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Recent increases of tax revenues – to what extend has improved tax compliance contributed?

Jörg Radeke, Woldemar Walter

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About the German Economic Team Moldova

The German Economic Team Moldova (GET Moldova) advises the Moldovan government and other Moldovan state authorities such as the National Bank on a wide range of economic policy issues. Our analytical work is presented and discussed during regular meetings with high-level decision makers. GET Moldova is financed by the German Federal Ministry of Economics and Energy. Our publications are publicly available at our website (www.get-moldova.de).

German Economic Team Moldova (GET Moldova)
c/o BE Berlin Economics GmbH
Schillerstr. 59
D-10627 Berlin
Tel: +49 30 / 20 61 34 64 0
Fax: +49 30 / 20 61 34 64 9
info@get-moldau.de
www.get-moldau.de

About the Authors

Jörg Radeke is a senior economist who advises on a wide range of economic policy issues. His areas of expertise lie in economic impact assessments, economic policy consulting, and economic modelling.

After completing his M.Sc. in economics at Rostock University in 2015, he has worked for several years in consulting and analyst roles in London and Ireland advising both private and public sector clients. Between 2010 and 2011 he was the project manager of a large scale research project which advised the German government on policies to promote electric mobility in Germany.

Since joining Berlin Economics in 2012, Jörg Radeke is involved in a number of economic policy consulting projects. He is a member of the German Economic Team Moldova, the German Advisory Group Ukraine and the German Economic Team Georgia. He also coordinates our activities in the Transnistrian region.

Contact: radeke@berlin-economics.com +49 30 / 20 61 34 64 7

Woldemar Walter is project manager of the German Economic Team Moldova and consultant at Berlin Economics. His work focuses on macroeconomic country analysis and trade related issues.

Mr. Walter completed his B.Sc. and M.Sc. in public economics at the Free University of Berlin, and has worked in the Federal Ministry of Finance, Deutsche Bank Research, and the Market Economy Foundation.

Contact: walter@berlin-economics.com +49 30 / 20 61 34 64 51

Executive Summary

Fiscal revenues have shown a considerable increase over the past year. This coincides with a number of reforms which were implemented by the Ministry of Finance, the tax administration and customs authorities to improve the efficiency of revenue collection. For the government it is important to understand to what extend recent and past reforms improved tax compliance and in turn contributed to the observed revenue increase. To analyse this question we carried out a

(1) quantitative analysis of past revenue data and
(2) a qualitative analysis based on interviews with companies and tax professionals.

Quantitative analysis:
The revenue increase can be cause by two effects:

1. **Economic growth**: Tax base (e.g. taxable incomes) increases due to economic growth
2. **Reforms**: Increase of tax revenues due to de-shadowing and improved compliance

A reform effect can either be visible in an increase of the effective tax rate or in the increase of the tax base as more incomes are officially reported. Therefore, we calculated if the effective tax rate (ratio of tax revenues to the size of the tax base) increased. In addition, we performed an econometric analysis to estimate if the reforms led to an increase of the tax base. Both, the additional revenues from an increase in the effective tax rate and an increase of the tax base together make up the reform effect.

We find significant reform effects for four out of five analysed taxes: For the personal income tax (**PIT)** and for **social security contributions** the reform effect accounted for about 10% of the revenue increase observed since first half of 2015. For the **corporate income tax (CIT)** and for **domestic value-added tax (domestic VAT)** we estimate that 77% and 55%, respectively, of the revenue increase can be attributed to reforms. For those taxes we observed an increase of the effective tax rate as well as a widening of the tax base, which point at improved compliance and de-shadowing. For the **import value-added tax (import VAT),** there is neither a significant increase in the effective tax rate nor find we a de-shadowing of the tax base observable.

Interviews with tax payers: We carried out a number of interviews with tax payers to verify if there is indication that tax compliance has indeed improved. Respondents mentioned considerable improvements over the past five years, whereas most respondents did not notice any large changes over the last two years. Indeed, given that the most recent set of reforms of the tax administration and customs service were implemented only recently, it would be too early to expect them to be felt already. Respondents mentioned the following changes when comparing to the situation five years ago:

- Improvements in the interaction with tax authorities,
- improved refund situation,
- considerable reduction in the administrative burden for reporting,
- reduced cost of compliance due to electronic tax declaration,
- increased the capacity of tax and customs to detect avoidance

Taken together the quantitative analysis and the interviews suggest that past reforms have improved tax compliance especially for corporate taxes. This seems to be a direct result of reforms carried out over the past five years. The results of our analysis encourage a continuation of the reform processes which aim at a reduction of the administrative burden for reporting and paying taxes.

Acknowledgements

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Contents

1 Introduction

Fiscal revenues have shown a considerable increase over the past year. While any increase in fiscal revenues is welcomed, for the government it is important to understand the underlying reasons for this increase. That way the government can evaluate whether its reforms and fiscal policy changes have been effective and reached their objectives.

There are two possible reasons which alone or in concert may have led to the increase in fiscal revenues:

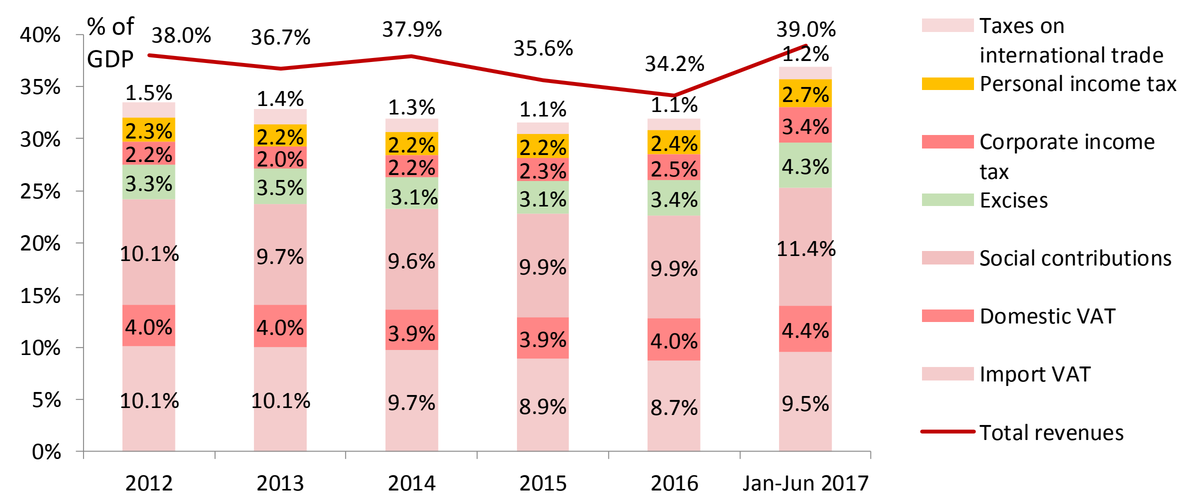
1. **Economic growth**: Tax base (e.g. taxable incomes) increases due to economic growth
2. **Reforms**: Increase of tax revenues due to de-shadowing and improved compliance

Improving fiscal revenues through improved compliance and reduced avoidance (de-shadowing) should be the prior objective of the government as this is a way to raise revenues without having to increase the actual tax burden.

The ratio of tax revenues to GDP can serve as a first indicator for improved tax compliance and revenue collection. The figure below shows total government revenues and the main types of taxes as a share of GDP.

Figure 1

Development of revenues as share of GDP, 2012-2017



Source: Ministry of Finance

The data show an increase of the ratio of fiscal revenues to GDP to 39.0% in first half of 2017 – up from 34.2% in 2016. Revenues to GDP during the first half of 2017 also mark the highest value since 2012. Consequently, tax revenues have increased faster than economic activity.

This paper analyses the increase in tax revenues observed over the past years in order to identify to what extend reforms undertaken by the government led to improved compliance and in thus contributed to the increase. To this end two different methods are used:

(1) A quantitative analysis of past revenue data (Chapter 2) and

(2) A qualitative analysis based on interviews with companies and tax professionals (Chapter 3)

In chapter 4 we summarise the results and formulate recommendations.

2 Quantitative Analysis

2.1 Introductory remarks

In this section we present the results of the quantitative analysis of government revenues with the objective to identify to what extend improved tax compliance and revenue collection can account for the nominal increase of revenues observed in the recent period. The main goal of this section is to separate the "reform effect" (higher compliance and de-shadowing) from the increase in revenues which is due to economic growth ("economic growth effect").

How can the reform effect be estimated? We argue that a reform effect can either be visible in an increase of the effective tax rate or in the increase of the tax base as more incomes are officially reported. A higher effective tax rate implies that the government is able to collect more taxes from a given tax base. That is, the ratio of tax revenues to the size of the tax base improves. Thus, an increased effective tax rate – in the absence of statutory tax rate increases – signals improved revenue collection and tax compliance. To measure the size of this effect we calculate the effective tax rate for different time periods and compare if it increased over time.

In order to see if the reforms also helped to increase the officially reported incomes or revenues, we analyse the development of the tax base. As the tax base can grow due to economic growth and due to de-shadowing, we separate these effects with the use of an econometric model. Below, the calculations of effective tax rates and the results from the econometric analysis for the main revenue sources are presented.

2.2 Personal income tax (PIT)

Personal income tax (PIT) taxes mainly income from employment. It also includes benefits in kind and income from professional or entrepreneurial activity, capital gains and other income. The tax is progressive with a 7% rate for annual income up to MDL 31,140 and 18% thereafter. A general tax-free amount of about MDL 10,000 (with additional tax-free amounts for certain parts of the population). The share of wages in the total PIT revenue is around 95% and therefore quite high. Table 1 shows the development the effective tax rate.

Table 1

Personal income tax – effective tax rate

		2012	2013	2014	2015	2016	Jan-Jun 2015	Jan-Jun 2016	Jan-Jun 2017
Personal income tax	MDL m	2,027	2,206	2,447	2,745	3,182	1,334	1,510	1,735
Growth rate	% yoy		9%	11%	12%	16%		13%	15%
Share of nominal GDP	%	2.3%	2.2%	2.2%	2.2%	2.4%	2.5%	2.6%	2.7%
Wage sum (tax base)[1]	MDL m	33,631	36,591	40,015	43,449	47,359	20,859	22,414	26,084
Growth rate	% yoy		9%	9%	9%	9%		7%	16%
Effective tax rate	%	**6.0%**	**6.0%**	**6.1%**	**6.3%**	**6.7%**	**6.4%**	**6.7%**	**6.7%**

Source: Own calculations based on Ministry of Finance and NBS data

Estimation of the reform effect

As mentioned, the reform effect can either be visible in an increase of the effective tax rate or an increase of the tax base.

Effective tax rate: The data show a significant increase of the effective tax rate between 2012 and 2016 – up from 6.0% in 2012 to 6.7% in first half of 2017. However, there has been no change in the effective tax rate since 2016.

In the period of recent reforms, which we define as the time between Jan-Jun 2015 to Jan-Jun 2017, the effective tax rate increased by 0.3 percentage points. In contrast to other taxes, the PIT is a progressive tax, such that this increase of the effective tax rate since 2015 may be partly due to a progression effect. That is, the effective tax rate may have increased due to income moving into higher income bands or above the tax free amount as wages increased faster than tax threshold amounts.

In fact, our analysis suggests that the increase of the effective tax rate in the first half of 2017 compared to the first half 2015, can be attributed mainly to the progression effect. We find no reform effect in the improvement of the effective tax rate.

Tax base increase due to reforms: To analyse how much of the tax base increase can be attributed to de-shadowing and how much to economic growth we use a simple log-log linear regression model in order to analyse whether the recent tax reform had an impact on the tax base (see Annex 4).

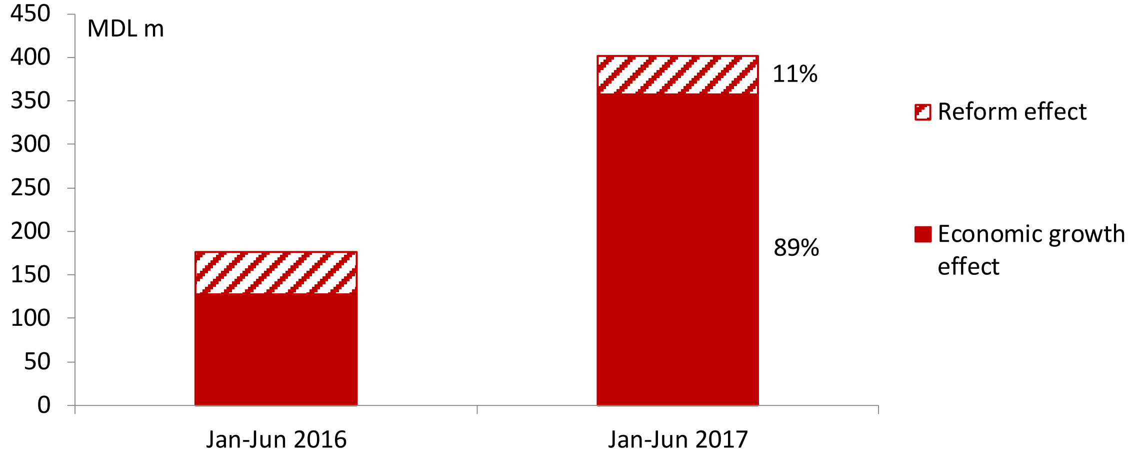
Assuming that the reforms had an impact on the tax base since Q2 2016, we find the reform effect to have a significant impact on the increase of the tax base. The result suggests that the tax base increased by an additional 0.3 percentage points every quarter due to reforms. As such, an additional tax base increase of roughly 1.2% per year can be concluded.

Total reform effect: We estimate that the total reform effect (increase of effective tax rate and de-shadowing of the tax base) accounts for around 11% of the PIT revenue increase since the first half of 2015. The remaining 89% of revenue increase in 2015 can be attributed to economic growth.

[1] In the case of the PIT, we use wage sum as the tax base given that wage incomes account for 95% of personal incomes taxed through the PIT.

Figure 2

PIT – Increase of revenues compared to Jan-Jun 2015



Source: Own calculations based on Ministry of Finance and NBS data

2.3 Social insurance contributions

Social security contributions are paid by employers at a rate of 23% of their employees' gross salary. Employees pay an individual contribution in the amount of 6% of their gross salary. The health insurance contribution is paid by employer and by employee each in the amount of 4.5% of wages and other remuneration.

The development of social security contributions should be closely connected to PIT revenues as they have the same tax base (mostly wage incomes) and are collected in the same way.

Development of effective tax rate of social contributions is shown in Table 2

Table 2

Social insurance contributions – effective tax rate

		2012	2013	2014	2015	2016	Jan-Jun 2015	Jan-Jun 2016	Jan-Jun 2017
Social contributions	MDL m	8,948	9,723	10,777	12,128	13,277	5,782	6,261	7,273
Growth rate	% yoy		9%	11%	13%	9%		8%	16%
% of nominal GDP	%	10.1%	9.7%	9.6%	9.9%	9.9%	10.9%	10.7%	11.4%
Wage sum (tax base)	MDL m	33,631	36,591	40,015	43,449	47,359	20,859	22,414	26,084
Growth rate	% yoy		9%	9%	9%	9%		7%	16%
Effective tax rate	%	**26.6%**	**26.6%**	**26.9%**	**27.9%**	**28.0%**	**27.7%**	**27.9%**	**27.9%**

Source: Own calculations based on Ministry of Finance and NBS data

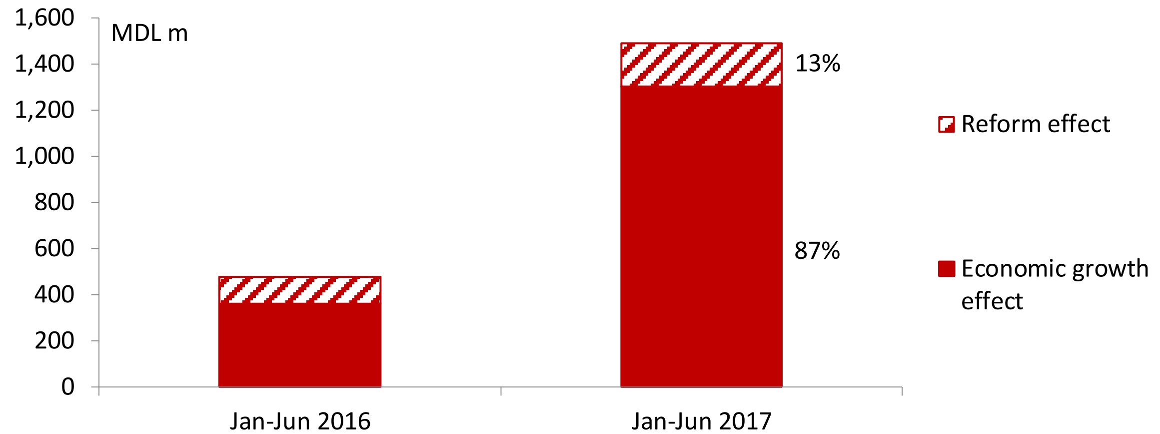
Estimation of the size of the reform effect

Effective tax rate increase: The effective rate for social insurance contributions was almost unchanged over the last 2 years. A moderate increase can be seen since 2012. This suggests that, similar to the personal income tax, tax compliance as measured by the effective tax rate has not improved significantly for social insurance contributions.

Tax base increase due to reforms: To find out how much of the tax base increase can be attributed to reforms we perform a regression analysis. The regression analysis of the wage sum shows a significant increase in the officially reported wages since the start of the reforms. We estimate that the tax base increased by 10% as a result of improved compliance. More people are working officially or are getting higher official wages, which increases the wage sum and results in higher social contributions.

Figure 3

Social contributions – Increase of revenues compared to Jan-Jun 2015



Source: Own calculations based on Ministry of Finance and NBS data

Total reform effect: We estimate that improved compliance and de-shadowing ("reform effect") accounted for around 13% of revenue increase in H1 2017 vs H1 2015. Thus, while there is a significant "reform effect" the major share of higher revenues is due to economic growth.

2.4 Corporate income tax (CIT)

The statutory rate of the corporate income tax (CIT) is 12% which is levied on corporate incomes (profits) as stated in companies' financial accounts.

To calculate effective tax rate we estimated company profits by deducting the wage sum from gross value added. Table 3 shows the development of the effective tax rate – the ratio of CIT revenues to estimated company profits.

Table 3

Corporate income tax – effective tax rate

		2012	2013	2014	2015	2016	Jan-Jun 2015	Jan-Jun 2016	Jan-Jun 2017
Corporate Income tax	MDL m	1,967	2,053	2,431	2,808	3,363	1,467	1,799	2,192
Growth rate	% yoy		4%	18%	16%	20%		23%	22%
% of nominal GDP	%	2.2%	2.0%	2.2%	2.3%	2.5%	2.8%	3.1%	3.4%
Estimated company profits (tax base)	MDL m	40,055	47,128	54,489	60,424	67,612	23,573	27,180	26,938
Growth rate	% yoy		18%	16%	11%	12%		15%	-1%
Effective tax rate	%	4.9%	4.4%	4.5%	4.6%	5.0%	6.2%	6.6%	8.1%

Source: Own calculations based on Ministry of Finance and NBS data

Estimation of size of reform effect

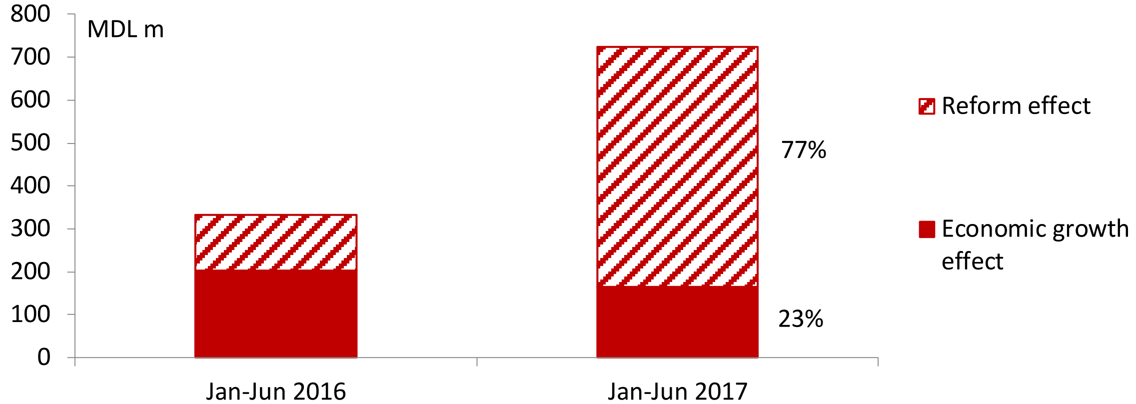
Effective tax rate increase: The data suggest a significant increase in the effective tax rate in the first half of 2017 compared to 2016. However, seasonality seems to be an issue, e.g. the rate for the whole of 2016 is much lower than in the first half of 2016. To eliminate the seasonal effect we therefore compare only the first six months of 2015 and 2016 with the first half of 2017. On that basis a significant increase of 1.9 pp since the first half of 2015 can be observed. At the same time, progression is not an issue – unlike for PIT – as there is only one tax rate. This suggests that the effective tax rate increase is largely due to improved tax compliance.

In the first half of 2017, revenues were 49% higher than in the first half of 2015. 71% of this increase can be attributed to an improvement of the effective tax rate.

Tax base increase due to reforms: In a second step we perform a regression analysis with a simple log-log linear regression model to see how much of the tax base increase can be attributed to reforms (Annex 5). We find a significant reform effect, which amounts to roughly 1.4% increase of the tax base per year. In total, the de-shadowing of the tax base accounts for 6% of the revenue increase since the first half of 2015. Figure 4 summarises the results.

Figure 4

CIT – Increase of revenues compared to Jan-Jun 2015



Source: Own calculations based on Ministry of Finance and NBS data

Total reform effect: The effective tax rate improvement accounts for 71% of the increase in CIT revenues in H1 2017 vs H1 2015. The de-shadowing of the tax base accounts for 6% of the increase. In total, 77% of the increase in CIT revenues can be attributed to reforms. The remaining 23% increase of CIT revenues is due to economic growth.

Domestic value added tax

The standard VAT rate in Moldova is currently 20% which is levied to sales of goods and services. Apart from the above, certain types of supplies are subject to reduced VAT rates. For instance, local supplies of bread and bakery products; transport and distribution of natural gases services; heating; are subject to the reduced 8% VAT rate. Similar as CIT, VAT is payable by companies

In order to estimate the effective tax rate we use final domestic consumption as tax base[2]. Table 4 shows the evolvement of the effective tax rate over time.

[2] Proxy for final consumption is the GDP less investments.

Table 4

Domestic VAT – effective tax rate

		2012	2013	2014	2015	2016	Jan-Jun 2015	Jan-Jun 2016	Jan-Jun 2017
Value-added taxes	MDL m	3,506	3,990	4,370	4,830	5,374	2,208	2,462	2,821
Growth rate	% yoy		14%	10%	11%	11%		12%	15%
% of nominal GDP	%	4.0%	4.0%	3.9%	3.9%	4.0%	4.2%	4.2%	4.4%
Dom. Consumption (tax base)	MDL m	52,825	58,936	65,303	76,071	84,777	32,345	36,247	37,329
Growth rate	% yoy		12%	11%	16%	11%		12%	3%
Effective tax rate	%	**6.6%**	**6.8%**	**6.7%**	**6.3%**	**6.3%**	**6.8%**	**6.8%**	**7.6%**

Source: Own calculations based on Ministry of Finance and NBS data

Estimation of size of reform effect

Effective tax rate increase: The data show actually a decrease of the effective tax rate between 2013 and 2016. However, at the same time there is a strong increase of the effective rate in the first half of 2017 compared to first half of 2016 – from 6.8% to 7.6%.

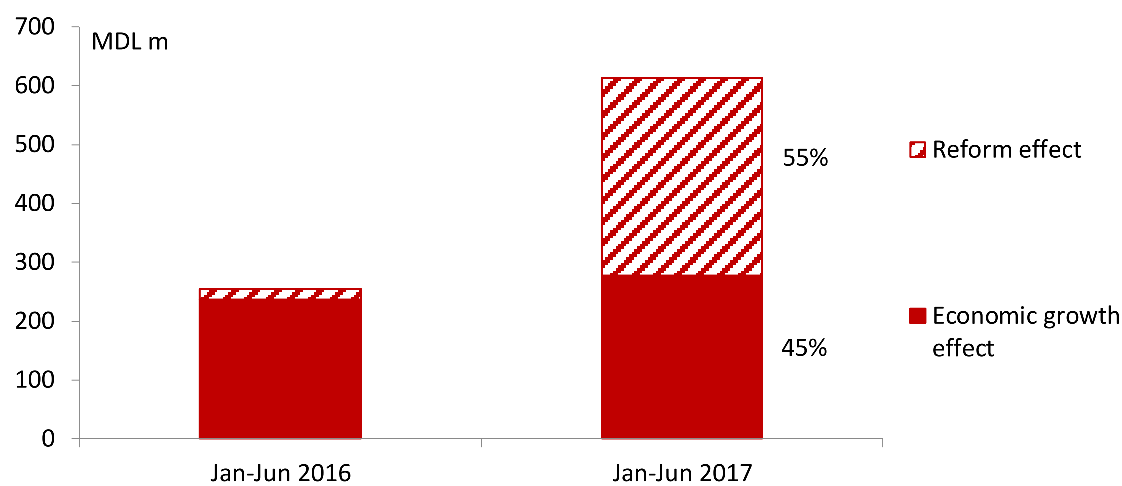
This increase indicates an improvement in tax compliance and higher effectiveness in revenue collection over the last year. Given that tax compliance for CIT also improved, there seems to evidence that "corporate taxes" are more efficiently collected.

Tax revenues from domestic VAT increased by 28% between H1 2015 and H1 2017. A share of 45% of this increase can be attributed to a higher effective tax rate.

Tax base increase due to reforms: To assess how much of the remaining increase can be attributed to economic growth and how much to de-shadowing of the tax base we perform a regression analysis (Annex 6). We estimate that 10% of the revenue increase is due to a de-shadowing of the tax base. Figure 5 below summarises the results.

Figure 5

Domestic VAT – Increase of revenues compared to Jan-Jun 2015



Source: Own calculations based on Ministry of Finance and NBS data

Total reform effect: The higher effective tax rate and de-shadowing of the tax base together account for 55% of the revenue increase, of which 45% occurred due to a higher effective tax rate and 10% due to de-shadowing of the tax base. The remaining revenue growth of 45% is due to the economic growth effect.

Import value added tax

We conducted a separate analysis for import VAT as import VAT is collected through customs not through the tax administration. However, the same question applies: Has there been an increase in the effective tax rate (import VAT revenues in comparison to total imports) which would suggest improved tax compliance and revenue collection? To find out, we use imports as a proxy for the tax base for import VAT in order to calculate the effective tax rate.

Table 5

Import VAT – effective tax rate

		2012	2013	2014	2015	2016	Jan-Jun 2015	Jan-Jun 2016	Jan-Jun 2017
Import VAT	MDL m	8,911	10,106	10,892	10,952	11,761	5,069	5,284	6,088
Growth rate	% yoy		13%	8%	1%	7%		4%	15%
% of nominal GDP	%	10.1%	10.1%	9.7%	8.9%	8.7%	9.6%	9.0%	9.5%
Imports	MDL m	63,140	69,153	74,644	75,016	80,101	35,865	37,244	42,212
Growth rate of tax base	% yoy		10%	8%	0%	7%		4%	13%
Effective tax rate	**%**	**14.1%**	**14.6%**	**14.6%**	**14.6%**	**14.7%**	**14.1%**	**14.2%**	**14.4%**

Source: Own calculations based on Ministry of Finance and NBS data

The data show a decreasing revenue share of import VAT compared to GDP between 2012 and the first half of 2017. This is due to the economic slowdown and the devaluation of the Moldovan LEU.

The analysis also shows that the effective tax rate has remained almost unchanged between H1 2015 and H1 2017. Indeed, there seems to have been little change of the effective rate over the past 5 years. This suggests that tax compliance – as measured by the effective tax rate – has not improved for import VAT.

It is, however, possible that we see no effect because reforms led to a de-shadowing of the tax base, e.g. through new and better standards of goods valuation and less smuggling. To isolate this effect, we carried out an econometric analysis as in the other cases. This analysis, however, finds no reform effect as the relevant variable in the model is not statistically significant.

We further look at the development of the unit value to check whether better valuation led to an increase of the price per import unit. We find no proof for this, either. (see Annex 7 for details)

Even though we believe reforms are bearing fruits also in customs, it is at least until now difficult to prove that by so far available data.

Conclusion: Unlike domestic VAT, the effective tax rate for import VAT has remained more or less unchanged. We find also no indication of a de-shadowing of the tax base with our methodology. A possible reform effect is not obvious in available data.

2.5 Summary quantitative analysis

Our analysis suggests that especially corporate taxes (CIT, domestic VAT) show an improved compliance as measured by the effective tax rate. In both cases the reforms also led to an increase of the tax base. These effects had a significant contribution to the recent increase in revenue collection for CIT and domestic VAT. For PIT and social insurance contributions we find no effect in form of an increased effective tax rate but we find a positive effect of recent reforms in form of an increase of the tax base.

For import VAT the observed revenue increase is largely due to an increase of the tax base, which is driven by economic growth. While de-shadowing may have contributed to the tax base increase it seems that revenues have largely increased due to higher economic activity rather than due to the effects of reforms affecting tax compliance and revenue collection. Our analysis shows no reform or de-shadowing effect.

Effective tax rate increase H1 2015 vs. H1 2017		**Mainly due to**		
		Economic growth effect	**Reform effect**	
			Increase of effective tax rate	**De-shadowing of tax base**
Personal income tax (PIT)	**+0.3 pp**	✓		✓
Social security contributions	**+0.2 pp**	✓		✓
Corporate income tax (CIT)	**+1.9 pp**	✓	✓	✓
Domestic VAT	**+0.8 pp**	✓	✓	✓
Import VAT	**+0.3 pp**	✓		

3 Qualitative analysis

3.1 Questions covered during interviews

GET Moldova carried out semi-structured interviews with a number of tax experts from companies and professional tax advisories. The aim of the interviews was to explore reasons which could explain increased tax compliance. Specifically, we wanted to find out how companies and tax advisors assess the burden of paying and reporting taxes (cost of compliance).

To find out, the following questions were covered during the interviews:

1. Did you notice any changes in interaction with tax authorities over the last 2/5 years?
2. Have you noticed a change in the number and nature of fiscal inspections over the last 2/5 years?
3. How do you assess the professionalism of tax administration (level of knowledge, speed and quality of responses) when compared to the situation of 2/5 years ago?
4. How do your assess the ease and speed of obtaining tax refunds when compared to the situation 2/5 years ago?
5. How do you assess the overall administrative burden of paying and reporting taxes when comparing to the situation of 2/5 years ago?
6. How do you assess the level and appropriateness of fines today when compared to the situation 2/5 years ago?
7. How do you in general assess incentives and sanctions to pay taxes?
8. How do you assess the interaction with customs authorities today when comparing with the situation 2/5 years ago?

3.2 Results from interviews with tax advisors and company representatives

1. *General changes in interaction with tax administration noted by companies*

Most large tax payers seem to not yet have noticed any recent significant changes - neither positive nor negative – in their interaction with the fiscal authorities over the last two years.

When prompted further, however, some respondents mentioned a change in the mentality of tax authorities. They describe them as being more service oriented, showing an improved understanding for business needs and a noticeable openness of the tax authorities. Furthermore, some respondents stated an increase in transparency of decisions.

Unlike large tax payers, smaller companies took note of the changes in the structure of the tax administration, specifically the changed contact person in the local tax office due to the territorial reorganisation of the tax administration. One respondent complained that this meant a loss in the good personal contacts which were established over time and a need for the new contact to get to know their specific business model.

All respondents unanimously report an improvement in interaction with tax authorities today when compared to the situation 5 years ago.

Conclusion: Respondents mainly noted improvements in the interaction with tax authorities over the last 5 years, while more recent administrative changes are too recent to have been noticed by tax payers. The improved interaction with fiscal bodies may explain reduced cost of compliance.

2. *Number and nature of fiscal inspections*

The respondents described the number of fiscal inspections as low. There also seems to be a decline in the number of inspections they are subjected to. Tax payers also mentioned the positive effect of the moratorium on inspections and law on state controls requiring registration of each inspection.

There were also no noticeable complaints regarding the appropriateness of inspections – in contrast to inspection in other fields. If the books are in order and taxes paid in time, inspections seem not be considered a burden for the tax payers interviewed. Some respondents even wished for additional inspections in order to have some sort of closure of previous financial years.

Again the decline in the number of fiscal inspection was not described as a recent development but as something that has been less problematic for a number of years.

Conclusion: Already for quite some time fiscal inspections – compared to other types of inspections – are not considered to be a large burden for tax payers and tend to be appropriate and risk-based. As such, the improved inspections regime may have helped to increase tax compliance.

3. *Professionalism of tax administration (knowledge, speed and quality of responses)*

The professionalism of the tax officials was assessed by respondents as mixed. The speed of responses from tax official tends to be within the 30 day limit. However, 30 days are often too long from a business perspective.

The knowledge level of the tax administration staff varies of one person to the next. Respondents acknowledged the effort of the helpline staff. Yet, due to lack of experience and a lack of clarity of the tax code, they often do not provide satisfactory answers. For example, sometimes their response consist of barely more than a copy paste of the relevant section of the tax code while businesses need interpretation and binding decisions. While the concept of binding letters has been recently adopted, in practice they seem not yet practicable.

Conclusion: While, some tax professionals excel, efforts are needed to raise the level of all tax officials to a consistent level. Doing so would reduce the cost of compliance for companies translating into higher fiscal revenues.

4. *Refunds (ease and speed of obtaining tax refunds)*

A majority of respondents acknowledged a significant improvement in the speed of obtaining especially VAT refunds. This improvement is described as a recent change.

However, the law foresees a mandatory VAT inspection in case a company makes a refund request. That means companies usually need to hire professional tax advisors or accountants to ensure their books are in order before applying for a refund. Thus, the effort for obtaining a refund is considerable and reclaiming a refund is therefore only considered in those cases where tax payers expect a large refund.

Conclusion: The improved refund situation provides an incentive for companies to officially report their own sales and also their purchases. This may have led to de-shadowing and reduced tax avoidance with positive knock-on effects on tax collection.

5. *Overall administrative burden of paying and reporting taxes*

There is widespread agreement among the interviewed tax payers that the administrative burden of reporting and paying taxes has reduced considerably over the last five years. The main improvement mentioned is the electronic tax declaration which was introduced in 2011/2012 and subsequently extended. In the words of one respondent: "I can now basically sign and submit tax declarations while driving up to a client".

Despite the increased ease of doing business, the administrative burden in the sphere of taxes remains high. Especially reporting salaries, wages and corresponding taxes and contributions remains cumbersome. While respondents acknowledge the recent merger of five tax reports into one document, the actual amount of information collected remained the same. Redundancy of data and information which have to be submitted by companies, remains one of the general problem for business – not only in the fiscal sphere.

Despite the perceived improvement, a number of smaller issues remain. Some respondents complain that tax forms change too often without always a noticeable improvement for the accountants.

Conclusion: A considerable reduction in the administrative burden for reporting and paying taxes may have contributed to increased tax compliance. In addition, the data collected in electronic format also gave the state authorities better means to detect tax avoidance increasing tax compliance further.

6. *Fines (level and appropriateness of fines)*

During the interview we received mixed responses from the companies regarding fines. Generally, the level of fines in the sphere of taxes is considered high for small companies and new entrants. Some respondents also noticed an increase in the level of fines (for example for infringements when paying social security contributions).

However, for most large tax payers and especially for professional tax advisors, fines seem not be an issue as they generally strive to avoid being fined. There is also a notion that fines are generally rather transparent and only to be expected in cases of verifiable infringements by the tax payer. This in itself marks a considerable improvement to the situation in other spheres.

However, some respondents argued that the high level of fines in comparison with a lack of clarity of the tax law may act as deterrent for new comers and smaller companies without dedicated accountants or tax advisors.

Conclusion: Neither the level of fines nor their appropriateness seems to be a problem for large tax payers with a good history of tax compliance. However, high fines in connection with a lack of clarity in the tax code may foster shadow economic activity for smaller companies or new entrants.

7. *General incentive to pay taxes*

At the end of the interview, the researchers would usually close with an open question asking the respondents how the generally assess the incentive to pay taxes and if they noticed any changes.

In this context, especially some of the large tax payers reported an increased number of calls from tax officials. Indeed, while the number of inspections declined, the number of calls seems to have gone up. In addition to requiring documents and information, some of these calls aim at encouraging tax payers to pay higher advances on the tax payments.

Respondents also stated a number of examples of de-shadowing signalling a change of attitude among tax payers – for example, transport companies and real estate companies are more likely to accept official (electronic) payments instead of the previously almost expected cash-payments.

This matches with the notion of some tax advisors, who seem to have noticed an increased voluntary compliance and improved tax discipline from their clients.

Conclusions: Reduced cost of compliance, gentle pressure from the tax officials and increased risk detection may have started to lead to change in attitude among tax payers.

8. *Interaction with Customs:*

Given the role of customs in collecting excises, import VAT and import duties, we also asked the interview participants about any changes in their interaction with customs authorities.

Respondents unanimously agree that customs administration has improved considerably over the last years which seem to be a rather recent development.

Among the changes noticed, the respondents especially mentioned the positive impact of the introduction of electronic declarations. They also reported a noticeable change in the conduct of customs administration. As a result, import and export procedures require much less time and carry considerable less risk for companies.

Conclusion: The interviews point to a reduced administrative burden (cost of tax compliance) for import and exports. At the same time, the recent reforms may have increased the capacity of customs to detect avoidance and smuggling with likely (future) effect on tax collection especially regarding Import VAT.

4 Conclusions and recommendations

4.1 Main findings

Quantitative analysis confirms increased tax compliance

The quantitative analysis carried out by us indicates that tax compliance measured by the effective tax rate has improved for several tax types. The fiscal bodies have become more effective in monitoring and collecting taxes. This is especially the case for corporate income taxation and domestic value added taxation. For these taxes we find also a reform based increase of the tax base. For personal income tax, social insurance contributions we find only a reform effect, which increased the tax base but no significant increase of the effective tax rate.

In case of import value added tax the quantitative analysis suggests only a moderate improvement of tax compliance as measured by the effective tax rate. Similarly, with other methods (regression analysis and an analysis of the unit value of imports) no reform effect can be proven. The main reasons for the increase of tax revenues for import VAT seems to conclude in the increase of the underlying tax base (imports) driven by economic growth. Clearly, there might still be a reform effect, but with the existing data, this cannot be proven beyond doubt.

Effective tax rate increase H1 2015 vs. H1 2017		Mainly due to		
		Economic growth effect	Reform effect	
			Increase of effective tax rate	De-shadowing of tax base
Personal income tax (PIT)	**+0.3 pp**	✓		✓
Social security contributions	**+0.2 pp**	✓		✓
Corporate income tax (CIT)	**+1.9 pp**	✓	✓	✓
Domestic VAT	**+0.8 pp**	✓	✓	✓
Import VAT	**+0.3 pp**	✓		

Interview results support findings of quantitative analysis

The results from the interviews conducted confirm the findings of the quantitative analysis. Tax payers seem to have increased their compliance due to a number of reasons. One factor is the reduction in the administrative burden when reporting and paying especially corporate taxes. The introduction and extension of electronic tax declaration is a major factor here. At the same time – also connected to electronic storage and verification – the fiscal authorities seem to have become more effective in detecting tax fraud. Both in tandem may have initiated a change in attitude of tax payers which translates into increased tax compliance.

The interviews also suggest that it is too early to tell the effect of the most recent set of reforms. They are simply too recent to have had any meaningful effect on tax payers. However, the visible effects of previous reforms suggest that the new measures could further improve tax compliance and thus revenue collection.

4.2 Where do we see further need for improvements

The results of our analysis encourage a continuation of the reform processes which aim at a reduction of the administrative burden for reporting and paying taxes. Especially the accounting and reporting of payroll taxes and contributions was described by respondents as burdensome.

For example, companies find it very difficult to officially provide their employees with benefits in kind for example transport services from and to the workplace or subsidised canteen food.

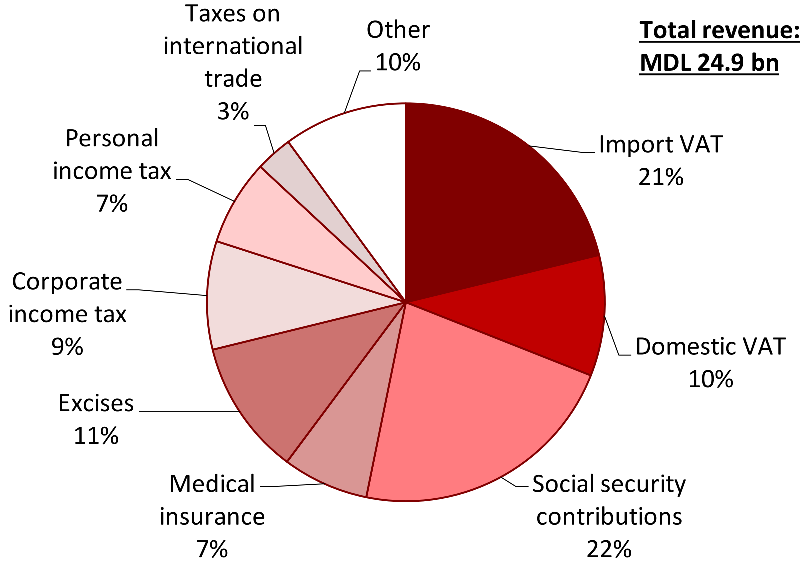
There are reports that the improvements in paying refunds may have fostered tax compliance and honesty. With that in mind, the government should consider how to extend and improve the refund regime further.

The tax administration may also consider a programme aiming at aligning the level of knowledge among tax officials with the knowledge varies a lot from one person to the next adding to the general lack of clarity of the tax code.

Annex 1: Revenue structure

Figure 6

Revenue structure Jan-Jun 2017



Source: Ministry of Finance

As Figure 6 shows, revenue from VAT is the main source of government revenues. Value-added tax on imports and domestic value-added tax sum up to 31% of total revenues over the period January to June 2017.

The second most important category is social security contributions – accounting for 29% of total revenues. Also important are revenues from excises, the corporate income tax (CIT), personal income taxes (PIT) and taxes on international trade. These 6 main sources represent 90% of total revenue. For this reason, further analysis will largely focus on these categories.

Annex 2: Description of tax administration reforms

There have been a number of reforms by the Ministry of finance tax administration in the last two years. To describe all reforms goes far behind the scope of this analysis, therefore we focus on the reforms of the tax administration. It is the most import state body for tax payers.

The administrative structure was centralised. Tax payer offices stopped being legal entities. The tax administration is now one legal entity. There is one headquarter, 4 regional departments and 40 taxpayers offices left.

Accounting, appeals and insolvency is now managed by the central office level. Control activity, arrears management and legal assistance at the regional level. This enables to ensure a standardisation of approaches and processes.

Risk management controls were introduced in the reform. Resources and controls are focused on the most risky segments of the economy and less on other segments. The department for large taxpayers is strengthened and the number of companies in this segment increased. Additionally a tax payer office for high wealth individuals is created.

Further management processes were improved by e.g. standardisation of processes of arrears management. The human relation management was centralised to improve recruitment processes. The internal communication was improved through strengthening of E-communication, intranet and mandatory weakly meetings of the management. Communication with the tax payers was improved through providing open web page information and establishing a call center for companies.

The implemented financial reporting reform lowers reporting volume through elimination of duplicate data in forms. Additionally a digitalisation of processes was created. A register for state control in which all controls by state officials are recorded. The restructured tax administration is operational since the 1. April of 2017.

Annex 3: Description of Customs reforms

The customs reform also includes an institutional reform. The number of customs offices was as well as the number of customs officers. The authorised economic operator programme was introduced. The goal is fewer physical and document-based controls, prior notification, easier admittance to customs simplifications (local clearance procedure) etc. Another important step was the introduction of approved exporters in 2015, which can provide certification of origin on own responsibility for export to EU, CEFTA countries.

In July 2016 joint customs controls were launched at some crossing points. Advantages of this reform are single window and one stop principle. Thus, reducing the border crossing time. Another reform is the electronic customs declarations. It was implemented for exports in 2013 and for imports in 2014. It will be finalised in 2017/2018.

Annex 4: Regression analysis for wage sum as tax base for PIT and social security contributions

Model specification

$$\log(tax\ base) = \beta_0 + \beta_1 t + \beta_2 (tax\ base)_{t-1} + \ \beta_3 reform + \varepsilon_t,$$

where β_0 *is a constant,* t specifies a linear trend and ε_t is the error term.

Regression results

Source	SS	df	MS
Model	.951055228	3	.317018409
Residual	.626670484	30	.020889016
Total	1.57772571	33	.04780987

Number of obs	=	34
F(3, 30)	=	15.18
Prob > F	=	0.0000
R-squared	=	0.6028
Adj R-squared	=	0.5631
Root MSE	=	.14453

log_t_base	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
trend	.0041776	.0028287	1.48	0.150	-.0015994	.0099546
log_lt_base	.2461774	.1416481	1.74	0.092	-.0431067	.5354614
reform	.3185206	.0767687	4.15	0.000	.161738	.4753032
_cons	11.1313	2.085094	5.34	0.000	6.872965	15.38963

Source: own calculations

Annex 5: Regression analysis for company profits as tax base for CIT

Model specification

$$\log(tax\ base) = \beta_0 + \beta_1 t + \beta_2 (tax\ base)_{t-1} + \ \beta_3 (tax\ base)_{t-2} + \ \beta_4 reform + \varepsilon_t,$$

where β_0 *is a constant,* t specifies a linear trend and ε_t is the error term.

Regression results

Source	SS	df	MS
Model	1.54628037	4	.386570092
Residual	2.04522227	28	.073043652
Total	3.59150264	32	.112234457

Number of obs	= 33
F(4, 28)	= 5.29
Prob > F	= 0.0027
R-squared	= 0.4305
Adj R-squared	= 0.3492
Root MSE	= .27027

log_cit_tax_base_sa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
trend	-.0036672	.0050573	-0.73	0.474	-.0140267	.0066922
log_lcit_tax_base_sa	.1519802	.1672669	0.91	0.371	-.1906505	.4946109
log_l2cit_tax_base_sa	.2326207	.1562975	1.49	0.148	-.0875402	.5527816
reform	.359559	.1376174	2.61	0.014	.0776625	.6414556
_cons	10.01781	2.839199	3.53	0.001	4.201977	15.83365

Source: own calculations

Annex 6: Regression analysis for domestic consumption as tax base for domestic VAT

Model specification

$$\log(tax\ base) = \beta_0 + \beta_1 t + \beta_2 (tax\ base)_{t-1} + \beta_3 (tax\ base)_{t-2} + \beta_4 reform + \varepsilon_t,$$

where β_0 *is a constant,* t specifies a linear trend and ε_t is the error term.

Regression results

```
. regress log_vat_tax_base_sa trend log_lvat_tax_base_sa log_l2vat_tax_base_sa reform
```

Source	SS	df	MS
Model	1.11669627	4	.279174067
Residual	1.2282918	28	.043867564
Total	2.34498806	32	.073280877

Number of obs	= 33
F(4, 28)	= 6.36
Prob > F	= 0.0009
R-squared	= 0.4762
Adj R-squared	= 0.4014
Root MSE	= .20945

log_vat_tax_base_sa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
trend	-.0028925	.003905	-0.74	0.465	-.0108916	.0051066
log_lvat_tax_base_sa	.1558623	.1622254	0.96	0.345	-.1764412	.4881659
log_l2vat_tax_base_sa	.1791304	.1553485	1.15	0.259	-.1390865	.4973473
reform	.3398227	.1092724	3.11	0.004	.1159882	.5636571
_cons	10.98636	2.874371	3.82	0.001	5.098477	16.87424

Source: own calculation

Annex 7: Unit value analysis for import VAT

We try to isolate a reform effect by comparing the increase in imports to the physical volume of imports. If the valuation has become better, than the import value (tax base) should increase more than the physical import volume. Table 6 shows the growth rates of imports versus the physical value.

Table 6

Imports in MDL vs. physical volume

		2012	2013	2014	2015	2016	Jan-Jun 2015	Jan-Jun 2016	Jan-Jun 2017
Imports	MDL m	63,140	69,153	74,644	75,016	80,101	35,865	37,244	42,212
Imports growth rate	% yoy		9.5%	7.9%	0.5%	6.8%		3.8%	13.3%
Physical volume growth rate	% yoy		6.0%	1.0%	-5.0%	7.6%		5.5%	20.1%
Unit value change	**% yoy**		**3.3%**	**6.9%**	**5.8%**	**-0.8%**		**-1.6%**	**-5.6%**

Source: Own calculations based on Ministry of Finance and NBS data

The growth of the physical volume in the first half of 2016 as well as in the first half of 2017 is higher than the growth of imports in MDL. Therefore, the unit value, the price per import unit, is decreasing. The implemented reforms should have the opposite effect. The price should grow faster than the physical volume, and the unit value should increase. In the recent reform period (first half of 2017 vs first half of 2015) the unit value decreased in total by around 7.1%.

However, there could still be a reform effect that is distorted by other effects. First it could be the change in global prices and second, the change of the exchange rate.

The next table shows the changes of global prices using the IMF primary commodity price index.

Table 7

IMF commodity price index

		2012	2013	2014	2015	2016	Jan-Jun 2015	Jan-Jun 2016	Jan-Jun 2017
IMF primary commodity price index		100.0	98.4	92.3	59.7	53.7	64.5	50.4	60.9
Growth rate	% yoy		-1.6%	-6.2%	-35.3%	-10.0%		-21.8%	20.8%

Source: IMF

There is a strong decrease in commodity prices in 2015 and in 2016. But in the first half of 2017, prices increased again vs first half of 2016. In total in the reform period (first half of 2017 vs first half of 2015) prices decreased by around 5.5%. These prices are measured in USD while the tax base is measured in MDL. To have a complete picture it is, therefore, necessary to look at the exchange rate development, which is shown in Table 8.

Table 8

Exchange rate development

		2012	2013	2014	2015	2016	Jan-Jun 2015	Jan-Jun 2016	Jan-Jun 2017
Exchange rate	USD/MDL	12.11	12.59	14.04	18.82	19.92	18.07	19.93	19.35
Growth rate	% yoy		-3.8%	-10.3%	-25.4%	-5.6%		-9.4%	3.0%

Source: NBM

The exchange rate correlates with international commodity prices. There is a devaluation of the LEU in 2015 and 2016. In the first half of 2017 the LEU appreciated slightly vs the USD. In the reform period (first half of 2017 vs first half of 2015) the LEU devalued in total by 6.6%.

The decrease of international commodity prices is, therefore, more than offset by the decrease in exchange rate during the relevant period (commodity prices decreased by 5.5% vs. devaluation of 6.6%). The unit value decrease can, therefore, not be explained by the decrease in international prices or the exchange rate. Using this approach, we find no reform effect or higher compliance in the case of import VAT.

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