

Sustainable Consumption Governance in a Globalizing World

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Introduction

The influence of globalization on the sustainability of consumption is a frequent topic in academic and political debates.¹ Despite this, the scientific understanding of this influence and, even more so, of the consequences for governance strategies in pursuit of sustainable consumption are still weak. In this paper, we therefore inquire into the specific channels of the influence of globalization on the sustainability of consumption. Based on our analysis, we develop guidelines for sustainable consumption governance.

Sustainable consumption² is quickly becoming one of the major topics of interest for academics and practitioners engaged in environmental, political, and economic discourse.³ One of the primary reasons for this surging interest is that unsustainable consumption patterns and levels especially in the industrialized countries are a major cause, if not *the* major cause, of environmental degradation in the world today.⁴ In addition, scholars and practitioners increasingly highlight the social unsustainability of this consumption behavior.⁵

Globalization and its ongoing and multi-layered processes of transformation of the international system fundamentally alter the parameters for con-

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1. Daly 1998; UN-CSD 1999; and Conca 2001.

2. The most common definition of sustainable consumption is given by the "Oslo Roundtable" 1994: "... sustainable consumption is the use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of further generations" (Ministry of Environment Norway 1994).

3. See, for example, *Global Environmental Politics* 1 (3); *International Journal for Sustainable Development* 4 (1); UNDP 1998; and OECD 1999.

4. UNDP 1998.

5. Daly 1998; and D. Mayer 1998.

sumption behavior and policies. Firstly, globalization affects determinants and consequences of consumption choices. Increasing world-wide economic and communicative interpenetration and the spread of technologies and values strengthen the influence of some determinants of consumption choices while weakening others.⁶ Secondly, globalization influences the available range of governance strategies, as it affects the political capacities of state and non-state actors, the characteristics of policy networks and the effectiveness of policy instruments.⁷ Moreover, as Conca argues,⁸ globalization changes the organization of production and the scope and complexity of international transactions to an extent that traditional regulatory approaches to environmental policy are likely to become increasingly ineffective.

Due to the lack of research on the link between the micro-level decision making by households and the macro-phenomenon of globalization, scholars and practitioners have not been able to agree on the extent and direction of changes in the sustainability of consumption due to globalization.⁹ According to some, globalization will mainly lead to increasingly unsustainable consumption patterns and levels because of the spread of materially intensive means of needs satisfaction and the decreasing access of consumers to information about the sustainability of their consumption choices.¹⁰ In the view of other scholars, globalization is leading to a dematerialization as the post-modern economy develops and spreads across the globe.¹¹

This means that to date a thorough understanding of the influence of globalization on the sustainability of consumption is lacking. This is particularly the case for industrialized countries. Both academic and political developments in the 70s and 80s fostered analyses of the influences of Northern consumption on the South.¹² Only recently, academics and practitioners started to consider the impact of globalization on consumption patterns in the North as they feared that achievements in improving the sustainability of consumption in some areas would be dwarfed by setbacks due to globalization in others. A good understanding of the impact of globalization on the sustainability of consumption is, however, a requirement for the design of future governance strategies in pursuit of sustainable consumption.

In this paper, we attempt to provide some insights into both the influence of globalization and its implications for governance strategies in pursuit of sus-

6. Ropke 1999.

7. Strange 1996.

8. Conca 2001.

9. See CSD 7 Documents, Co-Chairman's summary of delegations discussion 1999.

10. For instance Daly 1998; and Haake and Jolivet 1997.

11. Menzel 1998.

12. Numerous references to the influence of globalization exist in the sustainable consumption debate. However, most of these studies focus on the (negative) influences of (unsustainable) consumption patterns in the industrialized countries on the developing countries. Inquiries into the effects of globalization on consumption in the North were less common. In so far as they existed, they provided explicit arguments about the influence of globalization primarily for the supply side of consumption. It appears that the implications of globalization for the demand side are more subtle in the North.

tainable consumption. Our focus of inquiry is on consumption by private households in the two consumption clusters of food and mobility, which previous research has identified as priority areas for policy intervention in pursuit of sustainable consumption.¹³ Both clusters have substantial environmental impacts. As Jongen and Meerdink point out, “close to half of all human impact on the environment, such as loss of biodiversity, is directly and/or indirectly related to food production and consumption.”¹⁴ Likewise, household mobility contributes a substantial share to the environmental burden of energy use and emissions and, most importantly, is one of the fastest growing consumption sectors.¹⁵ Furthermore, studies have highlighted that food and mobility are consumption clusters where consumers can have a substantial influence on the total environmental burden associated with their consumption choices.¹⁶

In addition, we limit our focus to industrialized countries. While the economic elites in many developing countries have been adopting consumption patterns that mirror those of the elites in industrialized countries more closely than those of their fellow citizens,¹⁷ for most of the population in developing countries consumption is a fundamentally different issue. Even a generalization across industrialized countries may appear too broad, as the OECD countries vary substantially in throughput and even governance systems. However, the empirical evidence from (sustainable) consumption studies in the US and Western European countries (cited below) suggests that at least among those countries there is a fundamental correspondence of the general determinants of consumption patterns as well as the influence of globalization despite such underlying differences.¹⁸

We pursue our objectives in three steps. The first step distills the core determinants of the sustainability of food and mobility consumption by private households from existing empirical studies. The second step identifies the most likely channels through which globalization influences these determinants of sustainable consumption.¹⁹ The final step derives implications for governance strategies in pursuit of sustainable consumption from the identified relationships.

13. Lorek and Spangenberg 1999.

14. Jongen and Meerdink 1998.

15. Vringer and Blok 1995; and Wackernagel and Rees 1996.

16. Lorek and Spangenberg 1999 and 2001.

17. Brenkert 1998.

18. This is not to say that the extent of the influence of the determinants of consumption is the same in all of the countries, of course.

19. Similar to most sustainable consumption studies, our analysis has to admit to the common fallacy of talking primarily about ecological questions when referring to sustainable consumption. The reason for this focus is not, of course, that we do not consider the social dimensions important, but rather that the literature provides even less insight into the social implications of consumption. While scholars can find some agreement on per capita greenhouse gas emissions, for instance, as an (environmental) indicator of sustainable consumption, discussions about the meaning of employment conditions or development issues (in the North and/or South) for social indicators of sustainable consumption are not as advanced yet. The literature on sustainable communities, however, has led to some progress here. See Warburton 1998; and Mazmanian 1999.

II. Determinants of Food and Mobility Consumption

Empirical studies of the sustainability of food and mobility consumption have identified some general factors, that tend to influence consumption choices independent of consumption cluster or product. The factors we will examine are economic and socio-demographic, along with various cluster-specific determinants. The relative importance of these factors may differ, but they always need to be considered.

Economic factors and conditions are one of these common factors. Prices and income, and therefore indirectly taxes and subsidies, clearly affect demand and supply. While price and income elasticities of demand and supply, frequently discussed in the economic literature, show the variance in the impact of changes in these factors, few cases exist in which they do not influence consumption decisions at all. Economic factors are important determinants of the sustainability of both food and mobility consumption by private households. Kramer et al.²⁰ find household expenditure patterns to be correlated with energy requirements, and CO₂ emissions from household food consumption. Jungbluth,²¹ likewise, highlights the role of economic factors such as income and prices.²² With respect to mobility, numerous studies find disposable income to be highly determinative of mobility patterns.²³ Consumer prices and subsidies are the other side of the coin.²⁴ Significantly, the increase in mobility since the 1950s has been accompanied by a significant decrease in price per service unit.²⁵

Besides economic factors, socio-demographic factors always have an impact on household consumption choices. Factors such as household size and composition, age, gender, and education clearly influence the sustainability of food and mobility consumption. These factors also involve values and life-style choices, including, for instance, decisions on the commodification and commercialization of activities.²⁶ Indeed, scholars argue that behavioral and lifestyle changes have the potential to lead to larger improvements in the sustainability of food and mobility consumption than technological improvements.²⁷ In an extensive assessment of the sustainability of food choices by private households, Jungbluth²⁸ finds that age, education and knowledge, household size, the increasing joining of the workforce by women, and time constraints are signi-

20. Kramer et al. 1998 and 1999.

21. Jungbluth 2000.

22. He points out, however, that newer studies do not find the relationship between GDP and animal protein intake proclaimed by previous studies.

23. Studies of the likely change in mobility due to changing incomes found income elasticities of 0.2 for public transportation and 0.6 for car travel (Coenen, Fuchs, and van der Peppel 2000). See also Noorman and Uiterkamp 1998; Wilting and Biesiot 1998; Carlsson-Kanyama and Lindén 1999; Hoyer and Holden 2000; and van Diepen and Vogel 1999.

24. van der Wal and Noorman 1998; and Wolf 1999.

25. Linderhof and Korreman 1998. Different estimates of price elasticities exist. Commuter traffic has its own price elasticity of -0.5 (public transport) to -0.1 (car). In the case of other modes of transport, studies report own price elasticities of -1.2 (train) to -0.6 (car).

26. On the importance of such dynamics in a consumption analysis see Princen 2001.

27. Dürrenberger and Patzel 1999.

28. Jungbluth 2000.

ficant factors.²⁹ Furthermore, studies have demonstrated the importance of changing values in terms of a decreasing social relevance of meals, and increasing value of ecological aspects and consumption habits in terms of upbringing, health concern, and life style.³⁰ Likewise, lifestyle choices in terms of dining out can have a tremendous influence on the sustainability of household food consumption.³¹

In terms of mobility choices, most studies have identified sex/gender, age, education, and household composition (size and number of children) as important variables.³² Lifestyle factors, values, and attitudes are also influential.³³ Thus, social changes related to a reduction and increasing flexibility of work hours as well as the growing differentiation between work and home and an increase in leisure time have had an impact on household mobility.³⁴

Besides these common determinants of the sustainability of household consumption, scholars have concentrated on additional cluster-specific sets of factors. In the case of food, studies have highlighted the importance of household technology. The increasing size of fridges and freezers together with the exponential increase of microwaves in households, for example, have fostered the wide-spread demand for processed foods.

Other scholars have emphasized that the sustainability of a given food choice depends as much on the sustainability of the food product as it does on the determinants of the choice. Accordingly, they have tried to compare the greenhouse gas emissions associated with the production of different food groups: bread, pastry, and flour products; potatoes, vegetables and fruit; beverages and products containing sugar; oils and fats; meat, meat products and fish; dairy products; and other food products.³⁵ These studies found, however, that within each of these groups large differences in terms of environmental impact exist. Likewise, integrated analyses of various agricultural crops show that total emissions of greenhouse gases per kg crop strongly vary among the agricultural crops and growing methods.³⁶

As a consequence, scholars have shifted to assessing the sustainability of specific products in terms of energy consumption or greenhouse gas emissions over their whole life cycle. Besides agricultural production, the sustainability of a food product is influenced by the combination of transport, processing, storage, distribution, packaging, and eventually the handling of the food in the household.³⁷

29. Also see Wielting and Biesiot 1998.

30. Jongen and Meerdink 1998; and Jungbluth 2000.

31. Moll 1999, for instance, argues that dining out sometimes requires ten times the energy compared to dining at home, due to transport, high space consumption requiring heating and lighting, long operation times of kitchen appliances, and the waste of food ingredients.

32. See, for instance, Knapp 1998; Carlsson-Kanyama and Linden 1999; Dürrenberger and Patzel 1999; van Diepen and Voogt 1999; and Hoyer and Holden 2000.

33. Kitamura et al. 1997; and Wolf 1999.

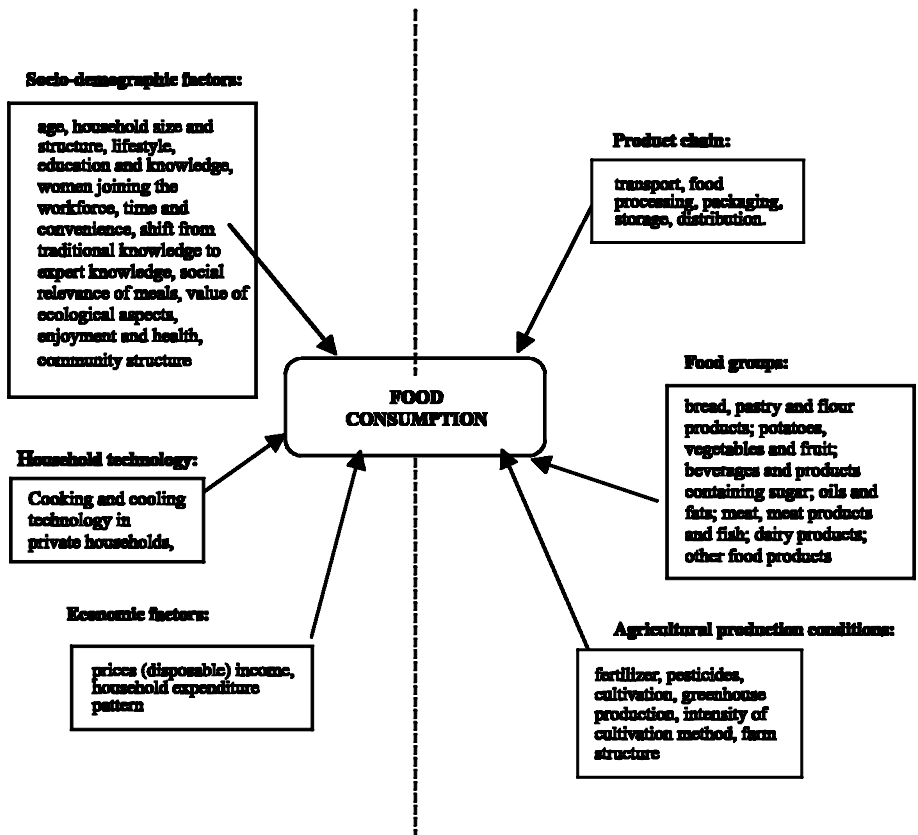
34. Ligteringen 1998; and Noorman and Uiterkamp 1998.

35. Kramer et al. 1998.

36. Carlsson-Kanyama 1999; and Kramer, Moll, and Nonhebel 1999.

37. Goodland 1998; Kramer et al. 1998; and Carlsson-Kanyama 1999.

Figure 1: Determinants of the Sustainability of Food Consumption

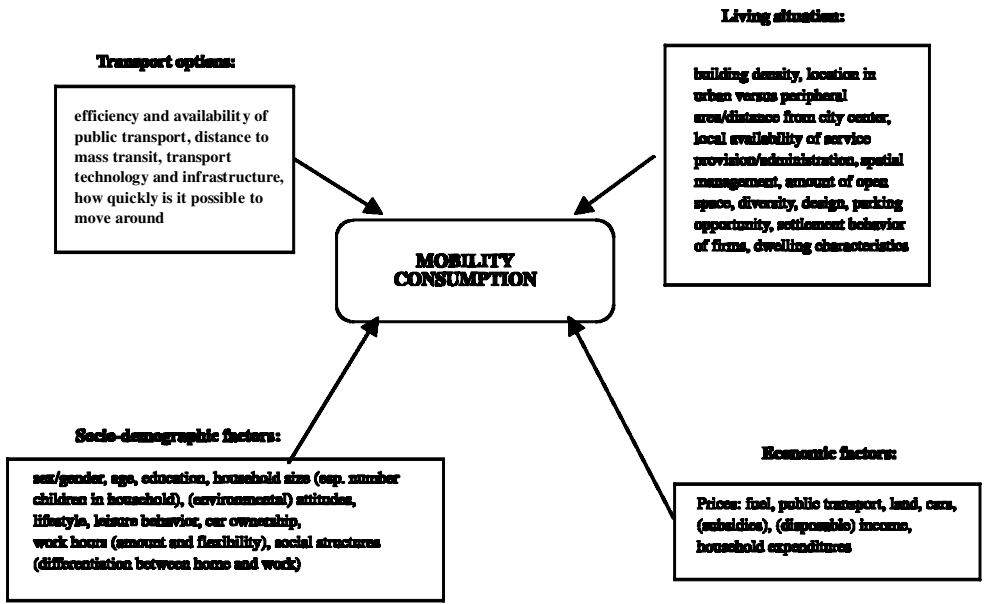


Numerous studies have focused on the role of agricultural production conditions in the sustainability of food products. These analyses find, for instance, that farm structures and intensity of cultivation matter.³⁸ Crops produced from large scale agriculture for the food processing industry tend to emit more greenhouse gases per ton produced than crops intended for direct consumption, which generally tend to come from small scale agriculture.³⁹ Large scale production farms also tend to use more fertilizers (N₂O emissions) and pesticides and rely more on mechanical equipment (CO₂ emissions). Similarly, animal density and the amount of purchased fodder need to be taken into account. Widespread agreement exists that organic production improves the sustainability of food consumption.⁴⁰

38. Kramer et al. 1999.

39. Op.cit.

40. UN-DESA 1998; and Lorek and Spangenberg 2001.

Figure 2: Determinants of the Sustainability of Mobility

With respect to additional determinants of the sustainability of mobility consumption, an important set of variables relates to questions of the living situation.⁴¹ Scholars find that the location of households in city centers, peripheral, and rural neighborhoods as well as dwelling characteristics such as size and type of dwelling are important determinants of household mobility patterns.⁴² Likewise, factors of urban form and size and urban planning, in particular the location of work, services, and leisure in relation to the residence, building density, and the amount of open space are relevant.⁴³

An additional set of determinants concerns transport options and infrastructure.⁴⁴ Car ownership appears to be a significant determinant of private mobility.⁴⁵ Furthermore, the efficiency and availability of public transport play a pivotal role.⁴⁶ This set of factors is related to the factor of technology, since a main determinant of mobility choices appears to be “how quickly it is possible to move around.”

41. Farthing et al. 1996; Kitamura et al. 1997; and Knapp 1998.

42. van Diepen and Voogt 1999; and Hoyer and Holden 2000.

43. Newman and Kenworthy 1999.

44. Newman and Kenworthy 1989 and 1999.

45. Carlsson-Kanyama and Linden 1999; and Hoyer and Holden 2000.

46. Wolf 1999.

III. Globalization and Sustainable Consumption

The challenge now is to link globalization to the identified determinants of the sustainability of household consumption. The globalization literature has produced a vast variety of conceptualizations of the phenomenon of globalization ranging from increasing interaction and interdependence between people in different countries to supra-territoriality.⁴⁷ To suit our particular research needs, however, we define globalization here in terms of perceivable dynamics widely identified as core elements of globalization in the political science literature rather than in terms of a theoretical/philosophical conceptualization.⁴⁸ The five core elements we have identified are: the increase in flows and liberalization of trade; shifts in political power; capital concentration and mobility; technological innovation and diffusion; and the diffusion of information and values. These phenomena are related, of course, but separate aspects are recognizable. Figures 3 and 4 depict the relationships between these elements of globalization and the determinants of sustainable food and mobility consumption discussed in the previous section.⁴⁹ We identify the relevant relationships on the basis of prominent scholarly discourse and evidence provided by empirical research (cited below). Future studies need to individually assess the identified relationships in detail.

Information

Looking first at the more direct influences of globalization on the sustainability of household consumption choices, the impact of the diffusion of information and values on consumer tastes and lifestyles deserves attention. Numerous scholars focus on the role of information, especially advertising and other media influences. "Information" and advertising are particularly important, of course, since today's consumption in industrialized countries is to a large extent based on "produced" desire.⁵⁰ These factors influence the "ideologies," "symbols," "relationships," and "practices" driving much of today's consumption behavior.⁵¹ This role of "information" exists with respect to both food and mobility. Accordingly, an arrow links information with socio-demographic characteristics in both figures. The diffusion of information and values, often associated with cultural globalization and the role of the media, is one of the core emphases of the globalization debate.

47. For an excellent discussion of the various perspectives, see Scholte 2000.

48. Beck 1996; Cemy 1998; Cutler 1999; Garrett 1998; Kratochwil 1997; Lipschutz 1996; Strange 1996; and Zürn 1998.

49. The density of arrows in Figure 3 shows that the elements of globalization each influence most of the determinants of consumption. This density is a function of the extent of previous research on the topic of food, but also of overlap between the determinants of the sustainability of food consumption identified in the debate.

50. Ropke 1994 and 1999; and Conca, Princen, and Maniates 2001.

51. Conca 2001.

Figure 3: Globalization and the Sustainable Consumption of Food

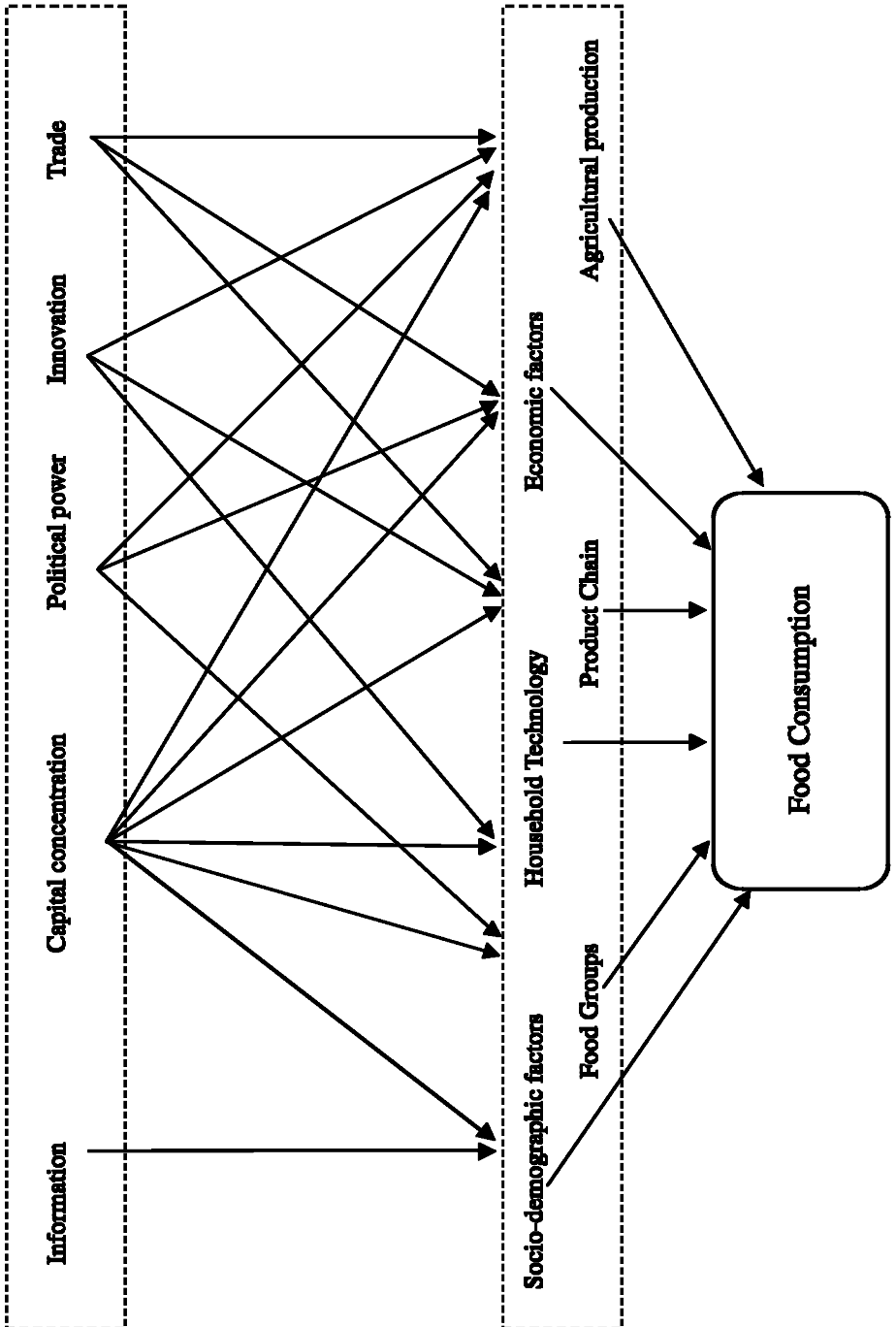
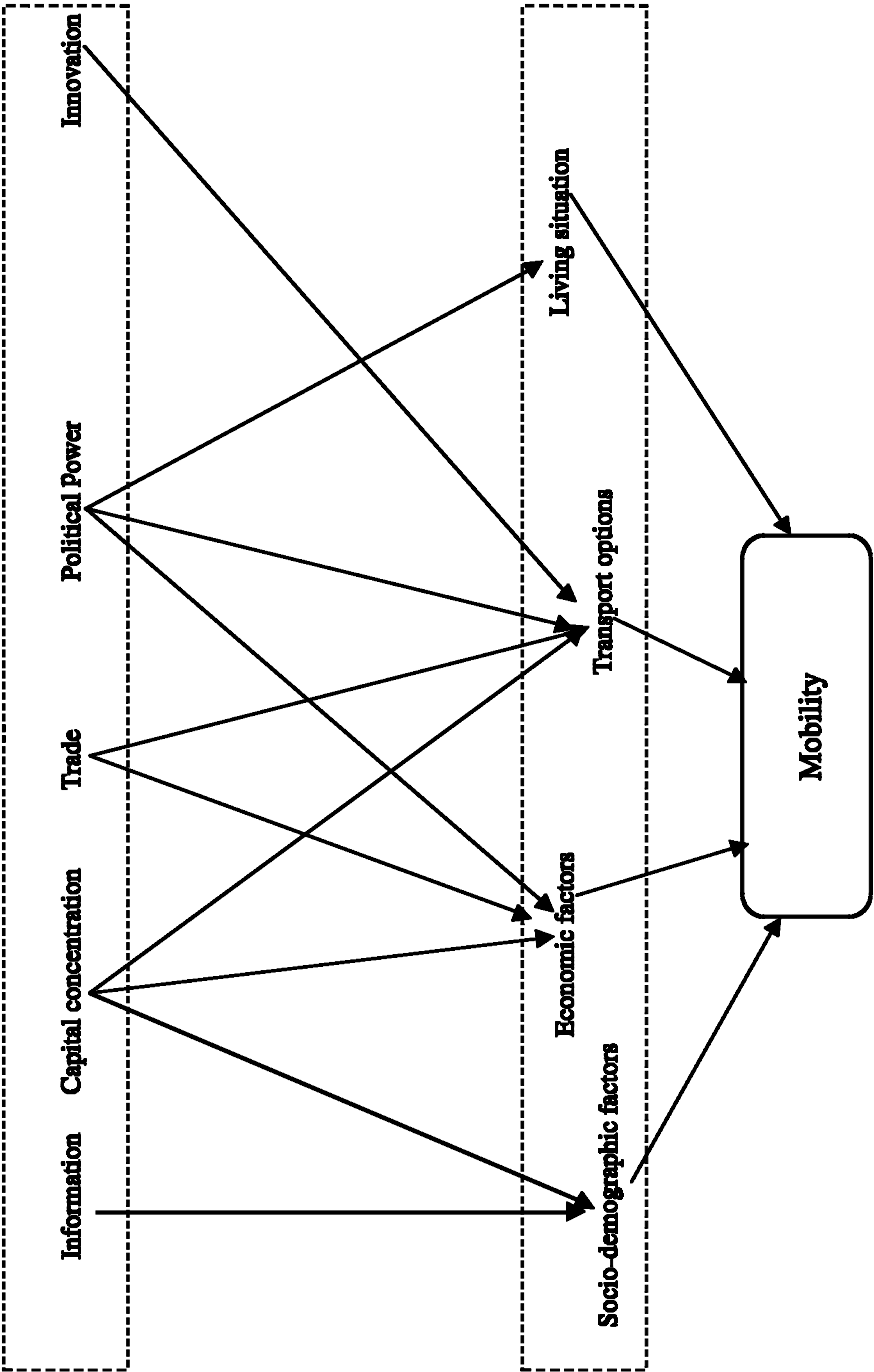


Figure 4: Globalization and the Sustainable Consumption of Mobility



With respect to food consumption, the literature notes the internationalization of consumer tastes.⁵² The spreading of North American food consumption patterns in particular are fostering the displacement of traditional and seasonal foods with more durable processed foods produced to create and serve a common popular taste worldwide.⁵³ The globalization of the food chain also reveals itself in the mass consumption of exotic/foreign dishes and restaurant chains.⁵⁴ In addition, global information and value flows affect consumers' concepts of meals, gender roles, and the structuring of lives between home and work, and therefore consumers' food choices.

In the mobility sector, the diffusion of information and values is reflected in increasing travel to distant places.⁵⁵ In addition, the media influence consumers' perceptions of the appropriate mode and destination of travel, especially desirable cars and exotic holiday trips, but also of desirable living situations. Trends to move into the countryside or ideas of the "appropriate" living space and "necessary" appliances frequently are a function of the spread of information and values through global media.⁵⁶

In addition, global information flows also have implications in terms of the type of information that is spread. Some information contents may be favored over others. Business is very capable of spreading its messages globally through its marketing and advertising resources and networks. Yet, information on the environmental and social characteristics of products, especially those related to the production process, is rarely included in the messages. Although the internet increasingly gives individuals or groups relatively cheap and easy access to the information highway, it is still far away from providing a true democratization of information flows. Thus, the role of the diffusion of information also reflects the power of capital concentration, with the largest corporations dominating global marketing and commercial media time.

Capital Concentration

Capital concentration and capital mobility, then, form the next element of globalization whose influence on the sustainability of food and mobility consumption choices needs to be discussed. The two factors together are the source of the rise in influence of corporations. In combination with trade liberalization, capital concentration and mobility have fostered a proliferation and lengthening of the product chain and the shift to post-Fordist modes of production, which Conca⁵⁷ identifies as core aspects of the changes in the global organization of production. In general, the majority of participants in the sustainable consump-

52. Bonanno et al. 1994; and Lowe et al. 1994.

53. Carlsson-Kanyama 1997 and 1999; Ward and Almas 1997; and Warde 1997.

54. Howes 1996.

55. Quist et al. 1999.

56. Frank 1999; and Schor 1999.

57. Conca 2001.

tion debate see a detrimental effect on the sustainability of consumption originating in the growing market power of multinational corporations (MNCs).⁵⁸ In the food industry, capital concentration appears to have taken place in most sectors, including both farming and non-farming sectors of the agro-food system.⁵⁹ Interestingly, while processes of capital concentration can also be noted in the car industry, the literature pays less attention to them.

On the one side, capital concentration presents an additional direct influence of globalization on household consumption decisions, due to the dominance of MNCs in marketing and advertising. Relying on global marketing networks, MNCs spread their messages worldwide. Their enormous financial capacity allows them to purchase a huge share of commercial time on TV.⁶⁰ The concentration of network stations in a handful of global media companies by itself means that capital concentration favors the global diffusion of certain values and information over others.

On the other side, capital concentration also has an indirect influence on the sustainability of food and mobility consumption choices. The impact of capital concentration trickles down to the sustainability of household consumption through its influence on available product choices. With respect to food, capital concentration affects the sustainability characteristics of the product chain and food groups, as well as agricultural production conditions. Indeed, capital concentration has been linked to the increasing intensity of cultivation due to heavier uses of fertilizers, pesticides and heavy machinery, and to a decrease in the organic content of food. The global sourcing of MNCs also influences the sustainability characteristics of food in terms of transport. Moreover, capital concentration is extremely important for the latter stages of the product chain such as food processing and retailing, which have an important influence on consumers' choice sets.⁶¹

Other important consequences of capital concentration in the food sector apply to the power relationships between the different actors and the sustainability characteristics of food products. Capital concentration is responsible for the increasing dominance of corporations over input choices by producers and the promotion of biotechnology.⁶² These changes in influence also extend to the political arena and will be discussed further below.

58. Haake and Jolivet 1997; Goodland 1998; and D. Mayer 1998.

59. See, for instance, Handy and MacDonald 1989; Hirst and Thompson 1992; Bonnano et al. 1994; Fine 1994; Lowe et al. 1994; Howes 1996; Busch and Juska 1997; Goodmann 1997; Ward and Almas 1997; and Humphrey 1998.

60. The largest 100 corporations are responsible for 75% of commercial TV (D. Mayer 1998).

61. Scholars blame the dominance of multinational corporations in the food-processing industry for the turning out of homogenous food products throughout the world, in particular new products for affluent markets, and the spread of processed food (Goodmann and Redclift 1994; and Busch and Juska 1997). It appears that the concentration has led to a displacement of production for use by production for the market, and to a tendency to minimize the organic content of the food system (Fine 1994).

62. Input suppliers have been able to obtain more influence over farm businesses through the development of credit links and the provision of combined packages of technologies and special-

In the case of mobility, capital concentration clearly affects transport options. This influence applies to the sustainability characteristics of transport options as well as their general availability. Capital concentration in the car industry, for instance, has an impact on the available and employed technology in terms of fuel efficiency and emissions, for instance. Likewise, the larger the car manufacturers, the more influence they can expend on the sustainability characteristics of their inputs. The greening of the supply chain demanded under ISO 14000 standards, for example, has much more potential if pursued by Daimler-Chrysler, General Motors, or Ford, than it would have in the case of a small car manufacturer.

Finally, capital concentration also affects the economic factors determining consumption choices. Since scholars perceive capital concentration to primarily favor the economic interests of investors, they identify it as a driving force behind changing income distributions within and between countries. On the food side, capital concentration is blamed for declining farm employment, squeezed farm incomes, increasing capital requirements of farm-based production, as well as the restructuring of economic sectors and labor forces (and nation states).⁶³ While not explicitly discussed in the literature, capital concentration is also likely to influence the prices of food products for producers and consumers and especially the prices for car and air travel.

Political Capacity

Capital concentration and the power of MNCs are directly related to the next phenomenon associated with globalization: shifts in political capacity.⁶⁴ Many scholars perceive political capacity to be shifting from traditional political actors, specifically the state, to non-state actors. They argue that the political capacity of nation states is declining vis-à-vis MNCs and International Governmental Organizations (IGOs).⁶⁵ Some scholars argue that the dependency of the state on corporations leads to constraints on political strategies.⁶⁶ Other scholars highlight related changes in the legal arena as public and private international law are becoming increasingly blurred due to a greater reliance on nonbinding legal instruments and the involvement of non-state actors in the creation, implementation, and enforcement of international law.⁶⁷ Likewise,

ist advisory (Ward and Almas 1997). By seeking to gain control over a greater proportion of the production process, large agro-food companies have come to influence the direction of technological change (op.cit.).

63. McMichael 1997; and Ward and Almas 1997.

64. Cerny 1990 and 1998; Strange 1994 and 1996; Zürn 1998; and Kalb et al. 2000.

65. Ohmae 1995; Korten 1995; Haake and Jolivet 1997; and D. Mayer 1998. The "decline of the nation state" may not be a uniform development, however. While the power of national governments may have been reduced in some areas, it has actually increased in others. See Hirst and Thompson 1992; Vogel 1996; Clayton and Pontusson 1998; and Garrett 1998.

66. Group of Lisbon 1993.

67. Clapp 1998; Cutler 1999; Hurd 1999; and Brown Weiss 1999.

scholars link globalization to the ascendancy to power of IGOs such as the WTO, the IMF, and the World Bank.⁶⁸

Besides shifts in the political capacity of the state vis-à-vis MNCs and IGOs, scholars also inquire into potential changes in the role of the public and, specifically, the consumer. Some scholars argue that the public may be “disappearing” in its previous role as a critical observer and check on political and economic actors.⁶⁹ On the other side, some scholars claim that the public has the potential to play a much more important role due to the rise of new issues onto the global political agenda, such as environmental, social, and human rights issues.⁷⁰ Likewise, the rise in importance of local values, ethnicities, and knowledge, and efforts at self-governance (frequently as a reaction to globalization), has fostered the transfer of some political capacity from the state to the local or municipal level.⁷¹ For the consumer, research has noted a decline in information availability due to the distancing of production and consumption decisions.⁷² In addition, some scholars highlight the inability of supra-national entities to be responsive to consumers’ preferences.⁷³

How do these shifts in political capacity affect the determinants of sustainable consumption? The declining political capacity of the state vis-à-vis non-state actors indicates, for instance, an increasing inability of national governments to subsidize public transport and to continue the redistribution of income among different sectors of the population characteristic of the welfare state. As a consequence, shifts in political capacity have an impact on household budgets and prices.

In the food sector, shifts in political capacity are also likely to influence food groups and agricultural production conditions. Scholars emphasize that MNCs and IGOs have an increasing influence over the types and characteristics of food exports and imports.⁷⁴ Likewise, one may argue that GATT/WTO negotiations exemplify the strengthening of global regulatory mechanisms that compromise national sovereignty in terms of production processes such as the use of specific pesticides in agricultural production.⁷⁵ Moreover, some scholars fear that international agreements such as trade-related intellectual property rights may undermine specific consumer protection initiatives.⁷⁶

For the mobility sector, we also perceive a potential effect of shifts in political capacity on living situation and transport options. Thus, shifts in political capacity may influence the extent to which sustainability characteristics rather

68. Strange 1996; Kratochwil 1997; and Goldstein 1998.

69. Kratochwil 1997.

70. Wapner 1995; Lipschutz 1996 and 1997; and Price 1998.

71. Scholte 2000.

72. Johnstone 1995; and Princen 1999.

73. See Hedemann-Robinson 2000. Political capacity, thus, is shifting both up to the supra-territorial level and down to the local level. These shifts go beyond the changes in power in the economic system identified by Conca 2001. They are taking place in other arenas such as the social and environmental ones, as well.

74. McMichael 1997; and Tonner 2000.

75. Ward and Almas 1997.

76. R. Mayer 1998.

than private economic interests will be considered in urban design. Likewise, these changes can influence transport policy and investments in infrastructure development for public transport.

Trade

An additional influence of globalization on the determinants of sustainable food and mobility consumption results from the liberalization of trade laws and quantitative and qualitative changes in trade flows. While much of the popular discussion focuses on increases in the absolute size of trade flows, the changes brought about are much more fundamental. Today, trade takes place at every stage of complex transnational commodity chains.⁷⁷ The institutional and structural changes in trade affect the sustainability of food and mobility consumption choices in a variety of ways, and a substantial literature exists about the direction of effects.⁷⁸ Trade impacts the sustainability of consumption through trade's influence on economic factors. Furthermore, core concerns are the informational and spatial distancing of production and consumption decisions, and the pressure of trade liberalization on national regulation.

The influence of global trade on economic determinants of consumption choices is common to both the food and mobility consumption clusters. Trade influences income, although scholars fail to agree on how. Neoclassical economic theory argues that international trade increases the "pie." It does not say anything about the distribution of the overall gains from trade, however. In terms of prices, the lowering of tariffs and quota restrictions leads, frequently, to a reduction.⁷⁹ With the increasing opening of previously protected food markets, prices of food products come under pressure from international competition. Likewise, pressures to deregulate due to trade liberalization are affecting the prices of transport options. Recent pressures to decrease subsidies for public transport are paralleled by demands for the introduction of private competition.⁸⁰ Similarly, the deregulation of the airline market has affected the costs of air travel.

Pressures for trade liberalization are also affecting the sustainability characteristics of food and mobility options. Thus, trade is responsible for the availability of exotic and seasonal food products year round in the supermarkets of the North, for instance.⁸¹ Similarly, free trade can undermine consumer protection standards and constrain the use of eco-labels by interpreting them as barriers.

77. Conca 2001.

78. See Vogel 1995; Daly 1998; Goodland 1998; R. Mayer 1998; UNCSD 1999; and Hedemann-Robinson 2000. These claims should not be viewed as a celebration of the status quo. Previous intense national regulation via price supports and import controls was what created the agro-food commodity chains as they exist today and led to excess production in agricultural commodities. Goodman et al. 1994.

79. Hedemann-Robinson 2000.

80. It is important to note that the influences of trade discussed above can also be attributed to shifts in political capacity, thereby, underlining the shrinking ability of governments to protect public transport systems.

81. Friedland 1994; and Hedemann-Robinson 2000.

ers to trade.⁸² This is particularly relevant for food consumption, where agricultural production conditions are among the core determinants of sustainability. The opening of markets for certain products such as genetically modified food due to WTO regulations, for instance, as well as the prohibition of process standards by the WTO impact the sustainability characteristics of food products supplied in the market. Likewise, US fuel standards for cars have been challenged at the WTO. Such WTO disputes clearly indicate the existing influence of the institutional structures of international trade on the sustainability of food and mobility consumption. Further influences, which are much harder to identify, exist due to the creation of expectations of potential challenges and respective preemptive measures by states, the third face of power so to speak. Unfortunately, these influences are much harder to identify.

One of the pivotal implications of the globalization of trade is the spatial and informational distancing of production and consumption.⁸³ The spatial distancing leads, of course, to transport and the associated energy consumption and greenhouse gas emissions. The informational distancing, in turn, affects the ability of the consumer to make environmentally and socially informed consumption decisions. This informational distancing is strengthened by the international trade institutions. The GATT/WTO limits disclosure requirements for products.⁸⁴ Indeed, it has accepted laxer environmental standards, for instance, as a legitimate source of comparative advantage.

However, a positive influence of trade on the sustainability of production conditions is also conceivable.⁸⁵ Trade can allow the relocation of production to environmentally more efficient places, for instance. Carlsson-Kanyama⁸⁶ highlights that tomatoes grown in Spain are environmentally superior to tomatoes grown in greenhouses in Sweden. Furthermore, one may argue that free trade promotes a leveling upward of consumer standards.⁸⁷ Indeed, some scholars claim that trade considerations have not forced the weakening of any consumer protection measure.⁸⁸ Similarly, some scholars argue that free trade gives consumers a greater opportunity to choose green products.⁸⁹

Innovation

Finally, the technological innovation and diffusion generally associated with globalization clearly have an influence on some determinants of sustainable consumption.⁹⁰ Innovations may foster the development of more environmen-

82. Nader 1991. On the other side, it could be argued that a comprehensive use of eco-labels is an important requirement for free trade.

83. Princen 1997; and Conca 2001.

84. D. Mayer 1998.

85. Carlsson-Kanyama 1997 and 1999; and Jungbluth 2000.

86. Carlsson-Kanyama 1997.

87. Vogel 1995.

88. R. Mayer 1998.

89. For a brief overview of the arguments, see Ropke 1994.

90. In our discussion, we focus on technological innovation. A similar argument could perhaps be made about organizational innovation.

tally friendly technologies, but also development of environmentally problematic ones.⁹¹

Technological innovation and diffusion associated with globalization affect almost all determinants of the sustainability of food consumption.⁹² Clearly, technological innovation influences the sustainability characteristics of agricultural production as well as other phases in the product chain. Innovation in biotechnologies affects crop varieties and characteristics, and technologies of space and time compression influence transport and storage. On the side of the household, technological innovation affects cooking and cooling technologies.

In the mobility sector, technological innovation and diffusion has an obvious effect on transport options. Currently, the technological innovation most prevalent is in the area of individual private transport and fast long distance transport, as this is where money can be made. In addition, technological developments in other areas such as the multi-media evolution are likely to change physical mobility needs.

Globalization, then, influences the sustainability of food and mobility consumption in a variety of ways. The lack of improvements in the sustainability of consumption and the paralysis scholars and practitioners feel in the face of globalization should therefore come as no surprise. Yet, how can governance strategies cope with this impact of globalization?

IV. Implications for Governance Strategies

In the final section, we derive guidelines for governance strategies in pursuit of sustainable consumption from the previous analyses. We will start with more general observations, and then highlight specific areas of concern for such strategies.

General Guidelines

The analyses in the previous section allow us to identify a number of general guidelines for governance strategies in pursuit of sustainable consumption. They range from the challenges for governance created by globalization to the opportunities it provides. First and most fundamentally, the analyses have shown that sustainable consumption governance needs to take the impact of globalization into account. The extent and breadth of the influence of globalization means that it has the potential to undermine any sustainable consumption policy which ignores this context.

Secondly, the influence of globalization implies the existence of severe limitations for effective sustainable consumption governance at the national level. The ability of individual governments to control or modify the elements of globalization discussed above (trade liberalization, capital concentration,

91. Veen Groot and Nijkamp 1999, for instance, expect globalization to foster the development of more environmentally friendly technologies in the mobility sector.

92. Fine 1994; and Johnstone 1995.

shifts in political power, the diffusion of information and values, and technological innovation and diffusion) is limited. Thus, governments interested in fostering sustainable consumption need to consider a multilateral if not global approach. Such an approach could include global eco-labels, or the integration of environmental (and labor) standards with trade liberalization and the WTO.⁹³ Since international organizations such as the UN-CSD or UNEP have increasingly made sustainable consumption part of their agenda, they could offer support in agenda setting, negotiations, and design of governance strategies. Rio+10, in particular, could provide an opportunity for further developments in this issue area, which originally had made its way onto the international political agenda through Agenda 21.

Thirdly, the above analyses suggest that governance strategies in pursuit of sustainable consumption need to adopt a comprehensive approach. Globalization exerts its influences on sustainable consumption through a range of channels, in particular indirect ones. As shown, much of the influence of globalization on the sustainability of consumption occurs before the household ever makes a choice. Therefore, it would not be sufficient for governance strategies to solely target the consumption choices of households, be it through the provision of information or the modification of prices. In the past, sustainable consumption and sustainable production have been viewed as separate policy fields.⁹⁴ As our analyses show, however, sustainable consumption governance needs to integrate both demand and supply targets.⁹⁵ Current developments in Germany, especially the transformation of the ministry of agriculture into the ministry for consumer protection and agriculture appear to be a step in the right direction. However, this integrative approach has only reached the agricultural arena and only with respect to perceived health threats.

Fourth, the above analyses have demonstrated that governance strategies in pursuit of sustainable consumption can try to utilize *positive* effects of globalization on the sustainability of consumption. Examples of such positive influences are the potential to use the internet or the TV for the diffusion of information to foster sustainable consumption values and decisions, global eco-standards and eco-labels in capital and goods markets, and the diffusion of environmentally desirable technologies. Even shifts in political power offer an intervention point for sustainable consumption governance. The increasing involvement of non-state actors in governance suggests an opportunity to foster

93. While such strategies are desirable from the point of view of sustainable development, this is not meant to deny the critical stance developing countries take on such issues.

94. See Princen 2001 for an analytic approach that goes beyond the traditional production-consumption dichotomy.

95. Such strategies could be strengthened by efforts to decrease the separation between households and the sustainability relevant decisions made at prior stages of the product chain, i.e. by a reduction in the spatial and informational distancing of production and consumption decisions. However, we would like to caution against placing too much responsibility for the sustainability of consumption on the individual consumer (see also Maniates 2001).

the integration of environmental and social groups in the implementation and monitoring of sustainable consumption policies.

Such potential positive influences of globalization on sustainable consumption frequently are neglected in the context of academic and non-academic sustainable consumption debates. Strengthening existing positive effects, however, is likely to often be easier than working against the negative ones. We do not argue, of course, that fostering the positive impacts of globalization on the sustainability of consumption will be sufficient. Yet, paying attention to opportunities arising from positive influences is likely to incur a pay-off in terms of political feasibility and efficacy of intervention.

Specific Points of Attention for Sustainable Consumption Governance

Besides general guidelines, we can draw information on areas of particular concern, or rather in particular need of governance intervention on behalf of sustainable consumption from the above analyses. Three such areas will be discussed here. They include agricultural production conditions and transport options which were identified as important determinants of the sustainability of food and mobility consumption respectively. These two determinants deserve special attention because the analyses show them to be influenced by the majority of the elements of globalization discussed. The third area of concern is capital concentration which the analyses have identified as an important influence on almost all of the determinants of the sustainability of food and mobility consumption.

In terms of the influence of globalization on the sustainability of food consumption, agricultural production conditions are a crucial factor. As Figure 3 illustrated, almost all of the elements of globalization discussed have significant influences on agricultural production conditions. Capital concentration was put forward as a factor that influences the intensity of cultivation and farm structure. Likewise, trade liberalization was linked to increases in transport of food, for example, or the potential undermining of ecological standards in importing countries. Similarly, shifts in political power have been related to the increasing influence of MNCs and IGOs on the types and characteristics of food imports and exports. Finally, technological innovation and the global diffusion of technologies was shown to affect crop varieties and characteristics. Given this influence of globalization on agricultural production conditions and the importance of the latter as determinants of the sustainability of food consumption, governance strategies in pursuit of sustainable consumption should pay particular attention to these dynamics.

Transport options play a similar role in terms of the sustainability of mobility consumption as agricultural production conditions do for the sustainability of food consumption. Again, almost all of the elements of globalization exert influence on the sustainability of mobility choices through transport options. Capital concentration was posited as having an effect on the sustainability

characteristics of transport options as well as their availability. Shifts in political capacity were linked to transport policy and a range of other policy areas with strong effects on mobility such as urban planning. Trade liberalization has been related to challenges to national fuel standards for cars by the WTO, for example, as well as pressures for reductions in subsidies for public transport and the introduction of private competition in those markets. Technological innovation, of course, profoundly affects the sustainability of transport options. Again, given this extent and breadth of influence of globalization on transport options, governance strategies would want to pay special attention to this crucial determinant of the sustainability of mobility consumption and the impact of globalization.

What could sustainable consumption governance strategies focusing on agricultural production conditions and transport options, and the influence of globalization on them look like? Given time and space limitations, we can only sketch a few potential elements of a strategy here. In terms of the sustainability of food consumption, for instance, governance strategies could support organic food production in trade, capital markets, technology development, and political decision making. In international trade, then, restrictions on a positive discrimination of organic foods would need to be removed. In terms of capital concentration, feedback mechanisms on the sustainability of agricultural production methods, e.g. environmental reporting, would need to be built into credit and investment markets. At the same time, decision makers would need to foster the inclusion of commercial and societal actors supporting organic food production in governance efforts as well as policy adjustment at the World Bank, WTO, and EU (in particular its Structural Funds and agricultural policy). Finally, governments could support the development and diffusion of organic production "technology." Such a comprehensive targeting of the influences of globalization on organic food production, ideally complemented by a fostering of the diffusion of relevant information to households, would hold considerable potential for channeling the forces of globalization in support of sustainable food consumption.

As our last point, the analyses above suggest that governance strategies in pursuit of sustainable consumption might want to pay special attention to developments in capital concentration. Our analyses have demonstrated that capital concentration influences almost every determinant of the sustainability of food and mobility consumption. In earlier publications, we have shown that the same is true for the sustainability of energy consumption.⁹⁶ Thus, political and social decision makers interested in fostering sustainable consumption will need to discern mechanisms to guide capital markets in a sustainable direction. Respective strategies will probably have to include much stricter sustainability standards for credit and investment markets, but also the application of sustainability criteria to mergers and acquisitions. Sustainable finance is a relatively

96. Fuchs and Lorek 2001.

new area of work, both for activists and scholars, but it has been receiving increasing attention recently. As the analyses above demonstrate, further work is desirable not just in the context of currency crises in developing countries, but also because sustainable consumption and therefore sustainable development will not be possible without sustainable finance.⁹⁷

V. Conclusion

This article set out to develop guidelines for governance strategies in pursuit of sustainable consumption. Its particular focus was on private household consumption in industrialized countries, and specifically the consumption clusters food and mobility. Based on previous empirical research on food and mobility consumption, we derived sets of core determinants of the sustainability of consumption in the two clusters. For food, the core determinants are socio-demographic and economic factors, and household technology, as well as agricultural productions conditions, and characteristics of the food chain and food groups. For mobility, socio-demographic and economic factors likewise play an important role. In addition, empirical studies have identified the living situation and the characteristics and availability of transport options as important determinants of the sustainability of consumption patterns.

Based on these sets of determinants, our paper developed a structured assessment of the influence of globalization on the sustainability of food and mobility consumption by households. From the globalization literature, we derived five core elements of globalization: the diffusion of information and values, trade liberalization, capital concentration, shifts in political capacity, and the diffusion of technological innovation. These five elements of globalization, in turn, were linked to the identified determinants of the sustainability of food and mobility consumption. The results highlighted the extent and breadth of the influence of globalization on the sustainability of consumption.

In the final step, then, we derived guidelines for governance strategies in pursuit of sustainable consumption from these analyses. In terms of general guidelines, we emphasized the need for multilateral if not global strategies due to the limited ability of governments to control or modify the influence of globalization. Furthermore, we stressed the need for comprehensive strategies taking into account both direct and indirect effects of globalization. Moreover, we pointed out the availability of opportunities for more effective and less costly

97. From a more radical perspective, of course, one might argue that more fundamental changes are necessary. Globalization and capital concentration have been driven by the search for profits and increased "shareholder value" and the associated rewards for management. In the view of some observers, the question therefore is whether sustainable consumption is possible without a modification of these goals, or a revision of the current world-wide commitment to endless economic growth (see also Conca, Princen, and Maniates 2001). Such a modification of goals and underlying values could only be a long-term strategy, however. In the mean time, sustainability objectives require the entrenching of sustainability criteria in capital markets.

governance intervention taking advantage of the positive effects of globalization on the sustainability of consumption. Finally, we highlighted three areas of special interest for sustainable consumption governance. For food, we argued that agricultural production conditions deserve special attention in the context of globalization, as they are influenced by almost all of the elements of globalization. The same applies to transport options in terms of the sustainability of mobility consumption. Last but not least, we argued that governance strategies in pursuit of sustainable consumption should pay special attention to capital concentration, as the latter can be demonstrated to influence almost all of the determinants of sustainable consumption.

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