

Capitalist logic and the production of spaces of inequality: the case of organised food retailers in Ankara

Based on the works of Marx (1859, 1867), Engels (1845, 1873), Harvey (1973, 1982, 1985) etc. the present research has the major assumptions that the capitalist system, from its nature, has always the tendency to produce socioeconomic crisis and inequalities. Although within capitalism there are some moments where these crises and inequalities were masked by collective efforts (like at the moment of 'Glorious 30s'), the system continuously produces its contradictions. The neoliberal era is considered as a specific moment within the long history of capitalism in which special advantages are given to specific parts of the societies so that the accumulation of capital continues. With reference to some particular researches this paper first tries to illustrate how urban space is utilised within the capitalist system. Secondly, the research focuses on the signs of social and economic injustices that became subject of different urban researches. Finally, the case of organised food retailers in Ankara is analysed through a series of statistical procedures if this specific case can be seen as a contemporary example in the production of urban injustices.

1. The capitalist logic

The classical interpretation of capitalist system, mainly based on Adam Smith's ideas, provides an early picture of a political economic system which emerged in the last few centuries. Classical economics conceptualise the capitalist system as a circular system whose main actors are capitalists, labourers and landlords. As time passed, new facets of capitalism were discovered and political economists interpret these new facets according to different viewpoints. Karl Marx made a major contribution to the understanding of capitalist system by making the 'critique of the political economy'. He falsified the circular logic of capitalism and introduced a linear logic which is based on exploitation of labour power. Within this conceptualisation the accumulation of wealth is realised only in one direction and due to its unequal nature the system is assumed to be prone to perpetual crisis. Marx's objections on classical economic interpretation of the political economy have both theoretical and practical bases. On the theoretical side, not separate from practical observations, Marx questions the creation of surplus value and its distribution among classes. This constitutes the primary source of inequality in Marxist understanding which leads to the creation of supporting institutions, social and economic crises, and temporal solutions to these crises. On the practical side, Marx focuses on social and economic inequalities that affect the living condition of millions of workers in industrialised countries like Germany, France and England. Human exploitation under the cover of economic freedom and the production/consumption processes leading most of the populations into misery backed his theoretical formulations. The way how Marx conceptualise the capitalist system not only helps to the realisation of a more accurate description of capitalist system but also shed light on the nature and logic of capitalism. Application of this perspective becomes essential to the present research primarily because it is argued

that the locational inequalities are internally based on the capitalist logic guiding that guide the spatial strategies of organised (food) retailers. Secondly, Marxist perspective provides a framework to distinguish the role of state mechanisms and more specifically the role of planning, as 'external factors' influencing retailers' spatial decisions.

The capitalist system has a major linear form indicating production, circulation and consumption of commodities on one side and the accumulation of wealth and labour power towards the other. This general process continues until capitalists find ways to extract more surplus value (profit) out of the production/consumption process. This move out of primary circuit has two other paths that capital can follow. In the secondary circuit, the capital is diverted to the space, in the form of investments invested in the built environment. These investments are thought indirectly beneficial to the primary circuit as they enhance the production and the consumption sides of the primary circuit. Through the investments in the built environment (as will be discussed more in the following section) capitalists diminish the spatial barriers. Sometimes space is considered as a commodity and investors benefit from its exchange value. The third circuit of capital has two target areas. In the first one, the third circuit investments are directed to overcome the problems directly related to the production process that lies at the beginning of the primary circuit. Through the development and application of new technologies and organisational structures the efficacy of the production process is enhanced. The cost of production may decrease and potential for excess profit may increase. The second option within the third circuit covers the investments directed to social expenditures. These investments, rather than focusing on the production process, target the consumption part of the system. Through these investments, the reproduction of labour power is enhanced and sometimes investments aim to enhance labourers' purchasing capacities as a part of welfare policies (Harvey 2006(1982)).

(Graphic 1) and (Graphic: 2)

1.1. The space in the accumulation of capital:

"Land serves not only as a means of production but also as a 'foundation, as a place and space providing a basis of operations', space is required as an element of all production and human activity" (Capital Vol.3: 774).

For Marx space, mostly referred as land, plays a double role both as a condition and as a mean of production. Through this dual role, space becomes the symmetrical image of the capitalist system and reflects i) circuits of capital, ii) perpetual crises, and iii) patterns of exploitation and injustices. Policies developed to sustain capitalism not only aim to increase efficiency and utility of the system but also to facilitate the extraction of surplus value from space through its commodification. This focus on efficiency and profit, as seen before, becomes the source of increasing inequalities and injustices, and makes space one of the key areas to observe these externalities.

From its nature, space is a functional necessity for the basic movement of labour, commodities and money. In other words the circulation of capital within the primary circuit (encompassing production, exchange and consumption - line 1) can only realise on space. Harvey (1985) giving a more detailed explanation on the utilisation of space for the capitalist accumulation, argues that depending on the level of development of societies, capitalism creates the necessary spatial composition that meets its needs and that enables the circulation of capital in the most profitable way. The technological capacities together with the material possibilities of the society determine the character of the necessary spatial structure. Harvey further argues that, in the course of time, the requirements of capitalist system change. Once-enabling physical structures start to limit the flow of capital along space and force capitalists to create new spatial organisations. At these times of constraint, demolition of old spatial elements, production of new ones, and consequential restructuring of urban structures (often called "creative destruction" of the built environment) becomes unavoidable for the future of the capitalism.

The effect of space is analysed in detail within the secondary circuit of capital. As now known, the productive capital stuck within the primary circuit can be diverted into the secondary circuit, in the form of investments in the built environment (line 2). On the side of production, as a part of fixed capital, such investments contribute to the enhancement of the production processes. Construction of new production centres together with the production of necessary infrastructure for the production, and renewal and upgrade of these facilities are the examples of fixed capital investments concentrating on the built environment. At the more concrete level, production of newer facilities, newer product and organisational designs and application of more efficient production mechanisms together with the utilisation of more responsive transportation and communication systems that respond to the needs of the new mode of production can be seen as parts of the fixed capital investments. Such developments of the built environment are not only realised within the sphere of production. The sphere of consumption offers alternative built environment investments to capitalism as well. (Re)organisation of everyday life around shopping centres, introduction of e-retailing (decreasing the fixed costs of construction), appearance of new small-scale retail formats, their diversification and specialisation are the effects of spatial investments aiming to revitalise consumption of commodities. Through such investments in the built environment, the capital originally following the path of the primary circuit moves out of the circuit but is always utilised for obtaining the surplus value. The only difference for the capitalist is that such investments in the built environment necessitate longer turnover times than are required for the production and consumption of most commodities. For this reason, capitalists first try to function within the field of primary circuit of capital and move to other circuits only when these circuits become more advantageous considering turnover times and profit levels.

In his analysis of the circuits of capital, Harvey separates the investments

contributing to the production and consumption of commodities (secondary circuit) and those serving the reproduction of labour power (tertiary circuit). Within the framework of this research it is also argued that it is not easy to separate the consumption for reproduction from other consumption activities. This not only includes utilisation of services like schools, libraries, sport facilities, green spaces, etc., but also covers the consumption of goods (as in the case of retailing). In addition and far beyond the necessary consumption of basic needs, in a consumerist society the activity of consumption starts to occupy an important position in people's lives and contributes to their reproduction from a much broader perspective. On the side of the utilisation of space, as mentioned within the spatialisation of primary and secondary circuits, capital directed to the tertiary circuit need to be spatialised as well in order to be concrete (line 3).

(Graphic: 3)

The utilisation of space out of the circuits of capital is realised during the moments of crises. As mentioned previously, the capitalist system is always prone to crisis and spatial interventions are frequently utilised by capitalists to overcome such moments of crises. According to Harvey the 'spatial fix' is necessary for the continuation of capitalism and especially important to overcome the location specific character of all the crises of devaluation (Harvey, 2006[1982]). For Harvey, after the investments on production and consumption, spatial investments are seen as a second option to solve the problem economic crises. These interventions can take different forms. Creation of new urban structures, elimination of spatial barriers and spatial integrations made to increase mobilisation of capital on the land can be seen as possibilities to overcome the crises happened in first and second cuts. On the side of excess surpluses, both the capital and labour power are all spatial entities. Both of them can be 'disposed of and remunerated by entering into external relations with other regions' (Harvey, 1985b)

1.2. Capitalist political economy and its reflections on space:

Marx and Engels, later Poulantsaz (1968, 1973), Lefebvre (1972, 1991[1974]) and Harvey 2006[1982], 1985) argued that the capitalist economy which had many contradictions needs to be backed with a political system. This system not only provides solutions to economic problems and crises but also guarantees necessary spatial policies that contribute to the accumulation of capital through various ways. The theoretical framework provided above is utilised for the very brief analysis of the neoliberal policies that started to be enacted with the 1980s. Additionally, the framework provides the basis for the understanding of food retailers' economic and locational behaviours.

With the 1980s, neoliberal policies started to be implemented in most of the developed countries which are then followed by many other countries aiming to follow the path for the 'development'. Although the implications of neoliberal doctrines differ according to "scale and scope of state intervention, forms of labour

market regulation, the constitution of institutions of social regulation, patterns of historical resistance and political incorporation, and do forth” (Peck and Tickell, 2002: 387-8), researches illustrate that neoliberal political economic restructurings are commonly consisted of policies aiming the deregulation of state control over principal industries, reactions against organised labour, reduction of corporate taxes, decreasing the functioning of public services and their privatisation, dismantling of welfare programs, facilitating the mobility of international capital, increasing competition between localities, and criminalisation of urban poor (Brenner and Theodore, 2008[2002]:3).

1.3. The production of retail environments, continuation of inequalities:

“theorising retailing contributes to our understanding of the whole capitalist system” (Ducatel and Blomley,1990:207).

Conventional interpretation of retailing considers the activity as a self-governing system that is based on the efficient usage of distribution channels and that connects producers to consumers. With the advances in the production and diversification of demand, the existence of intermediary agents became necessary. Distributors and retailers have become vital for the continuation of the economic system. With the advances in the capitalist economy, specialisation on retailing increased. This brought further efficiencies within the circuit of capital, facilitated consumption and indirectly contributed to the continuation of production. Despite its unique and important position within the economic system it will be misleading to consider retailing as a pure economic activity only linking production and consumption processes. Here, the retail activity is selected as a special case as it is believed that retailing represents more than a simple economic activity. Here, it is argued that the contemporary shape and dynamics of the retail system is capable to reflect both social and political aspects of capitalism and its contradictions.

Similar to other layers forming the urban landscape (like industry, housing, infrastructure, etc.) retailing on the one side contributes to the continuation urban daily life and on the other side, plays a key role for the (re)production of the capitalist system. Social importance of retailing, especially the one of organised food retailing is discussed in relation with the social production of wants and needs in contemporary urban societies. To begin with, I would like to focus on the commercial capital or more precisely on retail capital which determines a specific instance within the general circuits of capital (Marx, Capital vol:3/17; Lamarche, 1976; Ducatel and Blomley, 1990). By realising this, it becomes possible to contextualise urban retail systems within the general political economic discussions. And, after reaching this point, the problems related to social needs and injustices can be identified accurately and solutions to such problems can be developed much correctly.

As in other branches of activity, retailing is a sector in which there is a tendency to the concentration of capital: some capitals expand by taking over or

displacing smaller ones. There is evidence that the concentration of capital (and thus of power) in retailing tends to be particularly marked and this in turn can weaken the relative power of upstream capital (agricultural and other food producers) and of (downstream) workers who are the consumers of the retail product. These concentrations of power have an evident spatial dimension and it is spatial monopolies and oligopolies which affect consumers and perhaps spatial monopolies which affect upstream capital.

1.4. The retail system within the circuits of capital:

When Marx refers to commerce, he calls all commercial activities ‘parasitic’, considering that merchants obtain profits just through organisation of services without directly contributing to the production process. But in practice it is seen that retailing occupies an important role not only in the production process but also in the continuation of capital accumulation. Retailing represents specialisation within the circuit of capital and increases efficiency by reducing the costs of producers, by internalising the commercial functions and by decreasing the turnover time. Ducatel and Blomley (1990). Before selling the product in the market the retailer makes an investment and takes risk by directly buying the commodity from producer. The risk that retailers took through this exchange returns them as profit and the risk involves the key features of the consumptive sector which are the volatility and unpredictability (Harvey, 2006[1985]: 215).

The importance of retail activity for the capitalist economy can also be understood on the basis of its positions within the circuits of capital and its functionality during the moments of crisis. On the circuits of capital, it is possible to position retailing at all three circuits. The primary circuit of capital is about the production of goods and their consumption. The continuity of the circuit necessitates good functioning of the activities of production, distribution, selling (for the part of retailers) and consumption (for the part of consumers). The contradictory activities of production and consumption are existing in a dialectical way and linked to each other through the activities of distribution and retailing. In the normal functioning of the activities and in normal conditions of accumulation money invested in the means of production, labour power and raw materials return to producer capitalists with some surplus value and this becomes their basic motivation. But the necessary conversion of commodity capital into money capital becomes a point of friction for producer capitalists needing to use money capital for productive purposes or as the basis for further investments. So, the commodity capital that represents an intermediary stage needs to be transformed into money capital to become efficient for the circulation of capital. It is the merchant capitalist that facilitates this duty of transforming commodity capital into money capital.

(Graphic: 4)

Retailing in the primary circuit of capital: From the point of view of circuits of capital, it is possible to observe that retailing’s contribution to the accumulation of

capital is not limited with the increasing efficiencies and decreasing turnover times. At the moments of crises, the capital, which is stucked in the primary circuit of capital, needs to be diverted to other circuits so that the accumulation of capital continues. For the case of secondary circuit, it can be transferred to the productive processes in the form of fixed capital or to the consumption activity in the form of consumption fund. Investments directed to productive materials to increase the productive efficiency are out of the focus of this part (despite its important spatial implications). Instead, here it is argued that those investments grouped under the name of consumption fund have direct effects on retail practices. Construction of shopping centres and retail outlets together with infrastructures that such buildings need can all be seen investments directed to increase consumption of commodities and reproduction of labour power.

Retailing in the secondary circuit of capital: The primary circuit of capital offered the most direct way of surplus creation. As mentioned previously, due to the internal contradictions of the capitalist mode of production there happens some moments (i.e. at the moments of crises) that investments in other circuits is considered to be more profitable. Those investments made for the enhancement of the production and consumption side of the circuit of capital. As seen before, Harvey separates those investments into two, one side being the fixed capital investments realised on the production side and the other side consisting of investments on the consumption fund. To be more precise I would like to focus on the part of consumption fund separated for the construction of built environments and the appearance of retail activity as a part of it. Investments on retail environments can also be beneficial for the production as they enable the discovery of new markets and new consumption patterns and may help reduce costs for the transportation of goods. Through such developments on the one side producers find new ways to eliminate over produced commodities but on the other side and may be more importantly investors discover new investment opportunities that have higher rates of return on investment with their excess capital (Feagin, 1987; Harvey, 2006[1985])

Despite having the capacity to offer solutions against the effects of the crises in the primary circuit of capital the secondary circuit has its own set of contradictions. Heavy and fast investment in the built environments combined with the deregulated legislative framework can cause another crisis of overproduction, at a different circuit. On the side of retailing it is possible to observe these dynamics. Considering the limits of the purchasing power, overproduction of shopping malls leads to higher vacancy rates on older ones and causes the disappearance of small scale retailers who cannot resist on conditions of crises. Different from housing sector and office construction, retail sector represents more dynamism and adaptability to the changing economic conditions. Although for some capital-weak retailers the crises represent a drastic moment, for more powerful ones these moments offer opportunities for development through mergers and acquisitions.

Retailing in the tertiary circuit of capital: At the moments when primary and secondary circuits are less profitable, investment opportunities covering

technological and social investments are considered as a third alternative for the accumulation of capital. Although, compared with primary and secondary circuits, the turnover time of the third circuit investments is long, capitalists accept to divert investments into the third circuit and agree to receive revenues in the long run in order to avoid devaluation of their capital at the present time. Considering the case of retailing, the third circuit of capital becomes important both in direct and indirect ways. In the direct side, technological developments and investments to enhance the human capital working in the retailing sector covers considerable part of organised retailers. The competitive nature of the sector necessitates these kinds of investments as they can bring long term competitive advantages to retail firms. On the side of indirect relations, investments in the retail sector, especially in food retailing can be considered as investments contributing to the reproduction of labour force especially when they are addressing disadvantaged neighbourhoods. Despite the emphasis given to major public services like education, health, etc. considering the contemporary importance of consumption, accessibility to retail facilities becomes as important as accessibility to public services. These issues will further be discussed within this section under the title of the social production of needs.

The third circuit of capital encompasses social investments and investments in science and technology. Leaving aside the investments in science and technology I would like to focus on the social investments which basically aim at the social improvement of working classes, their more active participation to the economy and enhance their contribution to the flow of capital in an indirect way, from the point of view of capitalists. Out of capitalist point of view, benefiting from such investments is considered to be a precondition for a just urban living with equal accessibility to social amenities and unrestricted participation to socio-cultural practices. Despite the acceptance of interrelation between different circuits of capital and their influence on the retail development process, the research emphasises the importance of the third circuit of capital in the reproduction of labourers. Knowing that in the world of advanced capitalist societies the (in)accessibility to retail facilities causes the formation of food deserts, disadvantaged consumers and various health problems, putting the problematic of accessibility at the core of the research was necessary. To underline the importance of this part and despite the risk to move focus away from the production of urban retail environments, the author wants to discuss the activities of consumption, its relation with labourers' reproduction and the social production of needs and wants; before returning to the point of urban land rents and formation of values which is considered to be the principal factor affecting locational choices of retailers and thus to their accessibility.

2. Food retailing, disadvantaged consumers and food deserts:

Due to the collective nature the activities and in relation with the ways of provision of these activities, Marxist literature focuses more to the collective means of consumption than individual ones. Two writers' works are important considering the establishment of the interrelationship between urbanity and means of collective consumption. Both Lojkine (1977) and Castells (1977), following the path of the Marxist approach, define the speciality of urban space as being the place of

concentration of services of reproduction. Considering the provision of food products, this was something historical and started with two processes happened hand in hand: the maturation of capitalist political economy and development of the industrialisation of food markets. Steel refers to the Charles Booth's survey 'Life and Labour of the People [of London]' dated 1903 and points out that 97.5 per cent of city's population lived in grim conditions whereas 30 per cent of them had to live under the bread line. She then concludes that:

“What was becoming clear was that leaving the food supply solely to the ‘hidden hand’ of commerce had its downside. While the nascent food industries were very good at producing and transporting food, feeding the urban poor was not their goal. Left to their own devices, they naturally sought to maximise profits, which meant targeting those who could afford to pay.”
(Steel, 2008:92-3)

Today, in advanced capitalist societies the food provision is mostly realised through capital intensive, chain stores that dominates greater parts of the national food markets. Supermarkets offer wide range of fresh products and unprocessed food at less expensive prices than convenience stores are important source of affordable and nutritious food (Smoyer-Tomic, 2006). And as the importance of food distribution in contemporary cities is recognised by many, the issue enters into the agenda of not only urban planning but also public administration, public health, retail geography and welfare geography.

In the literature, accessibility to supermarkets and their relative advantages are discussed on the basis of food deserts (mainly for the cases around UK) and food insecurity (for the cases from USA). Researchers identify those people having lower access to modern food retail providers and the reasons decreasing their ability of accessibility. Although there is a common ground about the reasons which are accumulated around combination or individual presence of financial, physical and mental barriers the question of food deserts is far from being concluded. It is believed that a research based on the political economy of capitalist system may contribute to our understanding. Considering that despite the diversity of cases and variety of geographical reflections the capitalist logic stays the same among cases and it can be seen as one of the major functions creating injustices through different spatial representations (about the North American experience see: Mayer and Scammon: 1993; Alwitt and Donley: 1997; Lewis et al.: 2005; Porter: 1995; Raja et al.:2008; Powell et al.: 2007; Smoyer-Tomic: 2006) about the UK experience see: Bowlby: 1979; Guy: 1984; Williams and Hubbard: 2001; Whelan et al.: 2002; Clarke et al.: 2002; Phillips and Williams: 1984; RTPI (Royal Town Planning Institute): 1988).

Although not dealing directly with the food insecurity and problems of accessibility to food retailers, I would like to separate David Harvey's work *Social Justice and the City* (1973) Harvey considers the real income, as an outcome of the production processes, as the central matter of justice as it enables the command over resources and thus becomes a function of locational accessibility and proximity (ibid:

69). From this point of view consumption is analysed as an outcome of productive forces, as a need-creating activity to ensure the necessary effective demand for products. Consequently, the idea of social justice becomes as a contingent matter produced out of the social processes operating in society as a whole. Regarding the scientific activities dealing with urban issues, Harvey concludes that the main objective has to be the elimination of the conditions giving way to the formation of those situations described in liberal formulations. The focus on descriptions can only inform us about the existence of problems but elimination of mechanisms generating these situations, and thus the theory. Furthermore this new emphasis will not only contribute to the transform of the results but also and leads to the formation of new, may be revolutionary theories helping to the production of just urban spaces.

3. Political economy of Turkey: Establishment of the neoliberal basis

Boratav (2010) divides the analysis of the Turkish economy into 5 parts and the last part starts with the implementation of new liberal and anti-labour economic policies backed with the military intervention. From that time on, the capitalist class were able to change the context for their benefit. As a reflection, the economic decisions (known as the Decisions of 24th January) started to be implemented at the beginning of 1980 and constructed the basis of neoliberal policies that have ruled Turkey's political economy since that day. According to Boratav, increased foreign dependency, deregulation of economic barriers and break of resistances were the three major characteristics of that era (ibid: 150).

Despite the general propaganda of neoliberalism which emphasises the distribution of wealth in much more egalitarian ways, the spread of prosperity and development to all sections of the society; unregulated capitalism mostly imposed by foreign institutions produced unprecedented inequalities. The state expenditure on structural programmes (like social security, education and health) had to be cut due to IMF and World Bank policies. The marginal sections of the society that could not participate in the economic system had to rely on unproductive money transfers from the State (or from EU funds but again through the intermediation of the State) which just contribute to their survival. This dependency relationship between poor sections of the society and the state not only became a strategic bargaining point during political elections but also led to the creation of religious organisations and charities. According to Boratav the present situation in Turkey is very similar to the condition in England two hundred years ago when "poor laws" were produced to contain unjust consequences of unregulated capitalism (Boratav: 175).

On the side of urban planning this new political economic approach produced a new planning paradigm for Turkey. According to Tekeli (2009: 134), the change represents the shift from viewing planning as a practice of technical rationality to an approach to planning as a democracy project. This transition is still happening with a lot of compromises. Previously implemented left wing "urban managerialism" movements underlined the use value of urban lands and considered cities as living spaces. The neoliberal governments of the 1980s underlined the exchange value of urban spaces and considered the development potential of cities as a source of

surplus production and profit acquisition (Şengül, 2009:143-4). In return, the social and economic polarisation in cities increased. According to Sönmez (1998) in 1990 the richest 20% of Istanbul's population was obtaining more than 57% of the city's income while the poorest 20% of its population could only obtain 4,6% of Istanbul's income.

The new economic restructuring, emphasising the dominance of capital in the urbanisation process, redefined the relationship between the primary and secondary circuit of capital. This redefinition emphasises a change in the established balances favouring the primary circuit of capital since the creation of the republic and a restructuring in favour of the secondary circuit of capital. As a result big cities become the target of most of the private and state investments. While infrastructure, transportation and housing investments change the urban landscapes, it is acknowledged that cities are no longer the space of small scale capitalists. Large capitalists first started to take part of state investments and then invest independently. During this period through the elimination of political resistance and legislative barriers, the capital becomes able to reach every corner of urban life and establish its hegemony over urbanity (Şengül, 2009:139). Urban entrepreneurialism that became the management strategy for urban areas also initiated at the beginning of 1980s. The local political strategy aiming the provision of services considering the urban poor and the idea of maintaining social services was completely abandoned and replaced with the idea of service provision through economic enterprises (ibid). Urban investments became the major instruments of the transfer of resources from central or local governments to private firms (Eraydın, 1988; Şengül, 1999). In return massive construction of shopping malls, five star hotels, convention and business centres dominated urban landscapes.

3.1. Examining the retail change: another reflection of neoliberal capitalism?

Positive economic indicators in relation to Turkish retailing sector can be linked to the modernisation of the retailing in return to diversified and expanded demand. In contrast to general belief, the retailing sector in Turkey is still dominated by large number of small, independent, and single-location retailers named as: *bakkal* (corner store), *manav* (grocer), *kasap* (butcher), *tuhafiyeci* (draper) and others. These small capital, technologically weak and less organised retail formats serve to their localities and brought commodities to people despite quality and variety deficiencies. Considering their locational choices, different from complicated site selection methods of organised retailers these small and independent formats “make their location decisions in the face of uncertainty, and essentially on the basis of intuitive judgement, experience, familiarity and coincidence. They only consider areas in which they themselves live, or with which they feel familiar. The spatial decisions can be understood simply in terms of size, type of business, or existing spatial structure. Once the decision is made, independent retailers become location-bound”.

In the face of changing social political and economic dynamics Turkish retail structure started to change. Being the leading sub-sector of the retail economy, food

retailing is transforming rapidly. As identified by Kumcu and Kumcu (1987), before the 1990s, the Turkish retail structure was highly fragmented and was neither horizontally nor vertically integrated. Small-scale, capital-weak, independent, and family owned retailers dominated the trade (Samli, 1964, 1970; Kaynak, 1982, 1986). During the 1990s the transformation process speeded up and despite their dominance both in market share and number of stores, conventional food retailers started to lose their shares in favour of organised retail formats. Different sources provide different information about the contemporary condition of market shares and number of retail stores belonging to traditional and modern retail types. According to the information provided by AC Nielsen Market Reports, the number of food retailers larger than 30 square meters increased constantly in number from 1998 to 2008 (below left). From another source of AC Nielsen, reflecting the numbers between 1996 and 2003, it is observed that the number of hypermarkets and supermarkets is increasing while number of small corners shops (bakkal) is in steady decrease (below right). As a result the former group increased its number up to 60% whereas the later decreased in number to 20%.

(table 1)

Increasing number of modern retail types has implications on the market share statistics. The graphics focusing on the sale of FMCG (fast moving consumption goods) between 2002 and 2006 illustrates the growth of supermarket's market share with compare to other formats (figure below left). at the market share of supermarkets is increasing while the market share of medium size markets and groceries, Bazaars, Kiosks, and other retail types is decreasing. Another figure (below right) compares the market share of retail chains, non chain formats and discounters. Non-chains having the largest market share concerning FMCG protect their position with increase while national and local chains keep going at the same market share, 8% and 4% respectively. Discount retailers on the other hand increase their share from 4% to 6% within the considered period of time.

Accessibility to healthy food products has always been considered to be a very important component of human life and it is unfortunately not possible to find any reference to this point when the reports about the food retail sector are considered. From Maslov pointing out the importance at the individual level to Malthus underlining the importance of food production for the continuation of human race, history of humanity provides great variety of researches identifying the relationship between food and man. Although the consumption habits of mankind changes to a considerable degree, the 'basic need' on food did not change as much. Furthermore, with the social division of labour man first became more dependent on food producers than to food providers to fulfil its need. Regarding the present situation, in most of the advanced capitalist countries organised food retailers dominate the food market and become responsible to meet physiological needs of societies. The market system which intensifies competition between retailers put unbreakable barriers between social needs and food providers. With the analysis of the supply side of Ankara's organised food retail system and through revealing its connection with the

socio economic status of neighbourhoods this research aims to prove this break, and if possible tries to provide alternative solutions.

3.2. The case of organised food retailers in Ankara:

Ankara can be considered as a city in transition. Despite the dominance of its traditional retail structure the development of shopping centres establish pressure over old retail styles. As a result of the shopping centre development for example, the brand quality of traditional city centres (Ulus and Kızılay) decreased and their retail and service composition change considerably. Considering the case of food retailing, still the traditional formats like corner shops (bakkal) and street bazaars (pazar) occupy important positions not only in terms of number but also in terms of market share. It is not possible to talk about a purely standardised capitalist form of retail provision as retailers (including organised food retailers) benefitting from provision of products regarding the needs of districts or neighbourhoods. Despite the power of the traditional retail structure it is hardly possible to defend the view that the retail structure in Ankara keeps protecting its homogeneity as before 1980s.

According to the retail activity reports prepared by private companies the modern retail types in Turkey general are increasing their importance to a considerable degree (see the tables below). Reports indicate that from mid 1990s to mid 2000s supermarkets and hypermarkets increased their numbers in the overall retail market first from 0,5%(1) to 2,4%(1) and then to 3,1%(2). Considering the market share the increase is much significant. The 12%(1) share of mid 1990s increased to 33%(2) in one decade. These changes are supported by the case of Ankara through a single available indicator which shows the retail centre supply and GLA per 1000 inhabitants. Ankara comes just after Istanbul considering the gross leasable area (GLA) but occupies the first position when city populations are included. According to Pamir & Soyluer (2008), Ankara has the largest GLA/1000 inhabitants in Turkey.

Considering the social and economic justice in Ankara, with the neoliberalisation of the economy the retail structure in big cities changed (details are discussed in previous chapters) and supply side diversifications happened with respect to socio economic characteristics of the demand side. This makes some consumers advantaged while some others fall into a position of relative disadvantage. In a direct way; to meet their basic needs disadvantaged consumers need to spend more of their material resources for a relatively limited variety of products. Different from advantaged areas where retail diversity create a kind of competitive environment for quality, variety and price of products disadvantaged areas have less of this competitive environment and are more dependent on what is existing. Furthermore the lack of competitive power of small retailers over big ones causes the closure or weakening of traditional retailers and this situation aggravates the disadvantage of such areas. Handicaps are not limited with direct consequences. Indirectly, to access more advantaged locations disadvantaged consumers need to spend more of their resources. Utilisation of more time and energy for grocery

shopping can be quantified when converted to fuel or money but social and cultural negativities such as alienation and exclusion are hard to concretise.

4. The Data:

Description: To prove the main hypothesis of the research (which is the consideration of urban retail production as a layer contributing to the development of urban inequalities) and also to provide an initial knowledge about Ankara's organised food retail geography this research is focused on 18 major organised food retailers having 516 stores functioning in metropolitan area of Ankara. These firms represent different retail capitals having different development stories, functioning at different spatial scales and having different spatial strategies. All these issues can be chosen as a special research topic but for the purpose of keeping the track on spatial injustices, author prefers to consider them equal entities whose presence in a neighbourhood satisfies the condition of standardised food accessibility. Shopping centres are excluded from the research as their purpose cannot be limited with food retailing but more importantly because their attraction range does not match with the scale of this research which is the neighbourhood scale. Lastly, it is important to remind that the research represents a picture in the history of capitalist development in Turkey which has a definite time (the year 2007) and a definite space (the city of Ankara). Considering the dynamic character of the retail environment at the time when the research is finishing the author recognise that the retail geography of Ankara has already been changed. Considering the year 20012, the question on inequalities is still persistent and can be the motivation of another research.

(Table 2)

Study area: Based on firms' web pages, addresses of the stores are found and their location is identified. Stores are then tagged on a GIS map covering metropolitan area of Ankara (green dots on the map). Because of the existence of some misinformation, sometimes due to technical impossibilities but mainly as a consequence of the geographical focus of the research (which is the metropolitan area of Ankara) thirty-eight stores had to be taken out of consideration. Despite these exclusions, the research covers 95% of considered organised food retailers. On the side of neighbourhoods, some of them need to be taken out of the consideration (orange coloured neighbourhoods) for two reasons. Firstly, some neighbourhoods, although appears within the boundaries of the metropolitan districts could not be considered as part of the metropolitan Ankara due to their rural character and poor connections with the city. Secondly some areas had to be removed as the major function they inherit is not housing. Military lands, Ataturk's Forest area and lands belonging to governmental institutions are examples of the second group of neighbourhoods which are excluded from the research.

(Image 1 and Image 2)

Socio Economic Indexes and retail / neighbourhood relationship: The research starts with the preparation of indexes. For the construction of indexes, socio economic indicators showing significant influence in the previous section and mentioned as important in the literature are taken into account. By doing this the importance of less significant indicators eliminated. After determining the most significant indicators, normalisation process starts¹ with reference to group's minimum and maximum values. At the end, 11 indicators covering 65 information items are summarised in five indexes. DEMOG index is constructed with the combination of two significant indicators, the ratio of 1 person households and the ratio of households having more than six persons, are taken into consideration. For the formation of EDUC index three indicators are utilised. In addition to the ratio of high school graduates, the proportion of illiterate population and illiterate women ratio are brought together. ECON index is the most composite index among all. It includes information from position in the job market, status in the job, economic activity and occupation. The employed population ratio, the proportion of workers in the finance, insurance and real estate, the proportion of construction sector workers, the number of scientific and technical personnel over all occupation categories, the ratio of employees and ratio of employers over active population are utilised as key indicators for the construction of economic index. Good amount of information and indicator are eliminated before the construction of the building index BLD. At the end of different calculations considering all physical information, it is observed that the proportion of flats not having a kitchen, toilet, shower and flats having all these amenities outside the living unit is thought to be a good indicator that can be used to differentiate neighbourhoods. Finally the price index P is constructed on the basis of average land prices in the neighbourhoods.

(Table 3)

Formation of neighbourhood groups: In this step of the research descriptive statistics and box-plot analysis are presented for the initial exploration of the data. Similar to the construction of indexes, a simple data reduction method is utilised to group neighbourhoods. Neighbourhoods are grouped according to the organised food retailer number they include. First group is composed of 133 neighbourhoods having 0 organised food retailers within their borders. This group is assumed as the most deprived group of all. Second group is a group of 181 neighbourhoods having 1 to 5 food retailer inside. Neighbourhoods forming this second group are considered as 'normal' neighbourhoods having neither significantly less or significantly low number of food retailer. The third group represents the most advantageous neighbourhoods where the retail presence changes between 6 and 11. In this last group there exist 23 neighbourhoods. To be able to reach much more definite answers and a neat conclusion the research focuses on the first and third group of neighbourhoods representing 'extreme' sides of the organised food retailer presence.

¹ Normalisation formula (N): $N(\text{value } X) = (\text{value } X - \text{column minimum}) / (\text{column maximum} - \text{column minimum})$

These two retail groups' statistics are analysed on the basis of socio economic indexes.

4.1. Data processing I: descriptive statistics and box plot analysis:

Considering the descriptive statistics, when one moves from first group to the third, mean values of the indexes increase without any exception. This can be seen as a sign of relative advantage of well of neighbourhoods as index numbers increase with the socio economic advantages. Different from other groups, in the first group index ranges vary considerably. For example, while for the BLD index the range is 0.81; the range of EDUC index is 0.91. This shows how neighbourhoods within this first group differentiate among each other. With a lot of outliers and extreme values, the one and only low range index is the price (P) index which indicates average land values. P ranges from 0 to 0.55 but has a mean of 0.06. This illustrates how similar the neighbourhoods of the first group in terms of average land prices.

The third group is characterised with lowest ranges among index values and illustrates significantly higher mean values for all indexes when compared with other groups. With relatively low number of outliers and no extreme values, this group is considered as more monolithic than others having much more outliers and extreme values. When general Ankara profile is considered, Education index EDUC which stays higher than other indexes reaches its peak in the third group with a mean of 0.78 and with a standard deviation of 0.14. Similar to other groups' profile, the price index P stays low with reference to other indexes (with mean: 0.18 and SD: 0.14). But different than others the range of P index varies between 0.03 and 0.53. furthermore the price index forms a much normally distributed quintile range. These specialities of the third group can be interpreted as the group is composed of neighbourhoods having various average land prices and the variation of prices is not skewed to any side and evenly distributed among neighbourhoods.

With the utilisation of socio economic indexes it becomes one more time possible to trace how the distribution of organised food retailers is dependent on socio economic profiles of the neighbourhoods. At one side, advantageous neighbourhoods in socio economic terms are one more time proved to be advantageous when retail distribution is considered. On the other side, socio-economically disadvantaged neighbourhoods experience another level of disadvantage with the uneven distribution of organised food retailers.

(Table 4, Table 5 and Table 6)

4.2. Data processing II: Correlation matrices and correlation coefficients

The third step towards GWR consists of statistical prove of the relationship between socio economic indexes and retail distribution. To this end correlation analysis is utilised. Correlation analysis is composed of two components: correlation

matrices and correlation coefficients. In statistics, correlation analysis gives information about the sign and degree of the relationship between two variables. This information is supported with an indicator of significance (R square).

Correlation analysis starts with the construction of scatter plots which graphically illustrates the relationships between variables. Then, with the correlation matrices relationships are analysed quantitatively. Regarding the scatter plot distribution of different socio economic indexes with reference to retail number it is observed that all the indexes have positive correlation with the retail number. In other words it is possible to say that there exists a general tendency that the retail number at neighbourhoods increases together with increases in those neighbourhoods' socio economic profiles. To be more concrete about the amount of increases and the relationship between retail number and socio economic characteristics, one needs to look at correlation coefficients². For all the indexes the correlation analysis gives significant results. In the analysis it is seen that the coefficients change between 0.282 P (price) and 0.415 EDUC (education). According to correlation coefficients, the education index is seen to be the most influential index that contributes to any positive change in the retail number. On the other side of the index influence, the effect of P (average land price) in changes in the retail number stays very low. Among the most influential indexes, education is followed respectively by economic, demographic and building indexes.

(Table 7)

4.3. Data processing III: Regression analysis

Traditional regression technique is utilised to determine relationship between two numerical variables. Different from correlation analysis which is principally concerned with the determination of the relationship between variables, regression technique is utilised to predict values of one variable with the help of the values of the other variable. this relationship is expressed with a formula representing the relationship between variables. In graphical terms, the regression graph differ from correlation graph as the points forming the regression line do not produced from the variables forming X and Y pairs of a point. Instead, regression lines are produced so that the distance between every value and the regression line stays at the minimum when squared and summed. While the scatter plot of (x , y) pairs resumes the distribution, the best-fit line is viewed as a descriptive summary of an approximate relationship between x and y values in the data set (Devore and Pack, 1986:441). As a result the conventional regression equation becomes:

$$Y = a + b X$$

where X is the explanatory variable and Y is the dependent variable
(linear regression equation)

² Pearson Correlation Indexes and scatter plots are calculated with the help of SPSS 15 Statistical Software. During the calculations 7 outliers are identified and excluded from the analysis to protect and reflect the general trend.

With the utilisation of regression analysis it is intended that the relationships revealed through percentages brought to a much more statistical and quantifiable level. With this, it becomes possible to distinguish variables according to their effect on the change in the retail geography. Furthermore, regression analysis enables the inclusion of all neighbourhoods without any classification. Through this, the analysis includes each and every individual case's socio economic information and retail specification. Another important implication of the regression analysis is that in multiple modes it becomes possible to reveal the relationship of different variables (dependent variables) over one variable (independent variable).

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + \dots$$

where X_i is the explanatory variable and Y is the dependent variable
(multiple regression equation)

The regression model creating the relationship between socio economic indexes and retail number has a significantly low R^2 and R values. R^2 is the overall measure of the strength of the association between dependent (retail number) and independent variables (socio economic indexes). The R^2 score of 0.18 indicates that the global regression model including all indexes is not a very powerful model explaining changes in the retail number at neighbourhoods in Ankara. Additionally, the R value 0.425 which signifies the correlation between dependent and independent variables stays also quite low as underlined in the correlation analysis. Because the intention here is not to use the regression model for predictive purposes the R and R^2 can be considered acceptable to identify the influence of each index on the retail number.

When one moves beyond global model, the regression model confirms that retail number in the neighbourhoods positively related with the indexes reflecting socio economic status of the neighbourhoods. This means any positive increase in the indexes has an increasing effect on the retail number. Different from correlation coefficients the regression model explains the influence of each index in the number of food retailers. B coefficient of the model indicates that education (EDUC) has the highest influence on retail number while building characteristic (BLD) has the lowest influence. The EDUC coefficient 2.56 signifies that every unit increase in the EDUC index has a 2.57 increase in the number of retailers in any neighbourhood. For the case of BLD index, any single unit increase in BLD index causes 0.8 unit increase in retail number. The importance of education is followed by neighbourhoods' economic condition (ECON), average land prices (P) and demographic characteristics (DEMOG).

Although the OLS regression model reveals important relationships and helps to identify how much each index contributes to the changes in retail number, all indexes stay outside confidence intervals when their significance is considered. Together with low R and R^2 values, the low level of significance can be the result of some factors. First of all, despite normalisation the value range of organised food

retailers in any neighbourhood do only vary between 0 and 11 whereas indexes have much broader ranges depending on concerned populations living in neighbourhoods. As a result of the mismatch between the range of the dependent variable and independent variables the regression model may not be able accurately reflect the dependence between indexes and retail number. Secondly and may be more importantly the change in the retail number can better be explained with an omitted variable which is not concerned in this research. Because the research intends to reveal the influence of some specific factors, namely socio-economic characteristics, despite the low level of significance the results of the regression analysis can still be considered as valuable within the limits of the specific purpose of this study.

(Table 8)

5. Conclusions:

The political and economic crisis of 1980's shaped the coming social and economic policies. In this period of socio economic turmoil imposed neoliberal policies legitimised with few opposition and started to shape urban environments. The presented written material and many others from different cases can be seen as evidences confirming the validity of crises prone nature of capitalism and its dependency on space. Not only to understand the validity of the third assumption about unjust nature of capitalism but also to strengthen the link between first and second assumptions some basic statistical methods were implemented.

Statistical tools brought the verbal evidences into the field of quantifiable entities and illustrates that capitalist logic effecting organised food retailers (at a relatively unregulated planning environment) is highly sensitive to socio economic characteristics of the inhabitants. On the side of inequalities, this finding need to be understood as new retail formats are highly dependent on socio economic characteristics and socio-economic inequalities can be aggravated once more through the locational practices of food retailers. Another contribution of this research is the decomposition of the socio economic characteristics. With the help of this, it becomes possible to differentiate the interrelationship between different socio economic condition and locational preference of observed organised food retailers. Both the correlation analysis and the regression model underline that first the education (EDUC) and than the economic (ECON) variables are highly correlated with the retail presence considering the case of Ankara. Interestingly, average land prices (P) and the index of buildings' physical condition do not have significant influence on the presence of organised food retailers.

The findings and conclusions of this research can further be developed. globally proved relationship between the spatial character of the capitalist system and its influence on organised food retailers can be analysed in detail with different statistical methods decomposing the area of investigation into different much smaller fields (ie: neighbourhoods). By doing so it becomes not only possible to increase the statistical significance of the tests but also provide an understanding how different the effect of socio economic factors along the space. In other words, neighbourhoods

where education index has a more determinant role in the distribution of food retailers separate from the neighbourhoods where average land prices' influence is more. Apart from mere statistical practice, on the retail planning side, such differentiations would be beneficial to eliminate retail based inequalities once locally determinant socio economic factors are known.

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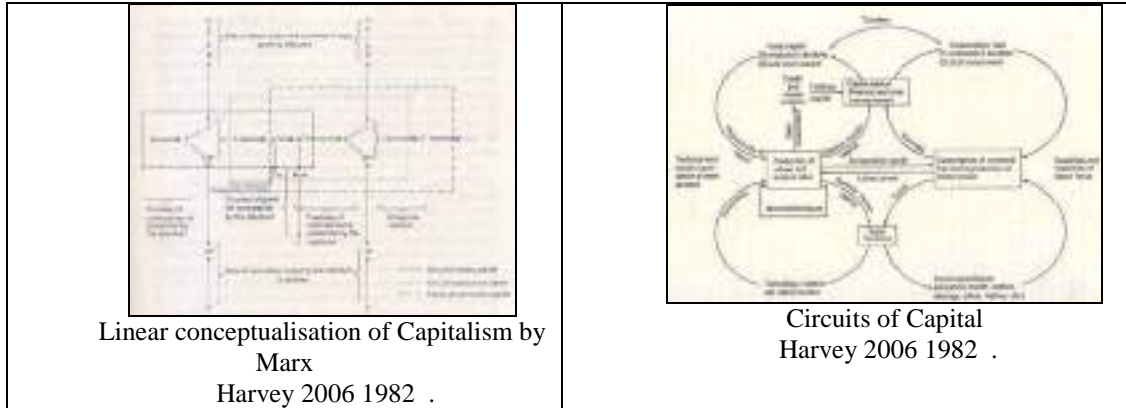
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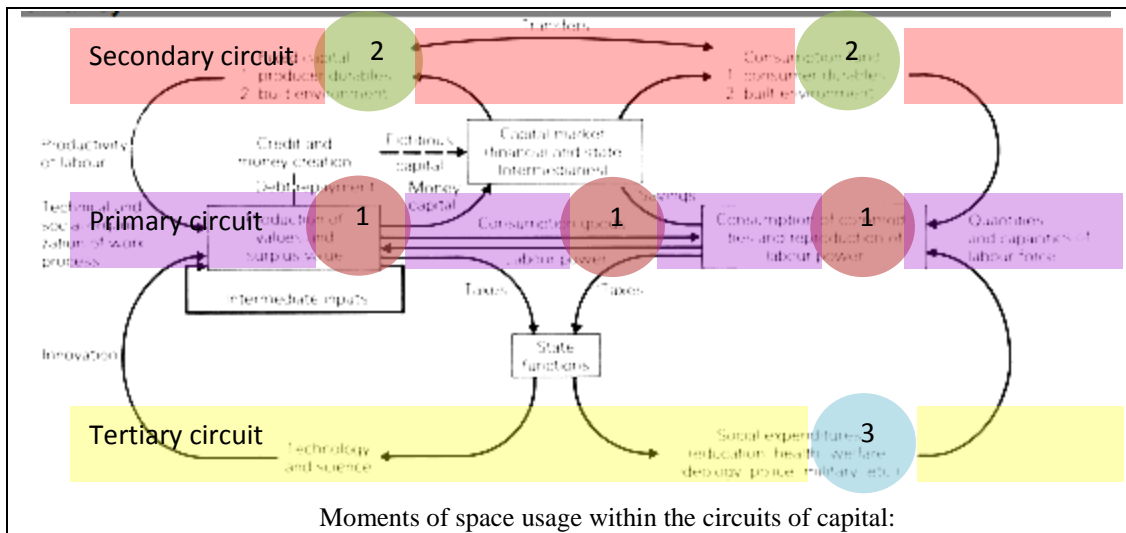
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Graphic 1 and Graphic: 2

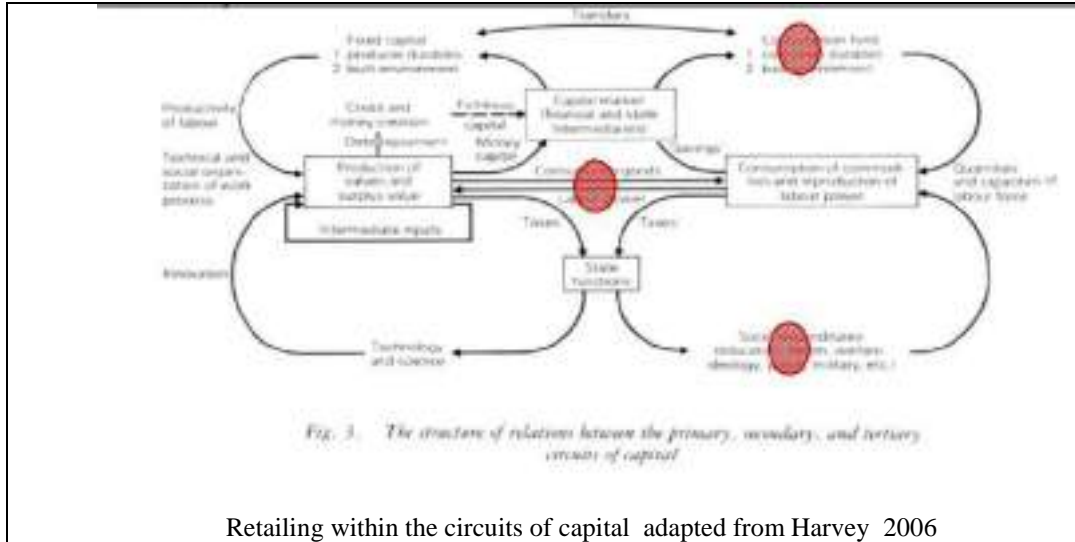


Graphic 3



- 1 utilisation of space in production, consumption and exchange primary circuit
- 2 utilisation of space for production and consumption secondary circuit
- 3 utilisation of space for the reproduction tertiary circuit

Graphic 4



Retailing within the circuits of capital adapted from Harvey 2006

Table 1 and Table 2

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Hyper. Chain and supermarkets	2,135	2,421	2,979	3,640	4,005	4,242	4,800	5,545	6,474	7,221	8,252
Hypermarkets >2500 m ²	91	110	129	149	151	143	152	160	164	178	183
Big Supermarket 1000-2500 m ²	210	251	306	357	368	367	396	454	504	568	623
Supermarket 400-1000 m ²	464	567	726	835	900	968	1,082	1,258	1,567	1,712	1,902
Micro supermarket < 400	1,370	1,493	1,818	2,299	2,577	2,764	3,179	3,673	4,239	4,763	5,544
Mid-size market 50-100 m ²	12,192	13,247	13,232	13,210	13,555	14,537	15,197	15,076	14,775	14,876	15,273
Grocery <50 m ²	155,420	148,925	136,783	128,580	122,342	124,283	122,781	120,397	116,837	115,220	113,295
Total organized firms	169,747	164,593	152,974	145,430	139,902	143,062	142,787	141,018	138,106	137,317	136,820

Source: Nielsen, 2005, 2007 and 2009 (Fast Moving Consumer Goods-FMCG Retail Market Reports).

Evolution of the number of food retailers in Turkey 1998-2008 and changes in food retailers' share in retail purchases
Sources: AC Nielsen

	1996	1997	1998	1999	2000*	2003*
Hipermarket ve süpermarket	1.316	1.682	2.135	2.421	2.979	3.500
Hipermarket (2500 m ²)	37	51	100	105	142	159
Büyük süpermarket (1000-2499 m ²)	95	135	178	227	302	350
Küçük süpermarket (400-999 m ²)	289	414	487	571	717	793
Süpermarket (100-399 m ²)	895	1.082	1.370	1.518	1.493	2.198

	1996	1997	1998	1999	2000*	2003*
Hiper/süpermarket	1.316	1.682	2.135	2.421	2.636	3.500
Market	10.755	11.417	12.192	13.247	13.795	16.000
Bakkal	164.366	159.171	155.420	148.925	147.715	131.000
TOPLAM	176.437	172.270	169.747	164.593	164.146	150.500

Table 3:

	firm name	firm presence	total number of stores	stores covered	missing stores	percentage covered
1	migros-tansas-sok	international	68	68	0	100
2	kiler	national	55	50	5	91
3	bim	national	126	115	11	91
4	peynirci	local	36	36	0	100
5	makromarket	national	63	55	8	87
6	cagdas	regional	34	32	2	94
7	yunus	regional	24	24	0	100
8	altunbilekler	local	32	32	0	100
9	akyurt	local	24	24	0	100
10	carrefour	international	12	12	0	100
11	metro group	international	3	2	1	67
12	tesco-kipa	international	1	1	0	100
13	soykan	regional	34	33	1	97
14	gimsa	local	10	10	0	100
15	celikler	local	17	17	0	100
16	basgimpa	local	19	19	0	100
17	sekerciler	local	8	8	0	100
18	macit	local	8	8	0	100
19	shopping centres		37	35	2	95
total			611	581	30	95

Organised food retailers covered within the research

Image 1 and Image 2

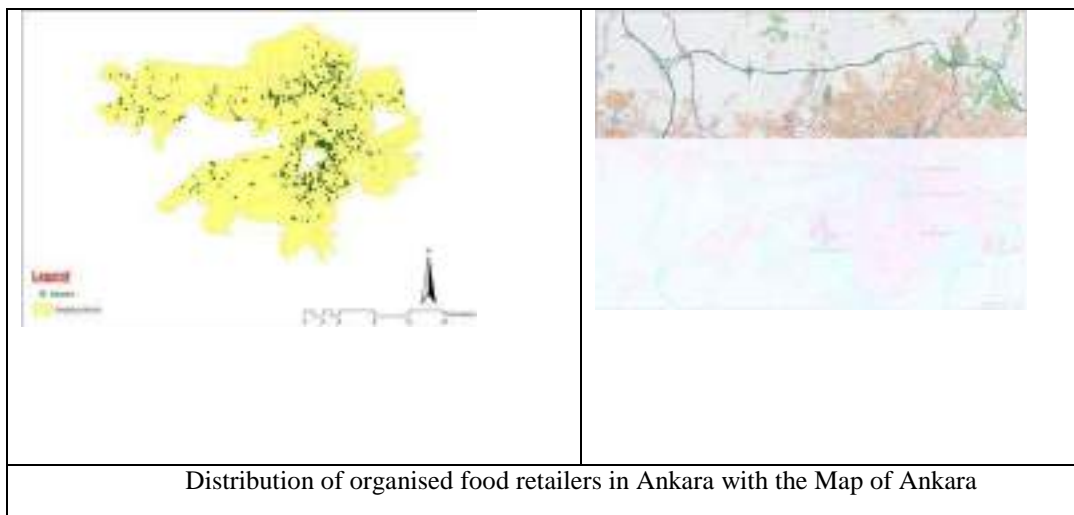


Table 4

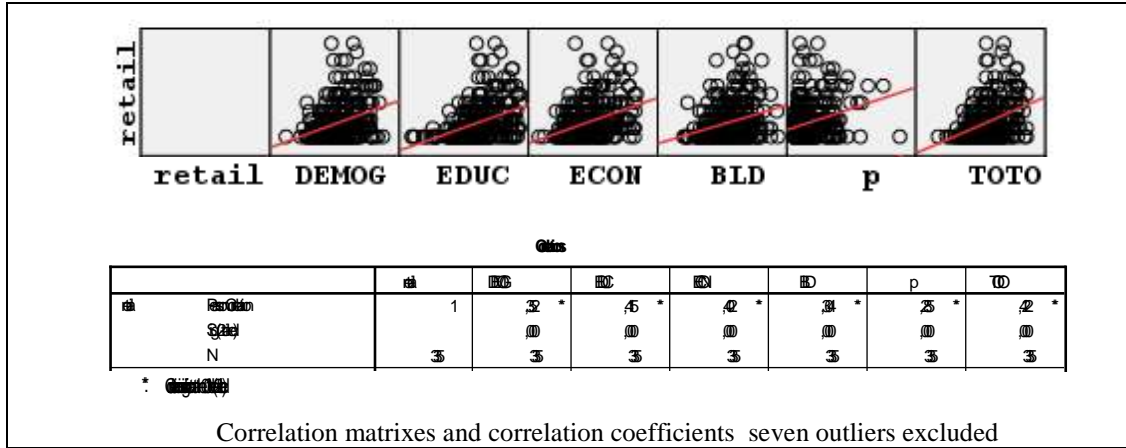
Indicators	Information	Formulation	Index I	Index II
Demographic	<ul style="list-style-type: none"> population 2008 number of households having 1 person number of households having 2 persons number of households having 3 persons number of households having 4 persons number of households having 5 persons number of households having 6 persons number of households having 7 persons number of households having 8 persons number of households having 9 persons number of households having 10 persons number of households having 11 persons number of households having 12+ persons 	$\frac{[10 \times (\text{household } 10) + 20 \times (\text{household } 12)]}{2}$	0-1 index	DEMOG (0-1 index = 1200 index / 1)
Cost index	<ul style="list-style-type: none"> rental index water electricity 	$\frac{[10 \times (\text{rental } 10) + 10 \times (\text{water } 10) + 10 \times (\text{electricity } 10)]}{3}$	0-100 index	
Education	<ul style="list-style-type: none"> high school graduates university graduates and above university non-graduate post secondary school graduates high school graduates university non-graduate post secondary school graduates university non-graduate post secondary school graduates university non-graduate post secondary school graduates university non-graduate post secondary school graduates university non-graduate post secondary school graduates university non-graduate post secondary school graduates 	$\frac{[10 \times (\text{high school } 10) + 10 \times (\text{university } 10) + 10 \times (\text{university } 10)]}{3}$	0-100 index	EDUC (0-100 index = 1000 index / 1)
Religious opinion	<ul style="list-style-type: none"> religious opinion index 	$\frac{[10 \times (\text{religious } 10) + 10 \times (\text{religious } 10)]}{2}$	0-100 index	

proprietor not in the household	includes: owner tenant partner			
position in the job market	people did not seek any channel to the job employment not in work manufacturing services (gas and water supply distribution)	Market cap (value pop.)	Labour Index	ECON Market Index + SA Index + Climate Index + Global Index 12
economic activity	wholesale and retail trade restaurant and catering financial activities and insurance activities	WIRE (total CA) + (Nonmarket CA) / 2	EA Index	
occupation	managerial profession intermediate and subprolet labour without organizational position	Non-Managerial OJ	Employ Index	
status	work in the manufacturing sector employer or casual employee unemployed self-employed unpaid family worker	(Nonproductive pop. 1 - 1) / (Nonproductive pop.) / 2	Status Index	
land price	square meter average land price	Market cap land price	P Index	
physical position of the building	build inside the dwelling build outside of the dwelling on plot Others build the dwelling Others rebuild or the dwelling no floor others inside the dwelling Others outside of the dwelling on plot Others build the dwelling Others rebuild or the dwelling on plot	Ratio of outside to inside / 100 converted	Physic Index	BLD

Socio economic indexes and their content
Table 5, Table 6 and Table 7

<p style="text-align: center;">Descriptive Statistics</p> <table border="1"> <thead> <tr> <th></th> <th>N</th> <th>Minimum</th> <th>Maximum</th> <th>Mean</th> <th>Std. Deviation</th> </tr> </thead> <tbody> <tr> <td>bld</td> <td>133</td> <td>,168841</td> <td>,979656</td> <td>,49009816</td> <td>,163335036</td> </tr> <tr> <td>econ</td> <td>133</td> <td>,124555</td> <td>,698828</td> <td>,34855146</td> <td>,097932041</td> </tr> <tr> <td>p</td> <td>133</td> <td>,000000</td> <td>,549583</td> <td>,05910394</td> <td>,075212988</td> </tr> <tr> <td>educ</td> <td>133</td> <td>,053948</td> <td>,960113</td> <td>,51795526</td> <td>,176472792</td> </tr> <tr> <td>demog</td> <td>133</td> <td>,039904</td> <td>,457153</td> <td>,23514128</td> <td>,070900566</td> </tr> <tr> <td>toto</td> <td>133</td> <td>,095539</td> <td>,626194</td> <td>,33017005</td> <td>,096037890</td> </tr> <tr> <td>Valid N (listwise)</td> <td>133</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="text-align: center;">Descriptive statistics and boxplot analysis for the first group of neighbourhoods with 0 organised food retailer</p>		N	Minimum	Maximum	Mean	Std. Deviation	bld	133	,168841	,979656	,49009816	,163335036	econ	133	,124555	,698828	,34855146	,097932041	p	133	,000000	,549583	,05910394	,075212988	educ	133	,053948	,960113	,51795526	,176472792	demog	133	,039904	,457153	,23514128	,070900566	toto	133	,095539	,626194	,33017005	,096037890	Valid N (listwise)	133					
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Table 8



Correlation matrixes and correlation coefficients seven outliers excluded

Table 9

Model Summary					Coefficients ^a					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
					B	Std. Error	Beta			
1	.425 ^a	.181	.168	1,942481314	(Constant)	-1,527	,448		-3,411	,001
					bld	,810	,909	,060	,892	,373
					econ	1,788	2,192	,104	,816	,415
					p	1,247	1,043	,069	1,196	,232
					educ	2,567	1,427	,218	1,799	,073
					demog	1,120	2,105	,045	,532	,595

a. Dependent Variable: retail

Regression model and regression coefficients