

A Socio-metabolic Reading of the History of Yugoslavia and its Post-civil-war Successor States

Miljana Podovac

The thesis examines the relationship between socio-economic and biophysical systems and their interaction, focusing on the historical reflection on the social metabolism of Yugoslavia and its successor states.

Research Questions:

1. What are the characteristics of the social metabolism of Yugoslavia under its socialist system?
2. What are the differences between the metabolic profile and the socio-economic development of Yugoslavia before the war and its successor states after the war?

Methods:

- Extensive literature review;
- The research presents the analysis of the indicators of countries' population, Material Flow Analysis (MFA) - domestic extraction of Biomass, GDP, the share of agriculture in GDP, HDI, and energy consumption;
- The indicators are analyzed according to available data for the countries: Yugoslavia (SFR), Bosnia and Herzegovina, Croatia, Kosovo, North Macedonia, Montenegro, Serbia, and Slovenia.

Data sources:

-MFA manuals, statistical reports, economic and historical literature, national and international statistical data collections and databases such as the United Nations, the Food and Agriculture Organization (FAO), the British Geological Survey (BGS), the United States Geological Survey (USGS), the International Energy Agency (IEA), etc.

Supervisor: Em.Univ.-Prof. Dr. Marina Fischer-Kowalski

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Main findings and results:

- Very high and high development countries by the human development indexes (HDI);
- The population of Yugoslavia was constantly rising / after the dissolution the population was constantly in decline (human losses in war, high emigration, refugees);
- Evident transition from agrarian country to industrialization;
- Small investments in agriculture in Yugoslavia (7%) compared to an industrial investment (50%); nevertheless – with increase in farming productivity.
- The main driving force of growth progress was industrialization and the social transformation;
- There has been an overall rise in energy use following the significant decrease in the early 90s due to war;
- Sharp decrease in all socio-metabolic factors, GDP, growth, population, and energy consumption;
- Still not reached the pace of Yugoslavia's prosperous development.

Work is relevant for:

Environmental historians, researchers, students and interested parties in the field of social ecology, social metabolism, resource use, politics and history.

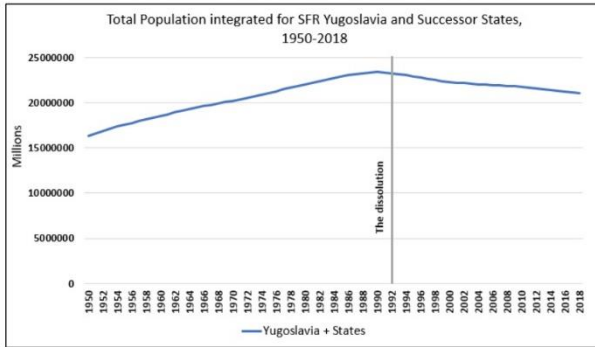
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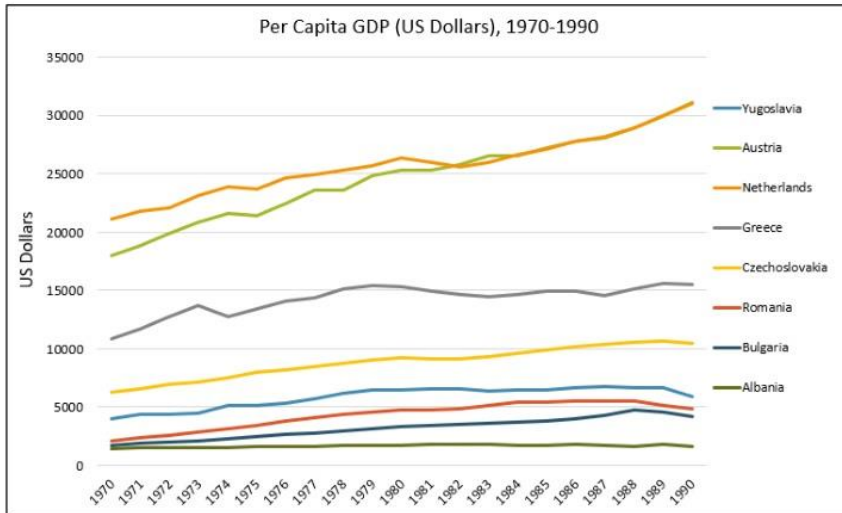
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Figure 3: Total Population Integrated, Yugoslavia and Successor States, 1950-2018



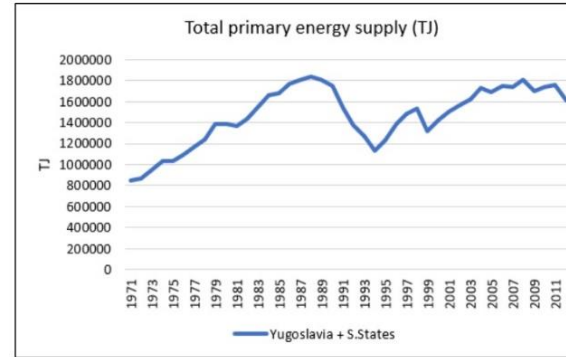
Yugoslavia (1950-1991) and the successor states (1992-2018): Bosnia and Herzegovina, Croatia, North Macedonia, Montenegro, Serbia, and Slovenia. Data source: FAOSTAT.

Figure 12: GDP per capita (US\$); Comparison between Yugoslavia and some European Countries, 1970-1990



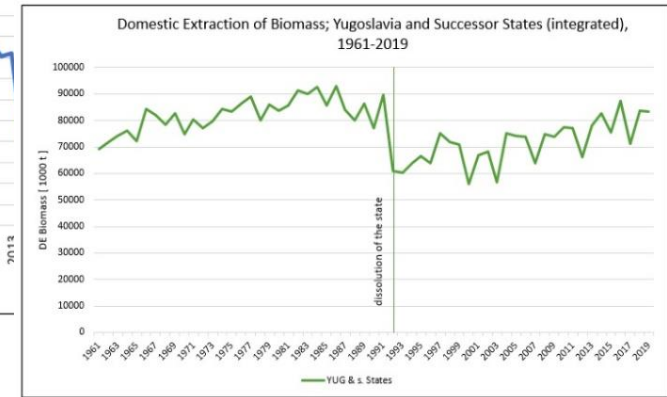
GDP per cap. at constant 2015 prices (US\$); Comparison between Yugoslavia and some European countries: Austria, Netherlands, Greece, Czechoslovakia, Romania, Bulgaria, Albania; Data source: United Nations Statistics Division (UNSD).

Figure 19: Total Primary Energy Supply (TJ), Yugoslavia and Successor States – Integrated, 1971-2013



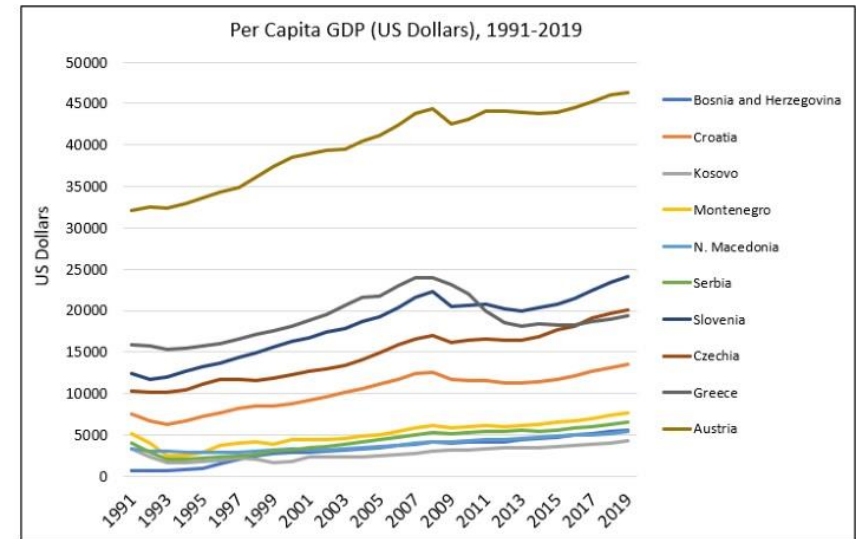
Data source: Dataset: World energy balances, IEA Institute of Social Ecology Vienna.

Figure 8: Domestic Extraction (DE) of Biomass; SFR Yugoslavia and its Successor States - integrated, 1961-2019



The calculation of DE Biomass of the Yugoslavia (1961-1991) and the successor states (1992-2019): Bosnia and Herzegovina, Croatia, North Macedonia, Serbia and Montenegro (1992-2005), Montenegro (2006-2019), Serbia (2006-2019), and Slovenia. Data source: FAOSTAT; own calculation according to Krausman et al. (2018).

Figure 13: GDP per capita (US\$); Comparison between Yugoslavia's Successor States and some European Countries, 1991-2019



GDP per cap. at constant 2015 prices (US\$); Successor states (1992-2018): Bosnia and Herzegovina, Croatia, Kosovo, North Macedonia, Montenegro, Serbia, and Slovenia; Other European Countries: Czechia, Greece, Austria; Data source: United Nations Statistics Division (UNSD).