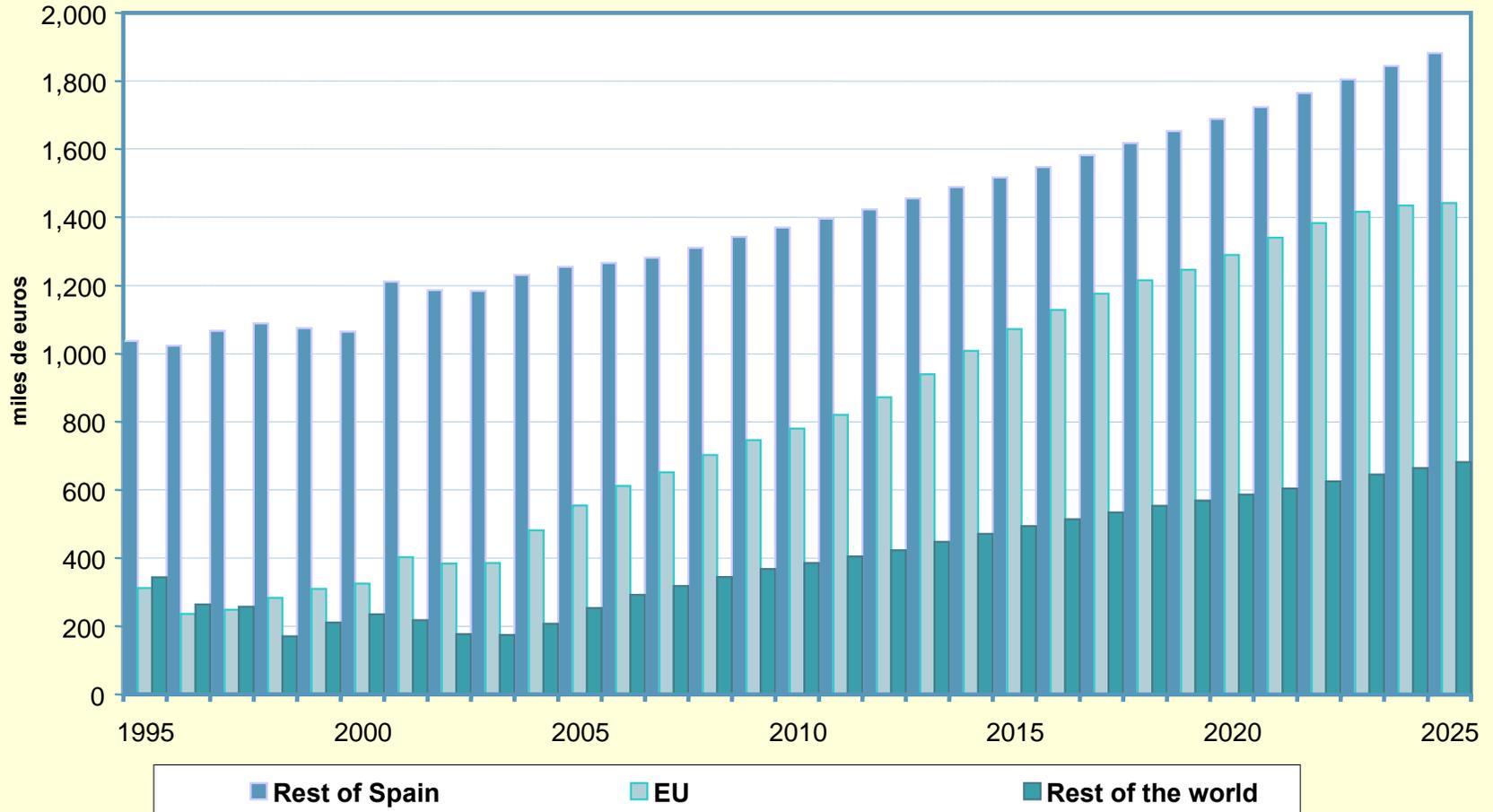
Base 1995



External trade

Imports for Agriculture. Constant prices.

Base 1995



Technical coefficients

$$cci_{i,t} = \sum_j a_{i,j,95} * q_{j,t}$$

$$di_{i,t} = q_{i,t} + m_{i,t} - df_{i,t}$$

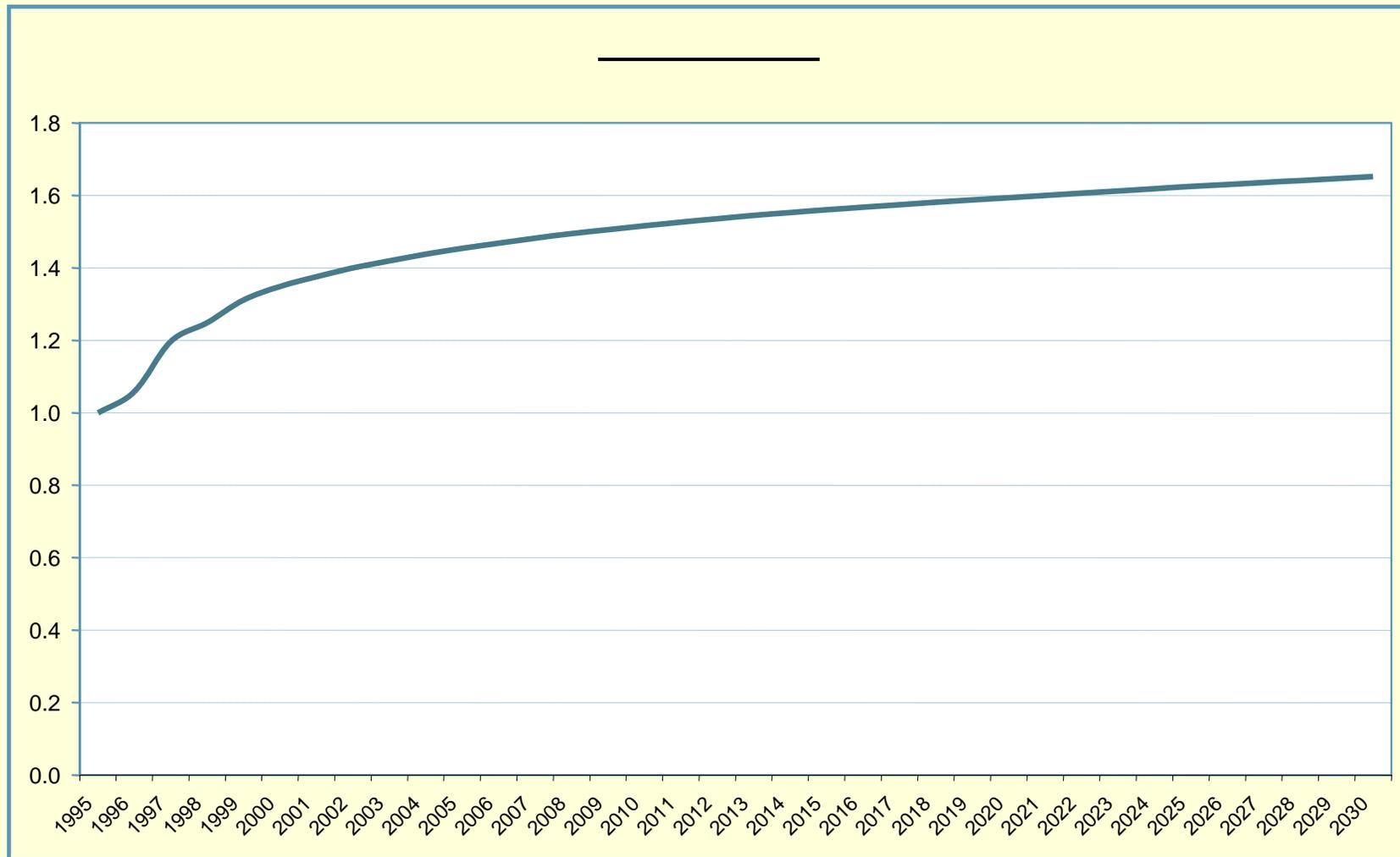
$$r_{i,t} = \frac{di_{i,t}}{cci_{i,t}}$$

Output

- $f = cpio + fcio + cgio + xio$

$$q_i = \sum_j a_{i,j} q_j + f_i - m_i + v_i$$

Chemicals: Technical coefficient



Employment , productivity and hours

$$\ln\left(\frac{q_{it}}{hrs_{it}}\right) = a_i + b_i T1_t + c_i T2_t + d_i qdn_{it} + e_i qup_{it}$$

$$\ln(hpy_{i,t}) = a_i + b_i tend_{i,t} + c_i dum_{i,t} + d_i \ln(dq_{i,t})$$

q_t	Production of sector i in time t	hpy_t	Average year hours in sector i and time t
hrs_t	Total hours of work in sector i and time t	$tend_t$	Tendencia temporal para el sector i y el año t.
$T1$	Time trend for all the period.	dum_t	Dummy for variable in period 1976- 1985 For sector i and time t
$T2$	Time trend 0 since 1986.		
qdn_t	$\ln(q_t) - \ln(q_{t-1})$ si $q_t > q_{t-1}$; 0 si $q_t < q_{t-1}$	dq_t	First difference in output.
qup_t	$\ln(q_t) - \ln(q_{t-1})$ si $q_t < q_{t-1}$; 0 si $q_t > q_{t-1}$		
qpk_t	q_t si $q_t > q_{t-1}$; q_{t-1} si $q_t < q_{t-1}$.		

$$hrs_{i,t} = \frac{q_{i,t}}{prd_{i,t}}$$

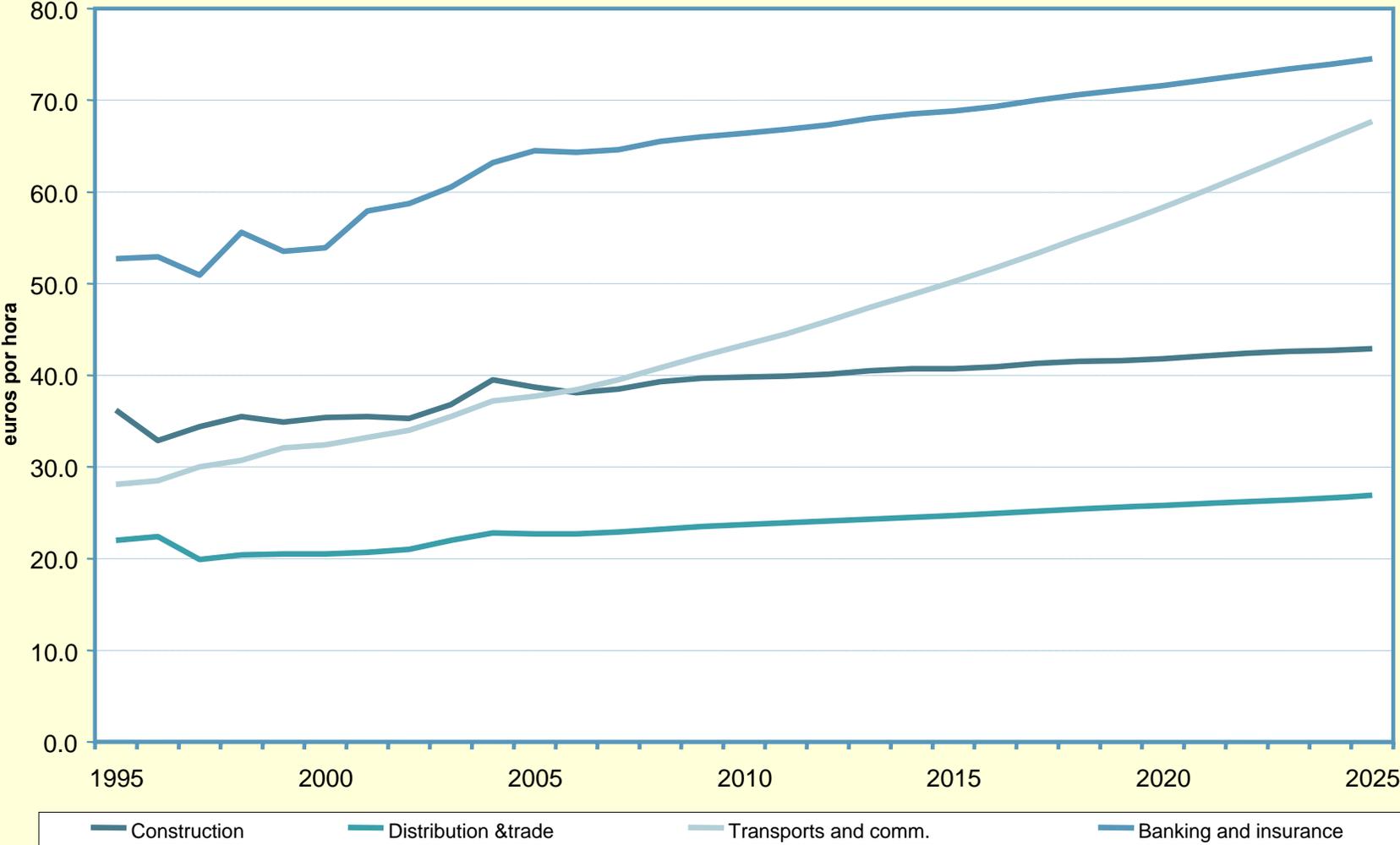
$$emp_{i,t} = \frac{hrs_{i,t}}{hpy_{i,t}}$$

$$LF = \text{labpar} * \text{pop17-91}$$

$$U = \text{Unemployment} = LF - emp$$

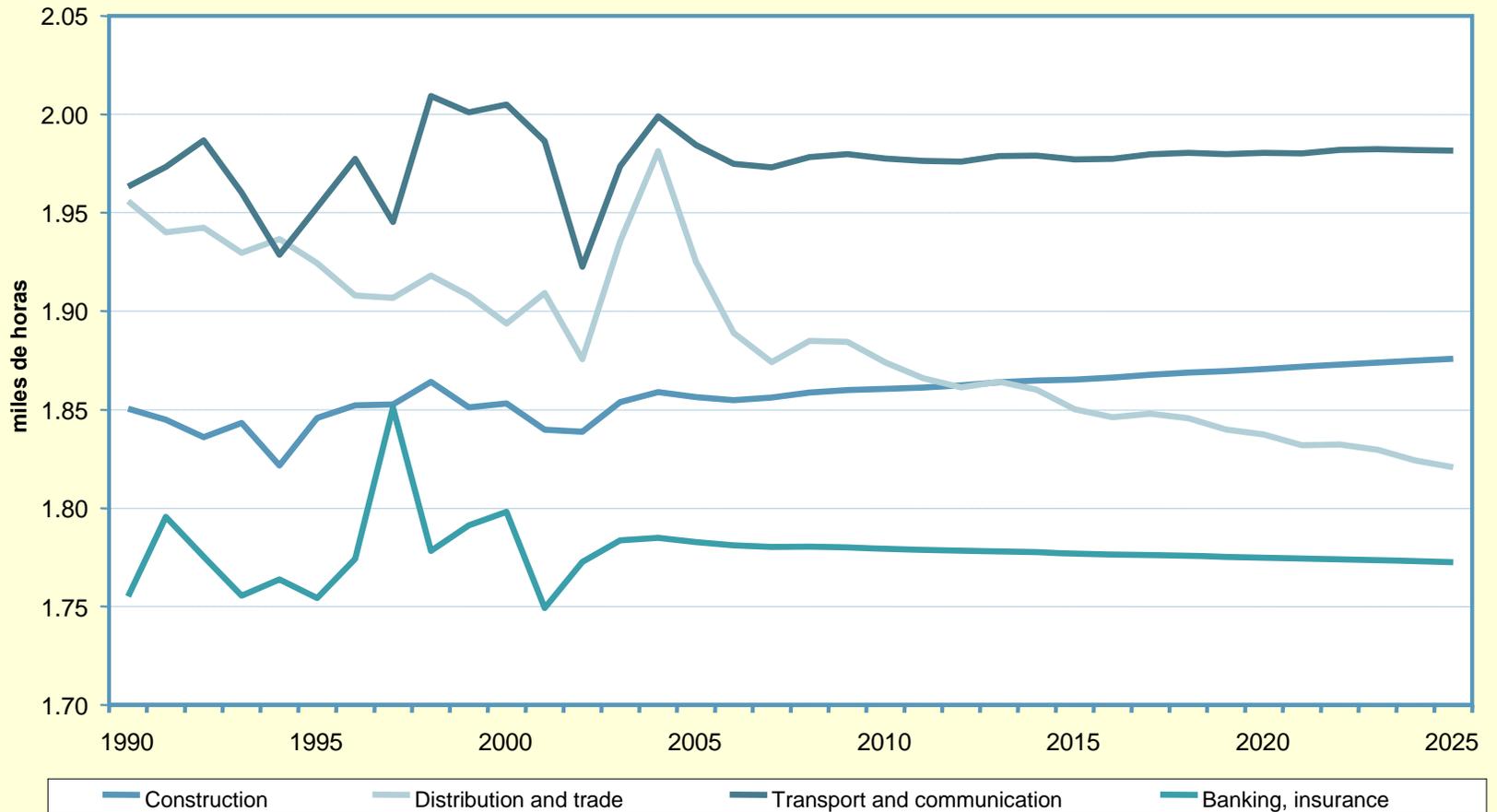
$$\text{Unrat} = (U / LF) * 100$$

Productivity



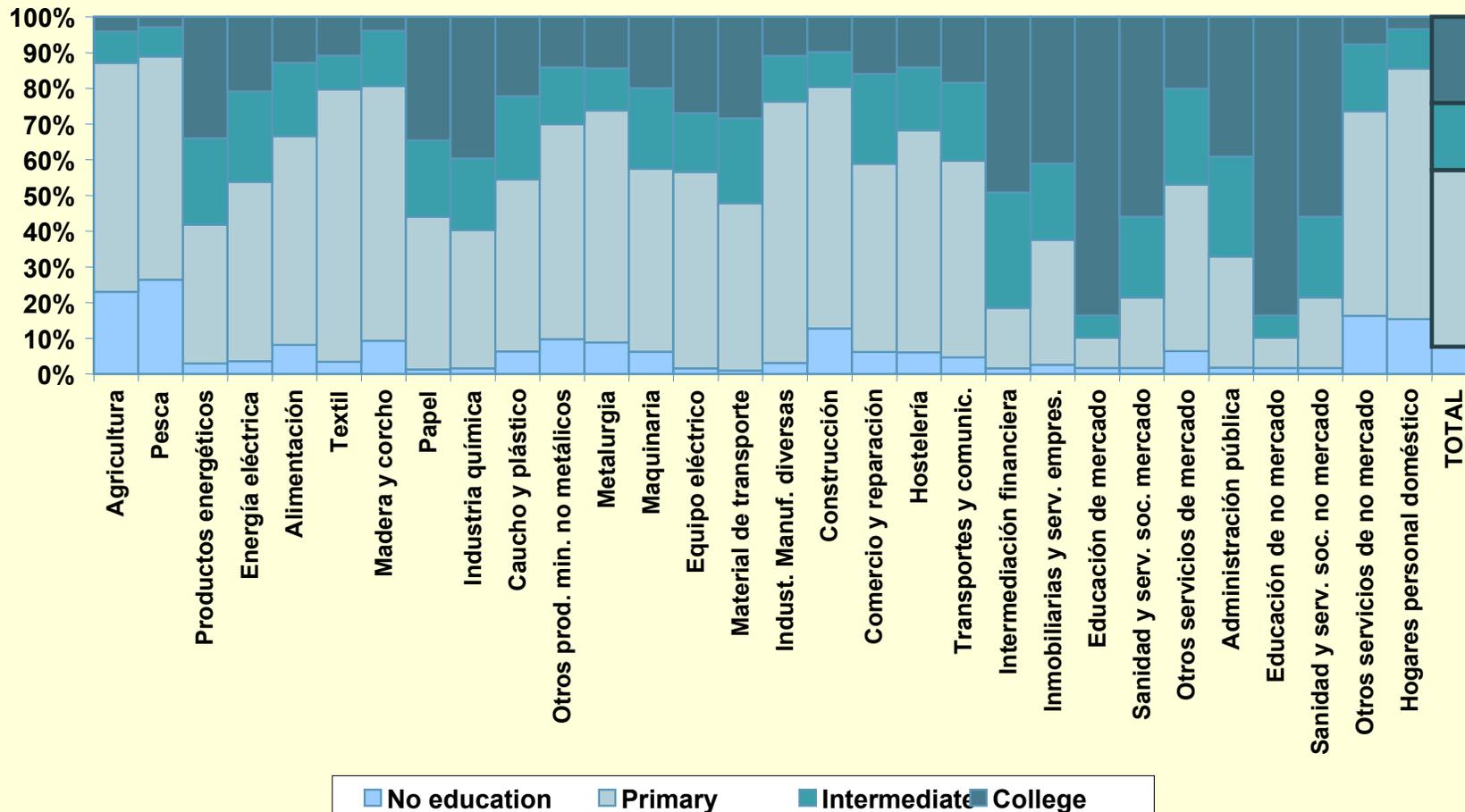
Working hours

Average working hours by year and person. Different sectors.

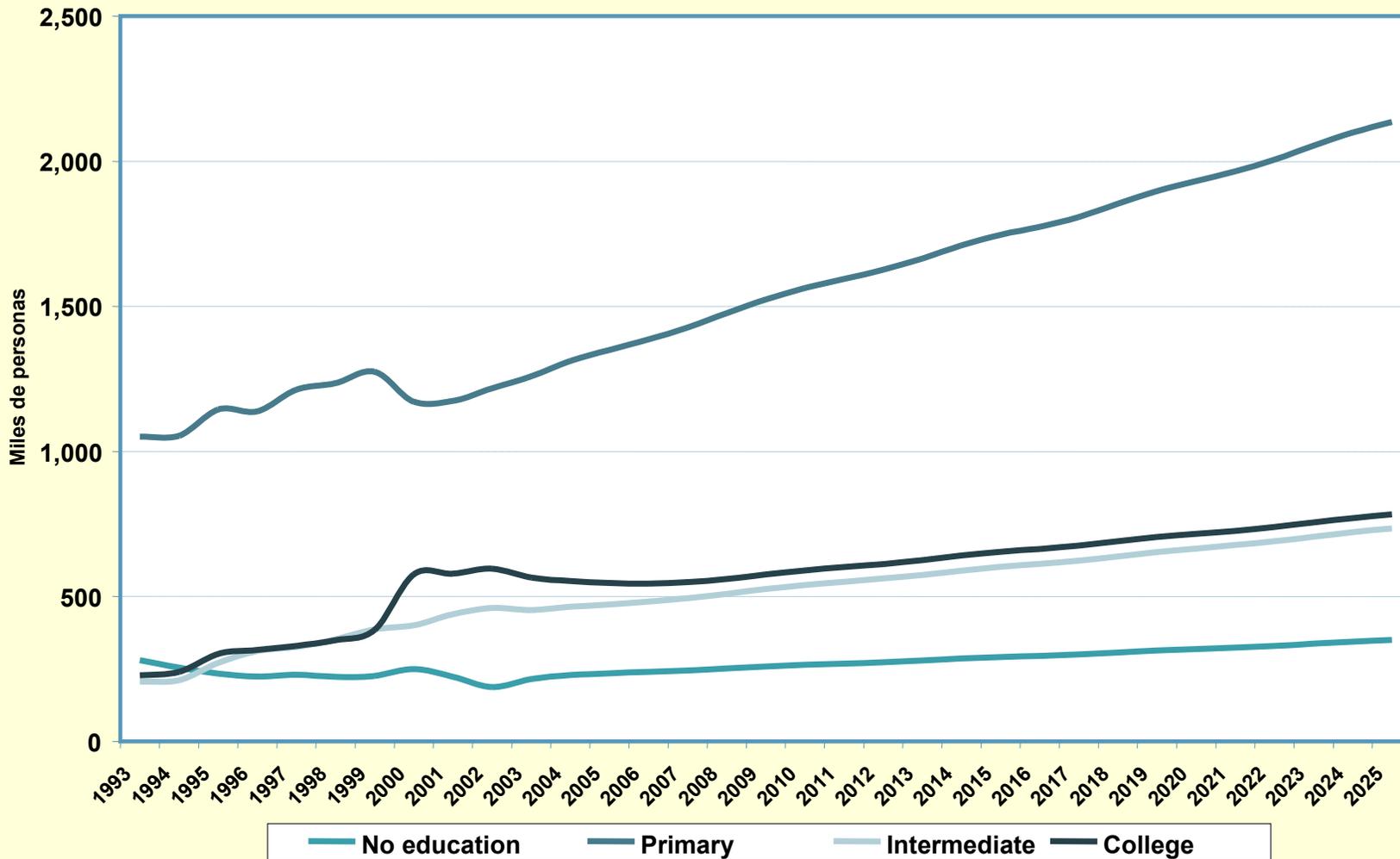


Matrix of qualifications

Employment demand by sector and qualification. 2002. (in %)



Employment by qualifications



Income: Components of value added

$$vaN_{i,t} = c_i qN_{i,t}$$

$$\frac{vaN_{i,t}}{qN_{i,t}} = a_i + b_i TREND_{i,t}$$

Value added

$$\log(agwag_t) = -0,81847 + 0,99997 \log\left(\frac{pib_t}{empt_t}\right) + 0,99979 \log(pcp_t)$$

$$\log\left(\frac{ras_{i,t}}{emp_{i,t}}\right) = a_i + b_i \log\left(\frac{rast_t}{empt_t}\right) + c_i dlprd_{i,t}$$

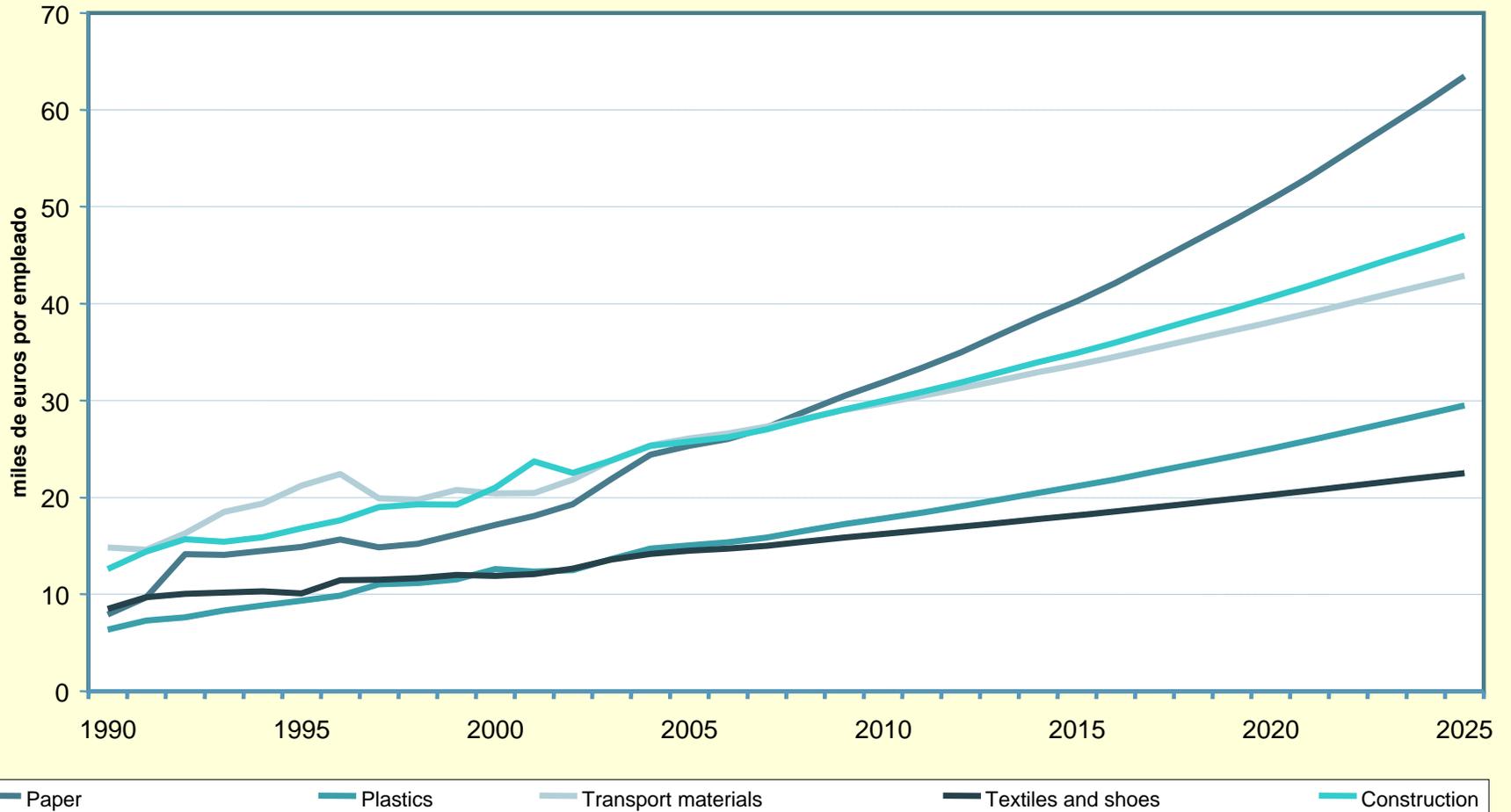
Wages

$$ebeN = vabN - rasN - tpoN$$

Profits

Wages

Average wage per person. Different sectors.



Closing the model: aggregates and convergence

$$pib_t = cpiot_t + fcio_t + vent_t + cgio_t + exiot_t - miot_t$$

$$pibN_t = rasN_t + ebeN_t + tpoN_t$$

$$ppib_t = \frac{pibN_t}{pib_t}$$

$$\text{Log}(rdh) = f(\log(ebeN + rasN))$$

Public consumption: $cgioN = cgioN_{save}$?

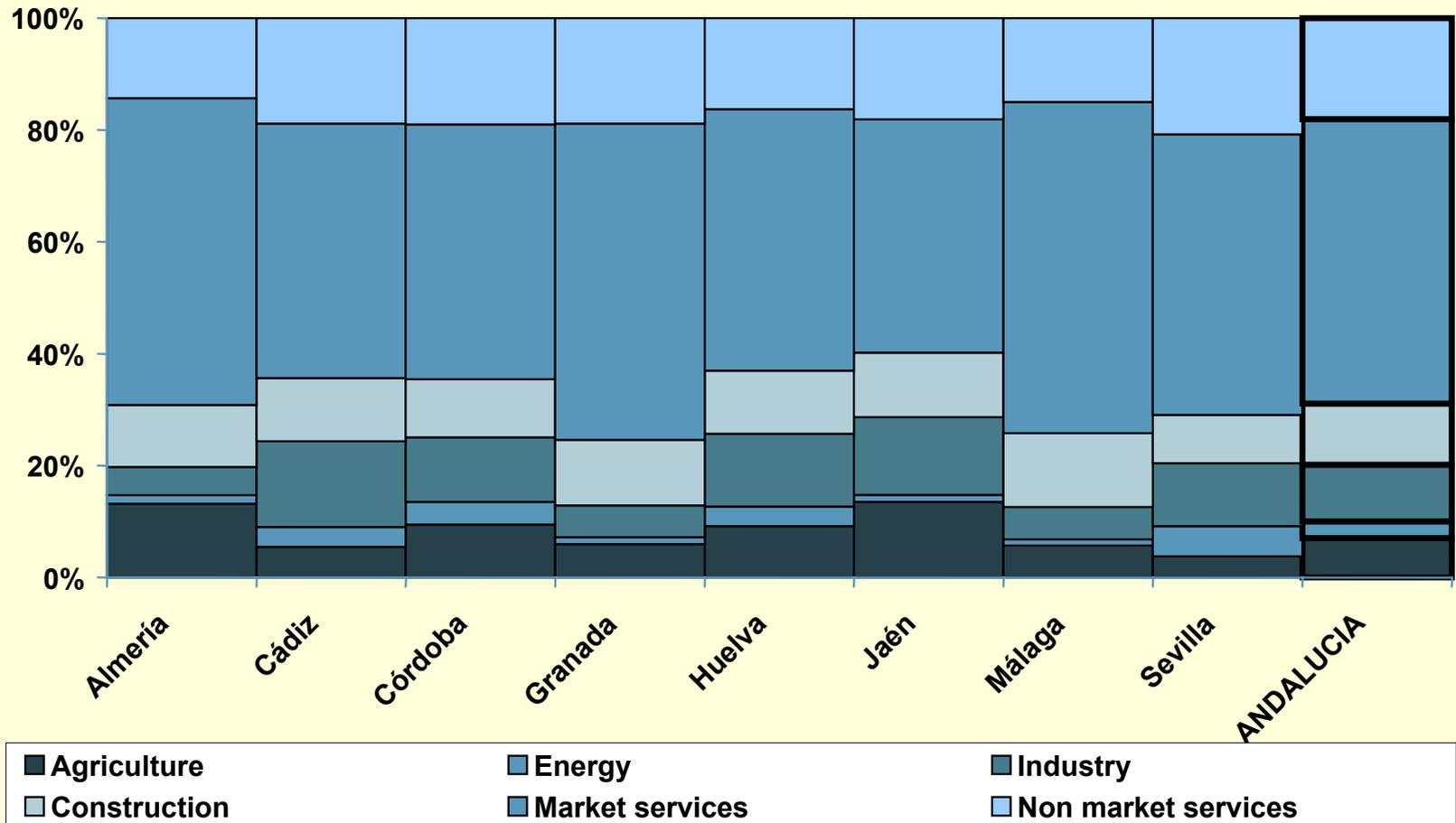
Private consumption: $Cpio = cpiosave$?

Investment: $Fcio = fciosave$?

Value added: $vabN = vabN_{save}$?

Closing the model: Provincial results

Value added, current prices. 2002



Public sector financing

$$\text{astaxt} = f(\text{pibNt})$$

$$\text{irpft} = f(\text{rasNttt} + \text{ebeNttt})$$

$$\text{altaxt} = f(\text{boozshrt}, \text{cpioN5t})$$

$$\text{pitaxt} = f(\sum \text{cpioNi}, t)$$

$$\text{cervezataxt} = f(\text{beershrt}, \text{cpioN5t})$$

$$\text{tabacotaxt} = f(\text{tobshrt}, \text{cpioN5t})$$

$$\text{hidrotaxt} = f(\text{gasshrt}, (\text{ddioN3t} - \text{cpioN3t}))$$

$$\text{electaxt} = f(\text{qN4t})$$

$$\text{transtaxt} = f(\text{qN20t})$$

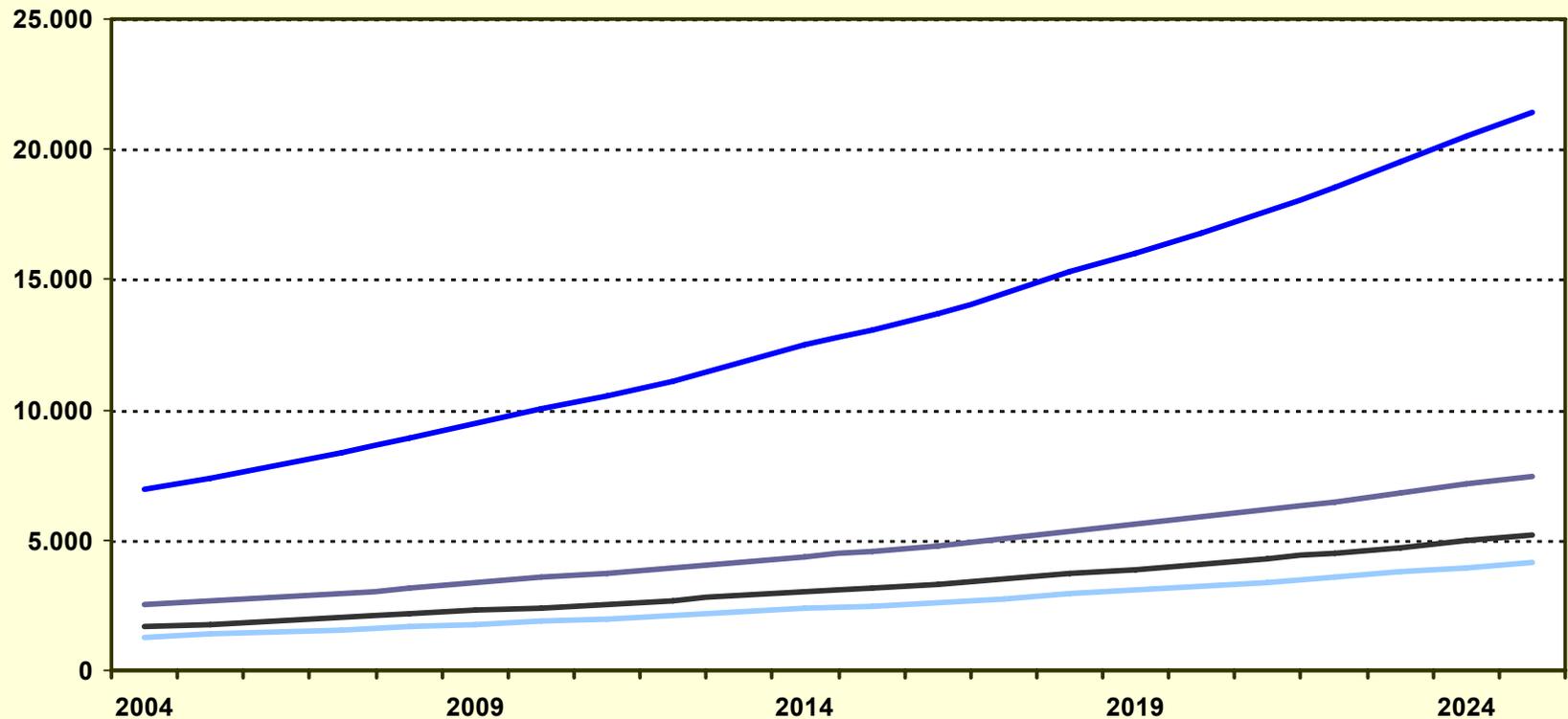
$$\text{minhidrotaxt} = f(\text{retgasshrt}, \text{cpioN3t})$$

$$\text{ivat} = f(\sum \text{tpvNi})$$

$$\text{fdst} = f(\text{astaxt}, \text{irpft}, \text{ivat})$$

Public sector financing

Evolution of the most important sources of public revenues for Andalucía



T. Cedidos

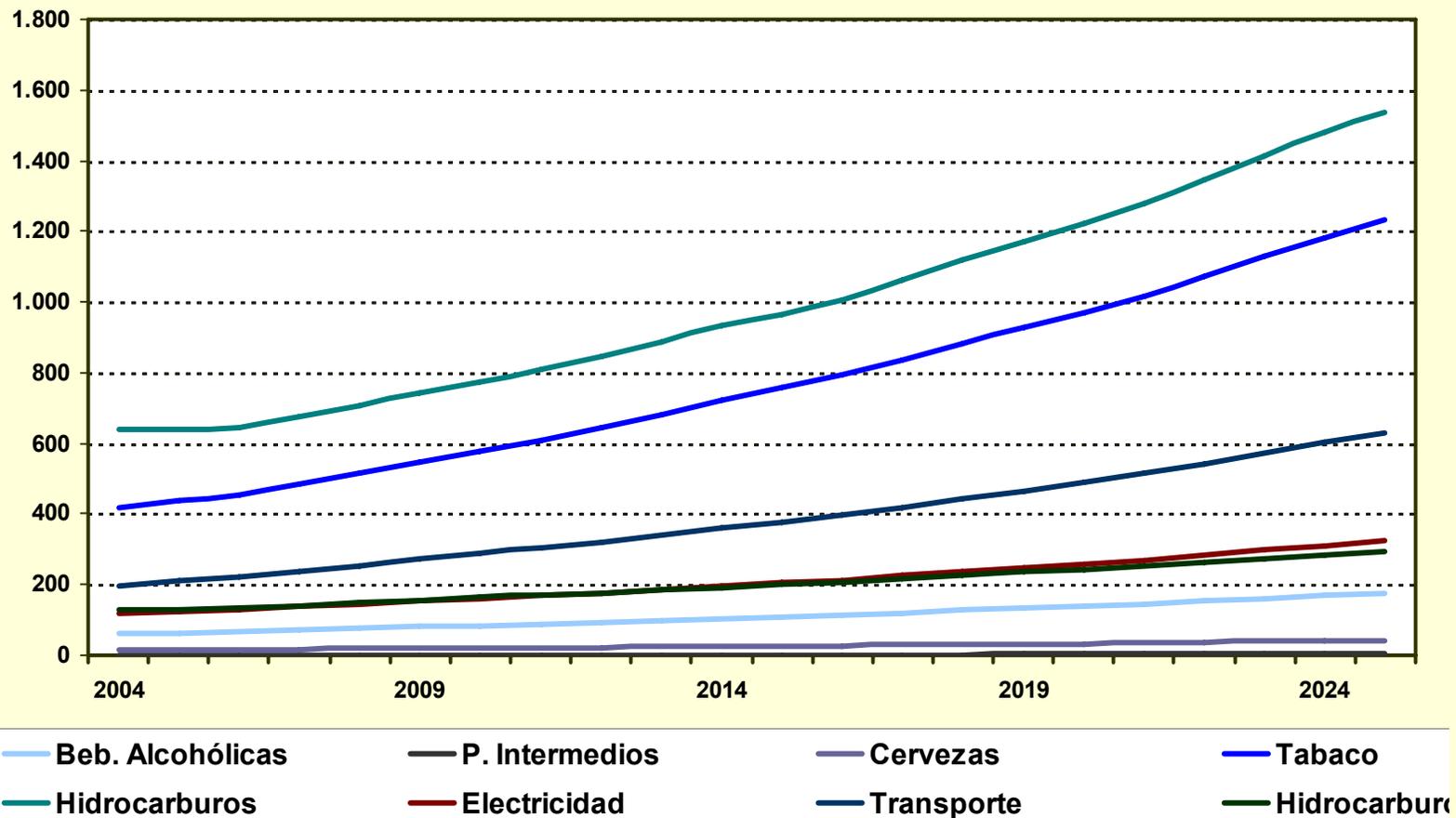
IRPF

IVA

Fondo Suficiencia

Public sector financing

Evolution of financing sources of Andalucía public sector



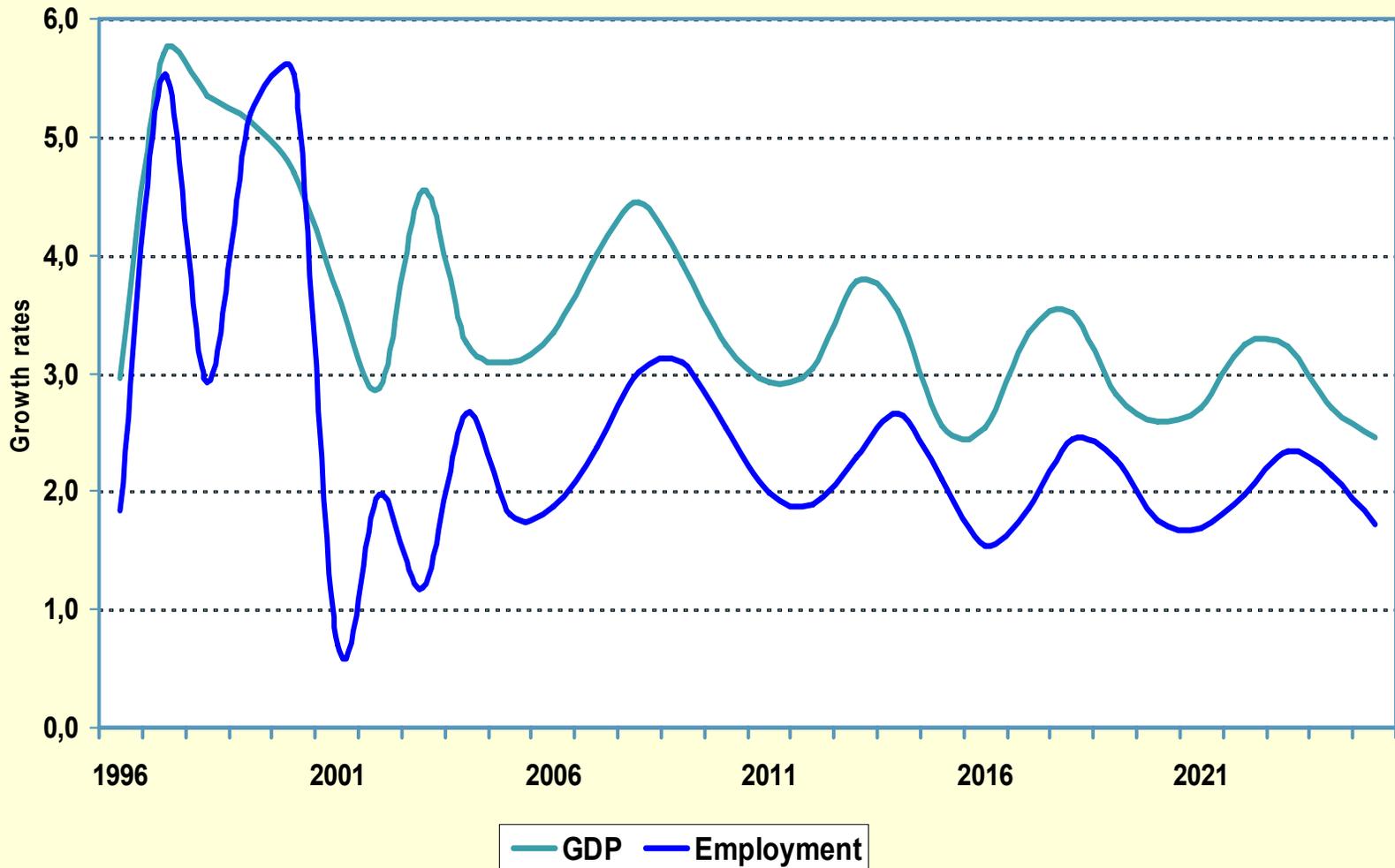
MEDEA

Baseline

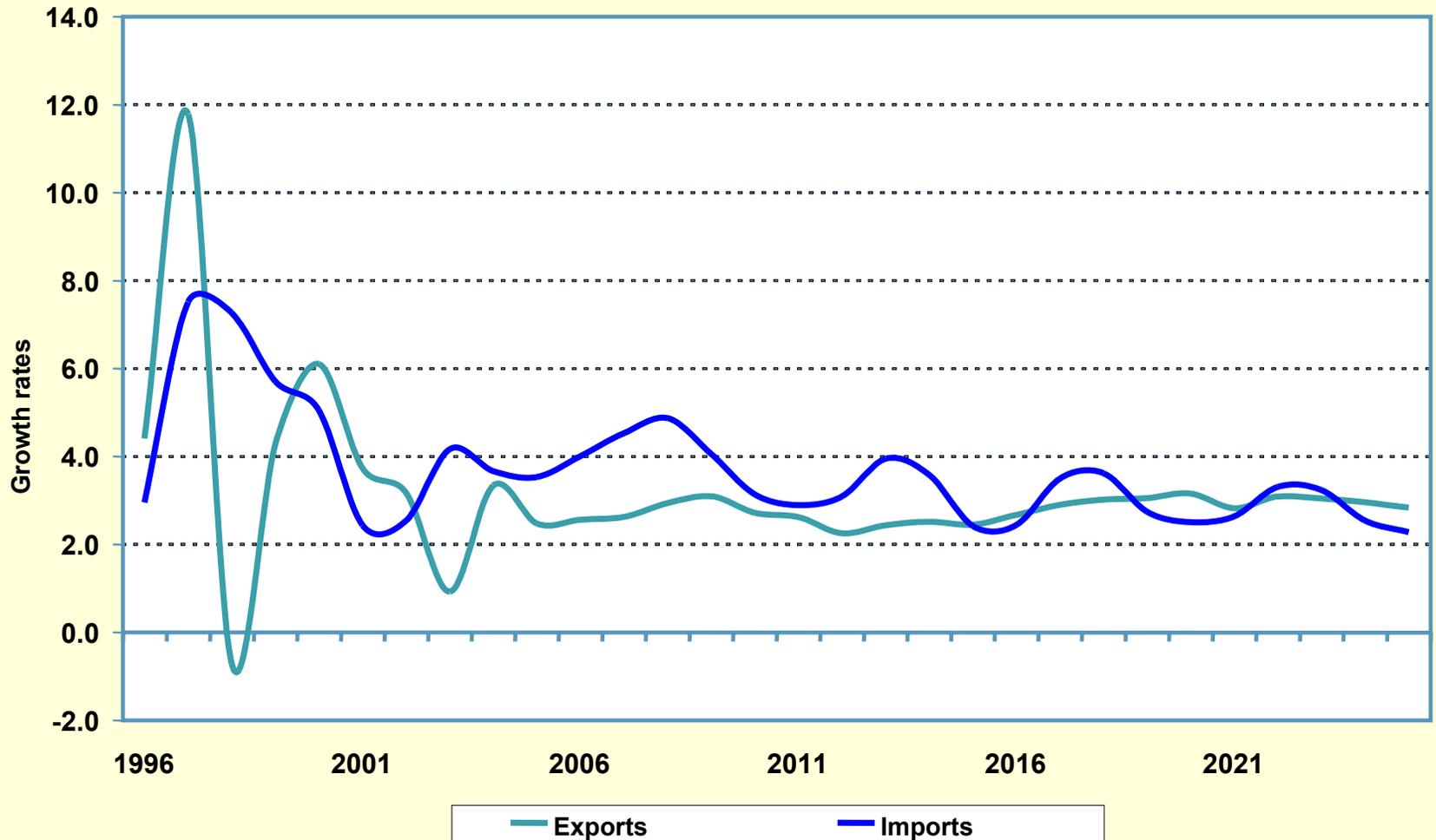
Main assumptions for the calibration of the baseline

- **Short term: world recovery in 2004-2005**
- **Depreciation of the \$ due to its double deficit.**
- **Oil prices relatively down.**
- **Date of the baseline: December 2003.**

Baseline: GDP and employment growth. 1996-2025.



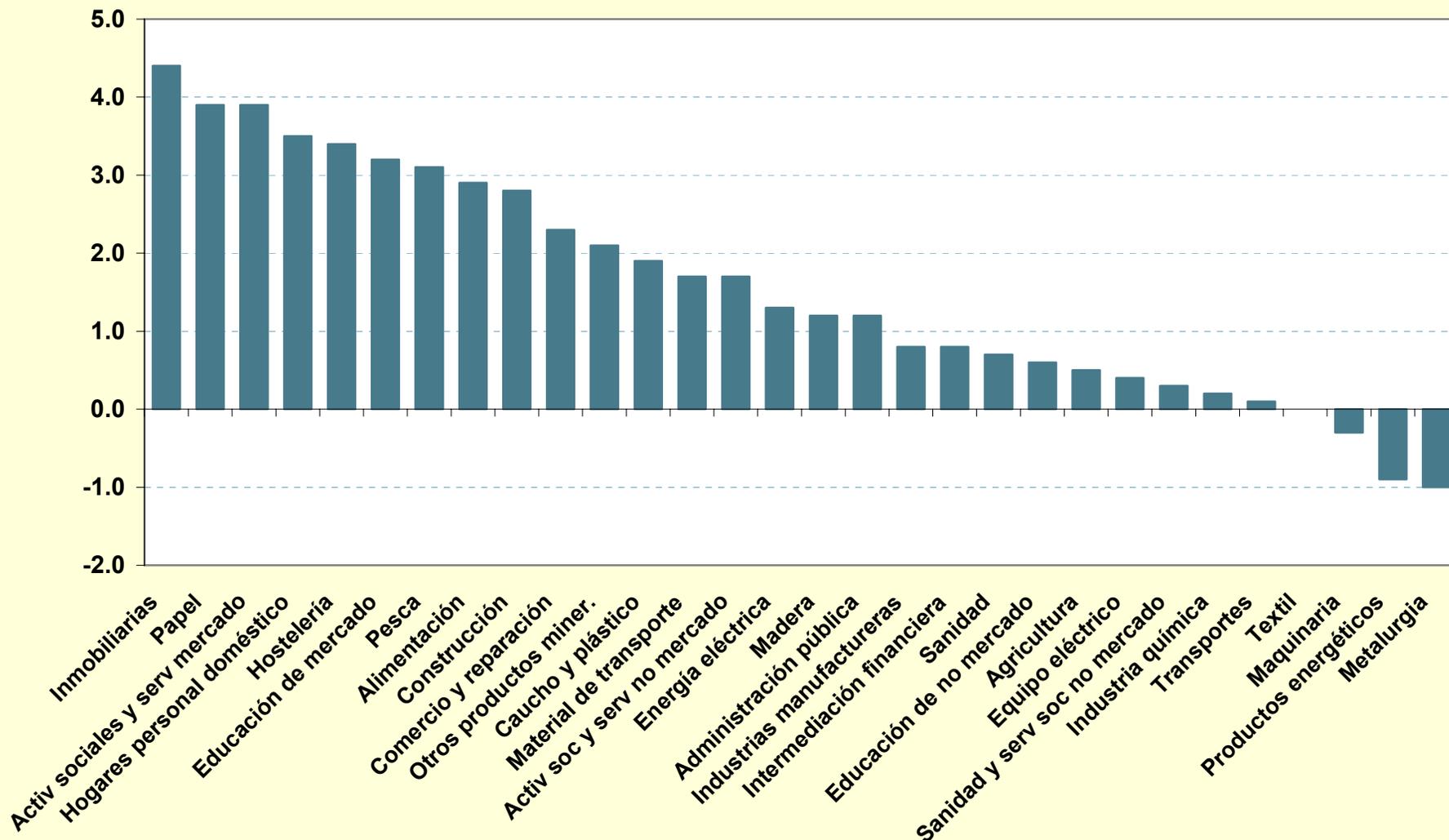
Baseline: External trade growth. 1996-2025.



Baseline: Price and employment growth

	2003-25	2000-05	2005-10	2010-15	2015-20	2020-25
Employment growth	2.2	1.6	2.5	2.2	2.0	1.9
Unemployment	11.8	20.0	16.2	11.8	8.8	7.1
Inflation	1.91	2.43	1.92	1.95	2.90	1.98
Exchange rate \$ / Euro	1.42	1.08	1.39	1.45	1.48	1.47

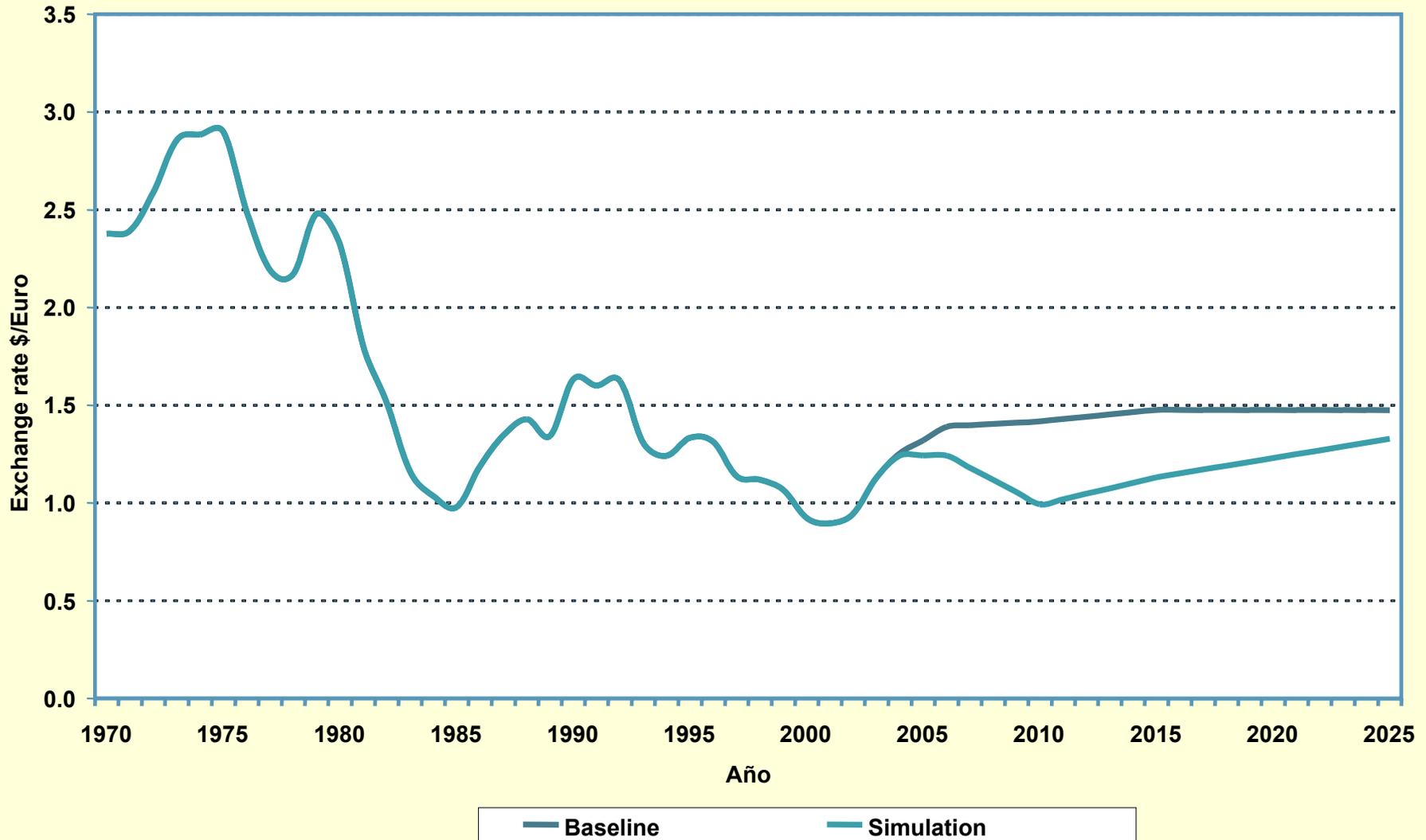
Baseline: Employment growth by sector 2003-2025



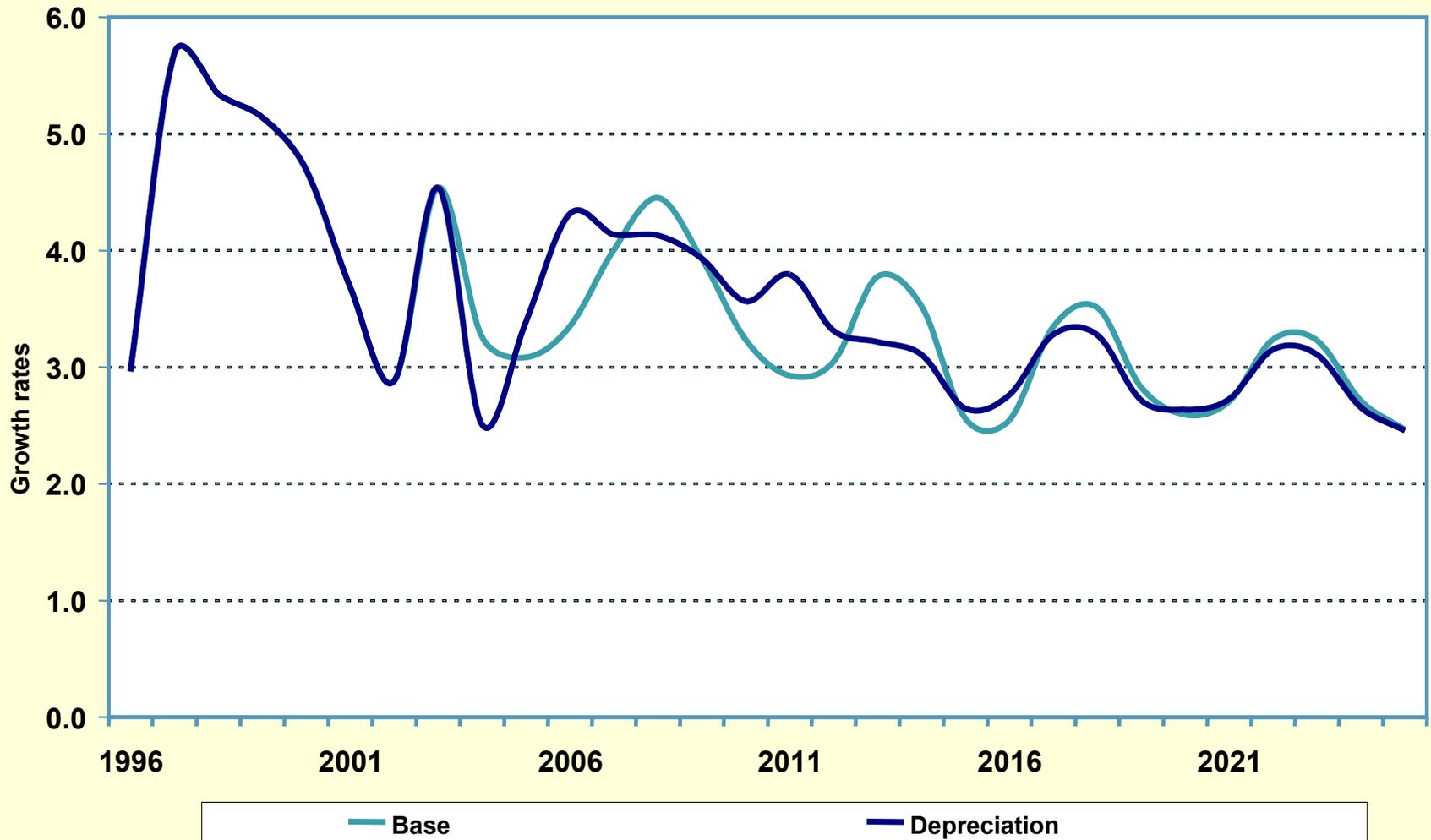
MEDEA

SIMULATIONS

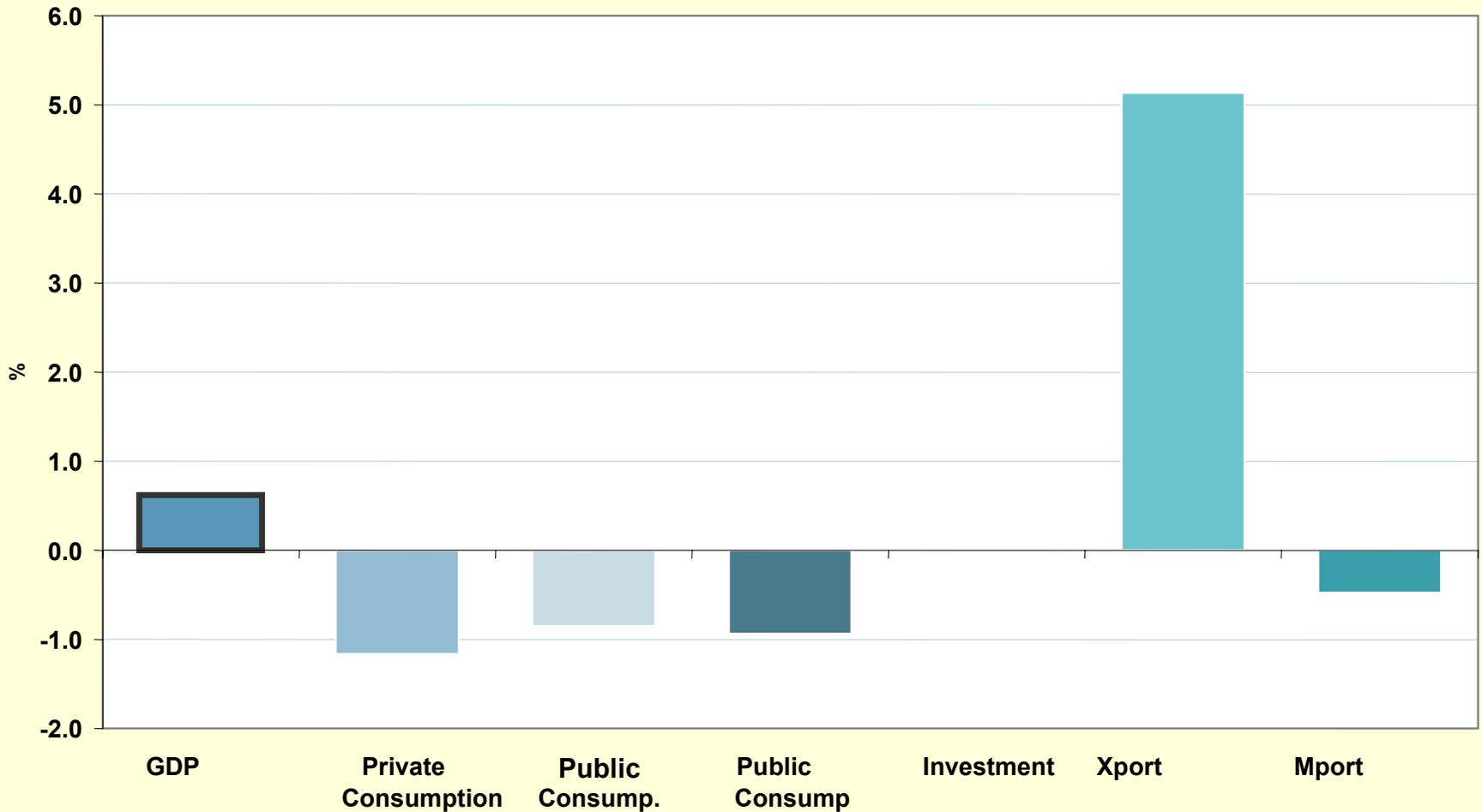
Exchange rate in baseline and with depreciation



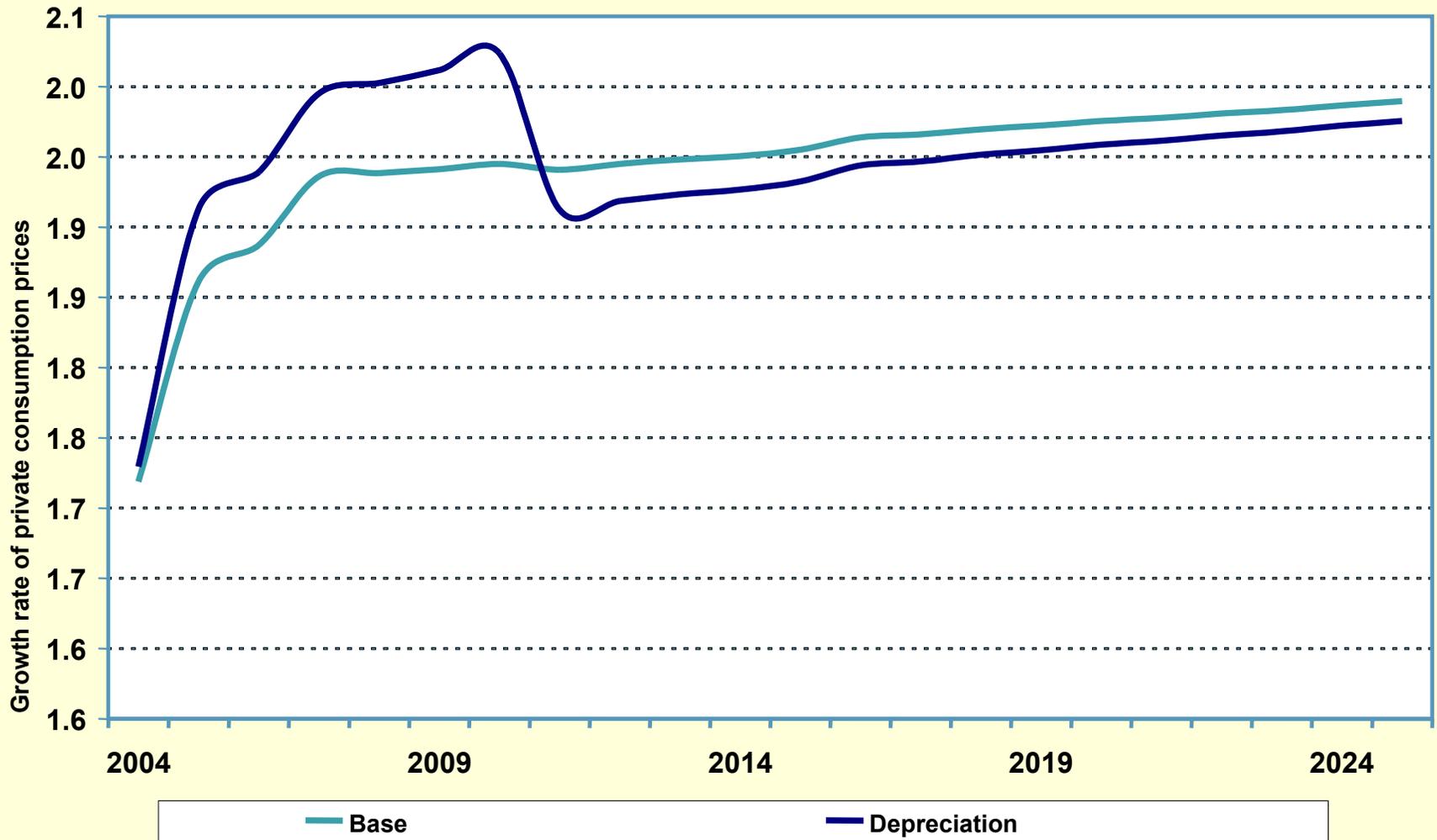
GDP growth in baseline and depreciation scenarios.



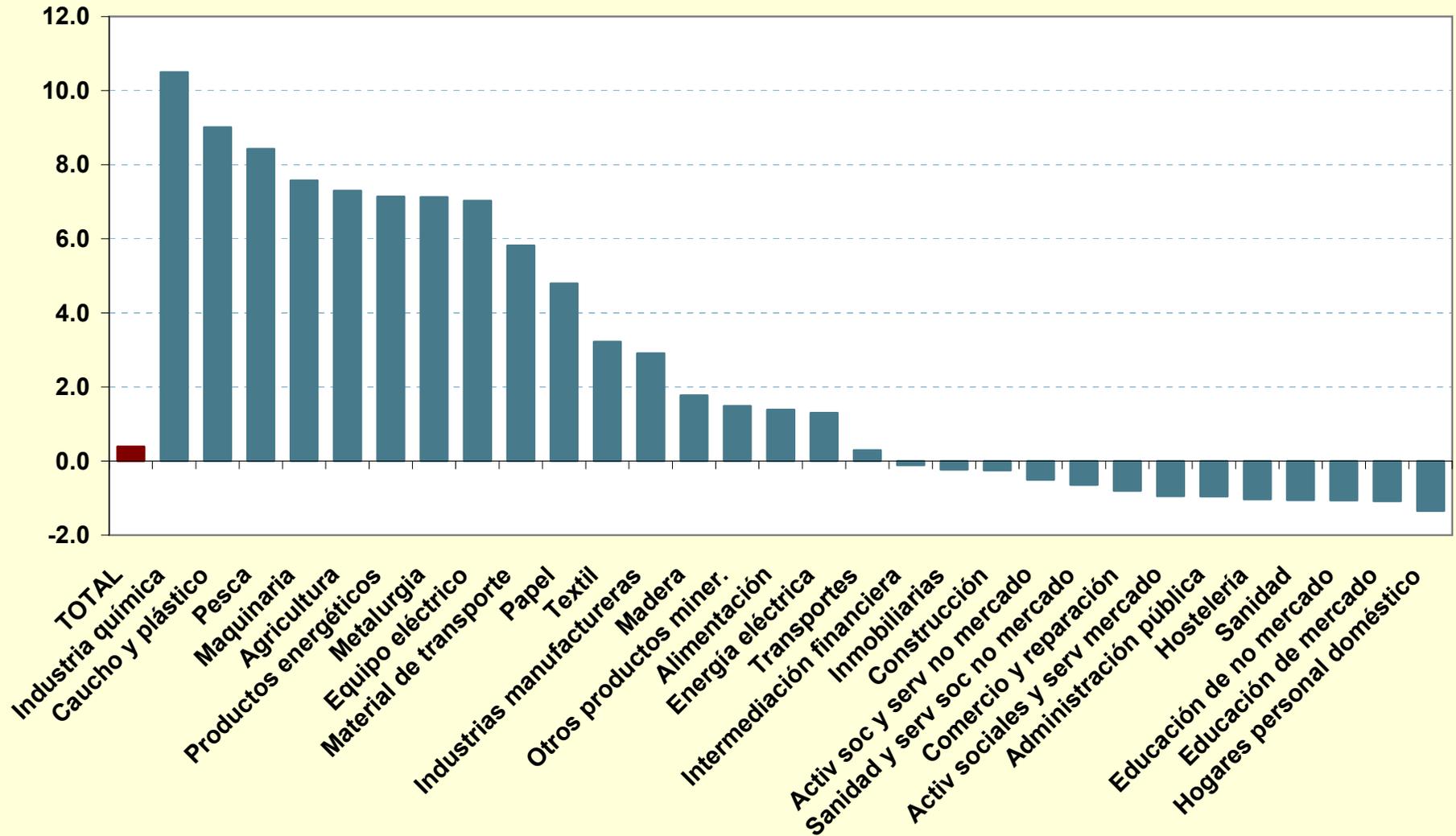
Depreciation and demand components. % deviations from baseline. 2004-2025



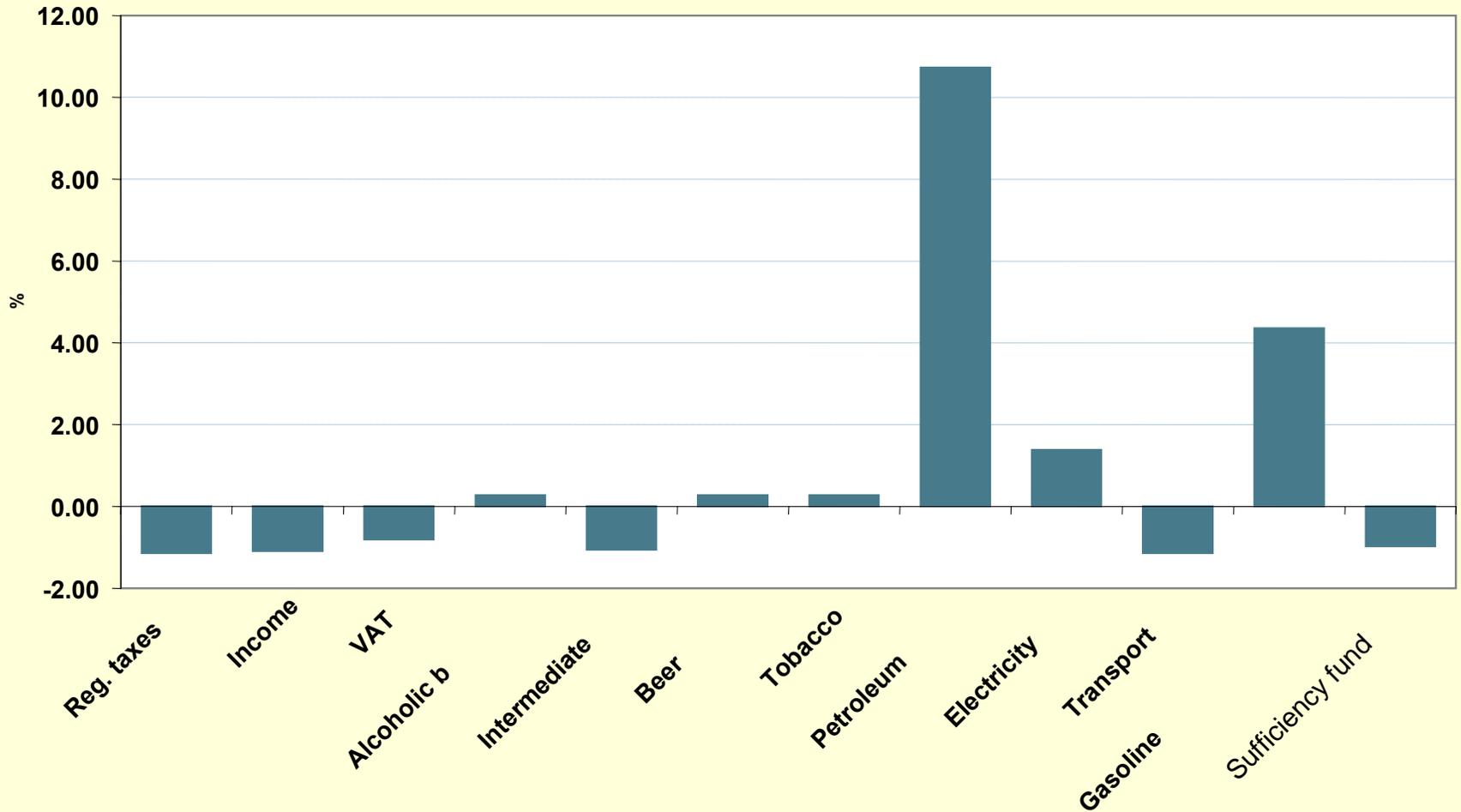
Depreciation and inflation



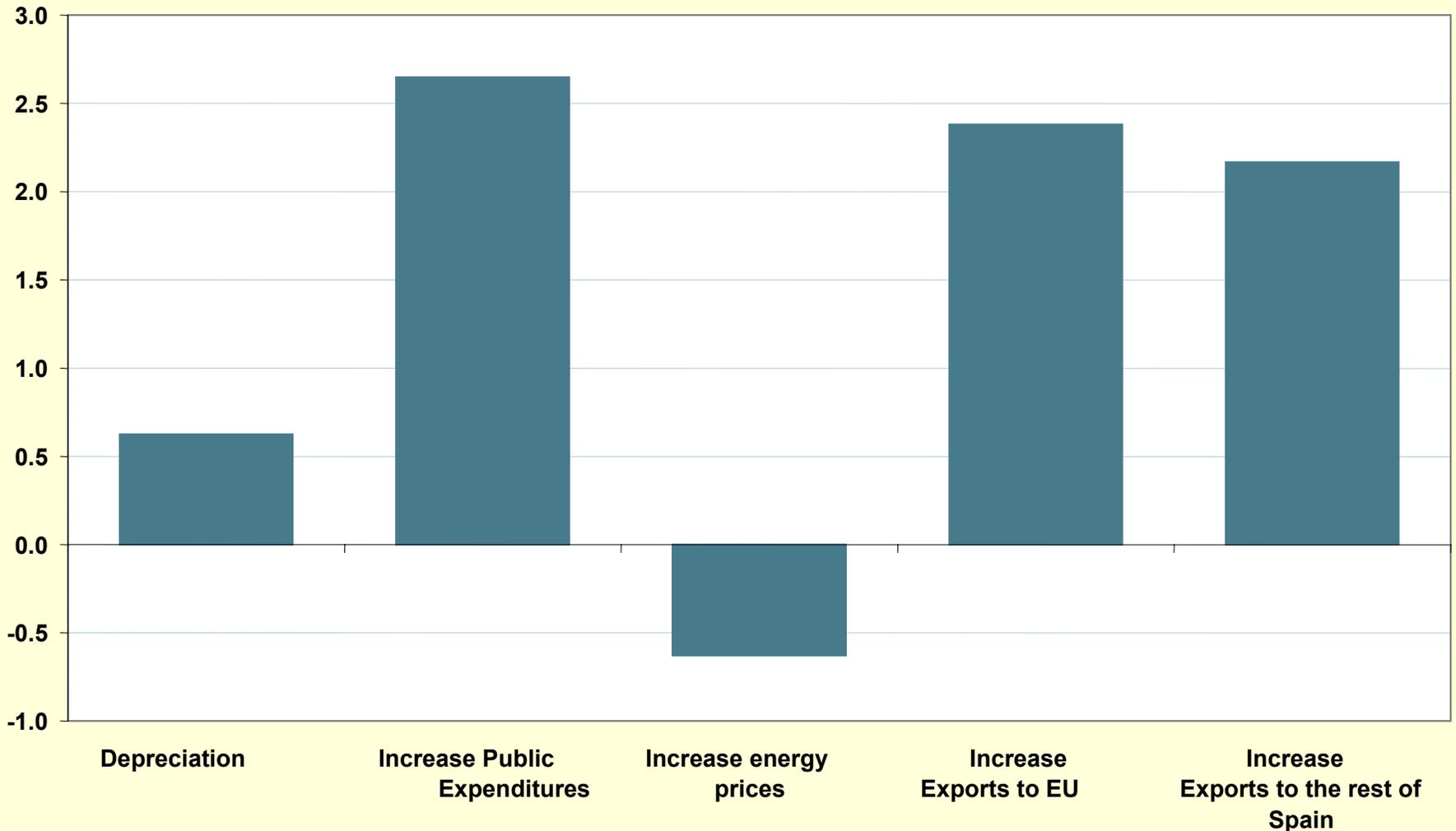
Depreciation and employment. % deviations from baseline. 2004-2025



Depreciation and public revenues. % deviations from baseline. 2004-2025



GDP in 5 scenarios. in % deviations from baseline.2004-2025



**A more complicated scenario:
Increase of the oil price of 36\$/b in
2004 and 44\$/b 2005**

AGGREGATE RESULTS

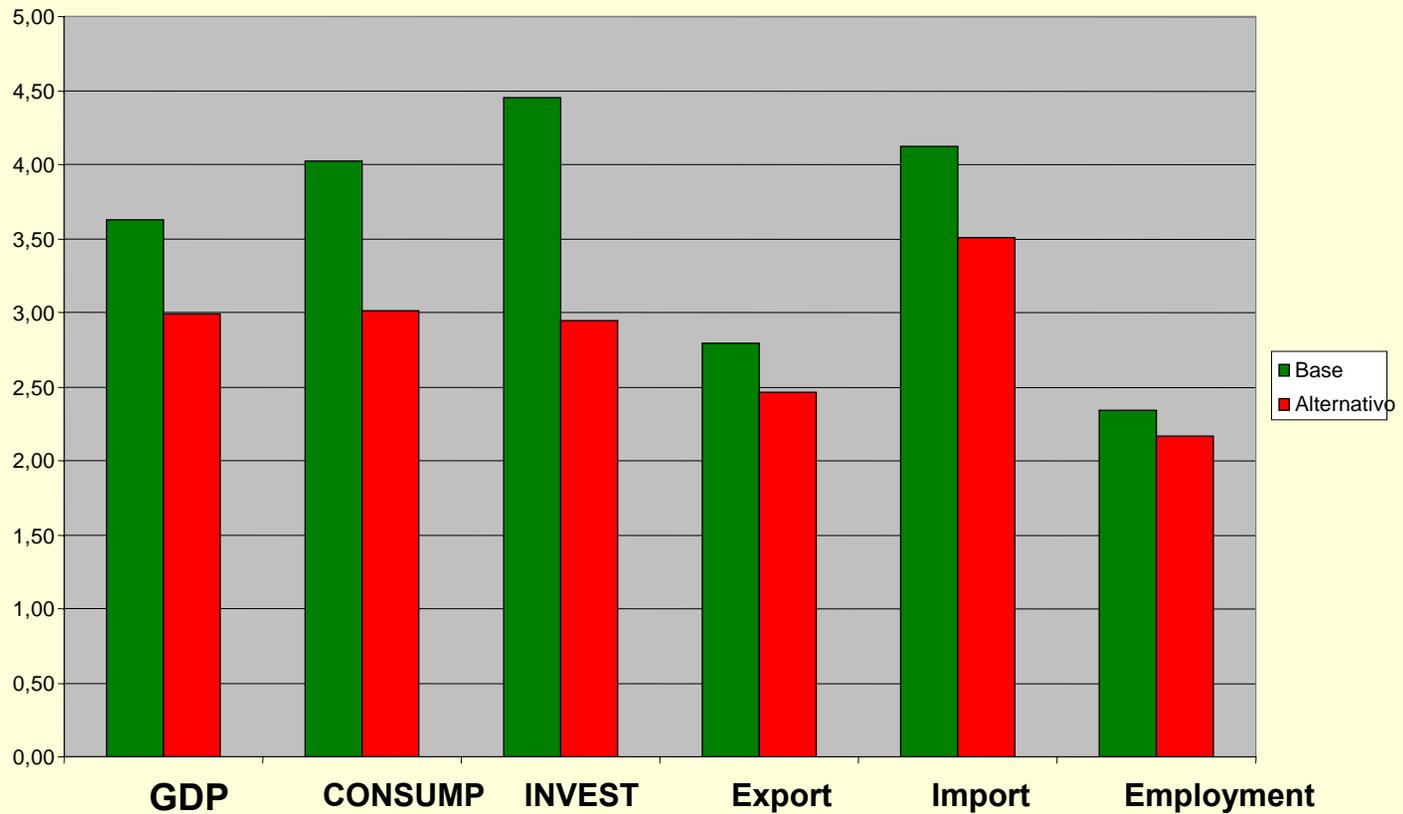
% deviations between base and alternative (GDP, employment and unemployment)			
	Pib, mill. €	Empleo	Parados
2003	0	0	0
2004	-1,6	-0,5	2,3
2005	-2,3	-1,7	7,5
2006	-1,0	-1,7	7,6
2007	-0,8	-0,8	3,6
2008	-1,4	-0,9	4,6

Deviations between unemployment rate and inflation rate in base and alternative		
	Tasa de paro	Inflación
2003	0	0
2004	0,4	2,9
2005	1,4	3,2
2006	1,4	0,0
2007	0,6	0,0
2008	0,7	0,0

Deviations in growth rates in base and alternative					
	PIB	Consumo	Inversión	Export	Import
2004	-1,6	-2,6	-2,8	0,1	-1,9
2005	-0,8	-1,9	-0,1	0,0	-0,8
2006	-0,4	-0,4	-0,6	-0,5	0,2
2007	-0,1	0,0	-1,6	-0,9	0,0
2008	-0,3	-0,1	-2,4	-0,3	-0,5

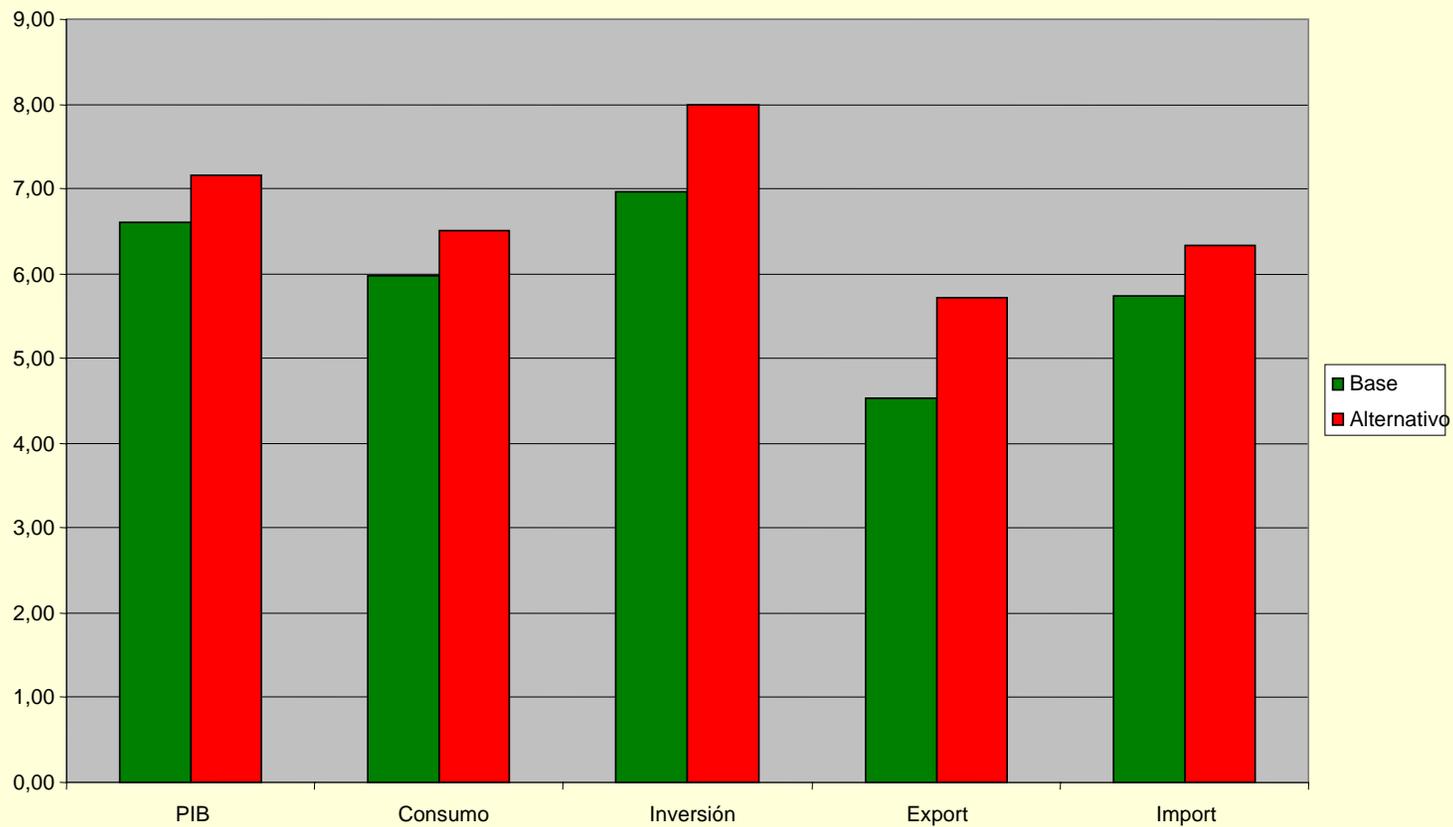
AGGREGATE RESULTS

Average growth rates 2004-2008. Constant prices



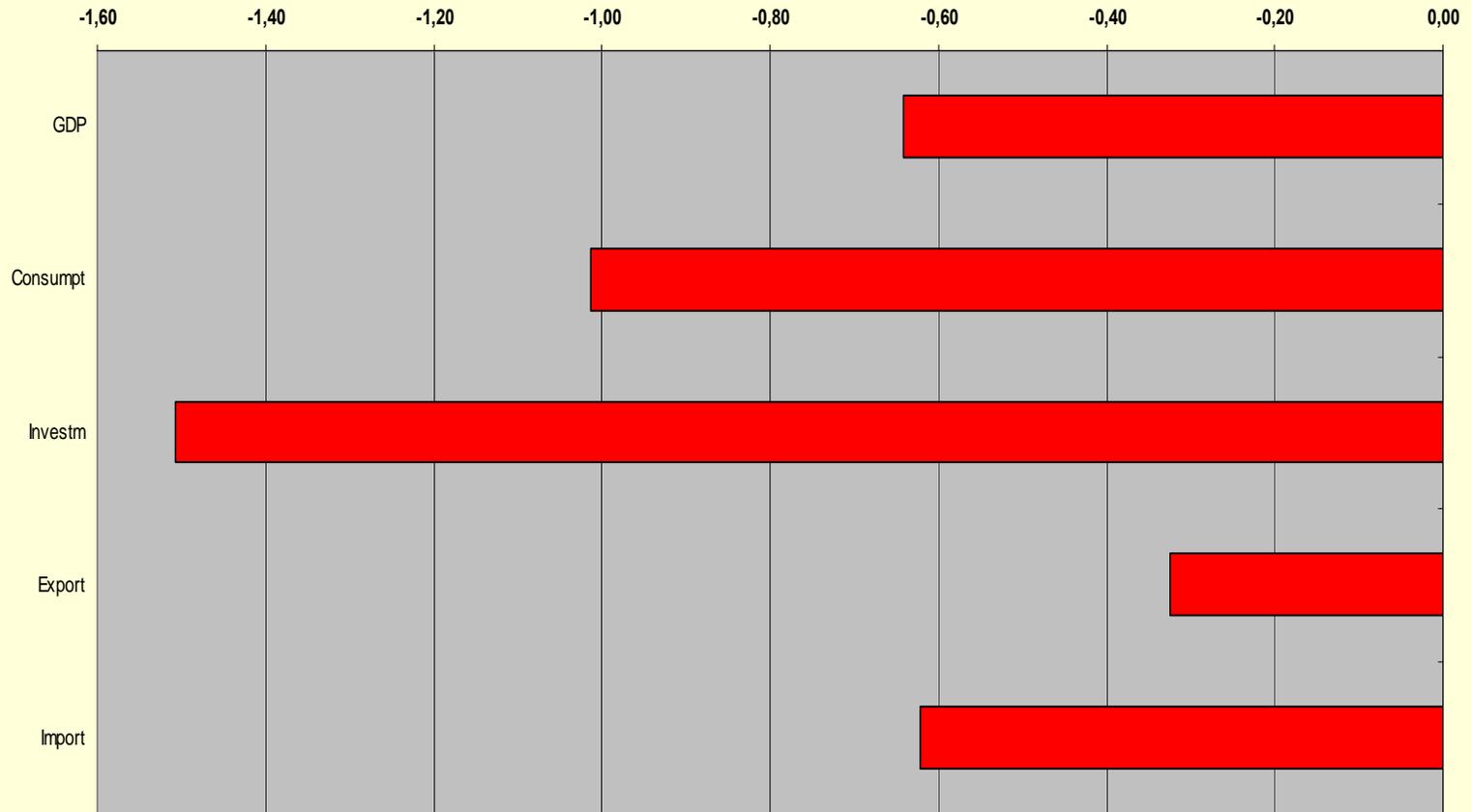
AGGREGATE RESULTS

Average growth rates 2004-2008. Nominal prices



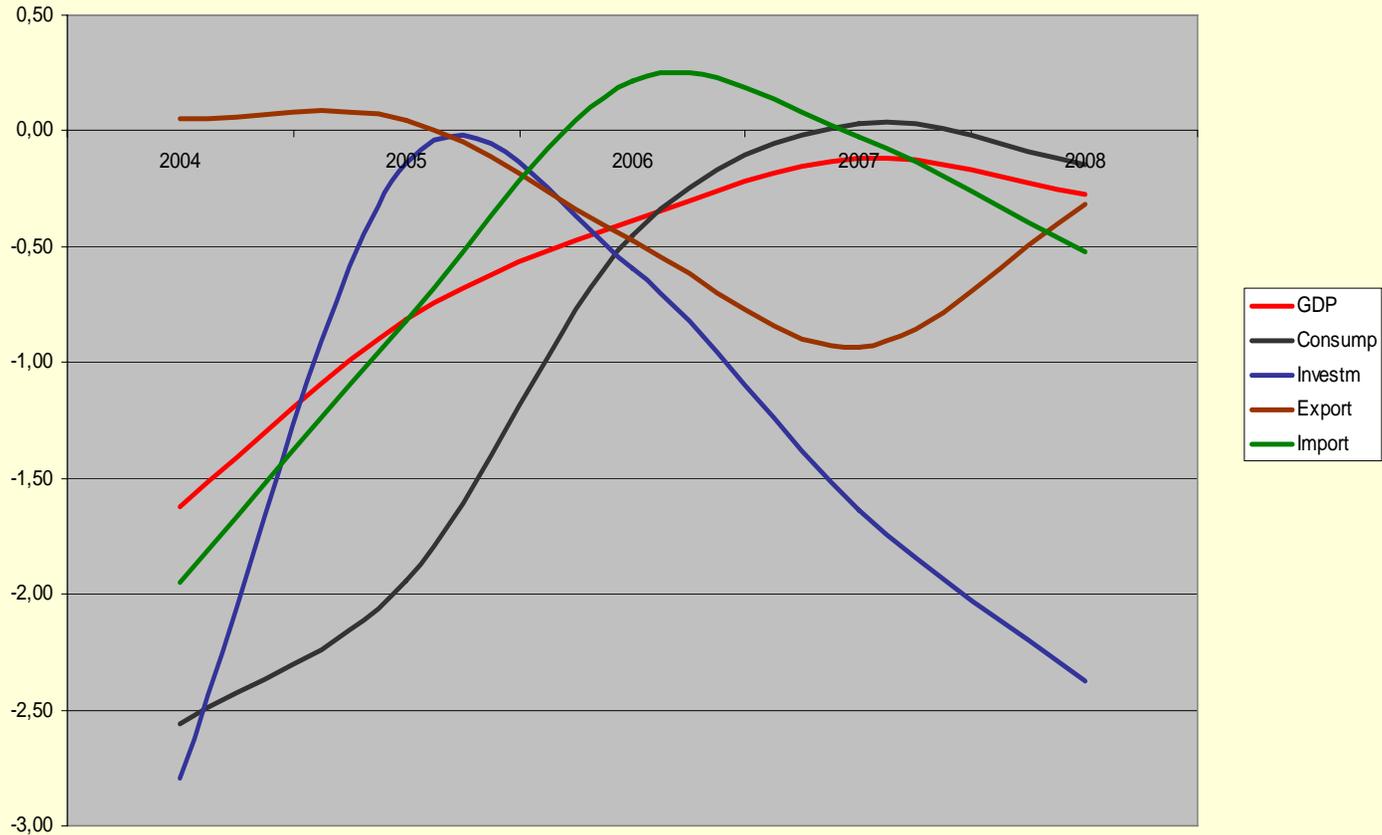
AGGREGATE RESULTS

Growth rates deviations between base and alternative. Average 2004-2008



AGGREGATE RESULTS

Growth rates deviations yearly between base and alternative



SECTORAL RESULTS

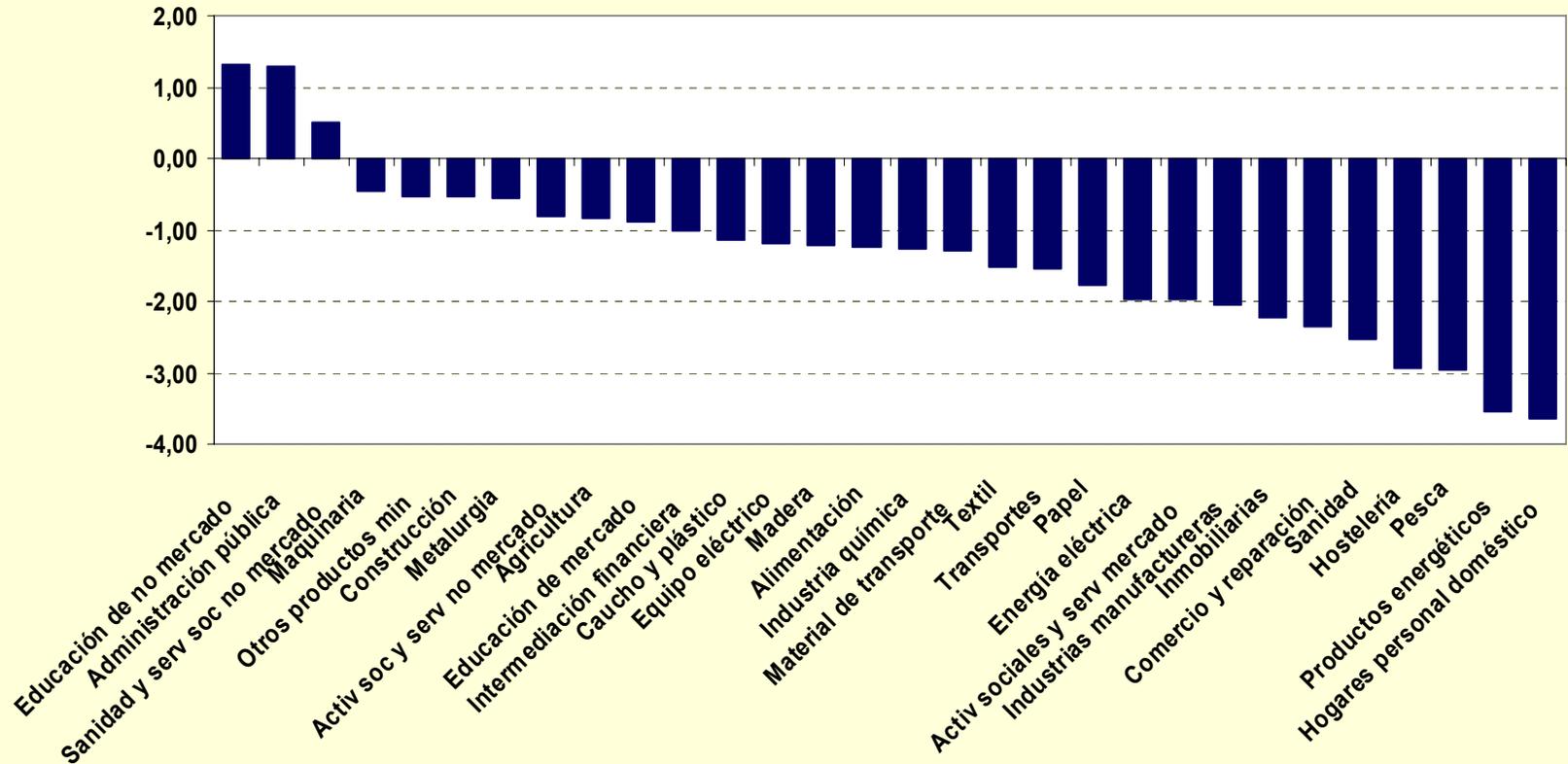
SECTORAL RESULTS. SCENARIO OF AN OIL PRICE INCREASE

Average percentage deviations from base 2004-2008.

Sector	output	empleo	export	import
Agriculture	-0,85	-0,77	-0,07	-1,00
Fishing	-2,95	-2,93	-0,45	-1,45
Energy products	-3,55	-3,55	-0,62	0,49
Electricity	-1,96	-1,76	0,00	-1,95
Food	-1,23	-1,23	0,00	-2,55
Textiles	-1,53	-1,47	-0,01	-2,59
Wood	-1,21	-1,21	0,00	-1,69
Paper	-1,77	-1,31	-0,09	-1,54
Chemicals	-1,27	-0,60	0,00	-1,38
Plastic, rubber	-1,13	-0,53	-0,28	-1,52
Other min. products	-0,52	-0,51	-0,58	-0,46
Iron, steel	-0,55	-0,27	0,03	-0,57
Machinery	-0,47	-0,23	-0,34	-1,24
Electric equipment	-1,19	-1,04	0,22	-1,13
Transport material	-1,30	-1,24	0,21	-2,58
Manufacturing ind.	-2,04	-1,82	0,00	-1,68
Construction	-0,54	-0,49	-	-
Distribution, trade	-2,35	-1,80	0,00	-2,96
Restaurants	-2,94	-2,79	-	-
Transports	-1,55	-1,31	0,00	-1,90
Banking, insurance	-1,02	-0,74	-	-0,95
Real state	-2,24	-1,87	0,00	-2,70
Education_market	-0,89	-0,83	-	-
Health_market	-2,52	-2,50	-	-
Social services_market	-1,99	-1,63	0,00	-3,48
Public administration	1,30	1,11	-	-
Education_non market	1,32	1,21	-	-
Health_non market	0,52	0,50	-	-
Non market services	-0,81	-0,71	-	-
Household services	-3,64	-3,48	-	-
TOTAL	-1,39	-1,10	-0,05	-1,41

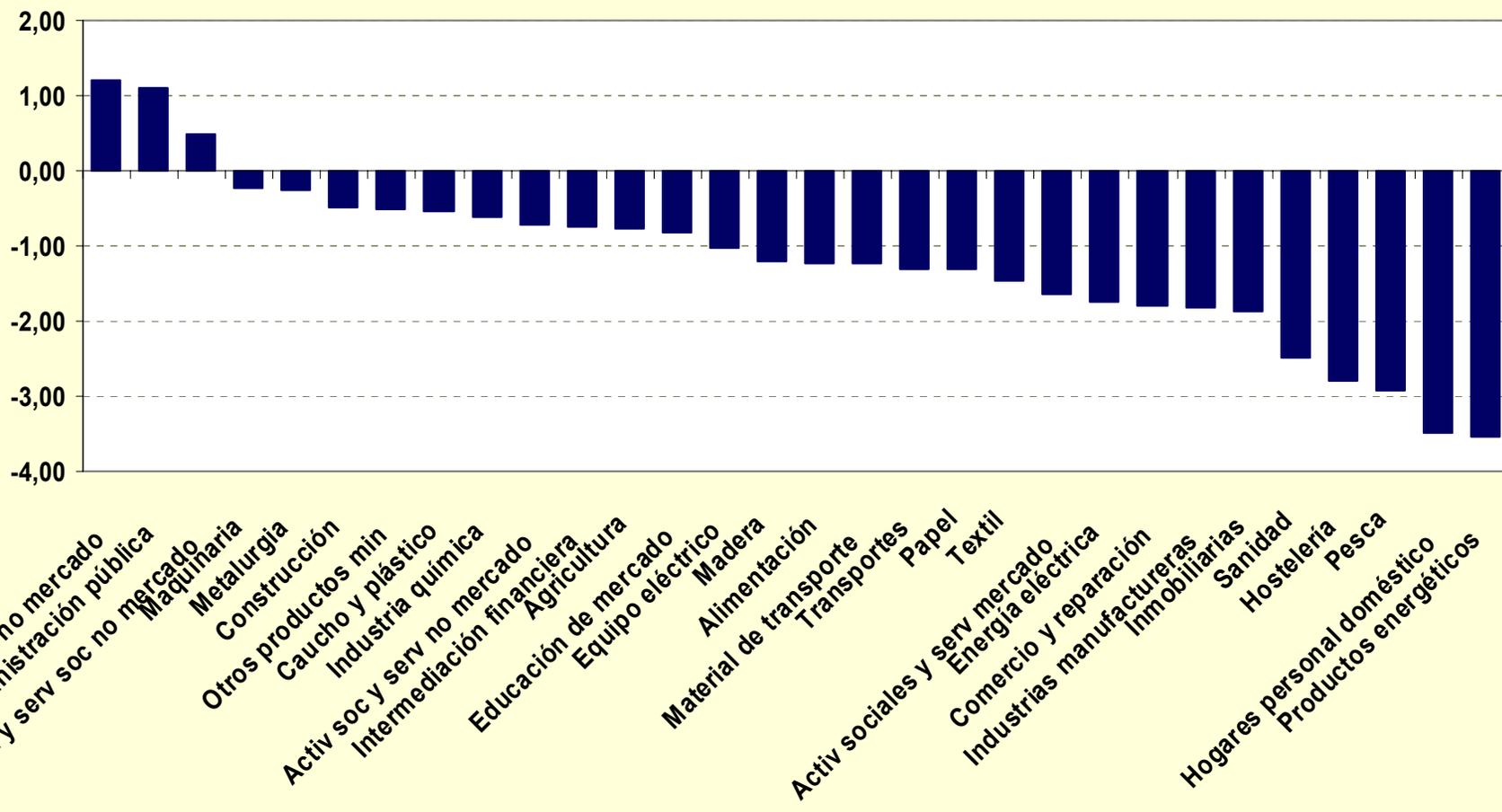
SECTORAL RESULTS. OUTPUT

Average deviations in 2004-2008. Output



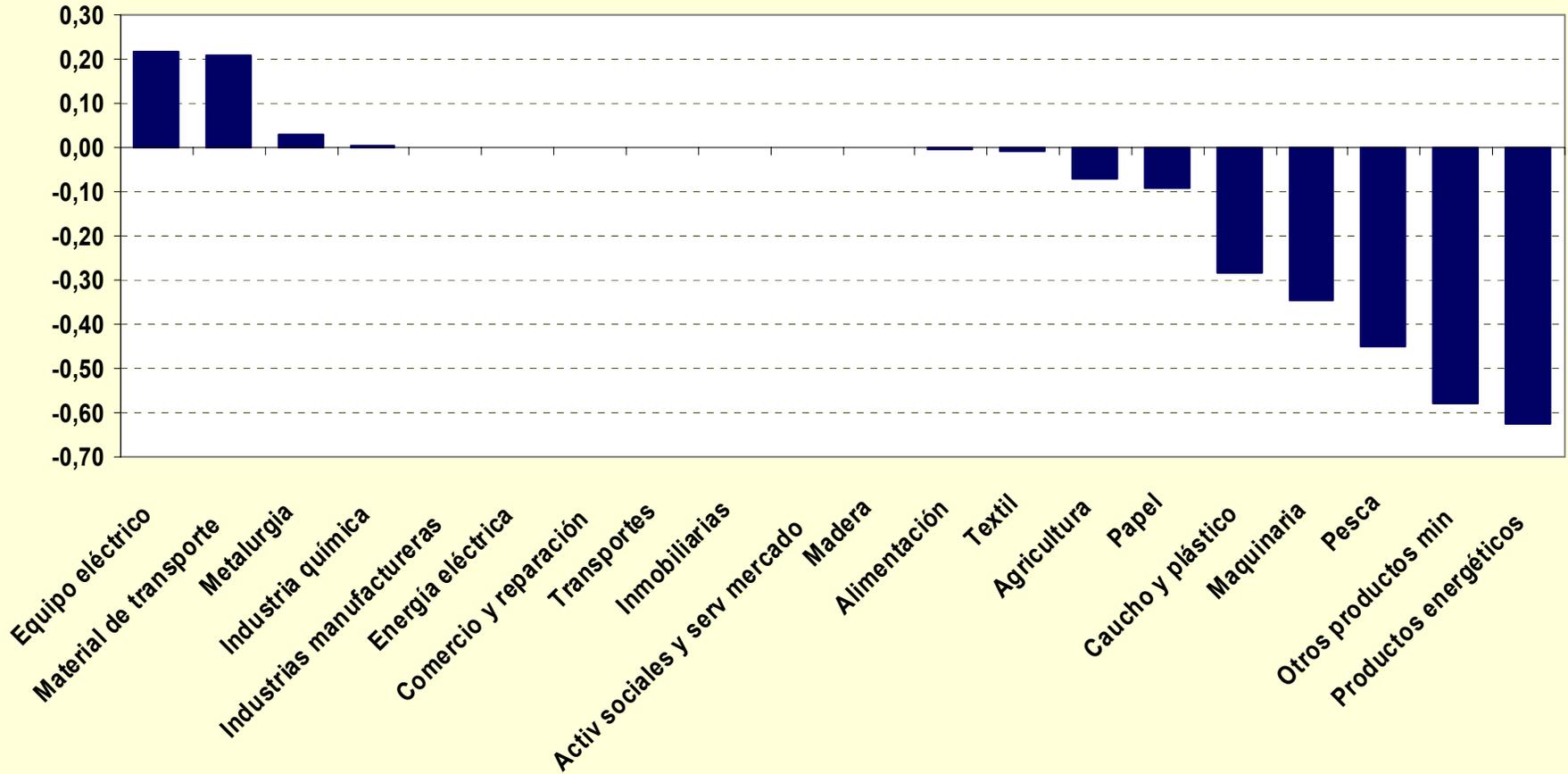
SECTORAL RESULTS. EMPLOYMENT

Average deviations in 2004-2008. Employment



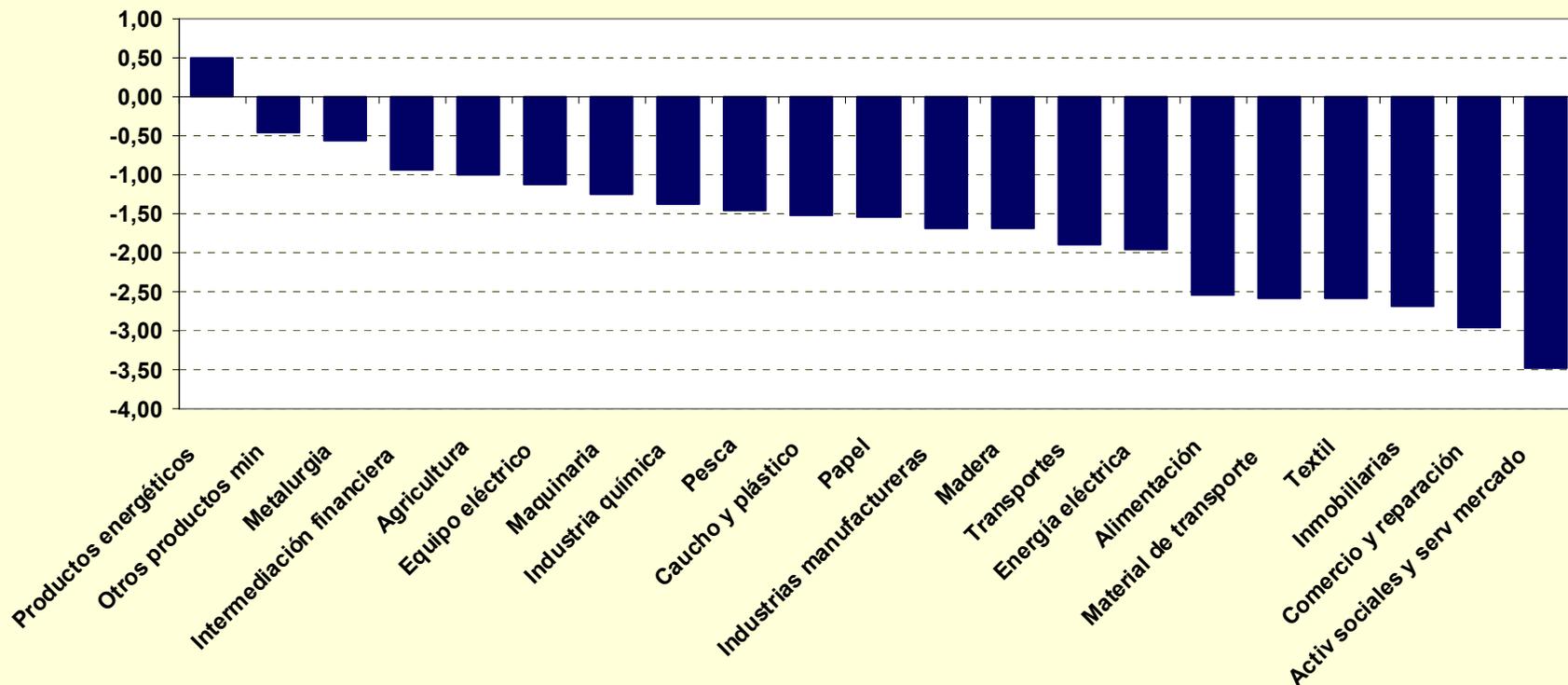
SECTORAL RESULTS. EXPORTS

Average deviations in 2004-2008. Exports

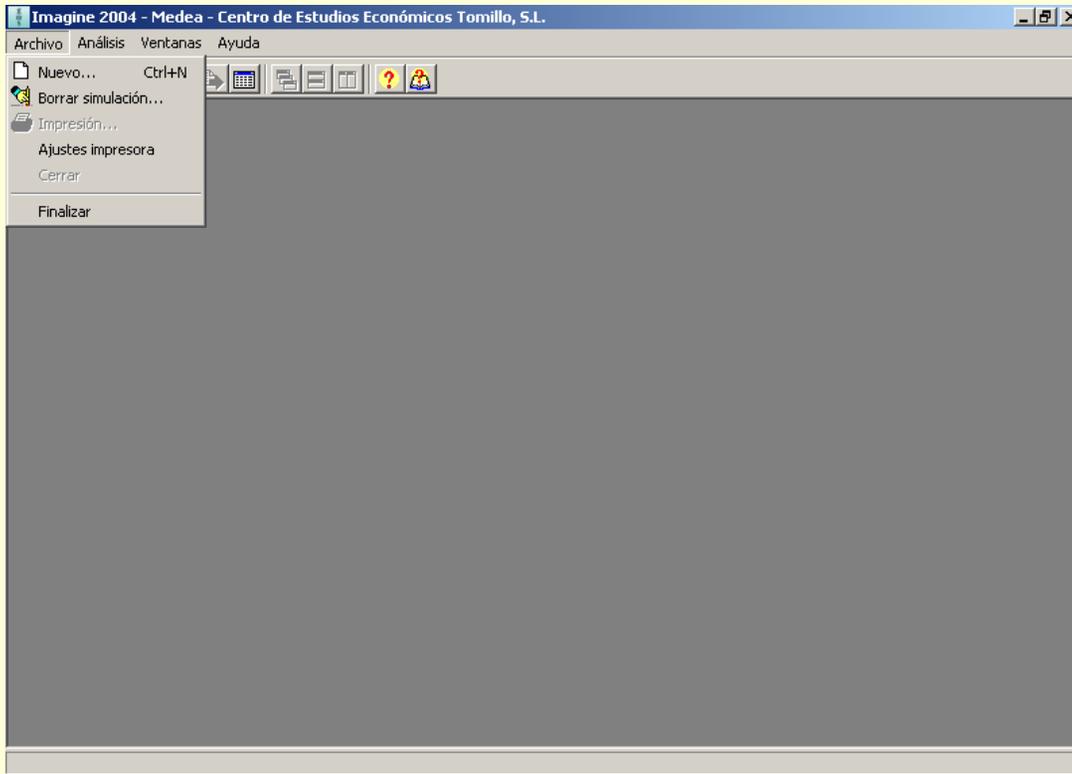


SECTORAL RESULTS. IMPORTS

Average deviations 2004-2008. Imports



The main screen



File:

- *New*
- *Erase simulation*
- *Print*
- *Adjust printer*
- *Exit*

Windows:

- *Arrange*
- *Cascade*
- *Horizontal*
- *Vertical*

Help

Analysis:

- *One simulation*
- *Several simulations*
- *Data*
- *Export*
- *Simulation scenario*
- *Table maker*

Making a simulation

Asistente de simulación

Paso 1º: Establecer parámetros de simulación

Introduzca un comentario para la simulación (max. 50 caracteres):
Simulación 1

Año final de la simulación:
2025

Plantilla para la simulación:

Fecha y hora	Descripción
19/03/2004 12:40:30	Escenario base [0]
19/03/2004 13:18:58	Escenario de depreciación del tipo de cambio [1]
19/03/2004 13:21:00	Escenario de incremento del gasto público [2]
19/03/2004 13:23:30	Escenario de incremento de precios de la energía [3]
19/03/2004 13:25:36	Escenario de incremento de demanda de la UE [4]
19/03/2004 13:32:26	Escenario de demanda del resto de España [5]

Ayuda << >> Cancelar

Asistente de simulación

Paso 2º: Establecer escenario de simulación

Parámetros macro Parámetros vectoriales

```
mul spexr  
2004 0.99  
2010 0.70  
2025 0.90
```

Ayuda << Terminar Cancelar

Asistente de simulación

Paso 2º: Establecer escenario de simulación

Parámetros macro Parámetros vectoriales

```
mul pq 3  
2003 1.2  
mul pq :a1130  
2003 1.02  
mul pcpio :a1130  
2003 1.02  
mul pimneue 3  
2003 1.2  
mul pimnrm 3  
2003 1.2
```

Ayuda << Terminar Cancelar

Confirmación

¿Esta seguro que desea cerrar el asistente de simulación?

Información

¡Simulación calculada correctamente!

Choosing a simulation and variables

Selección de simulación

Escenario base [0] vacío

vacío vacío

 Borrar

Fecha y hora	Descripción
19/03/2004 12:40:30	Escenario base [0]
19/03/2004 13:18:58	Escenario de depreciación del tipo de cambio [1]
19/03/2004 13:21:00	Escenario de incremento del gasto publico [2]
19/03/2004 13:23:30	Escenario de incremento de precios de la energia [3]
19/03/2004 13:25:36	Escenario de incremento de demanda de la UE [4]
19/03/2004 13:32:26	Escenario de demanda del resto de España [5]
24/03/2004 14:36:08	Simulaci4n 1 [7]

OK Cancelar Ayuda

Selección de simulación

Fecha y hora	Descripción
19/03/2004 12:40:30	Escenario base [0]
19/03/2004 13:18:58	Escenario de depreciación del tipo de cambio [1]
19/03/2004 13:21:00	Escenario de incremento del gasto publico [2]
19/03/2004 13:23:30	Escenario de incremento de precios de la energia [3]
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19/03/2004 13:32:26	Escenario de demanda del resto de España [5]
24/03/2004 14:36:08	Simulaci4n 1 [7]

OK Cancelar Ayuda

Selección de variables

vacío vacío vacío vacío

 Tabla

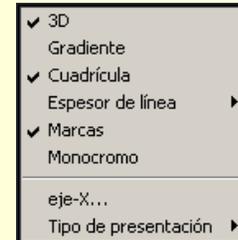
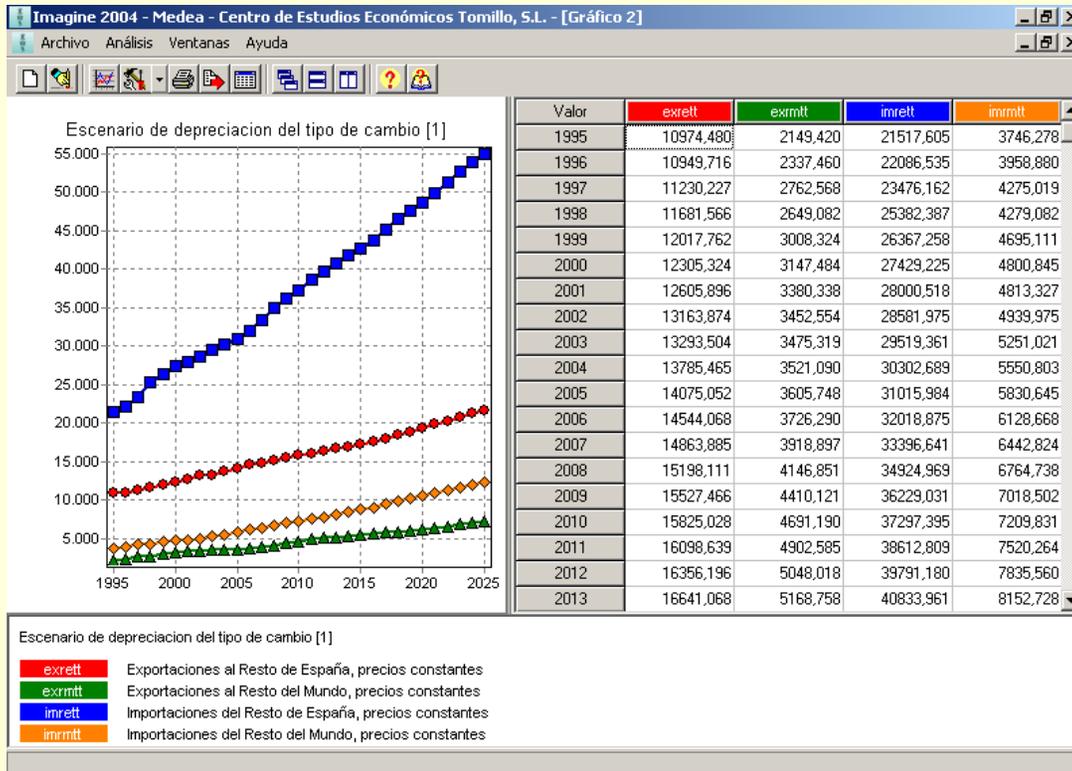
 Vaciar

agwag	Salario medio per cápita en Andalucía
altax	Financiación por impuestos sobre alcohol
astax	Financiación por tributos cedidos y tasas
avgprd	Productividad media total
cervzntax	Financiación por impuestos sobre cerveza
cgap	Gasto en consumo individual de las AAPP e ISFLSH, precios constantes
cgapN	Gasto en consumo individual de las AAPP e ISFLSH, precios corrientes
cgcc	Gasto en consumo colectivo, precios constantes
cgccN	Gasto en consumo colectivo, precios corrientes
cp	Gasto en consumo individual de los hogares, precios constantes
cpN	Gasto en consumo individual de los hogares, precios corrientes
ebeNtt	Excedente Bruto de Explotación y Renta Mixta, precios corrientes
electax	Financiación por impuestos sobre electricidad
empleo	Empleo total España
emprt	Empleo total Andalucía, en miles
exreNtt	Exportaciones al Resto de España, precios corrientes
exrett	Exportaciones al Resto de España, precios constantes
exrmNtt	Exportaciones al Resto del Mundo, precios corrientes
exrmt	Exportaciones al Resto del Mundo, precios constantes
exttNtt	Exportaciones Totales, precios corrientes
exttt	Exportaciones Totales, precios constantes
exueNtt	Exportaciones a la UE, precios corrientes
exuett	Exportaciones a la UE, precios constantes
fbc	Formación Bruta de Capital a precios constantes
fbcN	Formación Bruta de Capital a precios corrientes
fds	Financiación por el Fondo de Suficiencia

Macro Andalucía Macro España Vectores Andalucía Vectores España Matrices Andalucía Matrices España

OK Cancelar Ayuda

Analysing a simulation: Aggregated data



- Valores absolutos
- Índice...
- Diferencia
- Diferencia en porcentos
- Tasas de crecimiento

Analysing a simulation: Sectoral data

Selección de variables

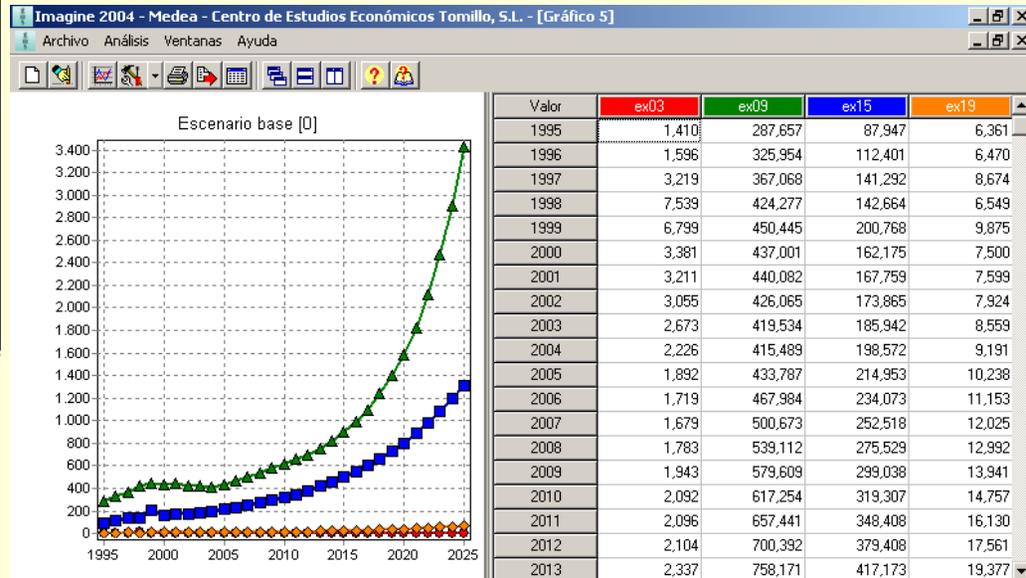
ex03 ex09 ex15 ex19  

ex19 - Exportaciones/HotelRest

cio	Gasto en consumo de los hogares, p. constantes	1	Agricul
ciorwm	Gasto en consumo de los hogares, p. corrientes, importado del resto de España	2	Fish
ciospm	Gasto en consumo de los hogares, p. corrientes, importado del resto de España	3	Cokecoaloil
dd	Demanda interna	4	ElectGas
distexp	distance factors for exports to Spain	5	FoodTobac
distimp	distance factors for imports from Spain	6	TxApShoes
emp	Empleo, en miles	7	WoodFurn
ex	Exportaciones	8	Paper
exiw	Exportaciones al resto del mundo	9	Chemical
exSP	Exportaciones al resto de España	10	RubberPlast
exSPrat	Ratio de exportaciones al resto de España sobre la demanda interna	11	StoneClay
fd	Demanda final total	12	SteelMetal
females	Población femenina por edad	13	Machinery
gio	Gasto en consumo de las AAPP, p. constantes	14	CompElecMac
hpy	Horas por año y empleado, en 100's	15	AutShipPlanes
hrs	Horas totales trabajadas por rama	16	Oth mfg
io	Formación Bruta de Capital Fijo, p. constantes	17	Construction
iorwm	Formación Bruta de Capital Fijo, p. corrientes, importado del resto de España	18	Repairtrade
iospm	Formación Bruta de Capital Fijo, p. corrientes, importado del resto de España	19	HotelRest
imp	Importaciones	20	Transcomm
impw	Importaciones del resto del mundo	21	Banking
impshw	Imports shares from rest of world	22	RentlingOth
impshSP	Imports shares from rest of Spain	23	EducMarket
impSP	Importaciones del resto de España	24	HealthMarket
ish	Imports shares	25	Othsocmarkt
males	Población masculina por edad	26	Pubsector

Macro Andalucía Macro España **Vectores Andalucía** Vectores España Matrices Andalucía Matrices España



Escenario base [0]

- ex03 Exportaciones/Coquerías
- ▲ ex09 Exportaciones/Productos metálicos
- ex15 Exportaciones/Carnes, preparados y conservas de carne
- ex19 Exportaciones/Productos del tabaco

Analysing a simulation: Matrices

Imagine 2004 - Medea - Centro de Estudios Económicos Tomillo, S.L. - [am - Matriz de coeficientes técnicos, Total, Otros produc...]

Archivo Análisis Ventanas Ayuda

1995	am		1	2	3	4	5	6	7
			AgricGanSil	Pesca	ExtrPrEnerPetr	EnerElectGas	AlimBebTab	TextilCalz	MaderaCo
		Suma	0,357	0,365	0,775	0,610	0,775	0,657	0,657
1	AgricGanSil	0,768	0,093	0,000	0,000	0,000	0,366	0,090	
2	Pesca	0,073	0,000	0,030	0,000	0,000	0,007	0,000	
3	ExtrPrEnerPetr	1,344	0,017	0,051	0,598	0,139	0,010	0,004	
4	EnerElectGas	0,954	0,022	0,003	0,020	0,396	0,011	0,014	
5	AlimBebTab	0,628	0,059	0,047	0,007	0,001	0,205	0,003	
6	TextilCalz	0,578	0,000	0,020	0,002	0,000	0,009	0,438	
7	MaderaCorcho	0,508	0,000	0,004	0,000	0,000	0,002	0,001	
8	Papel	0,594	0,000	0,005	0,001	0,001	0,019	0,006	
9	Química	1,253	0,068	0,011	0,007	0,003	0,013	0,006	
10	CauchoPlást	0,368	0,002	0,002	0,001	0,001	0,019	0,006	
11	OtProdMinNoMet	0,319	0,000	0,000	0,000	0,000	0,009	0,001	
12	ProdMetál	1,154	0,001	0,005	0,001	0,001	0,005	0,007	
13	Maquinaria	0,433	0,008	0,024	0,017	0,011	0,004	0,008	
14	MatEléctOpt	0,636	0,001	0,016	0,004	0,003	0,001	0,001	
15	MatTransporte	0,161	0,004	0,005	0,000	0,000	0,000	0,000	
16	OtrasManuf	0,110	0,000	0,007	0,000	0,000	0,000	0,004	
17	Construc	0,311	0,015	0,005	0,001	0,003	0,001	0,001	
18	ComercioRepar	0,796	0,046	0,041	0,019	0,007	0,020	0,014	
19	HotelRest	0,104	0,000	0,002	0,002	0,003	0,002	0,002	
20	TranspComunic	1,051	0,012	0,049	0,043	0,015	0,036	0,026	
21	Bancos	0,260	0,002	0,013	0,003	0,006	0,005	0,007	

Taste <+> für nächstes, Taste <-> für voriges Jahr drücken

Creating tables in “excel” out of templates

The screenshot shows the Microsoft Excel interface with the title bar "Microsoft Excel - VARIABLES VECTORIALES". The menu bar includes "Archivo", "Edición", "Ver", "Insertar", "Formato", "Herramientas", "Datos", and "Ventana". The ribbon shows various icons for file operations, editing, and formatting. The active cell is C47, and the formula bar is empty. The spreadsheet grid shows columns A, B, and C, and rows 9 through 30. A dialog box is open in column B, titled "Seleccione una simulación para procesar:", with a list of simulation scenarios and an "Ejecutar" button.

	A	B	C
9			
10			
11		Seleccione una simulación para procesar:	
12		Escenario base	Ejecutar
13		Escenario de incremento de demanda de la UE	
14		Escenario de incremento de precios de la energía	
15		Escenario de incremento del gasto público	
16		Escenario de depreciación del tipo de cambio	
17		Escenario de demanda del resto de España	
18			
19			
20			
21			
22			
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25			
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27			
28			
29			
30			

At the bottom of the window, the status bar shows "Listo" on the left and "NUM" on the right. The keyboard shortcuts bar at the bottom includes "MENU", "q", "qN", "fd", "fdN", "dd", "ddN", "cpio", "cpioN", "cgio", "cgioN", "fcio", and "veio".

Help window

Ayuda de Imagine-Medea 2004 - Microsoft Internet Explorer

Archivo Edición Ver Favoritos Herramientas Ayuda

Atrás Búsqueda Favoritos Multimedia Ir Vínculos

Dirección C:\Medea\help\index.htm

Ayuda de Imagine-Medea 2004

Índice

- [Página de inicio](#)
- [¿Cómo se realiza una simulación?](#)
- [¿Cómo se borra una simulación?](#)
- [Selección de simulaciones](#)
- [Ventana de datos](#)
- [Escenarios](#)
- [Creación de tablas](#)

Impresión

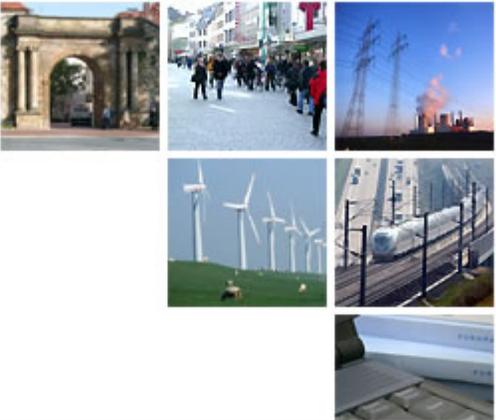
GWS mbH,
Germany

Centro de Estudios
Económicos Tomillo,
S.L.

Bienvenido/a a la Ayuda de Imagine-Medea 2004!

Por favor, use el índice situado a la izquierda para obtener ayuda sobre las principales opciones de esta aplicación.

(VERSIÓN PRELIMINAR)



Some difficulties for the client

- What happens to Andalucía when European forecasts change?
- Year to year changes. Difficult to explain.
- Price behaviour is mostly Spanish price behaviour.
- The model should replicate “all” recent published data “at once”. Difficult to transmit that “a model” is not “official statistics”.
- They need training to make “hand” corrections to scenario building.
- The short term behaviour versus the long term not clear in some simulations.
- They appreciated the front-end user.