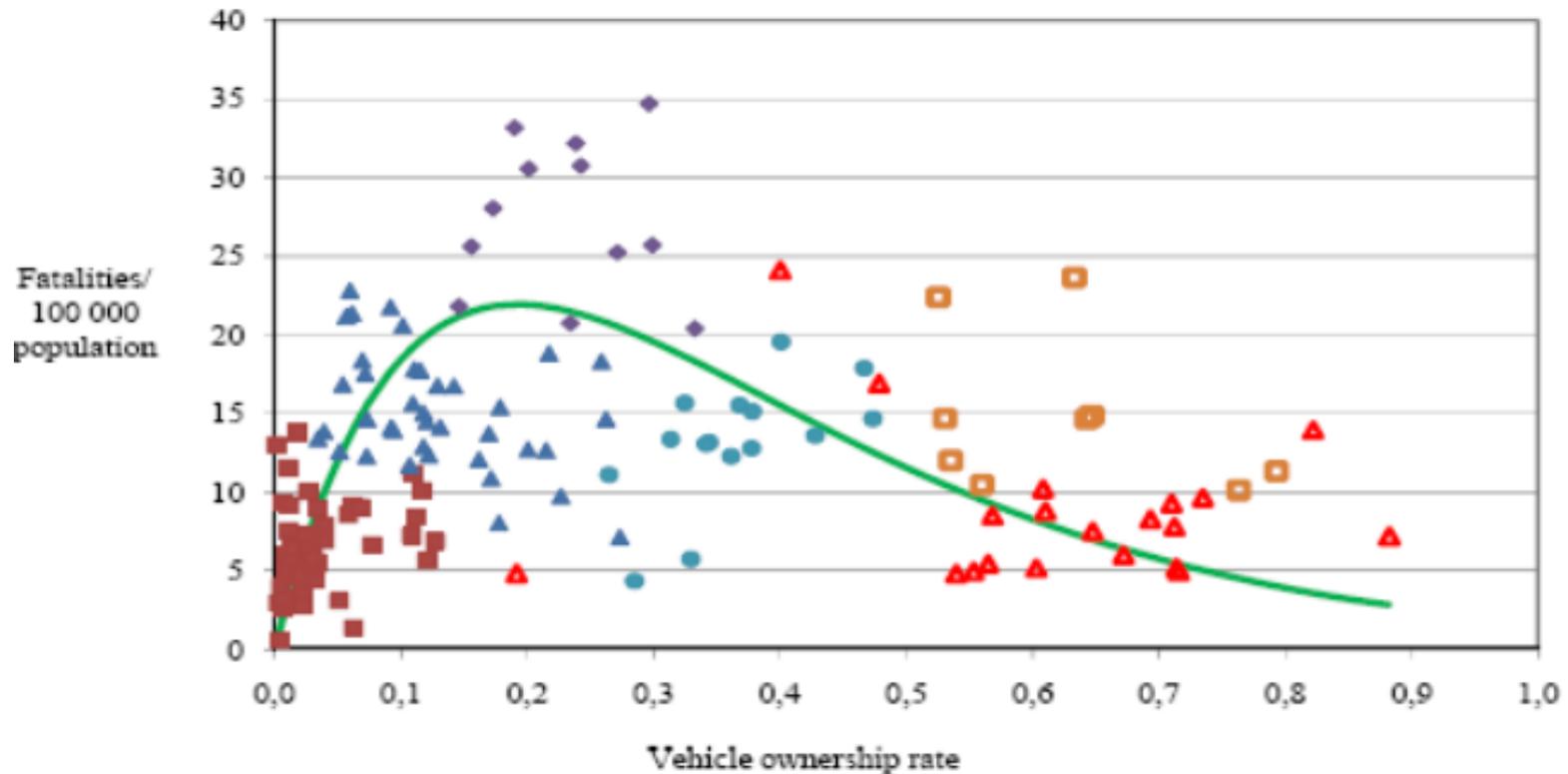


Relation Between Fatalities and Number of Vehicles

139 countries in five continents



Relation Between Fatalities and Number of Vehicles

Three stages of development:

- Declining road safety situation

Increasing fatality rate per population dominates due to growing traffic volume and exposure, the economy is weak, and there is no social attention to road safety.

- Turning point

The road safety situation is quite bad; however, the economic performance makes the change possible, **if there is adequate social and political will.**

- Long-lasting improvement

The pace of economic and technological development as well as the change in social attitude is higher than the growth in traffic volume.

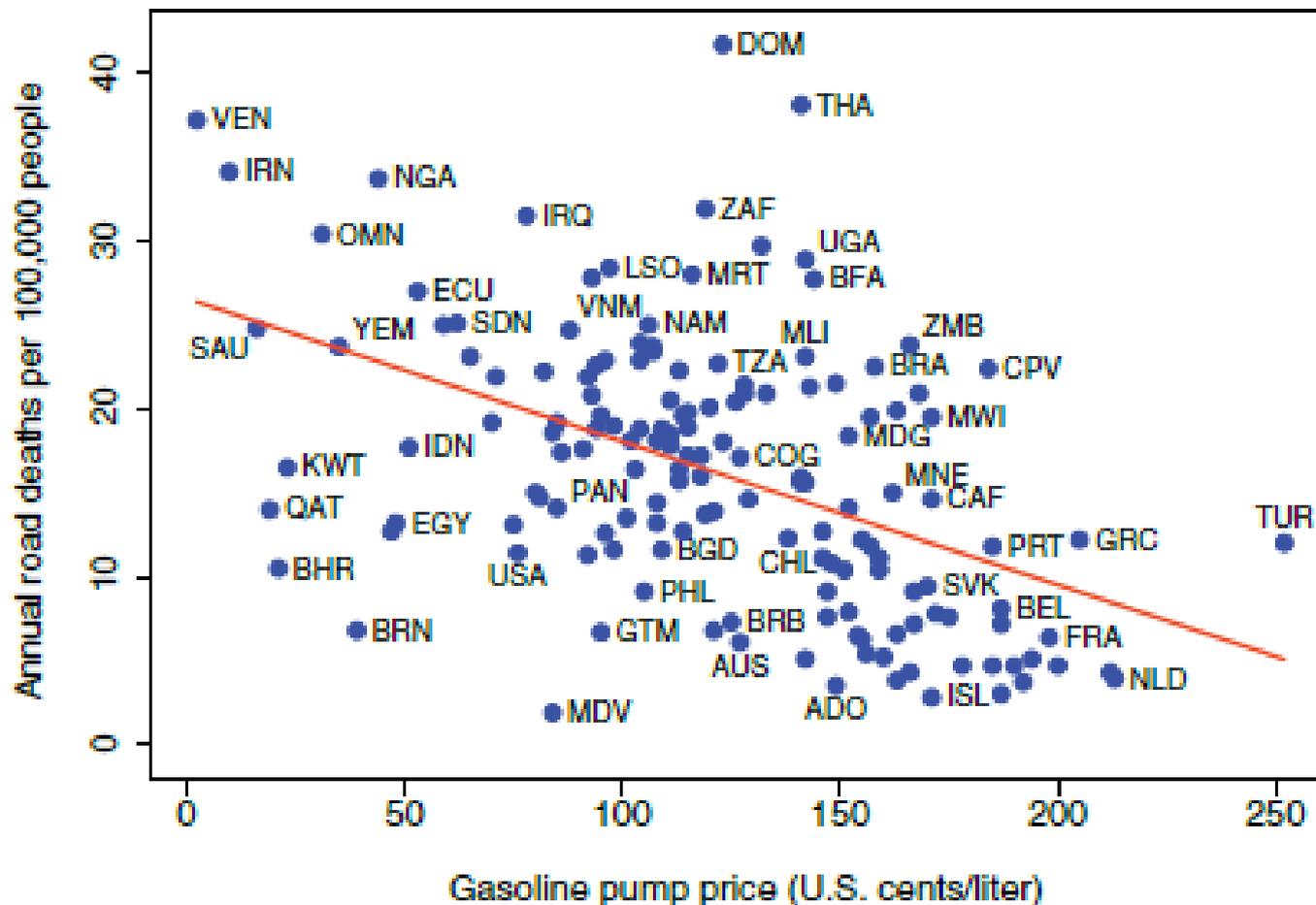
Relation Between Fatalities and Number of Vehicles

The change in the number of fatalities per population is influenced by the following driving forces:

- Increase in vehicle ownership rate goes together with an increase in accident exposure.
- Increase in vehicle ownership rate goes together with economic growth and technological development (better infrastructure, better equipped cars, better emergency services etc.).
- Social attitude against road safety changes (evaluation of accident costs, acceptance of restrictions etc.).

Relation Between Fuel Price and Fatalities

Higher gasoline prices significantly reduce road deaths



Relation Between Fuel Price and Fatalities

- ❑ **Countries providing the largest fuel subsidies are particularly compelling candidates for reform.**
- ❑ **Globally, around 35,000 road deaths could be avoided each year by the removal of the fuel subsidies that were in place in 2010.**

10600 in Iran

- ❑ **Moving toward non-oil powered vehicles may involve a reduction in the marginal cost of driving. If so, this could feed into higher road death rates.**

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Relation Between Economic Growth and Fatalities

Considering 27 countries in Europe

- ❑ Traffic fatality trends will continue to decrease over time, as the overall level of prosperity of European countries and the road safety awareness, culture and policy efforts increase.

- ❑ At periods of economic recession there may be important road safety additional benefits, such as:
 - ✓ Less vehicle-kilometers because of increased fuel prices, decrease of recreation mobility, less heavy goods traffic.
 - ✓ Less speeding and more economical and environment friendly driving, due to increased fuel prices; less speeding possibly also due to low drivers' morale, depression etc.
 - ✓ Less risky or impaired driving behaviors, as fewer young, inexperienced or elderly drivers may afford vehicle ownership and travel.

Relation Between Economic Growth and Fatalities

- Although an inversely proportional macroscopic relationship between mortality rates and GDP may exist, there is a short-term effect of GDP annual changes on fatality annual changes:
- **An annual increase of GDP per capita leads to an annual increase of mortality rates**, whereas an annual decrease of GDP per capita leads to an annual decrease in mortality rates
- Annual GDP changes, especially larger ones, may be positively correlated with next year's mortality rate changes i.e. an important annual drop in GDP per capita may result in an important annual drop of mortality rate one year later.