

THE EFFECTS OF THE TRANSITION IN HUNGARY ON THE URBAN ENVIRONMENT

Walter Hook

Institute for Transportation and Development Policy, USA

Keywords: transportation, environment, Central Europe, transitional economies, urban environment, urban sprawl.

Contents

1. Introduction
 2. Hungary: A Case Study
 - 2.1. Before the Transition
 - 2.2. The Transition
 3. Post Transition Changes in Transport Policy
 - 3.1. Changes in Public Transit Policy
 - 3.2. Changes in Road and Highway Sector Policy
 - 3.3. Changes in Rail Policy
 4. The Causes of Sprawl in Budapest
 - 4.1. Sprawl, Housing, and Highways
 - 4.2. Suburban and Ex-urban Commercial Sprawl
 - 4.3. Foreign Investment and Sprawl
 - 4.3.1. Sprawl and Sustainable Development: Push Factors
 - 4.3.2. Sprawl and Sustainable Development: Pull Factors
 5. Conclusion
- Glossary
Bibliography
Biographical Sketch

Summary

Hungary's transition from non-democratic socialism to a democratic market economy is assessed in terms of its impact on the environment. This perspective provides insights into the relationship between these fundamentally different political-economic systems and their environmental outcomes.

Hungary before the transition had strict environmental regulations, but weak citizens' rights and a weak legal system. As such, these laws were rarely enforced. The pricing system in the sphere of production was also dysfunctional. These two factors led to more polluting and less energy-efficient production processes and consumer products than was found in democratic market economies at a similar level of economic development. However, constraints on household consumption in general, constraints on private sector land development, and greater state investment into public transportation and high density housing tended to depress aggregate emissions from the sphere of consumption, most clearly in the transport sector.

With the transition, the sources of environmental degradation in Hungary increasingly resemble those of other democratic market economies. In market economies in consumer sectors like transport, pricing and regulatory mechanisms to control pollution are difficult to implement and enforce. Individual consumers' decisions about where to shop and live, and what mode of transportation to use respond to highly distorted price signals that encourage the over-consumption of scarce fossil fuels and the generation of socially dysfunctional levels of air and water pollution. However, in the transitional economies like Hungary, these emissions are rapidly surpassing levels in similar developed market economies because the legal and regulatory measures required to curtail them are slower to develop than the economic changes that generated them.

1. Introduction

While the transition in Hungary has reduced most forms of environmental degradation, it has increased others; specifically transport sector emissions and the conversion of land to urban uses. It has been a transition from the environmental problems of a socialist, industrial economy to the environmental problems of a mature "market" economy. In general terms, this has been a transition from production-generated pollution to consumption-generated pollution. A similar, though not identical shift occurred in Western market economies as well, accompanying the process of de-industrialization, but this transformation occurred much later and much faster in Hungary.

The environmental ramifications of the transition in Hungary are best seen in comparison to broader environmental trends. In developed market economies, environmental degradation results mainly because the social costs of polluting are not paid primarily by the polluter; they are paid by generations not yet born, by people too poor to live in neighborhoods free of pollution, and by society as a whole too disorganized to demand compensation or protection. The enforcement of environmental standards based on public-health criteria, and emerging "market-based" forms of environmental control are both mechanisms increasingly used in market economies to make the polluter pay the social costs of the problems they create, and to provide citizens legal protection against environmental degradation.

In developed market economies, tightening environmental regulation and enforcement, along with de-industrialization, have gradually reduced industrial pollution. Rather, pollution is increasingly generated by those sectors like transport where the pricing and regulatory mechanisms to make the polluter pay are the most difficult to implement and enforce. The regulation of mobile source air emissions with adverse public health impacts is developing rapidly, but still lags behind the regulation of point-source pollution. In the United States (US) and Europe, tightening tailpipe emission standards, fuel specifications, and ambient air standards are bringing down or stabilizing concentrations of most vehicular emissions in most major cities. By contrast, in the large cities of Central Europe, and in many developing country megacities, many forms of ambient air pollution are getting worse.

Meanwhile, emissions such as greenhouse gases, which primarily pose a threat to future generations, have proven far more difficult to regulate. From 1970 to 1992, carbon

dioxide emissions increased from 15 billion tons per year to 22 billion tons, an increase of 28% in Organization for Economic Cooperation and Development (OECD) countries and 82% in non-OECD countries. The share of carbon dioxide (CO₂) emissions coming from transport in OECD countries has risen from about 17% to about 31%, and this trend is rapidly repeating itself in developing countries.

It is no accident that environmental problems are increasingly concentrating in those areas of the market economy where the pricing mechanism is the most dysfunctional. Oil prices vary from country to country by a factor of 1:100, compared to motor vehicle prices which vary by a factor of 1:2. In most market economies, the state continues to build roads and urban infrastructure with little regard for ensuring that users of the infrastructure bear the full social cost of their use. As a result, individual consumers' decisions about where to purchase a home, where to shop, and how to travel are decisions responding to highly distorted price signals, encouraging the over-consumption of scarce fossil fuels and the generation of socially dysfunctional levels of pollution.

2. Hungary: A Case Study

2.1. Before the Transition

In Hungary, as was typical in most non-democratic, largely centrally planned economies of Central Europe (Hungary already had a vibrant private sector at the time of the transition), tight environmental regulations existed on the books, based on a scientific assessment of public health risks, but they were weakly enforced, and mechanisms for citizens to compel the government to enforce these regulations were weak. As the prices of energy were subsidized and much of the economy planned, there was no mechanism to encourage enterprises, housing estates, or individuals to use fuel efficiently, conserve energy, or modernize technology to reduce energy consumption. Hungary as a whole consumed about 25 mega joules of energy per dollar of Gross Domestic Product (GDP) compared to about 21 mega joules in the US, and about 12 in Japan and Western Germany.

Factories, power plants, and district heating facilities also relied heavily on lignite, or brown coal, some of it laced with uranium and other heavy metals, and these toxic wastes were not disposed of securely. Industrial towns, like Tatabánya, were and remain some of the most polluted and heavily contaminated areas in Europe. Some 1.3 billion cubic meters of raw sewage were dumped into the Danube and other Hungarian rivers per year, and the water supply in a quarter of Hungarian towns was not potable due to contamination from pesticides and nitrate fertilizers. Thus, air and water pollution from industrial, district heating, and power sectors was worse than in market economies, particularly in the areas immediately adjacent to these facilities.

Hungary's planned economy also delayed the transition from an industrial to a post-industrial economy. In 1990, more than half of Hungary's GDP still came from industry, compared to roughly a third in most Western market economies at that time. As a result, Hungary's ambient air quality tended to have higher concentrations of industrial pollutants like sulfur dioxide than market economies at similar levels of GDP.

On the other hand, Hungary's central planning system also tended to depress household consumption in order to drive up the rate of investment. The rigidities of the planned economy, after 1980, also tended to depress economic growth in general. Hungary's GDP was roughly 1/7 that of the US in 1990. These two factors reduced consumption-side environmental pollution. As a result, while pollution per vehicle, per factory, or per dollar of GDP were much higher in Hungary than in most OECD countries, aggregate and per capita greenhouse gas emissions, nitrogen oxides and particulate emissions were lower than most OECD countries. The process of the conversion of agricultural and forest land to urban and commercial uses, which also tends to increase greenhouse gases by removing "sinks", was also slower.

Consumer-side emissions were also lower because of the specific ways in which the centrally planned economy affected the built environment. Before the transition, urban areas were fairly high density which tended to conserve energy and encourage public transit use. The public sector was the largest producer of housing, and most of this housing was built in high density housing estates outside the city center, creating the peculiarity of urban areas with higher density in the outer ring than in the center. Nonetheless, these housing estates were conveniently served by public transport, and public transport dominated the urban transport system. In Budapest, the only large city in Hungary with about 2 million people, 73% of trips were made by public transportation in 1989, compared to about 14% in major US cities the same year. Furthermore, just beyond these housing estates was mostly agricultural land, and it was difficult to get permission to convert this land to urban uses.

Individual motor vehicles, many of them two-stroke engines, were much more polluting in terms of particulates and hydrocarbons, though they generated fewer nitrogen oxides because they had small engines. However, because the motor vehicle fleets were far smaller (about 170 motor vehicles per 1 000 people in Hungary compared to around 700 motor vehicles per 1 000 people in the US in 1990), transport sector air emissions were much lower, with the exception of lead which had not yet been phased out. People did not have as many household electronics, though the ones they did have used energy inefficiently, and electric power was generated by burning brown coal. The housing estates were heated by large centrally controlled district heating centers. On the one hand, the co-location of apartments into large buildings tends to reduce heating fuel consumption per unit. On the other hand, the design of the facilities did not allow residents to adjust temperatures in their apartments and provided no incentives to conserve energy. As a result, aggregate power and heating sector emissions were lower in nitrogen oxide but higher in sulfur dioxide than in most advanced capitalist countries.

Ironically, the transportation system in Hungary's planned economy may have more closely mirrored a system where passengers paid the full social costs of their travel than the transportation system in the US. After the New Deal, the US government poured investments and tax expenditures into roads, urban infrastructure, and single-family suburban housing with little regard for the fact that these subsidies were greatly distorting the transportation and location decisions of families and investors. As a result, an urban form emerged which consumed more fossil fuels for transportation per capita than any other market economy at a similar level of GDP. United States policy since the New Deal was more concerned with stimulating domestic consumption for the purposes of global macroeconomic stability than "getting the prices right". This had fairly

profound environmental consequences, making the US the highest producer of CO₂ emissions per capita.

-
-
-

TO ACCESS ALL THE 17 PAGES OF THIS CHAPTER,
Visit: <http://www.eolss.net/Eolss-sampleAllChapter.aspx>

Bibliography

French, Hilary F. (1991). Restoring the East European and Soviet Environments. *State of the World 1991*. Washington D.C.: Worldwatch Institute. [This article gives a good overview of the environmental situation in Hungary leading up to the transition].

Hook, W. (1999). The Political Economy of Post-Transition Transportation Policy in Hungary. *Transport Policy* 6. 207-224. [A journal article by this author covering the transportation issues dealt with in this article in greater detail].

Lucaks, A. and Karoly, K. (1997). *Forced March*. Budapest: Clean Air Action Group. [This is a collection of essays in English on transport and environment issues in Hungary edited by Hungary's foremost environmental advocate working on transportation issues].

Biographical Sketch

Walter Hook is the Executive Director of the Institute for Transportation and Development Policy (ITDP), an international NGO incorporated in the USA to promote environmentally sustainable and equitable transportation policy and projects in developing countries and economies in transition. ITDP gives technical assistance to municipalities in non-motorized transport, bus rapid transit, traffic demand management, and the re-use of derelict urban land. Mr. Hook received his PhD in Urban Planning at Columbia University in 1996. For more information about ITDP, see www.itdp.org.