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Beyond the PIT Schedule: Effective Tax Burdens, Redistribution and Income Inequality in the Baltic States

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***Abstract*— The article examines whether the formal PIT (personal income tax) schedule predicts distributional outcomes or whether the effective architecture of tax and contribution burdens and the transfer system is decisive, based on a comparative analysis of Estonia, Latvia and Lithuania in 2015–2025. Effective burdens are measured by the ETR spread – the difference in effective tax-and-contribution rates at 167% and 67% of the average wage. Distributional outcomes are measured by the redistributive power index (RS), with public pensions classified as primary income. The formal PIT schedule is a weak predictor of inequality. Estonia, retaining a flat rate, raised its ETR spread from 2.5 to 9.0–11.4 points from 2018 via the income-tapered allowance, achieving the highest RS in the triad, peaking at 12.8% in 2021. Latvia's 2018 reform yielded only a moderate RS increase, followed by a post-2025 decline. Lithuania, despite a top rate, retained the highest post-transfer Gini (35.1–37.9). The transfer deficit remains the principal redistributive gap in the Baltic states. The paper provides the first systematic EE–LV–LT comparison of ETR spread and RS, framed by optimal taxation theory, documenting that the Estonian income-tapered allowance generates higher effective progressivity than the Lithuanian rate applied at a threshold irrelevant to the average taxpayer.**

Keywords— personal income tax (PIT), tax progressivity, fiscal redistribution, income inequality, tax-transfer system, Baltic States

I. INTRODUCTION

The Baltic countries offer a distinctive analytical laboratory for examining the relationship between tax progressivity and income inequality. Estonia introduced a flat tax in 1994 among the earliest post-socialist countries to do so – and has retained it, evolving its parameters while preserving the formal flatness of the schedule. Latvia and Lithuania maintained formally flat schedules for nearly two decades before introducing progressive rate structures: Latvia in 2018, Lithuania in 2019. The triad therefore constitutes a natural comparative experiment in which the relationship between the formal PIT (personal income tax) schedule and income distribution can be examined under conditions structurally different from those of most Central European countries: comparatively weak transfer systems, inequality persistently above the EU average, and a deeper imprint of labour migration on income distributions (Staehr, 2017).

The renewed debate on progressive taxation as a redistributive instrument is well established (Atkinson, 2015; Piketty, 2014; Stiglitz, 2012). In the Baltic states its terms are sharper: Milanovic (1998) records one of the steepest transition-era increases in inequality; Černiauskas & Čiginas (2020) show that Lithuania persistently displays one of the highest Gini coefficients in the European Union; and Navicke (2020) demonstrates that income and policy factors, rather than demographic ones, drive distributional change across the triad. Sproģe et al. (2025) confirm that all three tax-transfer systems achieve only modest inequality reduction relative to the EU average.

Existing analyses concentrate on formal PIT parameters or, as in Āzacis and Gillman (2010), on the macroeconomic effects of flat-tax reform, without systematically operationalising effective progressivity across the whole tax-transfer architecture. The closest studies – Černiauskas et al. (2022) for Lithuania, Navicke and Lazutka (2018) for the Baltic triad, and Skučienė and Lazutka (2019) on redistribution through social benefits – do not compare effective burdens (ETR spread) with redistributive power (RS) for the full EE–LV–LT triad in 2015–2025. Filling this gap is the aim of this article, organised around three research questions:

RQ1: How did effective tax and contribution burdens evolve

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in Estonia, Latvia and Lithuania between 2015 and 2022 relative to the formal parameters of the PIT schedule?

RQ2: How did income inequality and the scale of redistribution evolve in the triad?

RQ3: Did more progressive formal PIT parameters correspond to lower income inequality?

Three hypotheses operationalise these questions. H1: the formal parameters of the PIT schedule are a weak predictor of distributional outcomes – a wider range of nominal progressivity is neither a sufficient nor a necessary condition for lower inequality. H2: the effective architecture of the tax-transfer system, including the design of the tax-free allowance, the targeting of transfers, and the system's resistance to income shifting, predicts distributional outcomes more strongly than the formal schedule. H3: conditional on the level of primary income inequality – Gini(pre), higher RS is associated with lower Gini(post) – post-transfer Gini; the unconditional relationship is not directionally homogeneous, because RS is a ratio measure jointly determined with Gini(post) by Gini(pre).

II. PIT SCHEDULE, EFFECTIVE TAX AND CONTRIBUTION BURDENS AND INCOME REDISTRIBUTION – THEORETICAL FRAMEWORK AND INSTITUTIONAL CONTEXT

The analytical distinction between the formal PIT schedule and the effective tax and contribution burden is the starting point for assessing the impact of a tax system on income distribution. The schedule follows directly from statute and is described by the number of thresholds, marginal rates and the tax-free allowance. Effective burdens describe the actual distribution of liabilities once the whole fiscal architecture is considered: reliefs and deductions, rate differentiation by income source, the structure of social security contributions, and taxpayers' adaptive behaviour (Musgrave & Musgrave, 1989; Joumard et al., 2012; OECD, 2015). Mirrlees (1971) demonstrated that the optimal marginal rate at each income level is a function of the productivity distribution and the local elasticity of labour supply; Saez (2001) expressed this in elasticity terms, and Diamond and Saez (2011) argue for high marginal rates on top percentiles where that elasticity is low. This has direct implications for the Baltic cases: the Lithuanian top rate of 32%, applied at an exceptionally high threshold, is normatively justified only if labour supply among the highest earners is inelastic – a questionable assumption in an open economy with mass emigration. The Estonian strategy of generating progressivity through the tax-free allowance, by contrast, operates in the middle of the distribution, where Saez (2001) locates greater redistributive leverage.

Three institutional mechanisms drive a wedge between the formal schedule and effective burdens in the Baltic states. The first is the design of the tax-free allowance. Estonia applies an income-tapered (degressive) allowance, the Maksuküür, which falls to zero in the upper income segment and generates effective progressivity under a nominally flat rate; Latvia used a differentiated minimum until 2025; and Lithuania applies the NPD mechanism (Neapmokestinamasis pajamų dydis), which reaches zero above average earnings (Table 1). Each produces a progressive burden profile in the lower segment irrespective of the nominal rate. The second mechanism is the structure of social security contributions, which are high and largely uncapped; the absence of strict ceilings on the contribution base prevents the regressive compression of effective burdens observed where contributions are capped. The third is the modest and weakly targeted transfer system: Skučienė and Lazutka (2019) show that redistribution through social benefits in the triad is structurally lower than in more developed welfare states, which limits the compensating capacity of the transfer side.

Two measurement limitations qualify the evidence base. Standard inequality measures rest on survey data (EU-SILC) that systematically understate top-percentile incomes (Blanchet et al., 2022); Navicke and Lazutka (2018) show that reconciling survey data with national accounts raises measured inequality, particularly in Latvia and Lithuania, while Gavoille and Zasova (2023) document under-reporting concentrated at the minimum wage and Putniņš and Sauka (2015) estimate a substantial shadow economy. Behaviourally, Pántya et al. (2016) find weaker compliance under progressive than under flat-rate systems with comparable effective burdens, although the external validity of experimental findings to the Baltic context requires caution. The methodological anchoring of this study rests on Reynolds and Smolensky (1977) and Kakwani (1977); in the absence of microdata, a simplified RS indicator computed from aggregated Eurostat data is used.

Guillaud et al. (2020) identify four levers of redistribution and show that cash transfers, rather than direct taxes, carry the greatest redistributive weight. In the Baltic states this hierarchy is constrained rather than reversed: because transfers are modest – Sprogė et al. (2025) confirm social spending below the EU average in all three countries – the tax side carries a relatively greater, though still insufficient, share of the redistributive burden. Duncan and Peter (2016), examining 65 countries, show that a formally progressive schedule does not guarantee inequality reduction without a supporting institutional framework, a conclusion of particular relevance to Lithuania, where the region's highest top rate coexists with the region's highest inequality. The weakness of the transfer side has institutional roots beyond underfunding: Aidukaitė (2003, 2006, 2014) documents the shift from the Soviet universalist model to a contribution-based hybrid in which political elites consistently favoured selective over universal benefits, with Europeanisation after 2004 only partially correcting the trend and benefit adequacy remaining low. Voronov et al. (2020) find multidimensional poverty in the Baltic states well above the EU average irrespective of measurement method, indicating a social security deficit broader than monetary income alone.

The post-transition setting also differs from that of Central Europe in several respects. Transformation produced a sharper increase in inequality than in countries with stronger welfare traditions (Milanovic, 1998); the "Baltic Tiger" doctrine of low taxation and limited redistribution entrenched a weak transfer system in the first two decades; euro accession (Estonia 2011, Latvia 2014, Lithuania 2015) imposed further fiscal constraints; and mass emigration after 2004 had an ambiguous

distributional effect, with Garcia-Louzao and Ruggieri (2022) and Magda et al. (2021) documenting reduced wage inequality alongside reinforced demographic and regional disparities. The triad therefore offers a valuable setting for evaluating the dominance of effective tax-transfer architecture over the nominal schedule.

III. Methodology

The study combines comparative institutional analysis with secondary data analysis. With N=3, econometric inference would not be methodologically justified, whereas a comparative-interpretive approach accommodates the institutional specificity of each case and is standard in the literature on small numbers of complex units (Duncan & Peters, 2016). Estonia, Latvia and Lithuania share sufficiently similar historical backgrounds – post-socialist transformation, EU accession in 2004, euro adoption in 2011–2015 – while pursuing distinctly different tax experiments, and can therefore be treated as quasi-natural comparative cases; Staehr (2017) shows that their reform choices were shaped by a combination of ideological, fiscal and integration-related factors.

Public pensions are treated as deferred contributory earnings and classified as primary income, following Joumard et al. (2012) and Immervoll and Richardson (2011), who show that counting pensions as transfers overstates measured redistribution in countries with older demographic structures. The RS index measures the redistributive power of the tax-transfer system as the percentage reduction in the Gini coefficient achieved by the fiscal system:

$$RS = [(Gini(pre) - Gini(post)) / Gini(pre)] \times 100 \quad (1)$$

The RS approximates the Reynolds-Smolensky (1977) measure: it captures the combined effect of taxes and transfers without separating them and remains sensitive to the definition of primary income – a structural limitation of macro-comparative analyses based on aggregated EU-SILC data.

The ETR spread operationalises the effective progressivity of tax and contribution burdens as the difference in effective burden rates between employees earning 167% and 67% of the average national wage:

$$\text{ETR spread} = ETR_{167} - ETR_{67} \quad (2)$$

Source data are drawn from the annual OECD Taxing Wages. The measure comprises income tax plus employee contributions, net of cash transfers, expressed as a percentage of gross wages for a single worker without children employed for a full year (Joumard et al., 2012); the 67% and 167% reference points follow OECD convention, ensuring comparability with the cross-country literature on effective tax burdens.

Three limitations delimit the inference. First, the 67%/167% window does not capture top-rate reforms: the Lithuanian 32% rate applies from approximately 400–500% of the average wage and the Latvian top rate from approximately 500%, so formal changes at the top have limited effect on the measured burden distribution – an observation that itself supports H1. Second, the ETR spread excludes business and capital income; this warrants particular attention in the Estonian case, where the distributed-profit corporate tax model documented by Masso et al. (2013) prevents straightforward comparability with Latvia and Lithuania. Third, RS cannot separate tax from transfer effects. The conclusions are therefore interpretative rather than causal.

IV. Evolution of the PIT schedule and effective tax and contribution burdens in the studied countries

The three countries pursued distinctly different reform strategies (Table 1). Estonia deepened effective progressivity through the design of the personal allowance while preserving the formal flatness of the schedule, raising the nominal rate from 20% to 22% in 2024 for fiscal consolidation. Latvia moved to a three-rate schedule in 2018 and simplified it to two rates in 2025, replacing the income-tapered allowance with a fixed uniform one. Lithuania implemented the most complex reform of the triad in 2019, consolidating employer contributions into the gross wage base and introducing a two-rate schedule with an exceptionally high upper threshold – a case of particular value for testing H1. Detailed formal parameters of the PIT are summarised in Table 1.

Estonia illustrates the generation of effective progressivity without a formal multi-rate structure. Until 2017 a low fixed allowance produced minimal progressivity; the introduction of the income-tapered Maksuküür in 2018 was the turning point. Vanasaun (2021) identifies this mechanism as the most effective instrument for compressing the lower and middle segments of the distribution among all Baltic reforms in the period. The 2024 rate increase responded to defence-related budgetary pressure rather than distributional objectives.

TABLE 1.
KEY FORMAL PIT PARAMETERS IN ESTONIA, LATVIA AND LITHUANIA, 2015–2025

Period	Estonia	Latvia	Lithuania
2015–2017	Flat rate 20%; fixed tax-free allowance	Flat rate 23%; low fixed tax-free allowance	Flat rate 15%; NPD tapering to zero above average earnings
2018–2020	Flat rate 20%; Maksuküür introduced: max €654/month at income ≤ €14,400/year, tapering to zero at ≥ €25,200/year	Three rates: 20% to €20,004; 23% to €78,100; 31% above; tapered tax-free allowance; top threshold linked to the contribution ceiling	Two rates from 2019, after consolidation of employer contributions into gross wages (nominal gross wages +approx. 29%): 20% to 120×AW (approx. €136,344), 27% above; from 2020: 20% to 84×AW (approx. €104,277), 32% above; NPD
2021–2023	Flat rate 20%; Maksuküür unchanged	Three rates: 20%/23%/31%; tapered tax-free allowance	Two rates: 20% to 60×AW (approx. €101,094 in 2023), 32% above; NPD
2024–2025	Flat rate 22% from 2024 (fiscal	Two rates from 2025: 25.5% to €105,300,	Two rates: 20% to 60×AW (approx.

TABLE 1.
KEY FORMAL PIT PARAMETERS IN ESTONIA, LATVIA AND LITHUANIA, 2015–2025

Period	Estonia	Latvia	Lithuania
	consolidation and defence expenditure); Maksuküür unchanged	33% above; solidarity surcharge +3% above €200,000 (combined maximum 36%); tapered tax-free allowance replaced by fixed €510/month (€6,120/year)	€126,532 in 2025), 32% above; NPD

Note: AW = average wage. Maksuküür and NPD (Neapmokestinamasis pajamų dydis) denote income-tapered (degressive) basic tax-free allowances reaching zero in the upper income segment. Source: own study based on: Maksu- ja Tolliamet (Estonia), Valsts ieņēmumu dienests (Latvia), Valstybinė mokesčių inspekcija (Lithuania).

In Latvia, the 2018 reform replaced a flat 23% rate with a 20%/23%/31% schedule, but Avotiņš et al. (2024) show that its redistributive effect was moderate, since the €78,100 threshold for the 31% rate reached only a narrow group of taxpayers. The 2025 reform replaced the income-tapered allowance with a fixed €510 per month, reducing effective progressivity in the lower segment; the simultaneous increase in statutory rates raises the overall burden but does not restore the compression previously delivered to the lowest-income workers.

In Lithuania, the 2019 consolidation of employer contributions into the gross wage base shifted the reference point for all brackets and prevents straightforward comparison of ETRs before and after the reform. The 32% rate applies above 60×AW – in practice €101,000 to €127,000 per year – a threshold exceeded by a marginal share of taxpayers. Černiauskas et al. (2022) further document effective regressivity for the self-employed, analytically parallel to the paradox described by Tomkiewicz (2016) in the Polish context.

Reading the formal parameters (Table 1) against effective burdens (Table 2) yields the central empirical observation of this section. Estonia's ETR spread rose sharply from 2.5–2.6 percentage points in 2015–2017 to 9.0–11.4 points in 2018–2023, a direct consequence of the Maksuküür. Its gradual compression in 2024–2025 reflects two partially offsetting forces: the increase in the nominal rate to 22% raises ETR_{167}, while rising real wages push more taxpayers towards the allowance phase-out threshold. Notably, the compression arises mainly from an increase in ETR_{67}, from 10.5 in 2023 to 15.7 in 2025, indicating a rising effective burden on lower-income workers – a distributional cost accompanying consolidation

In Latvia, the widening of the spread from 1.9 points in 2015 to 6.9 in 2022 reflects the sequential effect of the 2018 reform and the tapered allowance mechanism. In Lithuania, the 2019 discontinuity follows the approximately 29% gross-up of the wage base; the resulting spread of 5.3–6.9 points in 2019–2025 combines the effect of the 32% rate with the NPD. Kancs (2011) notes that the intensity of labour migration, which differentiates the three demographic structures, also shapes the tax base on which these mechanisms operate, limiting the direct comparability of net fiscal effects between countries.

TABLE 2.
ETR SPREAD FOR ESTONIA, LATVIA AND LITHUANIA 2015–2025

	Estonia			Latvia			Lithuania		
	ETR 67	ETR 167	ETR spread	ETR 67	ETR 167	ETR spread	ETR 67	ETR 167	ETR spread
2015	17.1	19.6	2.5	27.9	29.8	1.9	20.4	24.0	3.6
2016	16.9	19.5	2.6	27.3	29.9	2.6	20.0	24.0	4.0
2017	17.0	19.6	2.6	27.4	30.2	2.8	18.4	24.0	5.6
2018	9.9	21.3	11.4	25.2	28.8	3.6	17.5	24.0	6.5
2019	10.6	21.3	10.7	25.0	29.0	4.0	33.6	38.9	5.3
2020	10.5	21.3	10.8	23.1	29.0	5.9	32.1	38.8	6.7
2021	11.5	21.3	9.8	23.3	29.0	5.7	33.2	39.1	5.9
2022	12.3	21.3	9.0	22.4	29.3	6.9	32.6	39.5	6.9
2023	10.5	21.3	10.8	22.7	29.5	6.8	32.9	39.5	6.6
2024	13.0	21.3	8.3	23.8	29.6	5.8	32.7	39.5	6.8
2025	15.7	23.2	7.5	22.4	28.9	6.5	33.5	39.5	6.0

Source: own study based on (OECD, Taxing Wages 2025).

V. THE DYNAMICS OF INCOME INEQUALITY AND EFFECTIVE REDISTRIBUTION

The tax schedule and the resulting ETR spread describe only the burden side; the distribution of disposable income also depends on transfers. Table 3 reports Gini(pre), Gini(post) and RS for 2015–2025. On the transfer side, ESSPROS data show total social protection expenditure rising in Estonia from 15.9% of GDP in 2015 to 16.9% in 2024, in Latvia from 14.5% to 17.6%, and in Lithuania from 14.7% to 16.6% – in each case substantially below the EU-27 average throughout the period. The 2020 spike common to the entire triad reflects pandemic fiscal support programmes and provides an interpretative caveat for the 2020–2021 peaks: part of the increase stems from extraordinary transfers rather than structural reform.

TABLE 3.
GINI(PRE), GINI(POST) AND RS COEFFICIENTS FOR ESTONIA (EE), LATVIA (LV) AND LITHUANIA (LT) IN 2015–2025

Year	Estonia		Latvia		Lithuania		RS EE (%)	RS LV (%)	RS LT (%)
	Gini(pre)	Gini(post)	Gini(pre)	Gini(post)	Gini(pre)	Gini(post)			
2015	38.1	34.8	37.9	35.4	42.1	37.9	8.7	6.6	10.0
2016	36.2	32.7	37.0	34.5	41.0	37.0	9.7	6.8	9.8
2017	35.2	31.6	37.0	34.5	41.3	37.6	10.2	6.8	9.0
2018	34.1	30.6	38.2	35.6	40.6	36.9	10.3	6.8	9.1
2019	34.7	30.5	38.0	35.2	39.7	35.4	12.1	7.4	10.8
2020	34.9	30.5	37.2	34.5	39.5	35.1	12.6	7.3	11.1
2021	35.1	30.6	38.5	35.7	40.5	35.4	12.8	7.3	12.6
2022	35.8	31.9	37.3	34.3	41.3	36.2	10.9	8.0	12.3
2023	35.8	31.8	36.8	34.0	40.4	35.7	11.2	7.6	11.6
2024	35.3	30.8	36.9	34.2	39.8	35.3	12.7	7.3	11.3

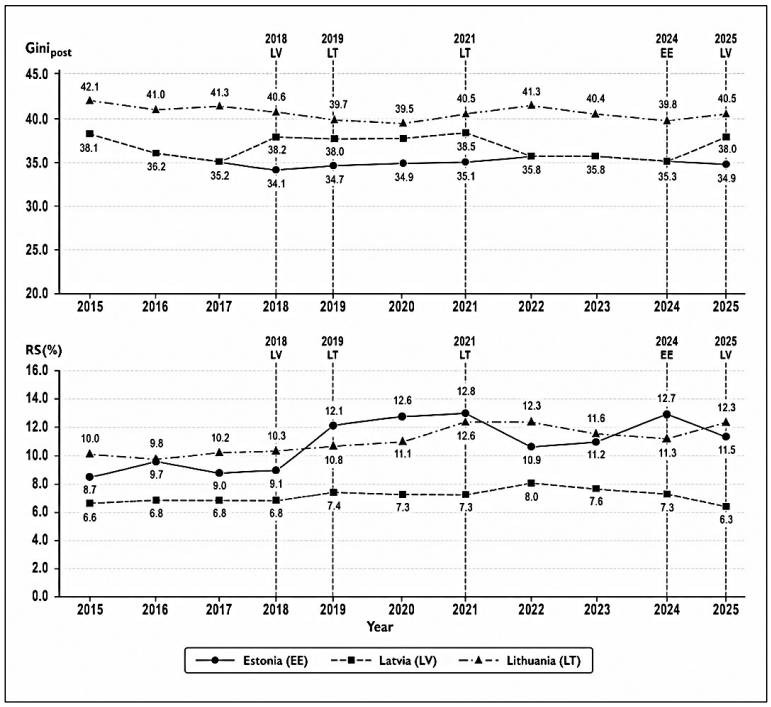


TABLE 3.
GINI(PRE), GINI(POST) AND RS COEFFICIENTS FOR ESTONIA (EE), LATVIA (LV) AND LITHUANIA (LT) IN 2015–2025

Year	Estonia		Latvia		Lithuania		RS EE (%)	RS LV (%)	RS LT (%)
	Gini(pre)	Gini(post)	Gini(pre)	Gini(post)	Gini(pre)	Gini(post)			
2025	34.9	30.9	38.0	35.6	40.5	35.5	11.5	6.3	12.3

Source: own study based on (OECD, Taxing Wages 2025).

Data on inequality and the effectiveness of redistribution for the three countries under study are presented in Chart 1.

CHART 1. GINI COEFFICIENT OF DISPOSABLE INCOME – GINI(POST) AND REDISTRIBUTIVE POWER INDEX (RS, %) FOR ESTONIA, LATVIA AND LITHUANIA IN 2015–2025

SOURCE: OWN STUDY BASED ON (EUROSTAT 2025, OECD 2025).

Three patterns emerge. First, Gini(post) remains above the EU median throughout the period even in Estonia, the least unequal country of the triad. Second, Lithuania's Gini(post) of 35.1–37.9 is consistently the highest in the triad. Third, cross-country differences in Gini(post) are smaller than differences in the design of the formal schedules – preliminary support for H1.

Estonia's RS rises from 8.7% in 2015 to a peak of 12.8% in 2021 and thereafter fluctuates between 10.9% and 12.7%. The principal driver is the introduction and extension of the tapered allowance after 2018, not the nominal rate; Navicke (2020) confirms that policy factors, rather than demographic structure or market income, drove the improvement in Estonian redistribution in this phase.

Latvia follows a non-monotonic path: 6.6–6.8% in 2015–2018, a peak of 8.0% in 2022, and a decline to 6.3% in 2025. The 2025 fall reflects the replacement of the tapered allowance with a uniform fixed one, which reduces effective progressivity for the lowest-income workers; Avotiņš et al. (2024) caution that the net distributional outcome will depend on the adequacy of the fixed allowance.

Lithuania presents the most analytically instructive trajectory. RS stood at 10.0% in 2015 under a flat 15% rate, fell to 9.0% in 2017 and rose to a peak of 12.6% in 2021. As Černiauskas et al. (2022) document – for a period preceding the data presented here – the redistributive capacity of the Lithuanian system was considerably higher before the fiscal crisis of 2009–2010, and the benefit cuts adopted in response reduced RS more than any subsequent change to the PIT schedule has been able to restore.

VI. COMPARATIVE ANALYSIS AND HYPOTHESIS VERIFICATION

H1. Comparing ETR spreads (Table 2) with Gini(post) dynamics (Table 3) yields three observations against a linear relationship between the formal schedule and distributional outcomes. First, Estonia – formally flat throughout – recorded the lowest Gini(post) in the triad in every year and the highest RS from 2017 onwards. Its ETR spread of 9.0–11.4 points from 2018 exceeded Latvia's, which ranged from 3.6 to 6.9 points over the same years, and matched or exceeded Lithuania's 5.3–6.9 points – achieved solely through the tapered allowance rather than through nominal rate differentiation. Second, the Lithuanian reform of 2019–2021, which introduced one of the region's highest top rates (32%), produced no proportional reduction in Gini(post): Lithuania remained the most unequal country of the triad throughout, because the top-rate threshold reached only a marginal number of taxpayers, consistent with the institutional argument of Duncan and Peter (2016). Third,

Lithuanian RS was higher under the flat regime (10.0% in 2015) than in 2017 (9.0%), before progressivity was introduced in 2019 – indicating the dominance of the transfer side over the nominal schedule, given the post-2009 benefit cuts discussed in Section 5. Lithuanian RS did subsequently rise to 12.6% in 2021, but partly on account of pandemic transfers rather than the 2019 reform alone. Taken together, the three observations are consistent with H1.

H2 rests on three complementary observations. First, the RS trajectories of Estonia and Lithuania diverge from the direction of their schedule changes: Estonia raised RS while holding its formal rate constant between 2015 and 2023, by extending the tapered allowance; Lithuania introduced a formally progressive schedule yet did not restore the redistributive capacity lost in the 2009–2010 benefit cuts. Second, the simultaneous rise in RS across all three countries in 2020–2021 coincides with the extraordinary pandemic increase in social spending, indicating that marginal changes in RS respond more to the transfer side than to the nominal schedule. Third, the effective regressivity documented for the Lithuanian self-employed (Černiauskas et al., 2022) shows that formal progressivity can coexist with effective regression for specific groups wherever alternative forms of taxation are accessible, structurally limiting the redistributive reach of the nominal schedule. Full quantification of the relative tax and transfer contributions would require microsimulation (Sutherland & Figari, 2013); within the limits of aggregated data, the observations are consistent with H2.

H3 requires careful qualification. Estonia records the lowest Gini(post) throughout, and Latvia an intermediate position on both the RS and the Gini(post) rankings – directionally consistent with the hypothesis. Lithuania, however, recorded a higher RS than Estonia in 2015–2016, 2022–2023 and 2025, while simultaneously retaining the highest Gini(post) in the triad, an apparent counterexample. The contradiction is only apparent and follows from the construction of the indicator RS as a ratio measure. A country with structurally higher primary inequality can generate a high RS while still recording a high Gini(post), because the absolute compression of the distribution does not offset the depth of primary inequality. In 2015 Lithuania reduced the Gini by 4.2 points against Estonia's 3.7, yet its Gini(post) exceeded Estonia's by 3.1 points, because its Gini(pre) was higher by 4.0 points. H3 therefore holds in a conditional form – for a given level of Gini(pre), higher RS is associated with lower Gini(post) – but conditionally, and the primary income distribution remains the dominant determinant of cross-country differences in disposable income inequality. The underlying mechanisms differ: in Estonia, an effectively progressive tapered allowance combined with rising minimum wages; in Latvia and Lithuania, insufficient redistributive intensity on both sides of the system. With N=3 the inference is descriptive and interpretative, not causal in the econometric sense.

VII. Discussion

The findings speak to two strands of comparative literature. They are consistent with the four-lever model of Guillaud et al. (2020): the Lithuanian case, in which RS was higher under the flat regime than immediately after the introduction of a progressive schedule, is its clearest illustration in the material examined. They also support Duncan and Peter's (2016) emphasis on the institutional environment, since the Estonian tapered allowance generates greater effective progressivity than a 32% Lithuanian rate applied at a threshold irrelevant to the average taxpayer.

Three caveats qualify the interpretation. First, pandemic transfers in 2020–2021 mechanically raised RS by compressing Gini(post) through income support directed at lower-income households, while Gini(pre) may simultaneously have risen through labour market disruption; the resulting signal partly overstates the structural redistributive capacity of the system and was partly reversed after 2021. This does not invalidate the conclusions, but it limits any claim that the Maksuküür alone drove the growth in Estonian RS in that subperiod. A full decomposition of tax and transfer effects, infeasible on aggregated EU-SILC data, is possible with microsimulation models such as EUROMOD (Sutherland & Figari, 2013), available for all three countries; a systematic three-way EUROMOD comparison covering the 2018–2025 reforms remains a gap in the literature and a priority for future research.

Second, the study cannot engage directly with the mechanism emphasised by Rubolino and Waldenström (2020), which links top marginal rates to income concentration in the upper tail, because EU-SILC understates both the top percentile and the shadow economy. Since mass emigration also compressed wage inequality selectively (Garcia-Louzao & Ruggieri, 2026; Magda et al., 2021; Navicke, 2020), the results supporting H2 and H3 should be treated as conservative: adjusting for top incomes and undeclared activity would probably sharpen the Lithuanian paradox rather than weaken it.

Third, the administrative dimension conditions transferability. Nguyen et al. (2022) show that administrative simplicity and e-government improve compliance effectiveness; Estonia's largely automated processing of PIT returns plausibly allows the Maksuküür to operate as intended, although direct evidence of its anti-evasion effect specific to the tapered allowance remains limited. Replicating the mechanism in Latvia and Lithuania would require prior investment in administrative capacity, particularly since Nerudova and Dobranschi (2019) find indirect tax collection in the region uneven and sensitive to administrative quality. Pfeil et al. (2025) further show that labour supply responses to rate changes are asymmetric, with the disincentive effect of increases exceeding the incentive effect of equivalent reductions, implying that the Lithuanian 32% rate may generate behavioural responses that further narrow its effective redistributive reach. The findings are potentially transferable to other post-socialist states with modest transfer systems, notably Bulgaria and Romania, but institution-specific paths to lower inequality limit broader generalisation.

VIII. Conclusions

This article examined the relationship between the formal

parameters of the PIT schedule, effective tax and contribution burdens, redistribution and income inequality in Estonia, Latvia and Lithuania in 2015–2025, using Eurostat EU-SILC, OECD Taxing Wages and Eurostat ESSPROS data. The results support all three hypotheses and reveal redistributive mechanisms qualitatively different from those of stronger welfare states: the structural weakness of transfers makes the tax architecture relatively more important, yet still insufficient as an instrument of income equalisation.

The formal schedule proved an imprecise predictor of inequality (H1). Estonia, formally flat throughout, recorded the lowest Gini(post) in every year and the highest RS from 2017 onwards, peaking at 12.8%. Lithuania, with one of the region's highest top rates (32%), retained the highest inequality, with a Gini(post) of 35.5 in 2025. The effective burden and transfer architecture predicted outcomes more strongly than the nominal schedule (H2): the Estonian tapered allowance raised the ETR spread from 2.5 points in 2015 to 9.0–11.4 points from 2018 and contributed more to the growth of RS than Lithuania's nominal reforms. H3 holds conditionally – for a given Gini(pre), higher RS is associated with lower Gini(post) – but conditionally: Lithuania's higher RS than Estonia in several years, alongside the triad's highest Gini(post), reflects the ratio construction of the indicator rather than a failure of redistribution. The primary income distribution remains the dominant determinant of cross-country differences in disposable income inequality. With N=3, the inference is descriptive, not causal.

Three structural limitations apply: RS does not separate tax from transfer effects; EU-SILC understates inequality in the upper tail of the distribution; and the effect of mass emigration on the primary distribution cannot be precisely isolated.

The practical implication is clear. Effective redistribution depends less on raising nominal rates than on a well-designed personal allowance, a system resistant to income-shifting through alternative forms of taxation, and adequately financed, precisely targeted transfers – the transfer side remaining the principal gap in the Baltic states. Van Lancker and van Mechelen (2015) show that well-targeted universal benefits reduce poverty more effectively than narrowly targeted transfers, an observation directly applicable to Latvia and Lithuania. The Estonian case demonstrates that substantial effective progressivity is attainable without a formal multi-rate schedule, provided the allowance mechanism is well designed, administratively supported and embedded in a fiscal architecture that protects its distributive intent.

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