"Capacity Building and Strengthening Institutional Arrangement / Data Yearbook"

Workshop: "Environmental Indicators and their use for indicator-based reporting activities"

Working Group Exercise n°2

Decoupling Model

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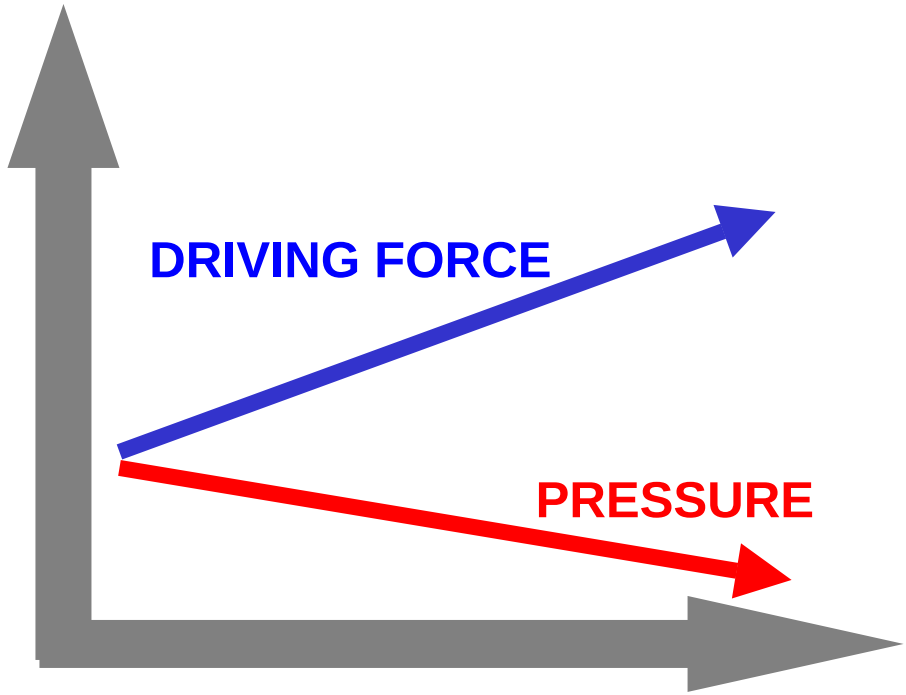
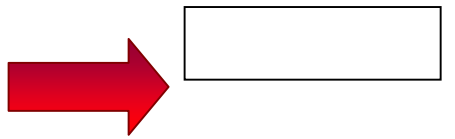
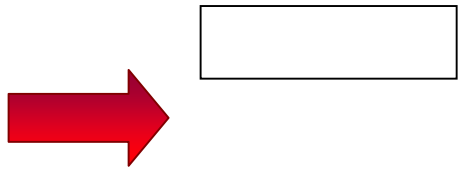
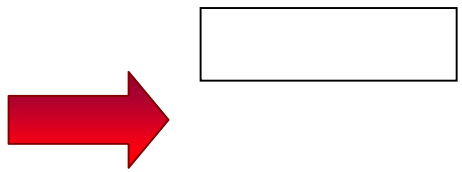
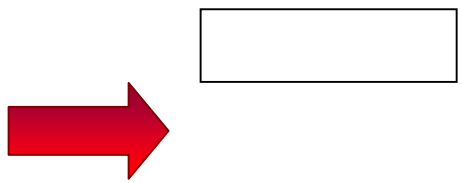
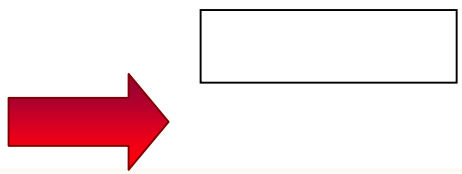
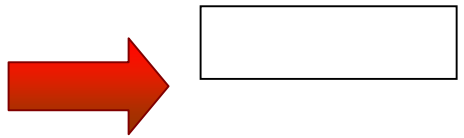
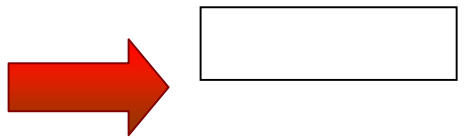
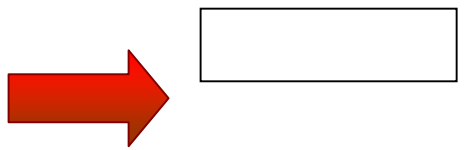
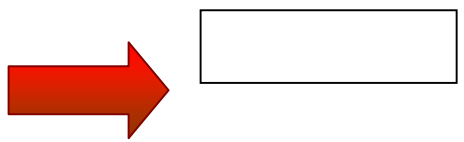
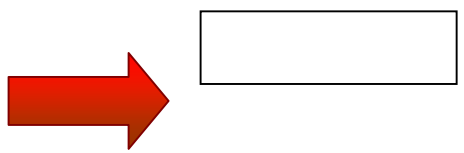
Decoupling Model



Exercise A1

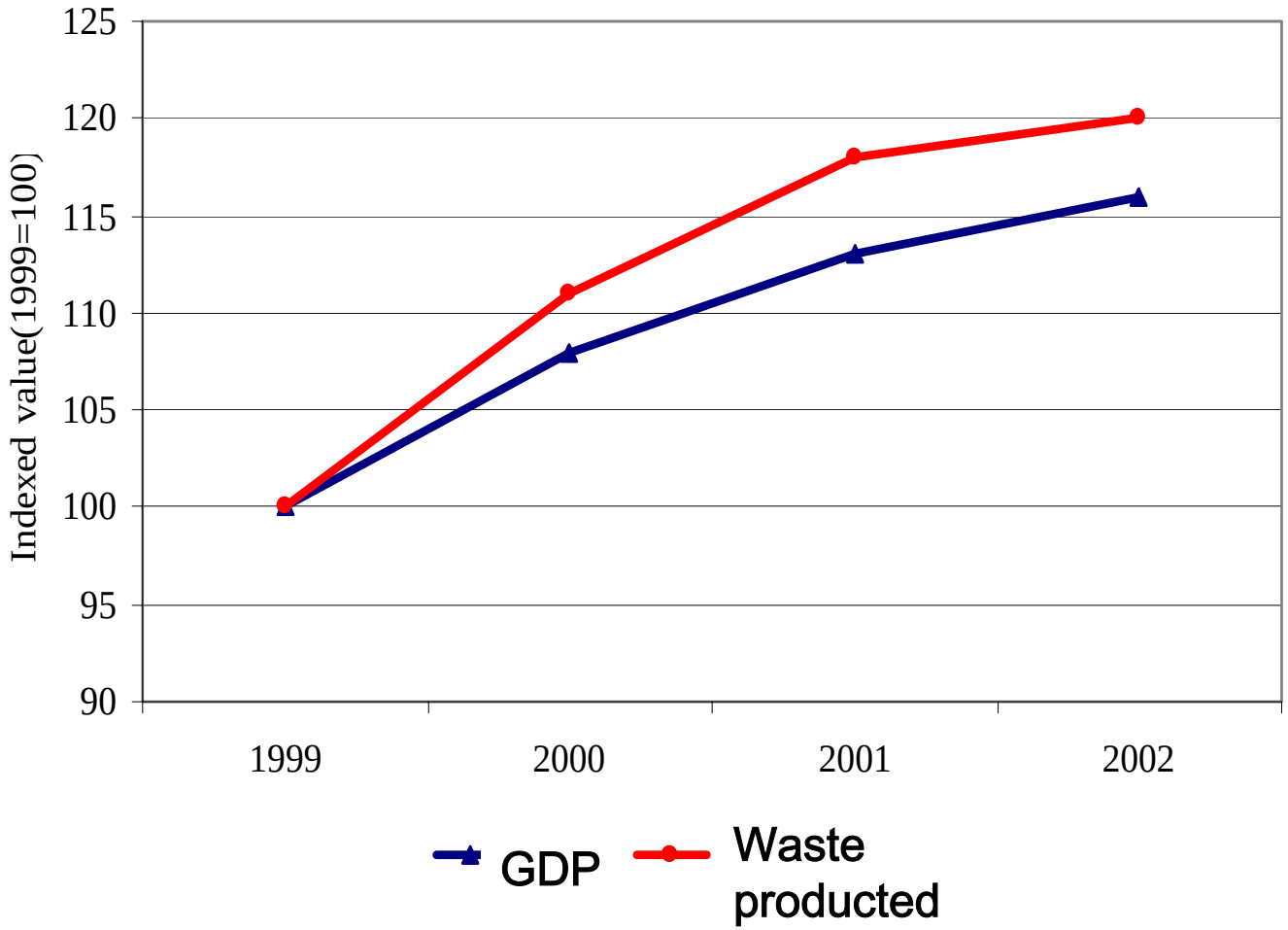
For which of the following couples of variables it's correct to evaluate the decoupling.

COUPLES OF VARIABLES	DECOUPLING
Emissions of CO_2 in the chemical industry Emissions of CO_2 in the iron industry	
GDP Wastes generation	
National GDP GDP Per capita	
Quantity of produced electric energy Emissions of pollutants linked to the electric energy production	
GDP Energetic use in the various productive sectors	

COUPLES OF VARIABLES	DECOUPLING
National agricultural production Use of synthetic herbal medicine	
Used Agricultural Surface (SAU) Use of chemical fertilizers for hectare	
Value in € of the general production of the chemical sector Emissions of NO_x in the chemical industry	
Value in € of the steel production Emissions of CO_2 in the paper industry	
Value in € of the steel production Emissions of CO_2 linked to the steel productive trials	

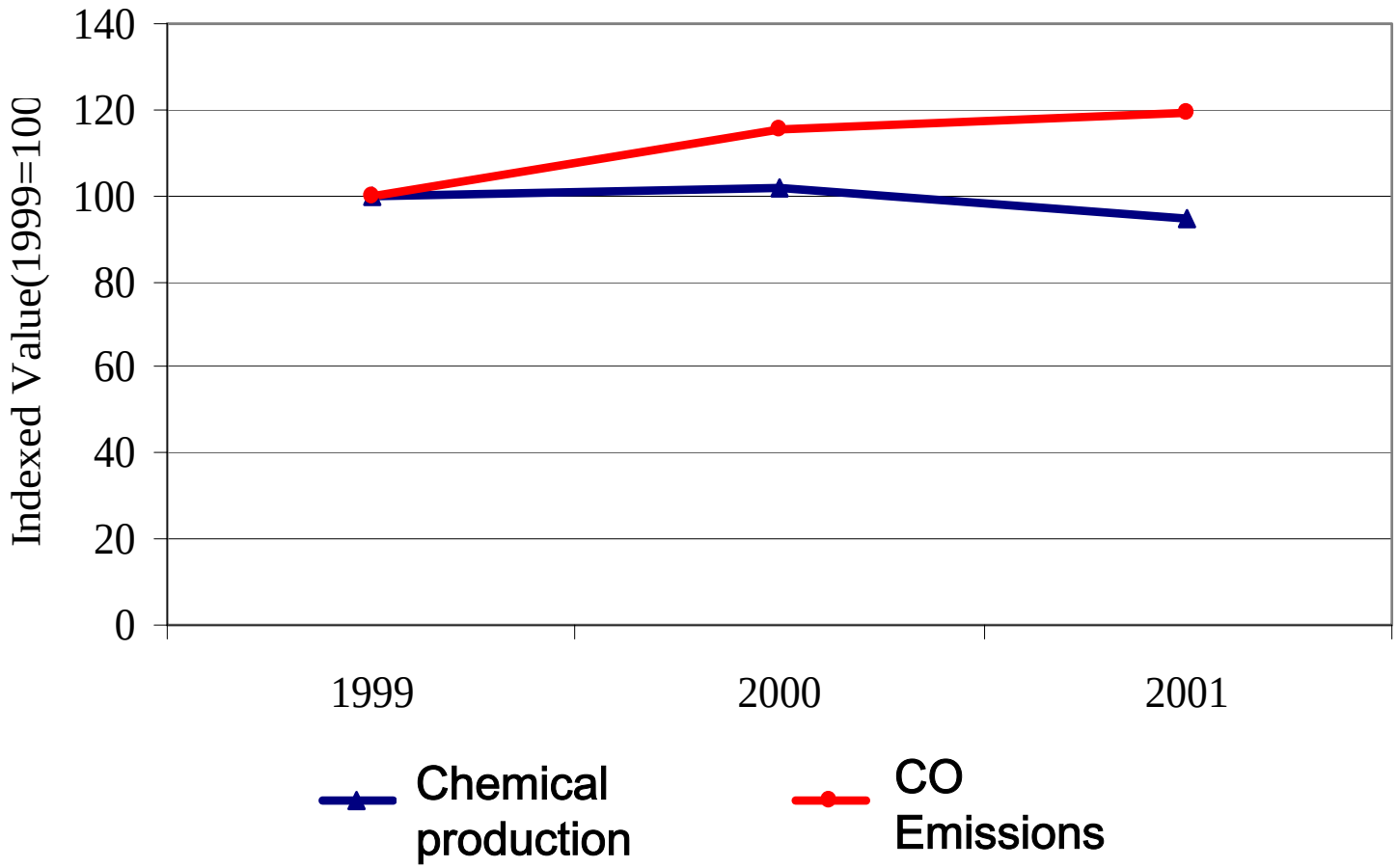
Exercise B1

Based on the following graph, in which periods does not have sense to investigate the decoupling presence and why?



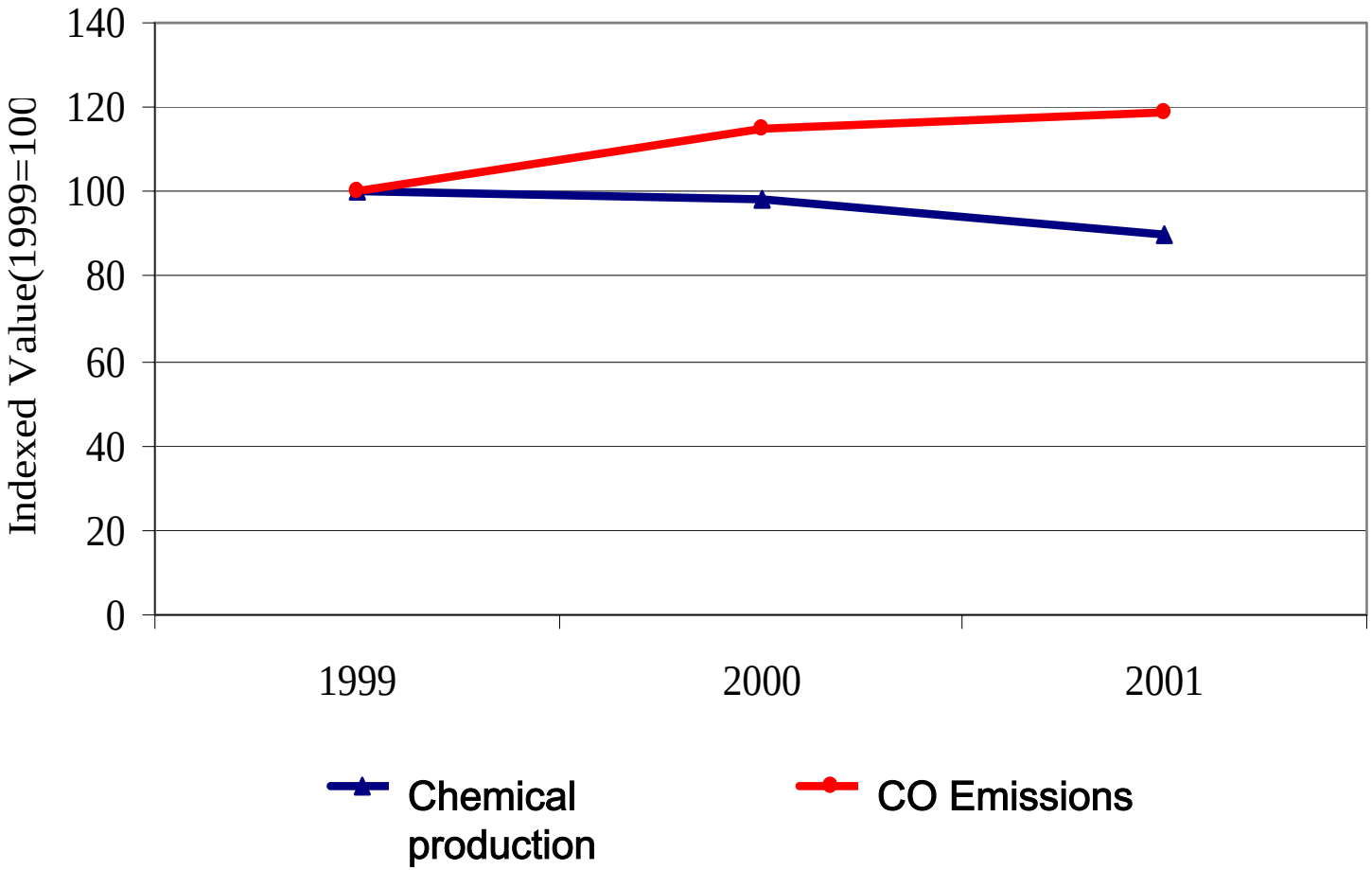
Exercise B2

Based on the following graph, in which periods does not have sense to investigate the decoupling presence and why?



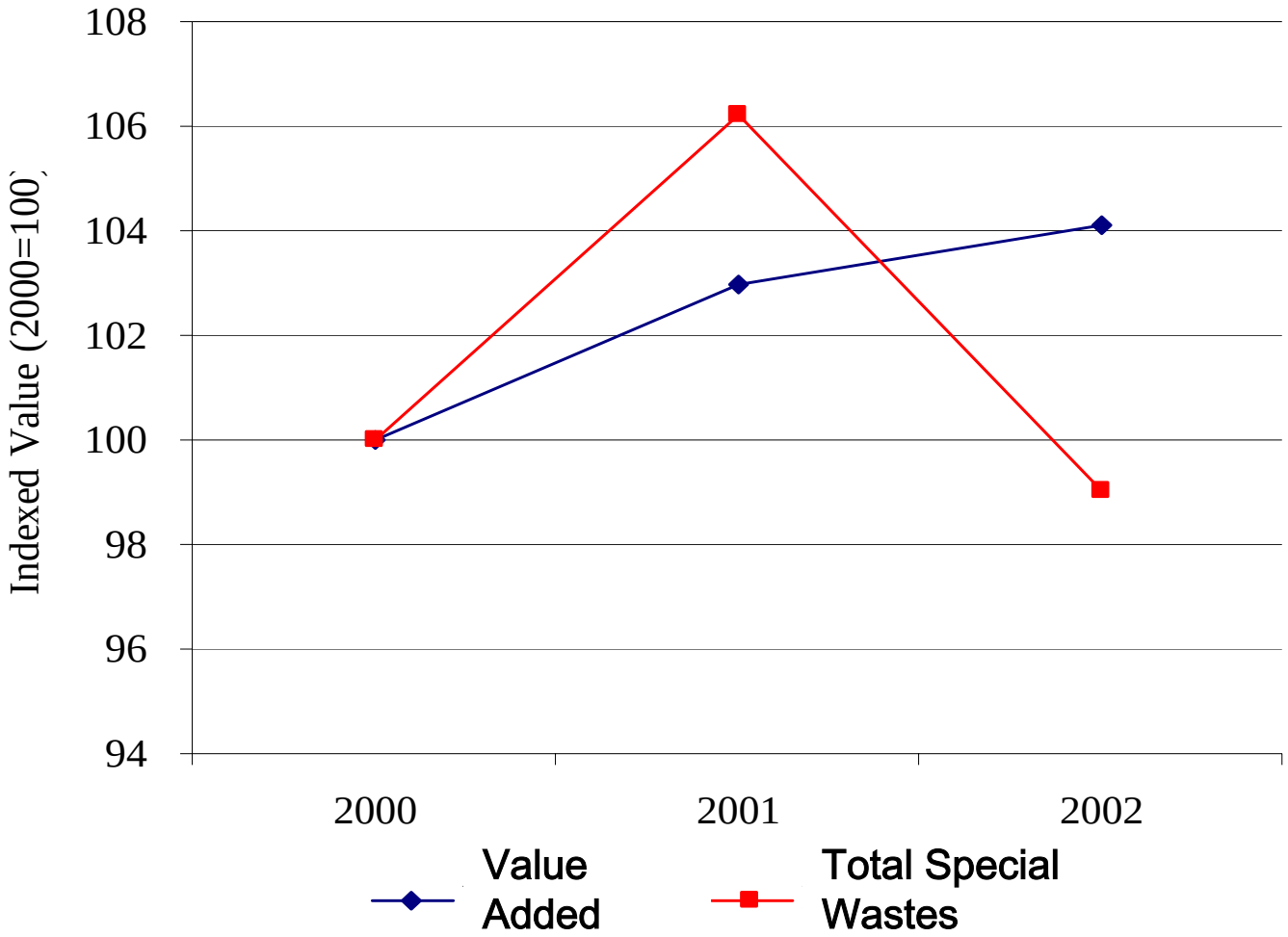
Exercise B2

Based on the following graph, in which periods does not have sense to investigate the decoupling presence and why?



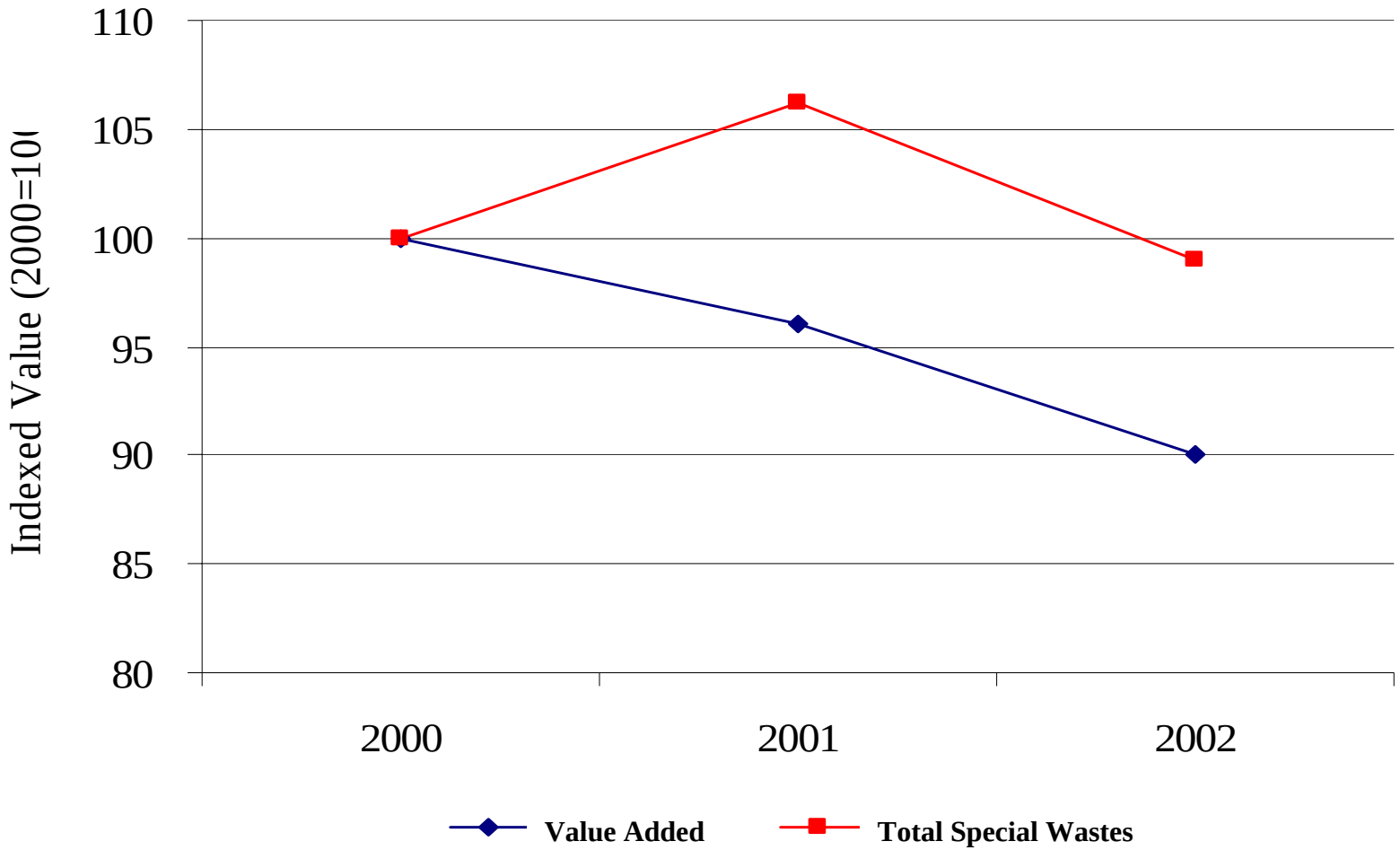
Exercise B3

Based on the following graph, in which periods does not have sense to investigate the decoupling presence and why?



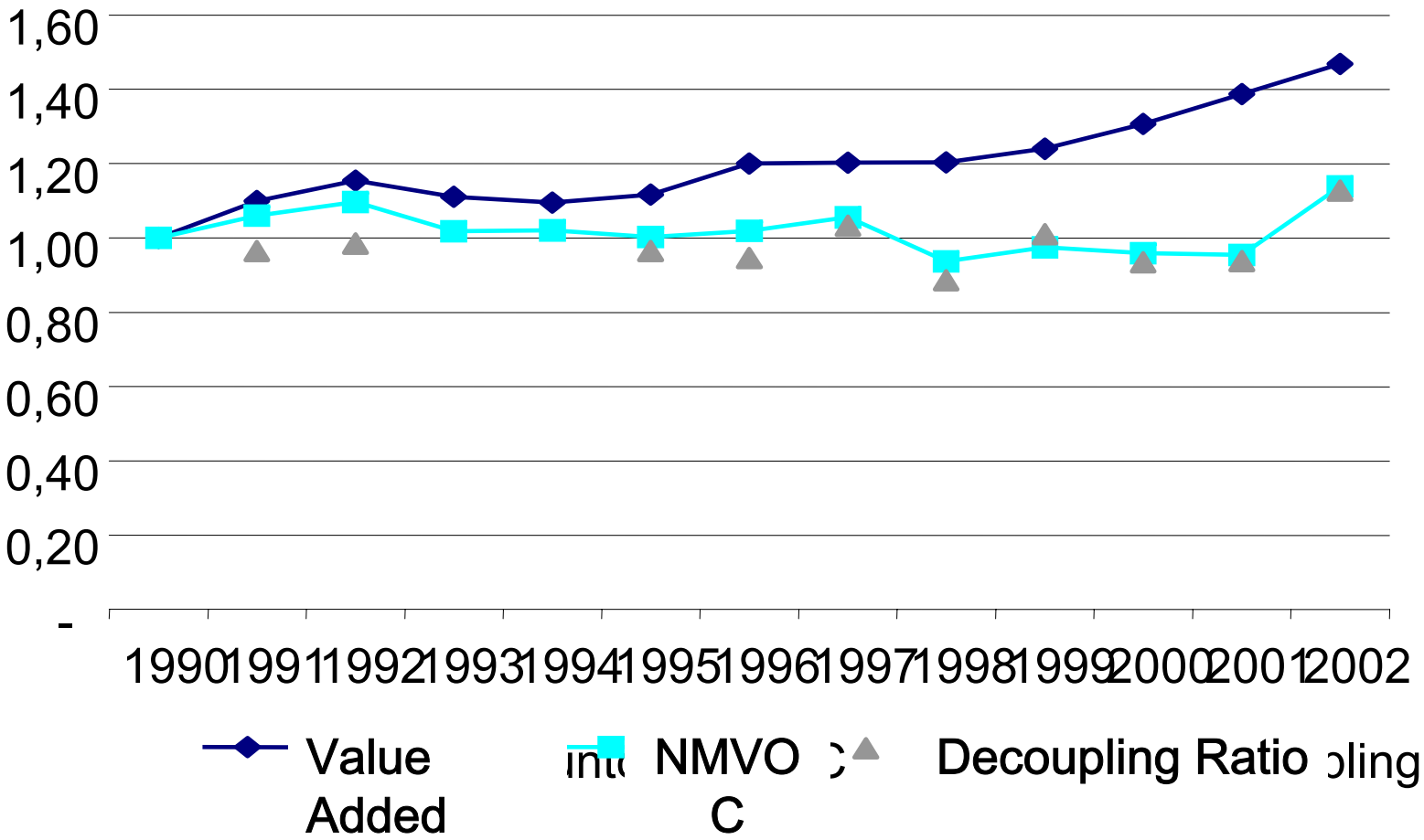
Exercise B4

Based on the following graph, in which periods does not have sense to investigate the decoupling presence and why?



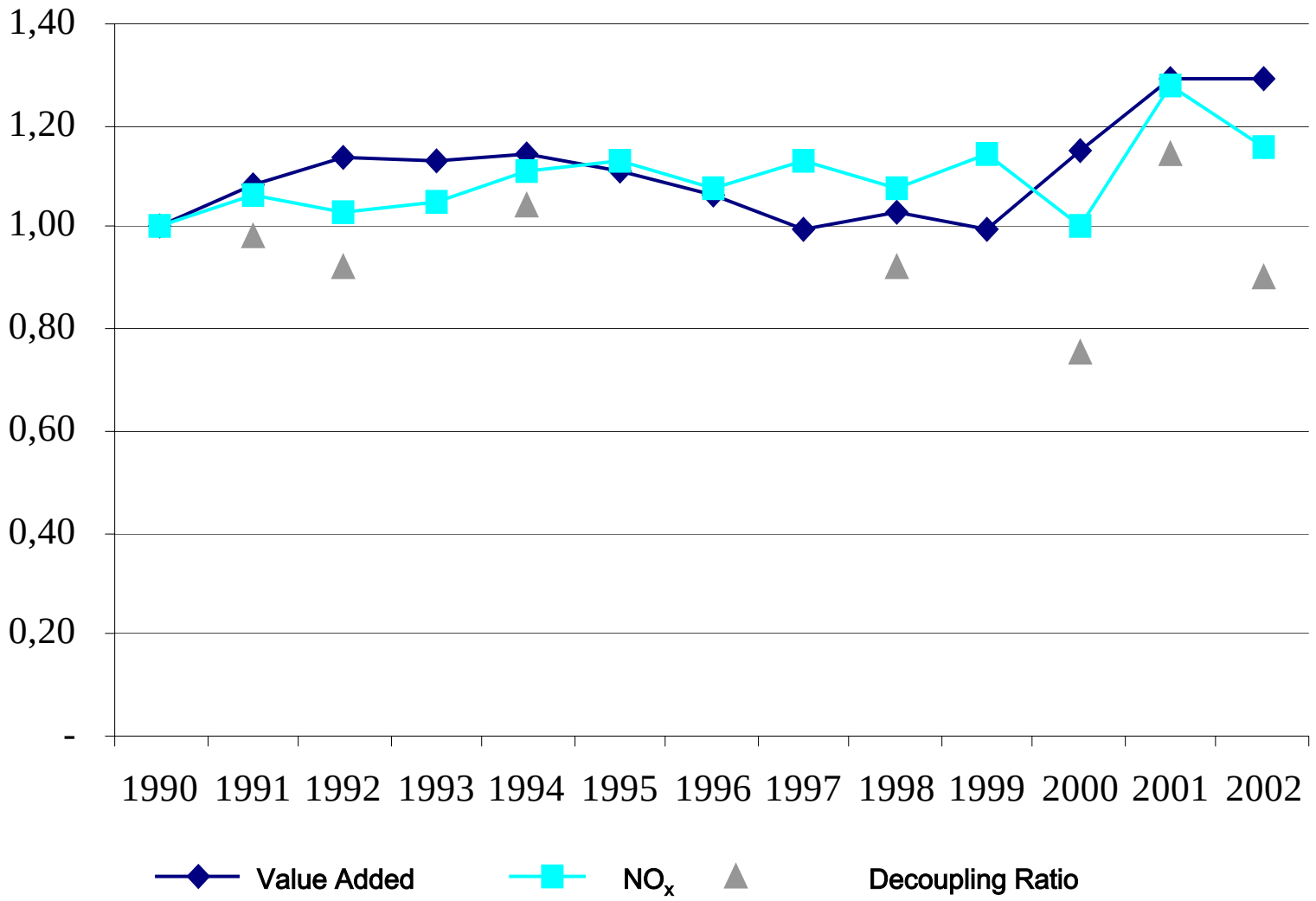
Exercise C1

Establish where the decoupling is present and qualify it by the only graphic help.



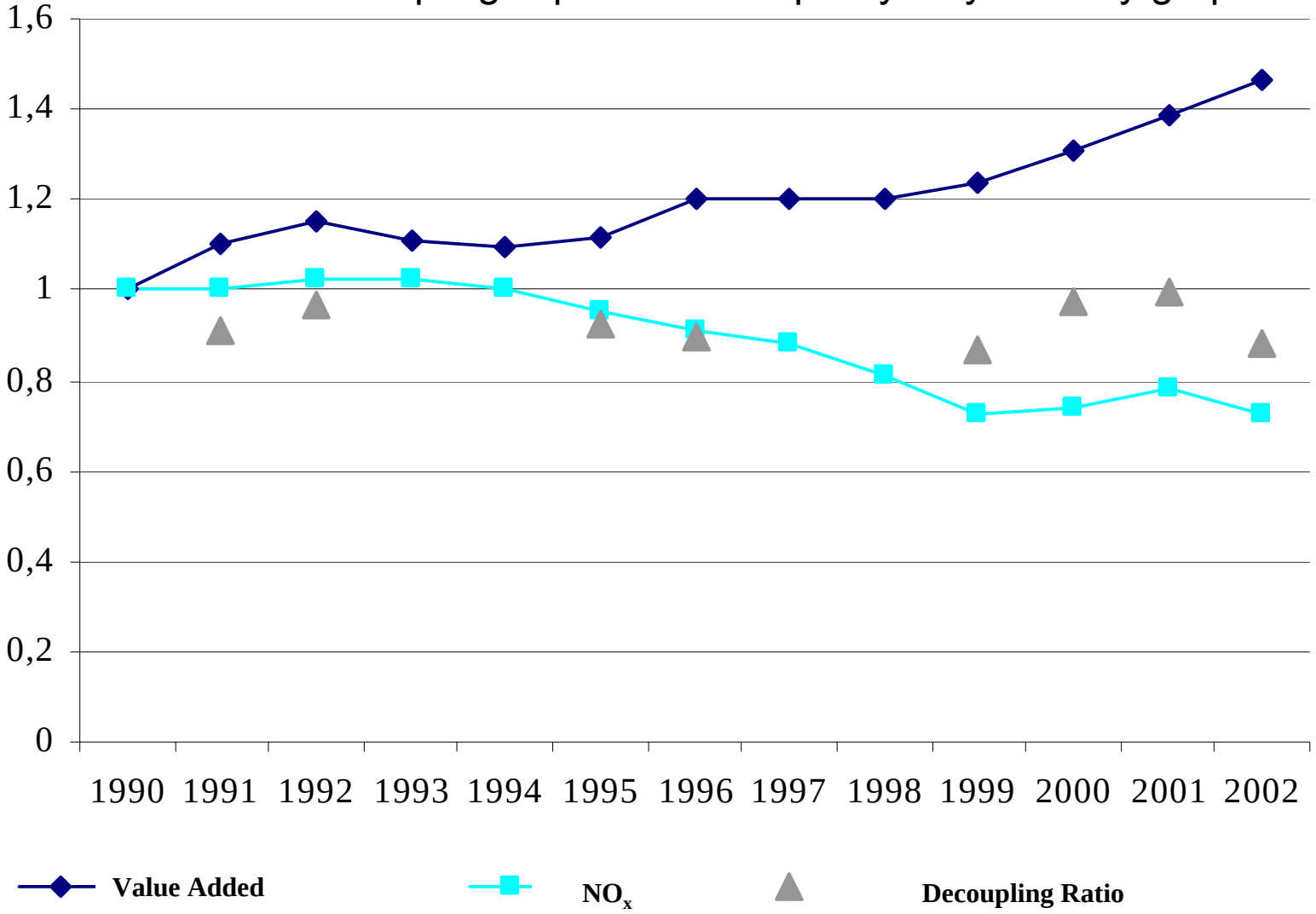
Exercise C2

Establish where the decoupling is present and qualify it by the only graphic help.



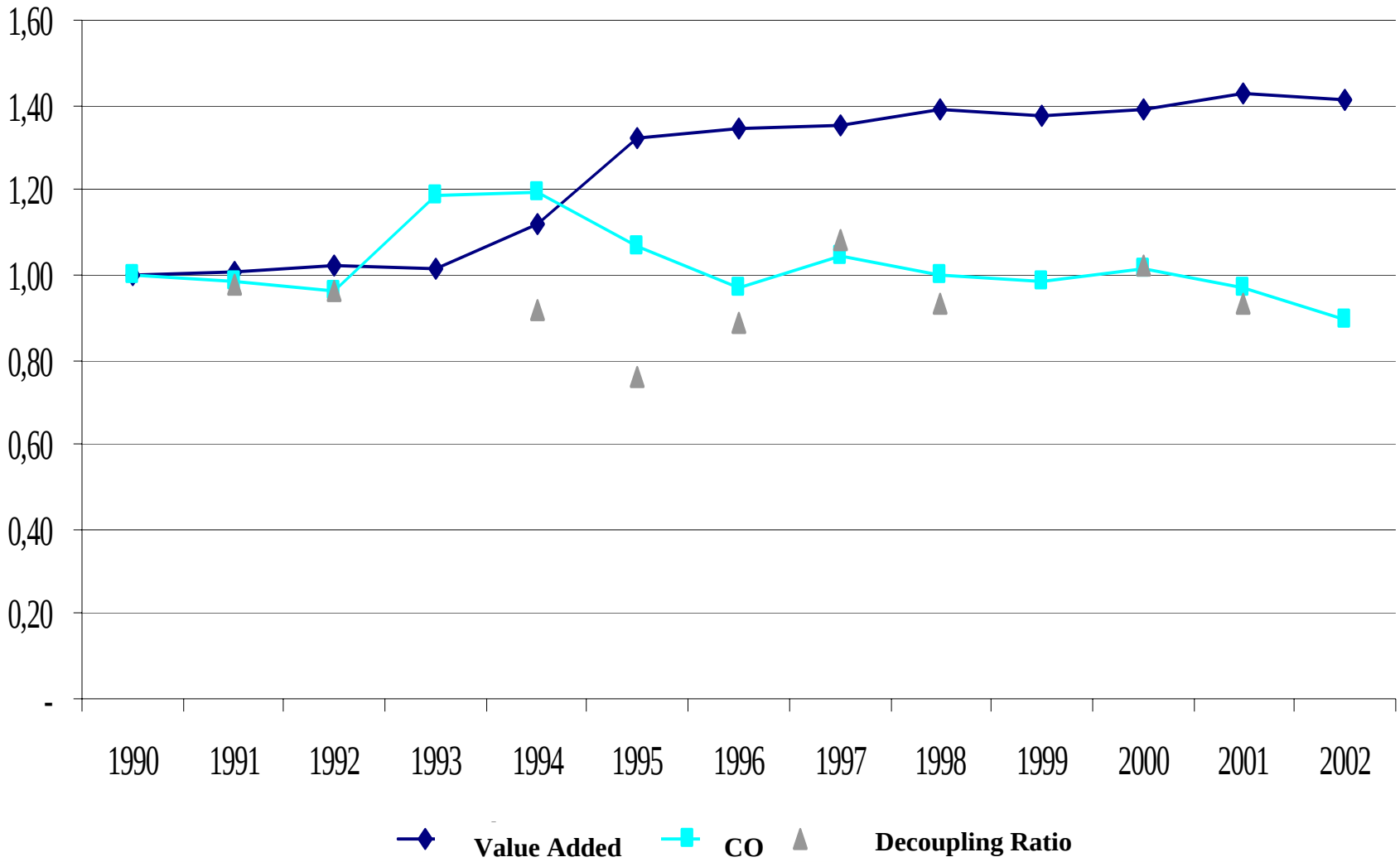
Exercise C3

Establish where the decoupling is present and qualify it by the only graphic help.



Exercise C4

Establish where the decoupling is present and qualify it by the only graphic help.



Exercise D1

Verify the decoupling existence for the period 1999-2002 by decoupling factor calculation.

	1999	2000	2001	2002
	t			
Steel production	24.780.357	26.622.561	26.526.195	26.301.427
SO_x Emissions	382	398	375	450

Exercise D2

Verify the decoupling existence for the period 1999-2002 by decoupling factor calculation.

	1999	2000	2001	2002
	t			
Steel production	22.580.357	23.322.561	24.526.195	25.301.427
SO_x Emissions	382	360	320	280

Exercise D3

Verify the decoupling existence for the period 1999-2002 by decoupling factor calculation.

	1999	2000	2001	2002
	t			
Steel production	24.780.357	26.622.561	26.526.195	26.301.427
SO_x Emissions	382	398	375	349

Exercise D4

Verify the decoupling existence for the period 1999-2002 by decoupling factor calculation.

	1999	2000	2001	2002
	t			
Paper production	78.397	79.987	78.562	71.714
SO_x Emissions	510	480	460	450

Exercise E1

Verify the decoupling existence in the period 2000-2002 between the "determinant" and the "pressure" indicators synthetically expressed in the following.

1) "Specific NOx emissions in the chemical industry"

Driving force = production of the sector (t)

Pressure = general emissions (g)

2000	2001	2002
g/t		
89,07	90,24	76,44

Exercise E2

Verify the decoupling existence in the period 2000-2002 between the “determinant” and the “pressure” indicators synthetically expressed in the following.

1) "Specific NOx emissions in the iron industry"

Driving force = production of the sector (t)

Pressure = general emissions (g)

2000	2001	2002
g/t		
2742	2645	2600

Exercise E3

Verify the decoupling existence in the period 2000-2002 between the "determinant" and the "pressure" indicators synthetically expressed in the following.

1)"Energetic intensity of the textile sector"

Driving force = sector GDP (millions of €)

Pressure = energetic consume (equivalent petroleum tons)

2000	2001	2002
ept/millions of €		
104	107	115

Exercise E4

Verify the decoupling existence in the period 2000-2002 between the "determinant" and the "pressure" indicators synthetically expressed in the following.

1)"Energetic intensity of the textile sector"

Driving force = sector GDP (millions of €)

Pressure = energetic consume (equivalent petroleum tons)

2000	2001	2002
ept/millions of €		
190	193,7	197,2