

LATIN COPPER '98

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Brazil: Potential Demand

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Brazil: Potential Demand

- Macroeconomic Environment
- Issues in the Brazilian Copper Market
- Fundamental Influences on Consumption
- Highlights from the Demand Side
- Outlook and Perspectives

Macroeconomic Environment

➤ **Inflation and Growth**

➤ **Balance of Payments**

➤ **International Reserves**

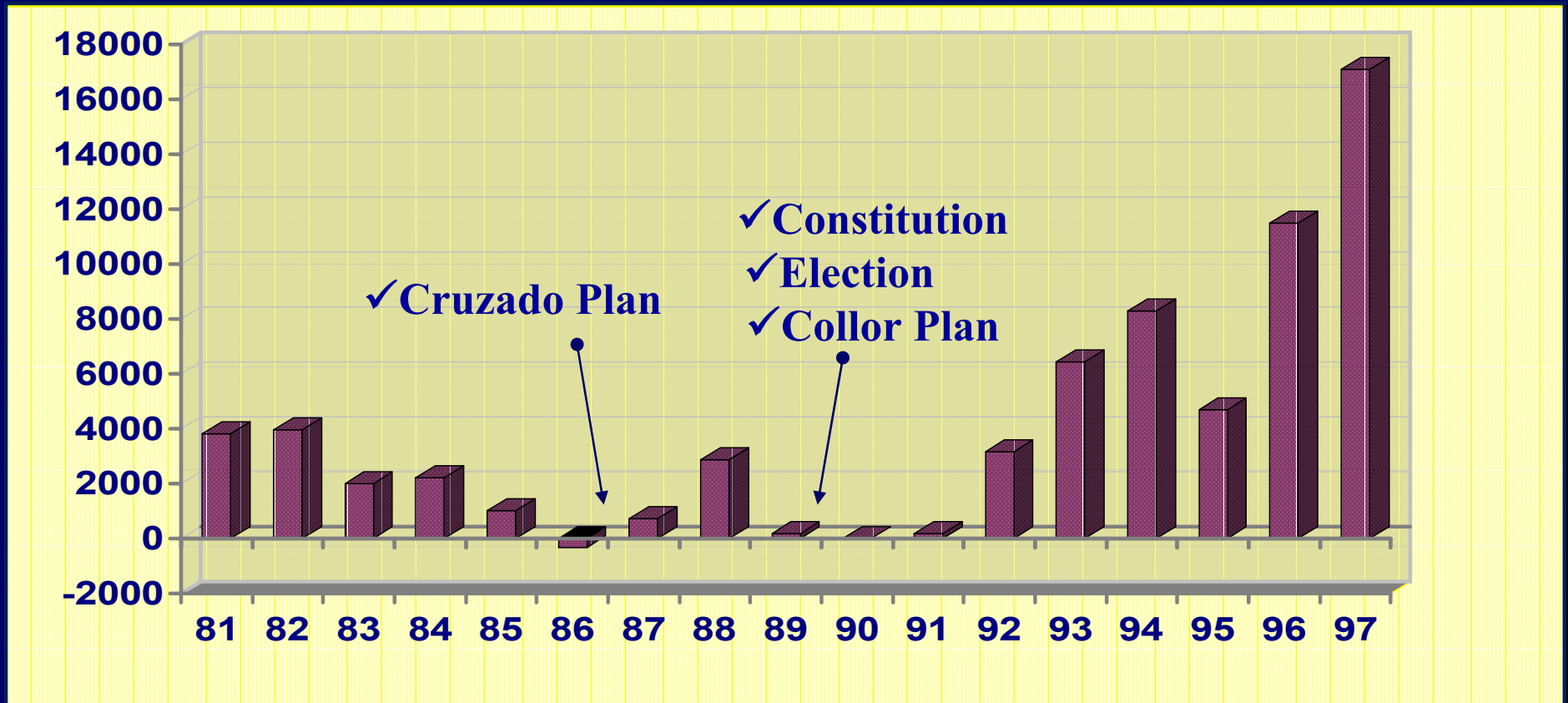
➤ **Net Flow of Foreign Investments**

➤ **Climate of Investments**

➤ **Fundamental Challenges**

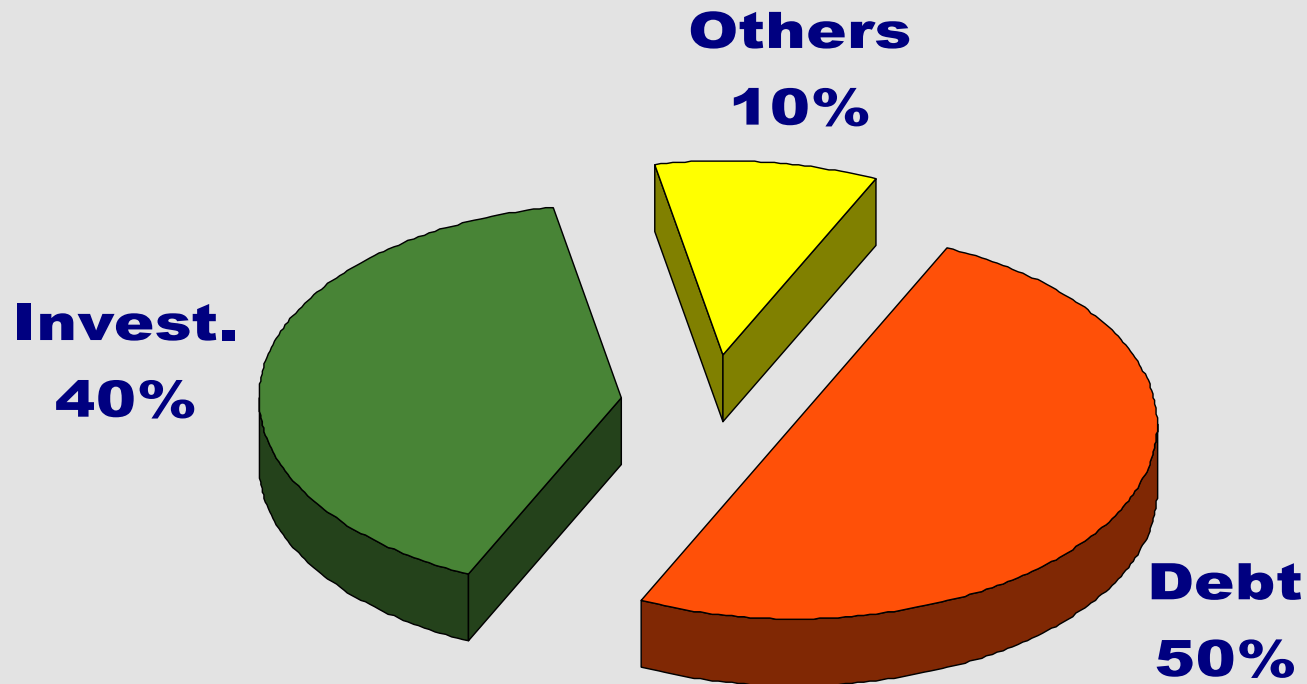
Net Flow of Foreign Investments

(*US\$ Million / 95*)



Net Stock of Foreign Capital: US\$115 Billion

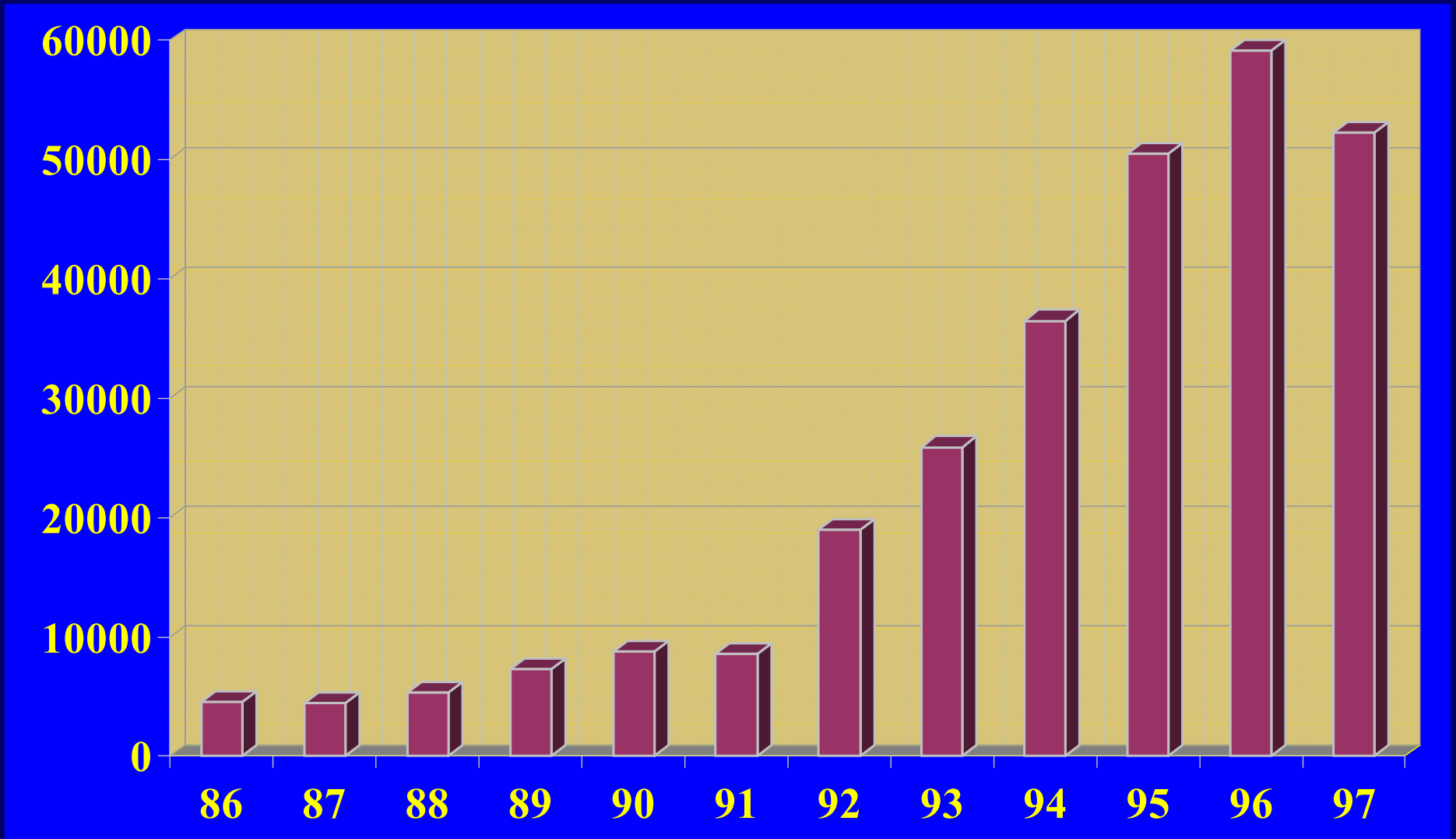
Profile: 1981/96



International Reserves

1986 / 1997

US\$ Million



Climate of Investments

- ◆ **Political Stability**
- ◆ **Confidence in the Political Economy**
- ◆ **Tradition as a Good Guest to Foreign Capital**
- ◆ **Actual and Potential Size of Domestic Market**
- ◆ **Diversity, Level of Integration and Sophistication of the Industrial and Technological Base**
- ◆ **Speed and Scope of the Privatization Program**

Climate of Investments

- ◆ **Competitive Advantages as a Launch Pad to Global Exports**
- ◆ **Significance within the MERCOSUR**
- ◆ **Competitive Taxation System**
- ◆ **Modern and Large Financial Market**
- ◆ **Clear and Liberal Legal Frame Regulating Flows of Foreign Capital**

Issues in the Brazilian Copper Market

Profile and Highlights

➤ Basic Indicators

➤ Links with the Macroeconomic Environment

➤ The Impact of Privatization

Basic Indicators : 1996

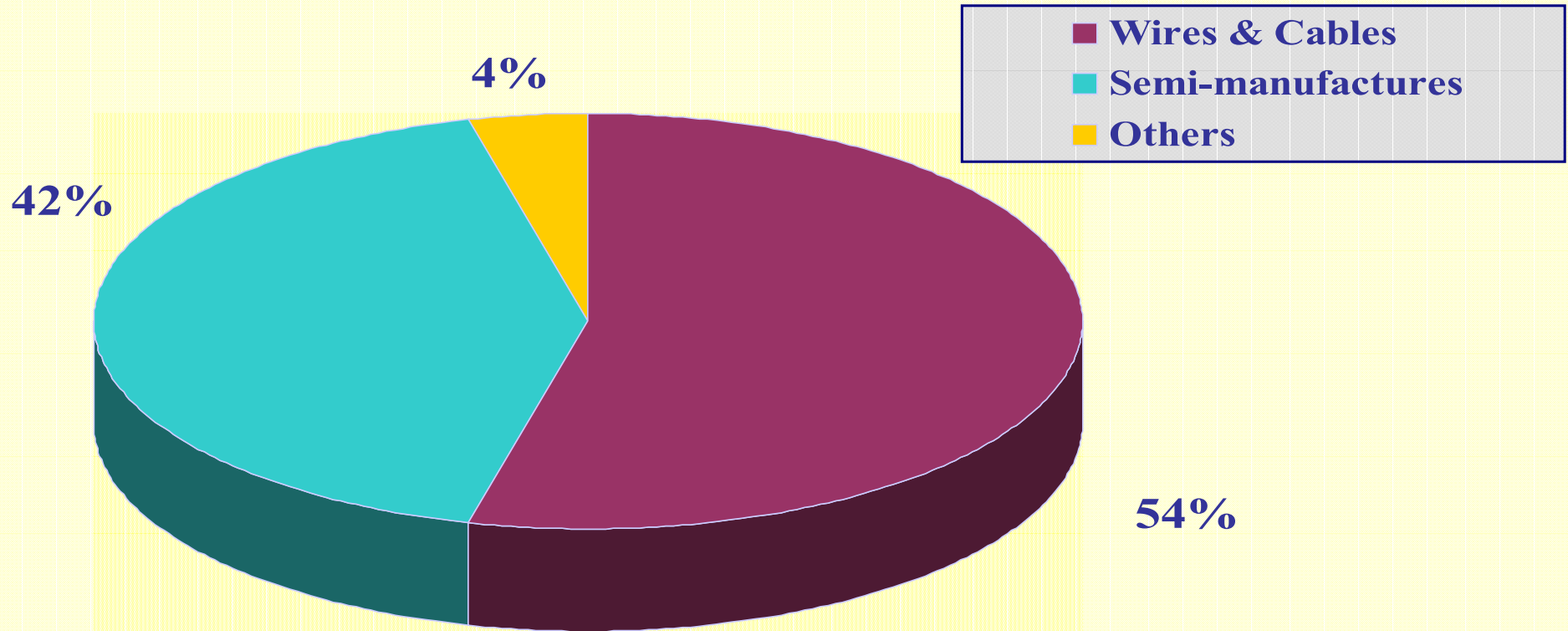
Installed Capacity of Production

- **Cathodes: 190,000 t**
- **Wire Rod: 150,000 t**
- **Wires & Cables: 243,000 t**
- **Brass and Tube Mills: 196,000 t**
- **Other Semi-manufactures: 25,000 t**
- **Recycling Industry (1992) : 24,000 t**

Basic Indicators : 1996

- **Gross Income : US\$ 3.1 Billion**
- **Concentrate Production (Cu content): 45,400 t**
- **Refined Copper Production: 184,002 t**
 - **Production of Cathode: 172,083 t**
 - **Production of Billets: 11,919 t**

Profile of Production : 1996



Basic Indicators : 1996

- **Production of Wire & Cables: 135,300 t**
 - **Standard Wires and Cables (41%): 55,700 t**
 - **Enameled Wires (32%): 42,800 t**
 - **Wires and Cables for Telecommunication (14%): 19,400 t**
 - **Power Transmission Cables (8%): 10,300 t**
 - **Other Wires and Cables (5%): 7,100 t**

Basic Indicators : 1996

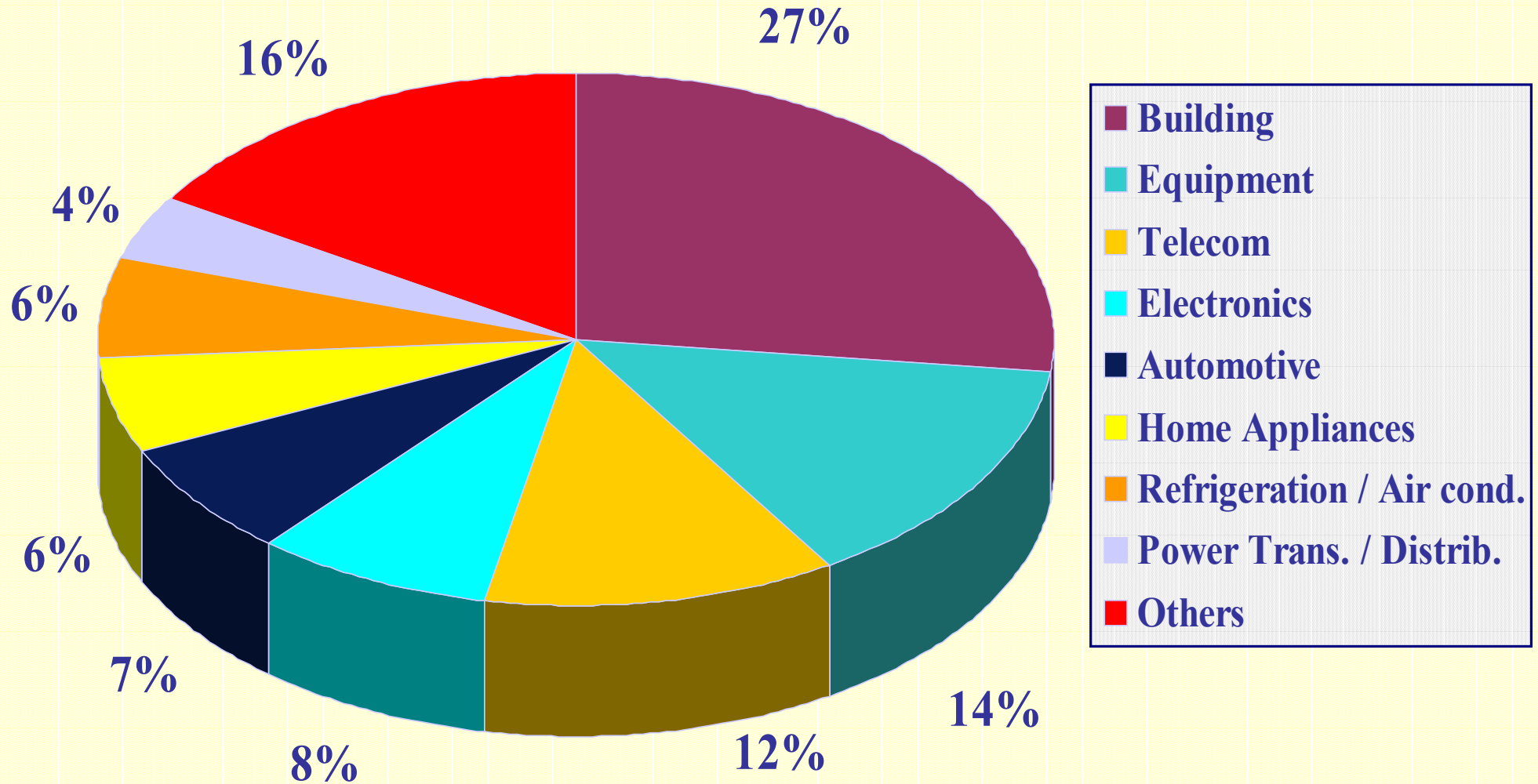
- **Production of Semi-Manufactures: 115,000 t**
 - **Production of Bars and Threads (47%): 53,500 t**
 - **Production of Plates, Sheets, Strips etc (22%): 25,200 t**
 - **Production of Tubes and Fittings (22%): 25,500 t**
 - **Other Products (9%): 10,800 t**

Basic Indicators : 1996

- **Apparent Consumption of Copper: 281,924 t**
- **Net Imports of Refined Copper: 61,058 t**
- **Net Imports of Copper Semi-manufactures: 32,026 t**
- **Net Imports of Copper Scrap: 4,838 t**

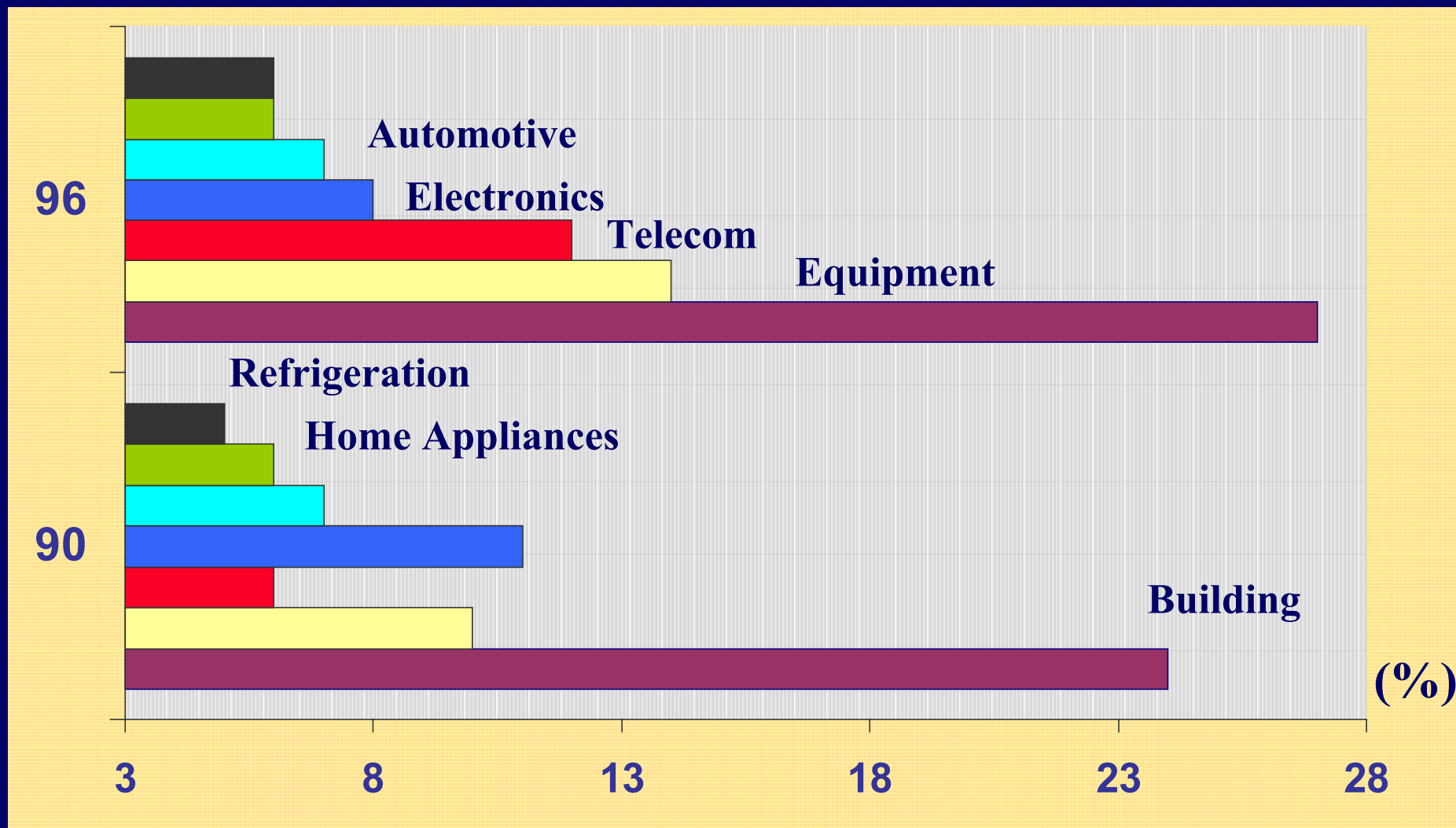
Profile of Consumption : 1996

(Cu content)



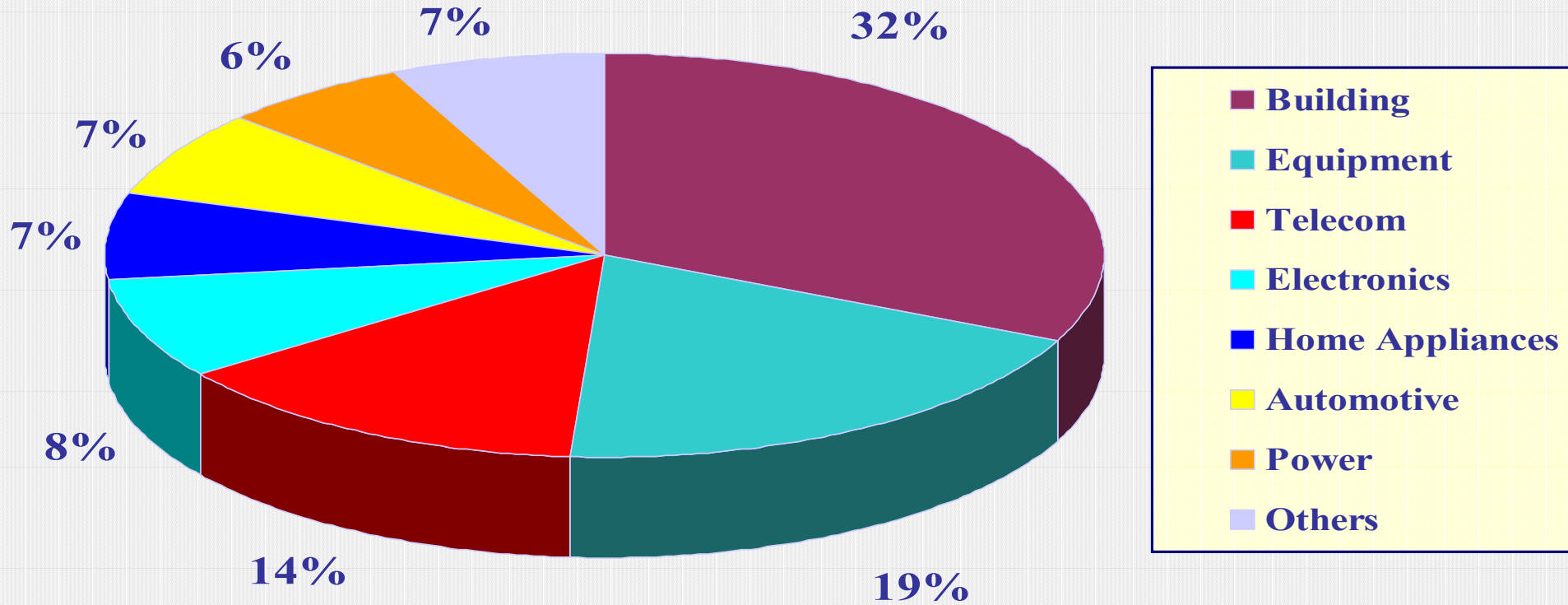
Profile of Consumption: 1990/96

Copper



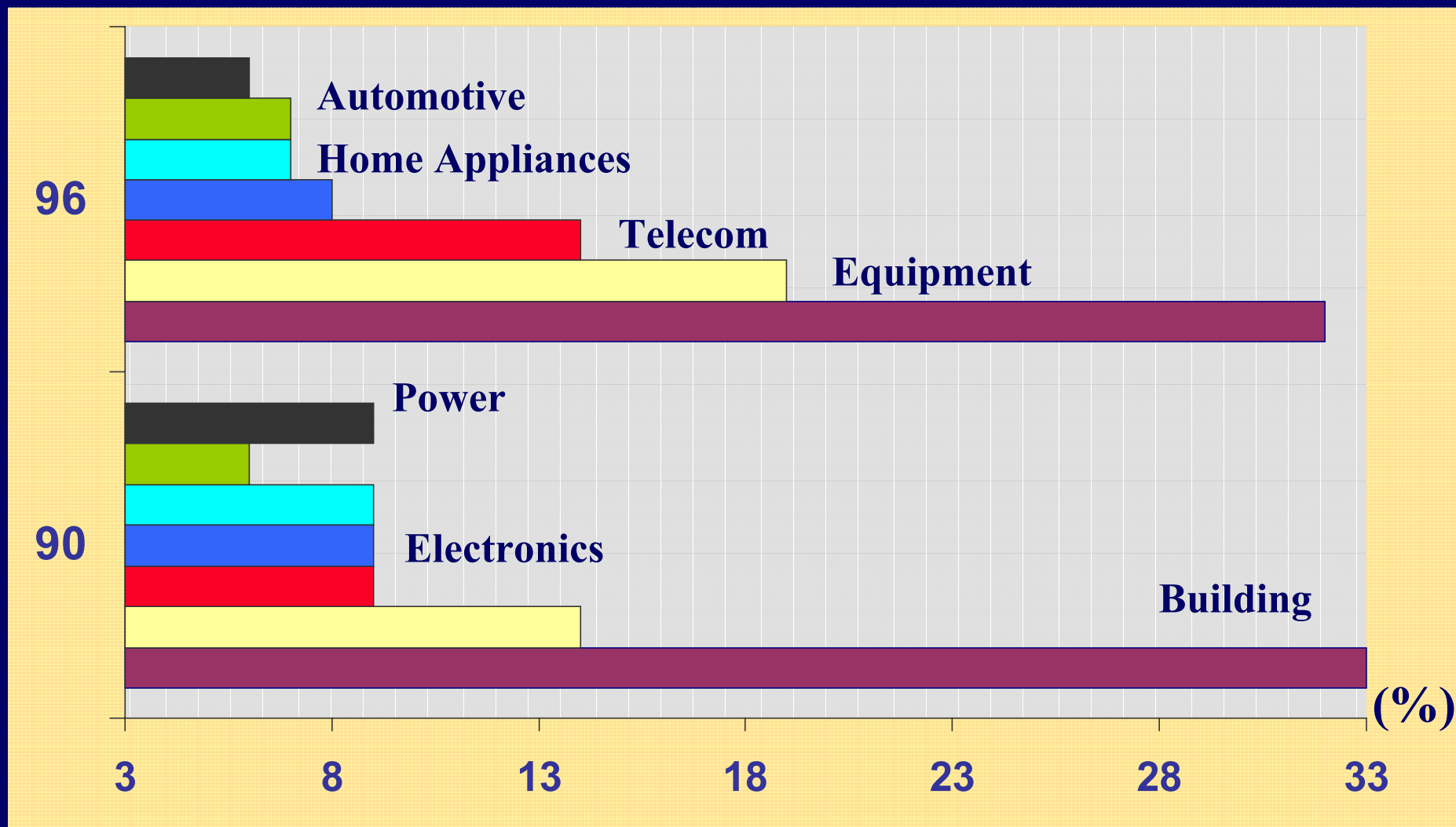
Consumption of Wires & Cables: 1996

(Cu content)



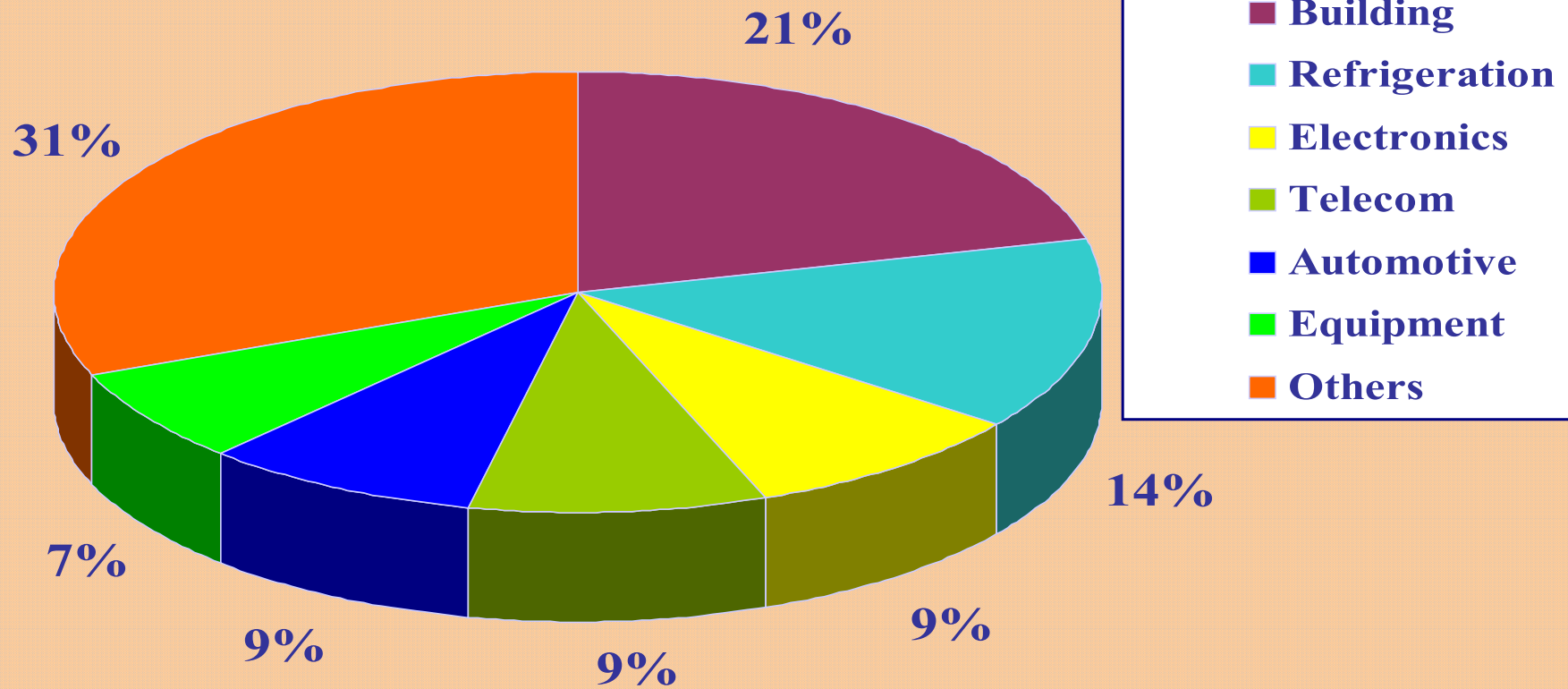
Profile of Consumption: 1990/96

Wires & Cables



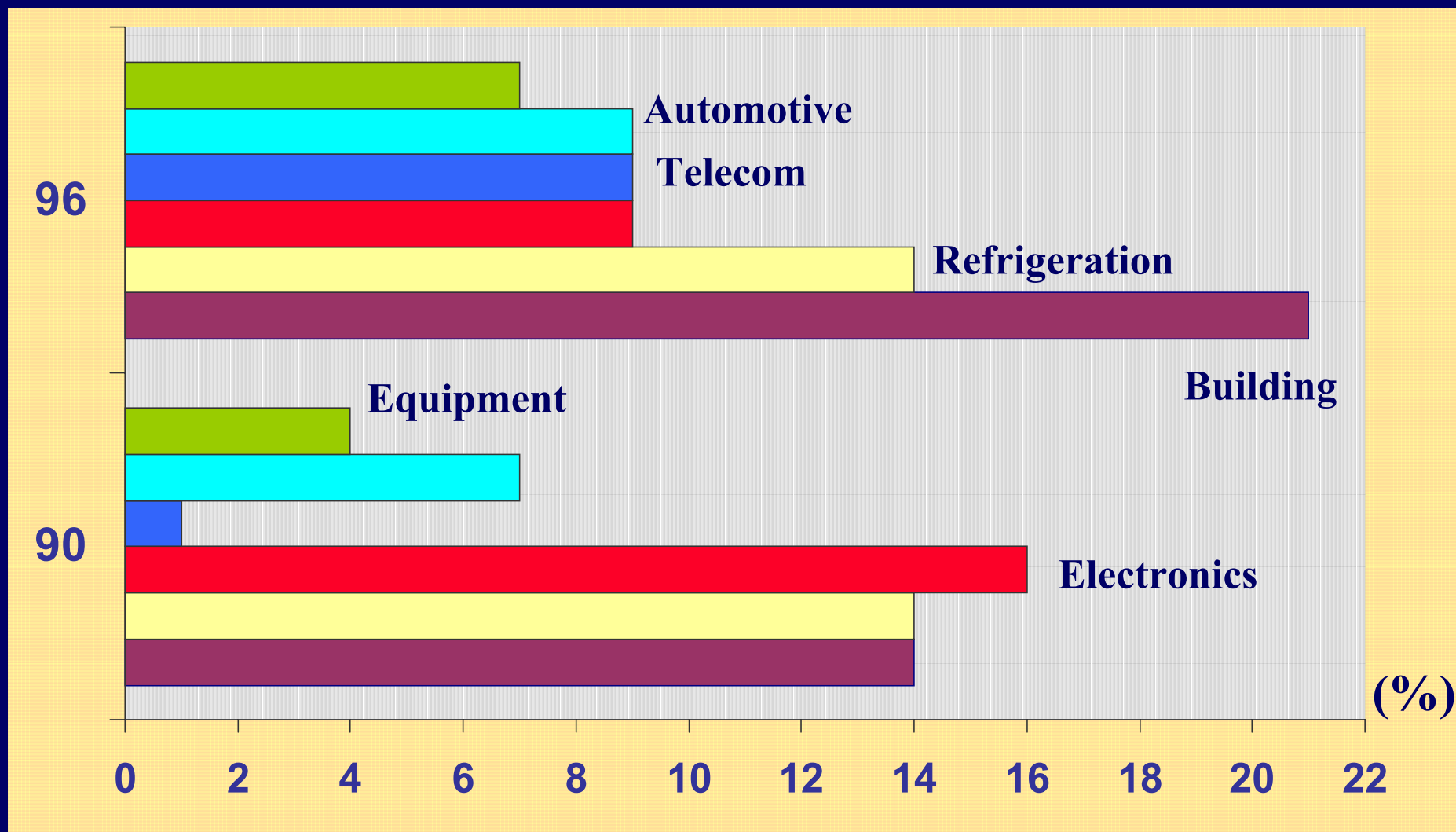
Cons. of Semi-Manufactures: 1996

(Cu content)



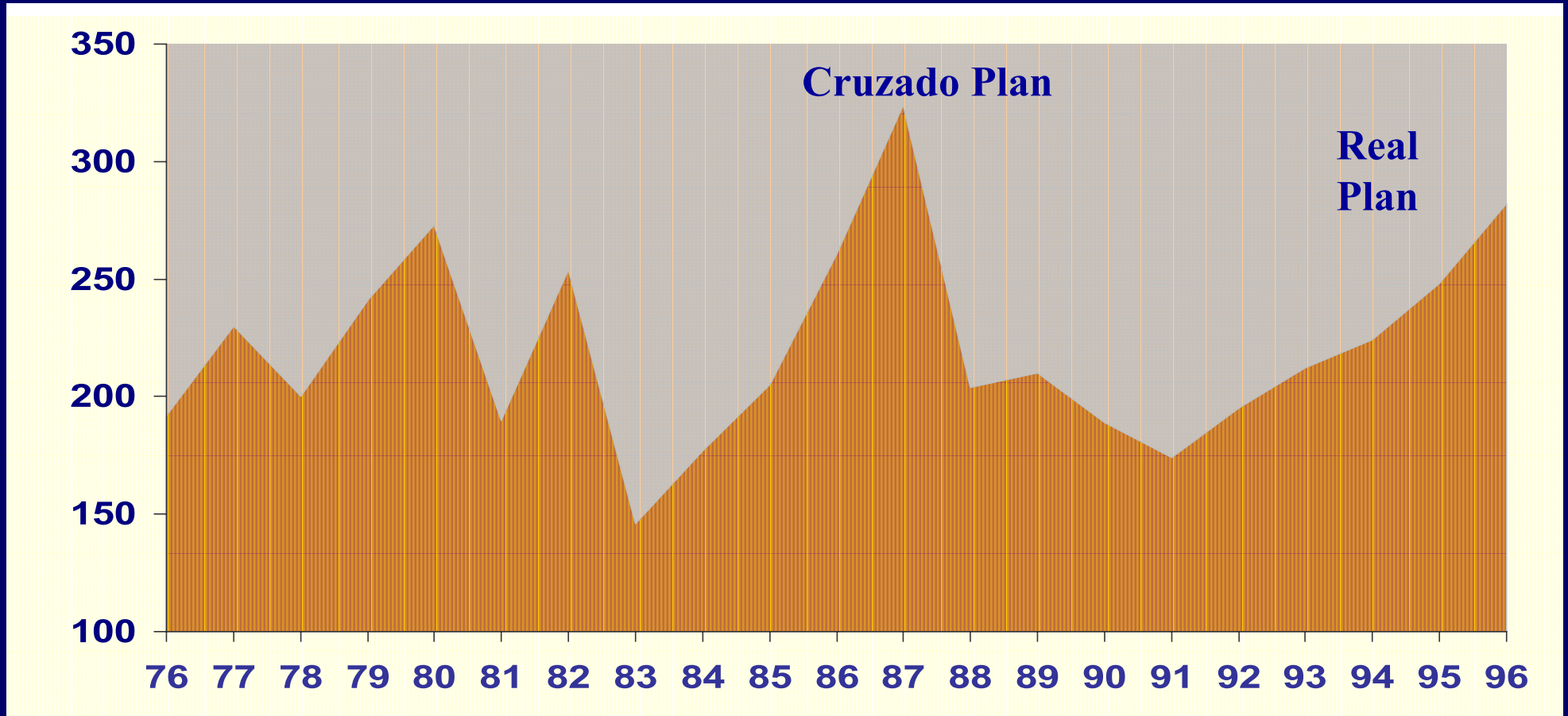
Profile of Consumption: 1990/96

Semi-manufactures



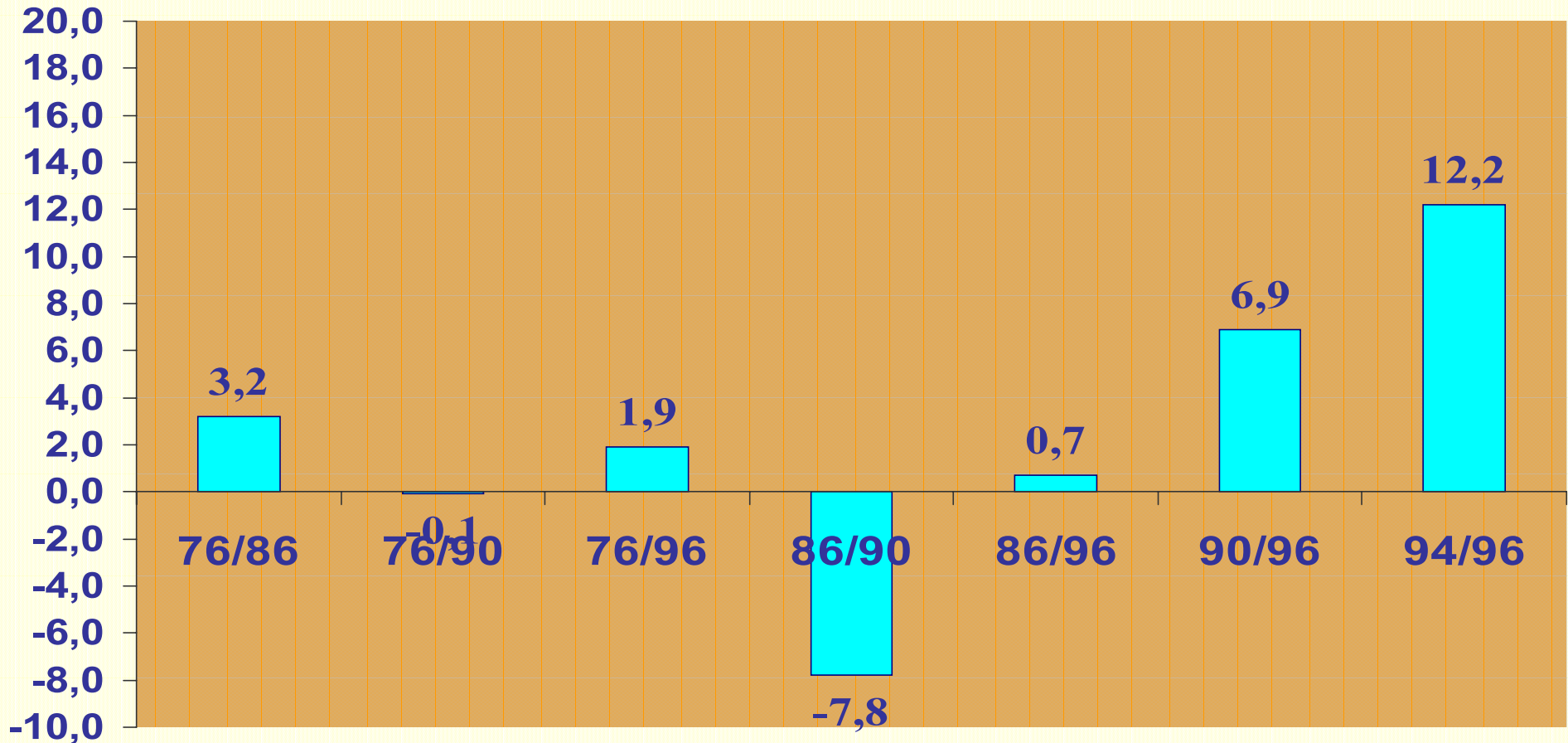
Apparent Consumption of Copper (1976 / 1996)

1,000 t of Cu content



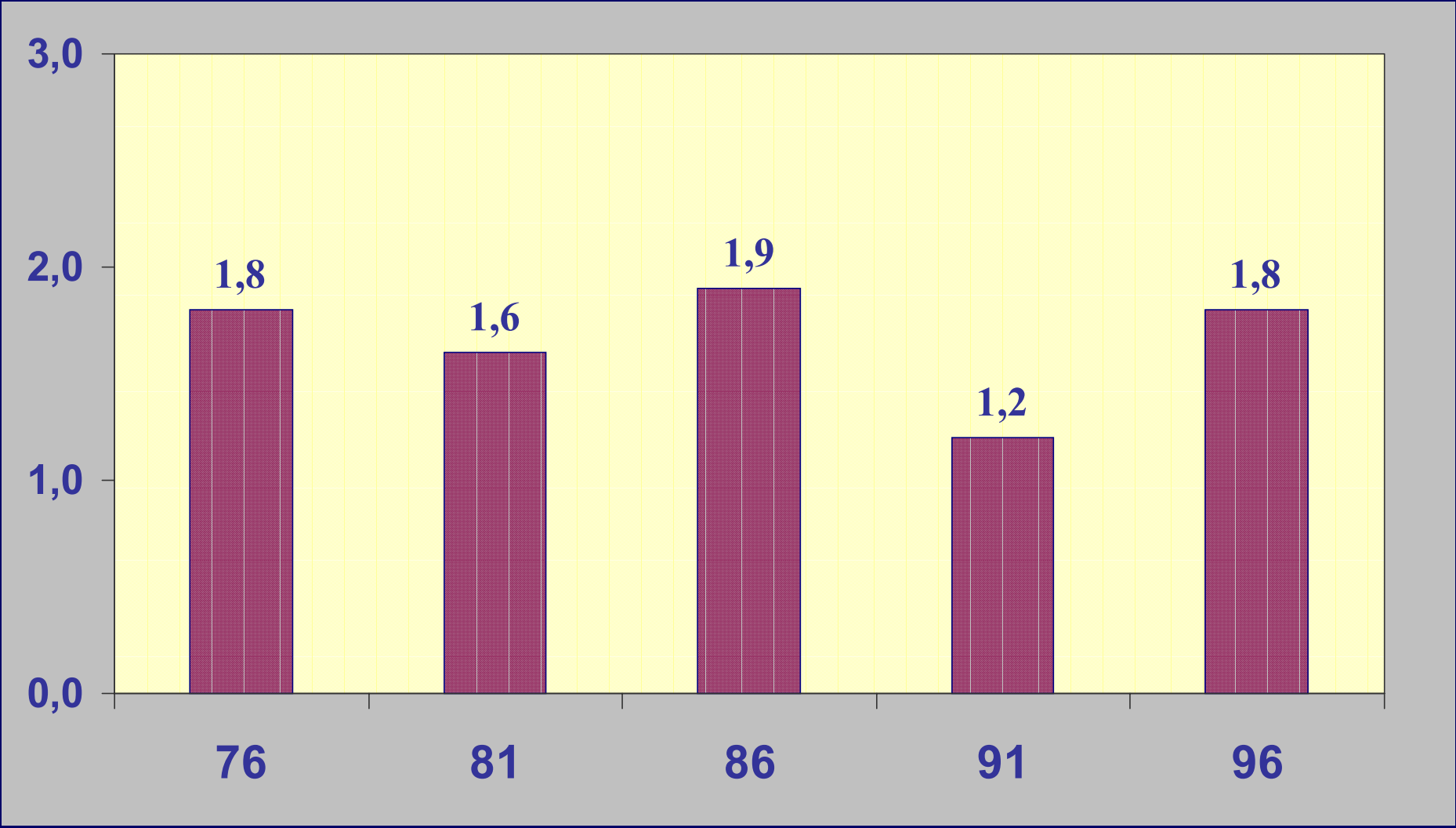
Growth Rates for Selected Periods

(%)



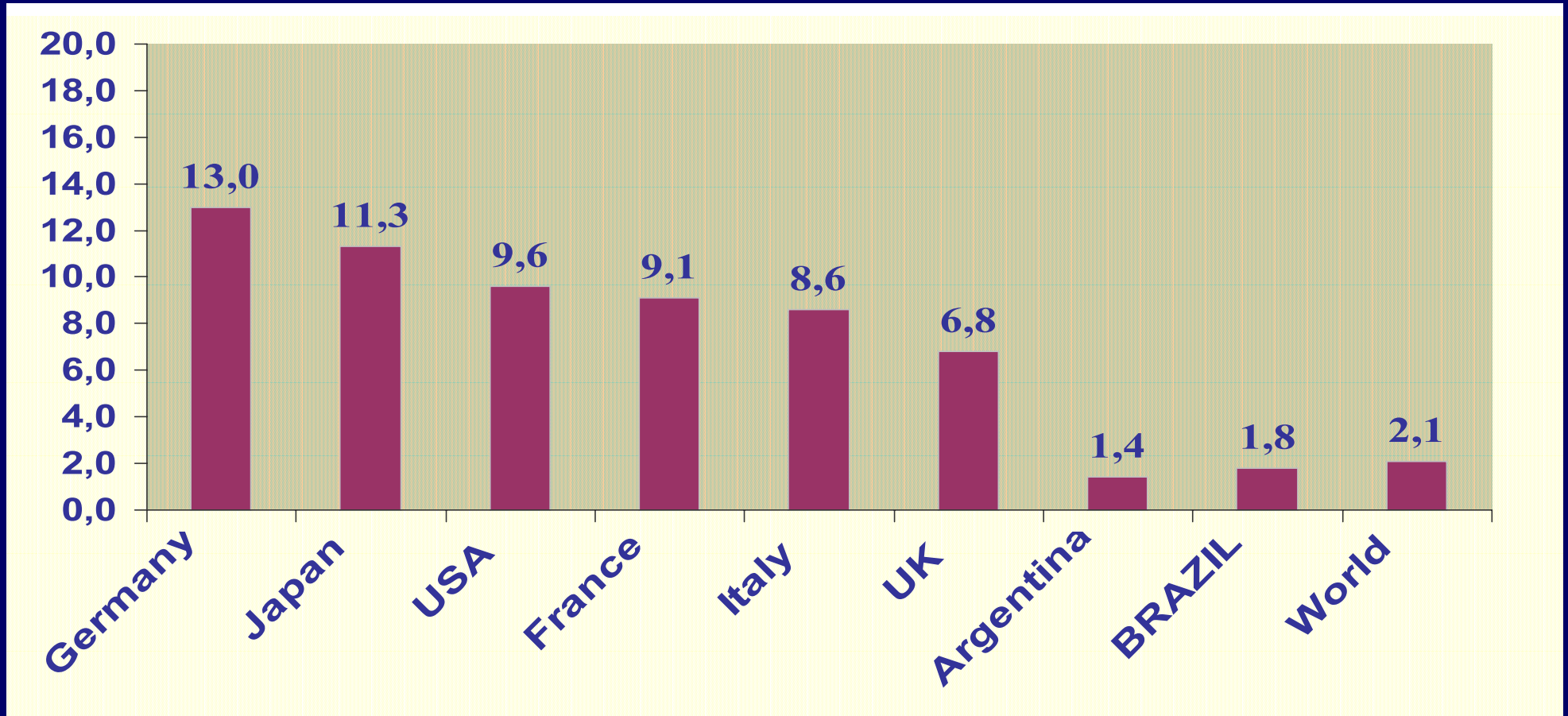
Per Capita Consumption: 1976/96

(kg/inhabitant)

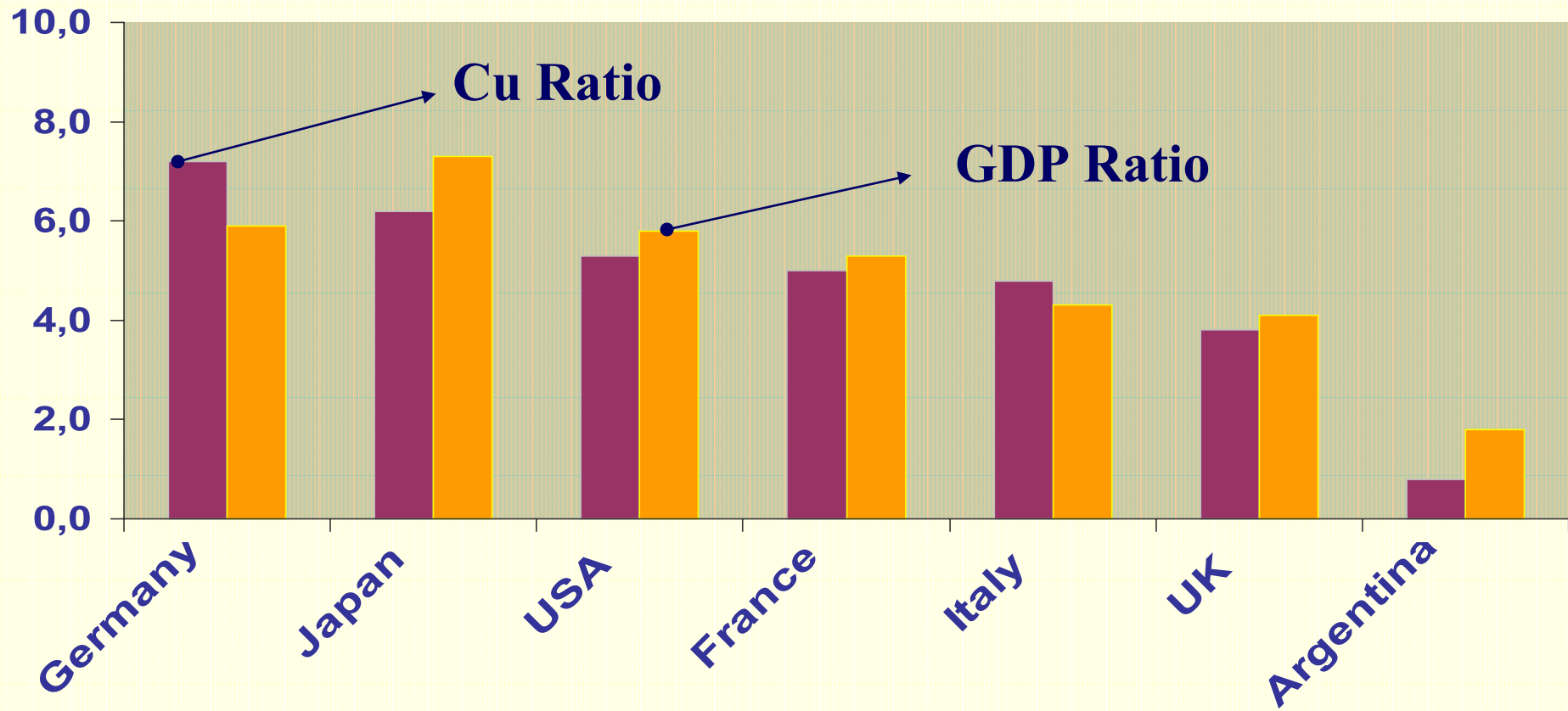


Per Capita Consumption of Copper: 1996

(kg/inhabitant)



Cross-section *Per Capita Ratios*: 1996



Program of Privatization

- **Cash Flow Accruing to the Government* - 1990/97**

- **Total: US\$ 48 billion**
- **Receipt: US\$ 38 billion (79%)**
- **Transferred Debt: US\$ 10 billion (21%)**

- **Cash Flow Accruing to the Government* - 1997**

- **Total: US\$ 27.6 billion**
- **Receipt: US\$ 22.5 billion (82%)**
- **Transferred Debt: US\$ 5.1 billion (18%)**

(*) Federal and State Levels

Program of Privatization

- **Most Important Sectors: Electric Power / Telecom**
- **Valuation of TELEBRÁS System:**
 - **Assets: US\$ 105-120 billion**
 - **Market: US\$ 45-65 billion**
- **Cash Flow in the Next 3 Years : US\$ 85 billion**
- **Share of Foreign Investors**
 - **1991/95: 4.2%**
 - **1991/97: 28%**
 - **1997: 33%**

Highlights of Demand:

Electric Power

- **Increasing Risk of Blackout**
- **After 1994, Energy Consumption Rate of Growth Twice the Rate of GDP**
- **Portfolio of 129 Power Plants (1998/2007) to Increase Installed Capacity by 57% (35 GW)**
- **Private Projects Amounting US\$ 30 billion**

Highlights of Demand:

Electric Power

- **Investments in Transmission and Distribution of about US\$ 1 billion/year**
- **North-South Transmission Line - *1,200 km and US\$ 720 million* - to Reduce the Risk of Failure**
- **A Minimum Average Rate of Growth of 5% Expected**
- **Use of Power Lines Infra-structure to Leverage Telecom Investments and Services**

Highlights of Demand:

Telecommunication

- **Investments of US\$ 90 billion to Recover and Expand the System**
- **Average Annual Investments of about US\$ 10 billion. 233% Higher Than Observed in 1973/95 Period**
- **Government Decision to Link All the Cities (more 100,000 inhabitant) with Optical Cables**

Highlights of Demand:

Telecommunication

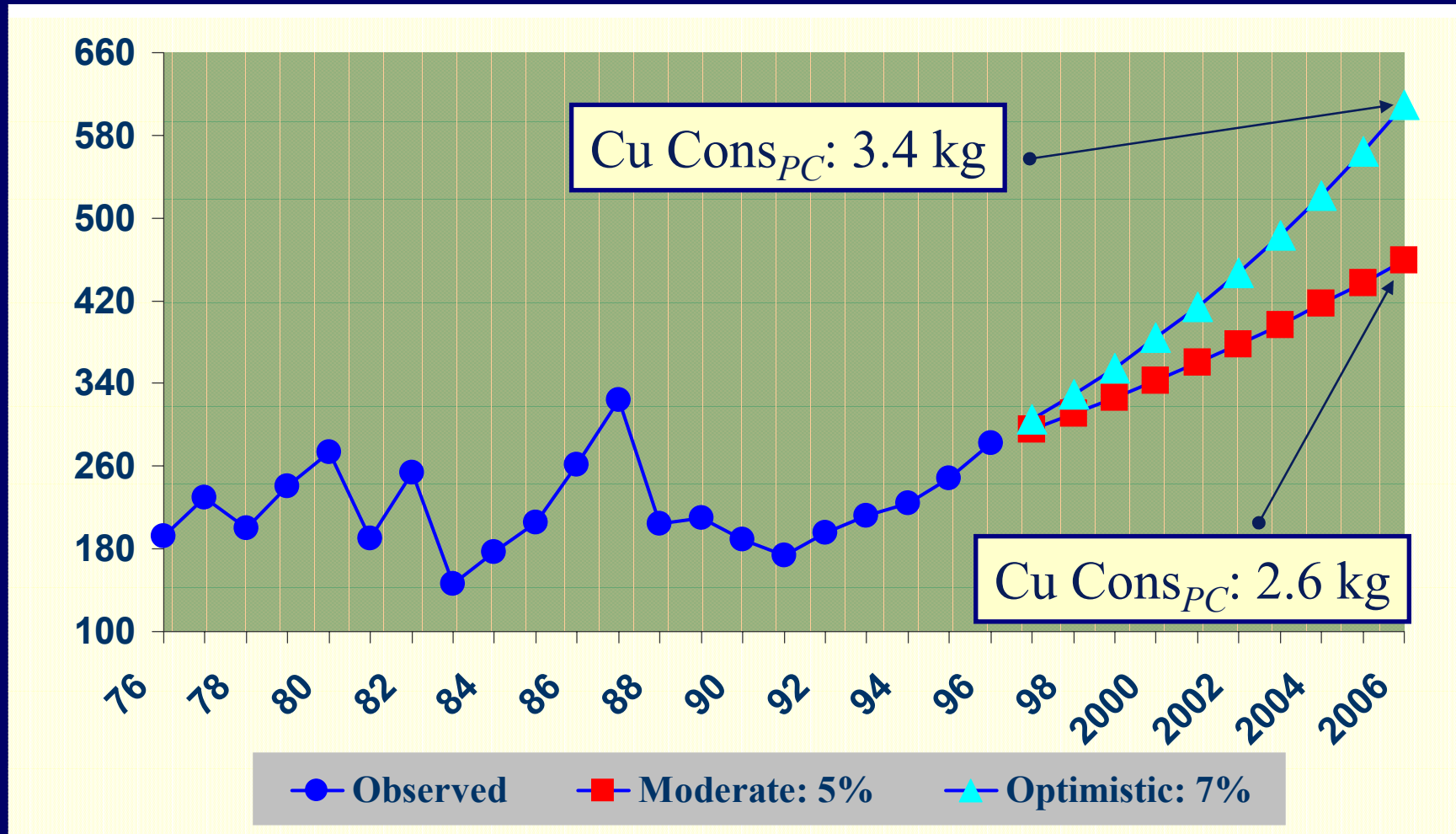
- **High Rates of Growth After 1999 - privatization of TELEBRÁS *versus* Price Reduction**
- **Investments of US\$ 1 billion to Link all Capital Cities with Optical Cables**
- **Cable-makers Investing about US\$ 180 million in Expansion Programs**
- **Strong Competition from Optical Cables Especially in New Lines and High Traffic Urban Areas**

Highlights of Demand: *Construction (building) Industry*

- **Strategic to Economic Development**
- **Fundamental Component in Solving the Generation of Jobs Equation**
- **Impressive Potential to Expansion**
- **Impact from the Enforcement of Commercial Rules**
- **High Rates of Growth Envisaged**

Apparent Consumption of Copper (1976 / 2006)

1,000 t of Cu content



Conclusions and Final Remarks

- **Very Low *Per Capita* Copper Consumption**
- **Comprehensive Potential (repressed) Domestic Market**
- **Positive Macroeconomic Environment Supporting High Growth Rates in Sectors of Concern**
- **Expressive Impact from the Privatization Program, especially in Power and Telecom Sectors**

Conclusions and Final Remarks

- **Relevance of Construction and Automotive Industries within Economic Policy**
- **Very Favorable Rates of Growth Expected to Other Sectors: equipment, electronics, home appliances etc**
- **By 2006 Brazilian Gross Domestic Product will be Somewhere between the Actual GDP of Italy and France**

Conclusions and Final Remarks

- **By 2006 Brazilian Copper Demand will be more than 500,000 t with a *Per Capita* Consumption of about 3 kg / inhabitant**
- **Principal Consumers would Comprise the Actual Mix with *Building, Equipment, Telecom, Electronics and Automotive* having a share Above 70%**