Topics of the Presentation

1. What are National Accounts (NA)
2. Define some terms of NA
3. Approaches to measure GDP
4. Methodology
5. Macro-economic Indicators (graphs)
6. Key Findings
7. Conclusion

What are National Accounts?

- The System of National Accounts (SNA) helps economists to measure the level of economic development and the rate of economic growth, the change in consumption, saving and investment for the total economy and its institutional sectors.

The System of National Accounts

- The System of National accounts consists of a coherent ,consistent and integrated set of macro-economic accounts, balance sheets and tables based on a set of internationally agreed concepts, definitions, classifications.

National Accounts

- National accounts comprise all transactions within a time period of 1 year between economic agents and their stocks constituting the national economy.

Terms of NA

- Definitions of GDP
- Nominal GDP and Real GDP
- GDP per capita
- GNI
- Production (P.1)
- Intermediate Consumption (P.2)
- Value added (B.1)
- Final Consumption expenditure(P.3)
- The sectors of the economy

Definition GDP

- Gross Domestic Product is the most frequently used indicator in the national accounts.
- Measures the total value of final goods and services produced (e.g. Aruba) in a period of 1 year.

Nominal GDP and Real GDP

- The Nominal GDP measures the value of all the goods and services produced, expressed in current prices.

  GDP in 2006 = 4,288(in Afl. million).

- Real GDP:

  GDP that has been deflated or inflated by a certain price level to reflect changes in volume is called adjusted GDP or real GDP.

  Real GDP in 2006 = 3,079 (in Afl. million).

- Real GDP = (nominal GDP/GDP deflator) * 100

Nom. GDP per capita

- Brief definition:

  Levels of GDP per capita are obtained by dividing annual or period GDP at market prices by population, and indicates the amount of total output, or gross domestic product, for every person in the country.

  Nom. GDP per capita in 2006 op Aruba: Afl. 41,705.

Real GDP per capita

- Real GDP per capita:

  Levels of real GDP per capita are obtained by dividing real GDP by population, and its growth is used to indicate the pace of per capita growth income in the country.

- Real GDP per capita in 2006: 29,946
- Real GDP per capita growth in 2006: 0.3%.

Definition GNI

- GNI: Gross National Income

  Gross National Income measures total income of all residents within the economy.

  GNI = GDP +/- Net factor income abroad.

Production (P.1)

- an activity in which an enterprise uses inputs to produce output.
- a "physical" process, carried out under the responsibility, control and management of an institutional unit.
- labor and capital are used to transform inputs of goods and services into outputs of other goods and services.

Intermediate consumption (P.2)

Intermediate Consumption is the cost of goods and services used in production process.

Value added

- Value added is Output (P.1) minus Intermediate consumption (P.2).

Example : Value added

Producer: Baker

Example: from flour to bread

- Output: Bread 1,800
- Input: flour 1,000
- **Value added** **800**

Final Consumption Expenditure (P.3)

- Final consumption expenditure is the sum of households final consumption expenditure and general government final consumption expenditure.

The sectors of the economy

The institutional sectors of the economy:

- Financial corporations
- Non-financial corporations
- Government
- Non-profit institutions serving households (NPISH)
- Households
- Rest of The world

Approaches to measure GDP

- GDP can be compiled:

A. In a supply and use framework:
   1. the Production approach;
   2. the Expenditure approach;
   3. the Income approach.

B. Through integrated economic accounts (sector accounts).

A. Supply and Use Framework

Supply and Use tables:

- are used to check the consistency of statistics on flows of goods and services on the principle that the total supply of each product is equal to its total uses.

Simplified SUT 2000

Simplyfied Supply Table									
	Industries								
Product	Farmer	Miller	Retailer	Total Domestic	Imports	Total basic prices	Taxes on Products	Trade Margins	Total supply at purchasers prices
Wheat	1,000			1,000		1,000			1,000
Flour		1,800		1,800		1,800	100	200	2,100
Retail trade			200	200		200		(200)	-
Seed					600	600			600
Totals	1,000	1,800	200	3,000	600	3,600	100	-	3,700

Simplified SUT 2000

Simplyfied Use table							
Intermediate consumption					Final Use		Total Use
Product	Farmer	Miller	Retailer	Total	Households	Export	
					Government		
					NPISH		
Wheat		1,000		1,000			1,000
Flour					1,600	500	2,100
Retail trade							
Seed	600			600			600
Total	600	1,000	-	1,600	1,600	500	3,700
value added	400	800	200	1,400			
Total output	1,000	1,800	200	3,000			

1. The Production Approach

- GDP is derived as the sum of value added of industries, plus net taxes and subsidies on products

- Value added is Output (P.1) minus
- Intermediate consumption (P.2).

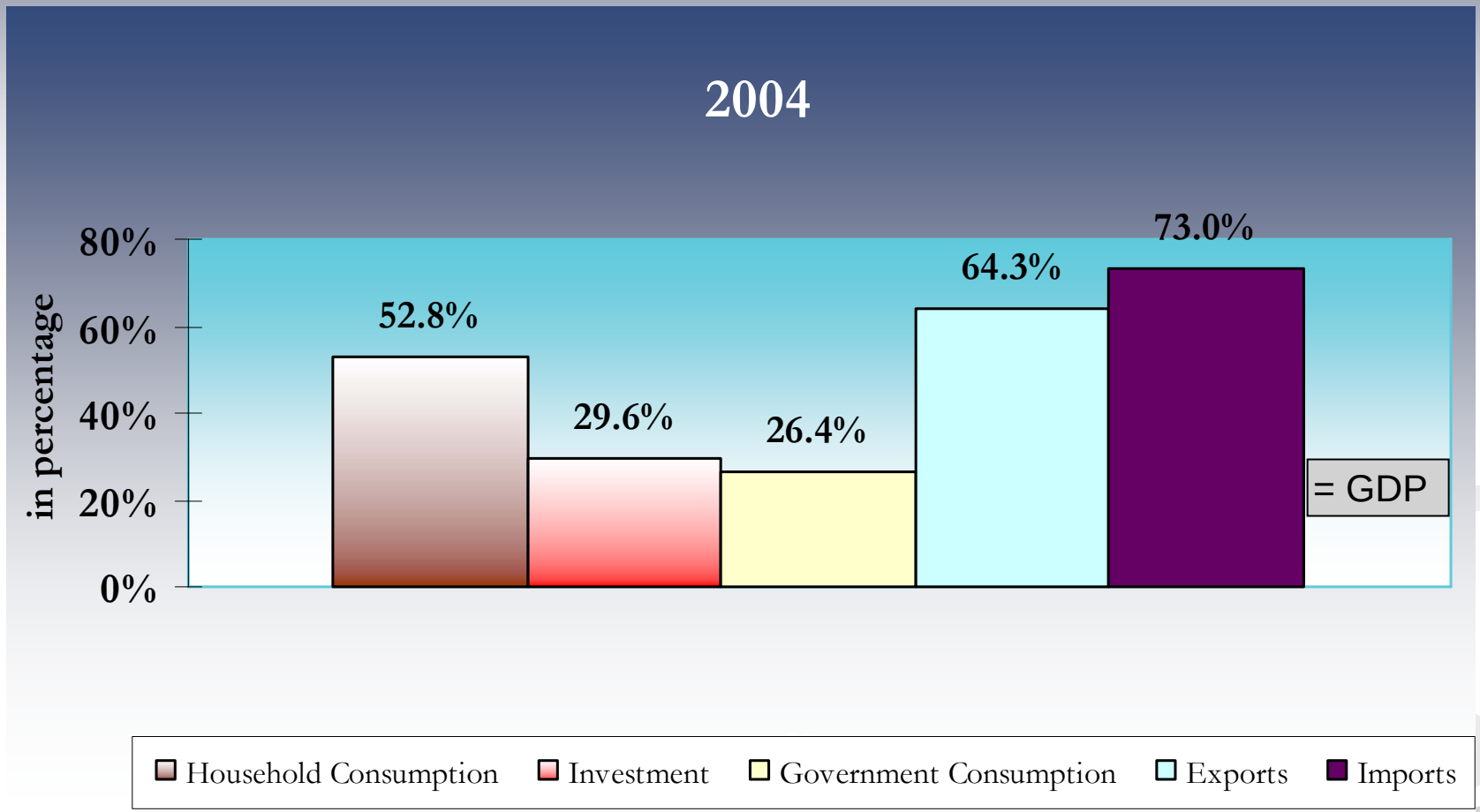
2. The Expenditure Approach

- GDP is derived as the sum of expenditure categories:

  GDP: C + I + G + X - M=>

- Household Consumption (C)
- Consumption of NPISH (C)
- Gross capital formation (I)
- Government Consumption (G)
- Exports minus Imports (X-M)

The Expenditure Approach



Source: Central Bureau of Statistics Aruba; Central Bank of Aruba

3. Income Approach

- GDP covers the incomes generated within the domestic economy.

- GDP is derived as sum of:
  - Wages and salaries;
  - Operating surplus and
  - Net taxes and subsidies on production and imports.

Data Sources SUT Aruba

Supply table:

1. P.11

- Output of Non-Financial institutions =>
  Ontvanger der belastingen;
  Output of Financial Sector => CBA;
- Output of self-employment with and without employees => Census; Business Count;
- Output of the Government and Non-Profit Institutions serving households => Ministry of Finance, DOW, ARA, FDA, SVB, AZV etc.

Data sources SUT Aruba

Supply table:

2. D.214 : Taxes on products => government accounts

3. D.31: Subsidies => government accounts

4. P.71: Import of goods => FTS (Customs)

5. P.72: Import of services => BOP (CBA)

Data sources SUT Aruba

Use table:

1. P.2 : Services — Intermediate consumption of Goods and => Ontvanger der belastingen;

2. D.11: Compensation of employees => Ontvanger der belastingen and SVB;

3. D.29: Other taxes on production => Ontvanger der belastingen.

Data sources SUT Aruba

Use table:

Foreign Trade Statistics:

- 4. P.6: Total Export
  - P.61: Regular Export and Freezone (Customs)
  - P.62: Regular Export Services (CBA)
  - P.63: Tourism Expenditure (Tourism Survey)

Data sources SUT Aruba

Use table:

- 5. P.3: Final consumption:
  - P.31: Household Consumption => H.B.S.
  - P.32: Government Consumption: government accounts (Ministry of Finance)
  - P.33: NPISH Consumption => Ontvanger der belastingen

Data sources SUT Aruba

Use table:

- 6. P.5: Total Investments:
  machines, transport (cars), equipment, buildings, spending on new plants, renovation hotels etc.
  - P.511: Investment Private sector
    => Ontvanger der belastingen, Customs, DTI
  - P.512: Investment Public sector:
    government accounts => Ministry of Finance

Supply2000(Aflmillion)

	Electricity, gas and water supply; Manufac-ture of refin.pet	Construc-tion	Wholesale and retail trade; Repair of motor vehicles and hhg	Hotels	Restau-rants	Public admini-stration; Compulsory social securit	Health and social work	Total domestic supply	Imports of goods and services	C.i.f./ f.o.b. adjust-ments on imports	Total supply at basic prices	Trade and transport margins	Taxes less subsidies on products	Total supply at pur-chasers' prices
	3	4	5	6	7	12	13	16	17	18	19	20	21	22
Commodities														
Ores and minerals; electricity, gas and water	370.27	5.68						375.95	121.72		497.67	1.51	0.62	499.80
Constructions and construction services; intangible assets		568.57				0.70	0.13	569.40	41.24		610.64			610.64
Trade services		1.78	658.93	0.44	1.85		0.28	663.28			663.28	-676.03		-12.75
Lodging; food and beverage serving services				463.67	288.74	0.20	0.67	753.28			753.28		23.85	777.13
Public administration,compulsory social security services and education						547.81	2.94	550.75	9.25		560.00			560.00
Health and social services							153.11	153.11			153.11			153.11
Adjustments														
Total	**370.27**	**576.03**	**658.93**	**464.11**	**290.59**	**548.71**	**157.13**	**3065.77**	**172.21**	**0.00**	**3237.98**	**-674.52**	**24.47**	**2587.93**

USE Table 2000(in Afl million)

	Electricity, gas and water supply; Manufac-ture of	Construc-tion	Wholesale and retail trade; Repair of motor vehicles	Hotels	Restau-rants	Public admini-stration; Compul-sory social security;	Health and social work	Total interme-diate consum.	Exports of goods and service	Final consum. Expen-diture	Gross capital formation	Total uses at pur-chasers' prices
	3	4	5	6	7	12	13	16	17	18	19	20
Commodities												
Ores and minerals; electricity, gas and water	254.66	23.75	14.55	45.24	7.66	9.79	2.91	358.56	1.30	122.44	0.19	482.49
Constructions and construction services	5.77	44.86	3.57	18.42	4.40	5.54	0.37	82.93	3.41	17.01	507.67	611.02
Trade services			0.49	0.01	0.00		0.00	0.50				0.50
Lodging; food and beverage services	3.37	0.48	3.14	1.03	0.49	1.89	0.61	11.01	719.01	45.00		775.02
Public administration,and education services	1.39	0.34	3.86	1.57	0.50	4.32	0.47	12.45		551.43		563.88
Health and social services	0.27	0.01	0.08	0.05	0.01	0.12	0.20	0.74	1.43	150.48		152.65
Adjustments												
Total uses at purchasers' prices	265.46	69.44	25.69	66.32	13.06	21.66	4.56	466.19	725.15	886.36	507.86	2585.56
Total output at basic prices	370.27	576.03	658.93	464.11	290.59	548.71	157.13	3065.77				
Total gross value added at basic prices	**104.81**	**506.59**	**633.24**	**397.79**	**277.53**	**527.05**	**152.57**	**2599.58**				
Other taxes less other subsidies on production	0.98	0.43	6.02	2.68	0.45	0.33	0.53	11.42				
Compensation of Employees	82.62	132.81	244.55	198.76	77.54	391.31	113.24	1240.83				
Operating surplus/ mixed income, gross	113.41	69.97	194.39	43.75	39.44	39.31	-3.50	496.77				
Total gross value added at basic prices												
Taxes less subsidies on products												
Total gross value added at market prices												

Supply and Use Tables

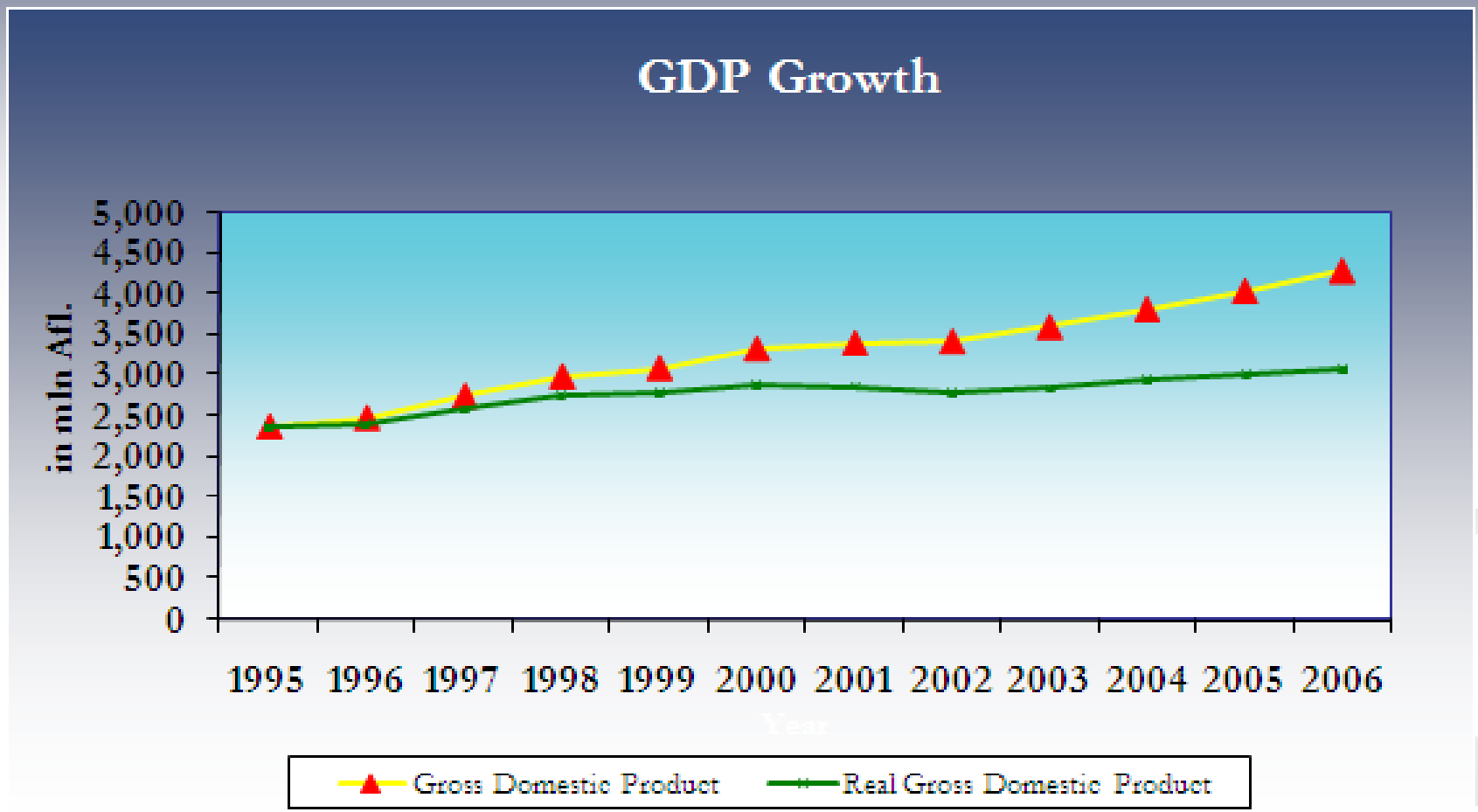
- Supply and Use tables are used to compute value added and final demand.

- + Final consumption expenditure
  + Gross capital formation
  + Exports
  - Imports
  = Final Demand

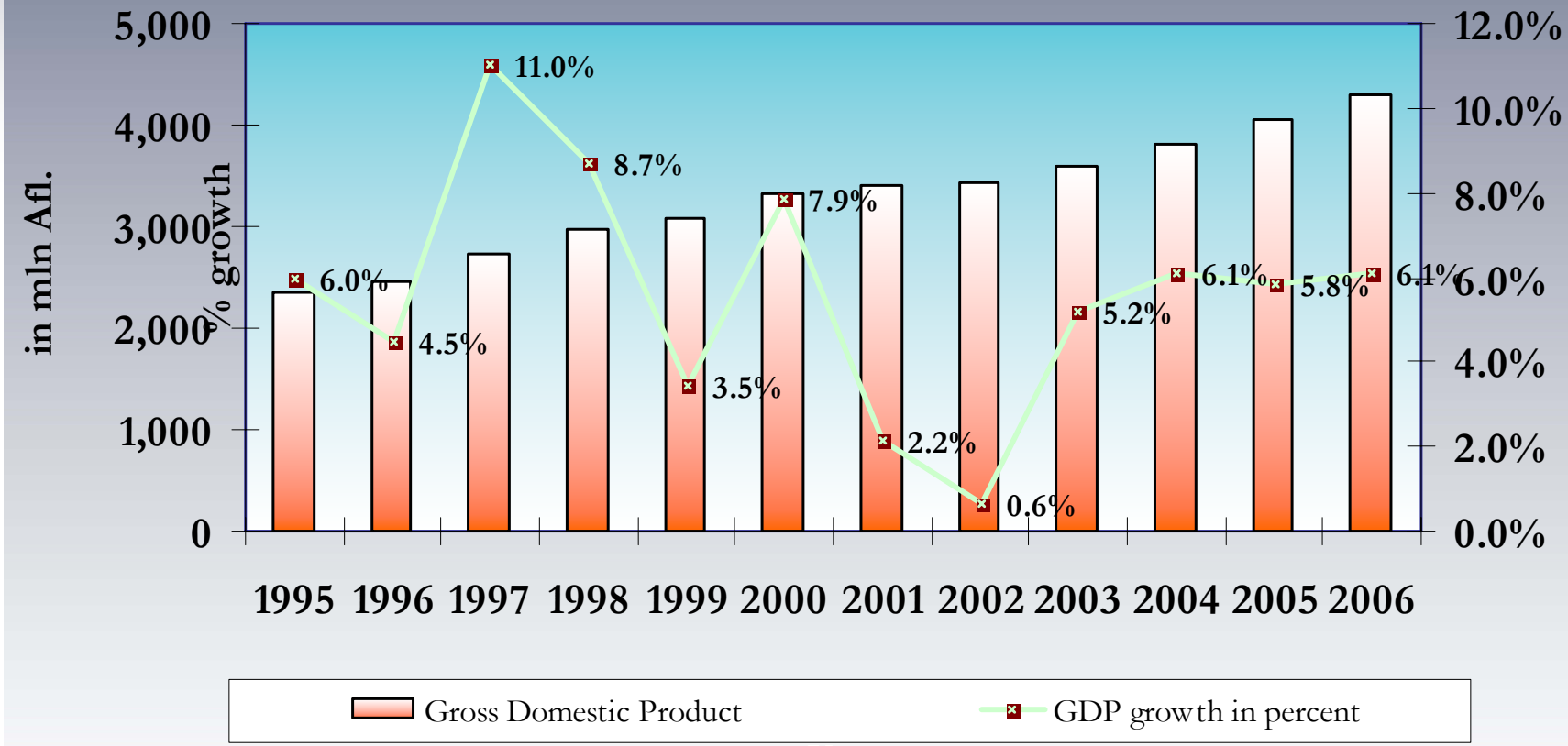
Macro-economic indicators

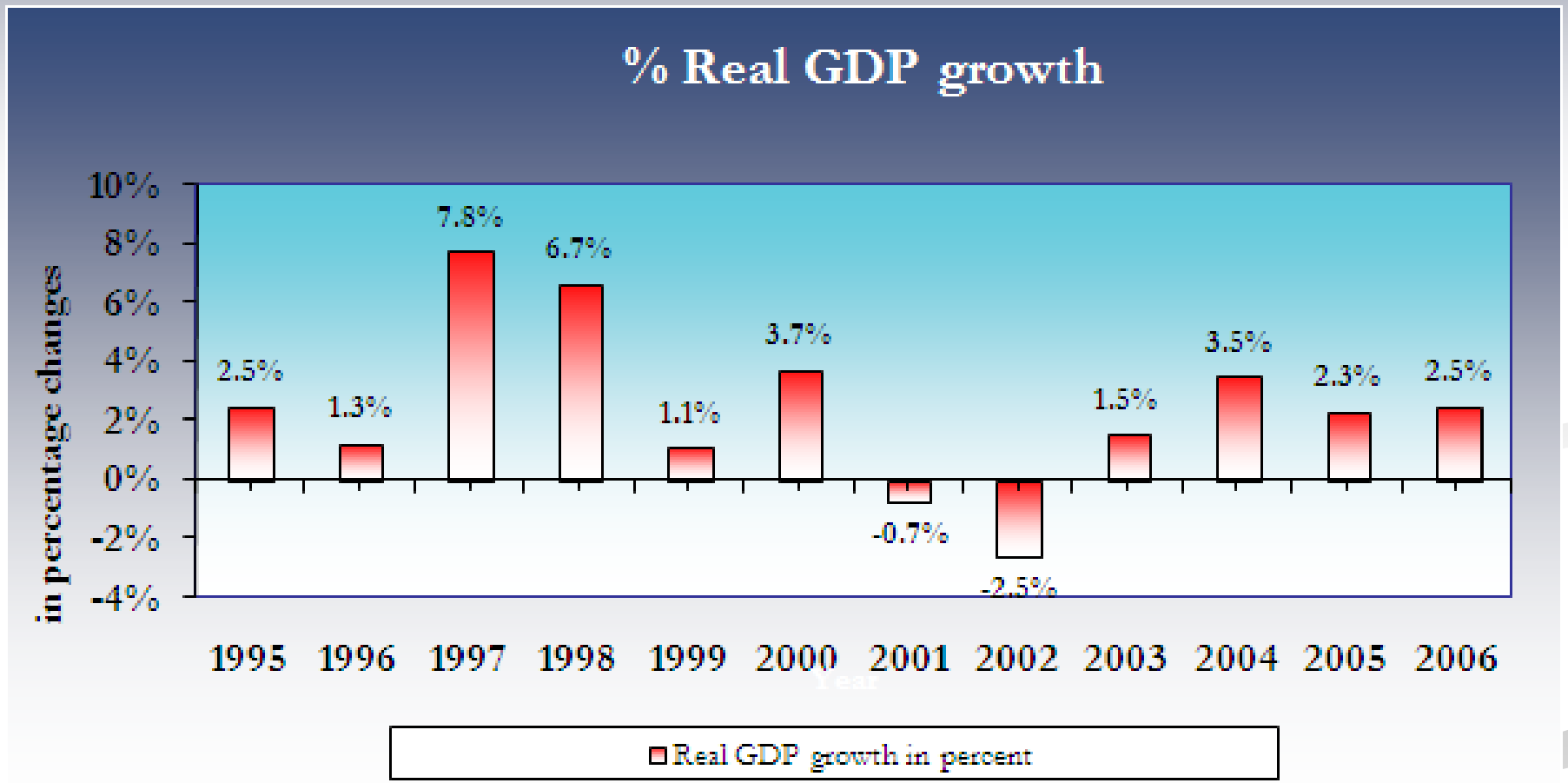
- GDP rate of growth
- Final Cons. Expenditure rate: Final Consump./GDP
- Investment rate: Investment/GDP
- Import rate of growth: Import/GDP
- Export rate of growth: Export /GDP

Nominal GDP and Real GDP

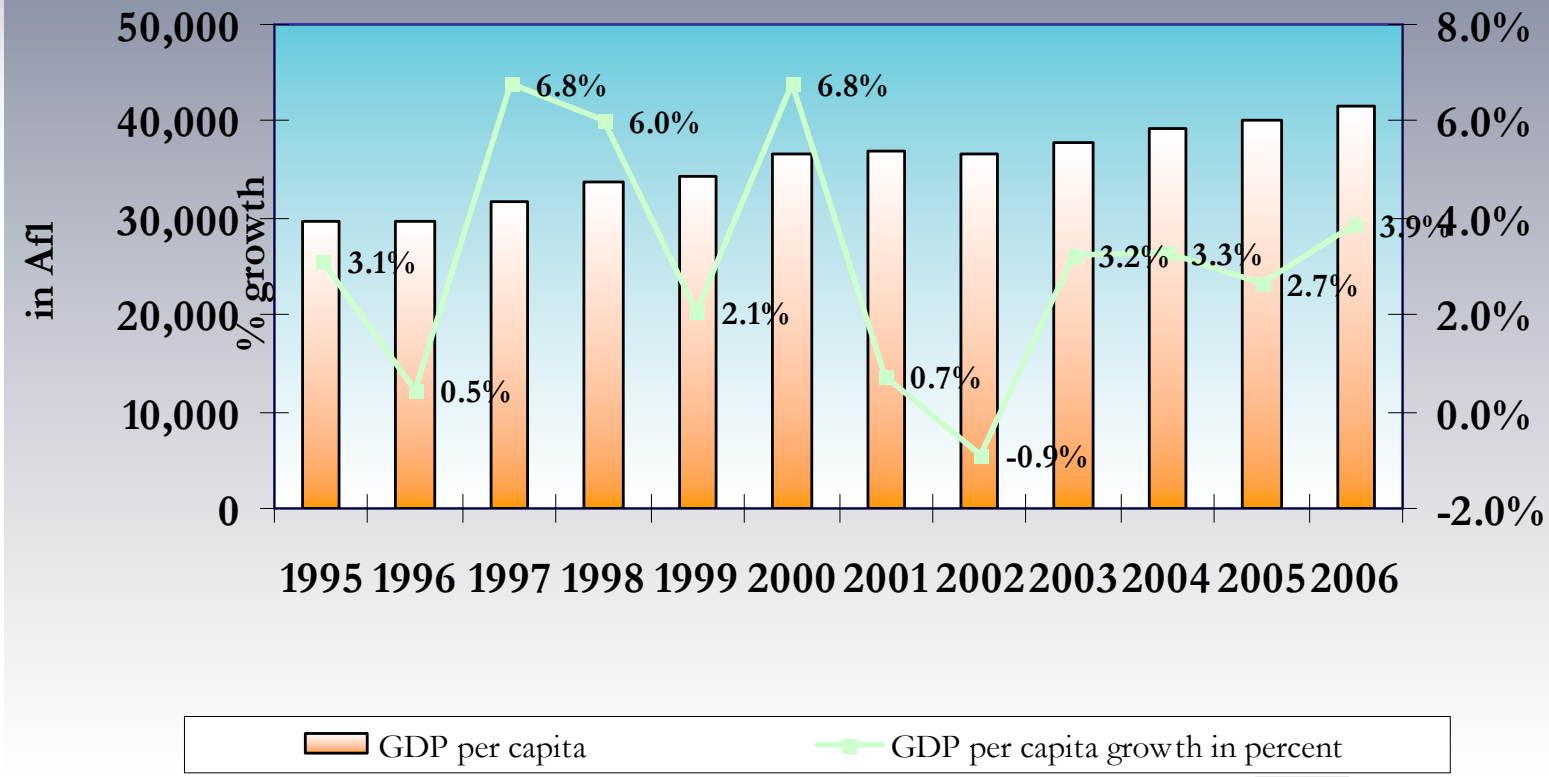


Nominal GDP Development

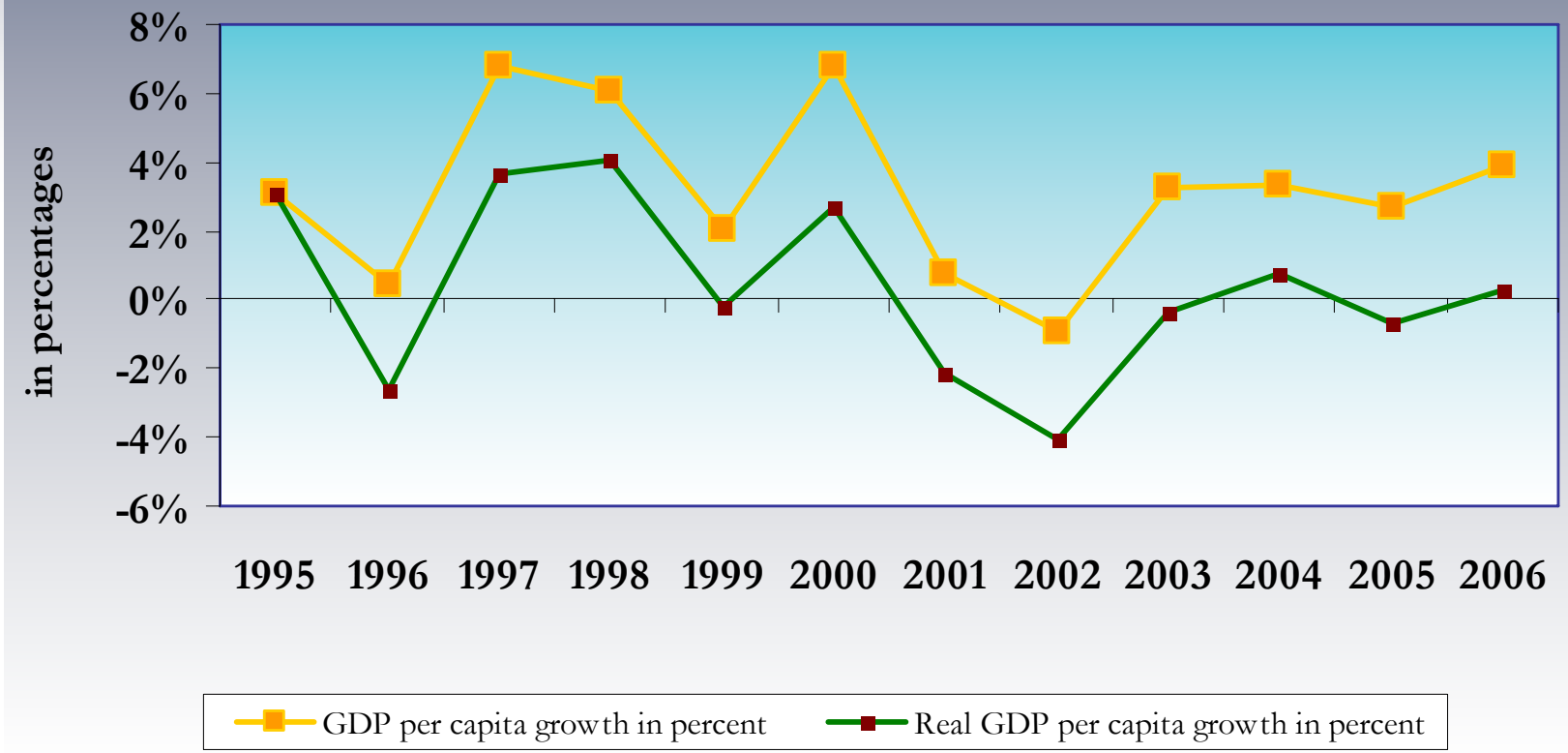



% Real GDP growth
in percentage changes
10%
8%
6%
4%
2%
0%
-2%
-4%
2.5%
1.3%
7.8%
6.7%
1.1%
3.7%
-0.7%
-2.5%
1.5%
3.5%
2.3%
2.5%
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
Year
Real GDP growth in percent

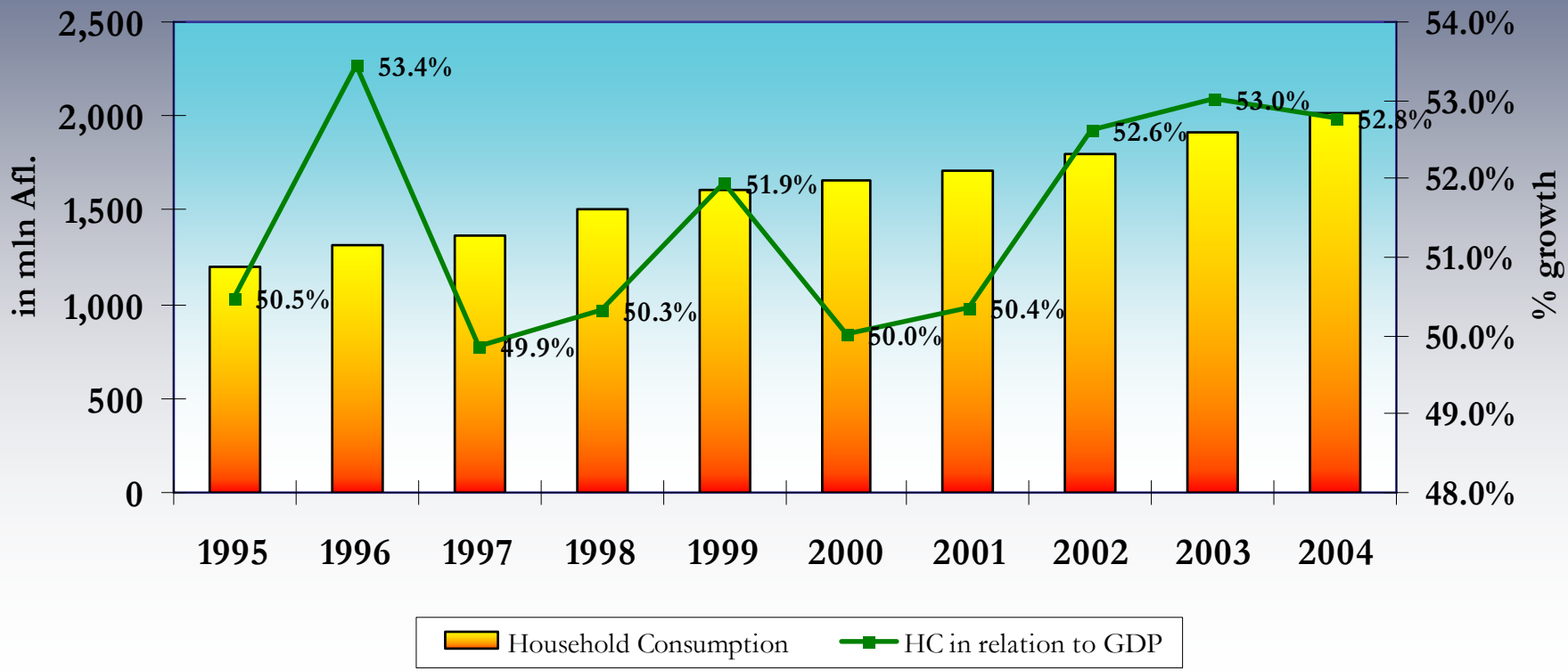
Nominal GDP per capita Development



Nominal and Real GDP growth per capita

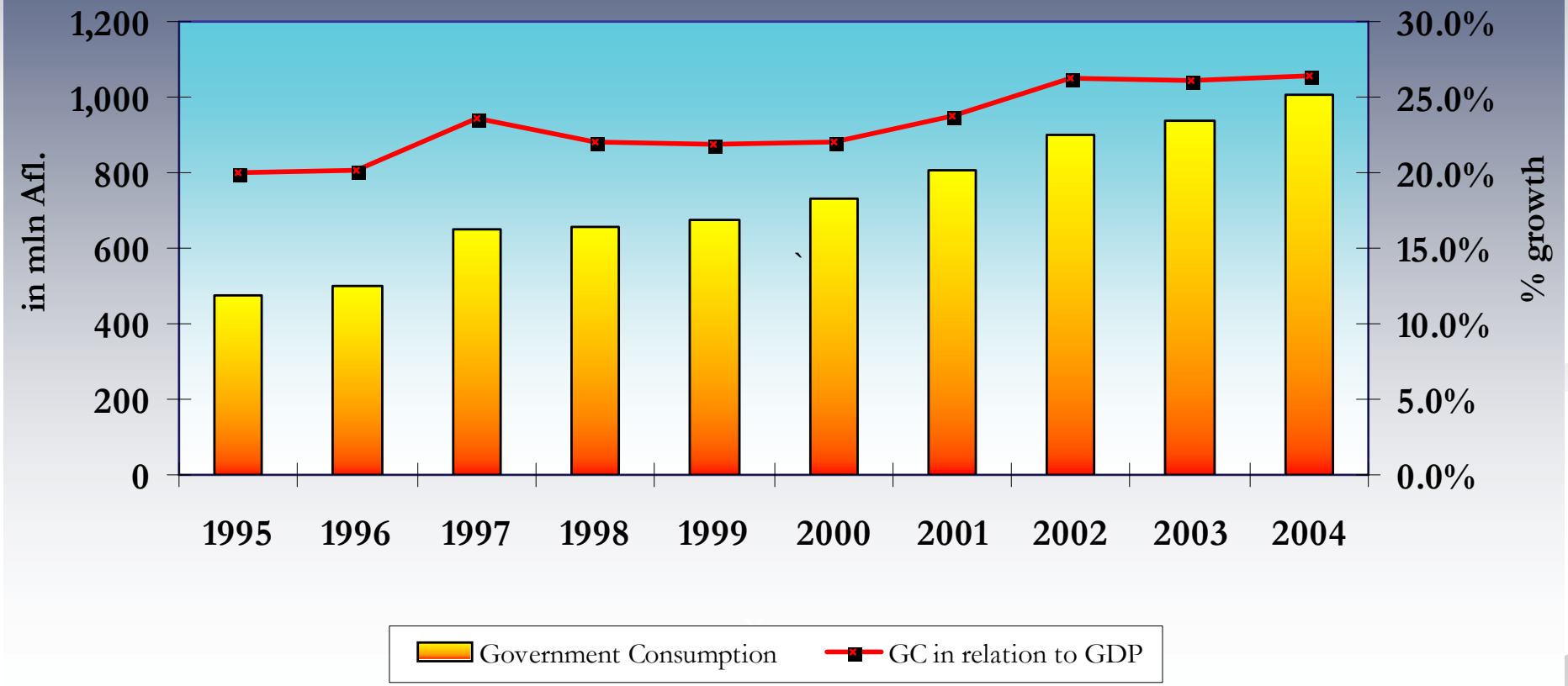


Household Consumption in relation to GDP

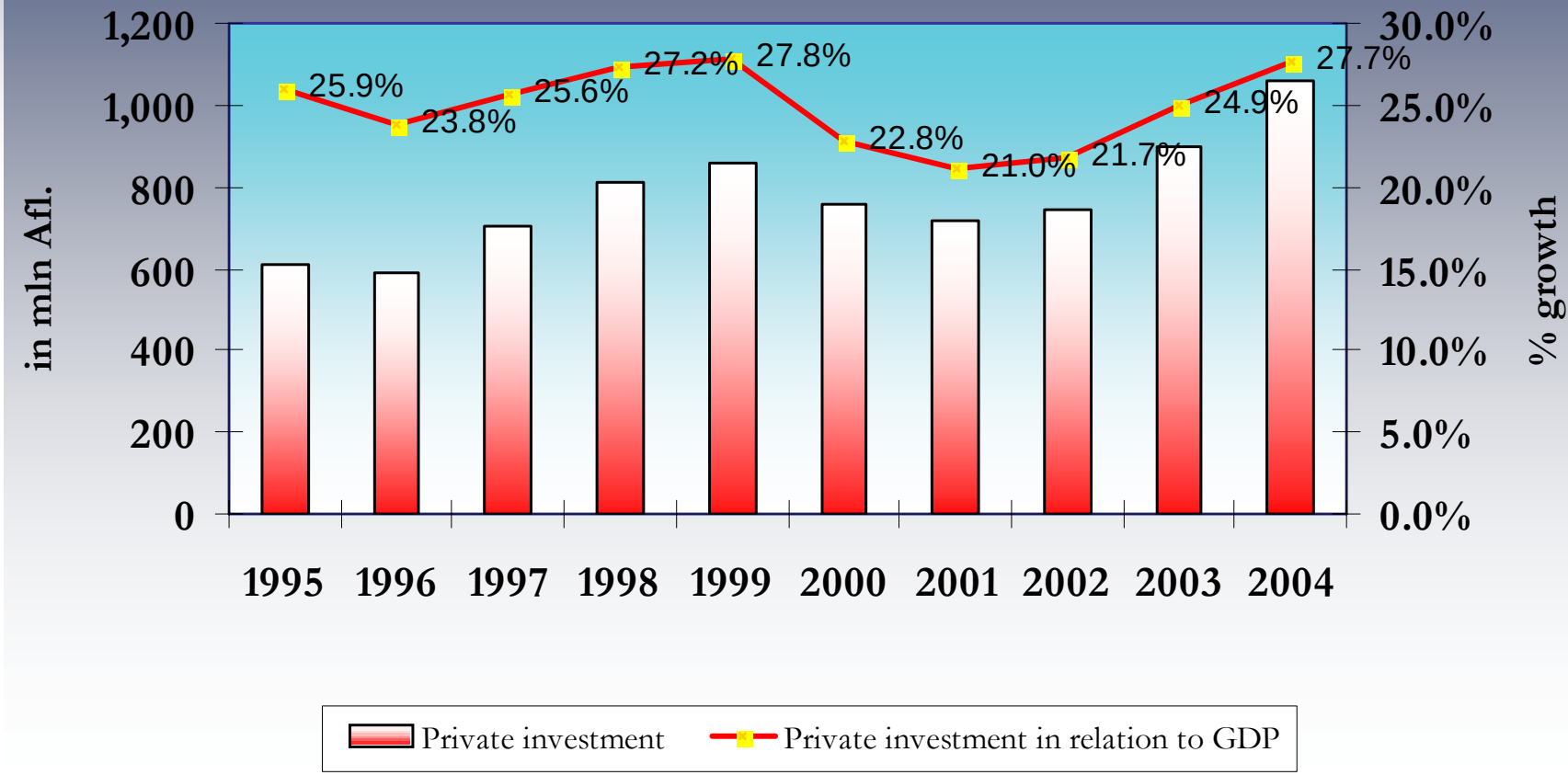


Source: Central Bureau of Statistics Aruba; Central Bank of Aruba

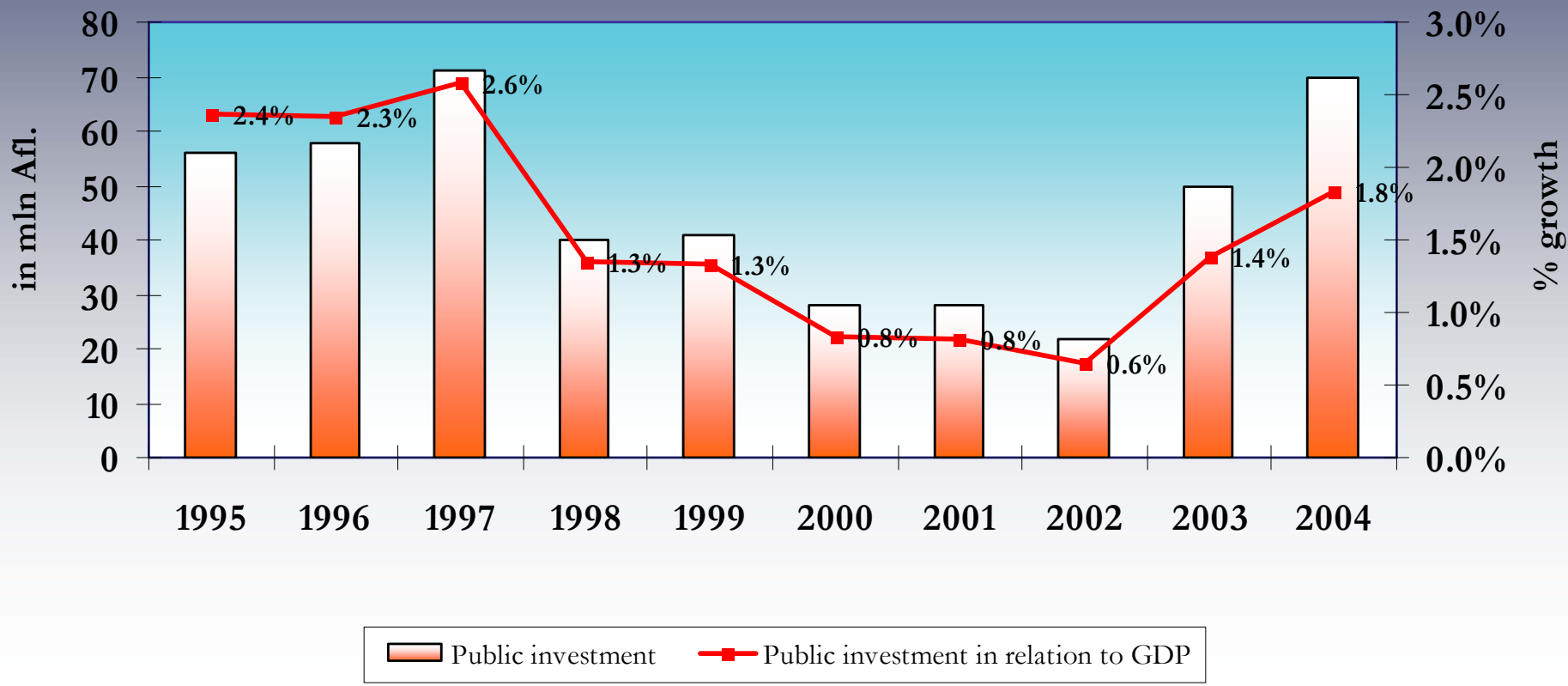
Government Consumption in relation to GDP



Private investment in relation to GDP

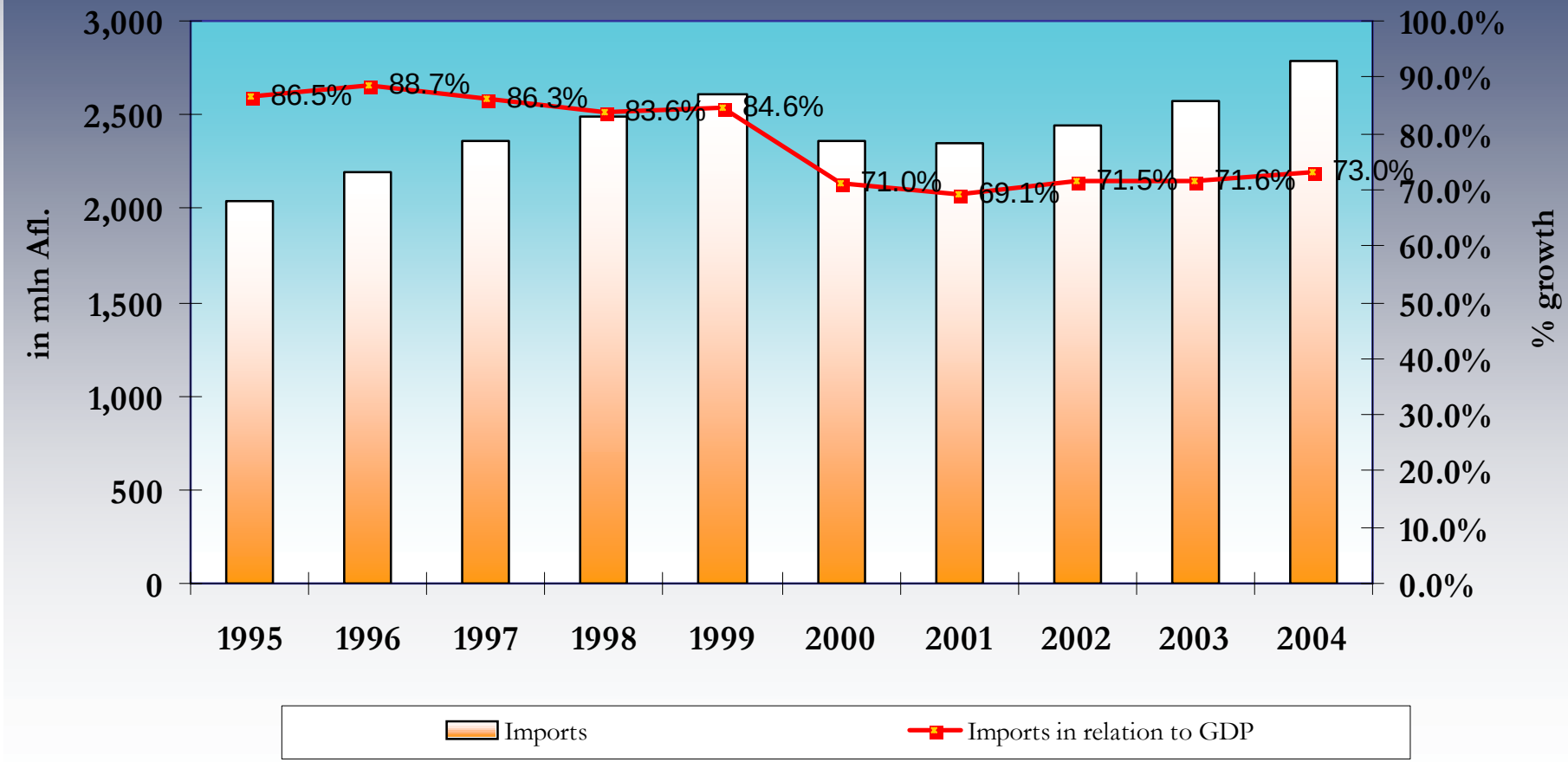


Public investment in relation to GDP

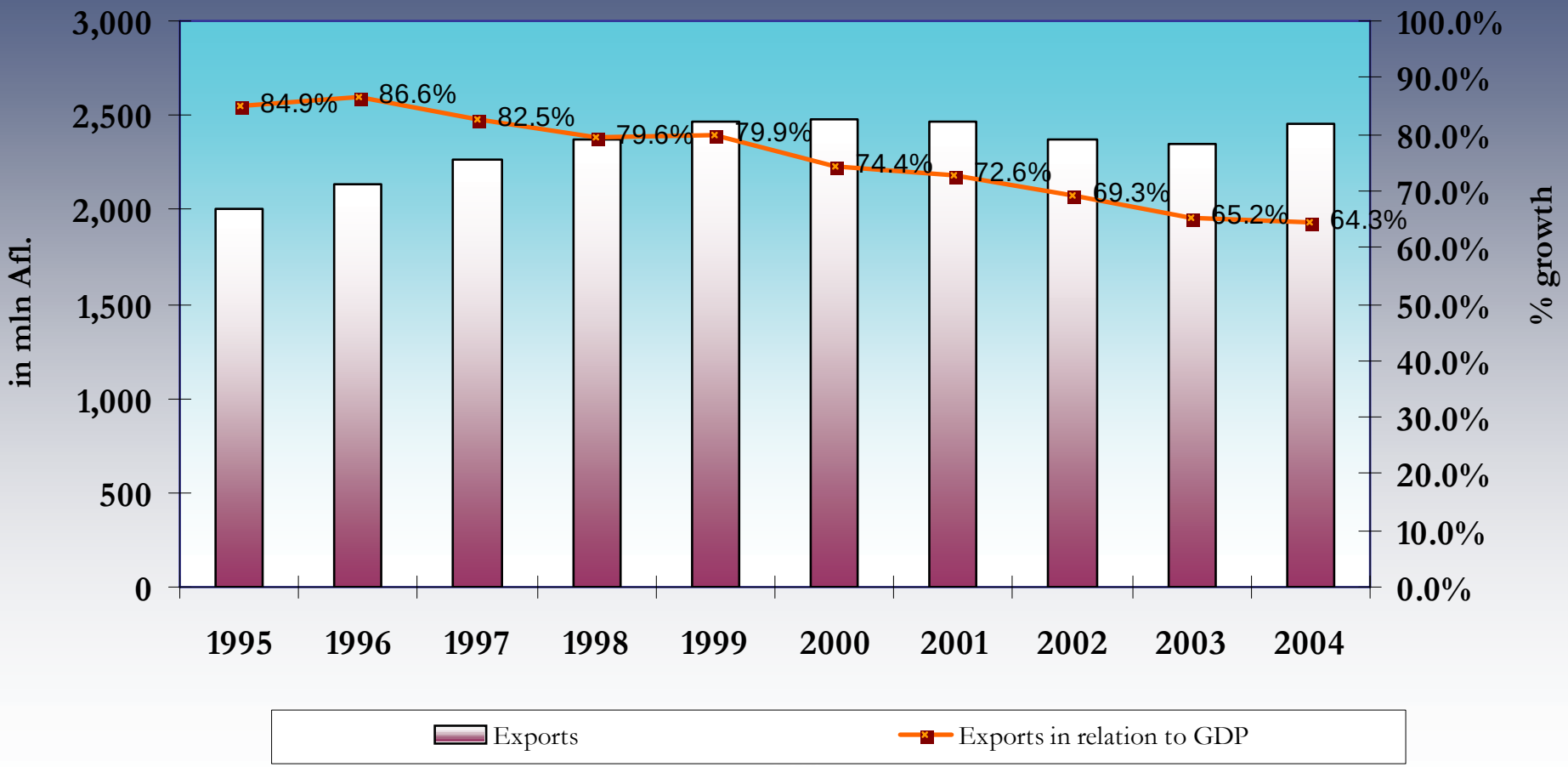


Source: Central Bureau of Statistics Aruba; Central Bank of Aruba

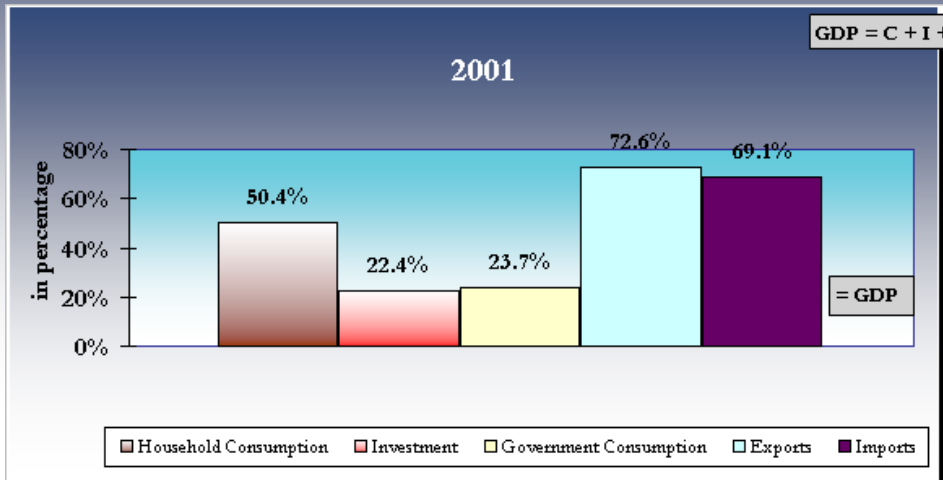
Imports
in relation to GDP

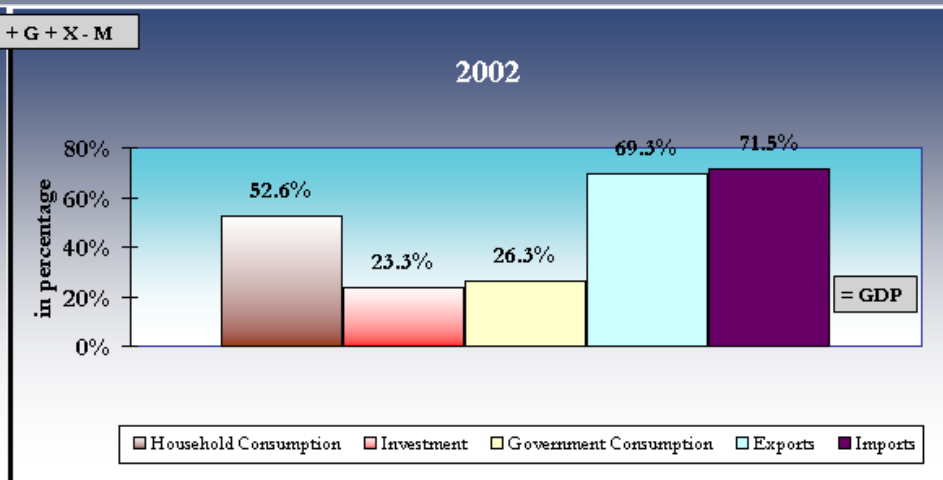


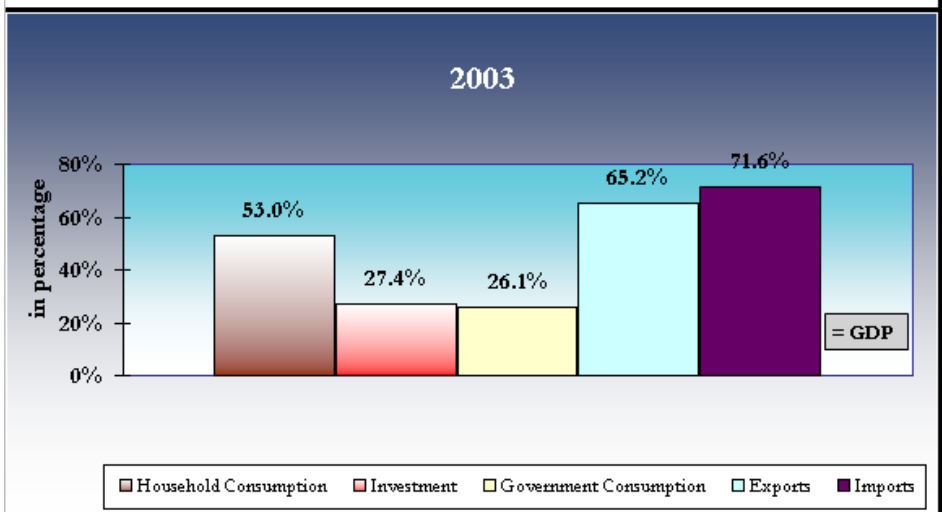
Exports
in relation to GDP

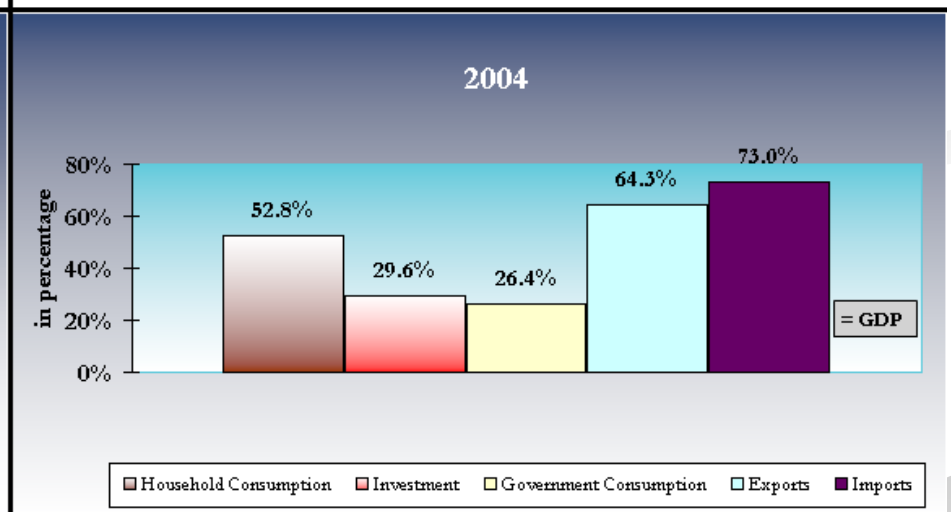


GDP = C + I + G + X - M









Source: Central Bureau of Statistics Aruba; Central Bank of Aruba

Key Findings

1995-2004:

- Nominal GDP per capita growth increased since 2003 and registered an increase of 3.9% in 2006 whereas Real GDP per capita growth during same period went down and dropped with 0.3% in 2006.
- The average rate of Government and Household contribution to GDP is 75% and since 2001 their contribution to GDP increased to the level of 79% in 2004.

Key Findings

- Aruba had an average total investment rate of 26% of GDP over the last 10 years in which the private sector had the largest contribution to GDP.

- The average import rate is 79%. In 2000 the contribution of imports to GDP dropped to 71 % but since 2002 this contribution went up again and was about 73% of GDP in 2004.

- The average export rate is 76%, and since 2000 the export rate has been decreasing. In 2004 the export sector contributed 64.3% to GDP.

Topics presented are:

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- Define some terms of NA
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Conclusion

It is important to have exhaustive and adequate estimates of national accounts.

That means having as many productive activities as possible observed and recorded in the basic data of production, incomes and expenditures. An adequate estimate of GDP makes its possible to implement effective and necessary policy adjustments.