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|  |  | **ENLARGEMENT AND** |  |
|  |  | **TRANSFORMATION OF THE MOVIE** |  |
|  |  | **THEATER INDUSTRY IN TURKEY** |  |
| **Çağlar Yurtseven** | | **ABSTRACT**. Turkey has experienced a boom in its movie |  |
| *Bahçeşehir University,* | | industry since the beginning of 2000s. The number of |  |
| *Turkey* | | movie viewers in the movie theaters has increased by 360 |  |
| *E-mail:* [*cayurtseven@yahoo.com*](mailto:cayurtseven@yahoo.com) | | per cent in the last 15 years. This paper attempts to |  |
|  |  | comprehend and analyze the determining socioeconomic |  |
|  |  | background of this enlargement. We use a unique data set |  |
| *Received*: May, 2019 | | and implement dynamic panel data estimation methods. |  |
| *1st Revision*: July, 2019 | | The results suggest, as expected, that the control variables, |  |
| *Accepted*: February, 2020 | | such as education, income, number of college students and |  |
|  |  | the expansion in the mall industry help us to understand the |  |
| DOI: 10.14254/2071- | | increasing numbers of visitors in Turkish movie theaters. |  |
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***JEL Classification****:*R58, L82, ***Keywords***: movie theater, Turkey, entertainment, socio-economic,

Z11 dynamic panel data

**Introduction**

This paper examines the enlargement of the movie theater industry in Turkey. We first analyze the rapid increase in the number of movie viewers in the last 15 years by means of econometric analysis. We try to comprehend the socioeconomic determinants behind the increase in the number of viewers. In addition to the usual demand side variables, such as income, education, the number of college students, prices of tickets (acts as supply-side variables) and trend, we also include the effect of rise in mall theaters, which is also a supply-side variable.

The reason for the inclusion of the effect of new supply-side variable in the analysis can be explained by an example: Up to 2000s, when two friends in Turkey, as in many emerging countries, decide to go to the movies, they first travel to the city center, walk around, visit local shops and buy their tickets from a city theater. If two friends in Turkey decide to go to the movies in the 2010s though, they first travel to a mall, shop there and then they buy their tickets from the mall theater. This experience will be familiar for millions of people, not only in Turkey but also in many other developing countries.

Movie theater industry has experienced a significant enlargement and transformations in the last 20 years. The decline of historic movie theaters in cities is routinely observed across the globe under neoliberal capitalism, and developing economies are no exception. The closure of city theaters is a common byproduct of urban renewal programs implemented by many national governments. In Turkey, urban renewal programs have accelerated after the year 2000.



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We have observed the opening of more than 200 mall complexes, construction of hundreds of skyscrapers in a very short time period (Yaşar, 2019). Nearly all new malls have movie theatres inside them. With this new urban understanding, many existing city movie theaters could not compete with the newly formed mall movie theaters due to their disadvantageous position in terms of parking slots’ availability, security issues, higher rent in downtown etc. The paper pays attention to this phenomenon of neoliberal capitalism to understand the transformation of the movie theater industry. In addition, during the period considered, more than 100 universities have been established in almost all the provinces of Turkey. In the empirical analysis, we take this trend into account as well. To the best of our knowledge, this is the first paper to study the effect of recent expansion in the mall industry and the increase in the number of college students on movie-going decisions in Turkey.

The paper is structured as follows. Section 1 presents the literature review in the international context and examines the studies with different approaches and views. Section 2 discusses the current situation at the movie market and introduces the author’s methodology. Section 3 describes the data set and provides the results of the estimation process. Finally, section 4 concludes.

**1. Literature review**

Many articles in the literature examine the individual’s movie preferenes in the world. For example, Dardis et al. (2014), investigate movie sector in the entertainment industry and they consider the variables such as income, age, education, physical location and race as the main determinants of movie preferences. Köksal and Yurtseven (2018) conduct a theoretical study and show that education level, income, number of college students and trends are important determinants of the agent’s movie preferences.

Austin (1985) shows that going to the movies is a mass leisure activity, which is affected by age and gender. In this influential sociology paper, the author puts emphasis in its importance in the popular culture. Next, Craig, et al. (2015) and Duan et al. (2008) show that, word of mouth is as important as film critics to explain the variation in movie marketing.

Cultural values are relevant for people’s purchasing decisions, since it is one of the main determinants of social capital (Delibašić, 2018; Kaasa, 2019). Enomoto and Geisler (2017) show the extreme importance of cultural values by relating cultural values to extraordinary events, such as plane crashes. In one study, Srinivas (2002) states that going to the cinema is essentially a social activity. The author highlights the differences in the social component of this social event in the USA and India. His findings suggest that unlike the USA, in India the viewers are not silent during the screening of the film, and they comment about it. Indians state that individuals go to movie not only for watching a film, but also to be involved in a cultural activity.

Hence, in addition to general socio-economic variables such as income and education, we need to focus on extra determinants of the agent’s decision to go to the movies, such as being a social activity and number of students in a region.

The aforementioned studies focus on the habit of going to the movies in general.

However, the studies on specific theater choice are less in the literature.

For instance, Epstein (1998) claims that in the movie theater industry important innovations are made and these innovations can attract the audience. Different seat structures are important innovations of the times. Double seats or beds are first appeared in the theaters in 1990s. Up to 1980s, most movie theaters have a single viewing room with a single screen. In the beginning of the 2010s, most movie theaters have multiple screens.

According to Goldberg (2018), three-dimensional film (3D film), experienced a worldwide launch in the 1980s and 1990s driven by [IMAX](https://en.wikipedia.org/wiki/IMAX) high-end theaters and [Disney](https://en.wikipedia.org/wiki/Disney)-



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themed venues. 3D films became increasingly successful throughout the 2000s. Movie theaters with 3-D screens have become a choice especially for families with children over time.

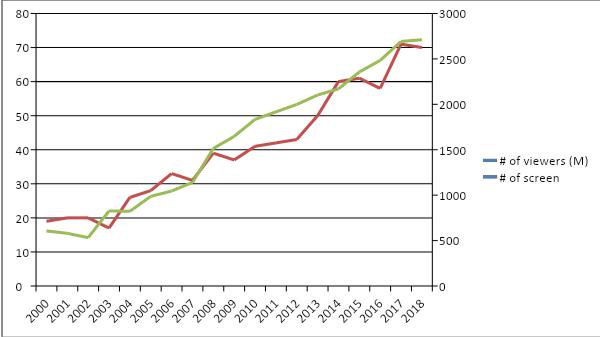
Hence in the beginning of the 2000s, with the proliferation of the new technologies, we observe renovation projects for the existing theaters or the emergence of the many new cinema theaters with new technologies around the world. Most of new cinema theatres are located in the malls. (Mostly, countries other than US).

In addition, the closing or destruction of city movie theaters have become a phenomenon, which often highlights distinct sociocultural designs that national governments’ objective for implementing urban renewal programs. (Yaşar, 2019). In short, as a result of the globalization in the media sector, we observe the emergence of global theater chains, instead of independent city theaters, all over the world including Turkey (Rutovic, 2016).

**2. The case of Turkey**

The latest Movies and Theaters Statistics of Turkey, revealed by the Turkish Statistical Institution shows that the number of movie viewers and the total number of screens have significantly increased over the last 15 years. In addition, Turkish cinema sector has become dominant in the market.

The number of movie viewers has increased from 19 million in 2000 to 70 million in 2018. In the same period, the number of screens across Turkey has increased from 606 in 2000 to 2711 in 2018. The following graph clearly presents the dramatic changes in the industry.



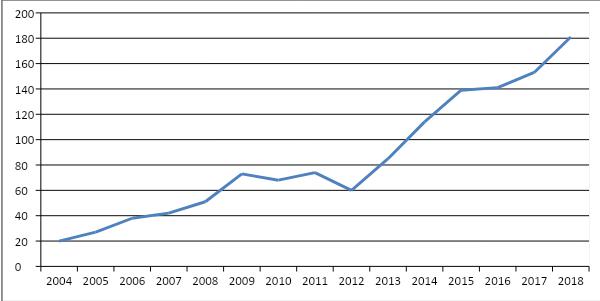
Graph 1. Number of Movie Viewers and Screens in Turkey *Source*: TurkStat Culture Statistics

The number of films displayed in 2004-2018 period has increased by 210 per cent from 207 to 439. 20 of these films in 2004 were domestic. The number of domestic movies in 2018 was 181, which implies a 900 percent increase. In the following graph, we present the number of domestic movies shown in theaters in each year.



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Graph 2. Number of Domestic Movies Produced Each Year in Turkey *Source*: TurkStat Culture Statistics

Turkey has the highest domestic movies to all movies ratio among the European countries, surpassing countries as France and Italy (See table 1). The Increase in the number of movie viewers in Turkey especially for domestic productions, helped the domestic producers to feature an increasing quantity of movies. (Erbil, et al., 2017) This is important because domestic movies are important for the preservation of the national identity as well.

Table 1. % of Domestic Movies out of all Movies Displayed in 2015

Turkey 59

France 44

Finland 28

Italy 27

Poland 27

Denmark 27

Germany 26

Sweden 26

GB 26

Spain 25

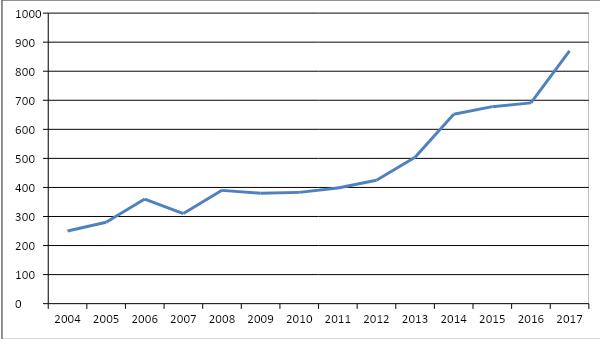
*Source*: Antrakt, Boxofficeturkiyecom

Finally, Graph 3 presents the box office numbers, which informs us about the fast enlargement of the industry in the last 15 years. The nominal increase from 2004 to 2018 is about 350 percent.



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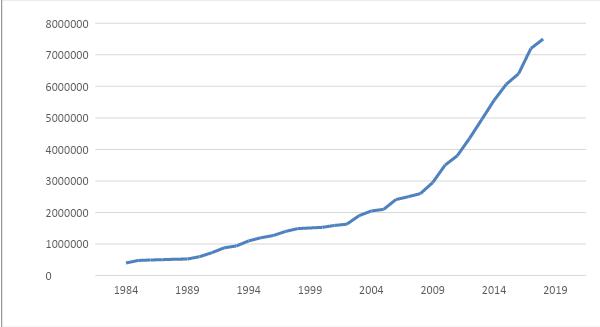
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Graph 3. Box Office (million TL)

*Source*: TurkStat Culture Statistics

After 2000, there is a huge increase in the number of college students in Turkey. We suspect whether this increase affects the provinces’ movie viewer ratio or not. Hence, we take the effect of college students into consideration in the analysis. We can see the dramatic increase in the number of students in the figure below..



Graph 4. Number of college students (1984-2018)

*Source*: Council of Higher Education of Turkey

During the same time, there was a mall boom in Turkey as well. Total number of malls in 2004 was 59, and this number has increased to 411 (JLL Market Report, 2019) in 2018. Some cities in the eastern part of Turkey, which do not have any theaters in 1990s and 2000s, have met with the movie theaters only in the malls. Eventhough the movie industry achieved such big increases in its numbers; number of screens that are in the city centers could not get similar results. In 2004, ratio of screens that are in city theaters to total number of screens was 55 percent. In 2018, this ratio has dropped to 18 percent. Contrary to the huge increase in the total



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number of screens available in the country (822 in 2004 to 2711 in 2018), there are movie theaters in the city centers that cease their operations. Nearly almost all the new screens after 2010 are opened in the malls. Number of screens which are located in the city theaters and the mall theaters are given in Table 2.

Table 2. Number of Screens in Turkey

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Year | City Screens | Mall Screens | Total |
|  | 2004 | 445 | 377 | 822 |
|  | 2005 | 495 | 492 | 987 |
|  | 2006 | 525 | 520 | 1045 |
|  | 2007 | 470 | 670 | 1140 |
|  | 2008 | 688 | 826 | 1514 |
|  | 2009 | 706 | 941 | 1647 |
|  | 2010 | 695 | 1139 | 1834 |
|  | 2011 | 772 | 1145 | 1917 |
|  | 2012 | 782 | 1216 | 1998 |
|  | 2013 | 703 | 1399 | 2102 |
|  | 2014 | 704 | 1466 | 2170 |
|  | 2015 | 514 | 1842 | 2356 |
|  | 2016 | 490 | 1993 | 2483 |
|  | 2017 | 591 | 2101 | 2692 |
|  | 2018 | 501 | 2210 | 2711 |

*Source*: TurkStat Culture Statistics and author’s own compilation

Therefore, malls are started to referred as the place to go to the movies. In the following section, we try to find answers to this phenomenon in Turkey. In other words, we try to find out why malls become popular in Turkey and why movie theaters in malls become a popular part of the social life.

*Why have malls become popular?*

As Bloch et al. (1994) state, there are many different motivations for consumers to visit malls as escape, exploration, flow, knowledge and social affiliation. Nevertheless, motivational aspects described above are cogent, for old pedestrian malls located in city centers in Turkey as well. In this section, we first try to answer the reasons for the huge interest to these modern types of malls in Turkey. Then we examine the reasons for the huge increase in the number of shopping centers in a very short time period.

A city’s reputation is very important for attracting customers to the city centers. (Jakab and Happ, 2017) In Turkey, because of the peak of migration rates from countryside to the cities, public areas are much more crowded and compact. This leads to jammed traffic for both vehicles and pedestrians. Odekan (2001) argues that, many people in big city centers are complaining about the crowd, traffic and parking problems and lack of pedestrian safety. Jackson (1998) points out that, “the contrived spaces of the shopping mall are a direct response to the perceived incivility of the city street”. As Erkip (2005) states, the statement is valid for Turkey, because of the conditions of traffic and lack of both infrastructure and maintenance in the city. Even though finding properly made sidewalks is hard in Turkey; it will indeed create safety concerns for traffic congestion (Odekan, 2011). To follow, the protection of malls supported by private securities, gives citizens the grasp of being in a safe zone, where urban crimes cannot be tolerated. Lastly, as Erkip (2005) suggests, the idea of modern malls, which



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appeals to the need of Turkish citizens’ search for modernity, providing new consumption and leisure patterns in a more cultivated way that already exist in urban places and streets.

Putting all these aspects side by side, we can understand why and how spending more time in malls has been very popular and the reasons why it becomes less costly for consumers to benefit from a mall visit rather than a urban center visit in Turkey.

*Why theaters in the malls?*

Researches has brought out that consumers mostly tend to make the decision of where to shop on the basis of their position against the variety of stores and environment of the malls (Sadeghi and Bijandi, 2011). This environment mostly includes opportunities for entertainment as well. Hoban (1997) suggests that there is a word to define the entertainment people seek during shopping as ‘retailaintment’. According to White (2008)’ there is a statistical behavior of American consumers that 75% of families, who visit the malls, also visit the family entertainment center where the movie complex is often included.

Following the first phase of the increase of the malls, consumers began to seek for movie theaters in malls as the main source of entertainment. Gülçubuk (2013) has surveyed a group of customers of a new mall in Salihli-Turkey and reached the conclusion that movie theater is the most attractive social place in the first and only mall of Salihli at the time. This led for movie theater to function as anchor stores. Konishi and Sandfort (2003) explain that, an anchor store is a store that increases its popularity, through its name’s reputation, the traffic of shoppers at or near its location. Consumers, attracted by the anchor’s name, are likely to visit the mall, and thus nearby stores’ sales and profits are increased by the presence of the anchor.

It has also been found that there is a positive relationship between entertainment and mall productivity, which defines as the sales per square foot. In this point of view,, it is possible to understand more clearly the reason of why malls mostly include places for movie theatres and why every mall in Turkey has movie theatres in it.

Taking into consideration of the fact that movie theatres acting as anchor stores and how they have positive effect on mall productivity, movie theatres at malls can lead to major rent decreases (Pashigian & Gould, 1998). Consequently, this brings us to the idea that movie theatres in malls does have a significant cost advantage rather than similar sized movie theatres in city centers.

As mentioned before, (1) providing highly accessible gains to consumers and (2) presenting a cost advantage, are indispensable attributes that mall movie theatres provide. Build on these two features mentioned above, we hypothesize that the rise in the number of mall movie theaters leads to increase in the number of movie viewers in Turkey to increase.

**3. Estimation**

In this part, we test the importance of different variables on the recent development of the Turkish movie theater industry. As mentioned in the introduction part, there is a big increase in the number of moviegoers in Turkey. However, it is obvious that part of the growth is because of the rise in the population. Hence, we use number of tickets sold per person as the dependent variable in the estimation. To be able to identify the importance of different variables, we conduct our estimations using province-based data. All 81 provinces are included in the estimation for the years from 2004 to 2018.

Following the leading article by Dardis et al. (1994), we use the real GDP per capita, and tertiary education in province in year . In that paper, the authors show that, as the levels of income and education increase, people become more likely to spend for leisure activities.



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Calderwood et al. (2014) showed that for college students going to the movies is an important social activity. Different from students up to high school, college students take their movie going decisions on their own. Considering the recent huge increase (from 2 million in 2004 to 7.5 million in 2018) in the number of college students, we include percentage of college students out of total population as an explanatory variable as well.

Yurtseven and Koksal (2017) state that the ratio of the number of domestic movies to total number of movies is actually an important explanatory variable to understand the recent developments in Turkish movie theater industry. A general Turkish viewer is claimed to have more interest on the domestic productions than foreign ones. People relate themselves to the characters they watch in the movies and this relation is easier when the characters are domestic. As an empirical proof, we can mention the observation such that, domestic movies and series attract more viewers when they are broadcasted on TV than the international ones. They also have more viewers on the internet. In addition, for the last 10 years, all the most viewed movies in theaters in Turkey are domestic. We expect the share of viewers to increase, as income, education, ratio of university students and the number of domestic movies increase.

Based on the above discussion on mall movie theaters, we also include ratio of mall screens to total number of screens in province in year as an explanatory variable. Since we claim that mall theaters offer higher benefits at a similar cost, we expect a positive sign for this variable.

In addition, following Craig et al. (2015) we use the lagged dependent variable, the ratio of number of tickets sold to the population, as an additional explanatory variable since past realization of going to a movie theater can also be an appropriate indicator as a proxy of consumer valuation.

Relating demand and supply side of the market, we include a price variable as well. There is no significant variation in the price of tickets in a particular province and there are slight differences among the different provinces of Turkey. As the price variable, we use a real index for the entertainment prices in province , in year .

As a result, we estimate the following linear specification:

= 0  + 1  , + 2 ,  + 3 ,  + + 4 ,  + 5 ,  + 6 , −  + 7 ,  +  , .

Table 3. Variables

|  |  |  |
| --- | --- | --- |
|  | **Variables** | **Explanations** |
|  | , | ratio of tickets sold to population in province in year . (%) |
|  | , | real GDP per person in province in year . |
|  | , | % of 15+ population who have at least a high school degree in province in year . |
|  | , | % of college students to total population in province in year . |
|  | , | number of domestic movies to total number of movies featured in province in year |
|  |  | . |
|  | , | ratio of mall screens to all screens in province in year . (%) |
|  | , | index for the real entertainment prices in province in year . |

*Source*: Author’s own compilation

At least three econometric problems may arise from estimating equation (1). First, the price variables in are endogenous. Then, these regressors may be correlated with the error term. Second, time-invariant province characteristics (fixed effects) may be correlated with the explanatory variables. Third, the presence of lagged dependent variable may be a probable cause of autocorrelation.



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Due to lack of proper instrumental variables with data we decided to use the dynamic panel data estimation method which allows us to use endogenous variables as pre-determined which is not correlated with the error term. It removes fixed-effect by transforming regressors using difference generalized method of moments (GMM) and allows us to use lagged dependent variable to instrument with its past levels.

A similar estimation is done by Yurtseven and Koksal (2017). However, in this study, we update the data with a bigger number of observations stretching from 2004 to 2018. In addition, we update the set of independent variables. For example, we include percentage of college students in a city to explain the ratio of number of tickets sold to population . At the same time, we exclude the percentage of young people which may cause correlation problems in the estimation process since we include an education variable in addition to the percentage of college students in a province’s population.

**4. Data**

In this study, we use panel data approach to estimate our model. The period of investigation includes the years between 2004 and 2018. Income, education, movie and entertainment price data are taken from Turkish Statistical Institution (TurkStat) database. Number of college students is taken from the database of the Council of Higher Education of Turkey.

The variable in our model is defined as per capita and TurkStat only gives the regional data, therefore, we modify it by dividing the total numbers by population of the province in the related year. Provincial population data is presented by TurkStat only with some missing years. For example, for the years between 2003 and 2006, instead of actual population figures, only projections prepared by TurkStat are available. For that period the projected numbers are used in the estimation. In addition, TurkStat has not provided provincial per capita income for 2018 yet. We projected the 2018 numbers by the announced national growth rates and we assume a fixed growth rate for the year 2018 for all provinces. Data on a key variable of the study, number of screens in malls over total number of screens is self-constructed by using data from TurkStat and Mall Investors Association. We calculate the number of screens in each mall for each year by processing the raw data taken from Mall Investors Association. We contacted with the mall movies directly, whenever necessary. Total number of screens in a province for each year is directly taken from TurkStat. By dividing these two numbers, we constructed the ratio of mall screens in a province for each year.

**5. Results**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Variables** | **I** | **II** | **III** | **IV** | **V** |
|  | **N** |  |  |  |  |  |
|  | **inc** | 0.00001 | 0.00001 |  |  |  |
|  |  | (0.0000) | (0.0000) |  |  |  |
|  | **edu** | 0.41351\*\* | 0.4120\*\* | 0.3901\*\* |  |  |
|  |  | (0.1387) | (0.1452) | (0.1223) |  |  |
|  | **uni** | 0.1589 |  |  |  |  |
|  |  | (0.2390) |  |  |  |  |
|  | **eduuni** |  |  |  | 0.6412\* | 0.6402\* |
|  |  |  |  |  | (0.2699) | (0.2144) |
|  | **dmovie** | 0.0001\*\* | 0.0001\* | 0.0001\* | 0.0001\* | 0.0001\* |
|  |  | (0.0000) | (0.0000) | (0.0000) | (0.0000) | (0.0000) |



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|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **malls** |  | 0.0949\*\* | 0.0920\*\* | 0.0911\*\* | 0.0907\*\* | 0.0909\*\* |
|  |  |  | (0.0286) | (0.0281) | (0.0281) | (0.0289) | (0.282) |
|  | **L1** |  | **0.4472\*\*\*** | **0.4489\*\*\*** | **0.4485\*\*\*** | **0.4622\*\*\*** | **0.4519\*\*\*** |
|  |  |  | (.0668) | (.0674) | (0.0659) | (0.0670) | (0.0644) |
|  | **L2** |  | 0.2236\*\* | 0.2228\*\* | 0.2230\*\* | 0.2292\*\* | 0.2210 |
|  |  |  | (0.0683) | (0.0696) | (0.0697) | (.0700) | (0.0611) |
|  |  |  |  |  |  |  |  |
|  | **price** |  | **0.0026** | **0.0027** | **0.0026** | **0.0029** |  |
|  |  |  | (0.0015) | (0.0015) | (0.0015) | (0.0015) |  |
|  | **time** |  | 0.0068 | 0.0075 | 0.0071 | 0.0077 |  |
|  |  |  | (0.0069) | (0.0068) | (0.0066) | (0.0069) |  |
|  | **year dummies** | | YES | YES | YES | YES | YES |
|  |  |  |  |  |  |  |  |
|  | **# of obs.** |  | 567 | 567 | 567 | 567 | 567 |
|  | **# of groups** |  | 76 | 76 | 76 | 76 | 76 |
|  | **#** | **of** | 75 | 74 | 73 | 73 | 73 |
|  | **instruments** |  |  |  |  |  |  |
|  | **Hansen stat** |  | 66.2098 | 66.5791 | 66.3296 | 65.2889 | 65.2012 |
|  | **AR(1)** |  | -3.3551\*\*\* | -3.3526\*\*\* | -3.3569\*\*\* | -3.3522\*\*\* | -3.3520\*\*\* |
|  | **AR(2)** |  | 0.0801 | 0.0760 | 0.0709 | 0.0093 | 0.0095 |

*Source*: Author’s own compilation

The results we get through the dynamic panel data estimation method is presented above. Test for serial autocorrelation of residuals, AR(1) and AR(2), confirm that moment conditions are valid. That is  ,  is not serially correlated, since the difference of the residuals are characterized by a negative first-order serial correlation and no second-order serial correlation. In addition, Hansen statistics support that the overidentifying moment conditions are valid to have consistent estimates. We expected income, education level, number of college students and number of domestic movies to affect income in a positive way and price to affect negatively. In line with the literature, we find that income, education level and the number of college students affect the number of movie viewers positively. Domestic movies seem to affect number of viewers positively in Turkey as well.

Even though it is not insignificant, the positive sign of price variable needs an explanation. We were expecting a negative sign for the effect of the price variable on the number of movie viewers (Moul, 2005). We consider two possible explanations for the positive sign considering local dynamics of Turkey. First, the campaigns which offer significant discounts on movie tickets. For example, the average reported price for a movie ticket in the biggest theater chain of Turkey “Cinemaximum” in 2018 is 22 TL. If you buy a menu in the fast food chain “Baydoner” you can buy the ticket only from 12 TL. [(https://baydoner.com/kampanyalar/sinemakampanyasi,https://m.haberturk.com/yazarlar/ayse](https://m.haberturk.com/yazarlar/ayse-ozek-karasu/2276851-patlamis-misirdan-cimicangaya?fbclid=IwAR0ksr-JLQKaYQjZgoBWMqSpq7PBY1B8nUtY1VGv6k2c5ZS38uhXBCwk2kk) [-ozek-karasu/2276851-patlamis-misirdan-cimicangaya)](https://m.haberturk.com/yazarlar/ayse-ozek-karasu/2276851-patlamis-misirdan-cimicangaya?fbclid=IwAR0ksr-JLQKaYQjZgoBWMqSpq7PBY1B8nUtY1VGv6k2c5ZS38uhXBCwk2kk) There were too many complaints from the movie producers about these campaigns that finally their pressure on the theater operators leads to a settlement that all the campaigns on movie tickets are banned, starting from July 2019 [(https://www.gazeteduvar.com.tr/sinema/2019/01/30/sinema-kanunu-resmi-gazetede-yayimlandi/](https://www.gazeteduvar.com.tr/sinema/2019/01/30/sinema-kanunu-resmi-gazetede-yayimlandi/)). Operators don’t report the distribution of their revenues based on the sources. The second possible explanation is the dominance of the increasing demand of movie tickets over the increasing supply.

As movie going is a social activity, significance of the lagged variables does not come as a surprise. The increase in the ratio of mall theaters over all theaters seems to explain nearly



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20% of the increase in the number of moviegoers in Turkey in the last 15 years. Education, the number of domestic movies, ratio of college students, and income come with expected signs the first two of four are also significant. In contrary to our initial expectations, having a lot of college students in a province does not seem to be a significant determinant of movie viewer ratio. However, when we include an interaction variable (education\*university = eduuni) we observe its significance with a positive sign. Ratio of college students in a city is a significant determinant of movie viewing habit only if the overall education level of the province is high as well. The college students seem to interact with educated cities more. The income per capita increase in Turkey does not seem to play a significant role too. In the recent expansion of the sector, social factors seem to dominate economic improvements by their effects on the movie sector expansion.

**6. Conclusion**

In this paper, we attempt to understand socio-economic background of enlargement in the movie theater industry by estimating a movie viewer equation through applying different econometric techniques.

For the estimation, provincial movie viewer to population and socio-economic data for the period of 2004-2018 are employed. Number of domestic movies, ratio of mall screens to all screens, education and the lagged dependent variable were identified as significant determinants of the enlargement in the number of movie viewers in Turkey.

In the last 15 years, there is a huge increase in the number of movie viewers, and a huge rise in the number of college students, domestic movies produced, and we should note the importance of the recent mall boom on the expansion of the entire movie industry. An interesting finding that we obtain from the econometric analysis states that without the mall boom, the recent fast expansion in the movie sector in Turkey would not be possible.

The mall boom seems to have a positive externality on the movie industry. In the paper, however, we also showed the effect of the mall boom on the movie theater industry, which is negative especially for the people who used to go to the movies in the city theaters. The closing of the city movie theaters leads to the destruction of the memories of people part of whom today are white-collar possessing a certain level of wealth.

In the estimation part, except the number of screens in the cities and malls, we used macro data provided by TurkStat. This limits the scope of our paper. A future research based on questionnaires, conducted by the authors, may eliminate the necessity of using dynamic GMM method in the estimation. This will provide a chance to understand the direct effect of cultural values on the movie-going behavior.

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