

POSSIBLE APPROACHES OF DEFINING MINIMUM LEVEL OF VAT REFUNDS IN TAX ADMINISTRATIONS

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Abstract

Poorly organized VAT refund system represents operational (Failure in fulfilling all claims within defined deadlines) as well as fiscal risk (accumulation of large stock of overpaid amounts in the long run subject to refund immediately or at a later period and theoretically claimable within the same period of time) for tax administrations. Hence it is important for tax authority to prepare and forecast expectable minimum level of possible refunds in advance. Refunds claimed above the previously estimated amounts, may also be used as an additional indicator of possible fraud or refund abuse. It also needs to be noted, that adequacy of refund system, happens to be one of the indicators, used to evaluate efficiency of tax administration and tax system as a whole.

Key words: *Fiscal risk; Forecasting refunds; Minimum level of refunds; Operational risk; VAT refund;*

JEL Classification: *H20; H21; H25; H26; H29*

I. INTRODUCTION

It is a natural feature of invoice-credit form of VAT system that certain businesses have to pay more VAT on purchases they make, than the VAT associated to their taxable sales¹. These kinds of businesses are entitled (or should be, if not) to reclaim the difference (overpaid VAT) from the tax administrations. Refunds are vitally important for at least:

Exporters, since exporting part of their turnover is taxed with zero rate² (with input VAT crediting right) and large portion of their VAT paid on purchases, remains as unused overpaid amount. Apparently, such amounts will accumulate by months and there mainly is no way of using them, other than claiming back.

Newly established companies paying more VAT on purchased main assets and commodity stocks than VAT generated on their ongoing taxable sales (for the given stage of their existence).

As we can see, VAT refund problem mainly affects those areas of businesses which need to be promoted most. Fast-track refunds of this kind of overpaid amounts increases working capital at taxpayers' disposal and vice versa, any impediment and procrastination of the process alters the entire nature of VAT taxation system, increases tax burden, adds extra cost to compliance and consequently impedes business development.

On the other hand, for tax administrations themselves, flawed VAT refund system represents operational and fiscal risk, since there must always be sufficient funds and readiness to fulfill all legitimate refund claims on time.

Despite the fact that normally functioning refund system seems to be falling under mutually beneficial interests of both sides (taxpayers and tax authorities), reality may be totally different and in practice many of tax administration have permanently growing backlogs of not refunded (totally or on time) overpaid VAT amounts. Main general reasons for this kind of behavior are caused by following circumstances:

Collection targets are not being met

Anticipation of possible refund abuses or fraud (the most critical fear) ³

Shortage in Cash

The aim of this study is to define possible approaches for risk management, associated with the existence of effective VAT refund system. More specifically, to define possible logics/approaches for estimating reasonable minimum level of refunds, as to ensure accumulation of sufficient funds (setting aside or taking into consideration while forecasting tax revenue estimates for the following year). This will facilitate reduction of operational and fiscal risks and will promote approximation of existing tax refund system to the leading approaches of modern tax administrations.

Refundable amounts need to be considered not only in terms of planning tax revenues estimates, but it also may become necessary in tax administrations to consider them, in terms of planning administrative and other strategic programs including process of tax risk analysis.

¹ VATBOX - <https://vatbox.com/vat-refund-application-due-sept-30-2018/>

² Georgian tax code (2010) Tbilisi. (As of March 12, 2011)

³ OECD (2011) Repayments: Maintaining the Balance Between Refund Service Delivery, Compliance and Integrity

II. POSSIBLE LOGICS FOR CALCULATING MINIMUM LEVEL OF REFUNDS

Logic N1: In this logic we rely on the main risk of tax administration associated with overpaid amounts – avoiding accumulation and increase of budget debt towards taxpayers in the long run. Relevant estimated amounts need to be defined with the consideration of this judgment. In other words, we have to establish the level of necessary refunds that will ensure at least retaining the same level of net overpaid VAT amounts, for starting and ending points of each month of the year, falling under our interest. In net overpaid VAT amounts we certainly assume the sum of excess VAT credits, above taxable VAT (calculated per individual taxpayer and summed up), that is neither refunded nor used for any other purposes (for covering previous or current tax liabilities in other tax, types for example). If we calculate such amounts with regard to previous fiscal year, establish its share in total VAT revenues for the same year and assume that in the event of proper tax administration refund amounts follow more or less the same proportional template, we can easily apply the same proportion/ratio for the following years as well.

For example, if the amount of net overpaid VAT amounts by taxpayers for the beginning of January is 100 million conditional unit, 120 million for the beginning of February and refunds during the January account to 10 million conditional unit, then based on this condition in order to maintain the same (100) level of overpaid amounts we would have to refund $120 - 100 + 10 = 30$ million. After we make such calculation for each month of the year (due dates can also be used instead of first days of months if more appropriate, but in such case, refunds must be summed up as per those dates as well), we can easily get its ratio in total VAT revenues for the same fiscal year. In an ideal situation portion of historically accumulated not refunded amounts (portion of 100 in our example) is also to be added, (if it is planned to be refunded and such programs exist) and the portion of possible tax fraud amounts are to be deducted.

In a sentence, the given logic implies estimating the share of accumulated net overpaid and refunded VAT amounts and its share in net VAT revenues for the same year:

$$A_y = \sum_{t=1}^{12} (O_{t+1} - O_t + R) - F$$

Where:

A_y- ratio of reasonable refund amounts to gross net VAT collections over the year

O_t - sum of net overpaid amounts by taxpayers for the start date of the **t** month (dates may correspond to the beginnings or due dates of consequent months)

O_{t+1} - sum of net overpaid amounts by taxpayers for the start date of the **t+1** month (dates may correspond to the beginnings or due dates of consequent months)

R - refunds made between **t** and **t+1** dates.

F - Not recognized accruals for **y** year (unless it is already considered in net overpaid amounts)

$\sum(O_{ti} - O_{ti-1} + R)$ - here we sum up only positive results of the expression since negative results indicate refunds related to overpaid amounts emerged at previous/past periods.

After we divide the result of this formula by the annual factual net VAT revenues (considering offsets and other kinds of possible uses of VAT amounts), we get the ratio we can use to forecast minimum level of refunds for future periods based on VAT revenue estimates.

The advantage of this approach is its simplicity and short time necessary for calculations. As for disadvantages, we can say that in order to make predictions, we will need information about VAT revenue estimates for the year of interest and thus we will be able to make annual predictions. So in case we need monthly forecast, we have to use simple average or other specific approaches that less likely provide realistic approximations for this shorter timeframes (also not necessarily impossible).

Logic N2. This approach relies on the same above mentioned logic with the difference that reasonable minimum refund amounts (**A_y**) are calculated by months and not only for one, but also in relation to other (previous) years as well (in general the more the better). Instead of defining ratio, here we perform time series forecasting based on monthly data of reasonable minimum refunds by months. This way we can have monthly forecast and comparison point for the results derived from Logic N1. Ideally we need to have reasonable compatibility of estimated amounts calculated by these different approaches.

This particular approach solves disadvantages of logic N1 in terms of eliminating need of estimated VAT revenues and also makes it possible to forecast monthly data. Although development and evaluation of useful time series forecasting models (starting from “ARIMA” - auto regressive integrated moving average – and ending with other more specific and sophisticated supervised machine learning models) are trickier and more time consuming.

Logic N3: This logic is applicable in cases when we aim to compare our refund system to countries with the same stage of development. Despite the fact the logic may not give optimal results, it may serve as a good

reference point and become quite useful along with other approaches. VAT refund related paper of Harrison G and Krelove R⁴, reviews practical approaches of different countries with regard to VAT refunds and also describes their taxation related specifics. Here we can find regression line for refunds (along with model coefficients), developed on the basis of survey results from different countries (here we use these results as an example, assuming use of more recent surveys in practice if such results are available at hand):

$$Ay = 0.16\text{Export} + 0.75\text{Growth} + 0.19\text{Literacy} + 0.90\text{Range} - 25.3D1 + 3.8D2 - 17.5D3$$

Where:

Ay - average of the refunds paid to gross VAT collections over the survey period

Export - share of exports in GDP (in percentage)

Growth - average GDP growth rate over the survey period (in percentage)

Literacy - literacy rate (in percentage)

Range - difference between the highest and lowest (nonzero) VAT rates (in percentage)

D1 – takes on the value 1 if supplies to exporters are zero-rated

D2 - takes on the value of 1 when refunds are paid from gross collections (rather than as an expenditure appropriation)

D3 – dummy taking the value unity for the “other” economies in Table 1 (1 for less developed countries more probably having weak refund performance, 0 for others).

Table 1: Value of VAT Refunds in Advanced, Transitional, and Emerging Economies (In percentages of gross VAT collections)							
Advanced Economies		Transitional Economies		Emerging Economies		Others	
Canada	50.3	Bulgaria	21.5	Chile	28.8	Algeria	24.3
France	21.2	Hungary	48.2	Colombia	4.1	Bolivia	10.4
Ireland	24.9	Latvia	49.1	Indonesia	12.4	Cambodia	2.8
Netherlands	50	Romania	24.7	Mexico	32.1	Cameroon	8.8
New Zealand	35.5	Russia	44.6	Morocco	5.1	El Salvador	9.6
Sweden	48.6	Slovak Rep.	53.9	Peru	19.8	Kenya	7.2
United Kingdom	40.9	Ukraine	24.1	South Africa	39.5	Mozambique	2.7

Source: Harrison G., Krelove R (2005) *VAT Refunds: A Review of Country Experience*.

If we use our own values along with the given regression parameters and compare calculation result to our existing reality, we will get the general idea on how close or how far our refund level is from the average (the fitting line of regression).

In cases where there is no information about Literacy (no relevant surveys conducted), we could calibrate this parameter so as to match the results from other forecasting approaches (Logics) and use it untouched in the following years.

Evaluation of performance of the above-mentioned logics can be conducted by simple comparison with real results at different time frequencies (monthly, quarterly or yearly), or by testing it on historical data (backpropagation), which will provide possibilities for considering further improvement of the logics considered.

III. CONCLUSIONS

Well organized VAT refund system is vital for businesses operating in tax systems with invoice-crediting approach. This falls under interests of all tax administrations, but tax authorities also face several impediments that must be tackled in order to make it happen. In terms of fear of possible tax fraud and refund abuse, it is important to consider its scale. While timely detection of fraudulent taxpayers is necessary, in reality they do not have large ratio in total VAT turnover (the same goes with overpaid VAT amounts as well) and there is no sense in making artificial difficulties in the form of delayed refunds for compliant taxpayers (based on this reason). This kind of reasoning for delayed refunds is not convincing, not to say more about fairness, especially when it is common knowledge that modern tax system is predicated on voluntary compliance⁵ and a great majority of tax

⁴ Harrison G., Krelove R (2005) *VAT Refunds: A Review of Country Experience*

⁵ Hutton Eric, “The revenue administration – Gap analysis program: model and methodology for value-added tax gap estimation”, March 2017

revenues are voluntarily declared and paid by compliant taxpayers. It is important not to sacrifice this good (that is the quick access to overpaid VAT amounts) because of the small portion of taxpayers committing tax fraud. Estimated amounts of possible refunds can help set aside adequate funds in advance to satisfy anticipated refund claims (basically by considering it when forecasting VAT collection targets). In addition, factual refund claims way above the minimum anticipated level may serve as an additional indicator of possible VAT fraud or a measure for refund abuse detection.

The study suggests several possible approaches providing opportunity to gain an understanding of reasonable minimum level of anticipated VAT refunds that may help eliminate at least several important factors impeding fast-track VAT refunds.

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