

VAT compensation mechanisms



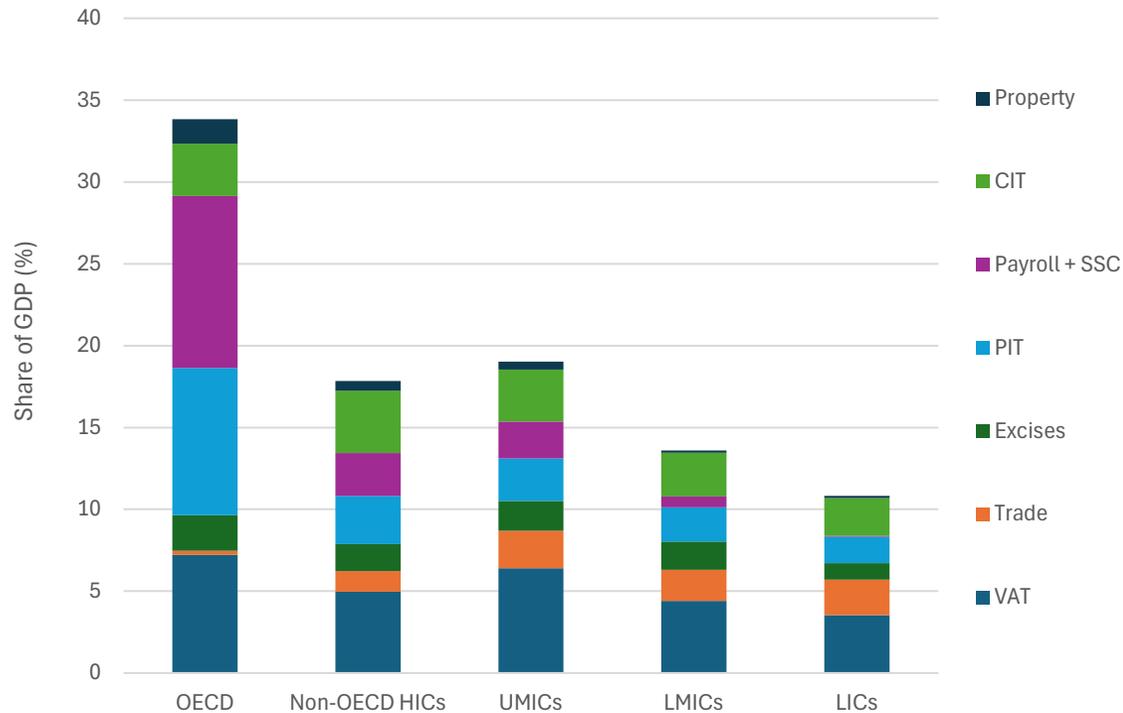
THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

Alastair Thomas

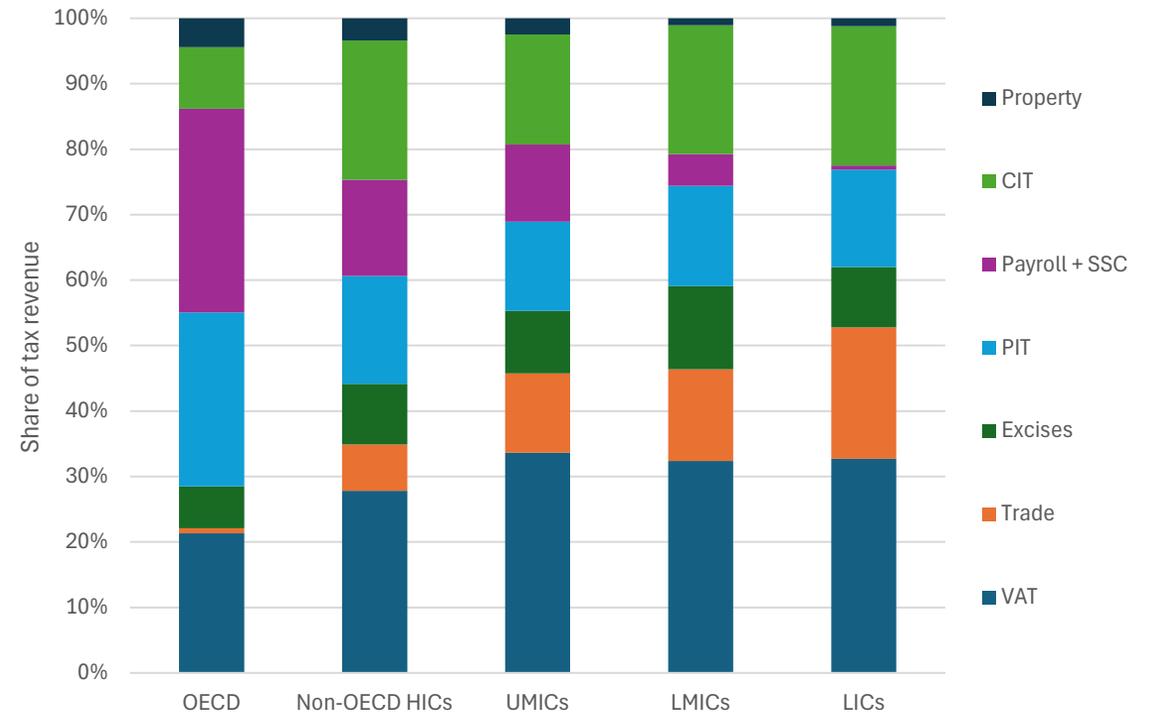
Senior Economist, Fiscal Policy and Growth Department

VAT revenue is crucial, especially in LICs and MICs

**Tax revenue decomposition
(share of GDP)**



**Tax revenue decomposition
(share of total tax revenue)**



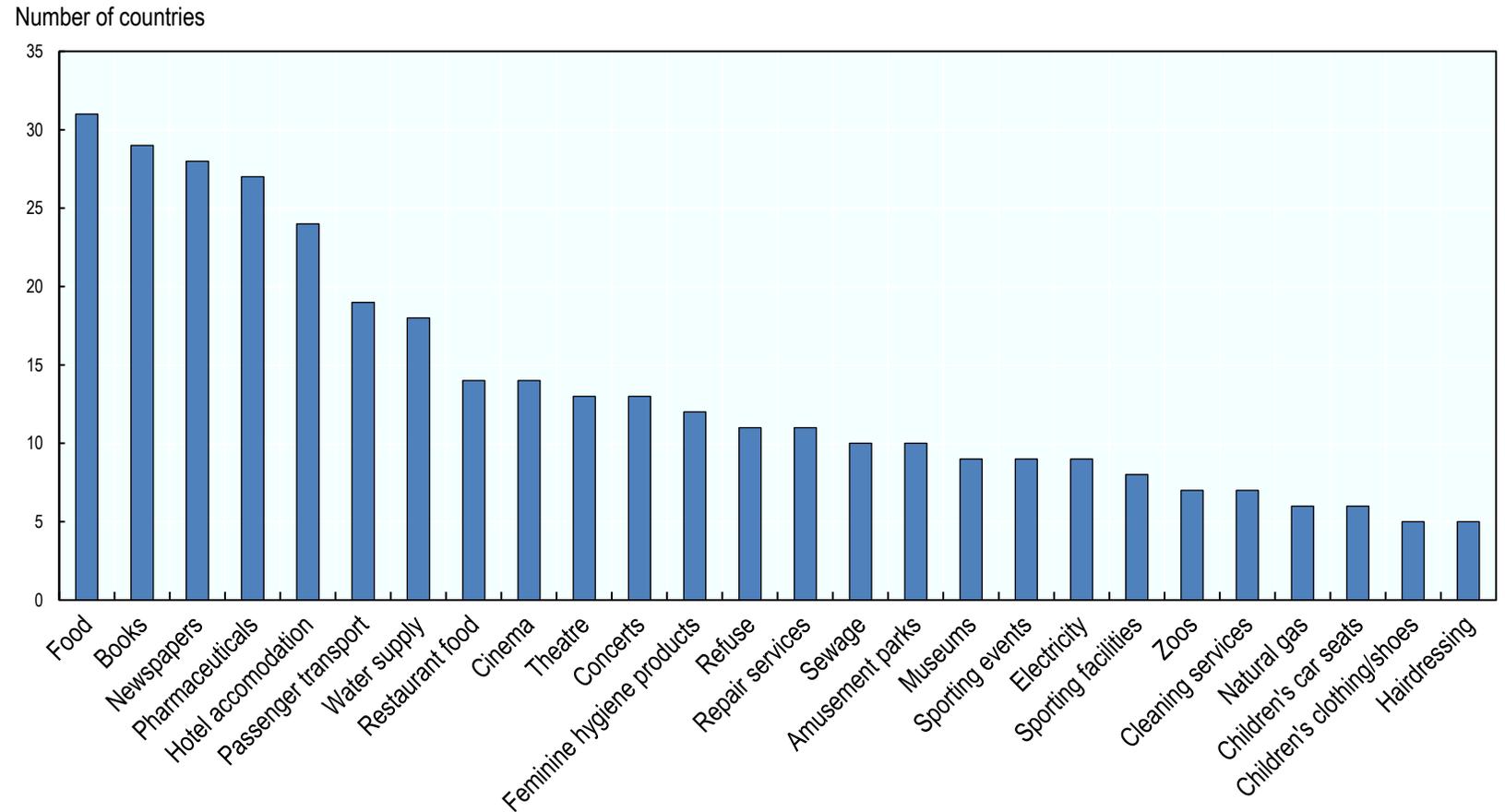
Note: 5-year average 2018-2022, or most recent available data

Source: IMF WoRLD and GFS data

Common reduced VAT rates in OECD countries

- All countries have at least some exemptions (e.g., for financial services)
- Almost all countries have multi-rate structures.
- Only a few countries with broad-based single-rate VAT systems, e.g.:
 - Bosnia and Herzegovina
 - Chile
 - New Zealand
 - Singapore
 - Uzbekistan

Common reduced VAT rates in OECD countries, 2022



Source: Author's calculations based on OECD (2022) and European Commission (2021)

Compensation: why and how?

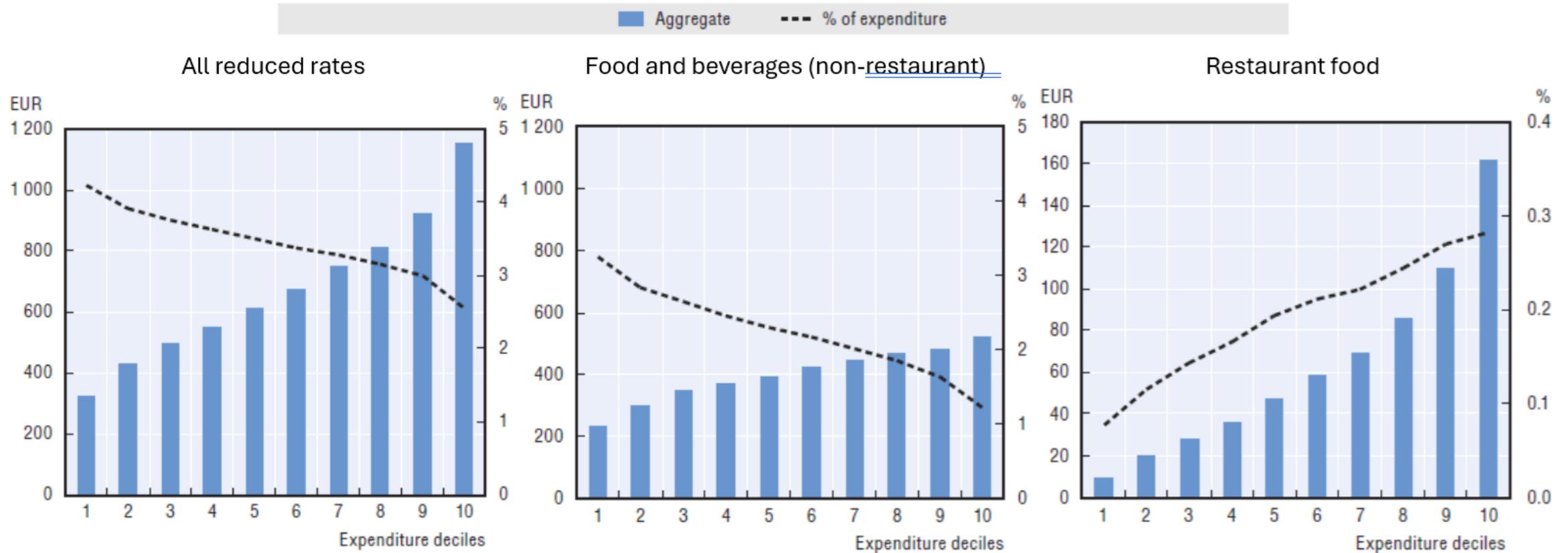
- Typically justified based on the ‘regressivity’ of the VAT. But this requires nuance:
 - VAT is regressive when measured relative to an income base
 - VAT is typically proportional or slightly progressive when measured relative to expenditure
 - Note that ‘regressivity’ under an income-based analysis is driven by savings patterns: the rich save more than the poor, so VAT as a percentage of income falls as income increases. Most savings, though, will be consumed in the future and then subject to VAT. Expenditure basis provides a better proxy for the long-term or lifetime impact of the VAT.
 - Informality can create a degree of progressivity, especially in LICs and MICs.
- Irrespective of its progressivity/regressivity, the VAT will increase poverty, and hence compensation is necessary to reduce (or eliminate) the poverty impact.
- But this compensation does not necessarily need to be via the VAT system... It is the distributional impact of the overall tax (and fiscal) system that matters, not of an individual tax.
- Potential compensation mechanisms:
 - Reduced VAT rates and exemptions
 - Cash transfers (targeted and universal; including tax credits)
 - ‘Personalised’ VAT schemes / cashback schemes

Reduced rates are an ineffective way to target the poor

- Richer households consume more, so benefit more from reduced rates in aggregate.
- OECD/KIPF (2014) examine reduced rates in 20 OECD countries:
 - Reduced rates typically introduced to achieve distributional goals – such as on food, water supply and energy products – are found to have a small progressive effect, but to be poorly targeted.
 - Reduced rates typically introduced to address social, cultural and other non-distributional goals – such as reduced rates on books, restaurant food and hotel accommodation – are often so poorly targeted that they have a regressive effect.
- Warwick et al. (2022) examine overall impact of reduced rates and exemptions in Ethiopia, Ghana, Senegal, Sri Lanka, Uzbekistan and Zambia.
 - Progressive and regressive results, depending on the country, but always poorly targeted.
- Consistent with optimal indirect tax literature (Atkinson and Stiglitz, 1976; Laroque, 2005; Kaplow, 2006): differentiated rates should not be used to achieve distributional goals where direct instruments are available.

Reduced rates are an ineffective way to target the poor

Distributional impact of reduced VAT rates in 20 OECD countries



Source: OECD/KIPF (2014)

Reduced rates may not be passed on into prices

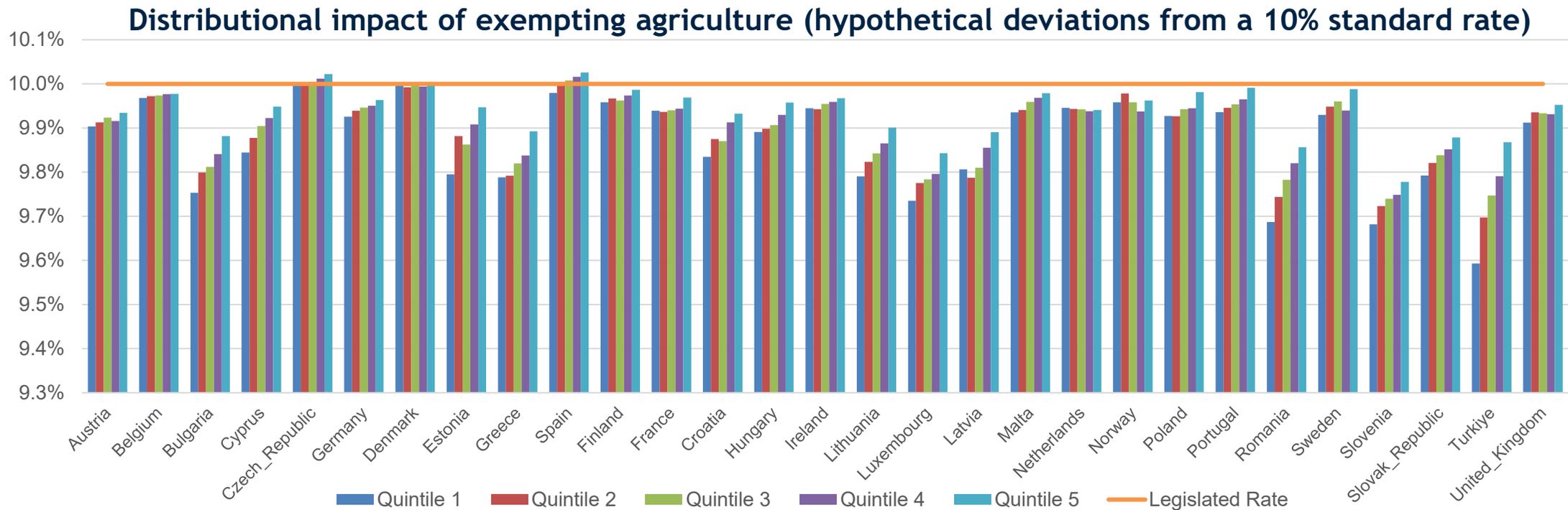
- A standard assumption in the above studies is that the VAT is fully passed on to consumers in prices (and so the savings from a reduced VAT rate are also passed on to the consumer). But this is not necessarily the case:
 - IHS (2011) finds a wide range of empirical results in the literature, covering full, less than full, and more than full pass-through. They conclude that full pass-through is more likely to be found in more competitive markets and for broader VAT reforms.
 - Benzarti et al. (2020) find evidence for European countries of stronger pass-through of VAT increases than VAT decreases.
 - Benedek et al. (2019) find roughly full pass-through of standard VAT rate changes, but only around 30 percent pass-through for changes in reduced VAT rates. Unlike Benzarti et al. (2020), they find no significant evidence of asymmetric responses to price changes in European countries.
 - Gaarder (2018) finds that the introduction of a reduced VAT rate on food in Norway resulted in full pass-through to prices
 - Benzarti, Garriga and Tortarolo (2024) find Argentina's temporary VAT cut resulted in less than full pass-through, and higher prices in independent stores after the temporary reduction ended.

Informality may limit the effectiveness of a reduced rate

- Bachas et al. (2024) estimate informality Engel curves (relating the informal budget share to log total expenditure) for 32 LICs and MICs. Two key findings:
 - Progressivity of the VAT: they find that informality decreases as household expenditure increases, creating a degree of progressivity in the VAT in developing countries.
 - Efficacy of reduced rates on food: they find (very small) positive slopes on formal food Engel curves in some LICs – implying that formal budget shares on food increase with income, and hence that even a reduced rate on food could be slightly regressive in some LICs.
- Similar finding that informality creates progressivity by Jenkins et al. (2006) for the Dominican Republic.

Exemptions create additional problems

- Many LICs and MICs (and some HICs) apply exemptions, instead of reduced rates, to achieve distributional goals.
- Exemptions suffer from the same poor targeting as reduced rates but, in addition:
 - They are production inefficient.
 - They are non-transparent.
 - The indirect effect of a VAT exemption on the price of other goods that use the exempt good as an input can potentially cancel out their progressive direct impact (Chandler, Thomas and Tremblay, 2025).

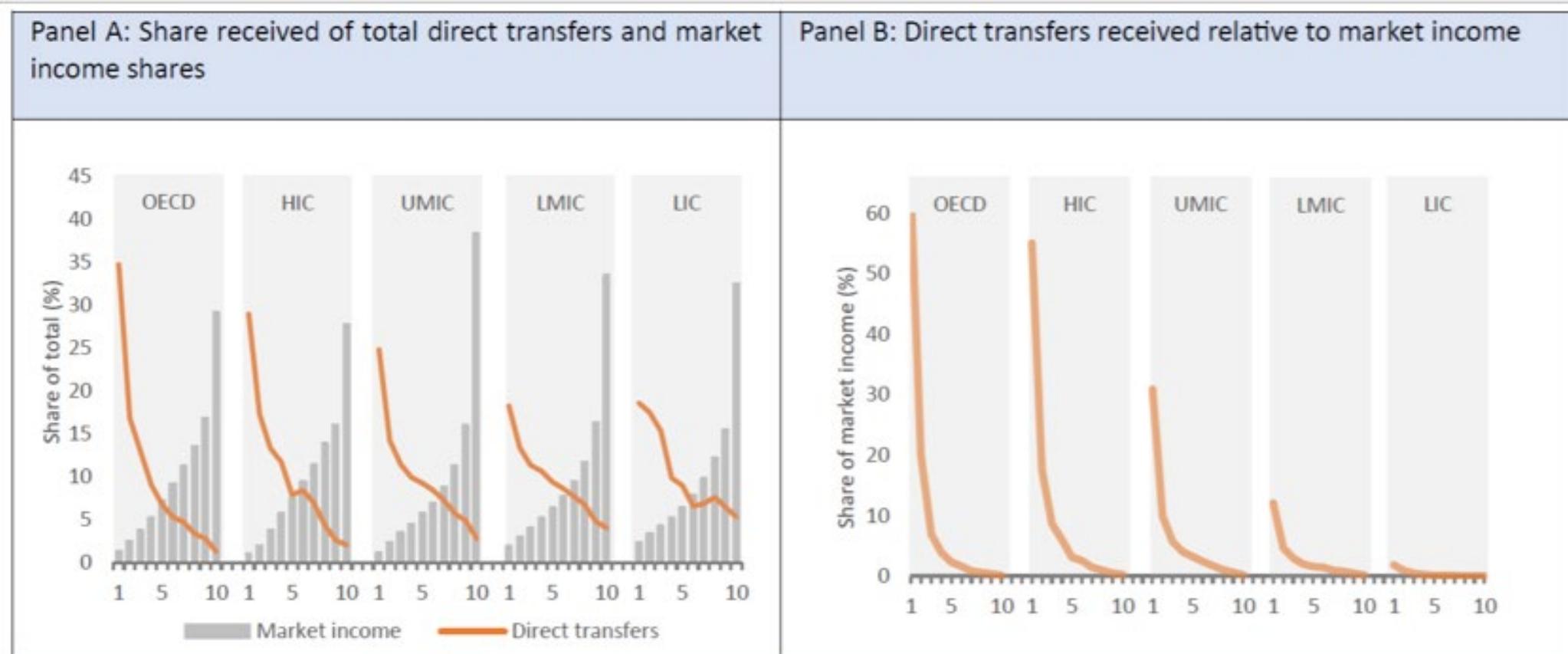


Source: Chandler, Thomas and Tremblay (2025)

Cash transfers better target the poor than reduced rates and exemptions

- A large empirical literature shows that targeted cash transfers or tax credits are far better targeted at the poor. (HICs: e.g., Mirrlees et al., 2011; Crawford, 2010; Thomas, 2022. LICs/MICs: e.g., Warwick et al. (2022); Van Oordt (2018).
- Even an entirely untargeted cash transfer (a universal benefit) will better target support to poor households
 - Warwick et al. (2022).
- But still imperfect, especially in LICs and MICs with less formal income (Van Oordt, 2018; Gcabo et al., 2019; Warwick et al., 2022; Wai-Poi, Sosa and Bachas (2025)).
 - Exclusion errors
 - Inclusion errors
- Also political economy challenges
 - Perception; Imperfect take-up; (lack of) trust that compensation will be indexed.
 - Can label a cash transfer/ tax credit as a “VAT rebate” – e.g. Singapore’s “enhanced GST voucher”.
- If no ability to effectively implement a cash transfer... then a reduced rate on food will still be an appropriate policy option.

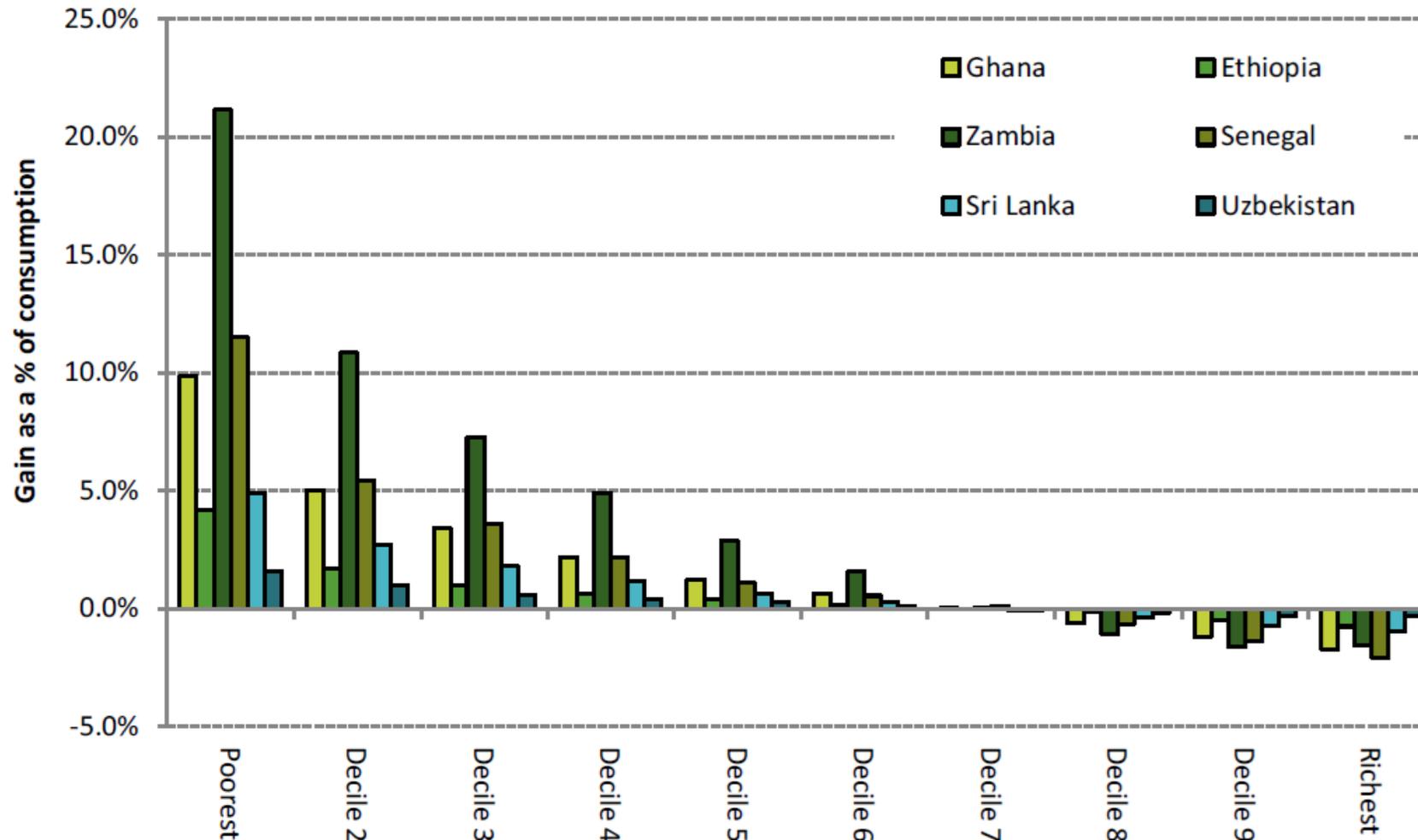
Cash transfers better target the poor than reduced rates and exemptions, but are less effective in LICs and MICs



Source: Wai-Poi, Sosa and Bachas (2025)

Even a universal cash transfer will better target the poor than reduced VAT rates and exemptions

Revenue-neutral reform: single VAT rate funding a universal transfer



Source: Warwick et al. (2022)

“Personalised VAT” schemes may overcome political economy difficulties, but also have significant limitations...

- “Personalised VAT” schemes (including real-time schemes)
 - Barreix, Bès, and Roca (2010, 2012); de la Feria and Swistak (2024).
 - Examples: Uzbekistan; Rio Grande do Sul, Brazil.
- Another “tool in the toolkit”. But some caution needed:
 - It is the total distributional impact of the tax/fiscal system that matters. No need for a tax-by-tax solution.
 - High administrative/IT requirements
 - Privacy concerns
 - Risk of fraud
 - VAT cashback is limited to the level of the VAT paid.
 - Similar targeting problems as with a cash transfer (e.g. where eligibility is based on social register)
 - A country with the ability to implement a real-time cashback is likely to also be able to effectively implement a targeted cash transfer.
- A potential solution for a limited number of countries: (1) with the administrative capacity to implement; and (2) where political economy considerations prevent the adoption of a targeted cash transfer.
- Nevertheless, focus is also needed on improving existing cash transfer design (including both horizontal and vertical expansion).

References

For full list of references see:

Thomas, A., (2024) “VAT rate structures in theory and practice”, World Bank Policy Research Working Papers, No. 10677.

Chandler, W., A. Thomas and F. Tremblay, (2025) “VAT exemptions, embedded tax, and unintended consequences”, World Bank Policy Research Working Papers, No. 11120.

Thank you!

athomas@worldbank.org