



ATTEMPTING TO MEASURE THE SUSTAINABILITY EFFECTS OF LARGE RETAIL CHAINS¹

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Large retail chains have become the dominant purchasing places for Hungarian consumers. At the same time when the first large scale retail unit was opened in Hungary the first critical voices were heard on the environmental effects of hypermarkets. In the new century economic critiques have overtaken the environmental ones. In countries with longer history of retail chains and market economics the most intensive discussion is about the social effects of big box retailing. Nonetheless these social debates have had almost no effect on the regulation of large retail chains. This is probably due to the difficulty of quantifying social effects and accounting for other variables impact on social effects. This paper gives an overview of the critical academic literature and proposes a set of indicators for measuring the sustainability of large retail chains that may serve as a starting point for exact measurements.

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I. INTRODUCTION

Consumption patterns are determined by infrastructures to a large extent. The sustainability of consumption depends on whether infrastructures provide access to sustainable products and services (e.g. are certified green products easily accessible to consumers?) but also on the sustainability of the infrastructure itself. Our research focuses on the latter criteria and attempts to propose a set of indicators for measuring the sustainability of retail chains.

Over the past decades there has been a growing concern about the environmental, economic and social sustainability effects of large retail networks. Social movements in Hungary and throughout the world have claimed that retail chains have harmful environmental effects because they: generate extra traffic, increase logistical needs, and have negative effects on long term employment. Others are worried about the decreasing vitality and viability of central urban areas and also accuse retail chains of making the food processing industry bankrupt and destroying the traditional local agriculture.

Although these are serious claims, they are rarely supported by statistical data and trend analysis. This paper first maps the main critical concerns about the effects of large retail chains through the analysis of the relevant international and Hungarian academic literature and publications by various civil society organisations. Secondly, it proposes an indicator set for the measurement and monitoring of the sustainability effects of retail chains, more precisely of hypermarkets. Indicators are based on the triple-bottom-line approach to sustainability measurement, examining the effects of retail chains on society at large, on the environment, and on the local economy.

II. THE MARKET SIGNIFICANCE OF LARGE RETAIL CHAINS

It is significant that the market share of retail chains has been increasing and that the retail of fast moving consumer goods is becoming increasingly more centralised within these institutions. The focus of this paper is on self-service retail establishments, which offer a wide assortment of food and non-food goods, whose territory is at least 3000 square meter, and that usually have parking lots. This is the definition used by the Hungarian Central Statistical Office to define hypermarkets [1]. In the following document hypermarkets will mean large retail chains according to this definition.

While hypermarkets often operate independently they may also operate inside shopping malls. In Hungary the major hypermarket chains are: Interspar, Tesco, Auchan, Cora [2] and CBA. The first hypermarket (Interspar in Győr) opened in 1995, six years after the regime change, and since then their numbers have been increasing exponentially. 2006 was the peak of development when seventeen new establishments were opened [2], [3]. In 2008 125 hypermarkets operated in the country, the majority of them owned by Tesco [2], [4], [5].



The increasing number of hypermarkets indicates a general concentration in retail trade. While the number of retail units decreased by 1.3 percent throughout the country, the number of units operating as hypermarkets grew by 61 percent between 2002 and 2007. Accordingly, the share of units operating in shopping malls or hypermarkets from the retail doubled to 4.9 percent [2]. There is a continuous fluctuation of retailers within hypermarkets: in 2007 one in five retail units had a different owner than in the previous year. Hypermarkets also represent a concentration in retail ownership. In an average hypermarket one business entity owns 1.9 retail units while the corresponding country average is 1.5. This is a nine percent increase from 2002 in hypermarkets and a 1.7 percent in the country average [2].

Concentration is also evident from market figures: the so called modern chains (hypermarkets, cash and carry, supermarkets, discount chains) together make up about two thirds of the share of the fast moving consumer goods retail market; hypermarkets alone have about a quarter share [6]. The monetary amount spent per one shopping trip is smaller in the case of small, independent shops; about 1000 HUF was spent in them per occasion. The corresponding figure for hypermarkets was 4200 HUF and 2200 HUF for discount chains [7]. Hypermarkets are also the dominant places for big household purchases: four in five consumers doing big household shopping choose hypermarkets (not exclusively) [8].

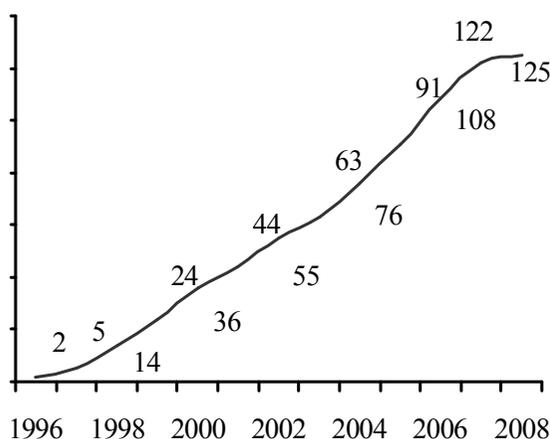


FIGURE 1: NUMBER OF HYPERMARKETS IN HUNGARY (SOURCE: [2], [3])

III. PROBLEMATIZING THE SUSTAINABILITY OF LARGE RETAIL CHAINS IN HUNGARY

In the recent decades various critiques emerged from various actors against hypermarkets. The most significant debates centred on the environmental concerns in the nineties and later at the beginning the 21st century about the economic dominance of big box companies. Contrary to the international experiences, the public discourse lacks the debate on the social effects of the increasing expansion of large retail units, e.g. its effect on employment or on



unionization. On the other hand while the discussion of the environmental effects remained in the background on the international scene it was raised by the civil sector in Hungary and received media coverage.

Not long after the first hypermarket opened the social critique of such retail units also arrived to Hungary. In 1997 the Magyar Közlekedési Klub (Hungarian Transport Club, HTC) published material on their negative environmental effects. The 66 page booklet entitled “Shopping traffic – Shall we improve local trade or build new shopping malls?” was a translation of a material first published by the Verkehrsclub Österreich (Austrian Transport Club, VCÖ). The publication focused on the environmental effects of the increased traffic caused by large retail units built in the suburbs and it also promoted local trade, nevertheless data and cases represented the Austrian case. In the same year one of the most well known environmentalist groups Levegő Munkacsoport (Clean Air Action Group - National Environmental Protection Federation, CAA) in alliance with a couple of local residents launched a strategic lawsuits against the first retail unit of Auchan and against the Pest County Administrative Authority, which issued the building permit. The CAA and the residents claimed that the environment would be ruined and they would suffer from increased air and noise pollution. Additionally, they claimed that the procedure for issuing the building permission had been done incorrectly [9], [10]. Finally the CAA and the residents lost the case and the retail unit was built in spite of the confrontation with other civil organisations and researchers. However, the CAA and green organisations remain a powerful opposition to large retail units.

In 2009 the Association of Conscious Consumers published the ranking of large retail chains under the flagship of their unique ethical ranking project, entitled Cégmérce (Corporate Score). Hypermarkets performed poorly due to several environmental, employment and consumer protection failures [11].

About ten years after the appearance of the first critical voices from civil society, organisations, ministries and governmental authorities started to pay attention to the anomalies involved in the operation of the large retail units; unfair business practices, economic inequalities and the harmful effects on local enterprises were main concerns.

More than a decade after the first hypermarket had opened the economic and social effects of large retail chains became a hot topic in governmental communication. From 2006 new trade law ordered retailers with significant buying powers to maintain fair business relations with suppliers. The Ministry of Agriculture and Rural Development was one of the leaders of these new waves of critiques. In 2006 it initiated a code of ethics for the retail chains with the declared goal of promoting products with Hungarian origin. However, after few months of negotiation the draft was withdrawn. At the same time a parallel initiative by the Hungarian Trade Association was successful. Besides having fair business practices as a central issue it took a progressive approach and also promoted environmental perspectives (after primary business interests). The code states that retailers should prefer energy saving and environmentally friendly products, introduce selective waste management programs, and should seek to use environmentally friendly packaging. The code was endorsed by the major chains and also approved by the Hungarian Competition Authority. The code is still in



force.

In 2006 the government also established a committee for examining competition practices and the state of consumer protection in large retail chains and through their supply chains. The report emphasised the significance of big box chains by pointing out that while units above 400 square meters only represent a two thousandth of existing retail units more than 40 per cent of retail takes place through them. At the same time retail units under 200 square meters responsible for the one third of trade. Experts also concluded that the number of large retail chains is high even by international comparison therefore the competition is strong among them [12].

The economic dominance of retail chains remained in the centre of public and political discourse. In 2007 and 2008 the Hungarian Competition Authority funded research on the topic. The research was conducted by the Research Institute of Economics and Enterprises of the Hungarian Chamber of Commerce and Industry. The first research (both qualitative and quantitative) was aimed at discovering the realities of trade practices that were referred to in the new trade regulation in force since 2006 and at measuring how informed big box suppliers were about the act. When asking about the potential harmful effects, in the qualitative phase, the representatives of suppliers mentioned that due to intensive price competition fewer resources are left for innovation. Furthermore, the high fees paid for being in the assortment of the hypermarkets lead to the disappearance of certain products and of many SMEs which in turn results in the destruction of local production and the loss of jobs. Environmental effects of import related transport were also mentioned and many said that intensive competition between retail chains has lead to declining product quality, which does not serve the interest of consumers [13].

In 2009 the Ministry of Agriculture and Rural Development again initiated a code of conduct for retailers, entitled “Food Supply Chain Code”, for promoting fair business practices in order to provide fair living for all members of the chain and for promoting the sales of Hungarian origin products [14]. The proposal was rejected by trade associations and the Hungarian Competition Authority had been planning an investigation with the reasoning that the code would limit fair competition [15]. Finally the proposal was withdrawn.

IV. ENVIRONMENTAL, SOCIAL AND COMMUNITY ASPECTS IN THE LIGHT OF STATISTICS

While the first critiques of large retail chains were raised by environmentalist groups in Hungary this aspect of sustainability is barely discussed in the international academic literature. The most similar cases are climate change and land use.

Beauvais made calculations on the contribution of hyper- and supermarkets to climate change. The results of the study are based on a survey among hyper- and supermarket consumers and on assumptions. Beauvais first concluded that both the size and the distance of the shopping area from town centres significantly contribute to increased car use, which was higher in low density area shopping comparing to high density zones and higher for hypermarkets than for supermarkets. Beauvais set up an indicator for measuring the



environmental efficiency of purchasing from different retail units in different urban areas. His claims that a 100 EUR value purchase from a supermarket in high density zone contributes to 5 kilometres driving while 20 kilometres in case of hypermarkets in low density areas. His final conclusion is that carbon dioxide emission is four times more intensive in case of suburban hypermarket shopping than in case of local supermarket shopping [16].

These figures may be multiplied by exponentially growing “motorized” shopping as is the case in Hungary. Few years ago already one fifth of shopping was done with cars, however this ratio is significantly higher in the case of cash and carry (93 percent) and of hypermarkets (76 percent) and of discount chain shopping (47 percent) [17].

Hypermarket construction on green fields also contributes to urbanisation that leads to increased imperviousness and therefore to decreasing water quality. The study “The Importance of Imperviousness”, prepared for local water preservation policies, states that “imperviousness is a powerful and important indicator of future stream quality” as such surfaces “collect and accumulate pollutants deposited from the atmosphere, leaked from vehicles... In some cases, impervious surfaces themselves become a significant source of pollutants (e.g. zinc desorbing from roof surfaces).” Utilization of already existing urban infrastructure for commercial purposes has the benefit of not increasing imperviousness. On the other hand the large footprint of hypermarkets means that their creation, along with urbanization in general, increases imperviousness and therefore pollution [18].

There are dozens of academic studies on the social sustainability of large retail chains especially on that of Wal-Mart in the United States. According the CNN’s Fortune 500 ranking Wal-Mart is the second largest US firm, with the 405 607 million dollars annual revenue [19]. According to the 2009 Annual Report from Wal-Mart their average discount store size is 108,000 square feet while their average supercenter size is approximately 186 000 square feet [20]. the supercenters then are similar to Hungarian hypermarkets such as the Auchan in Budaörs which is about 170 000 square feet.

In 1999 Boarnet and Crane analysed the effects of Wal-Mart on labour market for the Orange County Business Council (United States) and on the basis of various statistical evidence they claimed that grocery stores offer better wages and benefits compared to Wal-Mart or other low cost retailers [21].

Later Basker’s paper (2005) demonstrates the importance of longitudinal analysis. According to the statistically significant results Wal-Mart contributed to the net creation of about 40 jobs in the first year of entry and 20 in the subsequent year per county. This is less than the company originally promised and less than the average employment of a Wal-Mart retail unit (150-350 workers). This discrepancy is due to fact that the entrance of Wal-Mart into the market generated lay offs and forced existing competitors to downsize. In the following years all together about 90 jobs are lost in the retail and in the wholesale sectors. However, Basker notes, the overall balance at the five year horizon is still slightly positive. All together the study estimates about 10-30 newly created jobs – far less than the original estimation. Contrary to the small contribution to employment in the retail sector, a small



negative effect of Wal-Mart entry was shown on wholesale employment. This is most probably explained by special vertical structure of Wal-Mart that organises wholesale for itself. This study also shows that other sectors, such as automobile sales and services, restaurants or manufacturing businesses were not affected by new Wal-Mart stores [22].

Dube and Wertheim focused on the effects Wal-Mart has on wage level. They used labour statistical models and found that average earnings fall when Wal-Mart enters a market. Authors claim that Wal-Mart does not create additional jobs and additionally reduces total income for retail workers [23]. Neumark et al. not only state that Wal-Mart does not create additional jobs, but they claim that each Wal-Mart worker replaces approximately 1.4 retail workers, which represents a 2.7 percent reduction in average retail employment. Their analysis also shows that big box store openings contribute to a 1.3 percent decline in retail earnings. Nevertheless, authors note that this phenomenon is observed in a generally rising retail employment environment [24]. Similar results were also confirmed by Dube et al. who examined the wages of hypermarket workers in the United States using the data of the US Bureau of Labor Statistics, and found that wages were indeed lowered; workers at Wal-Mart make about a quarter less than those workers in competing stores. Statistical evidence was found that Wal-Mart entry reduced both average and total retail earnings (wages other benefits) in urban areas. Authors measured a 0.5 percent drop in retail earnings on the county level per opening of Wal-Mart. On the state level the opening of ten Wal-Mart stores resulted in a 0.5 to 2 percent decrease in average earnings. Drops mostly affected employees at Wal-Mart competitors [25].

Large retail chains mainly affect the local economy through their taxes and by their spending power. Basker who researched the employment implications of Wal-Mart on the county level also concluded that while Wal-Mart entries may contribute to a slight increase in retail employment in the midterm, they reduce the number of small retail establishments in the county [22]. Such results may be particularly interesting for evaluating the tax incomes of local communities. Boarnet and Crane pointed out that the municipal benefits are lower than they are purported to be since the increased tax income is offset by tax losses from existing businesses [21].

A study prepared by the Civic Economics (2002), a Chicago based consulting firm, analysed local data and of using economic models concluded that local merchants have a greater local economic impact. This is because much of their money is spent in the local community. The authors also claim that stores competing with chains will decline, causing a decline in local economic activity even if total sales increase. Finally, small changes in consumer spending habits have a strong impact on the local economy [26].

A US based think-tank Institute for Local Self-Reliance (ILSR) compared detailed financial information obtained from eight locally owned businesses and from big box retailers. ILSR concluded that while local businesses spend more than half of their money in the local and state economy, big box stores spend only around one sixth in state. Charitable giving was also examined, evidence was found that local businesses give far more relative to their revenues than big box stores [27].



V. DISCUSSION

The further expansion of large scale retail should be evaluated against the sustainability effects noted on this form. Besides some environmental indicators already set up for general purposes by the Hungarian Central Statistical Office, social and economic aspects should be evaluated more carefully. A longitudinal analysis should be applied so that local decision making can be well founded based on actual costs and benefits.

Large retail chains evidently affect the levels of employment. To what extent and to what direction – it is still debated. Offsetting effects should be measured in the Hungarian context as well. Thus the widespread and high level use of illegal or semi-legal employment patterns in Hungary should be taken into consideration when examining employment. Offsetting the assumed high level of illegal or semi-legal employment in the small-scale retail sector (competitors) probably will provide more positive social effects for hypermarkets in the case of Hungary.

Based on the discussed references, we propose the following set of indicators to measure the sustainability effects of large retail chains and their alternatives.

Society	Environment	Economy
<ul style="list-style-type: none"> ▪ Employment <ul style="list-style-type: none"> ○ In general ○ In the retail sector ▪ Wage levels ▪ Illegal or semi illegal employment ▪ Level of social security registration 	<ul style="list-style-type: none"> ▪ Traffic ▪ Land use (urbanisation) ▪ Energy use ▪ Water use 	<ul style="list-style-type: none"> ▪ Taxes paid ▪ Spending power

There are other indicators of sustainability that are less discussed but also worth measuring: time balance of consumers and of workers, public costs of maintaining surrounding infrastructures (roads, public transport, lighting etc.).

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