

Extended Producer Responsibility:

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Finding the optimal way of industrial organization

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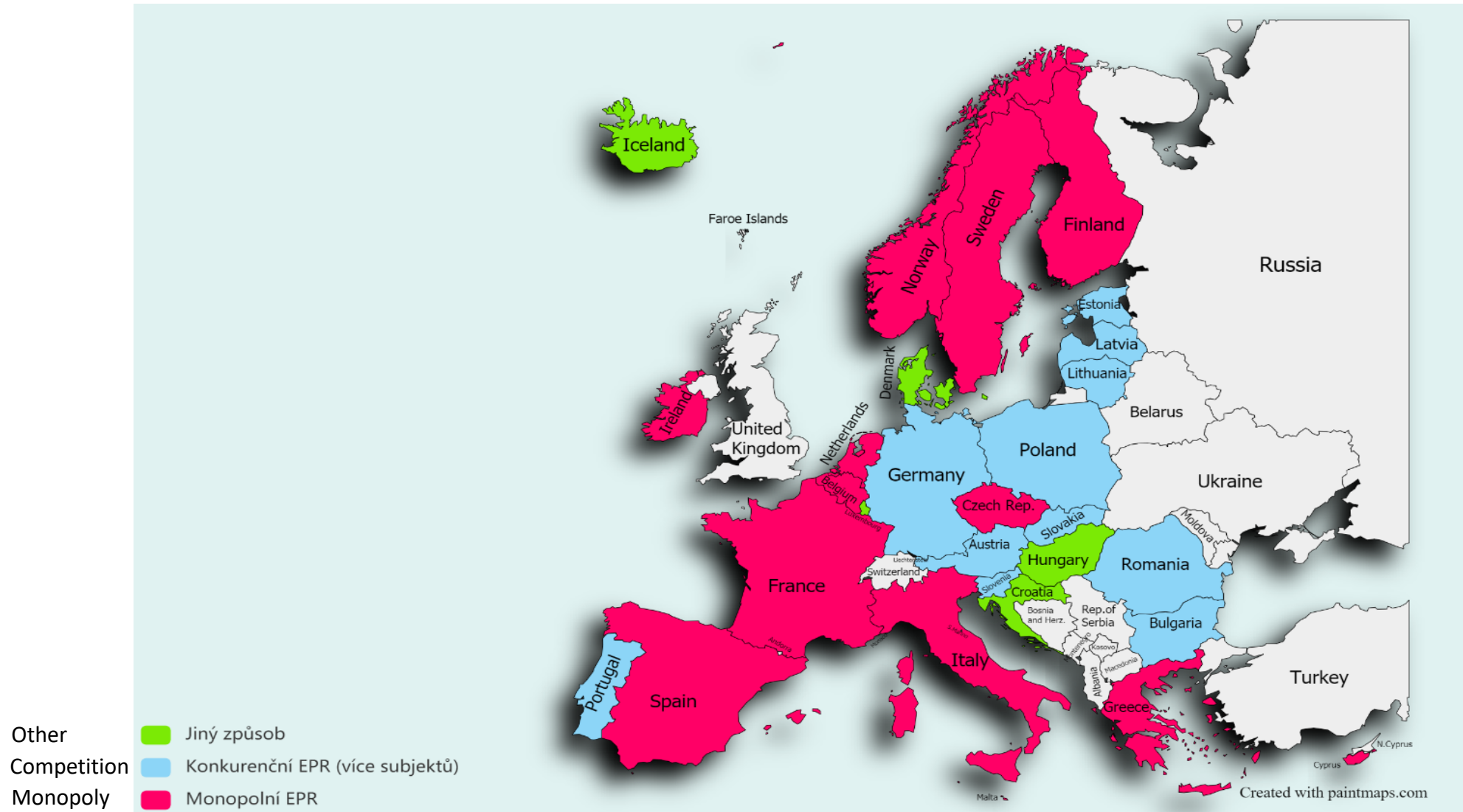


OUR RESEARCH

**How efficient is Extended Producer Responsibility
in meeting political targets?**

(Does competition at EPR systems matter?)

Industrial organization of PROs in Europe



Research questions & hypotheses

Questions:

- Do different system regulations bring similar results?
- Does industrial organization have any impact on systems' efficiency?
- Are EPRs and PROs suitable ways for meeting political goals?

Hypotheses:

- Political goals move all agents to the second-best matrix.
- Market principles and competition matter here – positive impacts.
- The Czech Republic should follow best practices from abroad.

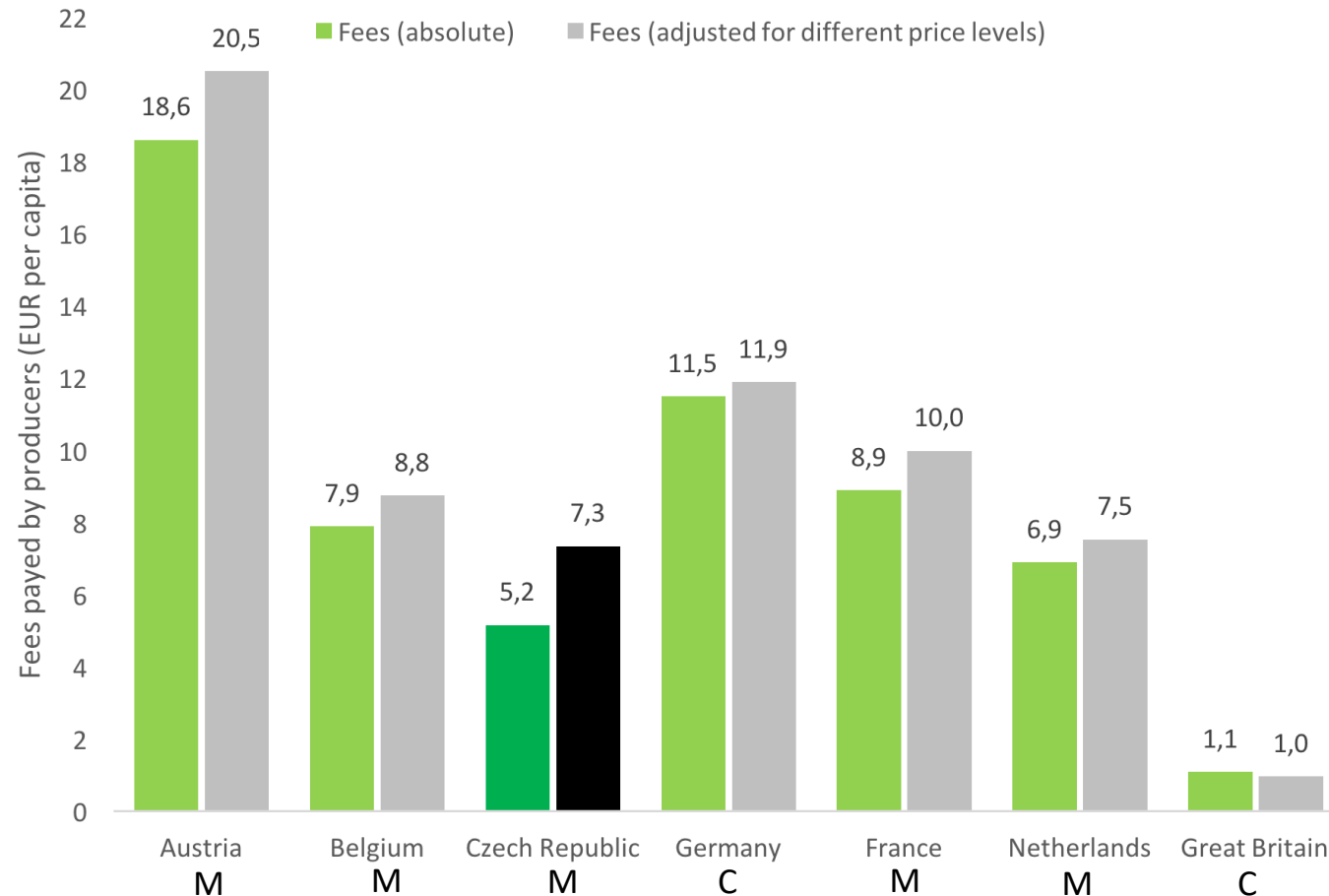
Main findings (1)

- **Laboratory of regulation.**
 - EU goals => national strategies => regulative tools => I.O. => results
- No simple theory. Agents have unique motivations under the regulation.
 - Negative externalities, perverse motivations, free riding problem
- Recycling increases costs of consumption.
 - PPP falls, product prices increase
- (Packaging) waste management under **Producer Responsibility Organization** is a very efficient way for meeting political goals.
 - Economies of scale, less administration, cost controlling (P-A dilemma)

Main findings (2)

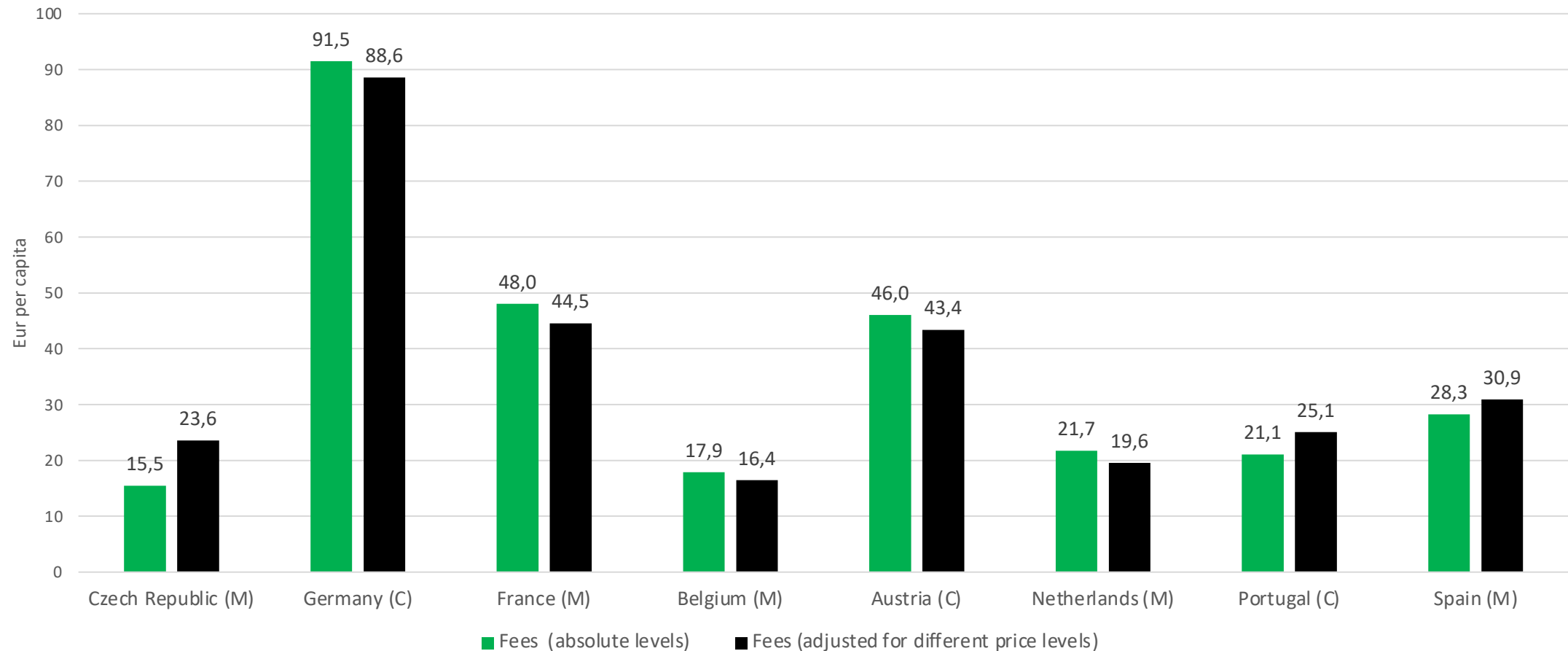
- **Monopoly vs. competition**, recycling results and costs efficiency
 - Relatively high and low costs can be found both in the competitive and monopolistic systems.
 - **Austria** (20.5 EUR Purchasing Power Parity per capita), **Czech Republic** (7.3 EUR PPP per capita), **Netherlands** (7.5 EUR PPP per capita). 2016
 - Potential competition brings similar effects like actual competition.
- A competition among PROs does not bring significant advantages in comparison with a monopolistic system.

Comparison of recovery costs per capita in selected EU countries (as of 2016)

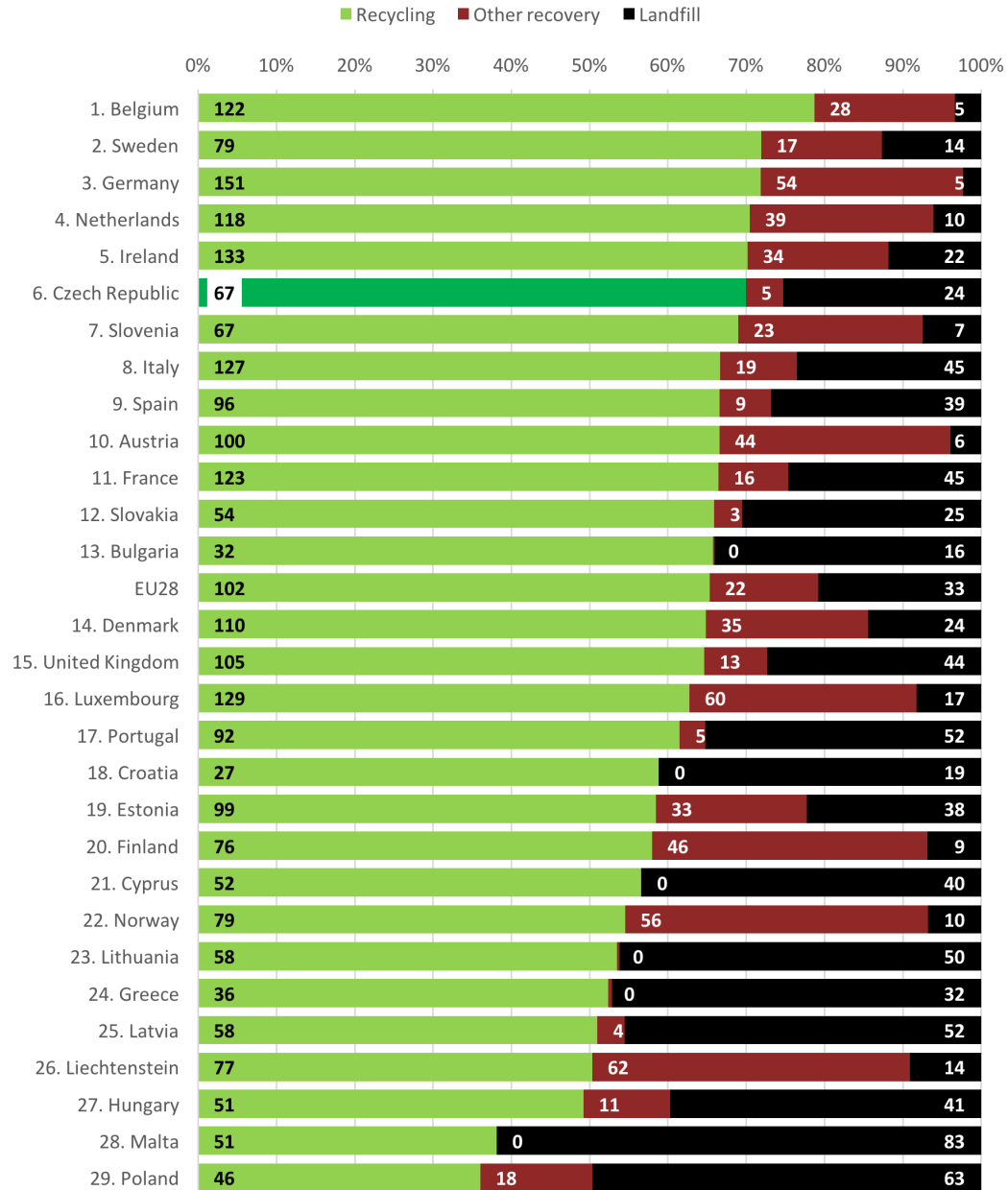


UK: Fees cover app. 10 % of total costs. France 75 %. Others: 100 %.

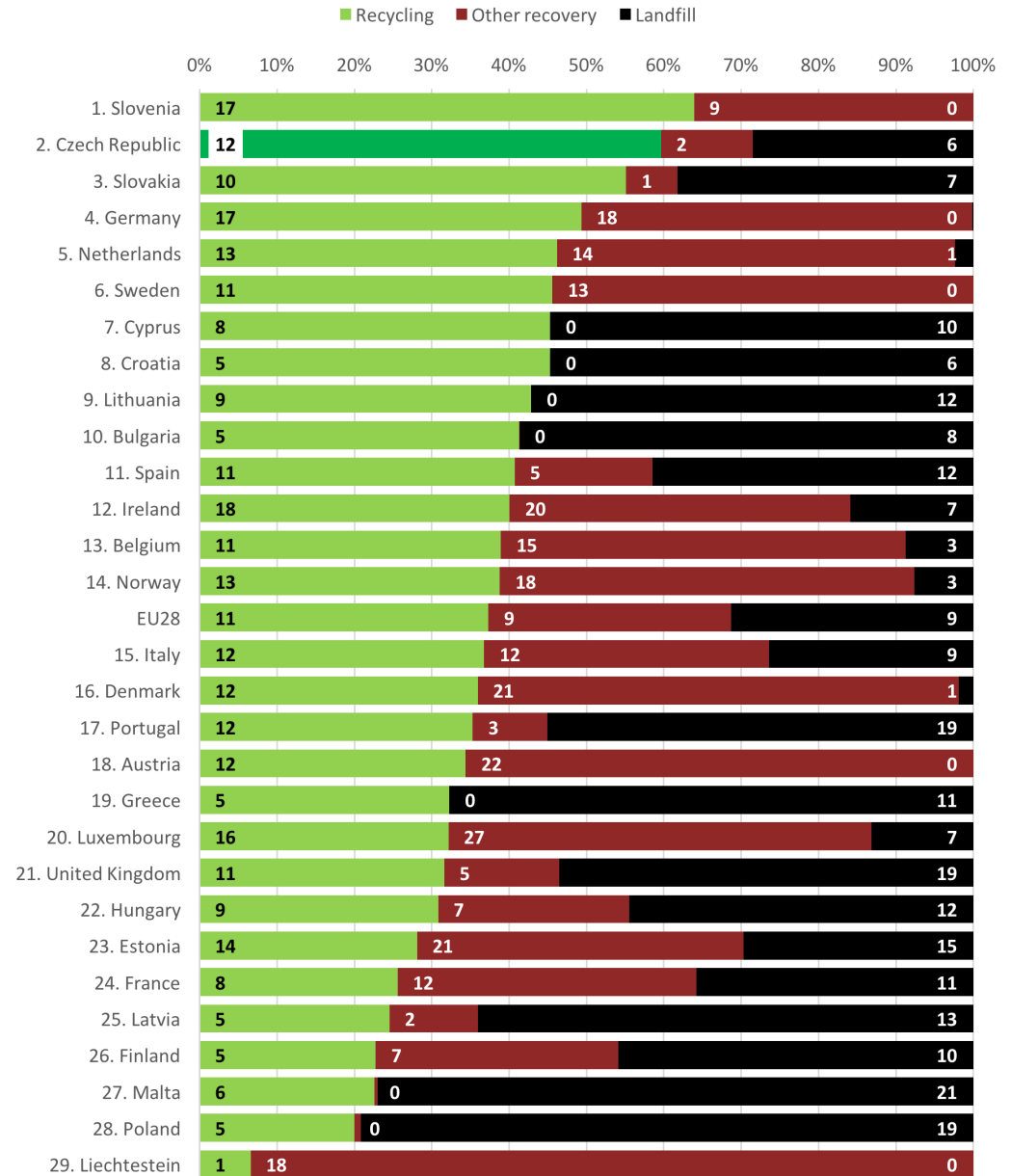
Fees of obligatory industry in individual countries (2018)



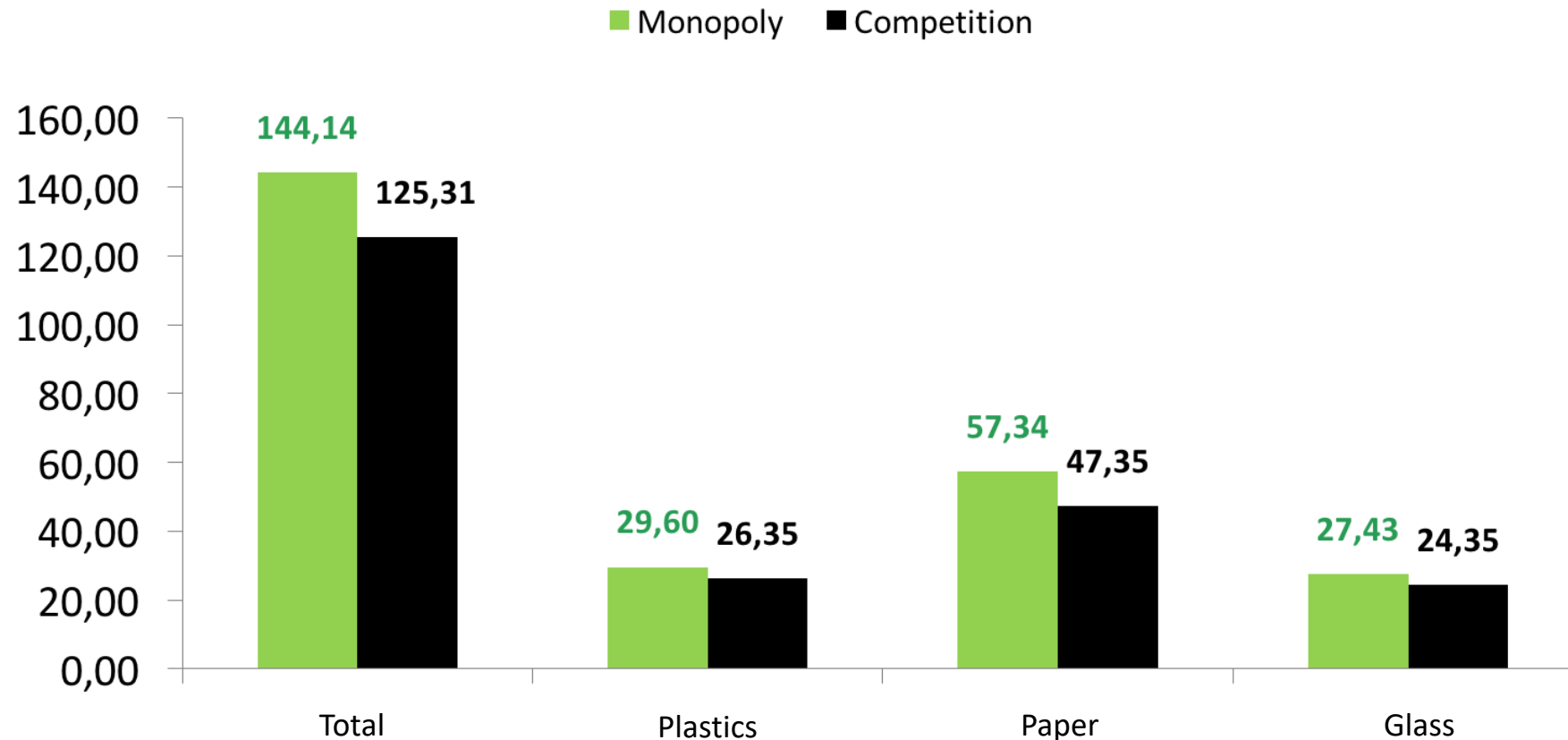
Overall



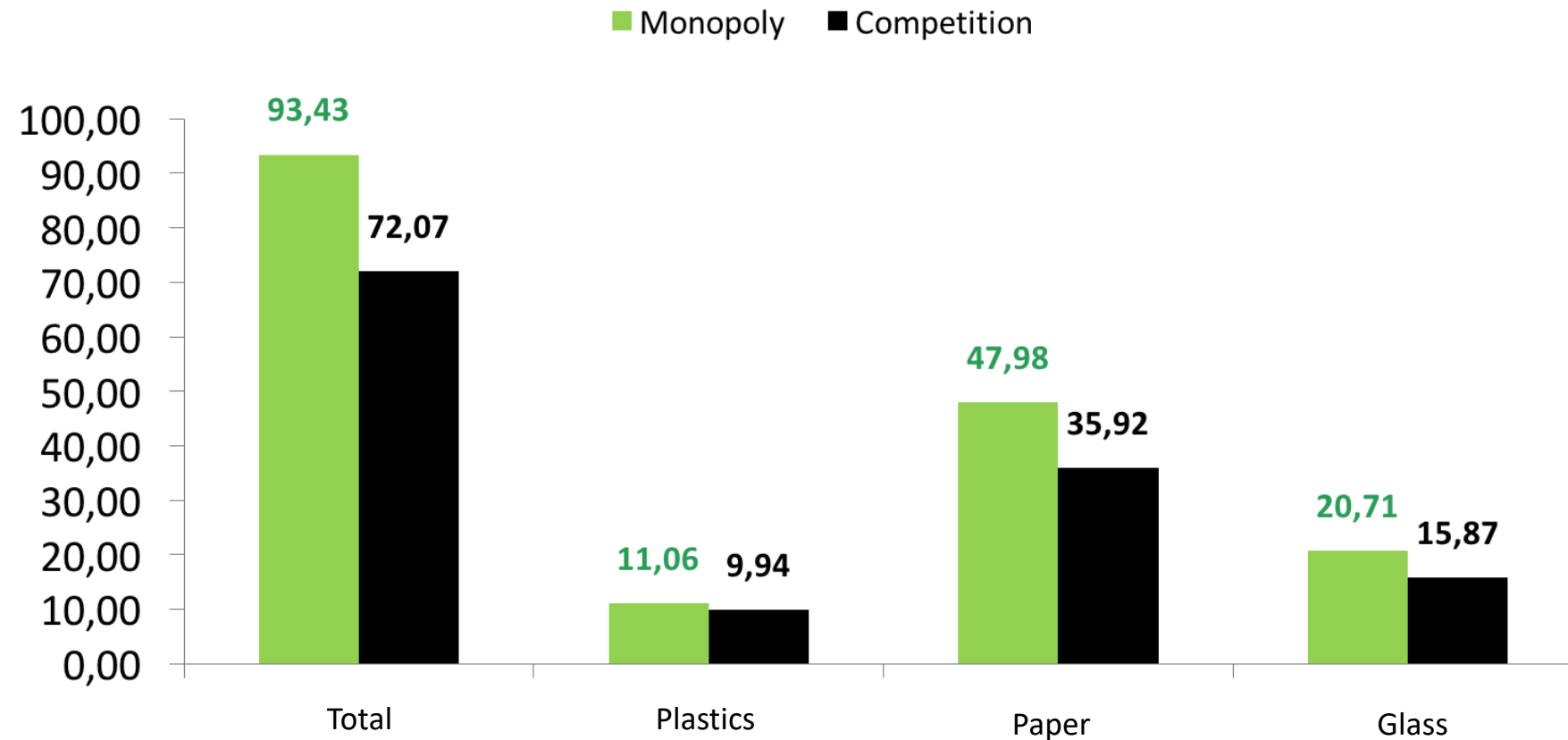
Plastics



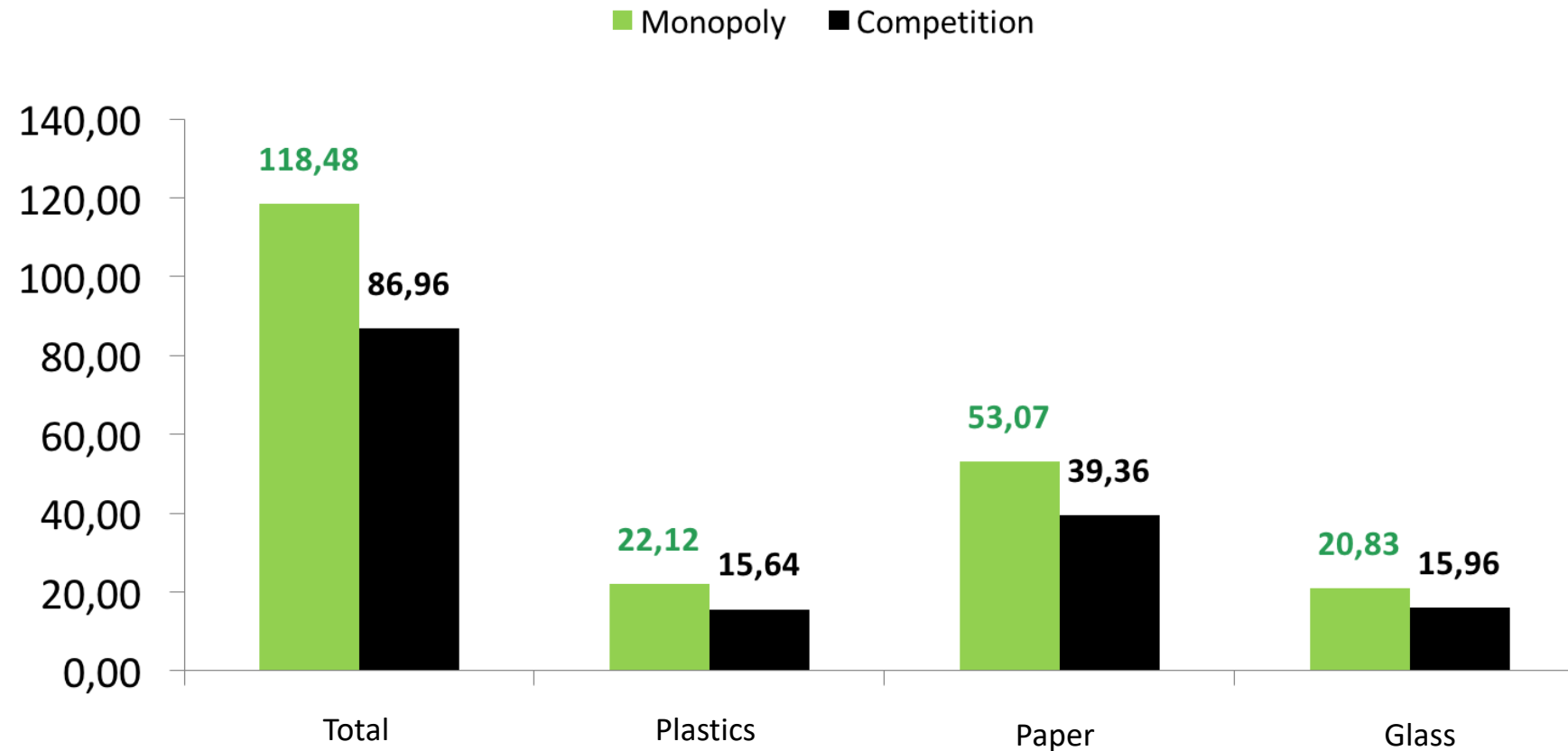
Volume of generated packaging waste (kg/cap.)



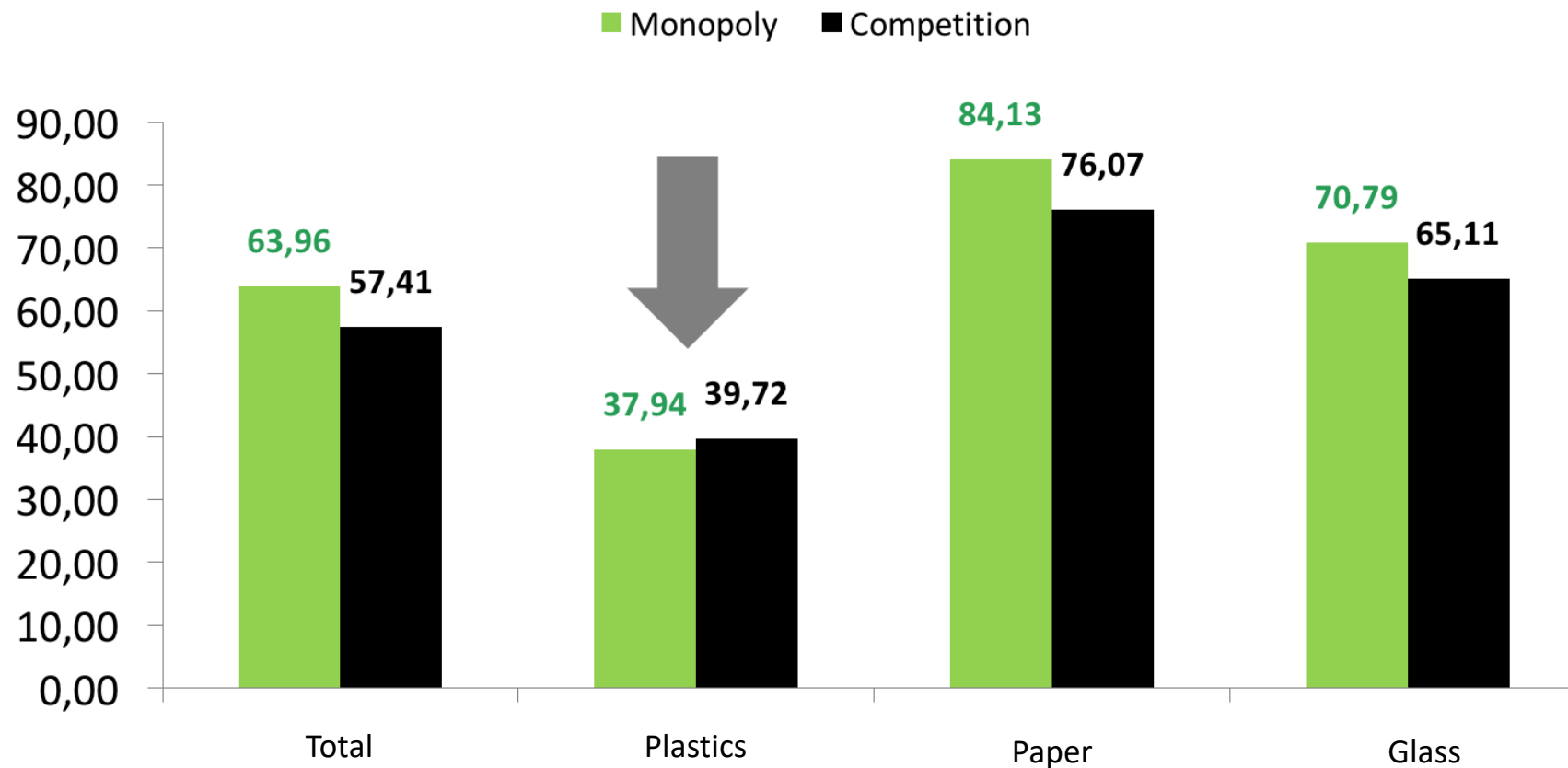
Volume of recycled packaging waste (kg/cap.)



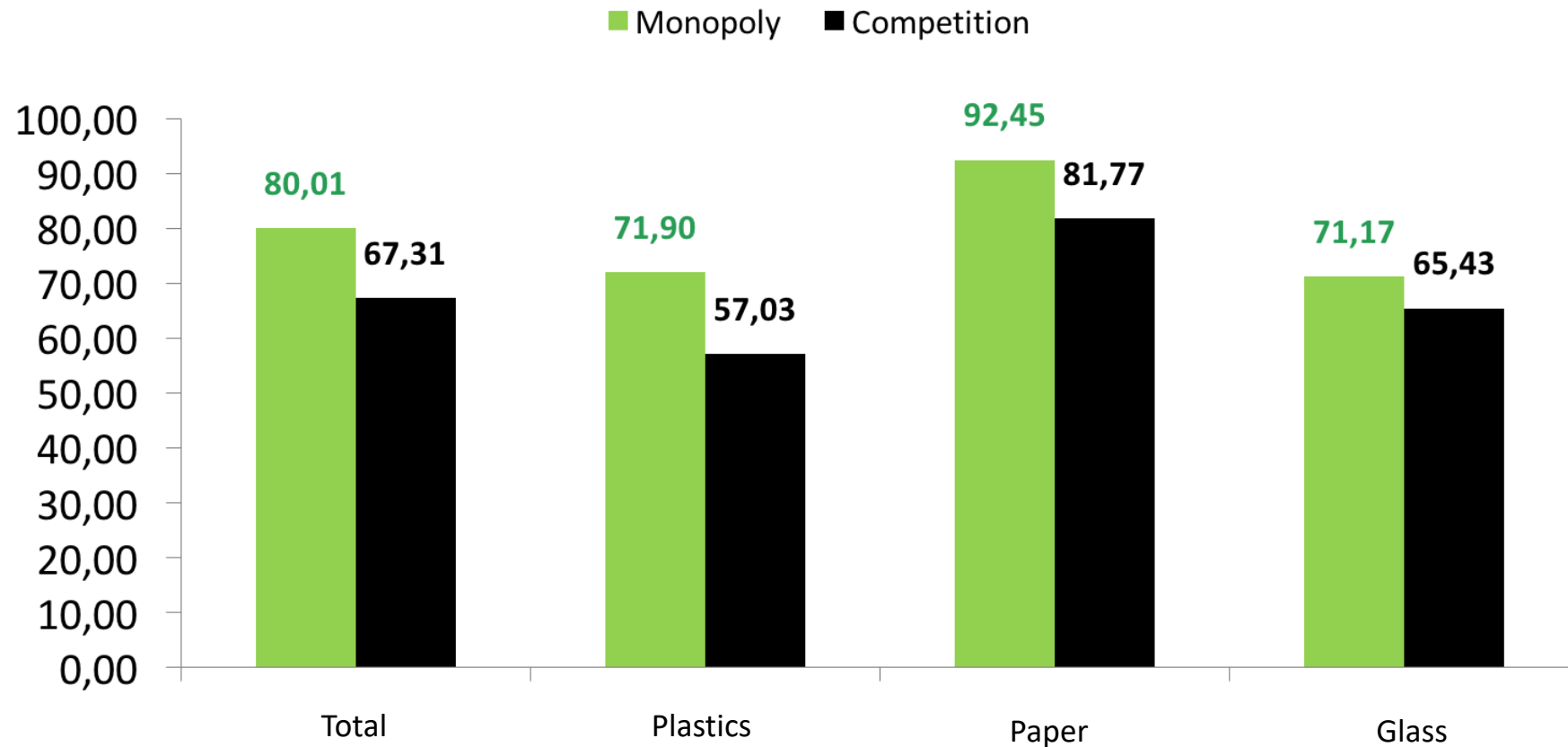
Volume of recovered packaging waste (kg/cap.)



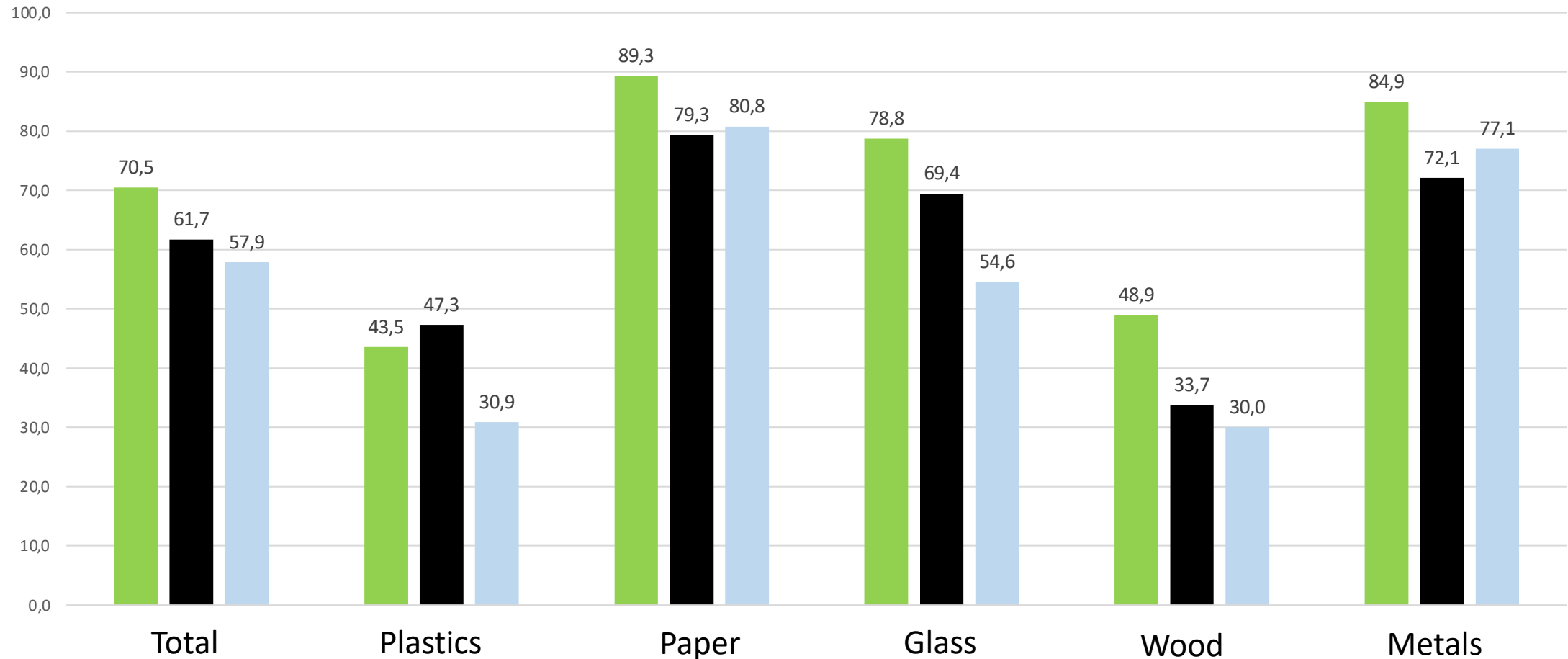
Share of recycled packaging waste (%)



Share of recovered packaging waste (%)



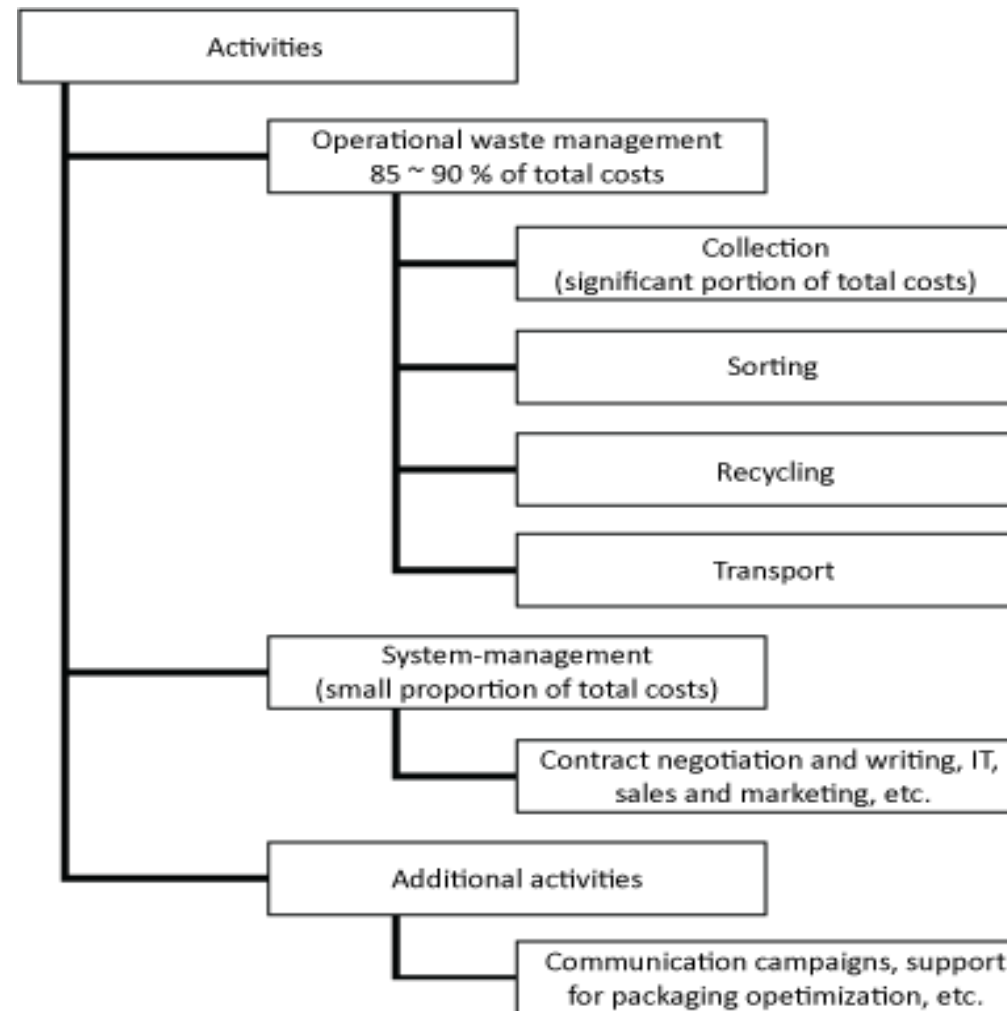
Recycling rate of packaging waste



Main findings (3)

- The most of waste packaging management costs:
 - **collection, transport, sorting and recycling**
- **Sharing:** Any other individual competing PROs has less space for price differentiation. Non real situation with rent-seeking consequences.
- Efficient packaging waste system needs both transparency and direct involvement of obligated industry (control and PRO management).
 - Administration and red tape, rent-seeking, price discrimination, freeriding
 - *Chinese wall* between waste collector - PRO - waste processing (P-A)

Distribution of activities and costs of PROs



Main findings (4)

- Risks of a move towards a system with **more competitive** PROs are:
 - *additive regulation that sets new system conditions (state administration)*
 - *increased costs in the context of intensified bureaucracy among actors (contracts, invoices, financial flows among all PROs and municipalities)*
 - *increased motivation of actors towards unproductive spending in order to secure better position (rent-seeking, corruption, free-riding)*
 - *deterioration of conditions for small and medium firms and municipalities*
- The notion the competitors generate **revenues**, but at the same time act as **nonprofit** organizations and **cooperate**, is not rational.
- Experience shows that market mechanism are not, quite logically, working in regulated markets (lotteries used to simulate objective market division).

General comparison of collective systems with monopolistic and competitive PROs

Criteria	COMPETITION	MONOPOLY
recycling rates (official)	There does not appear to be a significant difference between monopolistic and competitive systems according to the officially reported recycling rates. However, official statistics can be unreliable in a complex system of reporting among many actors. Monopoly is more easily controlled and thus has lower probability of multiple accounting of the same waste. Competitive PROs tend to keep the recycling rates on the minimum defined by recycling targets.	
cost-effectivity	There is no significant difference, it depends on the particular design of the system. A key parameter of efficiency is a degree of competition among waste management operators and not among PROs.	
transfer of costs on municipalities	There is no significant difference, it depends on the particular design of the system. Nevertheless, if the competitive system is properly regulated, there is a possibility of cost-transfer on municipalities (in one observed instance even absolute).	
equality of conditions for municipalities (discrimination of small municipalities)	It depends on the quality of regulation since only regulation can limit natural tendencies of competitive PROs to discriminate small municipalities. For logistical reasons, small municipalities present high costs with small volume of waste.	
equality of conditions for producers (discrimination of small producers)	In countries where the tariffs are treated as trade secret, there is a potential for discrimination of small producers.	Equal conditions for all producers.
transactional/administrative costs	In general, transaction costs of all actors are high. Administrative costs of PROs tend to be similar both in the competitive and monopolistic systems. Nevertheless, competitive systems are accompanied with a higher need to prove veracity of reporting and a need to cooperate with competitors. Administrative costs of other actors tend to be proportionally higher with respect to the number of competing PROs.	Lower administrative costs and lower transaction costs of all actors (with the exception of PRO where the basic administrative procedures are similar as they would be in a competitive system). Costs of the supervising authorities are significantly lower.
complexity of record keeping	It depends on the particular design of the system, however, usually the higher complexity of record keeping can be expected in competitive systems – higher number of actors requires higher number of reports for cross-checking. Furthermore, reporting is further complicated by administrative allocation of waste among different PROs.	
quality of service provided to the consumer	There is no significant difference, it depends on the particular design of the system and in the case of competition also on the quality of regulation and supervision. Competitive systems tend to minimize their costs at the expense of quality of the provided service. Consumer cannot differentiate between the service providers and thus cannot accordingly exert influence over the PROs.	
informing/motivations of the consumer	Not a priority for competitive PROs since it increases their individual costs but the benefits are shared among PROs.	Higher than in competition, since the single PRO bears the whole responsibility.
financial transparency	It depends on the particular design of the system, however, higher transparency can be expected in monopolistic system.	
waste transparency	It depends on the particular design of the system, however, transparency tends to be higher in monopolistic system.	
free-riding	It depends on the particular design of the system, however lower transparency in competitive system creates more opportunities for free-riding. Furthermore, sharing of collection infrastructure costs among PROs based on their market share leads to alignment of motivations between PROs and producers to "conceal" packaging or to intentionally classify them "incorrectly".	
enforceability and government control	It depends on the particular design of the system, nevertheless, easier control and enforceability can be expected in the monopolistic system. In case of competition, the increase in competitors is accompanied by the complexity of record keeping and the decrease of the ability to detect fraud.	
reliability of official state statistics	Statistics in competitive system are influenced by the tendency of PROs to decrease their official market share in order to decrease their costs. Since monopolistic PRO is only one regularly controlled subject, reliability of the statistics tends to be higher.	
stability of recycling in negative market fluctuations	Competition – concentration of particular operators of commodities that are easier to trade and have higher price on the secondary raw material market. Monopoly – responsibility for fulfillment of set recycling targets, creation of reserve in case of secondary raw material market fluctuations. In case of major recession, competitive PROs may even be motivated to temporarily or permanently leave the market which could negatively affect financing of the system in an already critical moment.	

10 myths and facts about EPR

MYTH 1: The system of waste collection, sorting and recycling is a normal market. **No.**

MYTH 2: A system with only one operator is an ineffective monopoly. **No.**

MYTH 3: In countries with one operator, the regulator artificially maintains the administrative monopoly. **No.**

MYTH 4: Unlike the competition model, monopoly structure is connected to the regulatory capture. **No.**

MYTH 5: Monopoly system leads to non-transparent pricing and high fees for participators. **No.**

10 myths and facts about EPR

MYTH 6: Competitors can share one collection network. **No.**

MYTH 7: Non-profit status leads to decreased efficiency of the whole system. **No.**

MYTH 8: Fixed prices cause wasteful practices inside the system. **No.**

MYTH 9: Monopoly structures use overpriced ways of waste collection. **No.**

MYTH 10: Competition is always more efficient - in a competitive system, higher performance, especially sorting and recycling rates, are achieved. **No.**

Thank you for your attention.

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About CETA

- **The Centre for Economic and Market Analyses** is a research institution deals with projects of applied economics (*in Czech: Centrum ekonomických a tržních analýz – CETA*)
- Established in 2012, we are independent, nongovernmental and nonpartisan think. We cooperate within the international network www.4liberty.eu (11 countries).
- Main fields of interest:
 - Economics of regulation, public finance, taxation
 - Industrial organization, market structures, competitiveness
 - Transport, energy sector, utilities, waste economy
 - Digital economy, sharing economy, finance, sin industries, economics of luxury
- We do:
 - Studies, analyses, academic papers
 - Consulting and advisory
 - Conferences, round tables, educational projects
 - Pop-economics (outreach in TV, newspapers, digi-media)
 - Publishing (the quarterly [TRADE-OFF](#), books)