

Republic of Lithuania: Selected Issues

This Selected Issues paper on Lithuania was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on June 18, 2010. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Lithuania or the Executive Board of the IMF.

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International Monetary Fund
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INTERNATIONAL MONETARY FUND

REPUBLIC OF LITHUANIA

Selected Issues

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Approved by the European Department

June 18, 2010

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I. LITHUANIA: OPTIONS FOR REVENUE-SUPPORTED FISCAL ADJUSTMENT¹

A. Introduction

1. **Recent international experience suggests a clear supportive role for revenue measures in fiscal adjustment.** Revenue measures play an important role when large fiscal adjustment is needed and/or in countries with low initial revenue-to-GDP ratios (Tsibouris et al., 2006). Successful adjustments saw the introduction of broad-based tax measures and improvements in tax administration, while unsuccessful consolidations were characterized by dependence on narrow tax bases. Countries such as Canada, Finland, Ireland, and New Zealand eliminated exemptions and expanded tax base towards previously non-taxed sources, to create fiscal space and to reform the tax system to be more growth-friendly.
2. **In Lithuania, the case for complementing the on-going fiscal adjustment with revenue measures is strong.** Although the large increase in spending during the boom warrants an expenditure-led approach, the scale of adjustment still needed and the still low tax burden suggest revenue should play a greater role:
 - Further adjustment of about 5½ percent of GDP is still required to reduce the headline deficit to the authorities' 3 percent target by 2012. In cases of prolonged adjustments, tax and expenditure measures better secure the sustainability of public finances (see IMF, 2010). So far, less than 15 percent of the adjustment in 2009 and 2010 has come from revenue measures. A greater reliance on revenue would help shield core public services and create fiscal space for a better social safety net and future costs of aging. It would also generate resources pending gains from slower yielding structural reforms.
 - Lithuania's tax burden, already low by international standards, will be even lower post-crisis due to the dissipation of windfall revenues from the boom as well as the reorientation of GDP towards tradables—generally a sector less intensely taxed.
3. **In addition to supporting the adjustment, options to raise revenue need to be tailored to enhance growth and export competitiveness.** This could be done by (i) relying on less distortionary and more growth-friendly tax instruments; (ii) ensuring the tax system is supportive of the reorientation of the economy to tradables; and (iii) diversifying a relatively concentrated tax structure that is reliant on mobile tax bases. The tax reforms can also be designed to ensure the most vulnerable are protected. Beyond the need to support the adjustment, growth, and to safeguard the poor, further strengthening of tax compliance is crucial to maximize gains from tax reforms.

¹ Prepared by Alvar Kangur

B. Lithuania's Current Tax Level and Structure Scope for Improvement

The Overall Level and Structure of the Tax System

4. At just under 30 percent of GDP, the overall tax burden is lower than in EU comparators. In percent of GDP (Table 1):

- The lower burden of direct taxes on labor largely reflects the low and flat PIT tax rate and the number of exemptions in force in 2007, but also a much lower labor share compared to EU average. Post-EU accession, higher labor mobility put downward pressure on tax rates as the domestic economy faced labor shortages, while there was a desire to remain attractive to investors via a simple tax system.

Table 1. Level of taxation in Europe (2007)
(Percent of GDP)

	Euro area	Lithuania	Latvia	Estonia	Finland	Sweden	Norway	Ireland	Greece	Germany	UK
Taxes on capital	9.3	3.9	4.0	2.6	7.8	7.3	14.3	9.4	7.2	7.3	11.5
corporations	3.5	2.6	2.7	1.7	3.9	4.0	6.1	3.5	2.6	3.0	3.4
households	0.9	0.3	0.1	0.3	1.0	1.2	0.7	2.0	0.8	0.6	2.0
self-employed	2.3	0.3	0.1	0.1	1.6	0.6	0.8	1.1	2.4	2.5	1.5
stock of capital (wealth)	2.7	0.6	1.0	0.6	1.3	1.5	6.7	2.8	1.5	1.1	4.6
Taxes on consumption	10.8	11.4	11.9	13.6	12.8	12.7	12.0	11.2	11.4	10.7	10.8
Taxes on labour	20.5	14.6	14.6	16.8	22.3	28.3	17.3	10.7	13.4	21.6	14.0
employed paid by employees	9.9	6.7	8.3	5.7	10.9	12.5	10.8	7.6	6.9	12.5	10.2
employed paid by employers	8.7	7.7	6.3	10.7	8.8	12.4	5.5	3.0	5.4	6.6	3.7
non-employed	1.9	0.2	0.1	0.4	2.7	3.4	1.0	0.1	1.1	2.5	0.2
Total taxes	40.6	29.9	30.5	33.0	42.9	48.3	43.6	31.3	32.0	39.6	36.3

Source: Eurostat.

- Consumption taxes, while comparable to the EU average, are below Central European Economies (CEE) with similar per capita income levels. This reflects the impact of preferential rates and exemptions in 2007 as well as on-going problems in compliance.
- Property and capital taxation are significantly lower than EU and Eastern European comparators. Residential real estate, cars and net wealth are not taxed, while capital transfers, capital gains, and corporate profits enjoy various exemptions.

5. **Comparisons of average effective tax rates suggest there has been significant leakage of tax potential.** The implicit tax rate captures the proportion of the total potential taxable base that is being successfully tapped (Table 2). In 2007, the effective tax rate on corporate income in Lithuania was 10.7 percent, well below the statutory rate of 15 percent. The implicit VAT tax rate in 2007 was well below both the statutory rate, as well as the EU average and other Baltic comparators.

Table 2. Implicit tax rates in Europe (2007) 1/
(Percent of taxable base)

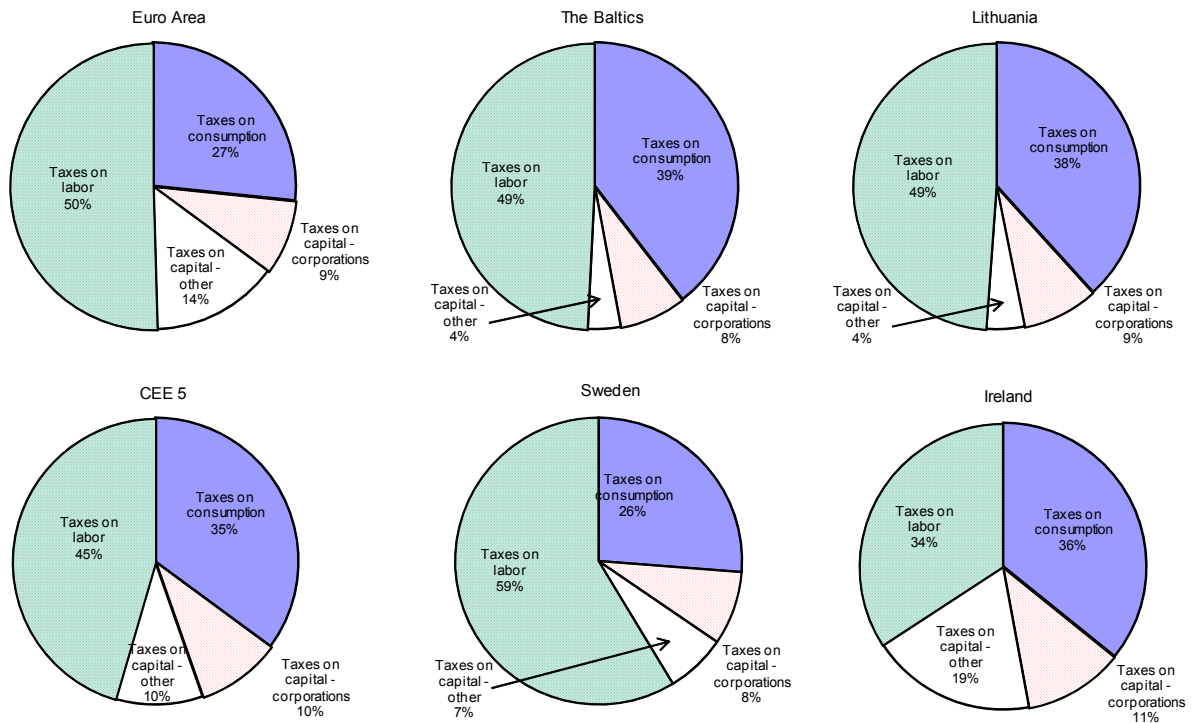
	Euro area	Lithuania	Latvia	Estonia	Finland	Sweden	Norway	Ireland	Portugal	Germany	UK
Capital	32.1	12.1	14.6	10.3	26.7	35.9	41.8	18.5	34	24.4	42.7
Capital and business income	22.6	10.2	10.8	8.1	22.2	28.6	22.2	13	23.7	20.7	25.5
Corporations	33.1	10.7	13	8.8	17.9	32.8	20.6	...	...	...	23.2
Households and self-employed	14.3	3.3	1.7	5.1	24.2	19.4	28.7	...	...	...	22.5
Consumption	19.6	17.9	19.6	24.4	26.5	27.8	30.3	25.6	20.3	19.8	18.4
Labour	38.7	32.3	31	33.8	41.4	43.1	37.8	25.7	30	39	26.1

Source: Eurostat.

1/ Defined as the ratio of total tax revenues to a proxy of the potential tax base.

6. **The tax structure is reliant on the taxation of income and consumption, and not stocks of wealth (Figure 1).** The dominance of direct and indirect taxes in overall revenue collections reflects a reliance on taxation of flows (earned income and consumption) relative to stocks (property and net wealth). As suggested in IMF (2010), in such circumstances there are many choices to increase the tax ratio while being guided by principles of efficiency (long term growth prospects) as well as equity (more equal income distribution). Recent evidence from OECD countries suggests that taxing consumption has a significantly smaller adverse impact on GDP per capita growth than income taxation (Johansson et al, 2008). Moving from income to consumption taxation can also improve competitiveness; Blanchard (2007) argues that shifting the tax base towards indirect taxation supports the realignment of tradable versus non-tradable prices. Consumption taxes are less distortive and thus efficiency promoting, but are generally more regressive. Direct taxes could be used to promote equity, but are distortive. Property taxes (taxation of accumulated stocks), which are underutilized in Lithuania, are found to be the least distortive (Arnold, 2008) and thus can be used to promote growth and equity.

Figure 1. Structure of Taxation in Selected European Countries

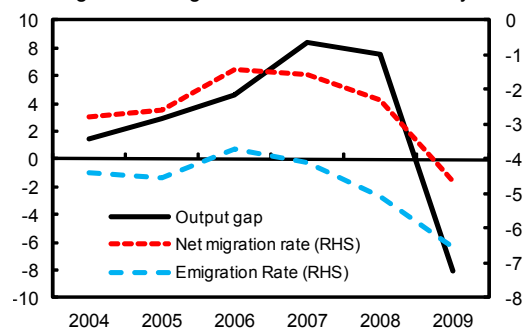


Source: Eurostat, IMF Staff calculations
 Note: CEE 5 comprises of Czech Republic, Hungary, Poland, Slovakia and Slovenia.

7. Diversifying the tax structure towards less mobile and distortive bases, like immovable property, would help insulate

revenue from volatility. Lithuania, in common with Estonia and Latvia, has a very open economy with a high degree of mobility in its labor and capital tax bases (Figure 2). Its wage determination system is characterized by a low degree of unionization, and nominal wage levels highly flexible in both directions. As a result, tax revenue in Lithuania is about 3-4 times more volatile than in the euro area, because GDP, private consumption, and the wage bill are about 3, 6, and 8 times more volatile, respectively (Table 3). Expanding wealth-type tax instruments, like car and inheritance taxation, would help insulate revenues from volatility by tapping less mobile tax bases.

Figure 2. Emigration and the Business Cycle



Source: Eurostat; WEO.

Table 3. Cyclical Volatility of Major Macro Aggregates and Tax Revenues 1/ (Standard deviations)

	National accounts aggregates (constant prices)					Deflators		ESA aggregates (constant prices)				
	GDP	Domestic Demand	Private consumption	Government consumption	Compensation of employees	GDP	Private consumption	Total tax revenue	VAT	Taxes on production and imports	Taxes on income and wealth	Social security contributions
Lithuania	3.76	5.86	4.01	3.73	5.65	3.14	2.95	5.96	10.04	7.48	10.92	3.23
Latvia	4.53	7.21	6.12	4.78	7.19	3.90	3.10	8.23	11.50	9.71	11.68	7.99
Estonia	3.82	7.00	4.61	1.24	3.77	2.61	2.41	5.37	12.16	9.76	9.95	3.78
Finland	1.93	1.67	1.06	1.32	1.08	0.97	0.91	2.61	3.43	3.05	6.73	2.77
Sweden	1.68	1.90	1.13	1.21	1.75	0.67	0.45	4.98	2.98	12.71	5.97	3.93
Norway	1.07	2.07	1.30	0.83	1.93	3.66	0.70	6.23	3.91	5.12	9.32	3.41
Ireland	2.56	3.90	2.57	3.50	2.89	1.22	1.18	5.60	6.84	7.41	9.78	3.64
Greece	1.04	1.53	1.06	2.06	1.86	0.46	0.46	3.07	4.51	3.36	3.93	5.00
UK	1.08	1.20	0.74	0.84	1.06	0.58	0.45	2.53	4.22	2.68	3.95	2.27
EA12	1.19	1.11	0.68	0.35	0.71	0.49	0.57	1.58	2.63	2.19	3.54	0.54

Source: Haver, and IMF staff calculation.

1/ Table reports standard deviations of cyclical components of real variables, derived through HP filter for 1995-2009 conditional on available data. Results do not account for discretionary changes in tax codes etc. and thus are indicative only.

8. The following section explores in more detail the potential to enhance both revenue performance and the efficiency of the tax system.

It examines each of the key tax bases starting with those that are most efficient, are underexploited, and have the potential to yield substantial revenue in a pro-growth and equitable manner. Staff estimates suggest the options discussed to expand the tax base and improve administration could yield a total of about 3 percent of GDP in the near-term (Table 4).

Table 4. Yields of Options for Revenue-supported Adjustment

Instrument	Proposed Amendment	Annual Yield (% of GDP)	
		Short-term	Medium-term
	Tax Policy	2.4-3.0	2.9-3.5
Capital / Wealth	Introduce immovable property tax on private residential housing	0.4-0.5	0.4-0.5
	Annual car licence fee graduated per engine capacity	0.3-0.5	0.3-0.5
	Expand land taxation	0.1	0.1
CIT	Withdraw the investment incentive	0.3	0.3
	Withdraw preferential rate on small companies, remove 6 year tax relief in free economic zones and shorten duration for preferential rate	0.1-0.3	0.1-0.3
PIT	Subject all pension payments to income tax	0.5	0.5
	Withdraw tax deductibility of mortgage interest payments	0.1	0.1
	Consider removal of child allowances	0.1	0.1
VAT	Increase in statutory rate by 1 pp	0.3-0.4	0.3-0.4
Revenue administration	VAT compliance gap (including giving gov. seniority over creditors) Mandatory declaration of income Life-style surveys	0.2	>0.7

Source: IMF staff estimates.

Options for Reform by Tax System

Taxation of Capital Stock: Scope to Broaden the Base

9. **The share of taxes raised from the capital stock and other forms of wealth is low.** As a proportion of GDP, wealth taxes are less than 25 percent of the EU average suggesting a source of tax revenue with the smallest adverse effect on growth is being underexploited. Expanding the tax base to tap wealth, mainly through residential property and car taxation, would diversify the tax base and counter volatility by relying on a less mobile and more predictable tax base. Measures to expand the tax base on wealth could be further complemented by strengthening inheritance, gifts and land taxation.

10. **To garner the maximum revenue potential from a property tax, a new residential property tax would need to be levied at a low rate on as broad a base as possible.** While commercial real estate is taxed, Lithuania is one of a few countries in Europe where individual property is not, while existing mortgages still benefit from mortgage interest relief. Extending the property tax to residential housing could yield substantial revenue: other countries at Lithuania's income level generally collect about $\frac{3}{4}$ percent of GDP in revenue from the taxation of residential property (Table 5). The housing stock in Lithuania is conservatively valued at about 100 percent of GDP at end-2009² with approximately $\frac{2}{3}$ of the housing stock valued at less than LT 200,000. To yield a similar amount of revenue to that obtained in other countries, the structure of housing values suggests imposing a very low tax rate of about 1 percent on a broad base, with an exemption only for a minimum surface area per property (to protect the most vulnerable). If designed in this matter, the tax could yield up to $\frac{1}{2}$ percent of GDP in the near-term.³ Exempting all primary residences, however, would erode the yield substantially and unduly benefit middle and high income earners, while duplicating personal income and capital gains

Table 5. International Comparisons: Property Taxes' Revenue Importance
(Percent of GDP)

	1970s	1980s	1990s	2000s
OECD countries	1.24	1.31	1.44	2.12
(number of countries)	16	18	16	18
Developing countries	0.42	0.36	0.42	0.6
(number of countries)	20	27	23	29
Transition countries	0.34	0.59	0.54	0.68
(number of countries)	1	4	20	18
All countries	0.77	0.73	0.75	1.04
(number of countries)	37	49	59	65

Source: Bahl, R. and Martinez-Vazquez, J. (2008). "The Property Tax in Developing Countries: Current Practice and Prospects" in Making the Property Tax Work: Experiences in Developing and Transitional Countries, ed. by Roy Bahl, Jorge Martinez-Vazquez and Joan Youngman. (Cambridge: Lincoln Institute of Land Policy).

² This is based on the 2006 mass appraisal updated for recent price movements. To compare, the UK's per capita PPP income level was 2 times that of Lithuania, but its stock of residential property was valued at about 300 percent of GDP in 2006 (RICS, 2008).

³ The long-term potential is even larger, especially if the tax was levied in a progressive manner.

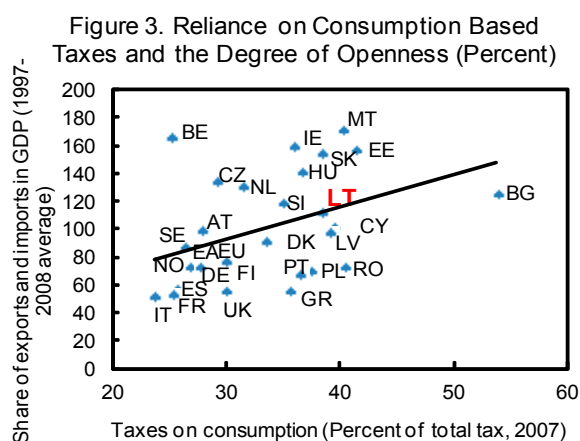
taxation exemptions. The authorities' estimates suggest that such a generous exemption would reduce the yield of the property tax to less than 0.1 percent of GDP.

11. **A new annual green tax on cars would help expand the revenue base in an efficient and equitable manner.** In the European Union and the OECD, annual vehicle registration fees are an important revenue earner for governments. Nearly an equal number of OECD member states impose vehicle registration taxes by cylinder capacity with a minimum charge. Others differentiate between fuel efficiency and CO₂ emission standards. An annual motor vehicle fee graduated per engine size has many properties of an immovable property, consumption, luxury and green tax, and would be easily implementable given the car registry is fully operational. The revenue yield from such an instrument would be sizeable; a simple structure that assumes a minimum charge of one full tank of fuel (60 liters) per active car would yield an estimated 0.4 percent of GDP in revenue.⁴ The yield could be larger and more equitable if the tax was then graduated by vehicle weight (a proxy for the value of the car) or engine capacity. Also here the long-term revenue potential is much higher as many countries also apply higher rates (for example, the vehicle tax fee in New Zealand is just below 2 full tanks, whereas Norway applies a rate equivalent to more than 6 full tanks of gas).

12. **The framework for administrating these new taxes is already in place.** Bahl (2008) finds Lithuania has a well-prepared and operating institutional framework for the administration of a property tax. It has a modern property cadastre and register, as well as computerized systems to identify, record, and manage its mass appraisal system. Likewise, it maintains a register of active cars.

Consumption Taxation: Scope to Strengthen Tax Compliance

13. **The reforms implemented in 2009 sought to improve efficiency and support growth by shifting the tax burden from direct income to consumption taxation, in common with reforms undertaken by other open economies (Figure 3).** In 2009, the statutory VAT rate was raised by 3 percentage points to 21 percent. Exemptions were eliminated and preferential rates abolished with the exception of heating and school books that are set to sunset in 2011. Looking ahead, with VAT and excise tax rates broadly in line with those in the region, the scope to increase rates further will need to be coordinated regionally to minimize the risk of cross border competition. Nonetheless, were the standard VAT rate to be raised to the EU



Source: Statistics Lithuania; WEO; and IMF staff calculations.

⁴ Currently 1.7 million cars are registered in Lithuania.

maximum it would potentially raise 1.2 percent of GDP.

14. **Despite the recent reforms, VAT revenue performed poorly in 2009, suggesting scope for administrative improvements.** Widening output and absorption gaps around 2007 led to a cyclical increase in effective VAT rates, thus generating temporary windfall revenue that was later unwound during 2009. VAT cash collections fell by some 26.4 percent in 2009, even though nominal private consumption and GDP declined by 13.1 and 17.2 percent, respectively. This, combined with the evidence on the relatively low effective tax rate on consumption even prior to the crisis, suggests VAT compliance could be significantly improved to enhance collections.

15. **VAT collections in Lithuania have been historically very cyclical.** During the

boom, compliance problems were masked as cheap credit helped boost consumption and led to windfall tax collections. Table 6 provides regressions of the cyclical component of real VAT revenue to the output gap in selected European economies.⁵ It shows that in countries with consumption booms and high volatility in revenue-to-GDP ratios (Greece, the Baltics, and UK), VAT collections were strongly influenced by the economic cycle, rising strongly above trend in the boom. The results also show that countries that became more export orientated (for a given level of imports) exhibited less cyclical and more stable VAT collections over the cycle.

Table 6. Cyclical Response of VAT to Output Gap in Selected European Countries 1/

	Constant	Output gap	Export / import ratio	Trend	Dummies	Adjusted R2	Obs.
Lithuania	0.171 (0.120)	1.811*** (0.192)	-0.003** (0.001)	-0.001* (0.000)	yes	81.2	54
Latvia	0.297 (0.193)	1.739*** (0.292)	-0.003 (0.002)	-0.001 (0.001)	yes	64.9	54
Estonia	0.708*** (0.236)	1.478*** (0.367)	-0.008*** (0.003)	-0.003** (0.001)	yes	74.9	54
Finland	0.192* (0.099)	0.738*** (0.162)	-0.001 (0.001)	-0.003*** (0.001)	yes	54.8	54
Sweden	0.471*** (0.147)	0.779*** (0.157)	-0.004*** (0.001)	0.000 (0.000)	yes	61.3	54
Ireland	-0.246 (0.267)	1.148*** (0.337)	0.002 (0.002)	-0.001 (0.002)	yes	77.8	36
Greece	0.524*** (0.116)	2.274*** (0.542)	-0.006*** (0.002)	-0.004*** (0.001)	yes	53.7	34
Germany	-0.004 (0.081)	0.570*** (0.199)	0.000 (0.001)	-0.002*** (0.000)	yes	69.0	54
UK	0.095 (0.228)	1.703*** (0.551)	-0.001 (0.002)	0.000 (0.001)	yes	54.8	54
EA12	0.025 (0.190)	1.137*** (0.290)	-0.000 (0.002)	0.000 (0.000)	no	39.9	38

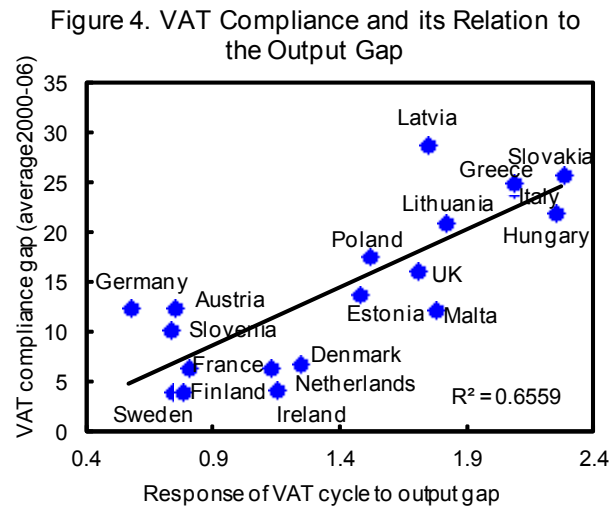
Source: IMF staff calculations.

1/ VAT cycle is derived with applying HP filter to deflated and seasonally adjusted revenue.

Baseline time period for regressions is 1996 q1 - 2009 q2, few observations from the beginning as well as end are dropped to alleviate the endpoint problems.

⁵ The regressions control for (i) discretionary changes in tax rates or occasional shifts in revenue across consecutive quarters, (ii) exports-to-imports ratio to control for relative 'export intensity' of the economy, (iii) a trend to net out any residual non-stationary elements.

16. **VAT compliance in turn has been strongly related to the economic cycle, improving in the boom and falling sharply in the downturn (Figure 4).** Plotting the cyclical response of VAT collections to the output gap against the compliance gaps suggests that countries where VAT collections are more sensitive to the business cycle, such as the Baltics, UK, Greece, Italy, Hungary and Slovakia, also experience substantially larger tax compliance problems. Relatedly, VAT arrears in Lithuania have almost doubled when compared to pre-boom levels. Thus, administration problems not only entail direct revenue losses but also serve as an amplifier of the business cycle impact on collections.



Source: IMF staff calculations.

17. **Strengthening tax administration to improve VAT compliance would yield substantial revenue over the medium-term** The C-efficiency ratio, which measures the VAT effective rate as a ratio to the statutory rate, is considerably lower in Lithuania than in the EU on average. Table 7 provides a decomposition of VAT C-efficiency into compliance gap and policy gap,⁶ and the compliance gap is one of the highest in Europe matched only by Latvia, Italy, and Hungary. With elimination of most of the VAT exemptions in 2009, the policy gap relative to the EU average is likely to have substantially narrowed, but the aforementioned evidence suggests the compliance gap remains.

Table 7. Private Consumption Based VAT Efficiency Decomposition

	Effective rate	Efficiency	Compliance gap	Policy gap
Estonia	16.18	0.90	0.08	0.02
Ireland	16.67	0.79	0.02	0.19
Greece	9.73	0.51	0.30	0.27
Spain	10.81	0.68	0.02	0.31
France	12.49	0.64	0.07	0.32
Italy	10.38	0.52	0.22	0.33
Latvia	12.89	0.72	0.22	0.08
Lithuania	11.59	0.64	0.22	0.17
Hungary	13.83	0.69	0.23	0.10
Finland	16.52	0.75	0.05	0.21
Sweden	18.90	0.76	0.03	0.22
United Kingdom	10.08	0.58	0.17	0.31
Average (advanced)	13.94	0.71	0.09	0.22
Average (CEE)	13.66	0.71	0.17	0.14
Average (all)	13.85	0.71	0.12	0.20

Source: Reckon (2009), IMF staff computations.

Note: all estimates and calculations refer to year 2006.

⁶ The compliance or 'VAT-gap' is taken from Reckon/EC (2009) study and refers to a percentage gap between actual and theoretical VAT receipts. The policy gap is then derived as a multiplicative residual between the efficiency and compliance gap, and shows the effect of exemptions and reduced rates.

Closing the compliance gap by $\frac{1}{3}$ would yield about of 0.7 percent of GDP in additional revenue; reducing the gap further to the levels of France or Estonia would double that yield.

Direct Taxation of Labor Income: Scope to Close Loopholes and Improve Compliance

18. The income tax burden is low and its role in the tax system declined over the boom. Since 2000, the implicit tax rate on labor has fallen from about 40 to 32 percent in Lithuania. By end-2009, PIT revenues and social security contribution collections comprised about 16 percent of GDP. This declining trend over the boom mainly reflected reductions in the standard PIT rate.⁷ Social

security contribution rates remain high, at almost 40 percent of gross income (Table 8). These trends follow the experience of most advanced countries that have considerably reduced top marginal rates, while raising social security contribution rates (Johansson, 2008).

19. The 2006–09 income tax reforms have gone a long way in broadening the income tax base. Reflecting this and the impact of earlier reforms, the PIT gap—the difference between the statutory and effective rates (vis-à-vis the economy wide wage bill)—has fallen to 3.5 percentage points in 2009 from a high of around 12 percentage points in the mid-2000s (Figure 5). Part of the declining trend is attributable to improved compliance during the boom as under-the-table wage payments were declared in response to the reductions in the statutory PIT. The 2009 reform further streamlined many of the

Table 8. Personal Income Tax and Social Security Contribution Rates, 2010

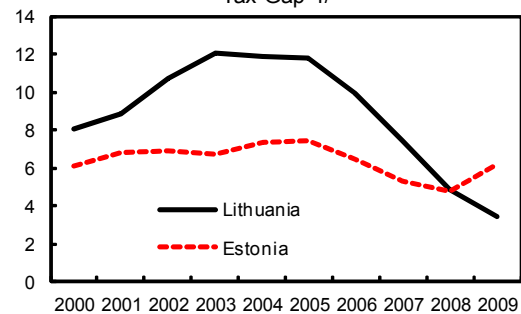
	Latvia	Lithuania	Estonia
Social Security Contribution Rates			
Employee	9	9	2.8
Pension	...	3	0
Health	...	6	0
Unemployment	...	...	2.8
Employer	24.09	31.34	34.4
Pension	...	23.3	20
Health 1/	...	6.4	13
Unemployment insurance	...	1.1	1.4
Accident at work insurance 2/	0.09	0.54	...
PIT Rate	26	15	21
Total burden on on employee	35	24	23.8
Total burden on labor (inclusive of employer share)	33.09	40.34	37.2

Source: International Bureau of Fiscal Documentation.

1/ Health includes health insurance; and sickness and maternity insurance.

2/ For Lithuania, it is the average of a variable contribution. According to the actual number of accidents at work at the employer's enterprise during the last 3 years, it ranges from 0.18 to 0.9.

Figure 5. Trends in the Personal Income Tax Gap 1/



Source: Lithuania and Estonia Authorities.

1/ Difference between the statutory and effective rate.

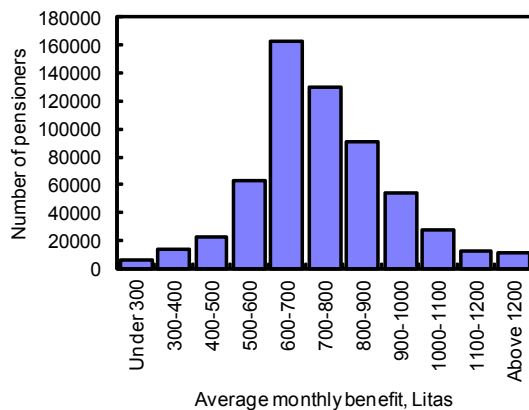
⁷ In July 2006 the income tax rate was reduced from 33 to 27 percent, in January 2008 to 24 percent and then to 21 percent in 2009. In addition the tax exempt threshold was also raised from 1 May 2002 from 214 LTL to 250 LTL per month, on January 1, 2003 to 290 LTL per month with an additional TEA +29 LTL for each child; and in 2007 to 320 LTL per month with an additional TEA +32 LTL for each child;

exemptions, including eliminating the tax-exempt minimum income allowance for high income earners and making it applicable only to income from employment, while increasing it slightly for low income earners and families with multiple children. Eligibility for tax exemptions on agricultural income were scaled back to small farmers, while the exemptions for interest payments on new mortgages and spending on personal computers were eliminated.

20. **There is however further scope to broaden the income tax base.** In particular, steps could be taken to eliminate exemptions, deductions, and allowances for expenses which are in the nature of consumption or providing a double benefit.

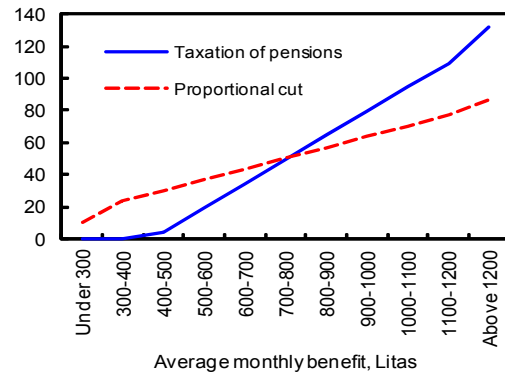
- *Deductibility of mortgage interest payments for existing mortgages on primary residences.* Given that imputed rent and capital gains on all primary residences are exempt from taxation, full elimination of the deductibility of mortgage interest payments would eliminate the double exemption from taxation.
- *Income tax exemption for pension income.* Currently all pay-as-you-go pensions as well as those received from private pension funds are tax exempt, while contributions are not taxed and contributions made by employers on behalf of employees are fully deductible from profits and are also exempt from income tax. Taxing pension income would be both efficient and equitable as this constitutes privately earned income. When compared to a proportional across-the-board pension cut yielding the same amount of revenue, the tax-exempt minimum would unambiguously better protect the low-income pensioners while bringing working pensioners and those with multiple pensions more fully under the tax net. In the case of pension taxation, the poorest 5 percent of the pensioners would not pay any tax, 50 percent of pensioners would be strictly better off than under a proportional cut, and the average pensioner would pay less than LT 50 per month in total tax (Figures 6 and 7).

Figure 6. Distribution of Old-age Pensions



Source: Sodra.

Figure 7. Tax vs Proportional Cut: Old-age Pensions (Litass per month)



Source: Sodra.

- *Other deductions and allowances.* Exemptions for interest paid for leasing of a dwelling should be eliminated for symmetry with mortgage interest. Deductions for

professional training or higher educational studies can be phased-out on the grounds that these expenses constitute consumption.

- *Measures to prevent unlimited exemptions on donations by taxpayers.* This would help minimize the risk of tax avoidance.

21. **There is still scope to strengthen the administration of income taxes.** There is indicative evidence of continued underreporting of wages especially during the crisis. The share of those declaring income out of total taxpayers reached 47 percent in 2009, down slightly from 51 percent recorded during the boom. However, the total amount of income declared in 2009 has fallen by more than the economy-wide wage bill, especially for higher income earners. The latter are also likely to get higher share of the income from capital and have greater opportunities to benefit from various loopholes. To strengthen tax administration, it would be advisable to make income declarations mandatory—complemented by regular life-style surveys—to ensure maximum yields from further revenue measures over the medium-term.

Direct Taxation of Corporate Income: Scope to Make the System More Pro-Growth

22. **Given that the effective CIT rate in Lithuania is well-below the statutory rate, there is scope to raise collections without increasing tax rates, by removing exemptions.** The adverse effects of CIT on the cost of capital, investment, and productivity are well documented⁸ and, as capital has become increasingly mobile, the scope to raise CIT tax rates has become increasingly constrained by tax competition. Seen from this perspective, the recent move to re-establish the 15 percent statutory CIT rate, after temporarily increasing it to 20 percent in 2009, can be understood. However, the implicit tax rate on corporations that was already relatively low at 10.7 percent in 2007 is expected to fall further to about 8 percent in the coming years, due to new tax incentives granted for investment in 2009.

23. **International evidence points to limited benefits of tax incentives.** Klemm and Van Parys (2009) find that only tax holidays and not investment incentives have a positive impact on FDI, but not on investment or economic growth, suggestive of crowding out effects. Klemm (2009) argues that, in general, tax holidays should be avoided as they only generate short-lived and one-off investment. Possible options to streamline exemptions include: (i) reconsidering the preferential tax rate treatment of small enterprises that has been found inefficient,⁹ (ii) reconsidering or reducing the investment incentive, (iii) withdrawing the 6-year tax holiday scheme on companies in free economic zones to close loopholes in the overall tax system, while grandfathering the existing qualifying firms. In any case, introducing a tax expenditure budget for taxpayers receiving beneficial treatment could help

⁸ See Hassett and Hubbard, 2002 and Arnold, 2008. The latter finds the negative impact of corporate taxation is almost twice of that of personal income taxation.

⁹ Arnold (2008) argues that investment and TFP in small firms is, in fact, less sensitive to corporate taxation.

assess the cost of these tax incentives and over time serve as an input to measure their effectiveness.

24. **There may also be scope to enhance the efficiency of the CIT by reconsidering distortions that impact decisions on financing and leverage.** The deductibility of interest from taxable profits as well as the double taxation of equity/dividends has, as in other countries with classical CIT systems, favored debt over equity financed investment. In Lithuania, the tax wedges calculated based on the King and Fullerton (1983) methodology suggest the CIT, inclusive of the impact of exemptions and the depreciation allowance, subsidizes debt financed investments (Table 9). Although the wedge turns positive once the impact of PIT is taken into consideration (due to the taxation of dividends under the PIT) the system is still biased towards debt financing. Besides potentially distorting the allocation of investment against ‘equity-intensive’ (e.g. knowledge-based) companies, it can also contribute to excessive leverage. Further, as the final owners of corporations are ultimately households, debt-biased corporate taxation is not consistent with mortgage interest deductibility under PIT.

Table 9. Tax wedges in Lithuania, 2009 (Percent)

	Average for each source of Finance			Average for Each type of Investment			Overall Average
	Retained Earnings	New Equity	Debt	Machinery	Buildings	Inventories	
Pre-corporate Tax Rate of Return	4.63	4.63	2.82	3.63	3.62	4.92	3.73
Corporate Tax Wedge	0.70	0.70	-1.11	-0.30	-0.31	0.99	-0.20
Pre-corporate and Personal Tax Rate of Return	3.06	6.32	2.82	3.31	3.29	4.56	3.40
Corporate and Personal Income Tax Wedge Combined	0.80	4.05	0.56	1.04	1.02	2.29	1.13

Source: IMF Staff Calculations.

C. Conclusion

25. **International and empirical evidence suggest important scope for revenue-enhancing tax reforms in Lithuania.** A broad tax reform strategy that could raise revenue and tax new revenue sources while at the same time supporting growth, competitiveness and equity could consist of the following:

- Decisively increasing the share of property—in particular real estate and car—taxation in the overall tax structure.
- Consider increasing the progressivity of the tax system to provide for equity through progressivity in property taxation and the application of luxury or green tax instruments.

- Maintaining higher emphasis on consumption taxation, keeping exemptions at minimum, while addressing compliance issues.
- Reducing and phasing out personal income exemptions that are in the nature of consumption or create an opportunity for a non-taxable income stream.
- Offsetting the revenue loss from the reduction in the CIT rate through a phasing out of inefficient exemptions and, over the longer term, considering a boarder reform to remove distortions that create biases toward debt-finance and leverage.

26. **A broad-based package of this kind would substantially bolster revenues.** Staff estimates suggest the revenue yield from such broad-reaching tax reform could reach between 3-3¾ percent of GDP over the medium-term, helping complement and balance the on-going adjustment on the expenditure side of the budget.

REFERENCES

- Arnold, Jens, 2008, “Do Tax Structures Affect Aggregate Economic Growth? Empirical Evidence From a Panel of OECD Countries,” *OECD Economics Department Working Paper No. 643*.
- Bahl, et al., 2008, *Making the Property Tax Work—Experiences in Developing and Transitional Countries*
- Blanchard, Olivier, 2007, “Adjustment Within the Euro. The Difficult Case of Portugal,” *Portuguese Economic Journal*, vol. 6, no. 1, pp. 1-21.
- EC Reckon, 2009, “Study to quantify and analyze the VAT gap in the EU-25 Member States.”
- Hassett, Kevin A. and R. Glenn Hubbard, 2002, “Tax Policy and Business Investment,” *Handbook of Public Economics*, vol. 3, pp. 1293-1343.
- International Monetary Fund, 2010, “From Stimulus to Consolidation: Revenue and Expenditure Policies in Advanced and Emerging Economies,” April, 2010.
- Johansson, Åsa, Heady, Christopher, Arnold, Jens, Brys, Bert and Laura Vartia, 2008, “Tax and Economic Growth, *OECD Economics Department Working Paper No. 620*.
- King, Mervyn A., Fullerton, Don and J. Alworth, 1984, “The Taxation of Income from Capital,” The University of Chicago Press.
- Klemm, Alexander, 2009, “Causes, Benefits, and Risks of Business Tax Incentives,” *IMF Working Paper No. WP/09/21*.
- Klemm, Alexander and Stefan Van Parys, 2009, “Empirical Evidence on the Effects of Tax Incentives,” *IMF Working Paper No. WP/09/136*.
- RICS, 2008, Property in the Economy. A digest and review of key data and statistics.
- Tsibouris, George C., Horton, Mark A., Flanagan, Mark J. and Wojciech S. Maliszewski, 2006, “Experience with Large Fiscal Adjustments,” *IMF Occasional Paper No. 246*.

II. DOES LITHUANIA HAVE A COMPETITIVENESS PROBLEM?¹

Lithuania suffered substantial real exchange rate appreciation during the boom, giving rise to concerns that the country will struggle to regain competitiveness under the currency board. However, the recent boom came soon after a period of deep economic restructuring during which substantial competitiveness gains were achieved. Thus, viewed over the entire decade manufacturing unit labor costs and export prices have actually fallen relative to trading partners. This helps explain why the country's share of global exports rose sharply over the last ten years, and is in contrast with Lithuania's two Baltic neighbors where manufacturing costs have risen sharply. With its reasonably strong starting point and ongoing wage declines, Lithuania is in a good position to rebalance growth towards exports.

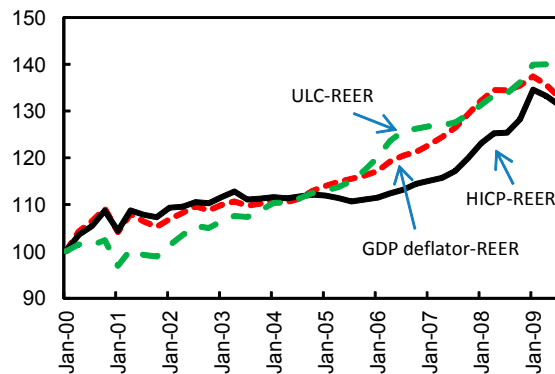
A. The Real Exchange Rate During the Boom

1. Lithuania suffered substantial real exchange rate appreciation over the last ten years.

From 2000 to the peak in late 2008, the cumulative increase in various measures of the real effective exchange rate (REER) was about 35-40 percent (Figure 1). After small gains pre-2004, appreciation accelerated in the second half of the decade reaching a cumulative 25–30 percent in the span of four years.

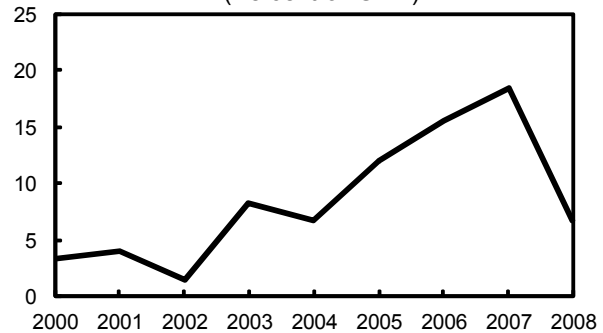
2. **The story behind the rapid appreciation has been told before: strong capital inflows led to a boom in non-tradable sectors.** Capital inflows, mainly in the form of bank loans, accelerated sharply after 2002 and peaked in 2007 at some 20 percent of GDP (Figure 2). These inflows were in turn intermediated by the banking sector and led to a boom in construction, real estate services, and other such non-tradable sectors. For example, residential real estate loans accounted for 11.2 percent of total non-interbank loans at end 2002, but

Figure 1. Real Effective Exchange Rate (2000Q1=100)



Source: DG EC FIN; and IMF staff calculations.

Figure 2. Inflows of Financial Capital 1/ (Percent of GDP)



Source: National central banks and WEO.

1/ Proxied by portfolio plus other investment liabilities from BOP.

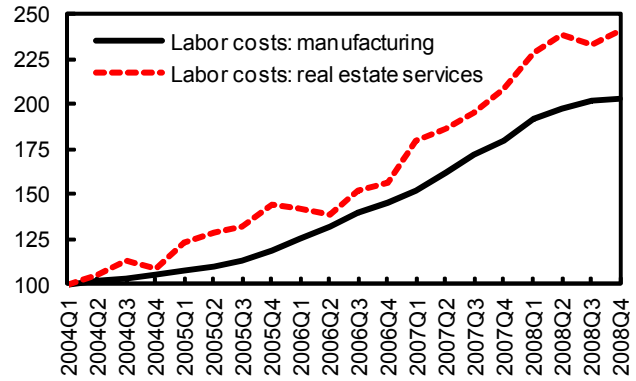
¹ Prepared by Alvaro Piris (SPR) and Jacques Miniane (EUR).

this share had almost trebled to 29.1 percent by end 2008. In many of these non-tradable sectors, employment and output roughly doubled between 2004 and 2008.

3. The boom bid up wages in these sectors, which then affected wages in tradable sectors and led to overall inflation.

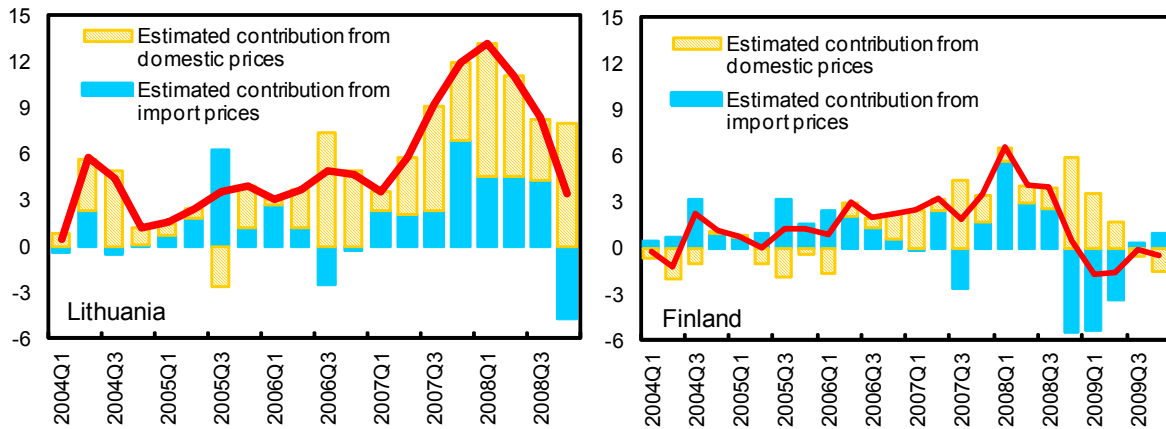
The sharp rise in labor demand in various non-tradable sectors pushed wages there up, by some 100–150 percent from early 2004 to the pre-crisis peaks in 2008 (Figure 3). In turn, cross-sectoral mobility and large outward migration from Lithuania meant that much of these gains were passed on to sectors such as manufacturing, and generalized labor cost inflation led naturally to overall price inflation. A simple decomposition of inflation between domestic prices (i.e. affected among other things by domestic labor costs) and imported prices (such as energy) shows that the former dominated inflation dynamics in Lithuania since 2004 (Figure 4). They also explain most of the difference in inflation outcomes with a country like Finland, which did not go through such an obvious externally-financed bubble but faced similar external pressures from the global commodities boom.

Figure 3. Labor Costs (2004Q1=100)



Source: Statistics Lithuania; and IMF staff calculations.

Figure 4. Decomposing Inflation (Percent)

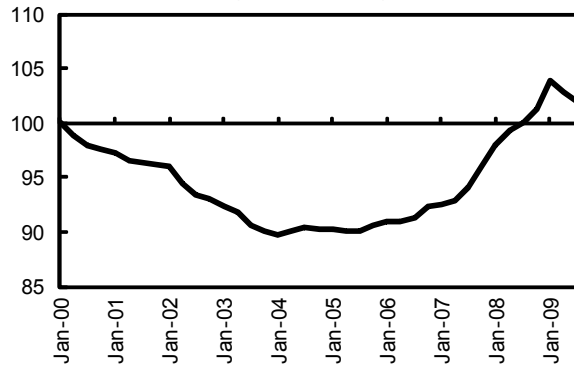


Source: Haver; and IMF staff calculations.

4. **This standard narrative provides a simple and clear explanation to the facts; unfortunately, it is simple, clear, but also misleading:**

- *Inflation in Lithuania was not higher than in trading partners when viewed over a longer period* (Figure 5). It is natural to focus on the boom years when discussing REER trends in Lithuania. The problem with this is that it ignores the substantial competitiveness gains post the Russian crisis of 1998–2000, which affected Lithuania greatly and triggered a substantial restructuring of the economy and its trading patterns. Among other things, economic restructuring contributed to very low wage and price inflation just as we are seeing at the current juncture.

Figure 5. Inflation Differential with Trading Partners (2000Q1=100)



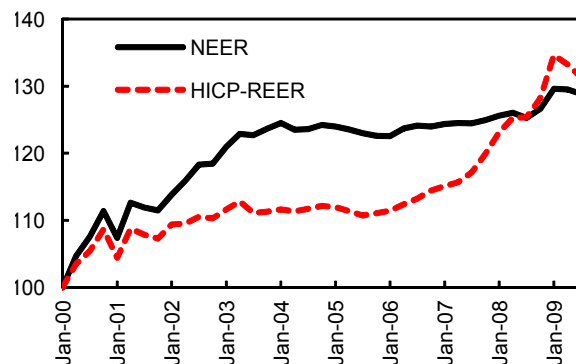
Source: Statistics Lithuania; and IMF staff calculations.

The CPI grew on average by a scant 0.5 percent a year between 2000 and 2003. Hence, positive inflation differentials with trading partners that harmed Lithuania's REER between 2004 and 2008 undid significant relative gains achieved post-Russian crisis.

- *All of the real exchange appreciation since 2000 owes to unfavorable exchange rate movements and not to high inflation differentials.* The strong nominal effective

exchange rate (NEER) appreciation between 2000 and 2004 explains why the REER appreciated then despite a sharply negative inflation differential in favor of Lithuania. And while high inflation post 2004 did appreciate the REER, viewed over the longer period it is the NEER appreciation—over which the country had little control—that *fully* accounts for the cumulative REER appreciation (Figure 7). The rise in the NEER can be attributed in part to bad luck in the timing of exchange rate regime changes. For example, Lithuania had a dollar peg until February 2002;

Figure 6. HICP-REER Decomposition (2000Q1=100)



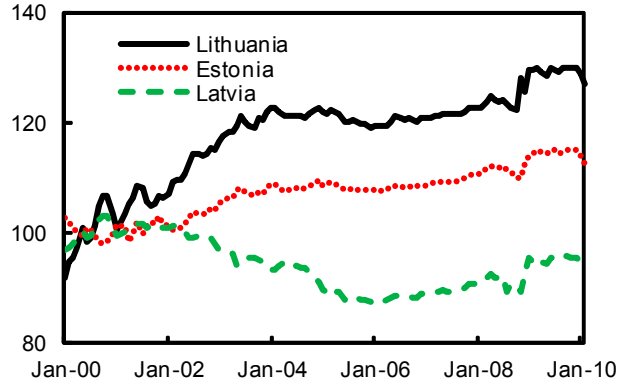
Source: DG EC FIN and IMF staff calculations.

from 1999 to 2002, the dollar appreciated by a third against the euro, implying a sharp nominal appreciation versus the other Baltic countries (Estonia was pegged to the *deutschmark* and then the euro, Latvia to the SDR through to 2005). After switching to a euro peg in February 2002, the euro appreciated steadily against the

dollar, and Baltic countries saw nominal effective appreciations, with Lithuania's REER and NEER rising from the most appreciated starting point.² (Figure 7)

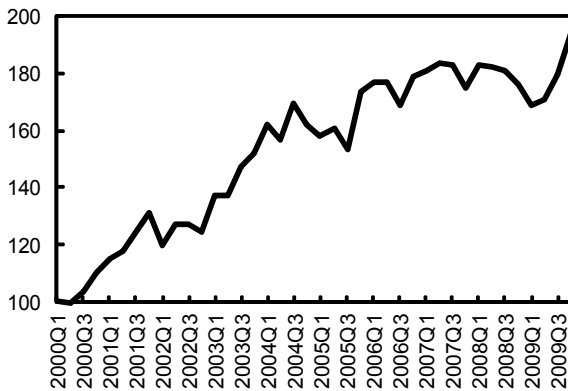
- *Wage increases in manufacturing and other export sectors were closely matched by productivity gain.* Labor productivity in manufacturing rose by some 80 percent between 2000 and 2008, with particularly impressive gains in the first half of the decade (Figure 8). This helped contain unit labor costs (ULC), so that despite modest increases during the boom Lithuania's manufacturing ULC rose by less than in trading partners when seen over the entire period. Given this, it is again true that *all* of the appreciation in the manufacturing ULC-based REER over the decade can be accounted for by the appreciation in the NEER (Figure 9).

Figure 7. Baltic Country NEERs (2000=100)



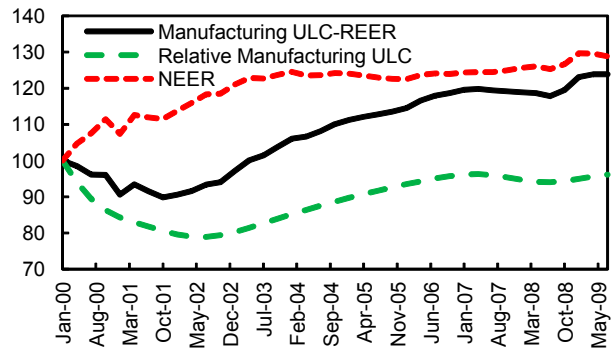
Source: INS.

Figure 8. Manufacturing: Labor Productivity (2000Q1=100)



Source: Statistics Lithuania; and IMF staff calculations.

Figure 9. Decomposing the Manufacturing ULC-REER (2000Q1=100) 1/



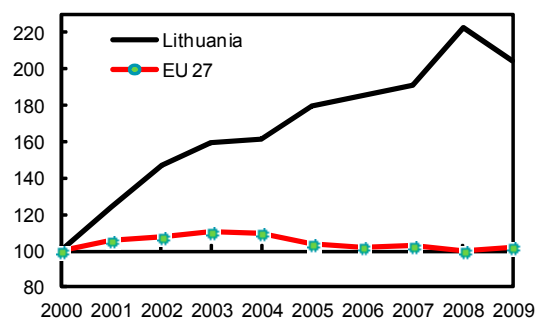
Source: DG EC FIN; and IMF staff calculations.

1/ The relative manufacturing ULC is Lithuania's manufacturing ULC relative to trading partners' manufacturing ULCs.

² Differences in the composition of trading partners across the three countries also played a small role in the differing paths of their NEERs.

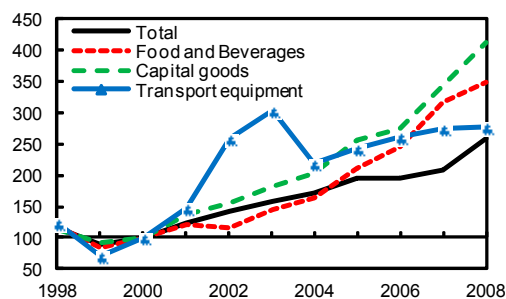
5. **Strong productivity growth in tradables explains why Lithuania's exports performed so well over the period despite unfavorable exchange rate movements.** Even as capital inflows drew resources into non-tradable sectors, Lithuania managed very solid export growth during the decade. Measured in US Dollar terms, exports of goods grew at an average 25 percent yearly rate up to 2008 before the collapse in global trade, while real exports (national accounts definition) grew at an average 12 percent per year. This was substantially faster than growth in global trade, helping the country more than double its share of global exports over the decade, and also faster than export growth in Estonia, Latvia and almost any other country in Eastern Europe (Figure 10). Moreover, the increase in export shares was not achieved solely through low-value added goods such as primary foods and beverages, but also higher value-added capital goods (Figure 11).

Figure 10. Share of Global Exports Goods and Services (2000=100)



Source: WEO

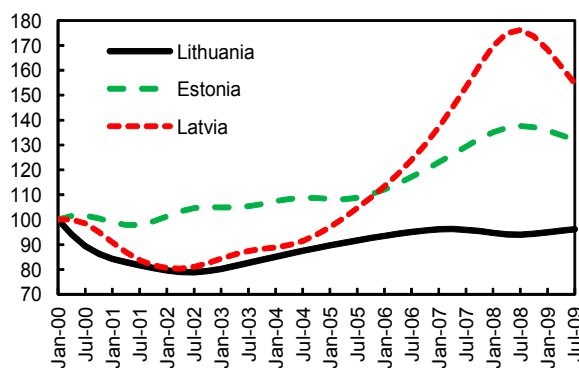
Figure 11. Goods Export Shares by Broad Economic Classification (2000=100)



Source: UN (COMTRADE); and IMF staff calculations.

6. **Lithuania's wage restraint in manufacturing stands out relative to developments in the neighboring countries.**³ While Estonia, Latvia, and Lithuania all shared an externally-financed boom, and while CPI-based REERs rose by similar amounts (Latvia's increase being slightly smaller over the entire 2000–09 period, but somewhat faster over the 2005–09 period), manufacturing ULC-based REERs rose by some 25 percent more in Estonia and Latvia than in Lithuania over the entire 2000-09 period, and substantially more than that post-2005. This, however, does not take into account the fact that Lithuania's NEER appreciated by much more than its neighbors'. Adjusting for the NEER effect, the gap between manufacturing ULC in Lithuania and neighboring Baltics is even starker: Lithuania's relative ULC (i.e. ULC relative to trading partners' ULC) is still

Figure 12. Baltic Countries: Relative Manufacturing ULCs (2000Q1=100)



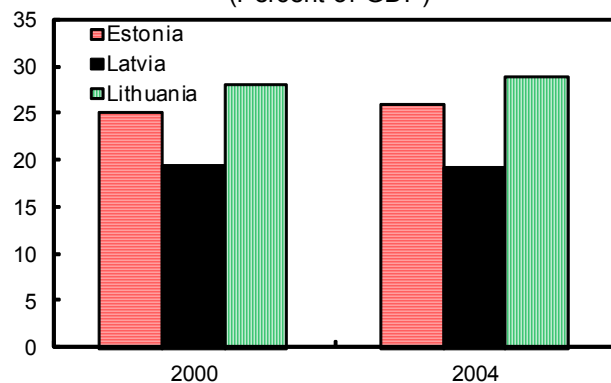
Source: DG EC FIN and IMF staff calculations.

³ Adjusted for productivity, that is.

below 2000 values as previously discussed, but Estonia's has risen by 40 percent and Latvia's by 75 percent (Figure 12).

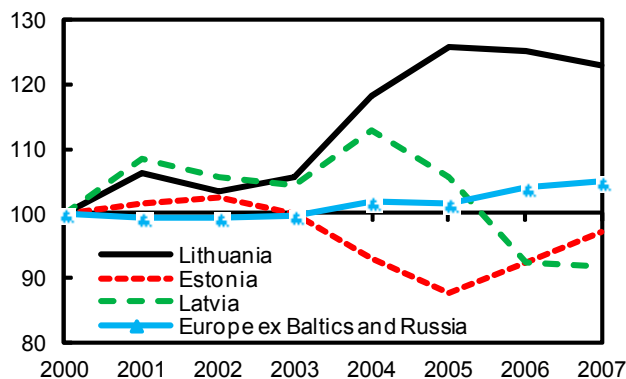
7. **This raises an obvious question: why was Lithuania better able to contain cost pressures?** There is no easy answer to this question, but perhaps two key elements were at play. First, the boom was more contained in Lithuania as the country joined the party at a later stage. To give some examples, non-FDI capital inflows, credit growth, and price increases in assets such as real estate were all very strong but not as strong as in Latvia and Estonia. Second, Lithuania has a larger and more developed manufacturing base than its neighbors, so that *ceteris paribus* it would take a bigger bubble in non-tradables to affect prices in tradables. Looking at the national accounts, sectors traditionally categorized as tradables had a higher weight in total GDP in Lithuania, particularly compared to Latvia (Figure 13).⁴ It is striking that the relative tradables/non-tradables productivity ratio continued to increase throughout the period in Lithuania as it deteriorated elsewhere in the Baltics (Figure 14). It is also significant that in Lithuania the manufacturing ULC-based REER rose by less than the CPI based REER, but the opposite was true in Latvia.

Figure 13. Share of Tradable Sectors
(Percent of GDP)



Source: IMF staff calculations.

Figure 14. Productivity of Tradable versus
Non-tradable Sectors (2000=100)



Source: KLEMS database; and IMF staff calculations.

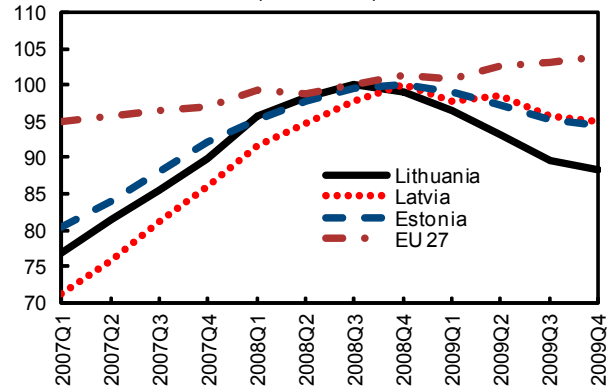
⁴ Any definition of what in national accounts decomposition constitutes a tradable or non-tradable sector is by definition arbitrary and imprecise. For instance, Estonia's service sector may have a large tradable component which is not accounted for in this calculation.

Adjustment In The Downturn

8. **Sharp declines in wages since the crisis should help allay concerns about competitiveness.**⁵ Harmonized Eurostat data show the decline in labor costs in Lithuania exceeds that in any other EU country, down 12 percent from peak (Figure 15). Average gross earnings in national data are also down 12½ percent. Crucially, declines in public sector wages are matching the ongoing adjustment in the private sector. Average nominal wage declines of this magnitude in the space of one year are simply exceptional by international standards, even allowing for the size of the output decline.

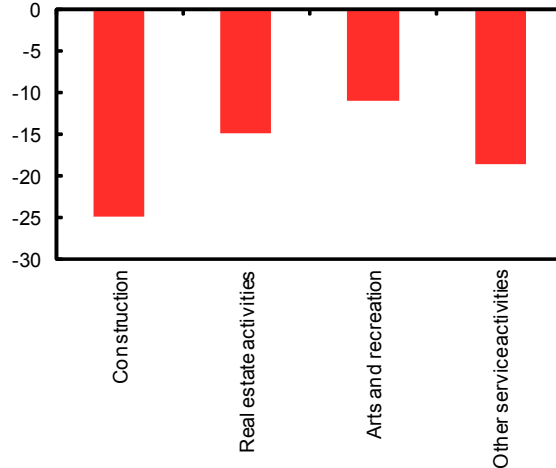
9. **Not surprisingly, the largest wage declines are occurring in non-tradable sector.** Labor costs are now 15–25 percent below peak in the sectors that benefitted most from the boom such as construction and real estate activities (Figure 16), while employment measured in hours worked has fallen by 50 percent. At the same time, it should be acknowledged that undeclared transactions are likely to have become more common post-crisis particularly in these sectors; hence employment and wage declines may be somewhat overstated in official data.

Figure 15. Hourly Labor Cost (Peak=100) 1/



Source: Eurostat.
1/ EU27 has not peaked, so we use the same peak as Lithuania.

Figure 16. Nominal Wage Declines in Non-tradeable Sectors (Percent, peak to 2009Q4)

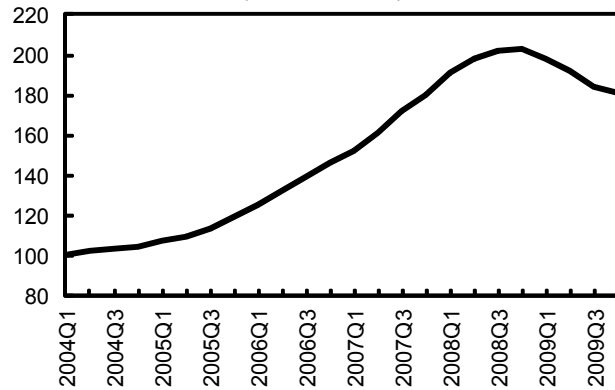


Source: Statistics Lithuania; and IMF staff calculations.

⁵ We focus on wage rather than ULC trends post-crisis as labor productivity can be misleading in the context of a 15 percent decline in output and concomitantly large decline in total employment.

10. **Wages have also fallen in tradable sectors.** Employment in manufacturing or information and technology has suffered from the—largely temporary—collapse in global trade as well as from greatly impaired domestic demand, though the declines have been more modest than in other sectors. Nonetheless, nominal labor costs per hour worked are down around 10 percent from peak (Figure 17), substantially more than in most trading partners and presaging a non-trivial decline in Lithuania’s relative ULC going forward.

Figure 17. Labor Costs in Manufacturing (2004Q1=100)



Source: Statistics Lithuania; and IMF staff calculations.

B. Conclusion

11. **Loss of competitiveness, then, does not appear to be a major concern.** The analysis here suggests that wages adjusted for productivity were not much misaligned pre-crisis, at least not in manufacturing and export sectors. Ongoing wage declines—and the recent depreciation of the euro, if sustained—bode well for future external competitiveness. This, however, should not detract from needed structural reform discussed in the main report. Lithuania may not have lost much competitiveness during the boom, but it will need strong productivity growth if it wants to resume income convergence with Western Europe, on which it lost significant ground during the crisis.

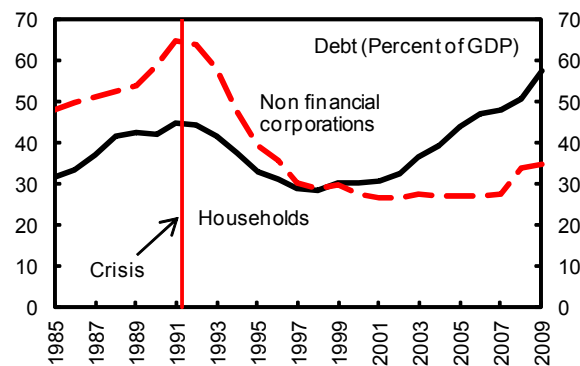
III. LITHUANIA: THE CREDIT CONTRACTION IN PERSPECTIVE¹

A. Deleveraging and Credit-Less Recoveries

1. **Available evidence suggests that deleveraging can be a long and protracted process.** Deleveraging typically takes six to seven years, starting about two years after the beginning of a financial crisis (McKinsey, 2010).² In the most common deleveraging path the rate of credit growth is slower than nominal GDP growth.³

2. **Finland in the 1990s is a relevant example of a long deleveraging episode following a credit fueled asset bubble and a crash.** When a credit boom in Finland's small open economy was interrupted by a severe external shock in 1991, deleveraging began, more than one year after GDP peaked, and lasted until 1998 (Figure 1).⁴ Finland's stock of nominal credit initially shrank. Households saved more and paid down debt, and non financial corporations increased net saving by sharply reducing investment. Overall private debt to GDP fell from 103 percent to 57 percent from 1991 to 1998.

Figure 1. Deleveraging in Finland (1991-98)



Source: Statistics Finland.

3. **Fund staff has conducted research on the likelihood of economic recovery without credit growth.** Calvo, Izquierdo and Talvi (2006) had shown that in many emerging market crisis episodes output recovers with virtually no recovery in either domestic or

¹ Prepared by Jerome Vacher (EUR).

² Mc Kinsey identified 45 episodes of deleveraging since 1950, of which 32 followed a financial crisis. A significant deleveraging episode was defined as one in which the ratio of total debt to GDP declines for at least three consecutive years and falls by 10 percent or more.

³ It includes Finland (1991–98), Malaysia (1998–2008), South Korea (1998–2000), or the US (1933–37).

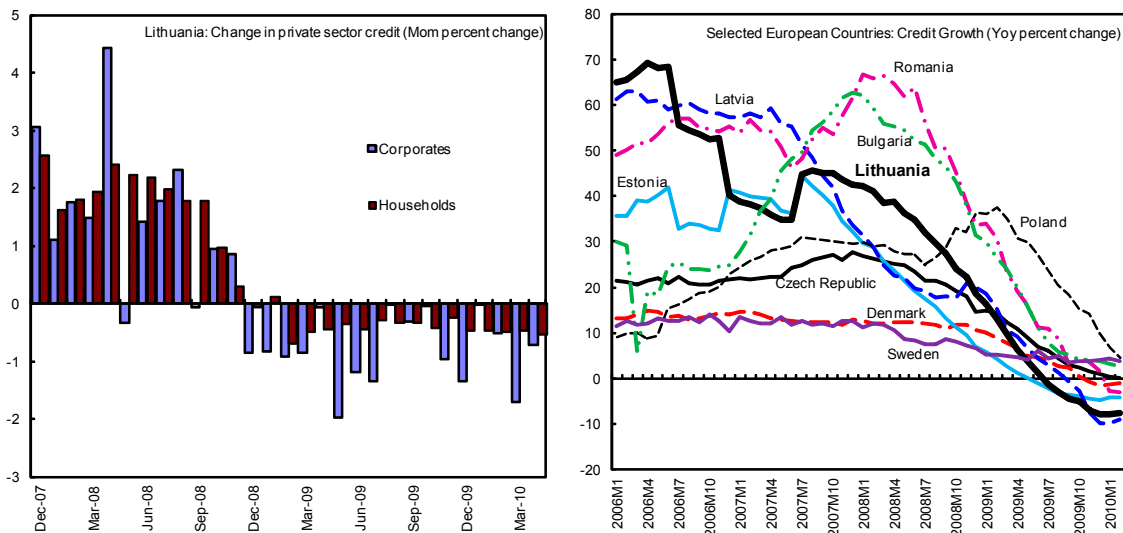
⁴ Finland can usefully be compared to Lithuania because of the openness of its economy, the credit boom that preceded the crisis and the magnitude of the economic shock. Still, the contraction in Finland's GDP from peak to trough was about half as the one currently experienced by Lithuania (20 percent).

foreign credit (“Phoenix miracles”) with the paradox that a credit crunch appears to be central for explaining output collapse, but a recovery can take place without credit. Abiad and Dell’Ariccia (forthcoming) find that credit-less recoveries tended to cluster around some crises—including the 1980s debt crisis, the Scandinavian banking crisis, and the Asian crisis. The frequency of credit-less recoveries doubles when the downturn is preceded by a credit boom, and more than doubles when the downturn is preceded by a banking crisis. If the downturn was preceded by both a banking crisis and a credit boom, the subsequent recovery is almost certain to be credit-less. The findings suggested that Ireland and Iceland are almost certain to have a credit-less recovery, while the three Baltic States and Kazakhstan are also likely to have credit-less recoveries.⁵

B. Where Does Lithuania Stand?

4. **Credit to the private sector started to contract in December 2008, shortly after the market turmoil of the fall of 2008.** On a month-to-month basis, credit to the private sector contracted consistently since December 2008 (Figure 2). The evolution of household credit displays slightly less volatility than corporate credit, mostly as a result of the high share of the mortgage loan portfolio in household credit, as maturities and the amortization schedule are longer. The adjustment of household credit started with a sharp reduction of consumer credit—which typically displays a rapid amortization schedule, is uncollateralized, and is characterized by relatively easy renegotiation of loan features for both lenders and borrowers. Overall, by end-April 2010, credit to the private sector has declined by 8 percent since its peak of November 2008.

Figure 2. Lithuania and Selected European Countries: Private Sector Credit



Source: Bank of Lithuania and International Financial Statistics.

⁵ Biggs, Mayer and Pick (2009) show that a rebound in the flow of credit has a closer relationship with economic recovery than a rebound in the stock of credit and argue that recoveries only appear credit less when the stock of credit is compared to the flow of economic activity.

5. **Credit to the private sector contracted at the fastest pace in Emerging Europe until the end of 2009.** It is only since the beginning of 2010 that the contraction of credit to the private sector has become more pronounced— on a year-on-year basis—in Latvia than in Lithuania. In comparison, credit to the private sector in the two main home countries for banks in Lithuania continued to grow (Sweden) or decline moderately (Denmark).

A. What is Driving the Severe Credit Contraction in Lithuania?

The Legacy of a Credit Boom

6. **The size of the credit boom is the predominant explanation for the current contraction in credit.** In Lithuania, credit grew particularly rapidly and relatively late in the international cycle.⁶ Recent estimates (Aisen, Franken, 2009) on developed and emerging economies indicate that countries—like Lithuania—with (i) high bank credit growth prior to the crisis, (ii) suffering from a stronger demand contraction after the Lehman brothers shock, (iii) with high financial integration with respect to the rest of the world, and (iv) with weaker countercyclical monetary policy response experienced on average lower growth rates of bank credit post crisis. The positive effects of a decrease in policy interest rates in the euro area—which could have had a counter cyclical effect in the absence of an autonomous monetary policy—were erased by the increase in risk premiums and real interest rates, reflected domestically in both litas and euro interest rates.

The Prime Role of Demand

7. **The empirical evidence on the current credit contraction in the euro area offers partial guidance on the relative importance of supply and demand factors.** Evidence from selected countries in the Euro area during this crisis does not yet convey a common pattern on the determinants of the contraction in credit. In Germany for instance, a study based on a relationship between lending growth and a measure of capitalization suggests that, since the crisis began, bank capital has become a constraint on lending growth, and the effect is stronger for the large commercial banks than for other banks (IMF, 2010a). In Italy, econometric results suggest that excess demand in the credit market was particularly acute for a brief period, in early 2009, but there is little evidence of a prolonged supply driven credit crunch (IMF, 2010b).

8. **Available evidence suggests that demand factors have been predominant in Lithuania.**⁷ Prima facie, a sudden stop of capital flows has been the driving force behind the

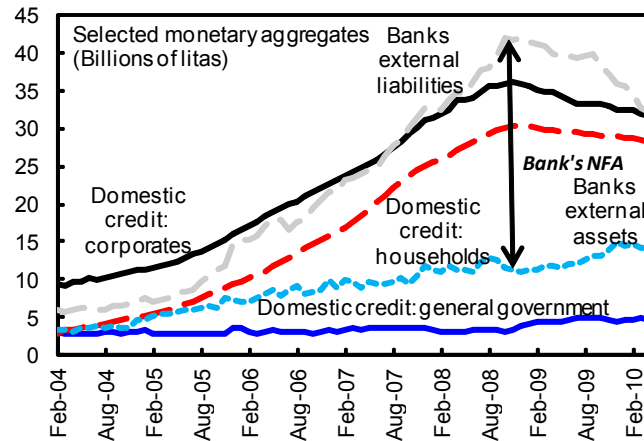
⁶ This has of course major implications for the quality of credit that was granted during the boom period.

⁷ In Lithuania, the samples are limited, detailed individual bank data is not easily available, bank lending surveys are not on a high frequency basis, and corporate bond databases reflect the very small size of the corporate bond market. The latter would provide an indication of the access of corporate to other sources of credit, and of the extent of demand vs. supply effects.

credit crunch (Figure 3). Still, most of the contraction in parent bank funding appeared with a lag—after parent banks provided support during the fall of 2008—around the spring of 2009, and has continued since then.⁸ Bank of Lithuania (2009) shows that credit flows to households have been, including in the downturn, predominantly explained by interest rates and residential investment. For the corporate sector, the role of interest rates was not as strong suggesting a more important role for investment and profitability prospects. While evidence from bank surveys indicated a tightening of lending standards in 2009 they also pointed to a sharp fall in demand for credit.

9. **For the corporate sector, the contraction of credit comprised not only a reduction of bank loan portfolios but also in all types of credits.** Corporate liabilities are much more diverse than household liabilities reflecting access to a wider range of lenders, although the corporate sector in Lithuania remains predominantly bank intermediated and the domestic corporate bond market is very small.⁹ The picture emerging from corporate sector accounts as of end 2009 is that of a sharp contraction of: (i) of trade credits and other accounts payable, (ii) long term loans from both banks and non bank financial institutions, and (iii) short term loans from non financial corporations and the rest of the world (Figure 4). The contraction at long term maturities would be consistent with the steep fall in investment, and the decrease in trade credit with the fall in exports. There has been some evidence of an elevated cost of financing for SMEs—a potential indication of supply effects—but this lasted for about 10 months until September 2009.

Figure 3. Domestic Credit and Net External Assets

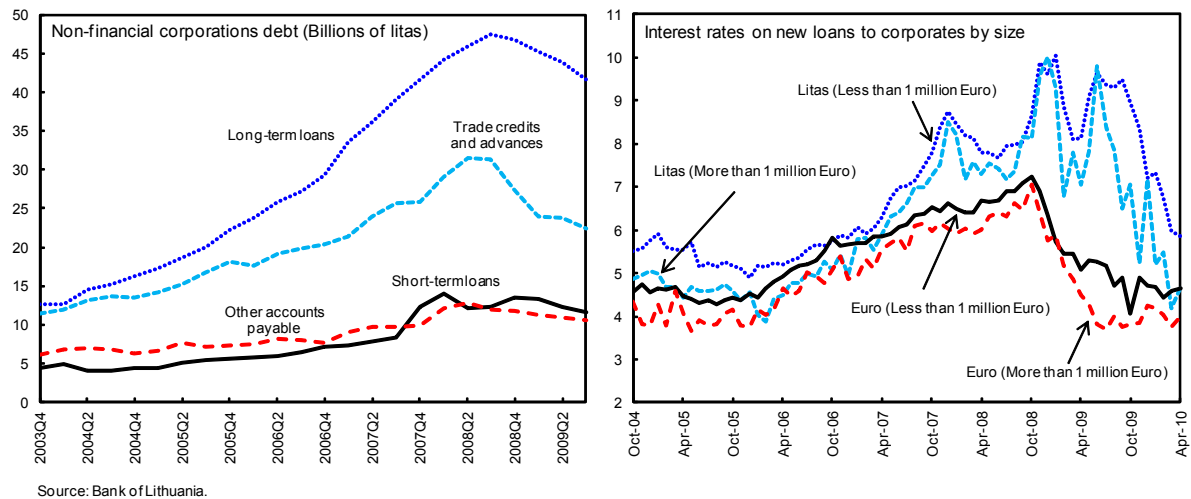


Source: Bank of Lithuania.

⁸ Parent bank funding declined by 16.5 percent during 2009, and exposure by around 8 percent when taking into account new capital brought in.

⁹The domestic corporate bond market has only 7 issuers, mostly banks. Lithuanian corporates have borrowed relatively little abroad, e.g. through Eurobonds, syndicated loans or private placements. Most of the foreign borrowing is intra-group when not domestically-intermediated through foreign banks present in Lithuania.

Figure 4. Lithuania: Non-Financial Corporations Debt and Financial Conditions



The Bust: A Different Adjustment Across Banks

10. **As in the upturn, the lending behavior of banks differs significantly.** Foreign owned subsidiaries and branches have mostly adjusted their balance sheets through a decline in their loan portfolio to the corporate sector, with large provisions reinforcing the drop in net loans (Table 1).¹⁰ The remainder of banks adjusted their loan portfolio mostly through a contraction in consumer credit. In part, this reflects a proportionally greater involvement in the corporate sector, the rapid and recent development of the consumer credit segment and less participation in the mortgage market.¹¹ The corporate loan portfolio of this group of banks has also declined much less if not increased in some instances (Figure 5). In part the reflection of differing loan to deposit ratios—the latter at more than 170 percent in foreign owned subsidiaries and branches—the funding behavior also differs between the two groups of banks. In 2009, domestic banks competed aggressively for deposits, and household deposits in particular, in essence transferring resources from households to the corporate sector.¹²

¹⁰ Net loans to households show substantial inertia given the extended amortization schedule of mortgages, compounded by mortgages' lower rates of default.

¹¹ A more limited role in the mortgage market than foreign-owned subsidiaries and branches might be explained by the lack of a long standing expertise in the field and of funding at longer maturities.

¹² This group of banks gained almost 7 percentage points of market share since end-2008 and now represent more than 30 percent of household deposits. Some banks have used these gains in funding to rebuild their liquidity buffers, others to extend their lending to the corporate sector. The competition for deposits has come at the cost of very low interest rate margins, before provisions.

Table 1. Evolution of Bank Balance Sheets (In percent as of April 2010)

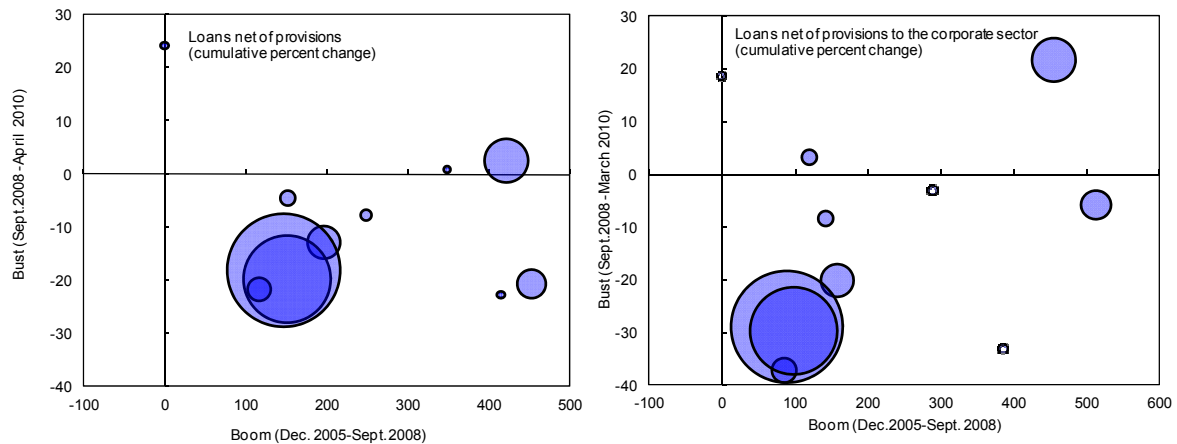
	Foreign owned subsidiaries and branches		Other banks		Total	
	y/y	Since Sept. 2008	y/y	Since Sept. 2008	y/y	Since Sept. 2008
LOANS GRANTED 1/	-13.8	-16.4	-6.0	-6.6	-12.8	-15.2
To General government institutions	5.2	19.7	-16.1	-0.1	3.4	18.1
To Enterprises of state and municipalities	-23.8	253.1	159.4	121.0	-14.3	222.8
To Financial institutions	-17.0	-47.3	-34.0	-47.6	-22.9	-47.4
To Private legal entities	-20.9	-24.5	0.2	5.7	-17.4	-20.0
To Individuals	-6.0	-5.9	-16.7	-24.1	-6.6	-7.0
Total Assets	-9.3	-12.0	16.9	10.6	-5.6	-8.8
DEPOSITS	6.3	-1.6	23.2	19.4	10.4	3.3
Of General government institutions	34.5	27.8	77.4	29.1	37.1	27.9
Of Enterprises of state and municipalities	63.4	3.4	63.5	-13.5	63.4	-1.4
Of Financial institutions	57.7	107.9	42.4	-9.1	53.4	55.9
Of Private legal entities	8.7	-3.4	22.7	11.6	11.5	-0.5
Of Individuals	-2.6	-7.9	20.0	26.4	3.5	0.7

Source: Association of Lithuanian Banks and IMF Staff estimates

1/ Net of provisions.

11. **The effects of the deterioration in asset quality on lending also differ across institutions.** Non-performing loans reached 19.2 percent at the end of Q1 2010—or an estimated 18.8 percent in the dominant foreign owned banks and subsidiaries and 29 percent in the remainder of banks. Through provisions, the deterioration in asset quality has a direct impact on net lending while gross loans will capture some of the supply effects, notably in some sectors. Partial evidence based on audited statements suggests that gross lending adjusts to the health of the sector (for example, construction or transportation sectors badly impacted by the crisis). However, some banks have maintained or even increased their gross loan exposure to sectors largely distressed in the downturn, such as construction, real estate, or transportation. Given the poor prospects in the wake of the boom, this would suggest, other things being equal, that these sectors rely extensively on a continued flow of credit to maintain ongoing projects, and in some cases perhaps avoid bankruptcy. Maintaining the flow of credit might be also part of these banks' strategy to avoid a further deterioration in asset quality.

Figure 5. Bank' Adjustment to the Bust 1/

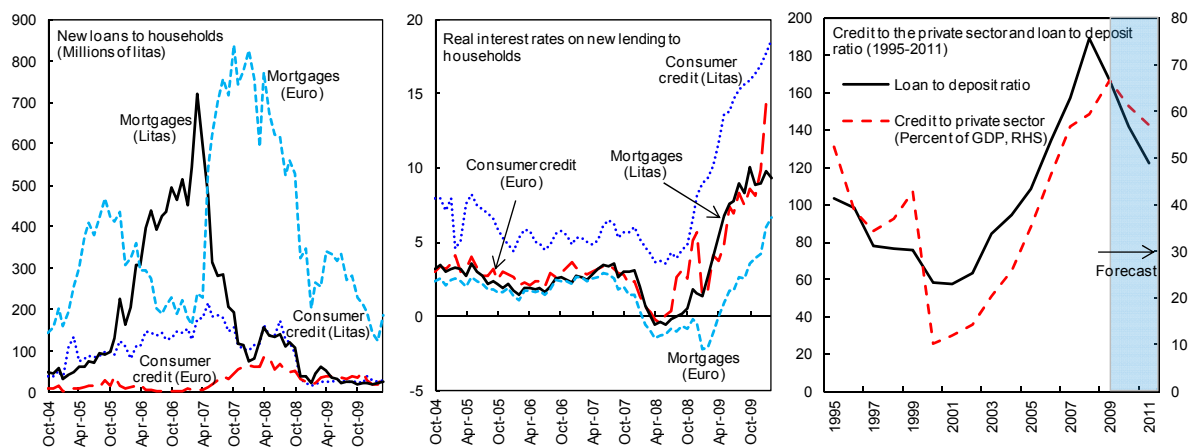
Source: Association of Lithuanian Banks and IMF Staff Estimates.
1/ Bubbles are weighted by banks's shares in total deposits.

B. Outlook

Short Term

12. **Short-term indicators do not point to a quick end to the deleveraging process.** New loans to households and corporates remain at very low levels, and there is no sign of improvement in recent months (Figure 6). For mortgages there was a slight pick-up in activity in the spring of 2009, which has not continued, most likely as unemployment continued to increase and housing prices were not recovering swiftly.¹³

Figure 6. Lithuania: Short-term Outlook on Credit



Source: Bank of Lithuania and IMF Staff Estimates.

13. **Deflation acts as an additional shock on household budgets and is likely to limit demand for credit.** Nominal rates have trended downwards, but strong deflationary trends are in effect leading to strongly positive interest in real terms. This situation is largely procyclical, as was the fact that real interest rates were negative at the height of the credit boom. This is likely to have a negative influence on credit demand and to add to the burden of deflation on stock variables.¹⁴

14. **On balance, risks to the outlook are to the downside.** There are a number of positive factors pointing to a potential recovery in credit such as (i) the decline in interbank rates, (ii) banks' increased liquidity (the deposit base has stabilized and broad money is increasing), and (iii) a potential pick-up in investment supported by exports. However, this does not compensate for several negative factors. In addition to high real interest rates, asset

¹³ Some loans were restructured as banks converted loans from litas to euros to allow their customers to benefit from lower interest rate payments.

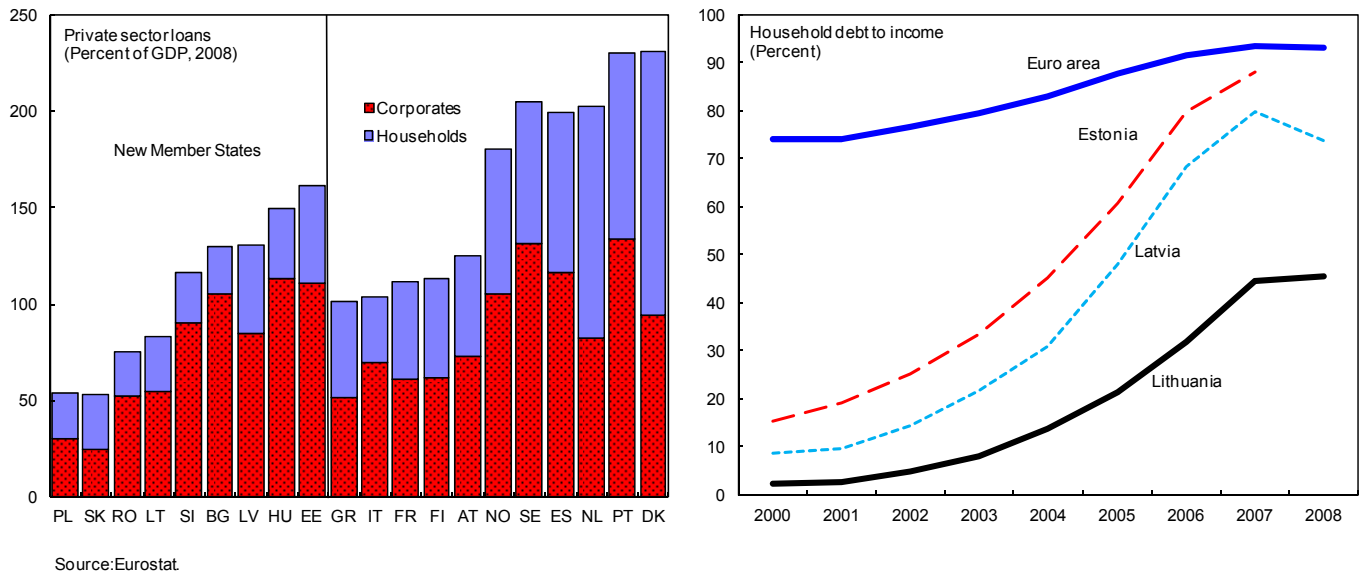
¹⁴ This could also exacerbate asset quality problems in the banking sector.

quality remains a problem, consumer demand is likely to be low as unemployment continues to increase and wages decline, parent bank funding could decline further, recapitalization in some banks could continue to be slow, and prices of collateral may not recover sharply. Overall, deleveraging is expected to continue in 2010 and 2011.¹⁵

Medium Term

15. **The potential for a recovery of credit will rest on convergence from a relatively low level of indebtedness.** Before the crisis, various estimates pointed to Lithuania as being less misaligned with respect to a country specific equilibrium levels of credit. Similarly, it was estimated that as of 2007, Lithuania was not exceeding its estimated equilibrium level of credit (European Commission, 2010). Despite the particularly rapid growth in credit in the boom years, the level of private sector debt— at around 100 percent of GDP— remains in the lower range of most EU member states (Figure 7). In particular, the level of household debt at 40 percent of GDP remains low. Leverage remains highly concentrated in selected industries (e.g. real estate developers) and household groups (e.g. upper income households with mortgage loans) still leaving some room for expansion over the medium term.

Figure 7. Private Sector Debt in Lithuania and Other EU Member States



¹⁵ In 2010 and 2011, credit to the private sector is expected to contract by 6.4 and 2.7 percent respectively. After the severe banking crisis of 1995, deleveraging in Lithuania took approximately 5 years.

Policy Options

16. **To address risks associated with a continued contraction in credit and prepare for sustainable credit growth over the medium term a number of steps could be taken.** Lingering corporate and household bankruptcy issues should be addressed swiftly, and the continued stability in the banking system ensured.¹⁶ The latter implies to address the remaining need for loss recognition and capital increases in some banks. In particular, a more forward looking approach in the supervision of individual banks—e.g. based on forward looking business plans and stress tests—would increase incentives to recognize losses and augment provisions and capital across the system. Combined with prudent lending policies, this would leave room for the reorientation of credit from non tradables—such as construction and real estate—to more sustainable lending to tradables and innovative SMEs. Support schemes financed by EU funds can also benefit SMEs, but should be evaluated and revisited periodically. A credible fiscal consolidation path geared towards euro adoption will also avoid crowding out effects from an otherwise potentially large fiscal deficit and ensure that borrowing costs are sustainable.

¹⁶ Corporate debt restructuring procedures could be enhanced by addressing legal and institutional shortcomings for the treatment of fraudulent bankruptcies, clarifying the role of courts and bankruptcy administrators and training sufficient staff, and granting senior creditor status to new financing. Restructuring efforts should continue to be based on a voluntary approach.

REFERENCES

Abiad A., and Dell’Ariccia G. (forthcoming) (2010): Credit-less Recoveries, IMF Working Paper.

Aisen A. and Franken M. (2009): “Bank Credit and the 2008 Financial Crisis: A Cross-Country Comparison”, Central Bank of Chile, Working Paper 532, December 2009.

Bank of Lithuania (2009): Financial Stability Review, July 2009.

Biggs M., Mayer T. and Pick A. (2009): “Credit and Economic Recovery”, DNB Working Paper No.218, July, De Nederlandsche Bank

Calvo. G, Izquierdo A. and Talvi E. (2006): “Phoenix Miracles in Emerging Markets: Recovering Without Credit From Systemic Financial Crises”, Working Paper No. 12101, NBER.

European Commission (2010): “Cross country study: Economic Policy Challenges in the Baltics”, Occasional Paper No. 58, European Economy

IMF (2010a): Germany—2010 Article IV Consultation, Staff Report.

IMF (2010b): Italy—2010 Article Consultation, Staff Report.

McKinsey (2010): “Debt and deleveraging: the global credit bubble and its economic consequences”, January.