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July floods in Ukraine: lessons to be learned

Between July 22 and July 28 the Western regions of Ukraine and Ivano-Frankivsk region in particular suffered from unusually large rainfall that varied from 100 mm up to 388 mm and supplied up to three monthly doses of rain over 6 days. Consequently water in rivers of the region reached historical maximums (water level increased by 1 to 7 meters) and overflowed the banks. Though flood was one of the largest in the record in this part of Ukraine, emergency services response was quite prompt. Thus the number of deaths and injuries was much lower than for example in largest coal mine disasters. However, property damage was extensive. According to the Emergency Situations Ministry, 784 villages, 45000 houses, 515 bridges and 1705 km of roads were flooded and/or damaged. The Ministry estimated catastrophe losses at UAH 2.4 bn. Such disasters if repeated may lead to sustained damage to infrastructure and seriously constrain economic development of areas with high flood risk.

According to the classification of catastrophic events by the Munich Re reinsurance company July flood rates as Category 4 Catastrophe (more than 100 deaths or losses of more than USD 200 m). In 2007 Munich Re observed up to 100 catastrophic events of this and higher categories in the world. According to the Munich Re catastrophe statistics there is noticeable trend of increase in number of catastrophes including floods in the world. Increase in flood events over the last years may be attributed to the number of reasons. Climate change led to increased occurrence and larger volumes of extreme precipitation events and thus existing flood protection measures that were designed to withstand increases in water levels observed before partially lost effectiveness. Increased economic use of areas with high flood risk was another main factor of flood increase.

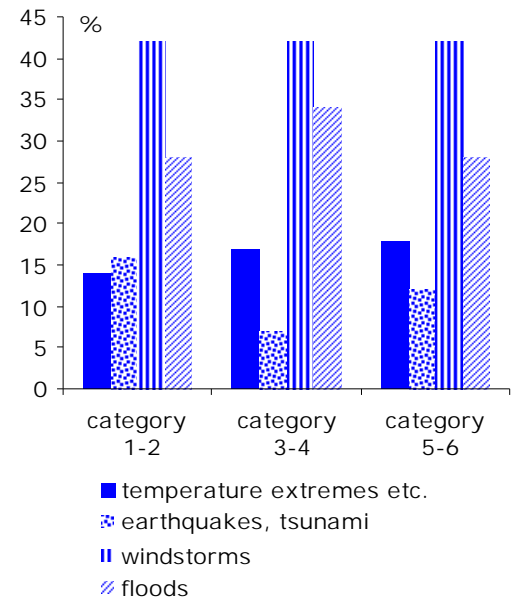
July floods in Ukraine may be attributed to aging flood protection infrastructure, lack of enforcement for land use standards, and climate change. The government currently plans to restore damaged dykes and limit deforestation. In the latter case it is important to establish optimal balance. Deforestation may indeed lead to limited increase in small-scale floods, while larger scale floods are less affected by the deforestation. Thus costs of complete prohibition of logging far outweigh benefits. More aggressive fight against illegal logging may be more adequate measure. Also existing flood protection may be insufficient under changed climate conditions. Thus investment are needed not only to repair existing dams and dykes, but to increase flood protection.

Correct land use is important. Land development close to the riverbanks was unabated. While existing regulations may be adequate to prevent risky land development in areas vulnerable to floods, these regulations are not effectively enforced. More rigorous enforcement will allow authorities to reduce property at risk and therefore flood losses. Effective early warning systems are also vital for prevention of human and economic losses. Meteorological forecasting capacity should be expanded to provide earlier warning of the impending disaster.

Currently flood losses are borne by property owners in high risk areas and implicitly by the government as it usually compensates flood victims some of their losses. But insured losses is very small. One of the largest property-causality insurers "Oranta" paid out UAH 8 m after the floods. Also private catastrophe insurance coverage remains very constrained (insurers paid out UAH 237 m for fire and catastrophe insurance losses in 2007). Compulsory insurance scheme may shift some of the burden to the insurers, but subsidised flood insurance may create incentives to increase flood risks.

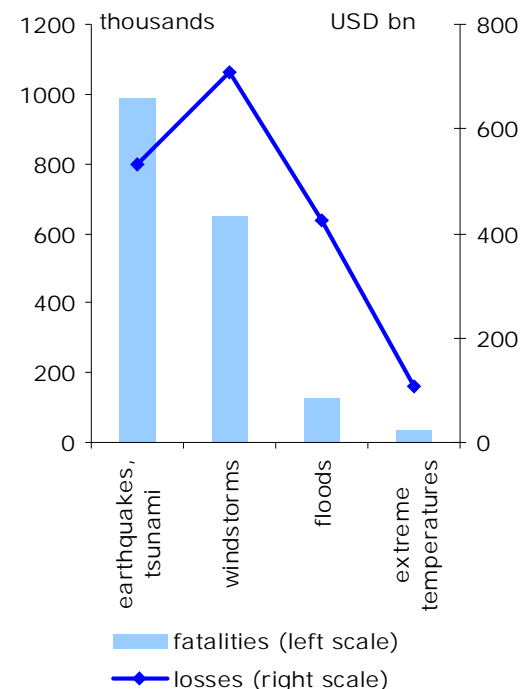
Overall Ukraine has adequate short-term emergency response capacity. Within few weeks after the catastrophe critical infrastructure such as electricity and water supply, and main roads were restored and water from flooded housing was removed. Flood victims were promptly evacuated where needed and received state assistance in the short order. However, longer-term disaster mitigation remains unsatisfactory.

Natural catastrophe distribution depending on the catastrophe type and severity in 1980-2005



Source: Munich Re

Fatalities and losses from great natural catastrophes in 1950-2007



Source: Munich Re

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Quarterly trends

National accounts		Q1 05	Q2 05	Q3 05	Q4 05	Q1 06	Q2 06	Q3 06	Q4 06	Q1 07	Q2 07	Q3 07	Q4 07	Q1 08
GDP	UAH bn	84.3	97.5	119.4	123.6	105.4	124.1	150.4	157.7	137.6	165.1	197.4	212.8	186.6
GDP (real)	% yoy	4.9	3.4	1.4	1.7	4.1	6.8	6.9	9.5	8.9	8.6	6.2	7.4	6.5
Households consumption (real)	% yoy	14.3	17.7	17.0	17.1	20.2	18.2	11.8	9.9	14.7	15.5	15.2	19.0	22.0
State consumption (real)	% yoy	6.1	0.0	1.0	4.0	9.6	5.8	5.8	1.0	0.8	6.2	4.4	2.4	1.0
Gross fixed capital formation (real)	% yoy	-2.3	-0.5	0.2	0.3	19.9	19.3	17.9	18.3	24.4	23.5	18.9	23.8	14.7
Exports of goods and services (real)	% yoy	-0.6	-14.0	-12.7	-15.5	-14.9	-9.6	3.2	1.0	4.9	5.2	0.1	5.6	0.9
Imports of goods and services (real)	% yoy	2.8	3.2	3.9	-0.9	10.7	0.9	8.3	6.4	12.9	19.6	13.7	27.2	20.2
Agriculture, hunting, forestry (real)*	% yoy	5.8	8.3	2.6	-7.2	3.8	2.8	-5.6	8.1	4.8	6.8	-9.3	7.1	0.4
Manufacturing industry (real)*	% yoy	7.0	1.8	-1.1	2.0	-1.5	6.1	7.3	7.2	15.0	13.2	13.1	4.4	8.7
Construction (real)*	% yoy	-8.4	-11.3	-8.5	-7.5	0.1	0.8	1.4	4.2	13.3	8.2	12.7	5.8	-1.5
Trade, repair services (real)*	% yoy	-2.1	-10.7	-11.7	-11.9	6.2	16.4	20.0	21.9	14.3	17.5	25.3	15.0	15.7
Transport (real)*	% yoy	6.6	5.7	2.8	7.8	4.9	7.7	9.4	5.3	7.0	5.6	8.0	10.2	10.1
Balance of payments														
Current account balance	USD bn	1.6	0.6	0.4	-0.1	-0.8	0.0	0.5	-1.4	1.2	-0.8	-0.5	-3.5	-3.6
Current account balance	% of GDP	10.1	3.2	1.7	-0.4	-3.7	0.0	1.7	-4.3	4.4	-2.4	-1.2	-8.1	-9.6
Trade balance in goods	USD m	1020	-236	-1131	-788	-1353	-935	-884	-2022	-1735	-1701	-2684	-4452	-4321
Trade balance in services	USD m	188	392	1035	191	219	506	1054	347	103	512	1689	392	261
Current transfers	USD m	626	694	745	780	622	790	851	910	825	968	1099	1183	966
Direct investment (FDI)	USD m	247	365	477	6474	1053	1389	1636	1258	1709	1934	3927	1648	2387
Portfolio investments	USD m	397	923	90	1347	4	-141	370	3350	1816	1477	517	1844	225
Gross international reserves	USD bn	12.0	13.1	14.3	19.4	17.3	17.6	19.1	22.3	23.5	25.6	30.6	32.5	33.2
Exchange rate, UAH/USD	aop	5.30	5.10	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05
Fiscal indicators														
Consolidated fiscal revenues	% of GDP	32.1	35.1	31.5	31.0	31.2	31.7	31.9	32.8	33.3	32.8	30.8	31.1	32.5
Personal income tax	% of GDP	4.3	4.4	3.9	4.2	4.4	4.6	4.1	4.1	5.1	5.3	4.9	4.8	5.1
Enterprise profits tax	% of GDP	4.8	5.9	5.3	6.3	3.4	4.6	4.3	6.7	3.8	4.1	4.1	6.4	4.1
Value-added tax	% of GDP	8.6	9.2	7.9	7.3	9.2	9.2	9.7	9.3	10.4	9.8	8.7	7.6	10.5
Excise tax	% of GDP	2.0	2.0	2.0	1.7	1.8	1.7	1.5	1.5	1.8	1.7	1.6	1.3	1.5
Consolidated fiscal expenditures	% of GDP	28.3	36.4	28.1	41.7	30.9	32.8	29.4	36.6	28.4	31.0	29.6	36.7	29.5
Current expenditures	% of GDP	26.5	33.6	24.0	34.2	28.9	29.7	24.9	29.2	26.9	28.4	25.9	27.3	28.6
Capital expenditures	% of GDP	1.8	2.7	4.1	7.5	1.9	3.2	4.5	7.4	1.6	2.6	3.7	9.4	0.9
Consolidated fiscal balance	% of GDP	3.7	1.0	-5.0	6.2	-0.4	1.1	-2.4	4.0	4.7	1.7	1.2	-6.2	3.0
Privatisation receipts	% of GDP	0.2	0.6	0.6	16.0	0.1	0.1	0.1	0.1	0.5	0.5	0.3	0.4	0.1
Labour market														
Average wage (real)	% yoy	15.0	19.0	19.6	26.4	23.8	22.6	18.8	11.3	14.7	13.9	14.9	15.7	13.8
Household income (real)	% yoy	24.0	28.0	19.4	18.9	22.1	18.6	20.3	16.3	17.5	17.4	14.9	16.4	19.0
Unemployment rate (ILO methodology)	% cum	8.7	7.1	5.2	7.8	7.9	6.8	6.4	6.8	7.4	6.6	6.2	6.4	7.1
Banking system														
Monetary aggregate M0	% yoy cum	28.2	39.1	31.1	42.2	36.2	25.3	23.7	24.5	22.9	30.4	36.4	48.2	48.4
Monetary aggregate M2	% yoy cum	38.9	37.4	31.3	53.9	39.2	36.6	36.7	34.3	38.6	40.7	47.8	50.8	52.7
Household deposits in national currency	% yoy cum	28.3	31.6	30.4	90.8	54.6	41.1	39.7	37.3	50.7	56.3	64.8	71.9	68.8
Household deposits in foreign currency	% yoy cum	51.8	45.4	46.4	59.1	54.5	66.2	64.3	57.5	52.3	43.8	38.4	32.5	35.2
Com. bank credits in national currency	% yoy cum	28.3	32.6	43.4	58.7	59.8	53.7	49.0	52.3	52.4	57.2	60.7	72.7	81.2
Com. bank credits in foreign currency	% yoy cum	33.1	36.8	47.1	66.3	72.0	82.1	90.4	95.4	98.9	97.4	91.0	75.4	71.3
Long-term com. bank credits	% yoy cum	49.5	53.0	70.1	84.6	87.6	86.7	76.6	79.5	84.1	86.5	87.9	85.7	84.8
Long-term com. bank credits	% of total	54.4	56.1	59.7	61.8	63.1	63.4	63.5	64.9	65.8	67.3	68.2	69.2	69.1
Average lending rate on national cur. credits	% p.a.	17.0	15.4	15.4	16.4	15.8	15.5	14.6	15.1	14.0	13.9	13.7	14.0	14.6
Average lending rate on foreign cur. credits	% p.a.	12.1	11.0	11.3	11.7	11.5	11.3	11.3	11.5	11.5	11.4	11.3	11.1	10.8

SOURCES: National Bank of Ukraine, State Committee of Statistics, State Treasury, Ministry of Finance, IER estimates

* change in value added

Notes:

yoy year on year change

p.a. per annum