

CZIFRA, BOTOND

Examining the Attitudes of Hungarian Drivers in Domestic Road Transport Regarding Their Financial Situation¹

Introduction

International and domestic regulatory proposals related to wealthy drivers often recommend introducing some form of income-based road fines. Similar *de lege ferenda* concepts and public opinion on road traffic are based on the hypothesis that the wealthy commit more traffic violations. However, this requires further verification. To this end, we conducted an empirical study to test this claim.

This assumption has already been confirmed in international empirical literature. Chien-Ming Tseng conducted a questionnaire survey of Taiwanese road users to examine the socio-economic factors influencing drivers' compliance with traffic rules.² The 2009 survey examined how monthly income, education, gender, age, annual kilometres driven, and driving motivation affected road behaviour. Participants were asked, via questionnaire, whether they had received any traffic fines in the past year and, if so, how many times. The findings were then examined using multivariate regression. The analysis showed that, of the factors examined, the driver's age and gender were most closely related to their compliance with the rules. The results showed that younger drivers are more likely to violate traffic rules, and that men are more likely to do so than women. According to the survey, the highest number of violations per capita (0.3 violations per person) was committed by those with the highest incomes. Although the effect

¹ This paper is based on a presentation delivered on 26 June 2025 in Pécs at the conference Law Enforcement Research and Innovation.

² Tseng, C.-M.: Frequent Driving Purpose in Taiwan's Male Population. *Safety Science*, 57. 2013. 236–242. o

of education is also significant (and may be related to income), regression showed that income has a very strong independent effect on traffic behaviour. Personal interviews were also conducted on Taiwan's highways in 2014 to determine how much drivers are willing to pay to drive faster.³ The interviews showed that the higher a driver's income, the more they are willing to pay for speeding, which may also suggest that wealthy drivers are more likely to break the rules. An American survey also showed that the number of people who say they always obey speed limits increases with age, but decreases with higher levels of education and income.⁴

Methodology

However, to date, no survey in the Hungarian empirical literature has confirmed the assumptions regarding the traffic behaviour of wealthy drivers on Hungarian public roads. We conducted our study because such research is needed, as it is not certain that the traffic attitudes of foreign drivers are the same as those of drivers on Hungarian public roads. In Budapest, we counted and evaluated traffic on József Boulevard to see if wealthy drivers break traffic rules more often. Our hypothesis (in line with international literature) was that there is a positive relationship between drivers' wealth and their willingness to break the rules. The analysis was based on video recordings made between August 2020 and February 2024 at the corner of József Boulevard and Nap Street. The recordings were made by the Department of Public Safety at NKE RTK and made available to us for the purposes of the study, for which we express our gratitude.

Methodologically, the study differs from studies described in the international empirical literature in the way traffic is counted. Its advantage is

³ Jou, R.-C. – Hensher, D. – Chen, K.-H.: Freeway drivers' willingness to pay for speeding fines. *Transportation Letters: The International Journal of Transportation Research*, 27. 2014. 16-24. o.

⁴ Shinar, D. – Schechtman, E. – Compton, R.: Self-reports of safe driving behaviors in relationship to sex, age, education and income in the US adult driving population. *Accident Analysis & Prevention*, 33/1. 2001. 111–116. o.

that it takes place in a real-life context: it provides a picture of traffic on one of Budapest's busiest road sections, which affects many parts of the city where the financial situation of residents varies, so the subjects of the experiment are diverse, reflecting the target population, although not representative. Significant through-going traffic can also be observed in the area. However, the disadvantage of the methodology is that the scope of the recordings was limited (10 hours), their processing is very time-consuming, and, compared to regression analyses, it is not possible to isolate factors with simultaneous effects. During the traffic count, we attempted to infer the drivers' financial status from the estimated value of the cars in the recordings (which, in itself, carries the possibility of error). Based on empirical experience, we were unable to identify other factors, such as age or gender, that affect the driver's attitude towards traffic. At the same time, we expected that, together with these factors, we would be able to discover correlations between the driver's financial situation and the number of violations committed. During the examination of the recordings, we were also unable to account for ownership: rented, leased, or company cars may represent additional sources of error, as in these cases, the car's value may not necessarily reflect the driver's financial situation.

During the investigation, we focused on those traffic violations specified in Section 20(1)(k) of Act I of 1988 on Road Traffic that can be detected with the naked eye. Accordingly, we counted the number of violations of the rules governing traffic lights, turn signals, lane changes, lane use, and overtaking. We attempted to infer the drivers' financial situation. For comparison purposes (given the time required to process the recordings), we took a one-hour sample from the ten hours of recordings and estimated the value of all passing cars in the one-hour sample. We tried to take samples from the recordings so that the duration would be proportional to the weekday/weekend, time of day, and season. The distribution of these is outlined in the following Figure.

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Date	Duration	Day	Daypart	Season	Period used for estimation
8 November, 2020	2 hours	Weekend	Morning	Normal	5 minutes
13 February, 2021	1 hour	Weekend	Morning	Normal	7,5 minutes
11 May, 2021	1 hour	Weekday	Morning	Normal	7,5 minutes
11 August, 2021	1 hour	Weekday	Afternoon	Summertime	7,5 minutes
16 November, 2021	1 hour	Weekday	Morning	Normal	7,5 minutes
16 February, 2022	1 hour	Weekday	Afternoon	Normal	5 minutes
18 August, 2022	1 hour	Weekday	Afternoon	Summertime	7,5 minutes
12 November, 2022	1 hour	Weekend	Morning	Normal	7,5 minutes
21 February 2024	1 hour	Weekday	Afternoon	Normal	5 minutes

Table 1.
Properties of processed recordings and sampling

We considered the driver to be poor if the estimate suggested that the car he was driving was originally designed as a low-end model, and was already 8-10 years old, was designed as a mid-range model but was already 12-15 years old, or was designed as a premium car but was already 18-20 years old. Their price on the used car market is less than 1.5 million forints. We considered the driver's financial situation to be average if the car they drove was classified by the manufacturer as mid-range when new, or if it was a model from the premium segment from 5-6 years ago, which is currently affordable for a driver with an average income and does not have excessive maintenance costs. The price of these cars on the used car market ranges from 1.5 to 8 million forints. We considered drivers wealthy if their cars were classified as premium by the manufacturer and if their maintenance costs were high. The estimates were assisted by BME students familiar with the used car market, to whom we would also like to express our gratitude here.

Driver	Poor	Average	Rich
Car			
Low-end	Designed, 8-10 years old		
Midrange	12-15 years old	Designed	
High-end	18-20 years old	5-6 years old	Designed
Value (estimated)	Max. 1,5 Million Ft	1,5 Million – 8 Million Ft	Min. 8 Million Ft

Table 2.
Methodological summary of the estimate

Regarding the estimate, it is important to note that the average age of the Hungarian vehicle fleet is 15 years; accordingly, we considered it appropriate to base the estimate on the used-car market price assessment. However, there is significant variation among cars in this market: even within a given type, model, and year, vehicle values differ. Accordingly, without knowledge of the engine type, technical condition, mileage, and specific parts, we based our conclusions solely on the design, brand, and additional optical elements.

The results of the count

Based on our estimates, 19% of all drivers passing by during the ten hours sampled are poor, 70% have average incomes, and 11% are rich. These conclusions can be verified using a survey conducted by the Ministry of Finance.⁵ It examined the price distribution on the *www.hasznaltauto.hu* advertising portal, where, between 2018 and 2022, approximately 40% of used cars were valued at less than 1.5 million forints, while 15% were valued at over 8 million forints. Based on the results of the traffic count, the proportion of expensive cars is similar to the national average, while the proportion of cheap cars is lower. However, due to the capital's financial

⁵ Ván, B.: A magyarországi személygépjármű-állomány árváltozása 2018–2022 [Price changes of the Hungarian passenger car fleet 2018–2022]. PM Adózási Műhelytanulmányok, 12. 2022.

Source: <https://pmkutatas.gitlab.io/papers/moftwp012.pdf>

Accessed: 31.07.2025

situation, the value of Budapest's vehicle fleet is likely higher than the national average, and the results of the count confirm this.

The findings are presented in the Figure below. In some of the recordings, it was not clear from the camera positions which signal the traffic light was giving. Although it was possible to infer from the movements of other vehicles whether the driver had violated the signal, there were 18 cases during the ten hours where it was not possible to determine clearly, but only to assume, that the drivers had violated the rules.

	Quantity				Percentage			
	Poor	Average	Rich	Total	Poor	Average	Rich	Total
Assumed offenders	34	69	21	124	27%	56%	17%	100%
Certain offenders	25	62	19	106	24%	58%	18%	100%
Total drivers (estimation)	1250	4700	750	6700	19%	70%	11%	100%
Difference between the number of assumed offenders and the number of total drivers (percent)					9%	-15%	6%	
Difference between the number of certain offenders and the number of total drivers (percent)					5%	-12%	7%	

Table 3.
Summary of traffic count results

The first two rows of the table show the results of the count, depending on whether the 18 cases where violations were only probable were included in the number of offenders. The third row shows the estimated number of all cars. The second column group shows the percentage distribution of violations committed, based on the driver's presumed financial situation, based on the estimated value of the car they were driving, and the total number of cars in that category.

The data in the table show that among the assumed offenders, the poor are underrepresented by 9 percentage points, the rich by 6 percentage points. In contrast, among the definite offenders, the poor are underrepresented by 5 percentage points and the rich by 7 percentage points relative to their estimated share of all cars, which partially supports our hypothesis. However, the overrepresentation of people with low incomes is surprising at first glance. The following table shows the proportion of offenders by

estimated income group, and it can be observed that wealthy drivers account for the largest share of violations.

	Poor	Average	Rich	Total
Assumed offenders	2,72%	1,47%	2,80%	1,85%
Certain offenders	2,00%	1,32%	2,53%	1,58%

Table 4.
Proportion of rule breakers by estimated income group

Conclusions

It can be concluded that our hypothesis was partially confirmed during the study. According to our calculations, the propensity to break the rules may be related to estimated financial status: wealthy drivers were overrepresented by 7% among certain offenders and by 6% among assumed offenders. At the same time, poor drivers are overrepresented among rule breakers by 5% and 8%, respectively. Our research shows that the willingness to break the rules in our country is also related to drivers' financial situation. However, as we can see from the example of people with low incomes, this correlation is not linear.

The behaviour of poor drivers can be explained by the fact that, due to the methodological characteristics of traffic counting, it does not separate the effect of income from other driver characteristics. The international surveys mentioned above also point to other behavioural trends. One such trend is the limited rationality of less educated (and therefore presumably lower-income) drivers, which means that, based on their knowledge, they misjudge the likelihood of being punished for violating traffic rules and are therefore more likely to break the rules. Other similar effects may also help explain the high proportion of rule breakers among poor drivers. If there were more young people or more men among drivers considered poor, this could also help explain the high proportion of rule breakers among poor drivers. However, it may be worth concluding that if we attempt to develop

a regulatory strategy to counteract rule violations by wealthy drivers, or if we observe similar discourse among professionals or the general public, we should pay attention to the road behaviour of poorer drivers as well as wealthier ones.