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Auto Business in Georgia

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Executive summary

Georgia has established itself as a regional hub for the car trade since 2005, without its own car production industry. New cars are mostly imported from Japan, while used cars mostly come from USA, repaired in Georgia and sold to Georgians and regional customers. Therefore, cars are top export and import commodity in Georgia's foreign trade. From car re-export activities, Georgia's auto business earns 31% of total revenues on average annually, by our estimates.

2020 was a tough year for Georgia's auto trade, to large extent affected by increased customs duties in Armenia. Car exports almost halved to US$ 404mn in 2020, mostly reflecting reduced demand from Armenia and Kyrgyzstan as these countries increased customs duties from January 2020. Car re-exports were also hindered by travel restrictions and used car market closure in 2020. However, online sales largely supported car trade with Azerbaijan and Ukraine. We expect car exports to improve in 2021, taking into account ongoing economic recovery in the region and last year's low base.

We estimate full market size of auto business at GEL 3.8bn in 2020, with formal sector accounting for 70% of total market size on average during last 5 years. Notably, high gross margins on used cars incentivize many individuals to trade with cars, leading to large informal turnover in the sector. Another major source of informal activities are bazaars for used car parts.

Locals demand fuel-efficient cars, mostly used hybrids. Weighted average age of passenger cars registered in Georgia was 8 years in 2020 (7.5 in 2019). Hybrids accounted for 34.6% of total passenger car registrations in Georgia vs 5.9% of total in EU in 2019. In Georgia, used hybrids are preferred over gasoline cars because of their lower total cost of ownership despite higher price, with latter compensated within 3 years of ownership on average.

There are healthy demand drivers on cars in medium-term – including outdated auto park and growing women drivers. Out of 1.38mn vehicles registered in Georgia, only 1.06mn (77% of total) are on roads, while others are lapsed, according to our estimates. Moreover, passenger car penetration in Georgia is only 234 (excluding lapsed cars), far below the rates found in Central and Eastern Europe (e.g. 642 in Poland, 562 in Czech Republic, 355 in Romania etc.). Despite the rising number of Georgian female drivers, only 20% have driving license vs 72% of male as of 2020, showing room for further expansion. We estimate c. 32k female to obtain driving license annually over the next 10 years.

We expect gradual transition towards electric mobility in medium-term. Many drivers shifted to hybrid cars, while electric vehicle (EV) imports are still low in Georgia. Four major barriers keep EV penetration rates low globally and in Georgia also: 1) high price, 2) limited driving range, 3) lack of charging infrastructure and 4) limited choice of available models. However, these barriers are expected to be eliminated in medium-term, leading to 32% of total auto sales being EVs by 2030 globally, according to IEA.

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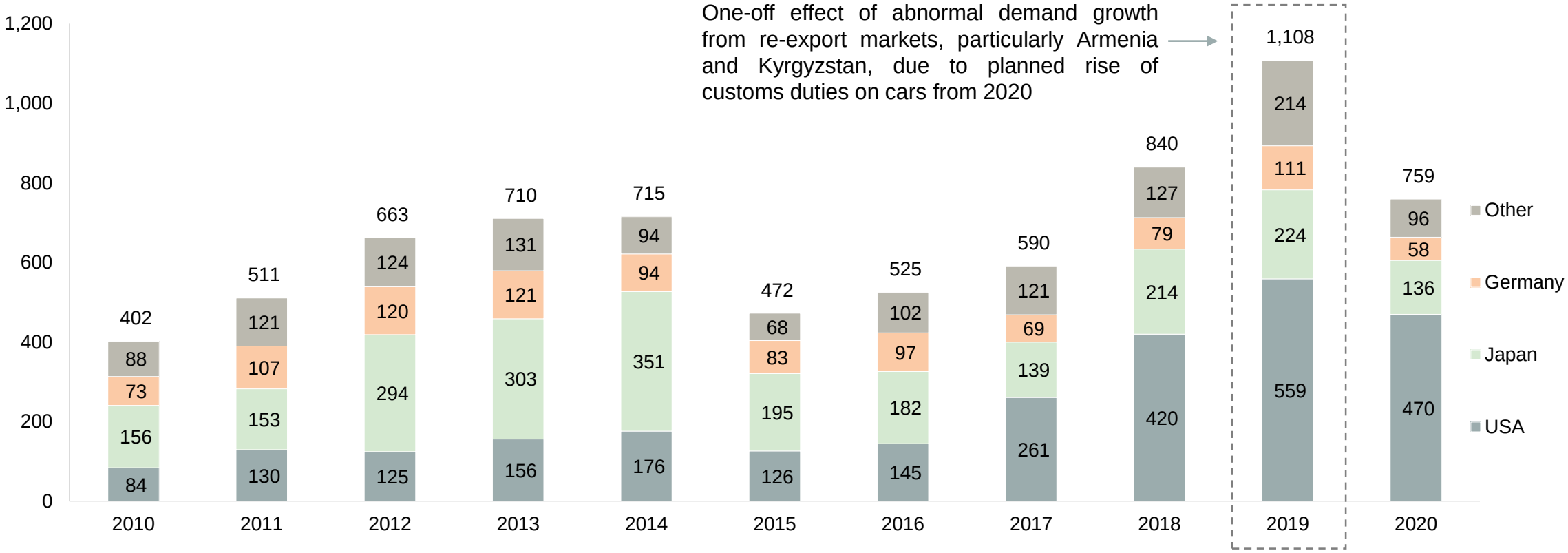
Car imports down 31% y/y in 2020 from previous year's high base

Passenger car imports by country, US$ mn

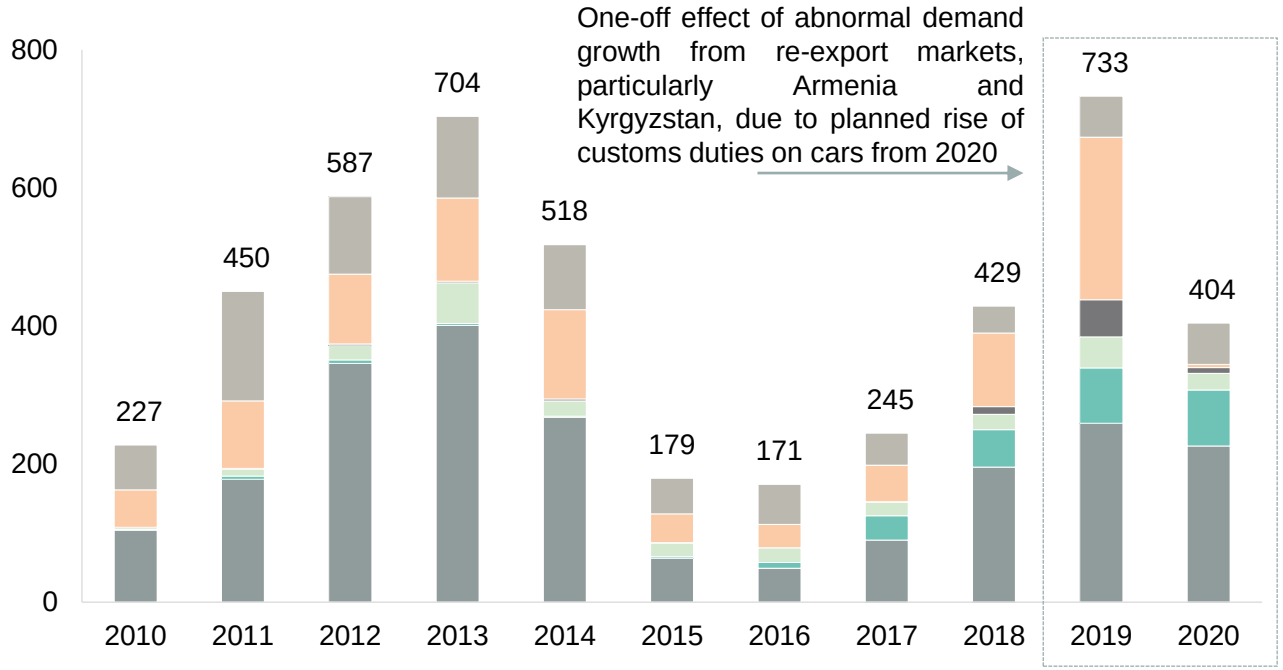


Source: Geostat

Note: In Nov-20, Geostat updated 2016-20 data for automobile imports to reflect the value of all car imports to Georgia, as previous data not incorporated all auto imports for re-export purposes.

Car exports reduced by 45% y/y in 2020, this drop largely reflects customs duty growth in Armenia and Kyrgyzstan

Passenger car exports by country, US$ mn



Car re-exports, US$, mn	2019	2020	% y/y change
Total	**733**	**404**	**-44.9%**
Azerbaijan	259	226	-12.6%
Armenia	236	5	-97.9%
Ukraine	80	81	1.3%
Kyrgyzstan	54	8	-84.8%
UAE	45	24	-47.2%
Others	59	60	1.0%

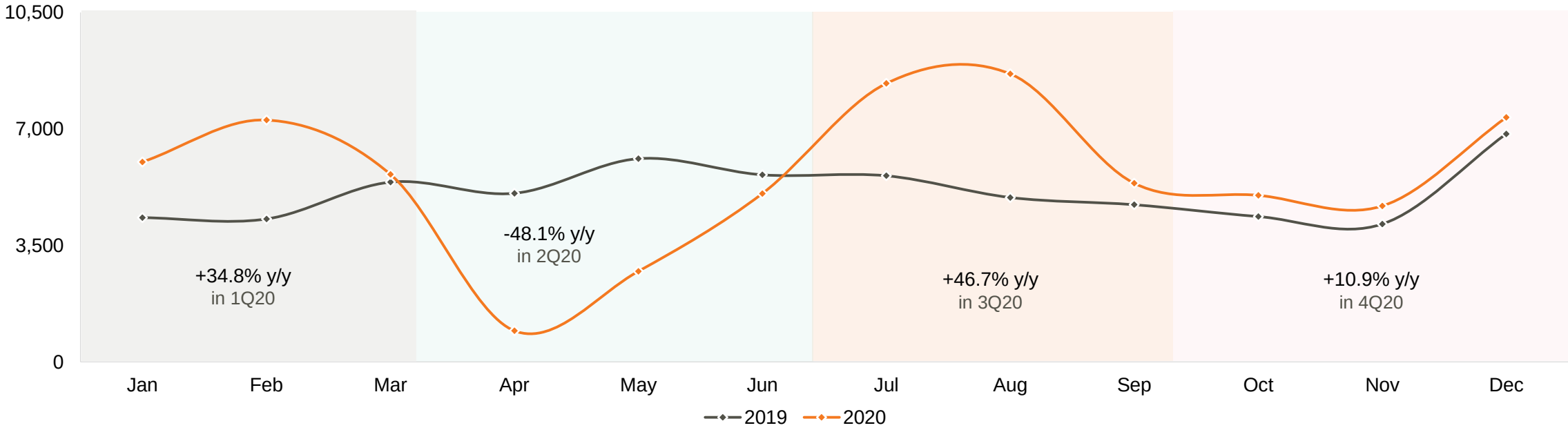
Source: Geostat

- Before 2020, Armenia (member of the EAEU since 2015) accounted for half of the cars (units) exported from Georgia. These cars were exported not only for Armenian domestic market but also for other EAEU member countries, as Armenia enjoyed a preferential flat 10% customs duty on imported cars before 2020 vs 30%-50% in other EAEU members. As a result, other EAEU members, particularly Russians and Kazakhs used to import cars from Georgia and clear them in Armenia, and freely drive within EAEU.
- Kyrgyzstan, another member of the EAEU, also increased customs duties on car imports from non-EAEU-member countries from Jan-2020, and this also increased demand on Georgia's car re-exports in 2019.
- Car re-exports to Armenia and Kyrgyzstan expected to remain negligible from 2021, as increased customs duties weighs on affordability for the majority of population (Armenian customers are particularly price sensitive, as average price for cars exported from Georgia to Armenia was US$ 3.8k over 2015-19, e.g. 5x below paid by Azeri customers).

Exports also hindered by travel restrictions and used car market closure in 2020

Rustavi car market is the largest used car market in the region, where Georgian and regional customers (Armenian, Ukrainian, Azeri, Russian, Kyrgyz and others) shop for cars each year. Along with travel restrictions due to COVID pandemic, closure of Rustavi car market also hindered used car exports in 2020. To support car dealers, government extended car clearance period for cars imported before May-20 from existing 2 months to Mar-2021 and later to Jun-2021. Overall, car clearance increased by 9.1% y/y to 67.0k cars in 2020, as many car dealers importing cars after May-20 were forced to clear cars due to limited re-export demand.

Passenger car clearance, units

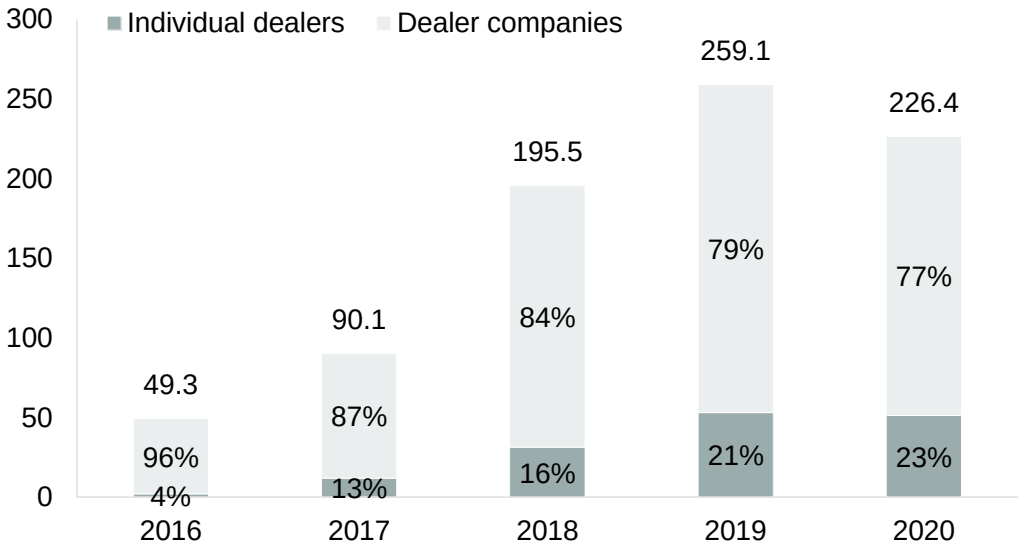


Source: MIA
Note: Car clearance period in Georgia is usually 2 months after importing (+1 month can be added for daily charge of GEL 5). In general, if the car is re-exported within 3 months after clearance, excise tax paid on car is fully reimbursed to car dealer.

Online sales supported car exports to Azerbaijan and Ukraine in 2020

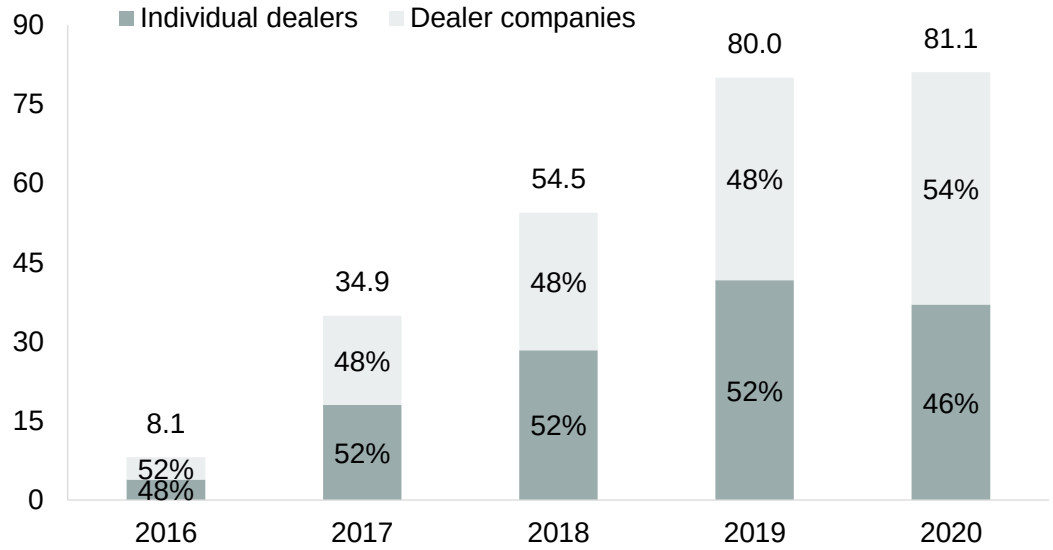
- Despite Covid-19 pandemic, car exports to Azerbaijan (largest car export market by value) were maintained at US$ 226.4mn in 2020 (-12.6% y/y), with reduction seen in 2Q (-50.4% y/y) and 4Q (-45.6% y/y), when lockdown measures were in force. Meanwhile, car exports to Ukraine – 2nd largest car export market, were slightly up 1.3% y/y to US$ 81.1mn, with reduction seen in 2Q only (-68.5% y/y).
- Car exports to Azerbaijan and Ukraine were maintained through online sales; most of the cars were exported by car dealer companies who easily switched to online sales in 2020.

Passenger car exports to Azerbaijan by exporter, US$ mn



Source: Geostat

Passenger car exports to Ukraine by exporter, US$ mn



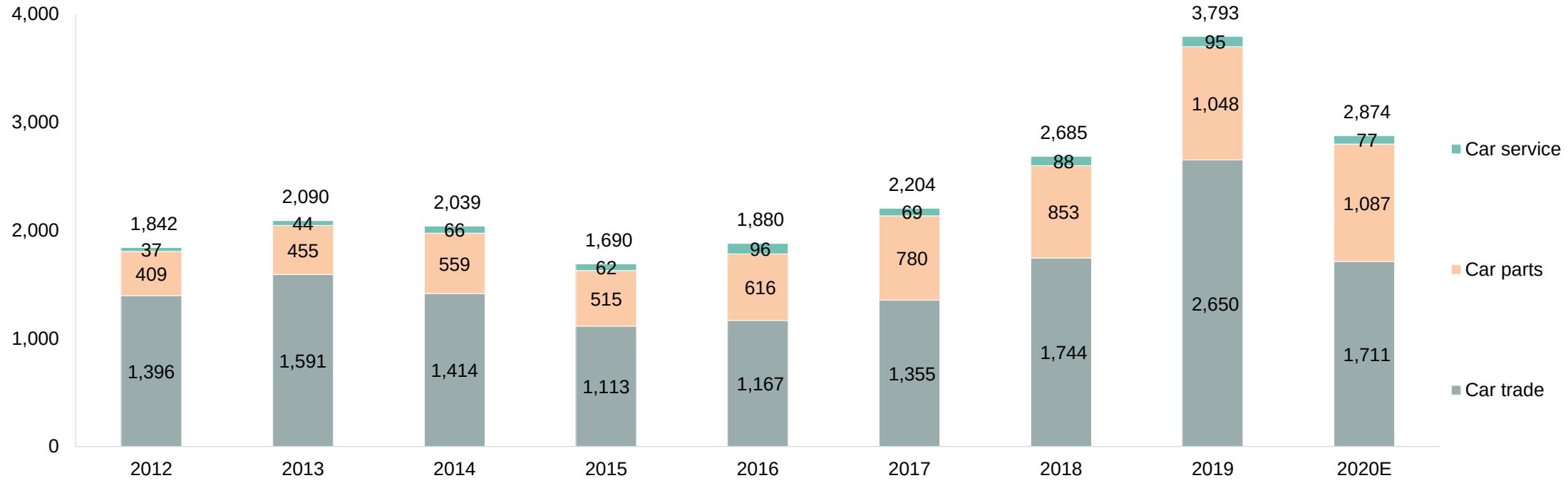
Source: Geostat

Content

Formal auto business - GEL 2.9bn market

Georgian formal auto business combines three major sub-sectors: 1) car trade, 2) car parts and 3) car servicing & repair.
Auto business sector turnover was down 24% y/y to GEL 2.9bn in 2020, reflecting 36% y/y reduction in car trade, while car parts and car service sectors were relatively stable in 2020, despite Covid-19 pandemic.

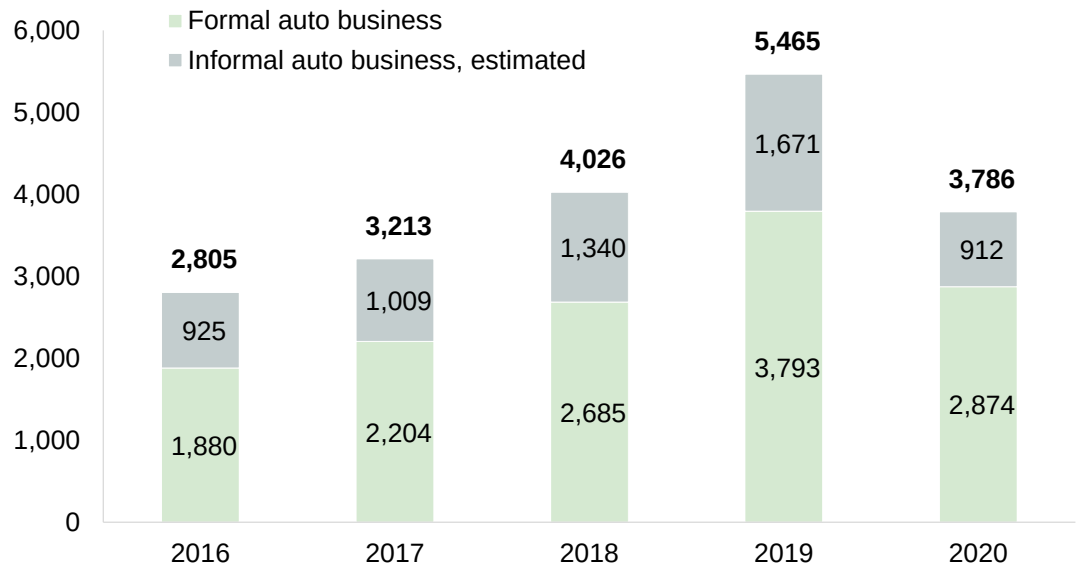
Formal auto business sector turnover, GEL mn



Source: Geostat, Galt and Taggart Research

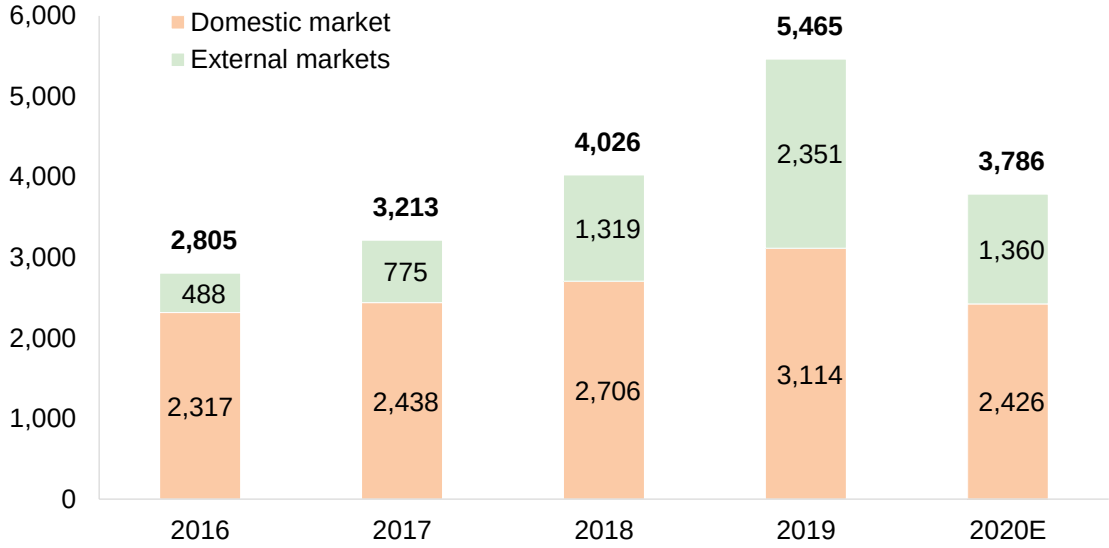
Total auto business - GEL 3.8bn market in 2020

Auto business total turnover: formal vs informal, GEL mn



Source: Galt and Taggart Research, Geostat

Auto business total turnover: domestic vs external, GEL mn



Source: Galt and Taggart Research, Geostat
Note: Data includes both formal and informal activities

- Taking into account the large proportion of informal activity in the auto business sector, we estimate that formal sector accounts for c. 70% of total market size on average. Notably, informal sector reduced in 2020 due to lockdowns.
- According to our estimates, informal auto business generated GEL 1.7bn turnover in 2019. Because of closed bazaars and limited re-exports in 2020, informal auto business reduced (-45% y/y) more than formal sector (-24% y/y), by our estimates.

- Along with brand new cars, Georgia also imports used cars from various countries, repairs and re-exports them to regional markets.
- By being a regional hub for car trade, Georgia's auto business earned GEL 1.4bn ($437 mn) or 36% of total revenues in 2020. We estimate that gross profit earned from car re-exports averages c. GEL 157mn annually.

Used car trading accounted for 38% of formal car trade in 2019

Formal car trade generated GEL 2.7bn turnover in 2019, including informal sector this figure rises to GEL 3.9bn. By our estimates, used car trade accounted for 38% of total car trade in formal activities, and overall used car trade (including informal) accounted for 58% of total in 2019.

Formal car trade turnover by market players

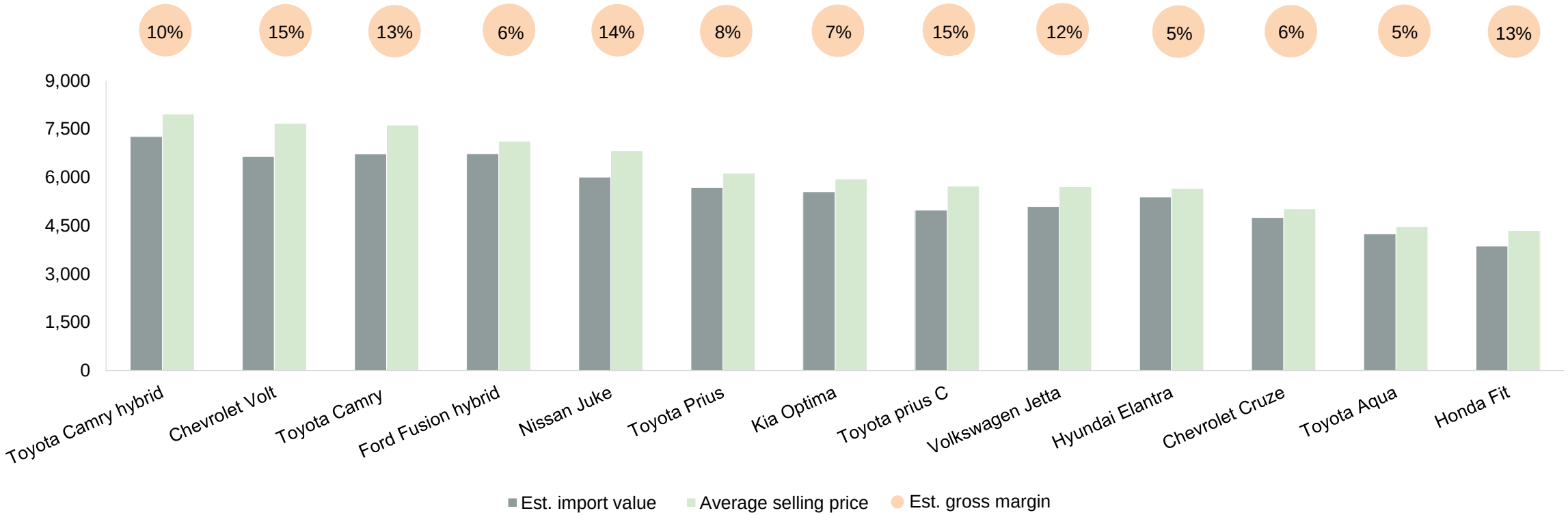
	Sales Revenue, GEL mn		Market share	
	2019	2018	2019	2018
Toyota Caucasus	712	584	27%	34%
GT Motors	163	77	6%	4%
Toyota Center Tegeta	156	130	6%	7%
Toyota Center Tbilisi	126	115	5%	7%
Tegeta Truck and Bus	89	29	3%	2%
Remainder authorized dealerships	393	314	15%	18%
Used car dealers	**1,012**	**493**	**38%**	**28%**
Car trade sector, total	2,650	1,744		

Source: SARAS, Geostat, Galt and Taggart Research
Note: Car trade sector combines trade with passenger cars, including specialized motor vehicles such as ambulances and minibuses, trucks, trailers and semi-trailers

Used car dealers earn 10% gross margin on average

On average, dealers earn 10% gross margin on used cars in Georgia. Margins vary according to the damage severity of imported car & related repair costs and can reach 15% or even 20% in some cases. Notably, used car margins are getting squeezed by moving towards online shopping as: 1) it enables consumers to either “price hunt” or negotiate on best price for cars 2) makes it easier to check the vehicle history and decide whether a car is a really good value for money.

Average gross margins on selected used (7 years old) most popular cars in Georgia, 2020



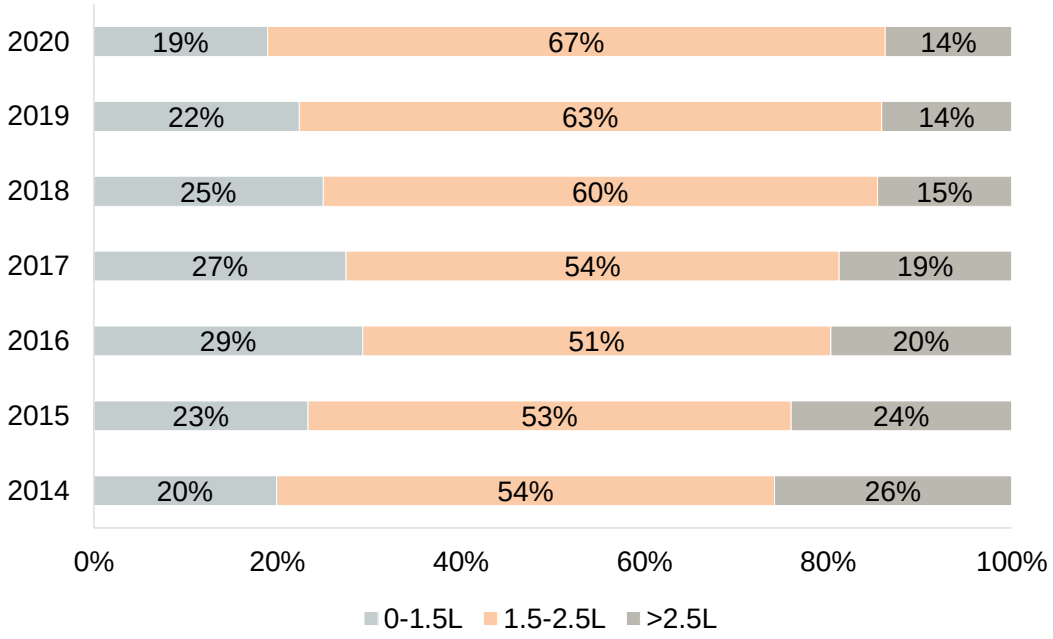
Source: Galt and Taggart Research
Note: Data includes excise taxes and related costs

Content

Low purchasing power drives local demand towards used, fuel-efficient cars, mostly hybrids

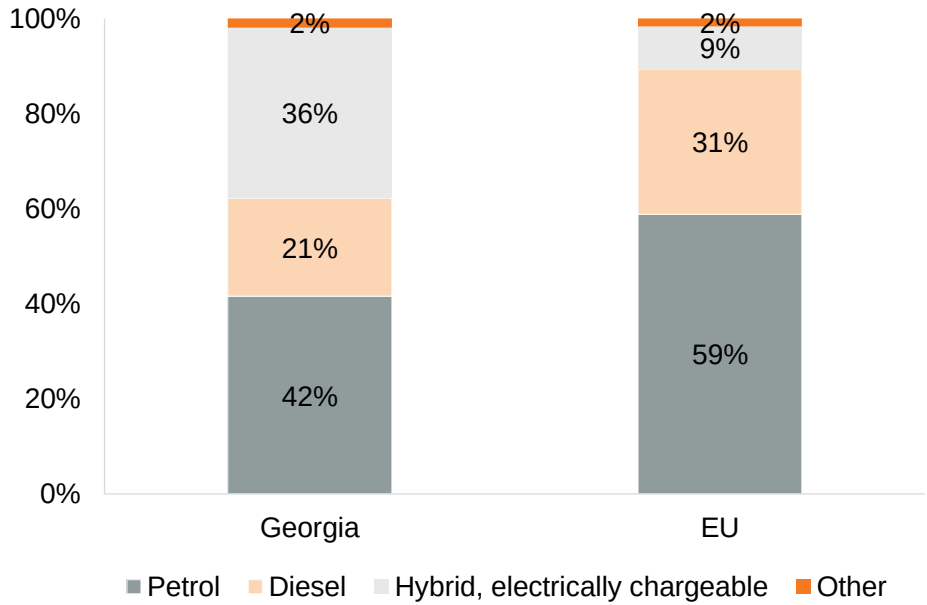
- Weighted average age of passenger cars registered in Georgia during 2020 was 8 years (7.5 in 2019).
- Cars with 2.5L or lower engine accounted for 86% of total car registrations (67.0k cars) in 2020.
- Georgians prefer hybrids due to lower fuel consumption costs. Hybrids accounted for 34.6% of total passenger car registrations in Georgia vs 5.9% of total in EU (15.2mn cars) in 2019.

Passenger car clearance in Georgia by engine size



Source: MIA
Note: Decreasing share of cars with large engine capacity is largely supported by the increasing share of younger cars in clearance, which usually have smaller engines with similar or higher power than old cars.

Passenger car clearance by fuel type, 2019



Source: ACEA

Hybrids are preferred over gasoline cars because of their lower total cost of ownership

Although hybrids cost higher, savings on fuel make hybrids total cost of ownership lower compared to gasoline cars. According to our estimates, payback period for the price premium paid in 5 years old hybrids of Toyota Camry and Hyundai Sonata amounts to 2.8 years and 2.6 years, respectively.

Five-year total cost of ownership (TCO) and payback period analysis for selected used (5 years old) cars

Model	Toyota Camry		Hyundai Sonata		Toyota Prius
Engine type	Petrol	Hybrid	Petrol	Hybrid	Hybrid
Engine size (liters)	2.5	2.5	2.4	2.4	1.8
Total purchase price (incl. excise tax, import duties and related costs), US$	**9,630**	**10,700**	**7,680**	**8,500**	**7,000**
Premium over petrol engine, US$		1,070		820	
Total annual range driven (km)	12,775	12,775	12,775	12,775	12,775
Fuel efficiency (L/100km, city, based on US EPA official data)	9.4	5.9	9.4	6.5	4.6
Annual fuel consumption (liters)	1,202	751	1,202	834	589
Fuel cost per liter, US$	0.84	0.84	0.84	0.84	0.84
Total annual fuel cost, US$	1,013	633	1,013	703	497
Annual maintenance cost (tires, oil replacement costs, parts, service etc.), US$	233	233	220	220	191
Total annual cost, US$	**1,247**	**867**	**1,234**	**924**	**687**
Replacement value as % of purchase price	62%	57%	66%	61%	69%
Replacement value, US$	**5,999**	**6,098**	**5,093**	**5,185**	**4,860**
Annual savings vs. petrol engine, US$		380		310	
Payback period (years)		**2.8**		**2.6**	
Five year TCO, US$	**9,866**	**8,935**	**8,756**	**7,933**	**5,575**

Source: Galt and Taggart Research, US EPA

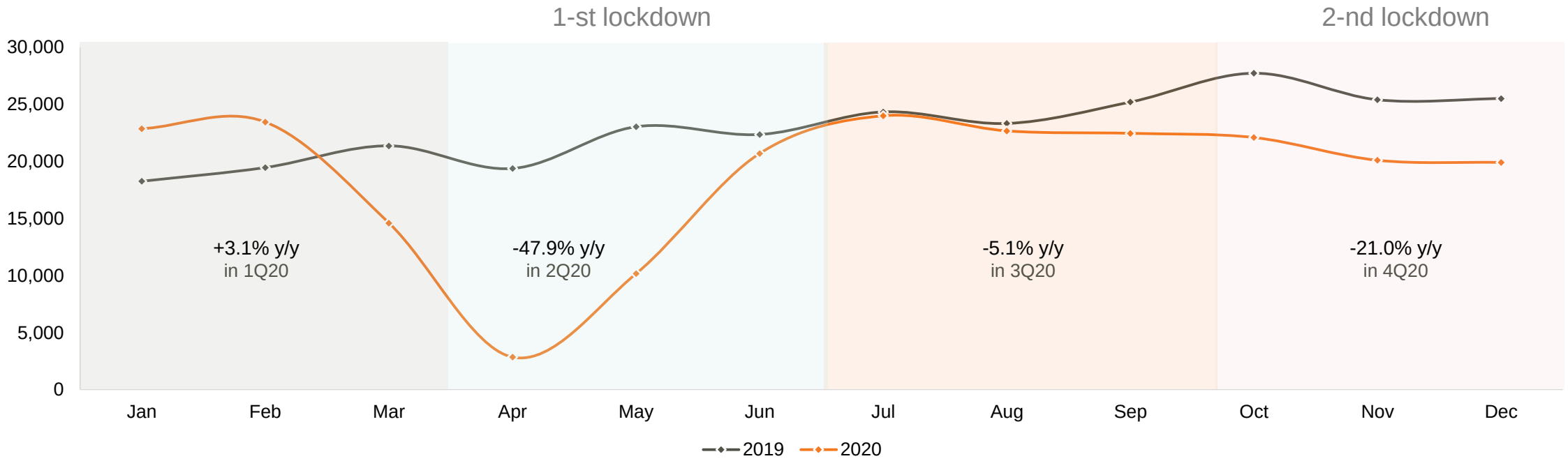
Note: Total purchase price by model is the average of 5 year old car prices in Georgia with 100,000-120,000km mileage, prices are given as of Dec-2020. Annual range driven is calculated based on daily driving distance of 35km in Georgia. We estimate % depreciation costs (1 - % value of replacement) based on analysis of price differentials between 5 and 10 year old cars of given models in Georgia (except for Hyundai Sonata hybrid). We have used the five year average price of premium gasoline (USD0.84/liter) in Georgia to estimate fuel costs. Annual maintenance costs include regular replacement of oil, filters, spark plugs, engine coolant, brake pads, tires etc. based on mileage and technical inspection costs. Payback period is time required to recover the price premium paid in hybrid from the lower fuel costs. 5 year TCO is calculated as: purchase price + 5year consumption costs – replacement value

Domestic sales of cars fell sharply by 18% y/y in 2020

Usually we look at two types of data to measure domestic demand on cars: car clearance in Georgia and domestic sales of cars between individuals.

- Car clearance is not a good measure for estimating local demand in 2020. As mentioned on slide 6, car clearance increased 9.1% y/y in 2020, reflecting limited export demand and not local demand growth.
- Domestic sales declined 18% y/y to 226k cars in 2020, with sharpest reduction seen in 2Q (-47.9% y/y) and 4Q (-21.0% y/y), when lockdown measures were in force.

Domestic sales of passenger cars, units

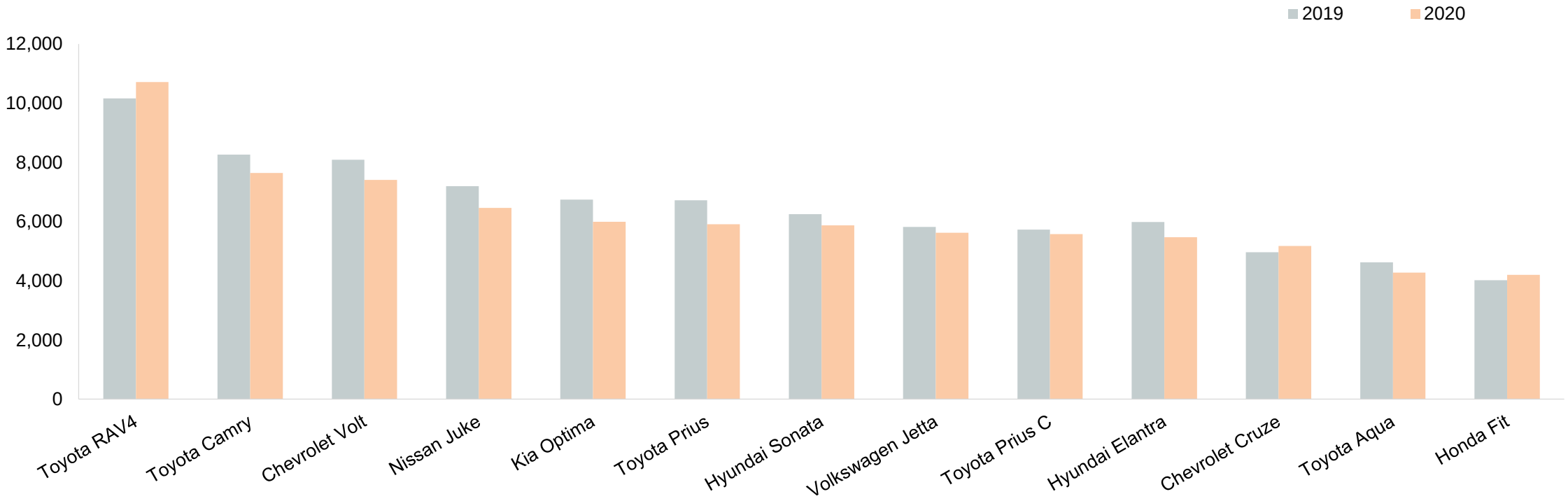


Source: MIA
Note: Data on internal sales of cars are based on ownership transfer statistics, that may also include gifted cars

Despite low demand, car prices reduced slightly by 5% y/y on average in 2020

Although car sales fell sharply by 18% y/y in 2020, average prices on cars saw a slight decline (-5% y/y) in 2020, while prices even increased on some brands. As explained by car dealers, used cars prices increased on online auto auctions in 2020, reflecting COVID-19 related disruption to the auto market.

Average prices on selected best-selling 7 year old cars in Georgia, US$

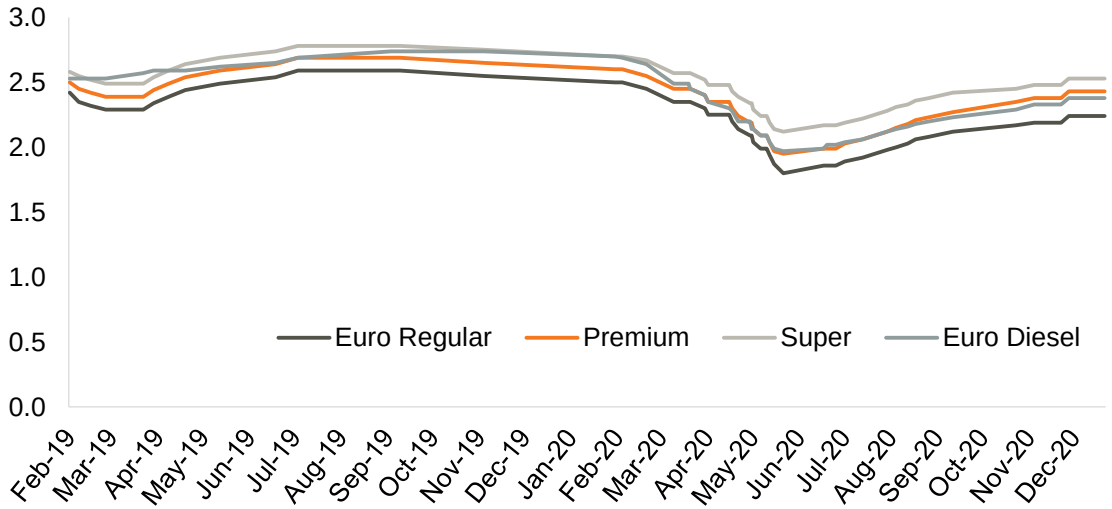


Source: Galt and Taggart Research

Fuel prices also declined from Mar-20, but the trend was short-lived, with prices reversing to pre-crisis levels from 4Q20

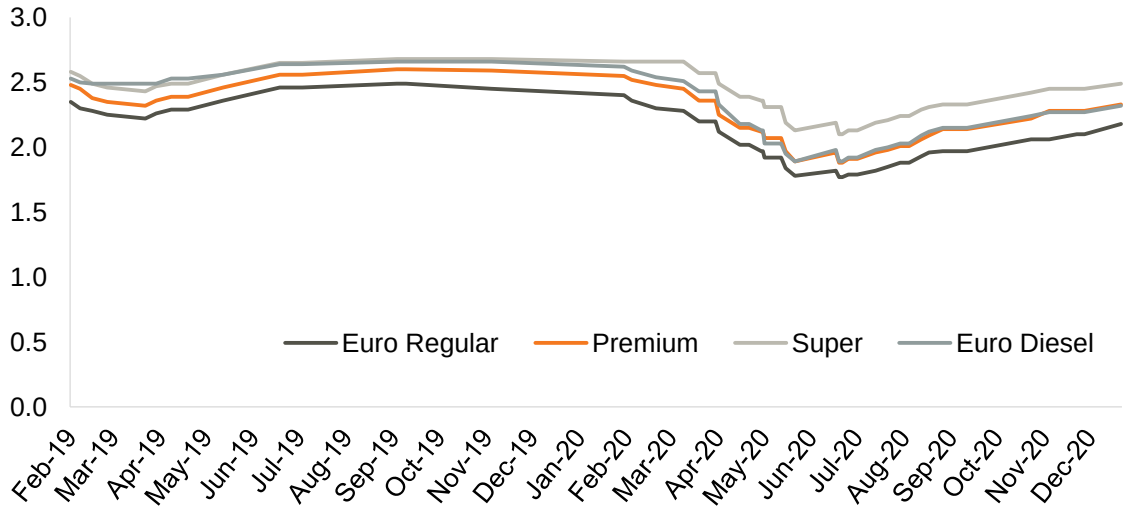
Covid-19 resulted into the sharpest decline in global oil demand in living memory, dragging down the prices for oil. Global oil prices were on a downward trajectory from Jan-20 plunging to 1990s levels in April, with Brent and WTI crude oil price at US$18.4 and US$16.6 per barrel, respectively in Apr-20. Fuel prices in Georgia move in parallel with global crude oil prices, however with a 1-2 month lag. Fuel prices in Georgia started to decline from Mar-2020, falling to minimum level in June and gradually approaching to pre-crisis levels in 4Q20.

Fuel prices in Wissol Petroleum Georgia, GEL per liter



Source: Company data

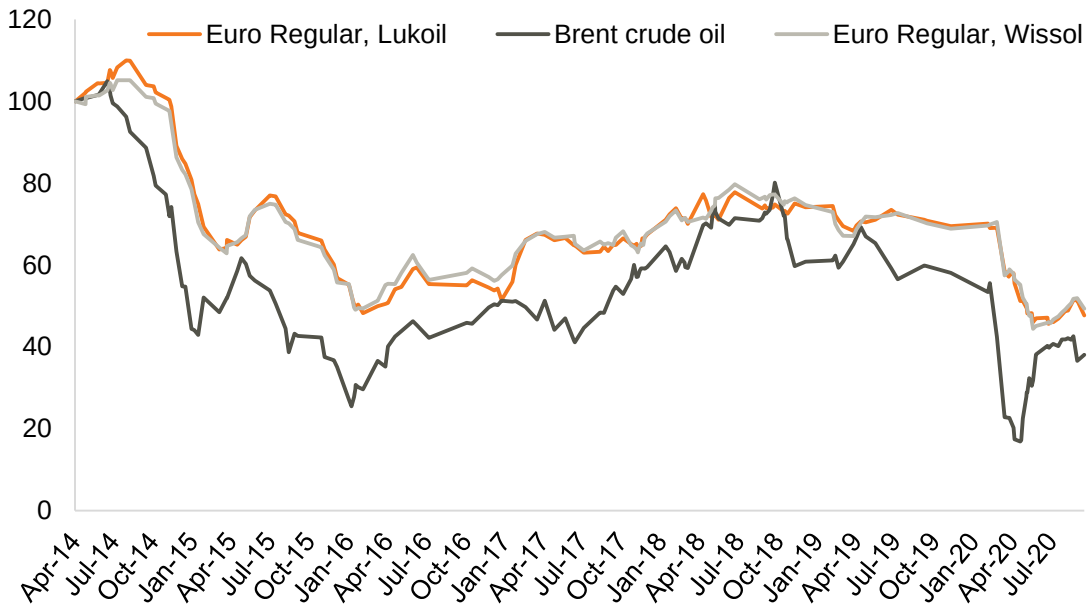
Fuel prices in Lukoil Georgia, GEL per liter



Source: Company data

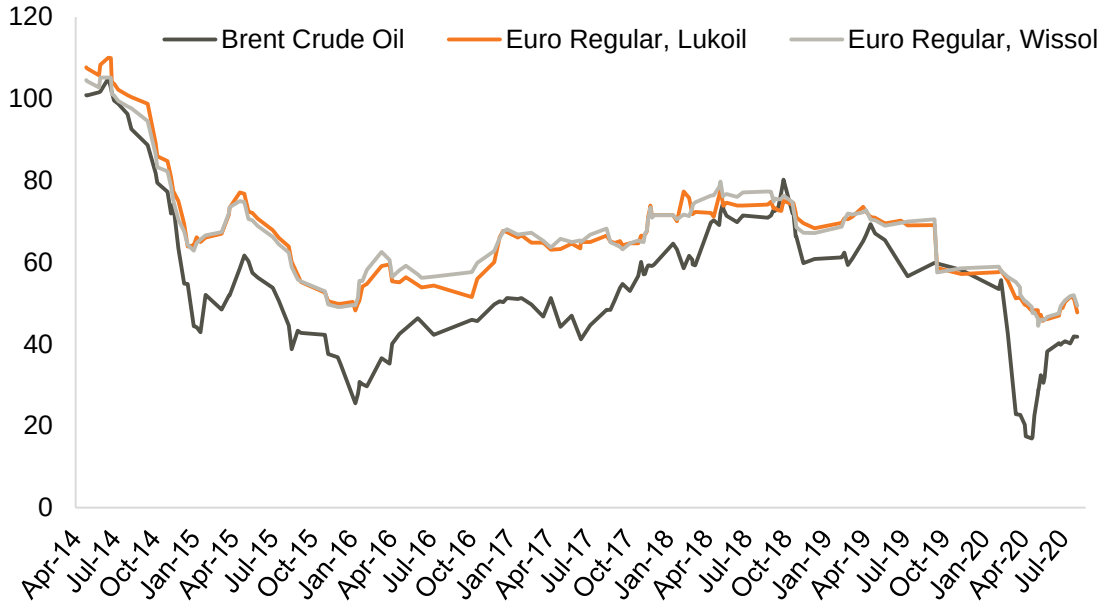
Petrol prices in Georgia move in parallel with global crude oil prices, with 1-2 month lag

Price index of Brent crude oil and indices of Euro Regular petroleum (April 2014 = 100)



Source: Galt and Taggart Research

Price index of Brent crude oil and indices of Euro Regular petroleum, with 2 month lag (April 2014 = 100)



Source: Galt and Taggart Research

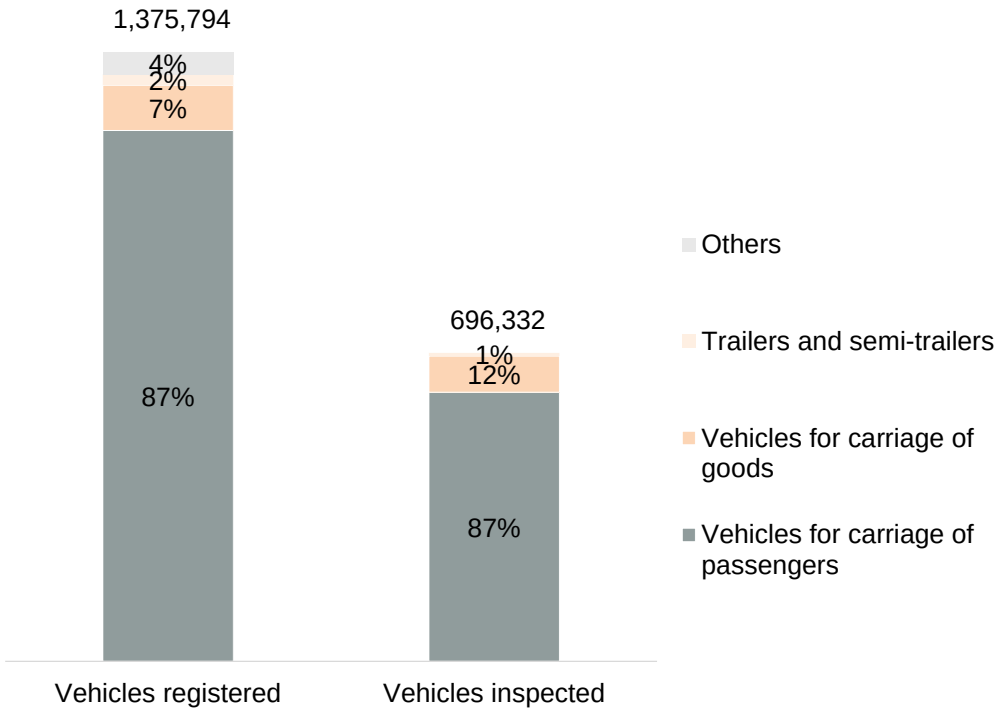
Content

We estimate c. 1.06mn vehicles on roads out of 1.38mn registered in Georgia

We estimate **c. 1.06mn** vehicles on roads out of registered **1.38mn**

- As mentioned in our previous report - Regional Hub for Car Trade, Georgia's vehicle fleet data incorporates many lapsed cars, which are not currently in use.
- We estimated vehicles in use (1.06mn) from the following data:
    1. Number of vehicles inspected in 2019
    2. Number of vehicles for which inspection is not mandatory at all (e.g.: motor vehicles - motorcycles etc., agricultural & special equipment)
    3. Number of vehicles for which inspection was not mandatory in 2019 (e.g.: passenger cars that willingly passed inspection test in 2018, 0-4 years old passenger cars)
    4. Number of vehicles for which inspection was mandatory but did not appear on inspection test

Georgia's registered vehicle fleet vs number of inspected vehicles in 2019

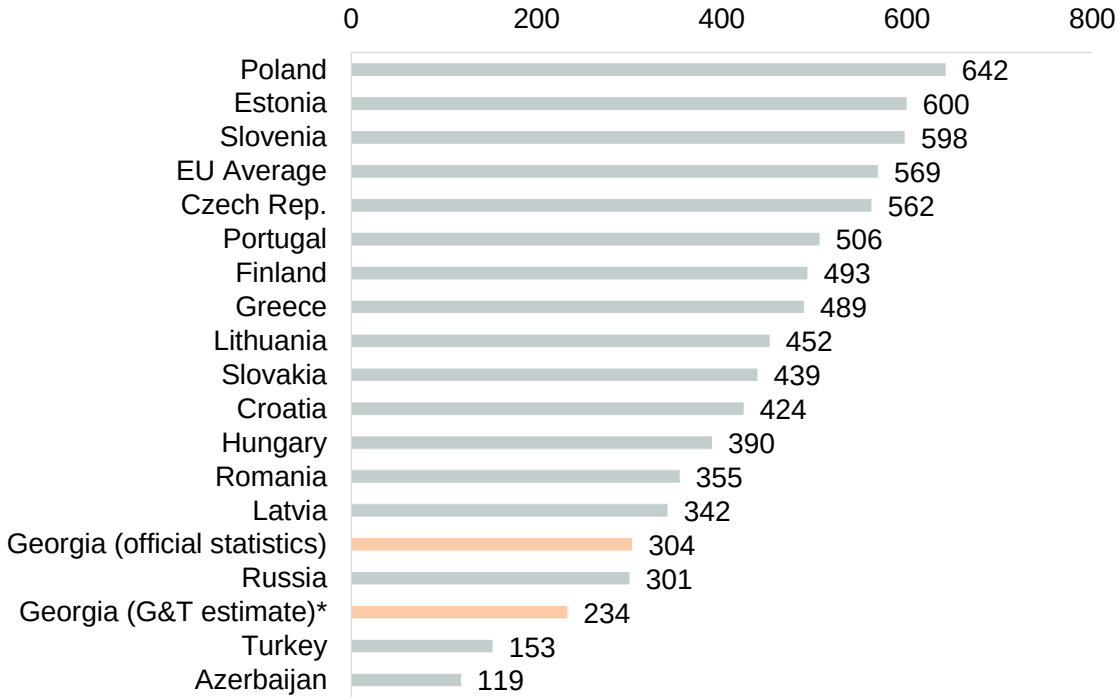


Source: MIA
Note: Other category is composed of motor vehicles and agricultural & special equipment, for which vehicle inspection is not mandatory

Number of passenger cars per 1,000 inhabitants in Georgia below the developed countries

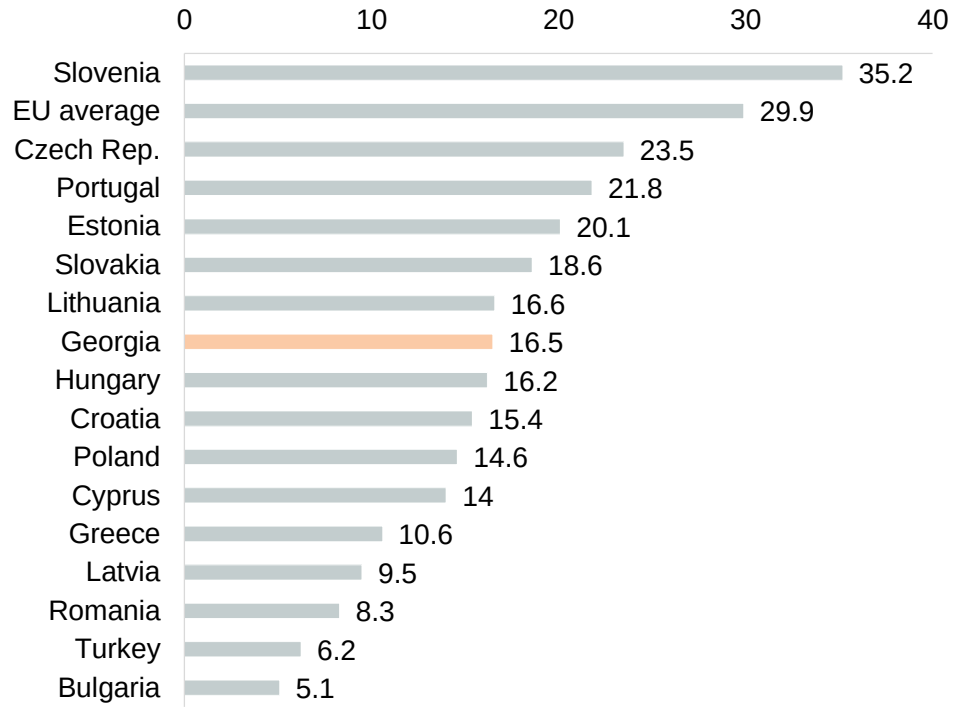
Passenger car penetration in Georgia is 304 on 1,000 per capita basis. This number even falls to 234 if lapsed cars are excluded from calculations. Both numbers are far below the levels found in Central and Eastern Europe (e.g. 642 in Poland, 562 in Czech Rep., 355 in Romania etc.). Moreover, passenger car clearance per 1,000 inhabitants is also 2x lower in Georgia than EU average, showing room for demand growth.

Passenger cars per 1,000 inhabitants, 2019



Source:ACEA, CEIC, Galt and Taggart Research
* Data calculated by subtracting lapsed cars from the number of officially registered cars
Note: 2018 data for Turkey, Russia and Azerbaijan

Passenger car clearance per 1,000 inhabitants in 2019

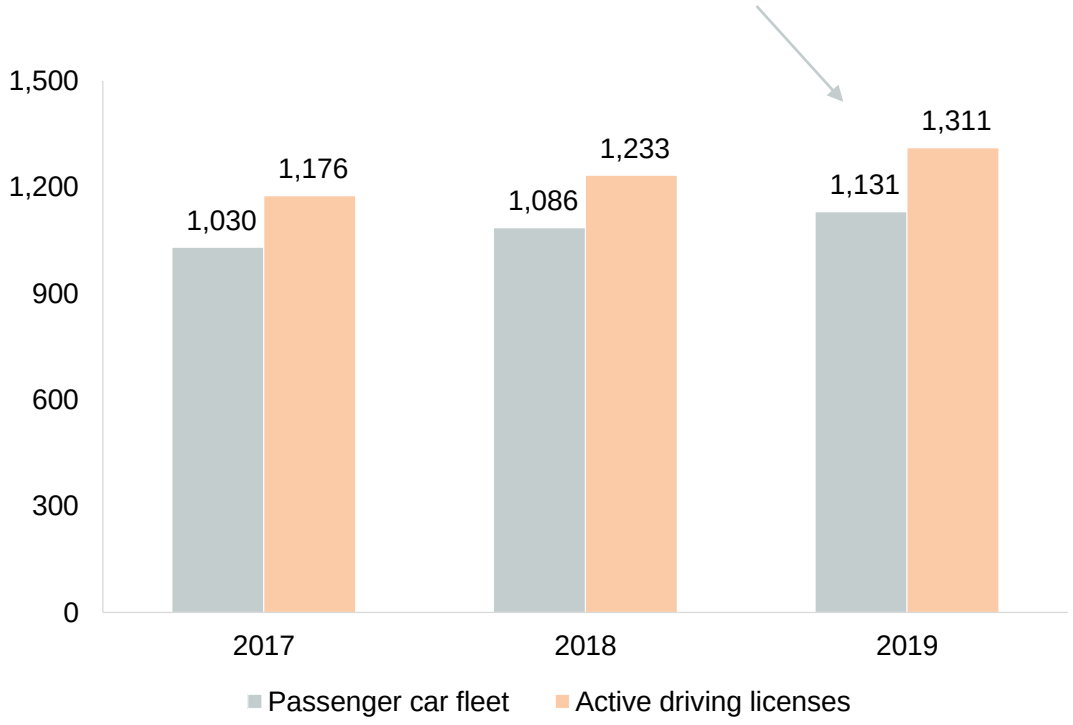


Source:ACEA, Eurostat, Galt and Taggart Research
Note: 2018 data for Turkey

There are less cars than licensed drivers in Georgia

Active driving licenses vs passenger car fleet, ‘000

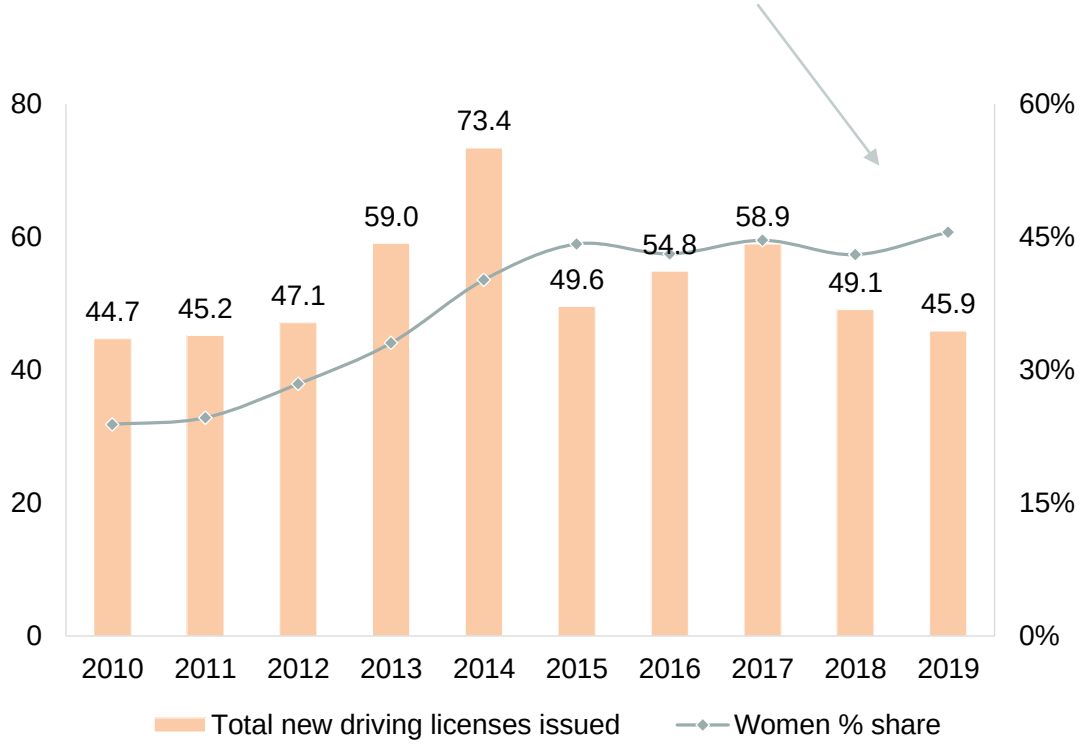
Roughly 180.4k people are potential car buyers. However, improvements in public transportation and car-sharing programs may contain this growth.



Source: MIA

New driving licenses issued, ‘000

Growing women drivers could give a boost to car demand. Women accounted for 45.6% of total driving licenses issued in 2019, up from 23.9% of total in 2010.



Source: MIA

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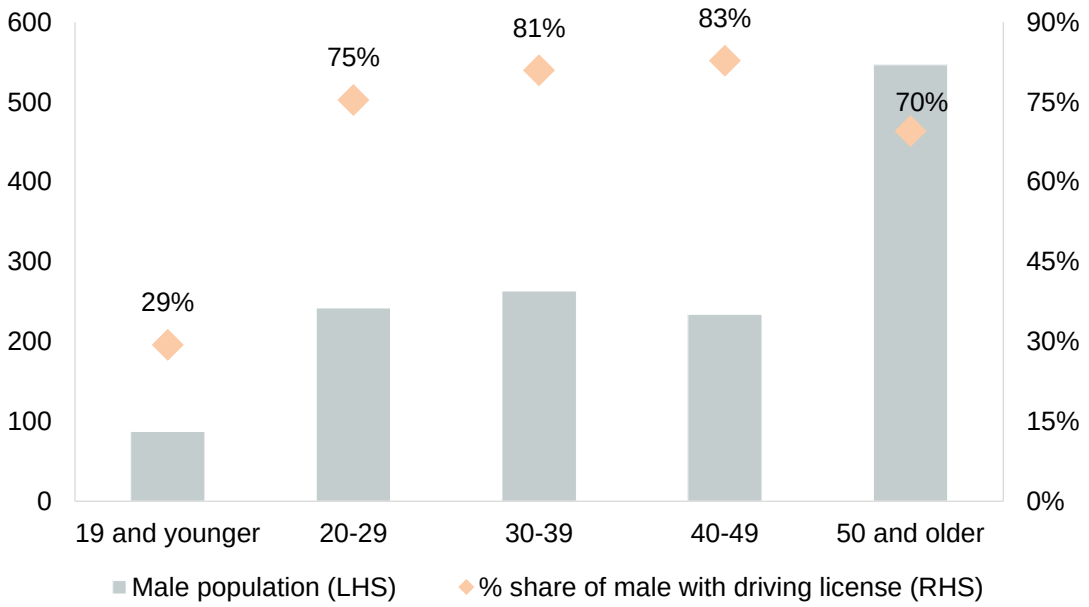
We estimate c. 32k female to obtain driving license annually over the next 10 years

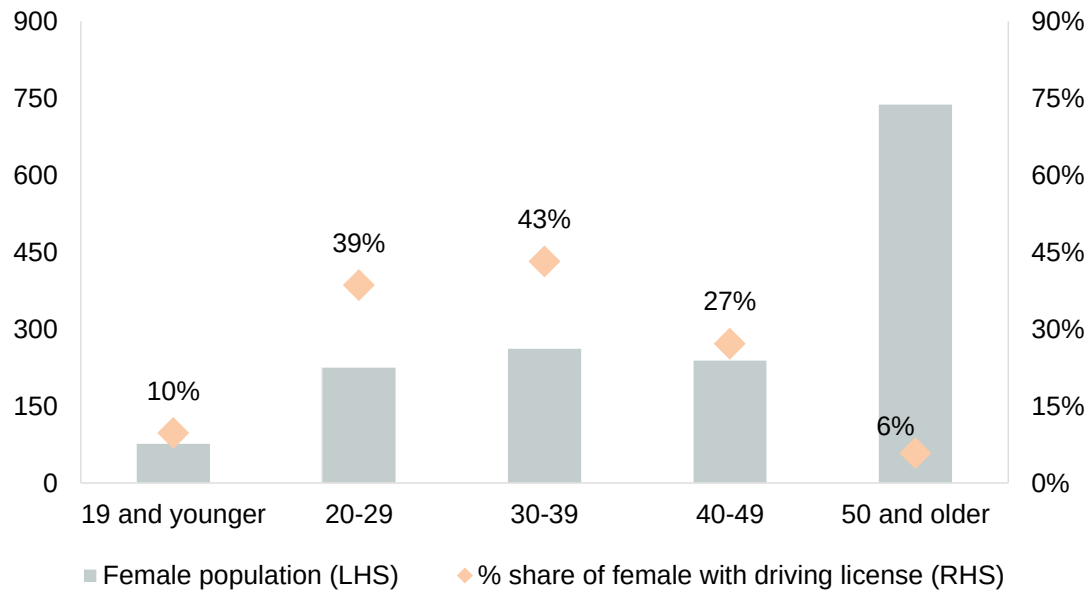
Despite the rising number of Georgian female drivers, only 20% of female population hold driving license vs 72% of male as of 2020, showing room for further expansion**.** We estimate c. 32k female to obtain driving license annually over the next 10 years, up from c. 20k female over 2010-2020.

Driving license ownership in male population, 2020, '000 male



Source: *MIA, Geostat, G&T Research*
Note: 19 and younger includes 16-19 years old people, who are eligible for obtaining license

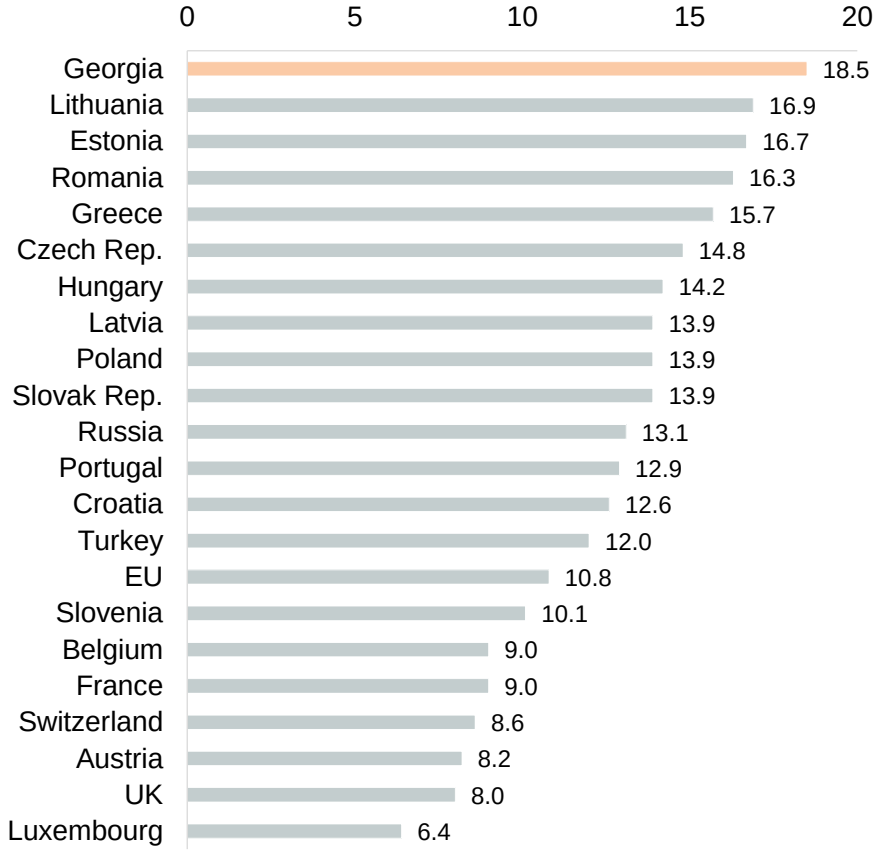
Driving license ownership in female population, 2020, '000 female



Source: *MIA, Geostat, G&T Research*
Note: 19 and younger includes 16-19 years old people, who are eligible for obtaining license

Aged car fleet – possible tailwind to new car sales

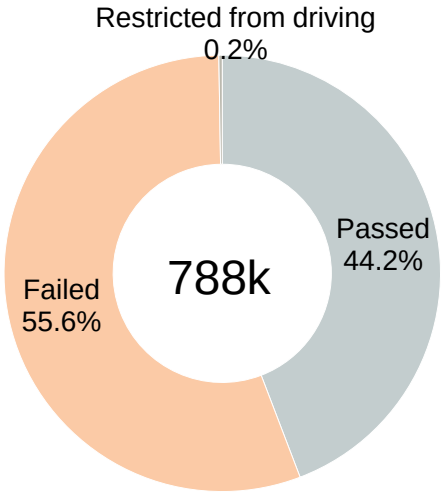
Average age of passenger cars by country, 2018



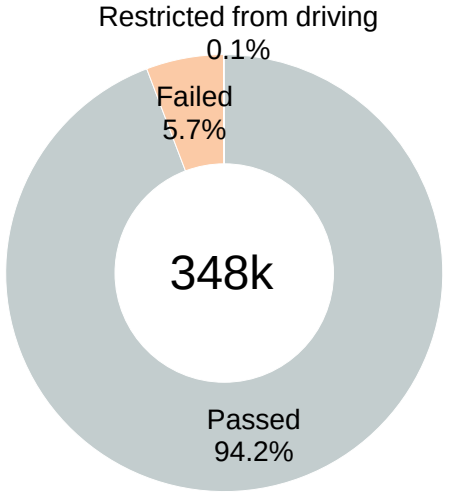
Source:ACEA, ICCT, Galt and Taggart Research
Note1: Data for Georgia as of 2019, for Russia as of 2017
Note2: Data for Georgia calculated based on official vehicle fleet statistics. Data excludes cars older than 50 years and LADA branded cars, as most of them are lapsed but not yet de-registered.

- Georgia has one of the oldest passenger car fleets in the region, creating need for renewal in medium term.
- Old-aged car fleet evidenced in high rate of vehicle inspection failure (mostly >10 years old cars fail to pass the initial inspection test).

Initial inspection results, 2019



Re-inspection results, 2019

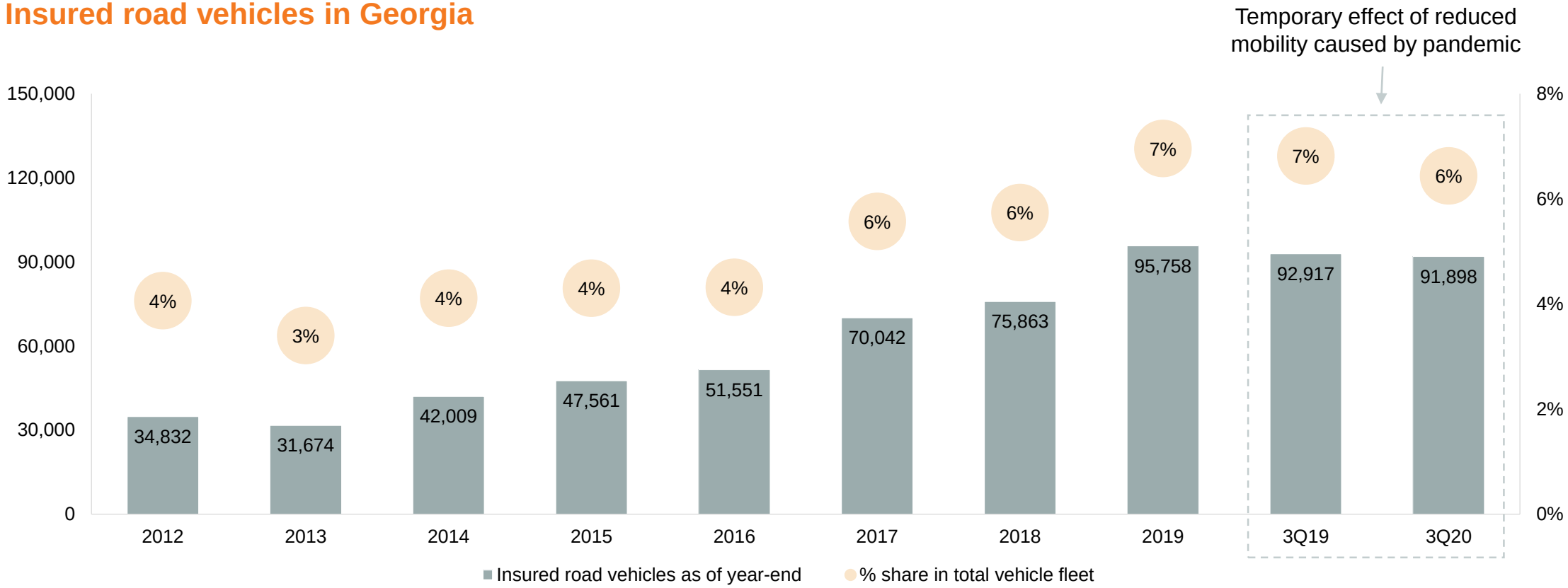


Source: MIA
Note1: Vehicle inspection is mandatory in Georgia from Jan-18, 0-4 year old passenger cars can omit the mandatory inspection test, 4-8 year old cars have to be inspected in every 2 year, >8 old cars every year. Vehicles that fail initial inspection must re-inspect within 1 month.
Note 2: Cars that apply for inspection for the first time are categorized as initial inspection. In case of inspection failure, if re-inspection occurs **within** 1 month of failure it is categorized as re-inspection, if re-inspection occurs **after** 1 month of failure, it is categorized as initial inspection

Car fleet renewal raises demand on car insurance…

Georgia's excise tax structure (updated since 2017) stimulates imports of younger, eco-friendly cars, leading to increased demand on car insurance. The share of insured road vehicles in total vehicle fleet increased to 7% as of 2019 from 4% in 2016.

Insured road vehicles in Georgia



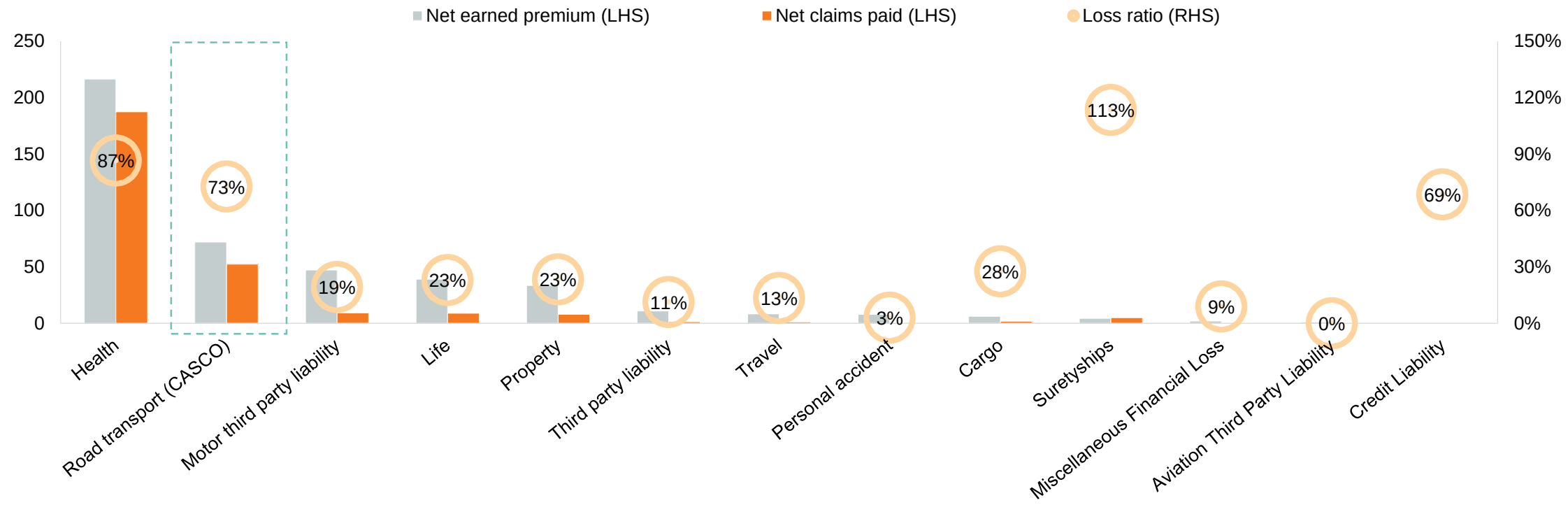
Source: Insurance State Supervision Service, MIA, Galt and Taggart Research

…and motivates insurance companies to insure more cars

- Outdated car fleet hinders car insurance development, as both car owners and insurance companies do not have incentive to insure old automobiles. Besides, car insurance is characterized with high loss rates compared to other insurance products, i.e. loss ratio for road transport insurance in Georgia stood at 73% in 2019, above all other insurance categories, except for health and suretyship.

- Insurance companies are expected to benefit from the renewal of car fleet in medium-term, as by pooling a large enough number of insured cars together, they can reduce their risk exposure.

Loss ratio by insurance product, 2019



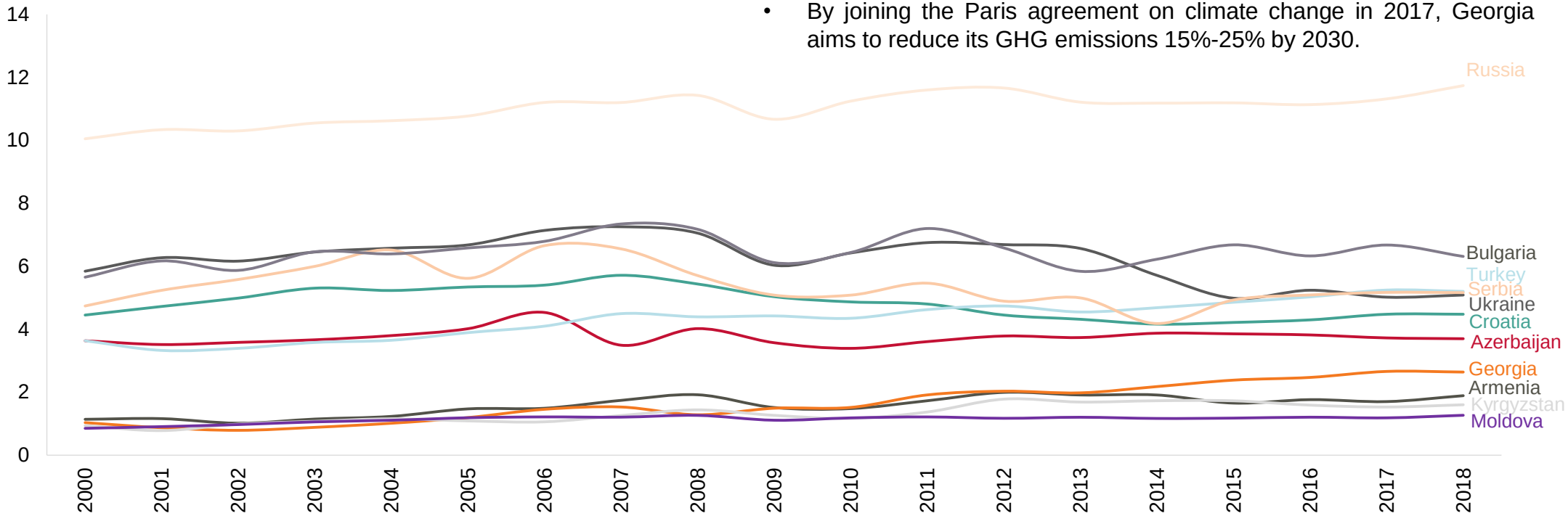
Source: Insurance State Supervision Service, Galt and Taggart Research
Note: Road transport excludes rail transport

Content

CO2 emissions in Georgia rising faster than in peers, leading to greater importance of eco-friendly mobility

Per capita CO2 emissions, metric tones

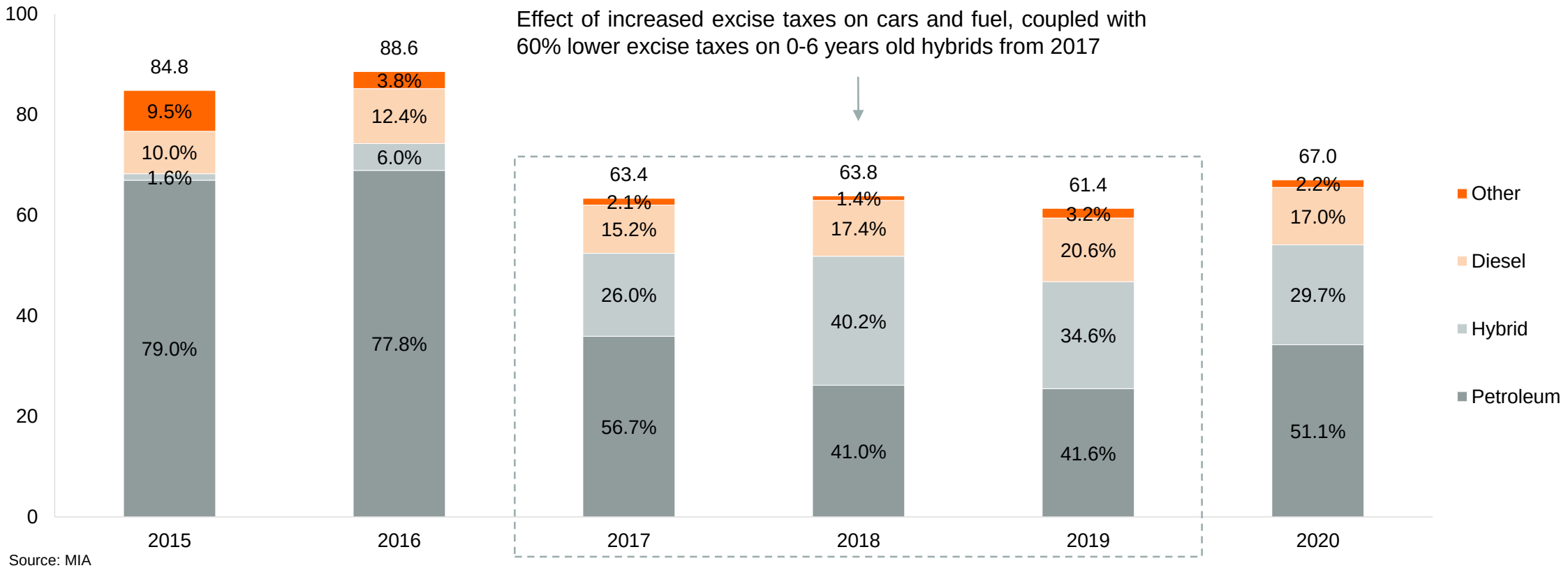
- CO2 emissions account for C. 70%-80% of Greenhouse Gas (GHG) emissions in total, while c. 65%-70% of CO2 emissions come from automobiles
- By joining the Paris agreement on climate change in 2017, Georgia aims to reduce its GHG emissions 15%-25% by 2030.



Source: World Bank, World in data
Note: Data includes CO2 emissions from the burning of fossil fuels for energy (energy industries, transport, manufacturing, construction etc.) and cement production, land use change is not included

Shift to hybrid cars is evident, while EV imports still low

Clearance of passenger cars in Georgia by engine type, ‘000 units



Source: MIA
Note1: Clearance data includes cars deregistered later for re-exporting purposes, usually varying from 5 to 10% of total
Note 2: MIA classifies PHEVs as hybrids

EV sales growth expected to accelerate in medium-term on the back of affordability, improved technical characteristics and charging infrastructure

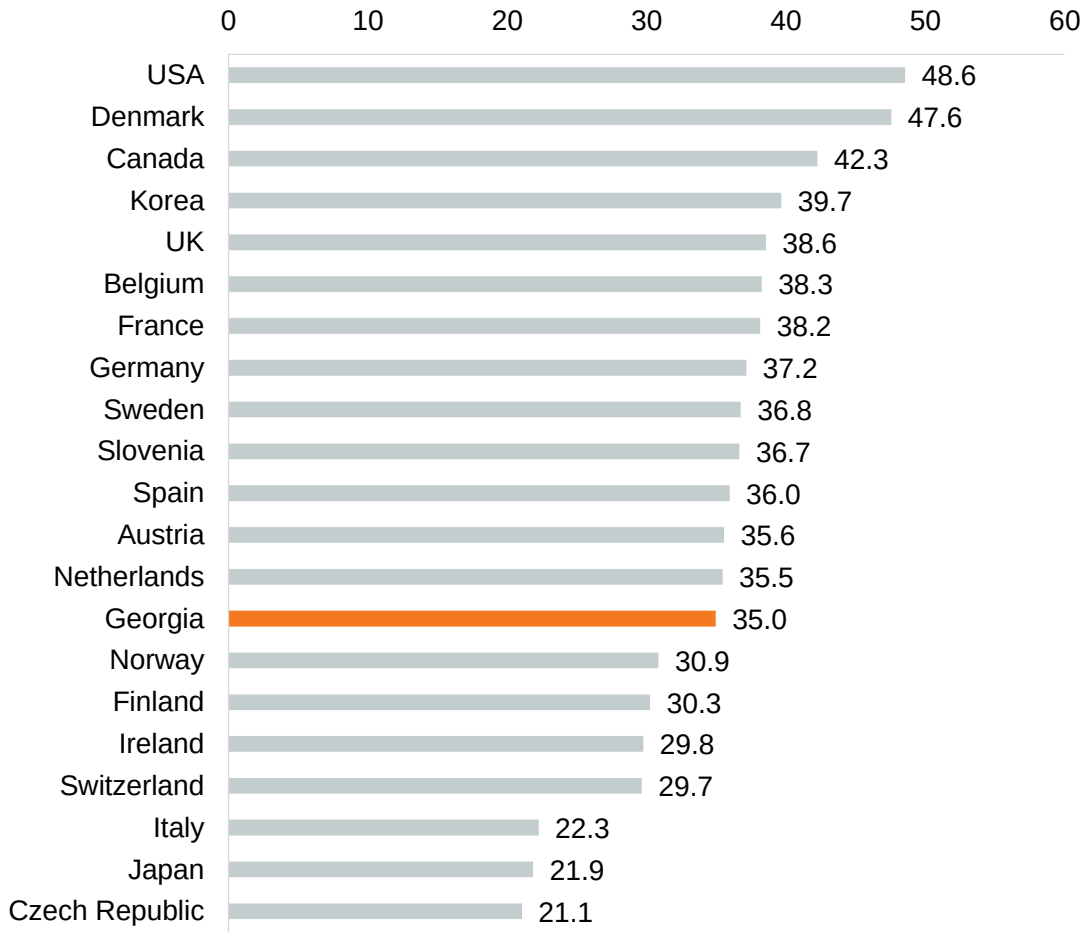
Currently 4 major barriers keep EV penetration rates low globally :

- High price of EVs
- Limited driving range
- Lack of charging infrastructure
- Limited choice of available models

These barriers are expected to be eliminated in medium-term according to International Energy Agency (IEA), as:

- EV prices are quickly approaching parity with conventional vehicles.
- Major EV models can drive 475km for a single charge in 2020 vs 100km in 2011. Given the average daily driving distance of 35km in Georgia and other selected countries, EV owners will need to charge their vehicles once in 2 weeks on average, making EV ownership more comfortable for drivers.
- C. 280 electric vehicle models are available globally as of 2019 (+26% y/y), while OEMs plan to release 197 new EV models by 2025 according to IEA estimates.
- EV charging stations keep up with EV fleet growth worldwide, with stable EV-to-public-charger ratios (E.g: 6:1 in Europe, UK and China, 20:1 in Norway and the US, acceptable for these countries because of high domestic charging and less reliance on public chargers, 19:1 in Georgia).

Daily driving distance by country, km



Source: IRTAD, Galt and Taggart Research

EV prices are expected to approach ICE vehicles by 2024-27

- Currently, although EV running costs are low (fuel economy + lower maintenance costs), EV total cost of ownership substantially outweighs that of an ICE vehicle due to higher initial prices of electric vehicles. For illustration purposes, dealers' suggested retail price for Hyundai Ioniq Electric (2020 model) stood at US$ 36,500, 1.6x higher than price for Hyundai Ioniq Hybrid (US$ 22,900) as of Jan-2021.
- According to the Bloomberg New Energy Finance, the price parity between EVs and conventional ICE small cars is expected to be achieved by 2024 in US, by 2026 in China and South Korea and by 2027 in Europe. Price parity will be driven by declining battery costs - major cost component in EV production.

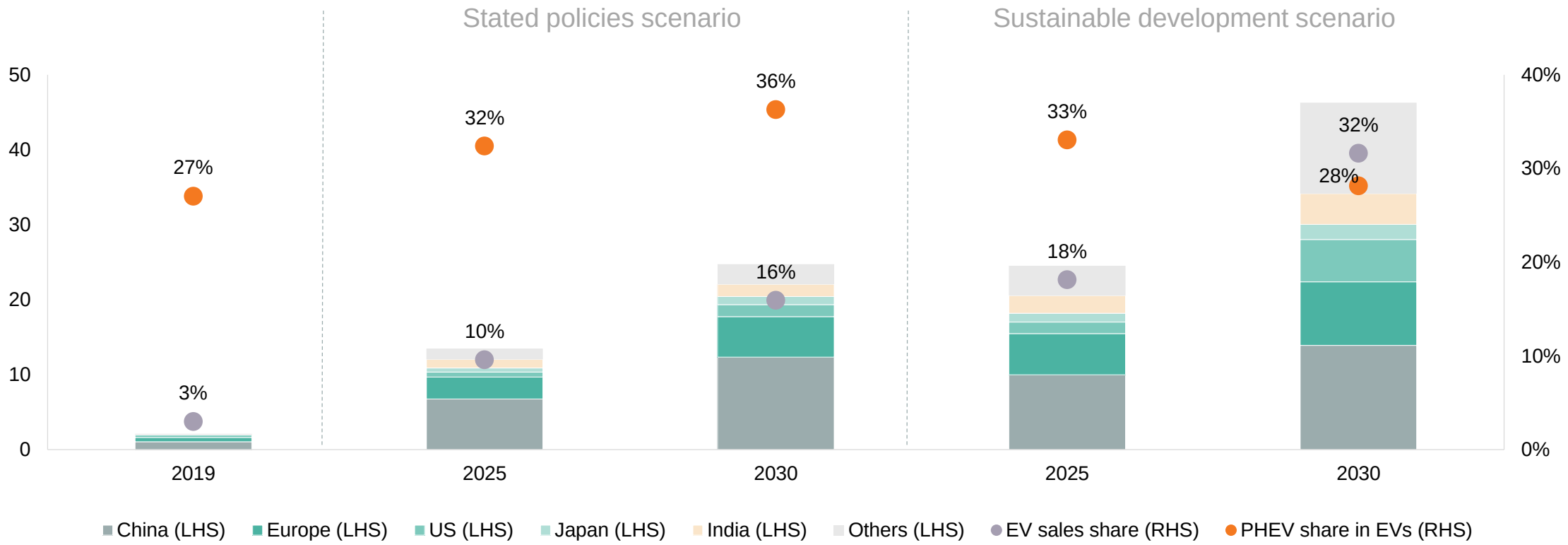
Year of Battery electric vehicle (BEV) price parity with ICE vehicle by segment and region

Segment	US	Europe	China	Japan	South Korea
Small	2024	2027	2026	N/A	2026
Medium	2024	2023	2023	2029	2024
Large	2022	2022	2027	2027	2026
SUV	2022	2024	2029	2025	2023

Source: Bloomberg New Energy Finance
Note: Small cars – most 2 door coupes, convertibles and 4 door sedans; Medium cars – Most crossovers, small 4 seat trucks and small crossover SUVs; Large cars – Most vehicles with 3 rows of seating and full size trucks, mini vans; SUVs – Sport utility vehicles.
Note 2: Price parity calculated based on BEV production costs plus R&D, SG&A and a profit margin

EV sales expected to account for 18% (or 25mn vehicles) of global vehicle sales by 2025 and 32% (or 46mn) of total by 2030

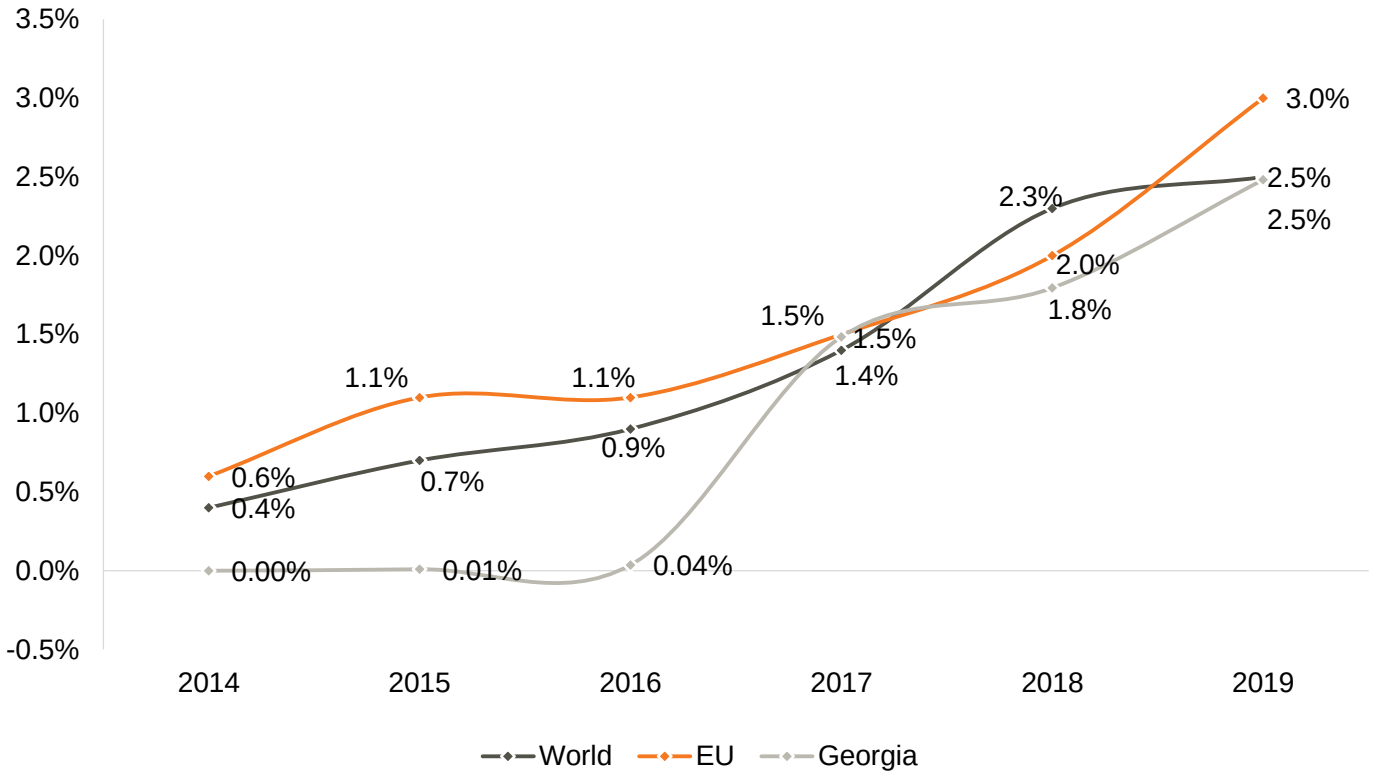
International Energy Agency projections for EV sales globally and for important regions



Source: IEA
Note: In stated policies scenario EV sales projections are based on existing government policies around the world to support EV sales growth. In sustainable development scenario projections are based on climate goals of Paris Agreement, where 196 countries have agreed to limit and reduce their emissions of carbon dioxide and other greenhouse gases. This scenario also incorporates the targets of the EV30@30 Campaign – where 11 countries have agreed to collectively reach a 30% sales share for EVs by 2030.

EV sales penetration rates in Georgia in line with global trends

EV market penetration, annual sales

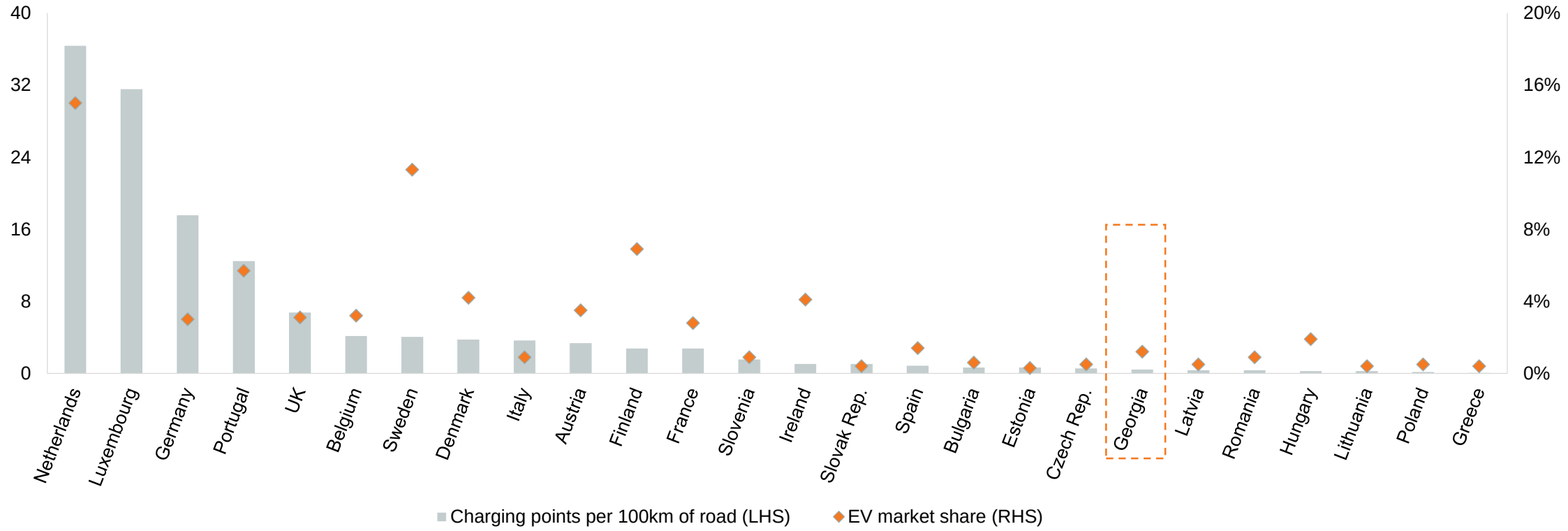


Source: ACEA, IEA, Galt and Taggart Research
Note: Electric vehicles include BEVs and PHEVs

- EVs (including PHEVs) accounted for 2.5% of total car sales in Georgia and globally as of 2019.
- Major markets - USA, China, Europe - accounted for 91% of total EV sales in 2019.
- Currently, global EV sales are driven by state incentives (subsidies and tax exemptions, see details in Annex 1. See also slide 31 on general details).
- Rising penetration rates of EVs in Georgia were supported by increased excise taxes on old cars and fuel from 2017 and excise tax exemption on electric cars from 2011.

Charging infrastructure lacking in Georgia, need to grow in line with EV sales growth in medium-term

Charging points per 100km of road and EV market penetration by country, 2019



Source: ACEA, Galt and Taggart Research

Content

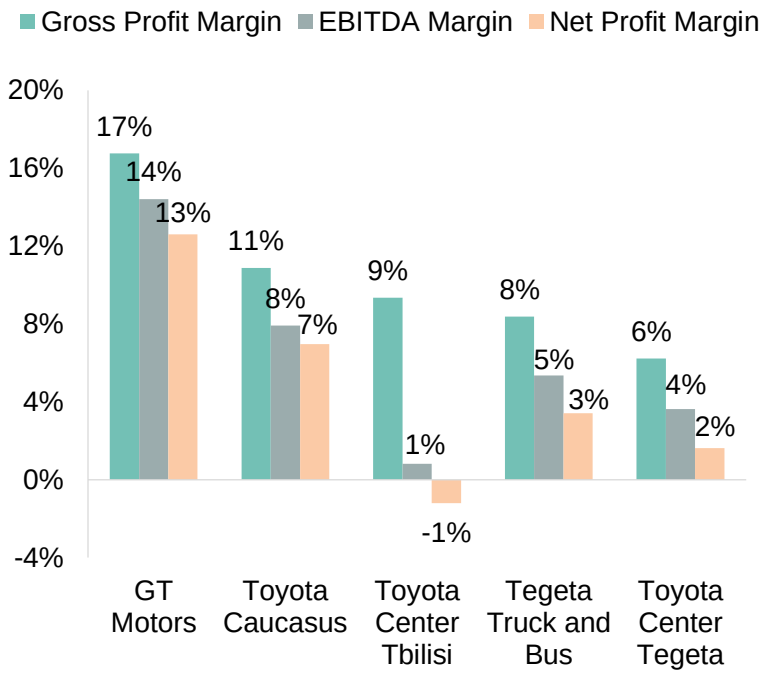
Government incentives on EVs across several markets

Country	Purchase subsidy/Tax reduction	Comment
China	US$ 2 300-3,200 subsidy on BEV, US$ 1,200 on PHEV, exemption of purchase tax (10%)	Max. retail price of US$ 42,400 Max. 2mn vehicles can be subsidized per year
United States	Tax credit up to USD 7,500 on PHEVs and BEVs	Credit depends on battery capacity (min. 5 kWh) Gradual phase-out for each manufacturer after selling 200k EVs
Canada	US$ 3,700 subsidy on BEVs, PHEVs, FCEVs	Car price should range between US$ 33,600-44,800 PHEVs with battery capacity > 15 kWh
United Kingdom	US$ 3,800 subsidy on BEVs and PHEVs	Subsidy capped at 35% of retail price Car price should not exceed US$ 63,600 electric range should exceed 112 kms and emission should be less than 50 gCO2/km
Japan	Up to US$ 1,800 subsidy for PHEVs, US$ 3,700 for BEVs and US$ 20,800 for FCEVs	Subsidy varies according to EV driving range
Korea	US$6,700 subsidy on BEVs and US$ 18,800 for FCEVs	
Italy	US$ 1,700-4,500 subsidy, exemption from ownership tax for 5 years after registration	Subsidies made when scrapping an old (Euro 1-4) car while buying new EV, also without scrapping the old car
Germany	US$ 5,600-6,800 subsidy on BEVs	Car price should not exceed US$ 45,200
France	US$ 3,400-6,800 subsidies on BEVs, FCEVs and PHEVs with <20gCO2/km, no registration tax in many regions	Car price should not exceed US$ 50,800-67,800, higher subsidies in case of old car scrappage
Portugal	US$ 3,400 subsidy	Car price should not exceed US$ 70,600
Spain	US$ 1,500-6,200 subsidy on PHEVs and BEVs	Subsidies depend on car driving range, price should not exceed US$ 45,200

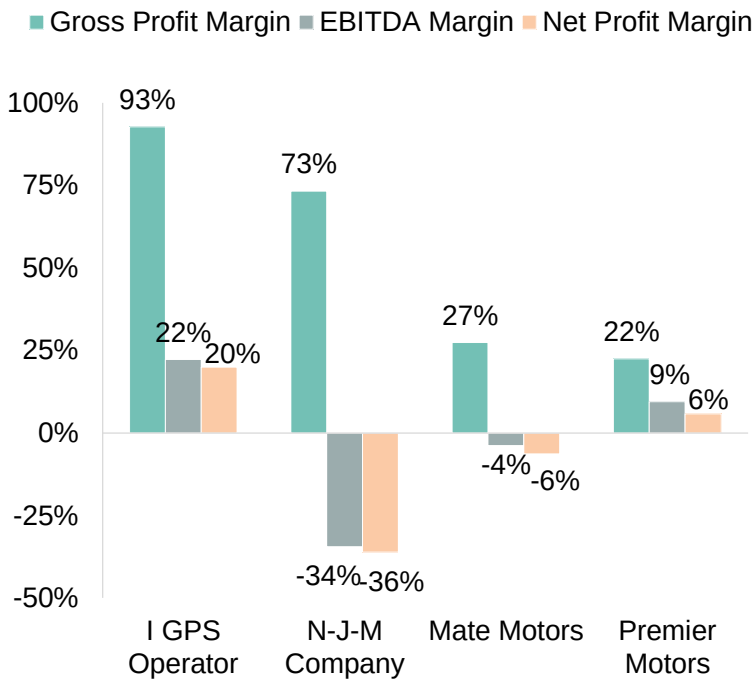
Source: IEA
Note: Data as of 2019-2020

Profitability indicators of top companies in car trade, car service & car parts sectors

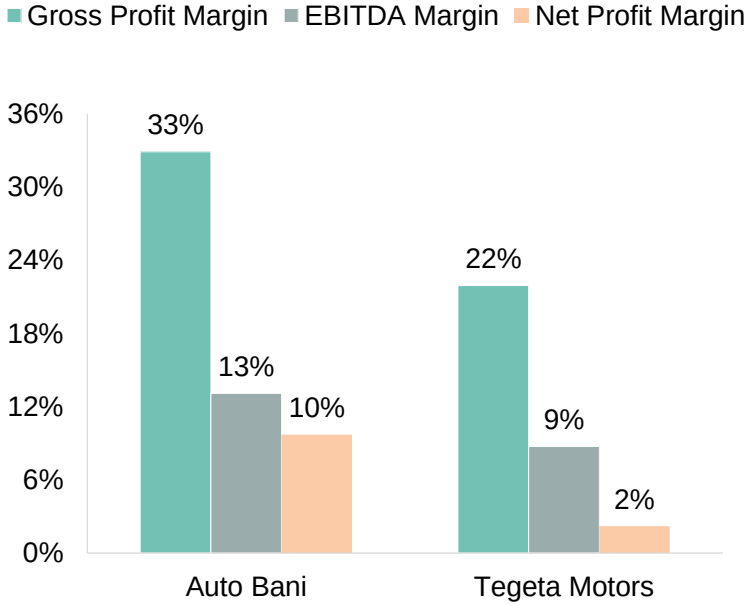
Top 5 official dealers, 2019



Top 4 companies in car service &repair, 2019



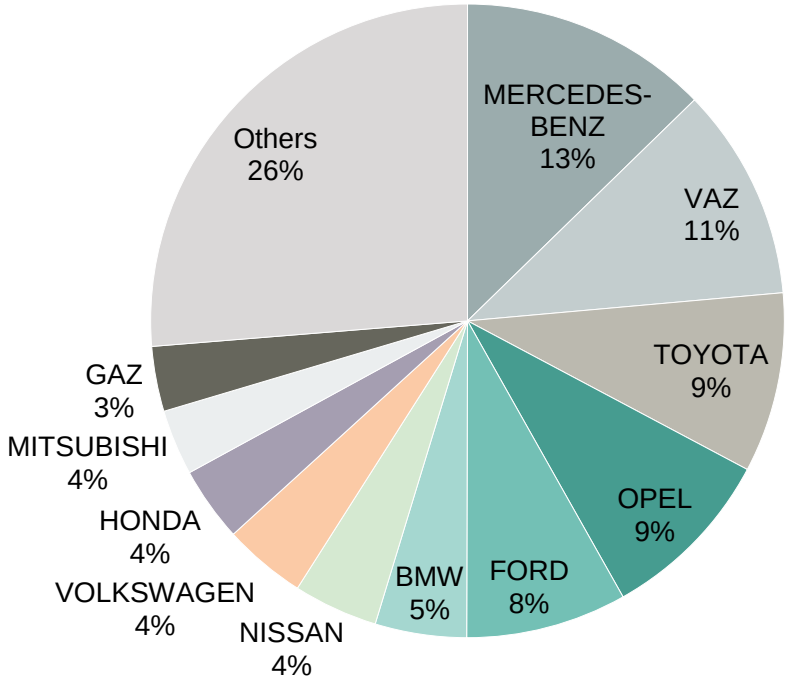
Top 2 companies in car parts, 2019



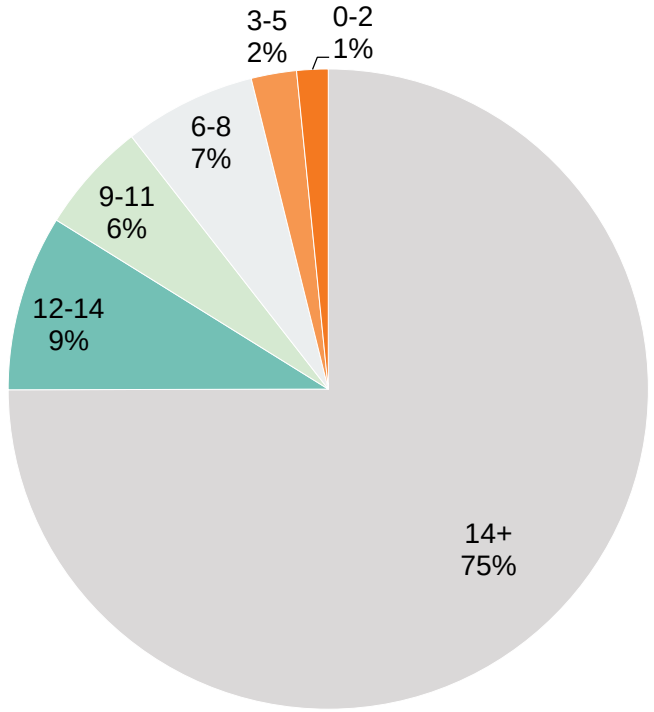
Source: SARAS, Galt and Taggart Research
Note: Data based on publicly available financial statements

Georgia's vehicle fleet by age and brand

Georgia's vehicle fleet by brand, Nov-2020



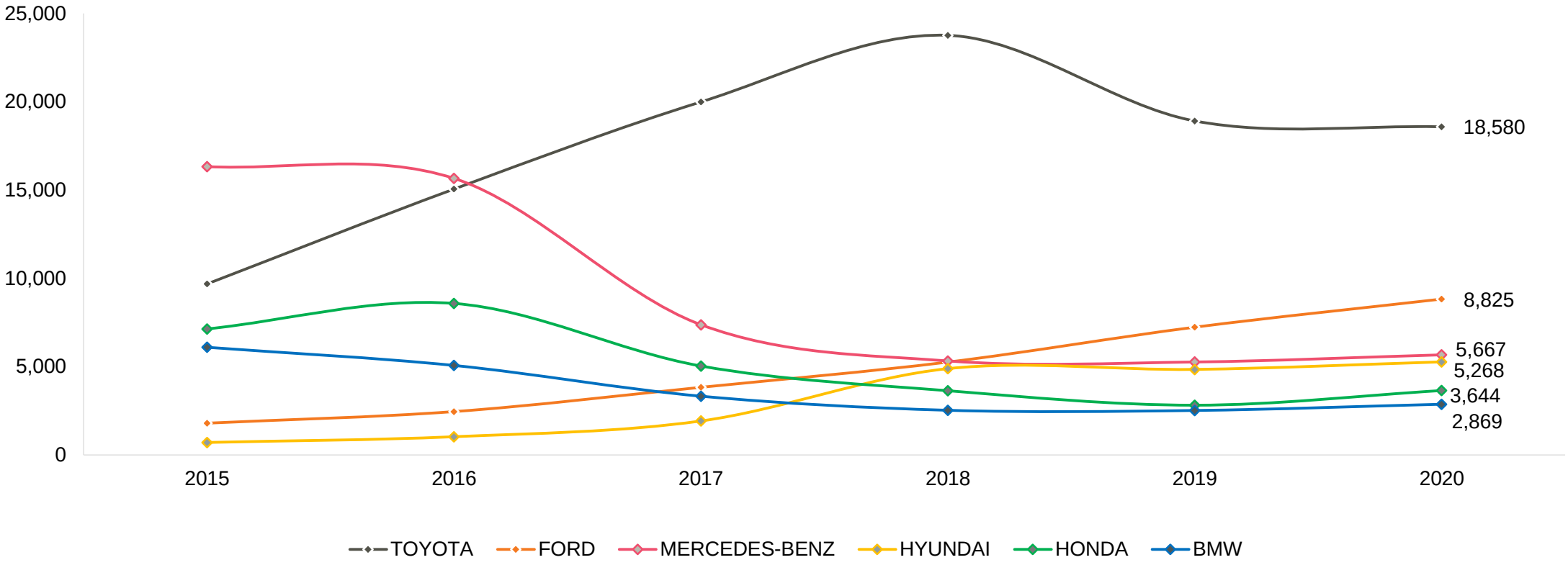
Georgia's vehicle fleet by age, Nov-2020



Source: MIA
Note: Most of VAZ and GAZ branded cars are lapsed but not yet de-registered.
Note: 1.4mn vehicles in total

Passenger car clearance in Georgia by brand

Passenger car clearance in Georgia by top 6 brands



Source: MIA
Note: Clearance data includes cars deregistered later for re-exporting purposes, usually varying from 5 to 10% of total

Definitions & Abbreviations

ACEA	European Automobile Manufacturers' Association
Brent and WTI	Two major benchmarks for crude oil pricing globally
CEIC	Global Economic Data, Indicators, Charts & Forecasts
EAEU	Eurasian Economic Union between Belarus, Kazakhstan, Russia, Kyrgyzstan and Armenia
EBITDA	Earnings before interest, taxes, depreciation and amortization
EIA	US Energy Information Administration
EU, Eurostat	European Union, Statistical office of the European Union
EV, BEV, FCEV, PHEV	Electric vehicle, Battery electric vehicle, Fuel cell electric vehicle, Plug-in hybrid electric vehicle
Geostat	National Statistics Office of Georgia
GHG emissions	Greenhouse gas emissions
ICCT	International Council on Clean Transportation
ICE	Internal combustion engine vehicle
IEA	International Energy Agency
IRTAD	International Road Traffic Safety Data and Analysis Group
KPI	Key performance indicator
LHS, RHS	Left-hand side, Right-hand side
MIA	Ministry of Internal Affairs of Georgia
OEM	Original equipment manufacturer
SARAS	Service of Accounting, Reporting and Auditing Supervision in Georgia
SUV	Sport utility vehicle
TCO	Total cost of ownership of a car (purchase cost + running costs i.e. fuel expenses and maintenance costs)
US EPA	United States Environmental Protection Agency

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