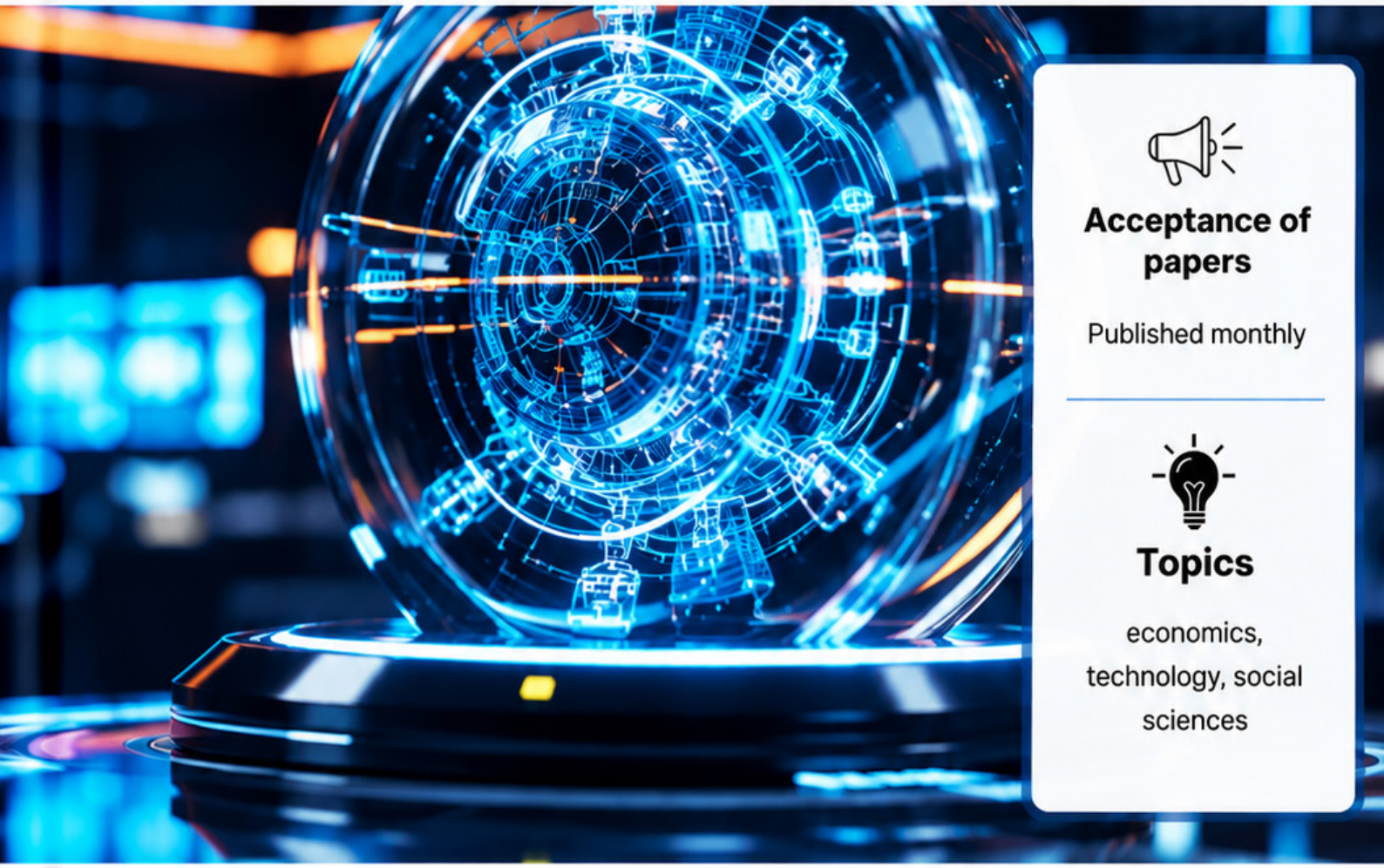
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OPTIMIZING THE COMPOSITION OF THE TAX BURDEN TO REDUCE THE SHADOW ECONOMY: INTERNATIONAL EXPERIENCE AND INSTITUTIONAL MECHANISMS FOR UZBEKISTAN



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Abstract: This article examines the relationship between the scale of the shadow economy and not only the aggregate tax burden but also its composition, the balance between direct and indirect taxation, personal income tax progressivity, small-business tax regimes, and the distributional implications of value-added tax (VAT). Cross-country comparative materials and figures are analyzed descriptively and assessed against evidence from internationally peer-reviewed research. The coexistence of relatively high tax burdens and smaller shadow economies in high-income countries indicates that statutory tax rates alone are not decisive. The article proposes strengthening the automatic-stabilizer function of personal income taxation, facilitating gradual business formalization, and combining a broad VAT base with targeted compensation. It explicitly distinguishes descriptive cross-country associations from causal effects.

Keywords: shadow economy; tax burden; tax composition; regressivity; progressive income taxation; VAT; fiscal stabilizers; tax compliance; formalization.

Annotatsiya: Ushbu maqolada yashirin iqtisodiyot ko‘lami va nafaqat umumiy soliq yuki, balki uning tarkibi, to‘g‘ridan-to‘g‘ri va egri soliqlar o‘rtasidagi nisbat, jismoniy shaxslardan olinadigan daromad solig‘ining progressivligi, kichik biznes uchun belgilangan soliq rejimlari hamda qo‘shilgan qiymat solig‘ining (QQS) daromadlar taqsimotiga ta’siri o‘rtasidagi bog‘liqlik o‘rganilgan. Mamlakatlararo qiyosiy ma’lumotlar va statistik ko‘rsatkichlar tavsifiy usulda tahlil qilinib, xalqaro taqrizdan o‘tgan ilmiy tadqiqotlar natijalari bilan solishtirilgan. Yuqori daromadli mamlakatlarda soliq yuki nisbatan yuqori bo‘lishiga qaramay, yashirin iqtisodiyot ko‘lamining kichikligi qonunchilikda belgilangan soliq stavkalarining o‘zi hal qiluvchi omil emasligini ko‘rsatadi. Maqolada jismoniy shaxslardan olinadigan daromad solig‘ining avtomatik barqarorlashtiruvchi funksiyasini kuchaytirish, biznes subyektlarini bosqichma-bosqich rasmiylashtirishni rag‘batlantirish hamda QQSning keng soliq bazasini maqsadli kompensatsiya mexanizmlari bilan uyg‘unlashtirish taklif etilgan. Shuningdek, mamlakatlararo tavsifiy bog‘liqliklar sabab-oqibat munosabatlaridan aniq farqlangan.

Kalit so‘zlar: yashirin iqtisodiyot; soliq yuki; soliq tarkibi; regressivlik; progressiv daromad solig‘i; QQS; fiskal barqarorlashtiruvchilar; soliq intizomi; rasmiylashtirish.

Аннотация: В данной статье рассматривается взаимосвязь между масштабами теневой экономики и не только совокупной налоговой нагрузкой, но и её структурой, соотношением прямого и косвенного налогообложения, прогрессивностью налога на доходы физических лиц, налоговыми режимами для малого бизнеса, а также распределительными последствиями налога на добавленную стоимость (НДС). Межстрановые сравнительные данные и статистические показатели анализируются описательным методом и сопоставляются с результатами международных рецензируемых научных исследований. Сосуществование относительно высокой налоговой нагрузки и меньших масштабов теневой экономики в странах с высоким уровнем доходов свидетельствует о том, что одни лишь установленные законодательством налоговые ставки не являются решающим фактором. В статье предлагается усилить функцию автоматических стабилизаторов налога на доходы физических лиц, содействовать постепенному переходу субъектов предпринимательства в формальный сектор экономики, а также сочетать широкую налоговую базу НДС с адресными компенсационными механизмами. При этом описательные межстрановые взаимосвязи чётко разграничиваются с причинно-следственными эффектами.

Ключевые слова: теневая экономика; налоговая нагрузка; структура налогообложения; регрессивность; прогрессивное налогообложение доходов; НДС; фискальные стабилизаторы; налоговая дисциплина; формализация.

INTRODUCTION

The shadow economy is a complex institutional phenomenon associated with a narrower tax base, inadequate protection of employment relationships, distorted competition, and constrained financing of public services. Mechanically lowering tax rates is insufficient to reduce informality: the equitable allocation of tax liabilities, administrative costs, digital reporting, social protection, and trust in government interact in shaping compliance.

This study aims to systematize observed relationships between tax-burden composition and the scale of the shadow economy across countries and to develop practical tax-policy and administrative mechanisms for Uzbekistan. The central research question is how changing the distribution and administrative design of taxation, rather than merely lowering the aggregate burden, can encourage formalization.

REVIEW OF LITERATURE ON THE SUBJECT

Schneider, Buehn, and Montenegro [1] estimate the shadow economy in 162 countries using a multiple-indicators multiple-causes (MIMIC) approach and discuss institutional and tax-related determinants. Their estimates should be interpreted with due regard to sensitivity to model specification and calibration.

Using panel data from 143 countries, Keen and Lockwood [2] identify a complex relationship between VAT adoption and revenue performance, suggesting that the fiscal benefits of VAT depend on institutional conditions.

Drawing on field experiments involving more than 400,000 firms in Chile, Pomeranz [3] demonstrates the potential of third-party information and transaction trails within the VAT chain to strengthen compliance. Bachas, Gadenne, and Jensen [4] examine informal retail activity and the redistributive effects of consumption taxes in developing economies, showing that the incidence of VAT depends not only on statutory rates but also on purchasing patterns and the share of informal markets. An important methodological distinction in this literature is that macroeconomic MIMIC estimates model otherwise unobserved activity, whereas administrative microdata capture the behavior of identified registered entities. Accordingly, the cross-country figures in this article are interpreted as descriptive evidence for developing policy hypotheses rather than independent proof of causal effects.

Whereas Keen and Lockwood [2] investigate the institutional and fiscal determinants of VAT adoption, Pomeranz [3] provides experimental evidence of self-enforcement through documented transactions in the VAT chain. The former focuses on cross-country development of a tax institution, while the latter identifies a microeconomic compliance mechanism; the approaches are complementary. Using data from Ecuador, Carrillo, Pomeranz, and Singhal [5] identify limitations of third-party reporting: firms may report revenues more accurately while overstating expenses to reduce their taxable base. Digital administration must therefore cross-check not only sales but also costs and counterparties throughout transaction chains. Kleven, Kreiner, and Saez [6] conceptualize firms as fiscal intermediaries and explain theoretically why third-party reporting can sustain tax collection. More extensive accounting trails in larger firms make concealment more difficult, whereas monitoring small, cash-intensive businesses may be costly [7]. These findings underscore the relevance of integrating electronic invoices and payment records in Uzbekistan.

The principal research gap emerging from this literature concerns the need to evaluate the aggregate tax burden, its composition, compensation mechanisms, and digital enforcement as an integrated policy package. This article synthesizes these relationships using comparative materials and institutional analysis; it does not claim to produce new regression estimates.

RESEARCH METHODOLOGY

The study applies comparative institutional analysis, descriptive statistics, typological classification, and graphical analysis. The underlying materials include aggregate country groupings covering tax composition and the shadow economy in 152 countries, personal income tax schedules in 140 countries, corporate tax regimes in 160 countries, and VAT models in 181 countries. Because the source datasets and observation years underlying the figures are not separately documented, the graphics are treated as supplied aggregate calculations rather than independently reproduced statistics.

The conceptual relationship is expressed as SE = f(TB, IT, PT, INST, DIG, SOC), where SE denotes the shadow-economy share; TB, the aggregate tax burden; IT, reliance on indirect taxation; PT, personal income tax progressivity; INST, institutional quality; DIG, digital tax administration; and SOC, social compensation. This expression is a theoretical framework for organizing hypotheses, not an estimated econometric equation.

ANALYSIS AND RESULTS

According to the supplied classification, high-income countries exhibit an aggregate tax burden of approximately 31% and a shadow-economy share of about 21%, compared with a tax burden of 12% and a shadow-economy share of 41% in low-income countries. This contrast does not support a simple positive association between the tax burden and informality. Nevertheless, differences in income, governance quality, and statistical coverage preclude causal inference.

Marked cross-country differences in shadow-economy shares are consistent with variation in institutional conditions and the costs of entering the formal sector. Comparisons between countries with high reported shares, such as Afghanistan and Nigeria, and countries such as Austria and Denmark must consider administrative capacity, security, and statistical coverage alongside tax rates. The colored groups represent a descriptive classification, not causal thresholds (Figure 1, 2).

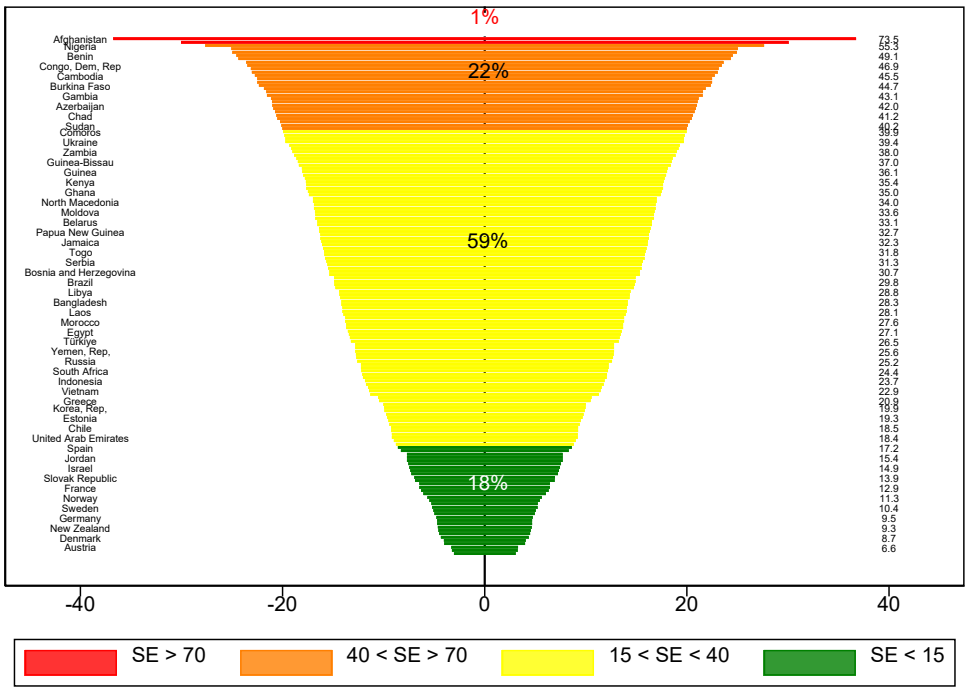


Figure 1. Classification of countries by the size of the shadow economy[1]

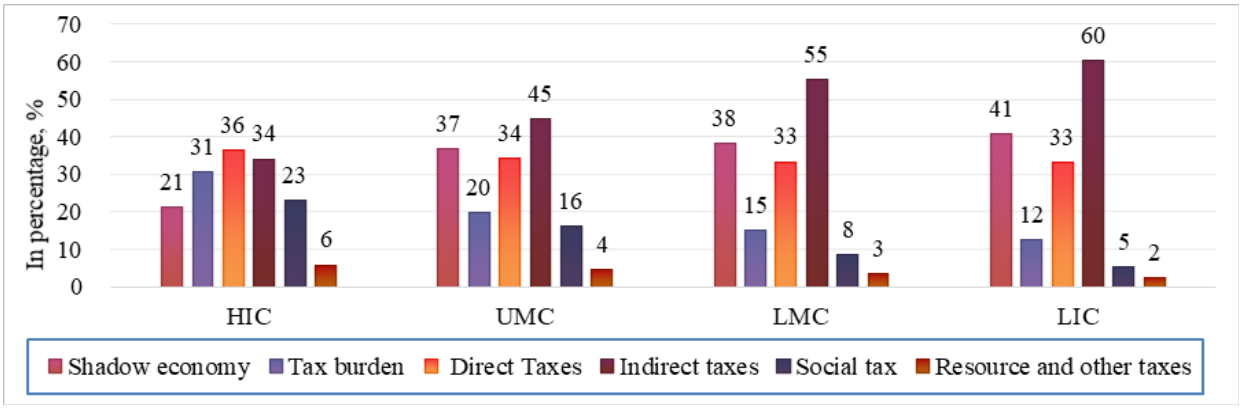


Figure 2. Comparative analysis of shadow-economy shares and tax-burden composition by country income group[2]

The aggregate tax burden in the supplied income-group comparison is 31% in high-income countries

1 Author`s calculation: www.data.worldbank.org – World Bank Open Data and www.worldeconomics.com – World Economics. Informal Economy Size.

2 Author's calculation: www.data.worldbank.org – World Bank Open Data and www.worldeconomics.com – World Economics. Informal Economy Size.

and 12% in the low-income group. The corresponding shadow-economy shares are 21% and 41%. This contrast points toward improving tax composition and trust in public services rather than relying exclusively on mechanical reductions in the tax burden (Figure 3, 4).

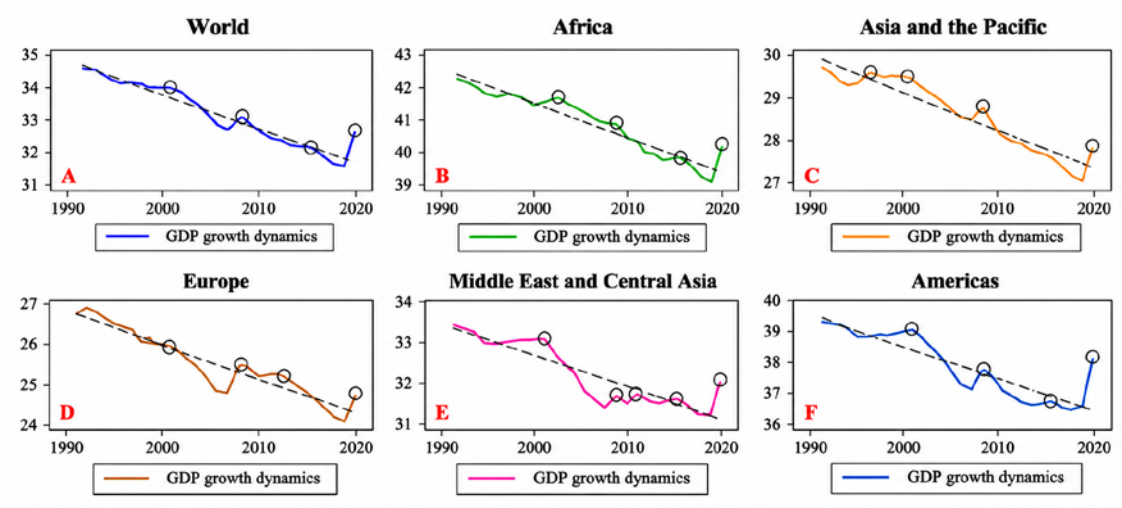


Figure 3. Responses of the shadow economy to economic contractions and expansions across business-cycle phases[3]

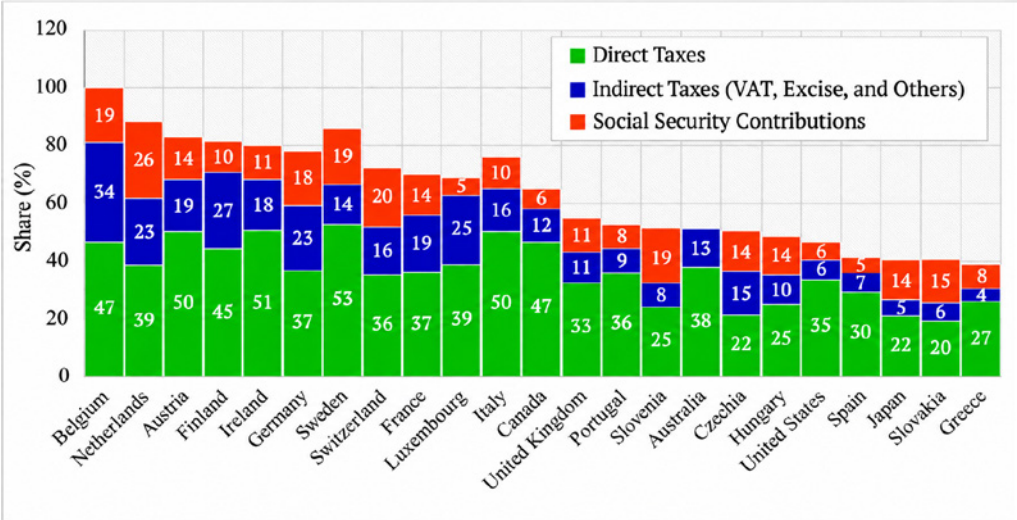


Figure 4. Effectiveness of automatic fiscal stabilizers in mitigating the COVID-19 shock across OECD countries[4]

Although regional time series for 1990–2020 show a broadly declining trend, temporary increases occur in some years. Dashed lines indicate trends, while colored lines represent annual movements. Identifying the effects of shocks would require a separate counterfactual design and macroeconomic control variables.

Cross-country comparisons of fiscal stabilization channels reveal different relative contributions from direct taxes, social contributions, and transfers. The yellow markers in the supplied figure represent an aggregate measure of shock absorption rather than the shadow-economy share. This comparison highlights the importance of coordinating tax policy with targeted assistance to low-income households in Uzbekistan (Figure 5).

3 Author's calculation: www.data.worldbank.org – World Bank Open Data and www.worldeconomics.com – World Economics. Informal Economy Size.

4 Maravalle, A., and Rawdanowicz, Ł. (2020). How Effective Are Automatic Fiscal Stabilisers in the OECD Countries? OECD Economics Department Working Papers, No. 1635, p. 23.

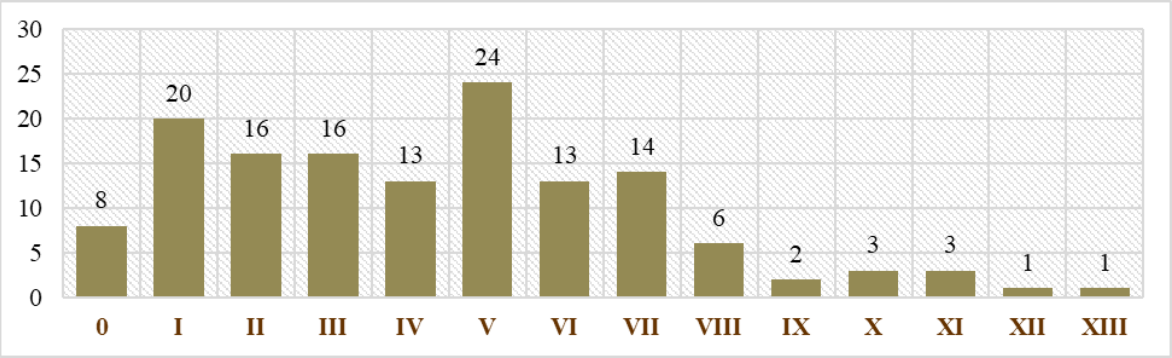


Figure 5. Number of personal income tax brackets across countries[5]

The supplied classification of 140 countries indicates that 112 use schedules with two or more rates, 20 apply a single rate, and eight do not levy personal income tax. Five-bracket schedules occur in 24 countries. A tax-free allowance or refundable tax credit could increase the net return to formal employment among low-income workers; however, the effect of progressivity on formalization depends on rates, enforcement, and social insurance arrangements.

Five-bracket schedules are the most frequent category in the reported distribution, covering 24 countries. Single-rate schedules are reported for 20 countries, while eight countries have no personal income tax. The number of brackets alone does not measure progressivity: marginal rates, tax-free allowances, deductions, and the actual income distribution are also relevant.

In the supplied classification of 160 countries, 55 operate general and special tax regimes in parallel, 40 provide reduced rates for small businesses within the general regime, and 65 apply a single general regime. Average standard and special-regime rates in the first group are reported as 25% and 4%, respectively; in the second, 22% and 14%; and in the third, 17%. Although special regimes reduce reporting costs, they may incentivize artificial business fragmentation and turnover concealment. Entry and exit thresholds should therefore be designed to facilitate gradual transitions (Figure 6).

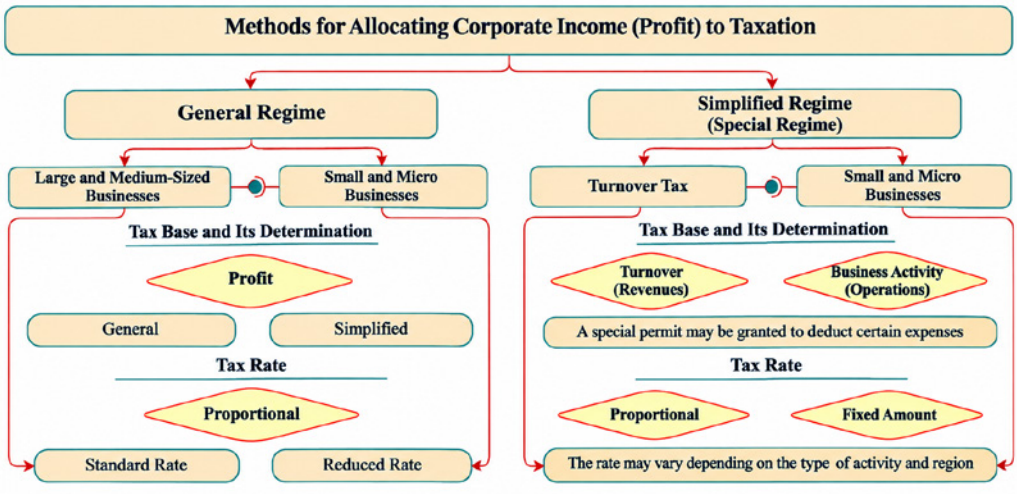


Figure 6. International approaches to corporate income (profit) taxation[6]

The schematic comparison of corporate tax regimes identifies the definition of the tax base, profits, turnover, or activity-based criteria, as a key distinction between general and special regimes. Simplification may reduce small-business accounting costs but can also incentivize artificial fragmentation near turnover thresholds.

The 160-country classification identifies 55 countries with parallel general and special regimes, 40 with reduced rates under a general regime, and 65 with a single general regime. Because the average rates shown may apply to different economic bases, comparisons of nominal rates alone are insufficient.

In the supplied classification of 181 countries, 84 are assigned to conventional VAT models, 65 to modern

5 Author`s calculation: www.pwc.com – PwC. Worldwide Tax Summaries

6 Author`s calculation: www.oecd.org – OECD. Corporate Tax Statistics Database.

models characterized by a broad base and uniform rate, and 32 to hybrid models. The respective average standard rates for the first two categories are reported as 18% and 12%, while the hybrid category varies by specification. In principle, a broad base combined with targeted compensation may preserve both revenue efficiency and social targeting. However, as Allingham and Sandmo [9] emphasize, the actual distributional impact of VAT cannot be established without accounting for purchases from informal markets and household consumption patterns.

Conventional, modern, and hybrid VAT models differ principally in their use of exemptions and compensatory instruments. A broad-base, uniform-rate model may strengthen fiscal neutrality, but protecting low-income households requires reliable social registries and prompt payment infrastructure (Figure 7).

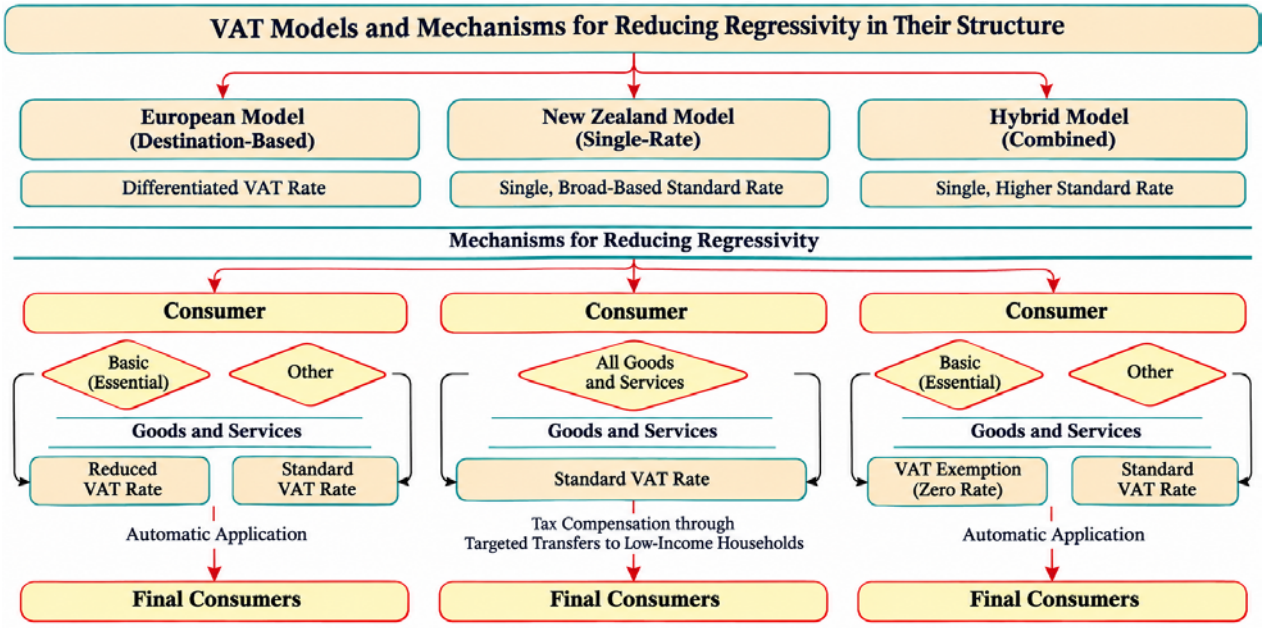


Figure 7. VAT models used internationally and mechanisms for mitigating regressivity[7]

The proposed compensation mechanism involves three distinct decisions: who should receive transfers, how much should be paid, and through which delivery channel. Means-tested assistance may limit fiscal costs, whereas universal compensation can reduce exclusion errors but is more expensive. Pilot evaluations should jointly monitor consumption, the share of documented purchases, and fiscal costs.

Electronic invoicing, online cash registers, reconciliation with banking transactions, risk-based audits, and prefilled tax returns can reduce compliance costs. Pomeranz [3] provides experimental evidence of the importance of third-party information within VAT chains. Digitalization should nevertheless be accompanied by personal-data safeguards, accessible error-appeal mechanisms, and technical support for small businesses.

CONCLUSIONS AND SUGGESTIONS

Recommendation 1. Tax-burden assessment should extend beyond the aggregate tax-to-GDP ratio to the regular estimation of effective tax rates by income decile, sector, and firm size.

Recommendation 2. To support low-income formal employment, options for a tax-free allowance or targeted refundable tax credit should be evaluated through microsimulation of fiscal costs and labor-supply incentives.

Recommendation 3. Transitions from special small-business regimes to the general regime should minimize abrupt threshold effects, lower the cost of electronic accounting and reporting, and use risk indicators to detect artificial business fragmentation.

Recommendation 4. Scenarios for maintaining a broad VAT base and a relatively uniform rate should be evaluated jointly with targeted cashback or social transfers, with beneficiaries and budgetary costs identified in advance.

Recommendation 5. Integration of electronic invoices, online cash registers, and prefilled returns into a unified digital ecosystem should ensure audit transparency, appeal rights, and data security.

Recommendation 6. Reform impacts should be assessed through phased district- or sector-level

7 Author`s calculation: www.imf.org – IMF. Tax Policy Assessment Framework.

implementation, difference-in-differences designs, or randomized pilots, monitoring formal employment, VAT-chain continuity, newly registered businesses, and tax receipts.

International comparative evidence suggests that a higher aggregate tax burden does not necessarily imply a larger shadow economy. Tax composition, distributional fairness, institutional trust, and administrative effectiveness matter jointly. Coordinated use of progressive personal income tax elements, transitional regimes for small businesses, targeted VAT compensation, and digital reporting could improve the relative attractiveness of formal economic activity. The supplied aggregate graphics do not establish causal effects of these policies; final decisions for Uzbekistan should be informed by microdata, fiscal-impact analysis, and pilot evaluations.

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