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Combating revenue underreporting in the simplified tax system: Analysis and recommendations

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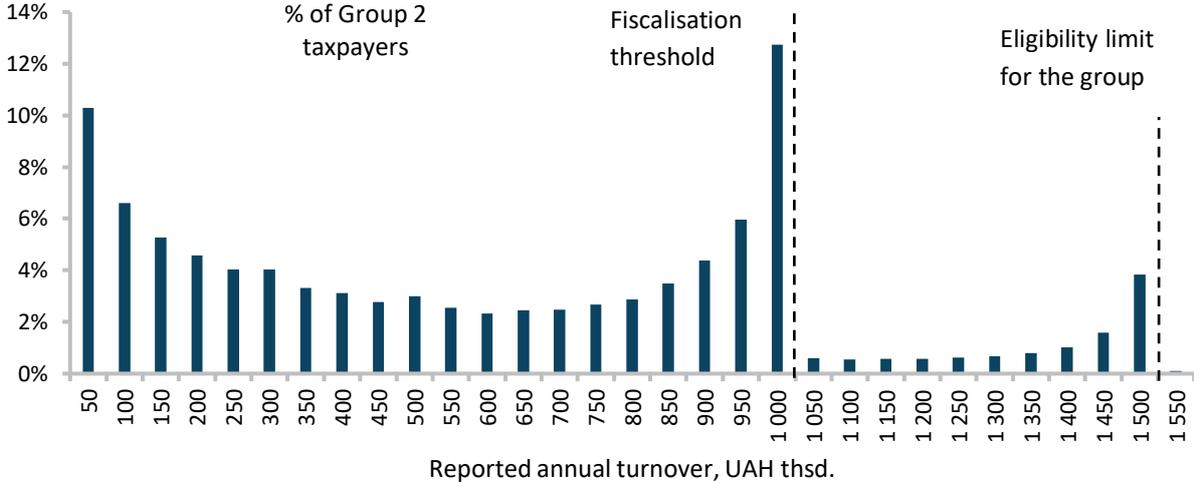
Executive Summary

In order to promote the growth of small and medium enterprises (SMEs) and to induce them to operate in the formal sector of the economy, Ukraine operates a Simplified System of Taxation (STS) for SMEs alongside its regular business taxation regime. While the STS clearly contributes to reduce administrative and tax burdens on SMEs, it is known that the system is being abused by companies illegally underreporting their revenues or semi-legally splitting revenues into different companies.

This paper is analysing the extent of revenue underreporting in groups 1-3 of the STS and provides policy recommendations on how to combat it. Revenue underreporting allows companies to reduce their tax burden by permitting them to stay either in groups 1 or 2 of the STS, in which only a small lump-sum tax is paid, to benefit from the still relatively low turnover tax in group 3 of the STS, or to simply pay less proportional tax by underreporting the tax base. It creates fiscal losses to the state, but also gives tax abusers an unfair competitive advantage against compliant companies.

Analysing the distributions of taxpayers by turnover in groups 1-3 of the STS, we find most evidence of underreporting in group 2. Whilst the distribution of taxpayers should theoretically be a convex decreasing function, we find sharp spikes (bunching up) of taxpayers between two important thresholds: The current fiscalisation threshold after which the use of an electronic cash register is compulsory and the maximum turnover limit for the group.

Distribution of taxpayers by turnover, group 2



Source: State Tax Service in Ukraine 2019 data, CES calculations

As group 2 is the last group with a lump-sum taxation, this indicates that many companies attempt to “hide” in this group to evade a much higher tax burden based on proportional taxation of their true turnover in group 3. Distributions in groups 1 and 3 are relatively close to the theoretical distribution and hence present much less indication of turnover underreporting. Within group 2, the activities that exhibit the most indications of turnover underreporting combined with large economic size are retail trade, the Gastronomy (HoReCa = Hotels, restaurants, cafes) sector and manufacturing companies. In the case of retail trade companies under group 2, it is likely that the fiscal losses created by them are not only stemming from underreporting under the STS but also from the sale of ‘grey’ smuggled imports on which no customs duties or import VAT has been paid. Customs related losses are estimated at up to UAH 96 bn per year.

In order to reduce the fiscal losses and discrimination against compliant companies resulting from turnover underreporting in the STS, we recommend three measures:

1. **A refocusing of groups 1 and 2 on the smallest of businesses in specific activities:** As the lump-sum tax regime is in principle intended only for micro-businesses in areas not suitable for proportional taxation, it should be refocused on this. Activities should be restricted to small-scale personal services, micro businesses in gastronomy and sale of homemade, artisanal or agricultural products. Exact criteria should be carefully designed in order to exclude possible loopholes for abuse, but turnover limits should be set wide enough such that all genuine micro businesses fitting the activity criteria can fit into these groups.
2. **Full fiscalisation of group 3 of the STS:** Full fiscalisation of the entities under the STS (except in group 1) is already enshrined in law, but implementation of the requirement has been postponed. In order to ensure that businesses in group 3 of the STS cannot so easily conceal cash incomes, it is imperative that fiscalisation is fully implemented and no further delays are granted
3. **Introduction of compulsory VAT on for retail businesses in group 3 of the STS:** In order to combat the large problem of the sale of smuggled goods by retail companies, it is necessary that trade companies must document their purchases of goods in a traceable manner. Compulsory participation in the VAT will achieve this whilst requiring only a manageable administrative burden as documentation of VAT expenditures by businesses is not too difficult and practiced successfully in many other areas of the Ukrainian economy.

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1 Introduction

Micro, small and medium enterprises (SMEs) represent a large part of the economy in many countries. Average SMEs' share of gross value added (GVA) in EU countries is over 56%. Moreover, usually such firms create the most jobs: in EU every two of three employed people work for SMEs¹. While SMEs are usually not the most productive economic entities due lack of capital stock and other growth obstacles, they still play an important role in the economy.

Many governments stimulate SMEs' creation and development using lower tax rates, simplified tax accounting, exemptions from some taxes and other similar measures. Such policies are often gathered under the "simplified taxation system" umbrella term (STS)². In developing countries, the objective of a simplified taxation system is mainly to facilitate voluntary tax compliance while removing the obstacles to SMEs creation and growth³.

While such systems showed effectiveness for small business creation (or their legalization), there is also evidence that SMEs or larger firms not really eligible for a particular group in simplified taxation system, abuse such systems by underreporting their revenues or payroll.

This is of high relevance for Ukraine. Approximately 47%⁴ of added value is created by SMEs. The "simplified system of taxation" (STS) exists since 1998, covering 73.7% of all entities and 7.6% of all taxes paid⁵. Hence, it is an important system for smaller companies and individual entrepreneurs, permitting them to conduct business with limited bureaucratic obligations and a low tax burden. Nevertheless, there are indications of abuse of the system, which creates fiscal losses and distorts competition against compliant taxpayers. This leads to a continuous policy discussion, which sometimes grows as far as into popular unrest^{6,7} when policymakers try to combat abuse.

In this paper, we address the issues of tax evasion and tax avoidance by companies, which aim to stay under turnover limits and the present threshold for compulsory usage of cash registers in the STS. This issue is of great importance as the STS both incentivizes companies to stay under such limits as well as making it relatively easy to hide revenues due to simplified accounting rules etc. Other frequently cited problems of the STS such as "gray" employment schemes, distribution of "gray" imports, smuggled and counterfeit products are acknowledged in their importance by the authors, but are not the focus of this paper. We also exclude from our analysis the 4th group of simplified taxation system, which is dedicated to single proprietors in farming as it has no revenue limits.

Section 2 explains the rationale behind Ukraine's STS. Section 3 explains its design and explores potential ways in which the system could be abused. Section 4 and 5 contain the main analysis of the paper, investigating the revenue distributions in the STS and especially three high-risk activities in ST Group 2. Finally, policy recommendations are discussed in section 6.

¹ Eurostat (2020), [Link](#).

² Only part of SMEs are eligible for STS, as the criteria for STS groups, micro-, small- and medium business differ.

³ Coolidge and Fatih (2016), [Link](#).

⁴ Eurostat (2020) According to the European Commission calculations, however, the real share might be different

⁵ State Tax Service data on tax revenues as of 01.01.2020

⁶ Kharkiv Human Rights Protection Group (2011), [Link](#).

⁷ Unian (2020), [Link](#).

2 Rationale and design of the simplified tax system in Ukraine

Rationale of the system

There are two main goals for the governments that introduce STSs, all relevant for Ukraine:

- **Growth of small and medium enterprises and its conversion to broader economic growth**
- **Increasing fiscal revenues and narrowing the scope of 'black' economy by formalization (legalization) of the SMEs**

These goals are pursued in an STS through two policy objectives:

- **Reduction of the administrative burden:** the administration of corporate income tax and value-added tax is relatively complex. SMEs are discriminated against larger business, as the relative cost of tax administration for the business generally decreases with increase of turnover. STSs usually contain substantial simplifications of accounting, such as moving to only a revenue-based taxation, which requires much less documentation and reporting than a profit tax.
- **Reduction of the tax burden:** Often, the tax burden in an STS is at least intended to be lower than in the regular tax system to allow small businesses to accumulate wealth for further investment and expansion as well as in order to induce small companies to be in the formal economy in the first place.

The aim in an STS is hence to help SMEs growth through lower administrative and tax burdens and to induce SMEs previously operating in the informal sector to go into the formal sector because of lower burdens than in the regular tax system. Also, an STS should be designed such that these benefits should outweigh the downside of the system: potential reductions in fiscal revenue from compliant firms that previously were operating under the regular tax system but move into the STS after its introduction.

Design of the STS in Ukraine

The Ukrainian STS was established in 1998⁸ with the aim to achieve these goals. The current version of the simplified taxation system contains four groups of eligible companies. Groups are defined by restrictions on the maximum turnover, the number of employees, and eligible economic activities.

All taxpayers in the STS are exempt from paying the following "regular" taxes:

- Corporate income tax (CIT) (18%)
- Personal income tax (PIT) (18%)
- Value-added tax (VAT) (though some entities might decide to continue paying VAT) (20%)
- Property tax on land (0.1%-12% of the normative assessment of land)
- Rent for the special use of water⁹.

PIT is waived for sole proprietors/individual entrepreneurs, while the monthly amount of single social contribution (SSC) is at the taxpayers' discretion, with the minimal SSC set at 22% of minimum wage. Higher SSC payments will increase public pensions entitlements of the respective taxpayers. If, however, an entity has employees, it becomes a tax agent for them and must pay SSC and PIT for them.

Taxpayers in groups 1 and 2 (the smallest companies, although up to ten employees are permitted) only pay a lump-sum tax. A "single tax" rate of 3% (for VAT payers) or 5% on turnover (for non-VAT payers)

⁸ Rada (2012), [Link to the law.](#)

⁹ As a natural resource.

applies in Group 3, the widest group mainly limited by a upper bound on annual turnover. Agricultural companies in group 4 pay a tax based on normative land assessment and the single social contribution (22% of the minimum wage, regardless of turnover¹⁰) for sole proprietors (SP).

Table 2. Main characteristics of the four groups under the simplified taxation system in 2021

Group	Subjects	Activities	Hired workers	Max. annual revenue	Single tax rate
1	SP	Market place traders, household services to private individuals	No	167 minimum wages (~UAH 1 m)	Monthly lump-sum: 10% of the subsistence level (UAH 227)
2	SP	Services to single taxpayers and households, wholesale and retail trade (shops, markets, online, except real estate and jewelry), manufacturing, restaurants	Up to 10	834 minimum wages (~UAH 5 m)	Monthly lump-sum: 20% of minimum wage (UAH 1200)
3	SP LE	Most activities with a list of exceptions ¹¹	Not limited	1167 minimum wages (~UAH 7 m)	3% (for VAT payers) or 5% (for VAT non-payers) of turnover
4	SP LE	Agriculture	Not limited for legal entities, no for farmers	Not limited	0.19-6.33% of the normative land valuation

Source: Tax Code of Ukraine

This design of the Ukrainian STS appears to generally achieve the two immediate policy objectives of reducing the administrative and tax burden on SMEs.

Reduction of the tax burden: The small lump-sum tax for micro businesses, linked to the subsistence level or minimal wage and the 3-5% revenue tax for small businesses under most constellations yields a lower effective tax rate (total tax to turnover ratio) than under the regular tax system, as long as the cost share of companies is not too high (in which case the burden from a profit tax becomes lower compared to a turnover tax).

Reduction of the administrative burden: By removing the need to account for operating costs in the lump-sum or turnover-based taxation, the simplified system allows to reduce the administrative burden for tax compliance and as well as compliance risks. The administrative burden of the regular tax system on businesses remains relatively high in Ukraine. In 2020, it took on average 327.5 hours to file and pay three major types of taxes: the corporate income tax, the value added tax, and labor taxes, including social security contributions¹². Although this is much less than before major reforms were undertaken, it is still on the high end when compared to other countries. It is comparable to tax compliance time in Poland or Hungary, but is twice the value in countries such as Turkey or Romania and six times higher than in Estonia. Polls indicate that Ukrainian business still considers difficulty of tax compliance as one of the bigger obstacles,¹³ especially as the tax authorities often find a way to pressure businesses on the general tax system, whether having a real reason or not.

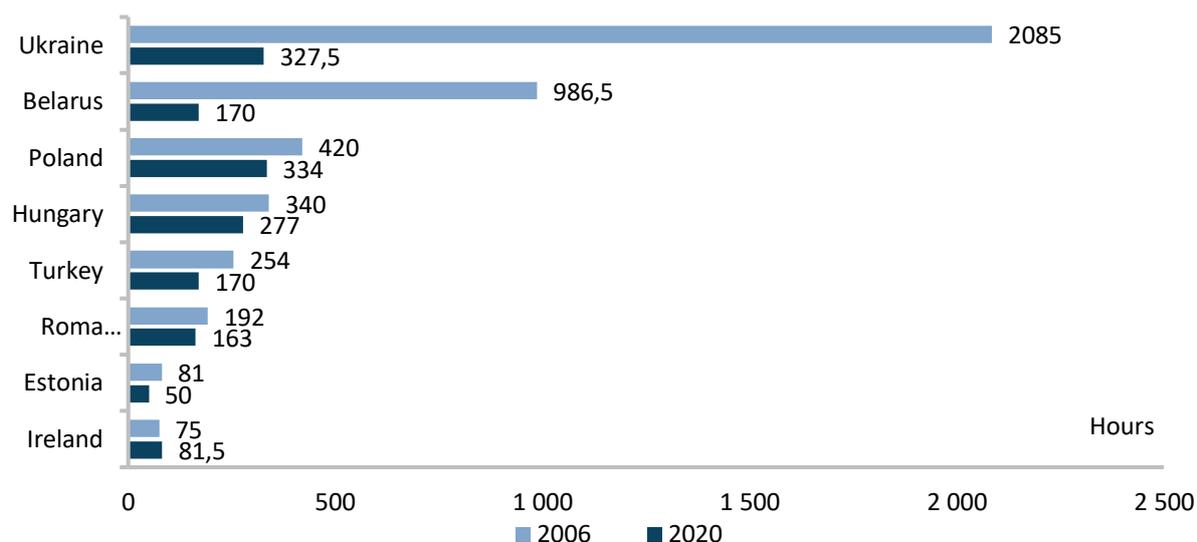
¹⁰ Rada (2021), [Link to the Law](#).

¹¹ This includes iron ore extraction, processing and trading, mobile communications, postal services, gas and petrol trading, alcohol and tobacco production and trading, car manufacturing and trading, audit services, financial and insurance services, gambling, etc.

¹² Individual entrepreneurs on general taxation system pay income tax instead of CPT, but as it requires accounting of business related expenses, it also consumes significantly more time, compared with simplified taxation system.

¹³ European Business Association (2021), [Link](#).

Figure 1. Time needed for tax compliance



Source: *Doing Business*, World Bank

3 Abuse potential and fiscalisation efforts

Abuse potential

Companies in the 2nd group only pay a very small lump-sum tax. Permitted activities include retail, services, HoReCa (hotels restaurants cafes) activities up to 10 employees. This creates a strong incentive to stay in this group to avoid higher turnover-based taxation in group 3, especially under the fiscalisation threshold, which allows to more easily conceal actual turnovers. Group 2 is therefore the group which we consider the most risky for abuse.

Different ways of abusing the system through (legal) avoidance and (illegal) evasion exist:

- **Turnover limits and cash register limits abuse**

There are limits for the volumes of sales of goods, works, and services set for each group, upon exceeding which taxpayers shall apply for the next higher group (applicable for groups 1 and 2), or move to general taxation system. There is also a limit of a turnover, after which the use of the cash register (fiscalisation) becomes obligatory.

The entrepreneurs might underreport their cash turnovers to avoid paying higher tax rates and being assigned to another group of the simplified taxation system, or to avoid becoming obliged to use registrars of payment transactions. Such schemes clearly fall under the definition of tax evasion.

One more way of abuse is to split the turnover of a single business into several individual entrepreneurs and transit to the simplified system, therefore paying less tax. Splitting into several entrepreneurs is often done in full formal compliance with the law by rotating individual entrepreneurs, who have reached the limits, with official transfer of assets/rent agreements for premises, etc. This can be regarded as tax avoidance.

- **Using SMEs for 'grey' import schemes**

SMEs which are not required to issue fiscal checks can easily sell 'grey' (or rather, smuggled) imports, such as household electric appliances, mobile phones, PCs, etc., to final consumers. Absence of obligatory fiscalisation enables sales with no possibility to trace the illegally imported

goods. These schemes fall into the category of tax evasion and they largely contribute to evasion of customs duties and import VAT.

- **Using SMEs to avoid labour taxes for ‘grey’ employment schemes**

Contracting full-time employees as individual entrepreneurs is especially common in IT companies, media, consulting and other professional services. A company employs a person by signing a contract with them as individual entrepreneur. A company then only incurs the tax costs in the size of a single tax and minimum SSC instead of payroll taxes that include both PIT (18%), military tax (1.5%), and social contribution (22%) of the gross salary. The Labour Code cannot protect such employees since they are not officially employed. It means that they are not guaranteed a yearly paid leave, holidays, or sick leave and their pension from the state would be minimal. As the legislation, which provides clear employment criterias is not yet implemented, these schemes mostly fall into category of tax avoidance.

This paper focuses mainly on the first kind: Abuse of turnover limits by revenue underreporting.

Fiscalisation efforts and threshold

Since 2015, the government tries to “fiscalise” small businesses by making cash registers obligatory. Two laws were passed that are aimed at bringing small firms “out of the shadow.” (1017-IX, 128-IX)¹⁴. According to these changes to the Tax Code, all private entrepreneurs and legal entities under the simplified taxation system must use cash registers and issue a fiscal receipt, except the first group. However, their entering into force was postponed for particular business categories due to the COVID-19 pandemic until 2022.

Currently single tax payers are obliged to register cash receipts if their annual revenue exceeds 220 minimal wages (approximately UAH 1.3 m).

Fiscalisation is a common way to tackle the manipulations with the turnover by connecting the electronic cash registers to a fiscal control unit which sends data automatically to tax authorities. In Hungary, this approach led to an 15% increase in VAT revenue one year after the implementation. Crucially, the costs of introducing the new systems were exceeded by the VAT revenues. Also, Rwandan businesses introduced electronic cash registers in March 2013. As consequence, VAT revenues collected on sales in 2015 were up by 20%.

Businesses and the economy benefit from such solutions as well. Just taxation eliminates unfair competition from those who do not pay taxes (e.g. grey imported clothes vs locally produced at tax-complaiant company) and creates a level playing field. The other consequence is that small and medium businesses become bankable and able to show their true accounting to attract financial resources. This potentially could give a boost to non-banking financial markets as well. On a micro level, preventing tampering with the sales records and having the correct data deters theft and brings additional security for the employers. Furthermore, the more accurate recording of the data can simplify the audit process for the taxpayers since they do not need to address the extra costs of making sure there are no illegal activities.

However, in order to soften the increasing tax and administrative burden, financial incentives for businesses to install the tools for accurate data collection are often used. There are several instruments for that, such as enhanced tax deductions, subsidized costs of installation of a cash register, and explicitly reducing the likelihood of audits for businesses which complied with the implementation of cash registers.

¹⁴ Rada (2020), [Link to the Law](#), Rada (2020), [Link to the Law](#).

For example, there is a special tax deduction in Austria for businesses which install and subsequently report to the tax authorities about the installation of the specific fiscal control unit. Alternatively, the government can offer to pay for the instrument. The experience there shows that in the latter case the tax revenue increase quickly covers the initial fixed fiscal cost.

In cases such as Colombia and Portugal where there is low compliance with electronic cash registering and issuing receipts in the first place, receipt lotteries have proven to be an effective solution for encouraging their use. Customers can send the receipts as part of the lottery (the prizes give them sufficient incentive to do so regularly) and thus induce a tax evasion check from the tax authority. This increases cost of tax evasion via forging or altering of data, and serves as an enforcement mechanism, thus forcing the taxpayers to be truthful in reporting the data when issuing receipts.

Another tested option is to incentivise the customers to report to the tax service cases of sales without a proper fiscal receipt.

Further reduction of exclusions from obligatory fiscalisation and simultaneous reductions of barriers for using cash registers by small and micro business are crucial for the improvement of an STS. But small businesses have voiced numerous concerns regarding use of cash registers. Part of these concerns stem directly from unwillingness to cease tax avoidance and provide additional information and control mechanism to State Tax Service. For example, the entrepreneurs question the requirement of primary documents for goods to pre-programme the cash registers.

However, other concerns may be valid to some extent:

- **Cost of cash registers and their service** –Microbusinesses are often unwilling to procure cash registers for every point of sales and pay for their service. This issue can be addressed by programmable cash registers, which can be used with smartphone or tablet of moderate price;
- **(In)compliance cost** – Micro entrepreneurs are not aware of compliance requirements of State Tax Service with regard to cash registers, and of programmable cash register features, and thus are afraid of penalties and sanctions which may be imposed. This issue can be addressed by programmable cash registers, where daily cash reports (“Z-reports”) are filed automatically by the software and do not require involvement of the entrepreneur.

Programmable cash registers were made available In Ukraine on 01.08.2020. During the first year of usage, the daily number of fiscal checks, issued by programmable cash registers, was steadily growing and as of end of July 2021 reached 1.5 m transactions per day, with 380 m fiscal checks issued during the year¹⁵. Over 50,000 entities on simplified tax system were using the programmable cash registers as of end of July 2021.

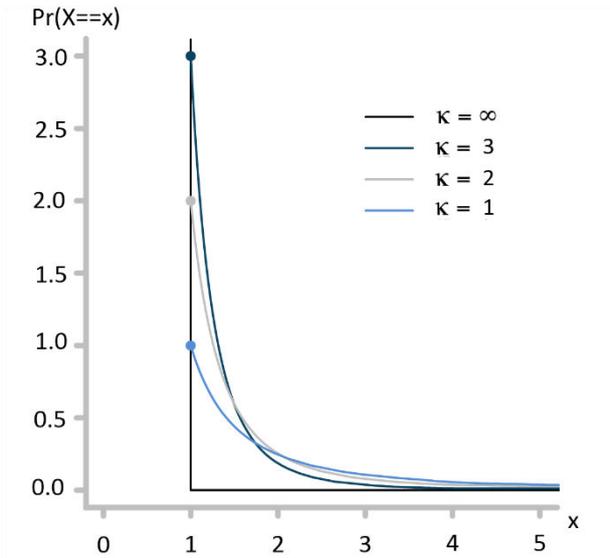
4 Analysis of revenue distribution in the groups of the STS

We analyse data from the State Tax Service in Ukraine on the distribution of turnover of companies under the STS in 2019. Normally, the distribution of revenues in each group should resemble a Pareto distribution. That distribution approximates well many distributions in the economy, in particular distributions related to firm size and income.¹⁶

¹⁵ State Tax Service (2021), [Link](#).

¹⁶ [Jones](#), 2015.

Figure 2. Examples of Pareto Type I probability density functions



Source: Wikipedia

Our analysis of reported revenues shows that there are irregularities, especially in the 2nd group. These irregularities are a “bunching up” of higher frequencies than expected under a Pareto distribution, occurring just under the maximum turnover limits of eligibility for simplified taxation groups (UAH 300 thsd, ~UAH 1.5 m and ~UAH 5 m respectively in 2019) and the threshold for obligatory usage of cash registers (UAH 1 m).

Figure 3. Distribution of taxpayers by turnover, group 1

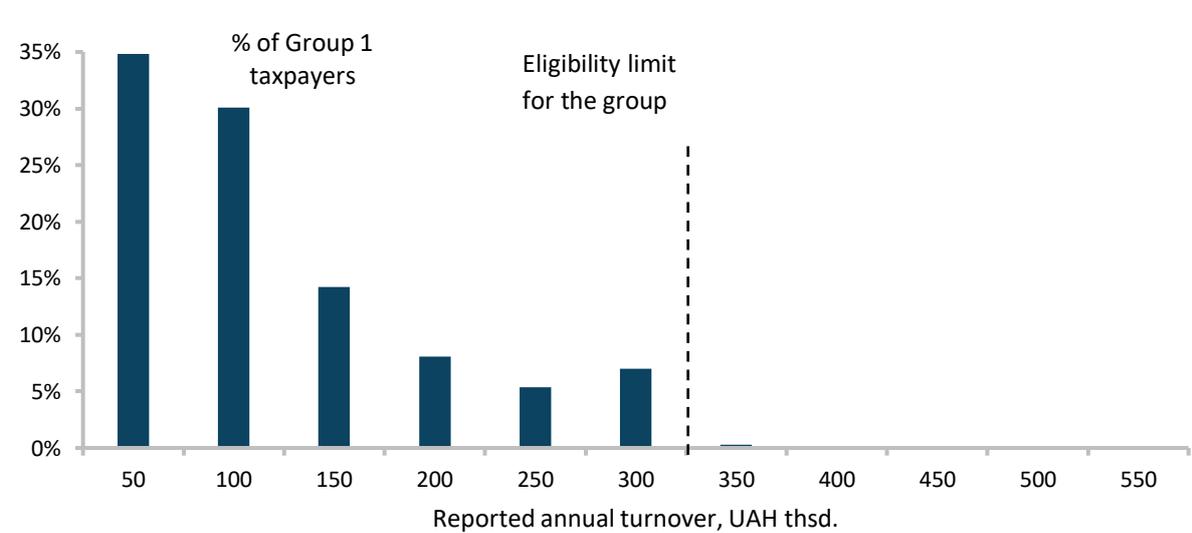


Figure 4. Distribution of taxpayers by turnover, group 2

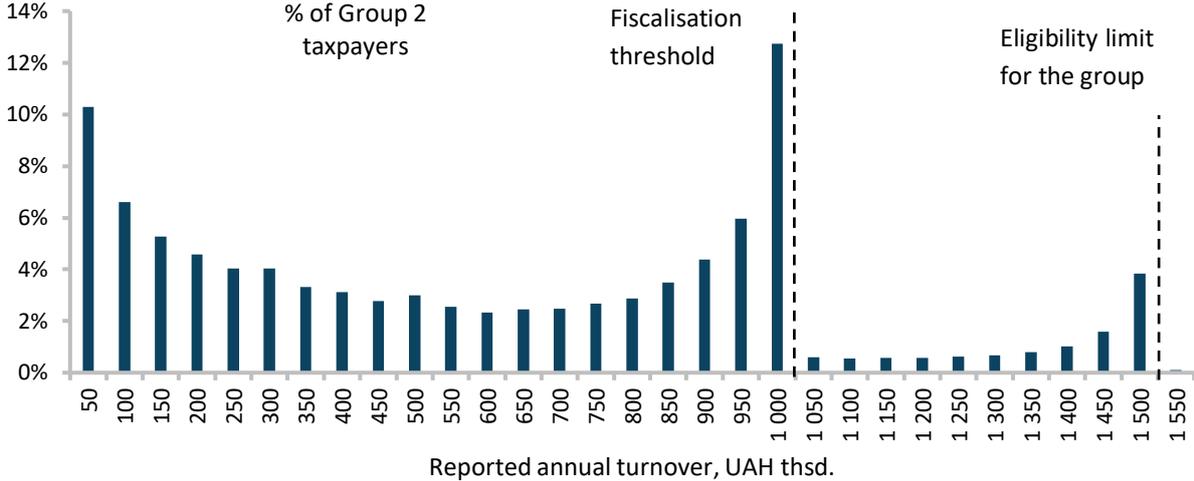
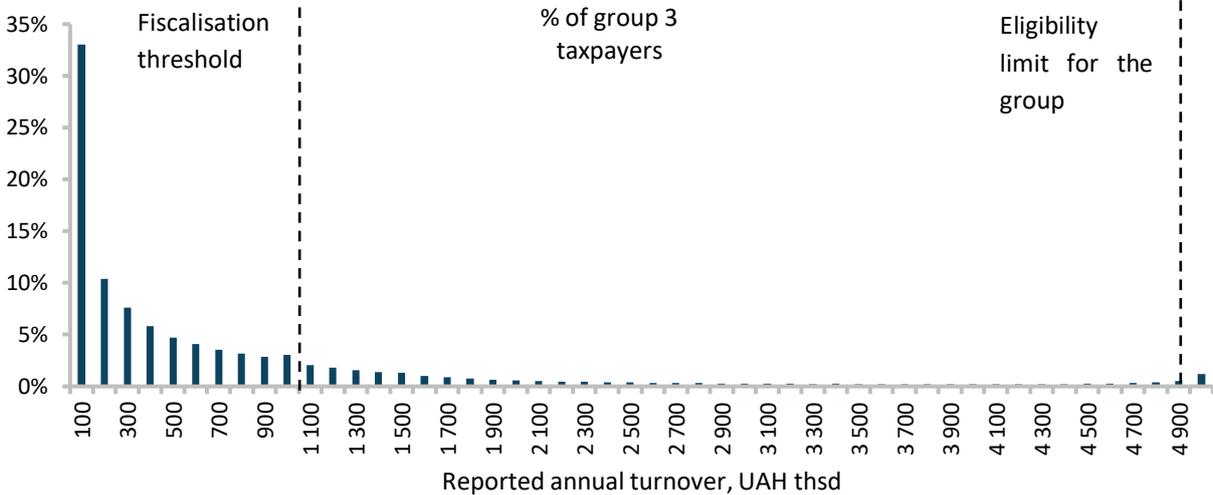


Figure 5. Distribution of taxpayers by turnover, group 3



Source: State Tax Service in Ukraine 2019 data, CES calculations

Approx. 35% of the taxpayers in group 1 report turnovers in the range UAH 0-50 thsd. annually and almost 80% - under UAH 150 thsd. There is a minor spike for the range of UAH 250-300 thsd., just before the group’s revenue limit of UAH 300 thsd. (7.03% reported turnover of this size). This is likely evidence of a slight turnover underreporting. The total volume of revenue reported just before the threshold stands at **UAH 4.08 bn.**

The distribution for the 2nd group, which was intended for small businesses oriented on households demand, thresholds shows clear sign of widespread threshold abuse. Apporox. 13% (the biggest share of entrepreneurs) crowded in the range of UAH 950-1000 thsd., just before the threshold for cash registers obligatory usage. Another spike of 4% of the taxpayers post their turnovers within the range UAH 1450-1500 thsd., right on the left of the acting limit. The total *reported* turnover in last UAH 100 thsd. bracket before the cash register threshold is UAH **114.5 bn**, before the group limit – **UAH 50.6 bn**. These deviations dwarf those of 1st and 3rd groups both in relative and absolute figures. We believe this group being the center of the thresholds abuse. The likely incentives to underreport revenues for these companies might be an unwillingness to issue fiscal checks in retail trade to continue selling grey imports and an unwillingness to be transferred to Group 3, which has turnover-based taxation instead of a small

lump-sum under Group 2. In further chapters we will examine this group in more details to account for the sector specific issues.

The 3rd group of the simplified taxation system, which targets other SMEs, including B2B segment, has the biggest and “roomiest” limit - and the distribution of the taxpayers in this group by reported income brackets best resembles a Pareto distribution. There are only minor deviations, in particular one right before UAH 1 million (3%) and one before the acting limit of UAH 5 million (1.2%).

Even accounting for higher threshold volume, the total “excessive” turnover volumes, reported in brackets before the fiscalisation threshold and group limit, is multiple times less than the respective volume, observed in Group 2. While the threshold irregularities in 3rd group are minor, there is evidence of tax avoidance within grey employment schemes in this group, with an estimated negative fiscal impact of UAH 10 bn (based on 2018 data)¹⁷. This is not the focus of this study, however.

Assessment

The observed irregularities indicate that tax avoidance or evasion methods are indeed being used by taxpayers in order to conceal their actual revenues and hence remain under the STS or a lower group thereof. Many taxpayers appear to use different methods in order to stay in group 2 (and hence to only pay a lump-sum tax). The following avoidance and evasion methods appear possible:

- Legal: entrepreneurs limit their activities in good faith before reaching the limit;
- Legal: larger companies split their turnovers across several individual entrepreneurs
- Illegal: entrepreneurs underreport their turnovers to remain eligible for the STS Group;

Previous studies also presented evidence of the peculiar distribution of the revenue under the simplified taxation system. For example, Alm and Saavedra (2006) found a remarkable upward migration within the system (i.e., that a significant number of taxpayers report annual turnover right under the turnover limit)¹⁸. Analysis of the Institute for Economic Research and Policy Consulting in 2015¹⁹ also presented evidence that too many single taxpayers report “round numbers” of the turnover.

Case Ukraine and ISET have modeled the distribution of entrepreneurs and legal entities on simplified taxation system to assess possible volumes of abuse.²⁰ Based on the data from 2018 they concluded, that the Group 1-2 entrepreneurs conceal up to UAH 150 bn in turnovers, leading to fiscal losses of UAH 6-8.3 bn (while Group 3 has negative fiscal impact of up to UAH 10 bn mostly due to employment of skilled professionals as contractors and “cashing” schemes).

5 Analysis of three high-risk activities in STS group 2

To find out, which economic activities make up the largest share of the probable threshold abuse in group 2, we analysed the distribution of turnovers within groups and economic activities²¹. We plotted the top 10 economic activities of each group by total turnover and the severity of potential abuse in order to show, which activities create most fiscal losses. The abuse index reflects the share of taxpayers,

¹⁷CASE and ISET (2020), [Link](#).

¹⁸ Alm and Saavedra (2006).

¹⁹ East Europe Foundation et al. (2015).

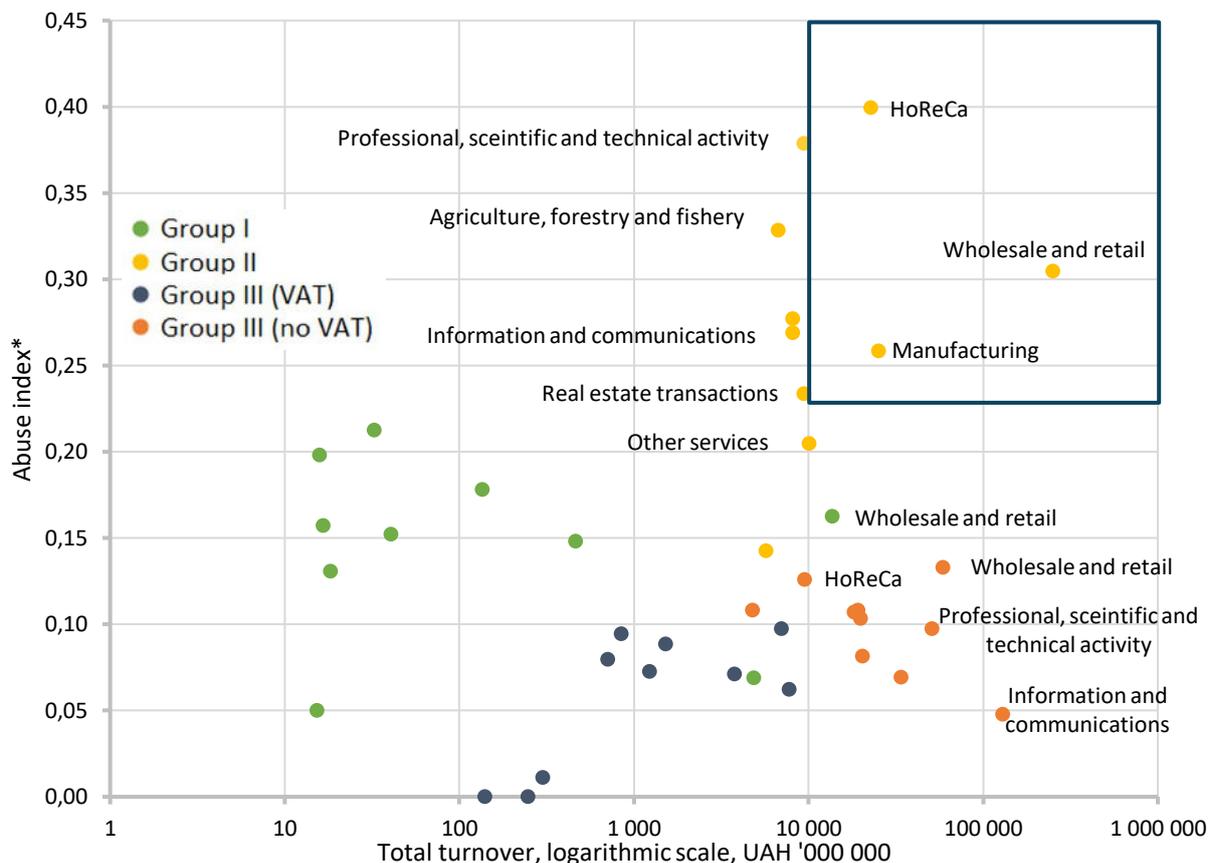
²⁰ CASE and ISET (2020).

²¹ The data obtained from STS and used for analysis is stratified by economic activity sections, which contain several activity codes each and does not provide finer breakdowns.

deviating from expected Pareto distribution in the “bunching” before the group and fiscalisation thresholds. The higher the index, the higher the likely abuse within each specific activity.

The top right quadrant contains activities with high relative abuse and large turnover. The bottom right corner represents activities with low relative abuse and large turnover. In the bottom left corner, there are activities with relatively low risk of abuse and low turnover.

Figure 6. Economic activities by STS groups, turnover and severity of abuse



Source: State Tax Service in Ukraine 2019 data, CES calculations, *The “abuse index” is a relative coefficient enabling comparison of degree of abuse between different economic activities. The abuse index was calculated for every economic activity as following: $ai = (Tft + Tgl - (Tft+1+Tft-1)/2 - (Tgl+1+Tgl-1)/2) / T$, where: Tft is total turnover of entities of defined economic activity in turnover bracket before the fiscalisation threshold, Tgl is total turnover of entities of defined economic activity in turnover bracket before the group turnover limit, T is total turnover of entities of defined economic activity. It is based on [simplifying] assumption that the function of number of entities by turnover volume is linear near the thresholds/limits, hence the estimate of normal distribution is approximated to the mean of neighbouring values of threshold bracket value

In the following, we focus on the activities in the top right quadrant, which are likely to cause the biggest fiscal losses due to abuse. These activities are all in group 2.

Table 3. Group 2 major economic activities by turnover

Activity	Turnover, UAH m	Turnover, % of group's total	Tax to turnover ratio
Wholesale and retail trade, automotive repair	250,423	67%	1.1%
Manufacturing	25,123	7%	1.2%
HoReCa	22,610	6%	1.0%
Professional services and R&D	9,363	3%	1.1%
Real estate	9,341	3%	1.5%
Others	56,574	15%	1.4%

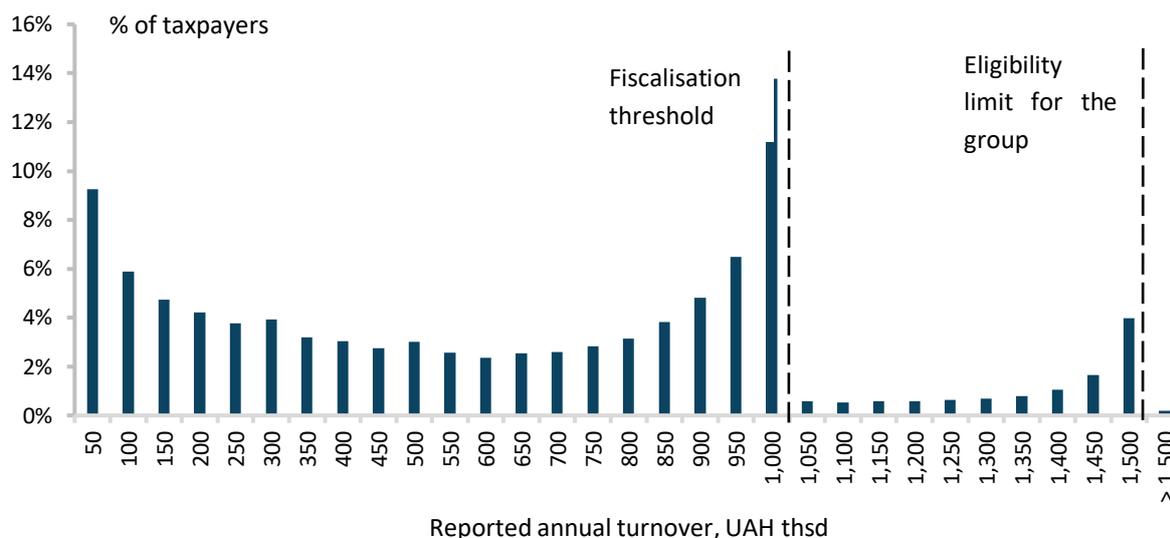
Total	373,435	100%	1.2%
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Source: State Tax Service in Ukraine 2019 data, CES calculations

Wholesale and retail trade

Retail and wholesale trade is the largest segment in terms of size in group 2 of the STS, accounting for 67.7% of the total revenues or **UAH 253 bn** in group 2. The activity has large and visible irregularities in the companies' distribution. Almost 14% of entities crowded before the cash register limits and 4% before the turnover limit. Many companies report turnover in the brackets just left of the fiscalisation threshold, making the curve U-shaped rather than Pareto-shaped.

Figure 7. Reported turnover in group 2: Wholesale and retail trade; repair of motor vehicles and motorcycles



Source: State Tax Service in Ukraine 2019 data, CES calculations

This activity/group combination is also the one in which most grey and black imports are probably sold to final consumers, prompting customs duties evasion accounting for UAH 63-93 bn²² (2019 estimate), mainly in consumer goods and electronics. Eliminating the major distribution channel of “black” and “gray” importers, as well as of manufacturers of counterfeit goods will have a significant positive fiscal impact.

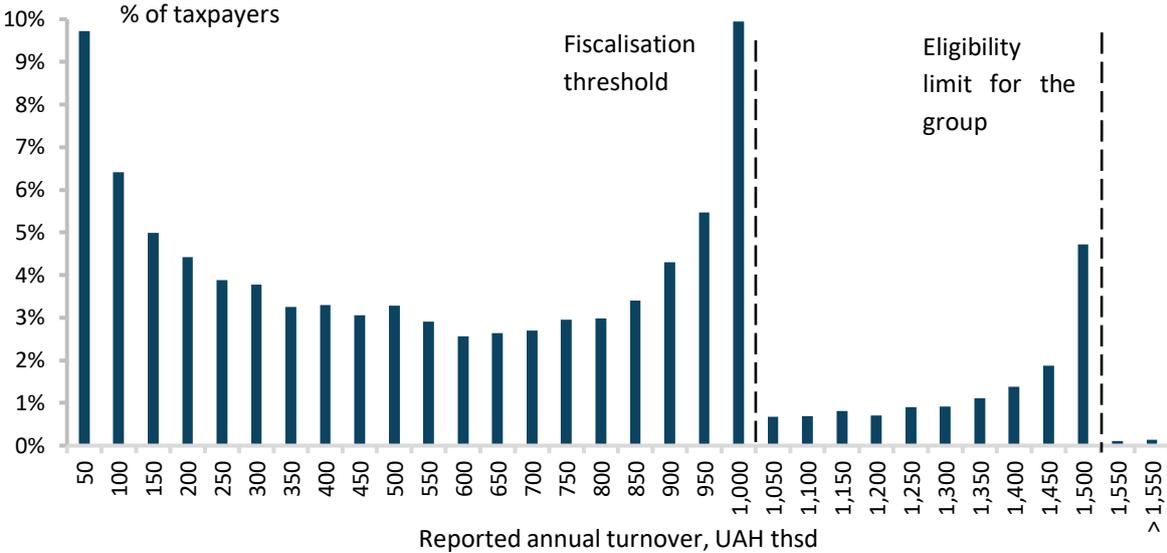
Manufacturing

The second largest segment accounting for 7% of the Group 2 2019 revenues is manufacturing. These are local producers, also not willing to use cash registers (10% just under the threshold) or to transfer to the 3rd Group under the STS (5% just under the threshold).

While the risk of manufacturing entities being involved into grey import schemes is highly unlikely, the unwillingness to cross the fiscalisation barrier might be attributed to about 4 470 entrepreneurs, who together reported UAH 4.4 bn in turnovers.

²² CASE and ISET (2020).

Figure 8. Reported turnover in group 2: Manufacturing



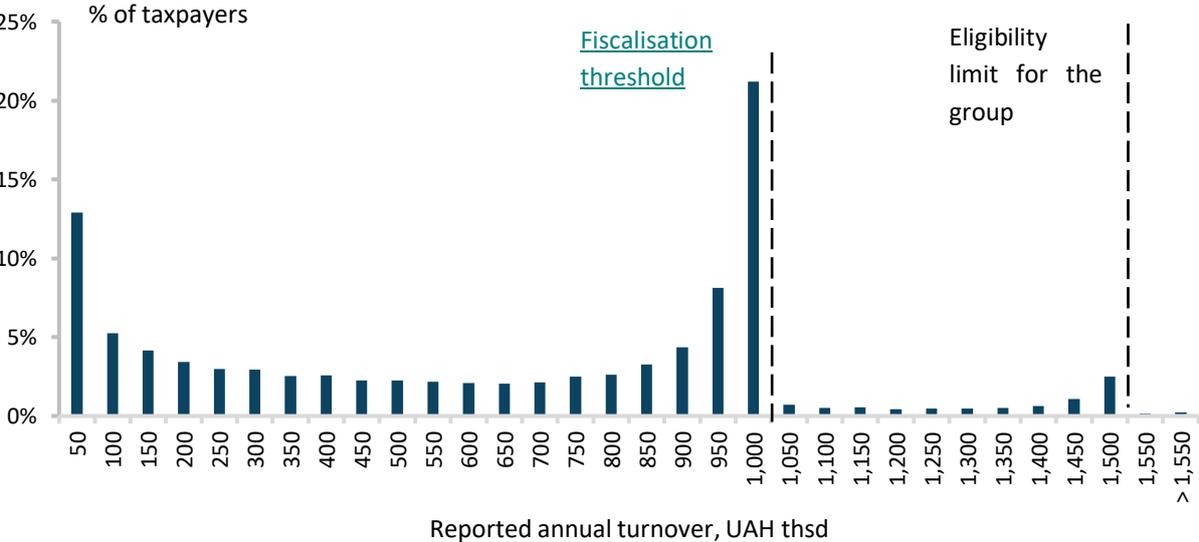
Source: State Tax Service in Ukraine 2019 data, CES calculations

Similarly, another irregular bunching of taxpayers occurs just before the UAH 1.5 m turnover limit for the 2nd group in the year of analysis 2019.

HoReCa

Entities in HoReCa account for 6% of group 2 revenues and are particularly concentrated in the turnover bracket just before the fiscalisation limit. Specifically, 7,771 entities or 21% of all companies reported turnover between UAH 950,000 and UAH 1,000,000. The activity is thus responsible for almost 10% of all entities in the entire group falling into this turnover bracket, which is 64% more than the total share of the HoReCa in the total population of Group 2 taxpayers.

Figure 9. Distribution of taxpayers by reported turnovers in Group 2, HoReCa



Source: State Tax Service in Ukraine 2019 data, CES calculations

Companies in this segment indicated in interviews that interactions between the STS and general tax system affect their growth and willingness to transfer to the general taxation system. Businesses, which own several restaurants or cafes feel that they cannot afford to channel the turnover via one entity and move to the general taxation system because of local unequal from smaller businesses, which fit into

individual entrepreneur limitations. That does however not clearly prove that the differences in taxation would not permit larger companies to compete against smaller ones in the STS.

The peak before the cash register usage limit indicates that many HoReCa businesses are understating the turnover very significantly. Probably, in the case of proper reporting of turnovers (e.g. due to the introduction of cash registers), many would be above the turnover threshold for group 2.

6 Conclusions and policy recommendations

The preceding analysis confirms the assumption that the tax compliance behaviour of individual entrepreneurs depends on the group of simplified taxation and, within that, on the specific economic activities of the businesses. In general, abuse appears concentrated in group 2 of the STS. Within that group, retail trade, HoReCa and Manufacturing are the most significant activities due to their size. Clearly, the two major reasons for the concentration of risks in group 2 is that, firstly, lump-sum taxation in group 2 vs. proportional revenue taxation in group 3 leads to a massive difference in tax burdens (especially for larger SMEs) and, secondly, staying below the current threshold for obligatory usage of cash registers makes it substantially easier to hide and underreport revenues.

In order to improve tax compliance and limit abuse, we recommend several measures:

1. A refocusing of groups 1 and 2 on the smallest of businesses in specific activities

Originally, the system of lump-sum taxation of businesses was intended only for the smallest of businesses. This is effectively the system of “patents” used in several transition countries in which purchase of a “patent” allows the holder to pursue a small economic activity without further interference by the tax authorities. Such patents are intended e.g. for inexpensive personal services without the need of own premises or substantial equipments such as shoe polishing or small scale repair work and roadside stalls for small-scale sale of own produce.

Current practice differs substantially from this intention: Many HoReCa companies manage to cut their tax burden by using fake self-employed staff in group 2. Even worse, retail companies not only appear to effectively underreport revenues but also use the almost inexistent accounting requirement without documentation of operating expenses to sell illegally or “grey” imported goods. This leads to substantial losses in tax revenues and a distortion of the competitive environment to the disadvantage of compliant companies.

Hence, we recommend to refocus groups 1 and 2 on the smallest of businesses by restricting substantially the list of eligible activities and adding further criteria: Activities should be restricted to small-scale personal services, micro businesses in gastronomy and sale of homemade, artisanal or agricultural products. Exact criteria should be carefully designed in order to exclude possible loopholes for abuse. Large market stalls and fake individual entrepreneurs in large restaurants or hotels should be excluded from these groups. This can be effected by generally banning the sale of goods purchased from third parties and restrictions on the types of premises that individual entrepreneurs in group 1 and 2 can operate in. At the same time, the turnover limits should be set wide enough such that all genuine micro businesses fitting the activity criteria can fit into these groups.

The remaining micro-entrepreneurs should then enjoy a relatively relaxed regime with limited verification burden. Our analysis found that especially for the micro-entrepreneurs in group 1, only very limited indications of irregularities exist which probably only create negligible fiscal losses. Tax compliance measures would demand costly administration for a large number of micro-entities and the burden on micro-businesses might drive them (back) into the informal sector.

This suggestion would already achieve a massive improvement of the situation by ensuring that micro-entrepreneurs can operate legally under a very simple tax regime whilst more advanced SMEs need to move into group 3 of the STS, balancing fiscal revenue interests with their capabilities in a more appropriate way. Nevertheless, to avoid shifting the present problems of group 2 into group 3, more measures need to be undertaken:

2. Full fiscalisation of group 3 of the STS

Full fiscalisation of the entities under the STS (except in group 1) is already enshrined in law, but implementation of the requirement has been postponed. In order to ensure that businesses in group 3 of the STS, including those which will have to move into that group when recommendation 1 is enacted, cannot so easily conceal cash incomes, **it is imperative that fiscalisation is fully implemented and no further delays are granted.**

3. Introduction of compulsory VAT on for retail businesses in group 3 of the STS

A main risk activity is retail trade as seen in the preceding analysis. Not only is there a high likelihood of substantial underreporting of revenues by businesses presently in group 2 (to be moved into group 3). There is also the huge issue of black or grey imports of de-facto smuggled goods for which no customs or import VAT has been paid. To get a handle of this problem, fiscalisation alone will not suffice as that does not require accounting for the purchases made by businesses under the logic of group 3 of the STS. The very idea of the turnover tax is to make accounting easier by only listing revenues but not expenditures. Requiring full accounting of business expenditures would amount to abolishing the simplification of the tax system, which is not desired for SMEs.

Instead, we recommend requiring and enforcing VAT for retail businesses in group 3 of the STS.

VAT participation will essentially eliminate the incentive to sell smuggled goods as the import VAT evaded previously will then need to be paid on the sale of the good. The introduction of obligatory VAT for retail on the STS will also incentivise retailers to document and report transactions to be eligible for VAT credit, contributing to decrease the demand and opportunities for VAT offsetting schemes.

Documentation of VAT expenditures by businesses is not too difficult and is practiced successfully in many other areas of the Ukrainian economy. It will not subject retail companies to an undue administrative burden and level the playing field between retail companies in the STS and the regular tax system (which are often direct competitors). Please note that micro traders falling under the (restrictive) goods and other criteria for group 1 of the STS should not be subject to this requirement.

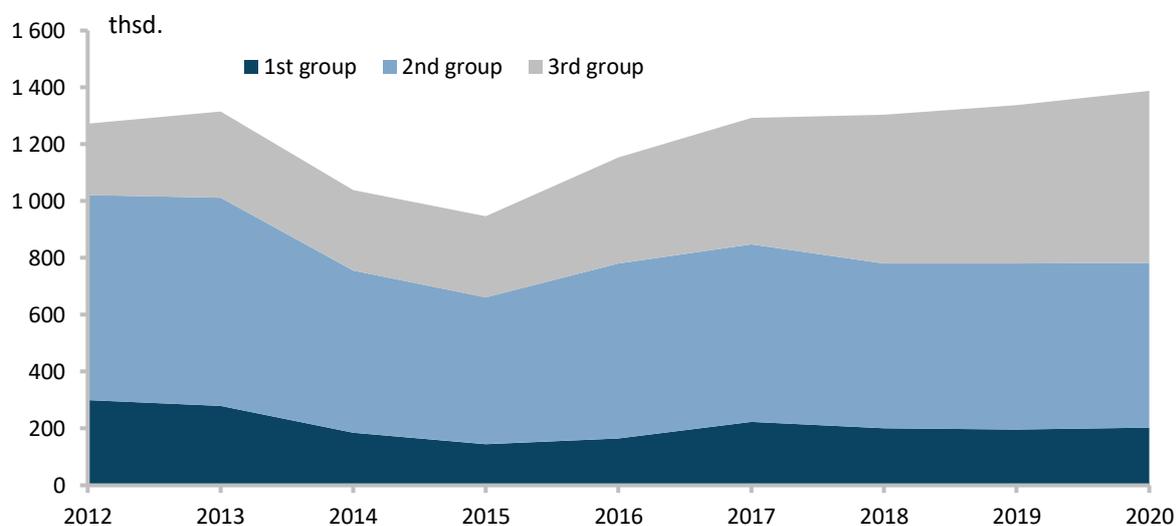
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Annex

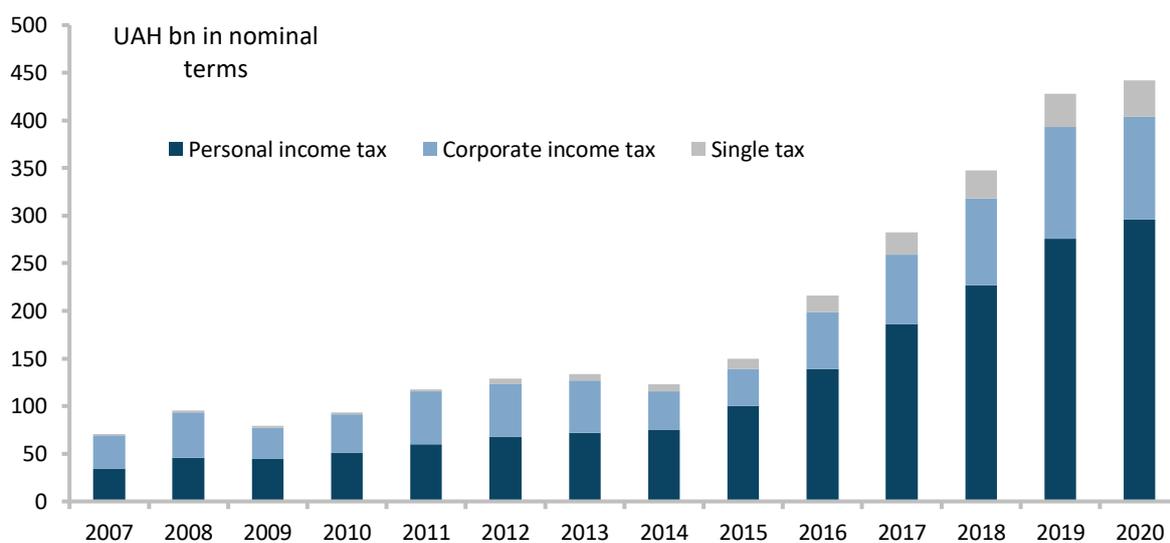
Annex A: General charts and tables

Figure A.1. Number of registered single tax payers (private entrepreneurs),



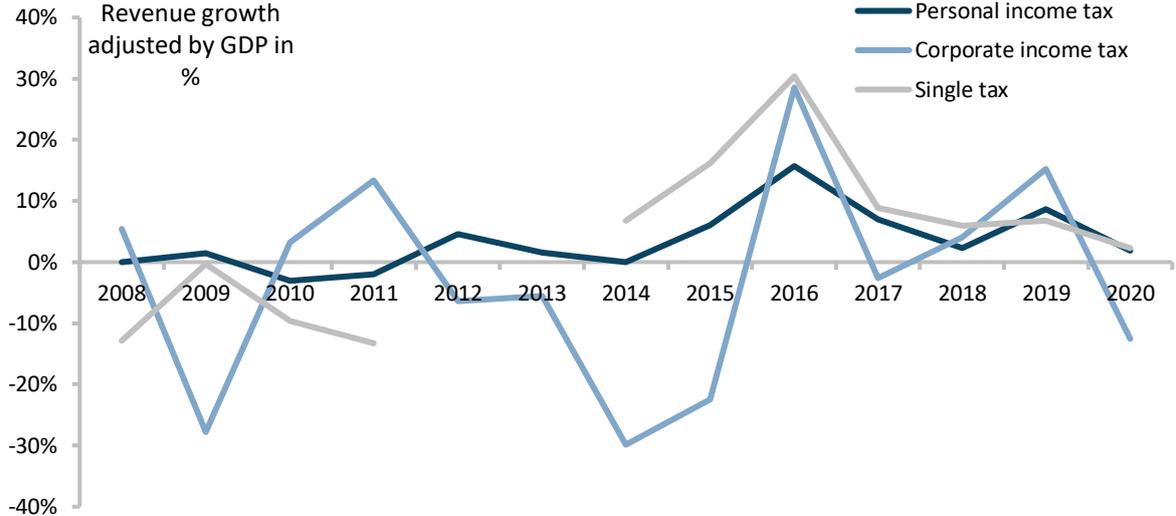
Source: Fiscal Service in Ukraine, Tax Service in Ukraine.

Figure A.2. Budget revenues from the Personal Income tax, Corporate Income tax and Single tax



Source: State Treasury of Ukraine.

Figure A.3. Growth of “real” budget revenues from the Personal Income tax, Corporate income tax and Single tax,



Source: State Treasury of Ukraine, State Statistics Service in Ukraine.

Note: data for 2012 and 2013 was removed due to the changes in the simplified taxation system. “Real” revenues are calculated as nominal revenues divided by GDP.

Annex B. History of the simplified taxation system in Ukraine

Document	Date of changes	Group	Subjects	Activities	Hired workers	Max. annual revenue	Single tax rate
Presidential decree on the Simplified System of Taxation, Accounting and Reporting for Small Business Entities	23.07.1998		SP	most types except: those subject to Law of Ukraine on Patenting Certain Kinds of Entrepreneurial Activities, regarding acquisition of special patent; trust companies, insurance agencies, banks and other non-banking financial institutions;	up to 10	up to UAH 250 thsd	from 20 to 200 UAH (is set by local councils at the place of their state registration depending on the type of activity)
			LE		up to 10	up to UAH 250 thsd	6 % of turnover from sales of goods, services
	07.10.1999		SP	business entities, in the statutory fund of which shares owned by legal entities - participants and founders of entities that are not small business entities, exceed 25 percent; SPs engaged in business activities without creating a legal entities that carry out trade in alcoholic beverages and tobacco products, fuels and lubricants; common activity indicated in paragraph 7.7 Law of Ukraine on Enterprise Profit Tax	up to 10	up to UAH 500 thsd	from 20 to 200 UAH (is set by local councils at the place of their state registration depending on the type of activity), when the single tax payer carries out business activity with the use of hired workers or family members, the single tax rate is increased by 50 percent for each person
			LE		up to 50	up to UAH 1 m	1) 6 % of turnover from sales of goods, services including VAT , 2)10 % of turnover excluding VAT
	01.07.2005		SP	also excluding gambling, export/import/wholesale and retail sale of excisable goods; wholesale and retail sale of excisable fuels and lubricants, the circulation of precious metals and precious stones, trade of medicines and medical devices, architecture, consultations on legal issues, auditing, leasing of real estate and realty	up to 10	up to UAH 500 thsd	from 20 to 200 UAH (is set by local councils at the place of their state registration depending on the type of activity), when the single tax payer carries out business activity with the use of hired workers or family members, the single tax rate is increased by 50 percent for each person
			LE		up to 50	up to UAH 1 m	1) 6 % of turnover from sales of goods, services including VAT , 2)10 % of turnover excluding VAT
Presidential decree is suspended by Law							
		1	SP	Trade-in markets, public services	0	up to UAH 150 thsd	from 1 to 10 % of minimal wage

Tax Code of Ukraine	01.01.2012	2	SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to UAH 1 m	from 2 to 20 % of minimal wage
		3	SP	2 group + real estate	up to 20	up to UAH 3 m	3% (including VAT) or 5% (excluding VAT) of turnover
		4	LE	most types	up to 50	up to UAH 5 m	
	01.07.2012	1	SP	Trade-in markets, public services	0	up to UAH 150 thsd	from 1 to 10 % of minimal wage
		2	SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to UAH 1 m	from 2 to 20 % of minimal wage
		3	SP	2 group + real estate, jewellery	up to 20	up to UAH 3 m	3% (including VAT) or 5% (excluding VAT) of turnover
		4	LE	most types	up to 50	up to UAH 5 m	
	06.07.2012	1	SP	Trade-in markets, public services	0	up to UAH 150 thsd	from 1 to 10 % of minimal wage
		2	SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to UAH 1 m	from 2 to 20 % of minimal wage
		3	SP	2 group + real estate, jewellery	up to 20	up to UAH 3 m	3% (including VAT) or 5% (excluding VAT) of turnover
		4	LE	most types	up to 50	up to UAH 5 m	
		5	SP	most types	up to 20	up to UAH 20 m	7% (including VAT) or 10% (excluding VAT) of turnover
		6	LE	most types	up to 50	up to UAH 20 m	
	01.01.2013	1	SP	Trade-in markets, public services	0	up to UAH 150 thsd	from 1 to 10 % of minimal wage
		2	SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to UAH 1 m	from 2 to 20 % of minimal wage
		3	SP	2 group + real estate, jewellery	up to 20	up to UAH 3 m	3% (including VAT) or 5% (excluding VAT) of turnover
		4	LE	most types	up to 50	up to UAH 5 m	
		5	SP	most types	Not limited	up to UAH 20 m	5% (including VAT) or 7% (excluding VAT) of turnover
		6	LE	most types	Not limited	up to UAH 20 m	
		1	SP	Trade-in markets, public services	0	up to UAH 300 thsd	from 1 to 10 % of minimal wage

	01.01.2015	2	SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to UAH 1,5 m	from 2 to 20 % of minimal wage
		3	SP, LE	2 group + real estate, jewellery	Not limited	up to UAH 20 m	2% (including VAT) or 4% (excluding VAT) of turnover
		4		agricultural manufacturers, whose share of agricultural production in previous tax year equals or exceeds 75%	Not limited	Not limited	9-300% of the normative assessment of lands (depending on the type of land)
	01.01.2016	1	SP	Trade-in markets, public services	0	up to UAH 300 thsd	from 1 to 10 % of minimal wage
		2	SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to UAH 1,5 m	from 2 to 20 % of minimal wage
		3	SP, LE	2 group + real estate, jewellery	Not limited	up to UAH 5 m	3% (including VAT) or 5% (excluding VAT) of turnover
		4		agricultural manufacturers, whose share of agricultural production in previous tax year equals or exceeds 75%	Not limited	Not limited	16-540% of the normative assessment of lands (depending on the type of land)
	01.01.2017	1	SP	Trade-in markets, public services	0	up to UAH 300 thsd	Up to 10% of the subsistence level
		2	SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to UAH 1,5 m	Up to 20% of the minimum wage
		3	SP, LE	2 group + real estate, jewellery	Not limited	up to UAH 5 million	3% (including VAT) or 5% (excluding VAT) of turnover
		4		agricultural manufacturers, whose share of agricultural production in previous tax year equals or exceeds 75%	Not limited	Not limited	0.19-6.33% of the normative assessment of lands (depending on the type of land)
	15.08.2018	1	SP	Trade-in markets, public services	0	up to UAH 300 thsd	Up to 10% of the subsistence level
2		SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to UAH 1,5 m	Up to 20% of the minimum wage	
3		SP, LE	2 group + real estate, jewellery	Not limited	up to UAH 5 m	3% (including VAT) or 5% (excluding VAT) of turnover	
4		SP, LE	most types of activities for LEs whose share of agricultural production in previous tax year equals or exceeds 75%	Not limited	Not limited	0.19-6.33% of the normative assessment of lands (depending on the type of land)	
		SPs who carry out their activity exclusively within the farm registered in accordance with law of Ukraine on Farming Enterprise	0, members of farming enterprise are only family members defined in part 2 para 3 of The Family Code of Ukraine				
30.03.2020	1	SP	Trade-in markets, public services	0	up to UAH 1 m	Up to 10% of the subsistence level	
	2	SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to UAH 5 m	Up to 20% of the minimum wage	
	3	SP, LE	2 group + real estate, jewellery	Not limited	up to UAH 7 m	3% (including VAT) or 5% (excluding VAT) of turnover	

		4	SP, LE	most types of activities for LEs whose share of agricultural production in previous tax year equals or exceeds 75%	Not limited	Not limited	19-633% of the normative assessment of lands (depending on the type of land)	
				SPs who carry out their activity exclusively within the farm registered in accordance with law of Ukraine on Farming Enterprise	0, members of farming enterprise are only family members defined in part 2 para 3 of The Family Code of Ukraine			
	01.01.2021		1	SP	Trade-in markets, public services	0	up to 167 minimum wages (~UAH 1 m)	Up to 10% of the subsistence level
			2	SP	1 group + manufacturing, sales of goods, restaurants	up to 10	up to 834 minimum wages (~UAH 5 m)	Up to 20% of the minimum wage
			3	SP, LE	2 group + real estate, jewellery	Not limited	up to 1167 minimum wages (~UAH 7 m)	3% (including VAT) or 5% (excluding VAT) of turnover
			4	SP, LE	most types of activities for LEs whose share of agricultural production in previous tax year equals or exceeds 75%	Not limited	Not limited	0.19-6.33% of the normative assessment of lands (depending on the type of land)
	SPs who carry out their activity exclusively within the farm registered in accordance with law of Ukraine on Farming Enterprise	0, members of farming enterprise are only family members defined in part 2 para 3 of The Family Code of Ukraine						