

## METHODOLOGICAL NOTES

### Transition indicators: six qualities of a sustainable market economy

The transition indicators reflect the judgement of the EBRD's Office of the Chief Economist and the Economics, Policy and Governance department on progress in transition by quality. The scores range from 1 to 10 and are based on an assessment of the size of the challenges in the components of each quality. The scoring for the components is based on either publicly available data or observable characteristics and outcomes.

The following tables show, for each quality, the components used in each case, and the indicators and data sources that fed into the final assessments. The majority of the indicators are quantitative, with some qualitative indicators being used where necessary. Indicators have been constructed using a wide range of sources, including national and industry statistics, data from other international organisations (such as the World Bank, the International Monetary Fund and the United Nations) and surveys such as the EBRD Business Environment and Enterprise Performance Survey (BEEPS) and the Life in Transition Survey (LiTS), as well as expert qualitative assessments.

Quality	Components	Sub-components	Indicators	Source	
Competitive	Market structure that supports competition and incentives for sound decision-making [53%]	Openness	Most favoured nation (MFN) applied tariff rates (weighted)	World Bank Development Indicators (WDI), 2015	
		Dynamic structures	Entry of new firms (composite)	World Bank Development Indicators (WDI), 2014, World Bank Doing Business, 2015	
			Resolving insolvency score	World Bank Doing Business, 2015	
			SME sector development	EBRD assessment, latest available	
		Institutions	Doing Business overall score	World Bank Doing Business, 2015	
			Subsidies provided to private sector	International Monetary Fund, GFS 2015	
		Business skills	ISO 9001 certification (per population)	ISO, 2015	
			Share of business services in services exports	World Bank Development Indicators (WDI), 2015	
		Capacity to add value and innovate [47%]	Value chains	Economic complexity index	Harvard CID, 2014
			Labour productivity	Output per person engaged	The Conference Board, 2016
	Knowledge/information and communication technologies (ICT)		Global Innovation Index: Knowledge outputs	AT Kearney/INSEAD, 2016	
	ICT infrastructure		Broadband connections (per population)	World Bank Development Indicators (WDI), 2015	
	Infrastructure		World Bank Logistics Performance Index (LPI)	World Bank, 2014 (from World Bank Logistics Performance Index (LPI))	
	Human capital		WEF quality of education	WEF Global Competitiveness Index, 2015-2016	
Finance	Credit to private sector/GDP	World Bank Development Indicators (WDI), 2015			

Quality	Components	Sub-components	Indicators	Source
<b>Well-governed</b>	National-level governance [60%]	Quality of public governance [33%]	Regulatory quality indicator	World Bank Governance Indicators, 2015
			Government effectiveness	
			Transparency of government policy-making	WEF Global Competitiveness Index, 2015-2016
			Private property and intellectual property rights protection (composite)	
			Effective checks and balances	
			Political instability (composite)	BEEPS V, 2012, WEF Global Competitiveness Index, 2015-2016
			Regulatory burden	WEF Global Competitiveness Index, 2015-2016
			Freedom of media (composite)	Freedom House, 2016, Reporters without Borders, 2016
		Integrity and control of corruption [33%]	Perception of corruption (composite)	World Bank Governance Indicators, 2015, Transparency International, 2016, BEEPS V, 2012
			Informality as an obstacle to operations	BEEPS V, 2012
			Implementation of anti-money laundering/ countering the financing of terrorism/tax information exchange standards	International Centre for Asset Recovery, 2015
		Rule of law [33%]	Judicial independence	WEF Global Competitiveness Index, 2015-2016
			Effectiveness of courts	BEEPS V, 2012
			Enforcement of contracts (composite)	World Bank <i>Doing Business</i> , 2016, WEF Global Competitiveness Index, 2015-2016
	Efficient framework for challenging regulations		WEF Global Competitiveness Index, 2015-2016	
	Rule of law - overall picture		World Bank Governance Indicators, 2015	
	Corporate-level governance [40%]	Corporate governance frameworks and practices [80%]	Structure and functioning of the Board	Legal Transition Team Corporate Governance Sector Assessment, 2016
			Transparency and disclosure (composite)	Legal Transition Team Corporate Governance Sector Assessment, 2016, WEF Global Competitiveness Index, 2015-2016
			Internal control	Legal Transition Team Corporate Governance Sector Assessment, 2016
			Rights of shareholders (composite)	Legal Transition Team Corporate Governance Sector Assessment, 2016, World Bank <i>Doing Business</i> , 2016
		Stakeholders and institutions	Legal Transition Team Corporate Governance Sector Assessment, 2016	
		Integrity and other governance-related business standards and practices [20%]	Ethical behaviour of firms	WEF Global Competitiveness Index, 2015-2016

Quality	Components	Sub-components	Indicators	Source	
<b>Green</b>	Climate change mitigation [35%]	Physical indicators [35%]	Renewables: Electricity production from renewable sources, including hydroelectric (% of total generation)	World Bank Development Indicators (WDI), 2014	
			Industry: Value added in industry per unit of industrial CO <sub>2</sub> emissions (\$GVA/tCO <sub>2</sub> )	World Bank, International Energy Agency (IEA), 2013	
			Power: MWh consumed per unit of CO <sub>2</sub> emissions from electricity and heat generation (MWh/tCO <sub>2</sub> )	IEA, 2013	
			Buildings: GDP per unit of CO <sub>2</sub> emissions from residential buildings (from fuel combustion) (\$GDP/tCO <sub>2</sub> )	World Bank, IEA, 2013	
			Transport: Registered vehicles per unit of CO <sub>2</sub> emissions from transport (number of registered vehicles/tCO <sub>2</sub> )	IEA, WHO, 2013	
			Agriculture: Agricultural gross value added (GVA) per unit of GHG emissions from agriculture (\$GVA/tCO <sub>2</sub> eq)	FAO, World Bank, 2014	
		Structural indicators [65%]	Renewable energy legislation (existence and degree of enforcement)	IEA policy database, latest available	
			Intended Nationally Determined Contributions (INDC) rating	World Resource Institute, 2016	
			Carbon pricing	World Bank, International Carbon Action Partnership (ICAP), 2016	
			Fossil fuel subsidies (% of GDP)	IMF, 2015	
		Climate change adaptation [35%]	Physical indicators [35%]	Buildings: Climate risk to infrastructure and buildings	Notre Dame Global Adaptation Index (NDGAIN), 2015
				Water: Aqueduct water stress index	Aqueduct, World Resources Institute, 2015
				NDGAIN projected change in cereal yield	Notre Dame Global Adaptation Index (NDGAIN), 2015
				Disaster risk: Disaster risk (% of population exposed to disasters in last two decades)	World Bank Development Indicators (WDI), 2014
	Structural indicators [65%]		Water pricing	EBRD assessment, latest available	
			Agriculture: NDGAIN agricultural capacity	Notre Dame Global Adaptation Index (NDGAIN), 2015	
			Regulatory quality	World Bank, 2013	
			Adaptation mentioned in INDCs	CGIAR, 2015	
	Other environmental areas [30%]	Physical indicators [35%]	Air pollution: population exposed to levels of PM <sub>2.5</sub> exceeding WHO guideline	World Bank Development Indicators (WDI), 2014	
			Resource efficiency: waste intensive consumption (kg municipal solid waste/\$household expenditure)	Waste Atlas, 2012-2015	
			Waste: waste generation per capita	Waste Atlas, 2012-2015	
			Terrestrial biodiversity (mammal species threatened)	World Bank Development Indicators (WDI), 2014	
			Marine biodiversity (fish species threatened)		
		Structural indicators [65%]	Vehicle emissions standards	United Nations Environment Programme (UNEP), 2016	
			Municipal waste collection coverage (%)	Waste Atlas, 2012-2015	
Proportion of terrestrial protected area			UNstats, 2014		
Proportion of territorial seas protected			National Geographic, 2014		
Number of environmental technology patents			OECD, World Bank, 2013		

Quality	Components	Sub-components	Indicators	Source
<b>Inclusive</b>	Gender equality	Legal regulations and social norms	Addressing violence against women	The Economist Intelligence Unit - Women's Economic Opportunity (EIU-WEO) Index, 2012
			Property Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) ratification	
			Sex at birth (f/m ratio)	CIA World Factbook, 2013
			Early marriage (% of ever married girls, age 15-19)	UN World Marriage, 2012
			Women's political rights	Cingranelli-Richards (CIRI) Human Rights Data Project Index, 2011
			Secure access to land	OECD Social Institutions and Gender Index, 2014
			Secure access to non-land assets	
			Inheritance laws in favour of male heirs	
		Access to health services	Maternal mortality ratio (maternal deaths per 100,000 live births)	World Bank World Development Indicators (WDI), 2013
			Contraceptive prevalence (percentage of women aged 15-49)	
			Adolescent birth rate	
			Births attended by skilled health staff (percentage of total)	
		Education and training	Literacy rate (f/m ratio)	UN Social Indicators, 2013
			Primary school completion rate (f/m ratio)	World Bank World Development Indicators (WDI), 2013
			Gender parity index (GPI) for gross enrolment rate in secondary education	Education Policy Data Center (EPDC) and World Bank Education Statistics, 2013
			GPI for gross enrolment in tertiary education	
			Share of female graduates in engineering	United Nations Educational, Scientific and Cultural Organization (UNESCO), 2012
			Share of female graduates in technology	
		Labour policy	Equal pay policy	The Economist Intelligence Unit - Women's Economic Opportunity (EIU-WEO) Index, 2012
			Non-discrimination policy	
			Policy on maternity and paternity leave and its provision	
			Policy on legal restrictions on job types for women	
			Differential retirement age policy	
			CEDAW ratification	
		Labour practices	Equal pay practice	The Economist Intelligence Unit - Women's Economic Opportunity (EIU-WEO) Index, 2012
			Non-discrimination practice	
			Access to childcare	
			Gender pay gap	UNECE, 2013
		Employment and business	Female participation in firm ownership	BEEPS V, 2012
			Share of women in non-agricultural employment	World Bank World Development Indicators (WDI), 2013
			Labour force participation rate (f/m ratio, age 15)	
			Unemployment rate (f/m ratio)	
Employers (f/m ratio)				
Female share of high-skilled occupations (legislators, senior officials and managers)	International Labour Organization, 2013			
Employment rate of tertiary educated individuals (f/m ratio)				

Quality	Components	Sub-components	Indicators	Source	
		Access to finance	Account at formal financial institution ( f/m ratio, age 15+)	Global Financial Inclusion (Global Findex) Database, 2014 or latest available	
			Credit card usage (f/m ratio, age 15+)		
			Mobile phone usage to receive money (f/m ratio, age 15+)		
			Mobile phone usage to send money (f/m ratio, age 15+)		
			The percentage borrowing from formal financial institutions, out of total borrowers (f/m ratio, age 15+)		
			The percentage saving at formal financial institution, out of total savers (f/m ratio, age 15+)		
			Borrowed to start, operate, or expand a farm or business, as share of borrowings (f/m ratio, age 15+)		
			Loans rejected for firms (f/m top management ratio)		BEEPS V, 2012
			Percentage of firms identifying access to finance as a major constraint (f/m top management ratio)		
			Opportunities for youth		Labour market structure
	Wage-setting flexibility				
	Labour regulations as a major constraint	BEEPS V and World Bank Enterprise Survey, 2012-14			
	Labour tax and contributions	World Bank <i>Doing Business</i> , 2017			
		Ease of starting a business			
	Youth employment	Difference in unemployment rate from youth (age 15-24) to adult (age 25-65)		Vulnerable employment rate	
				The share of youth not in education, employment or training (NEET)	ILO-Key Indicators of the Labour Market (KILM), 2016 or latest available
		Vulnerable employment rate		World Bank World Development Indicators (WDI), 2013	
		Youth (aged 15-24) in long-term unemployment: more than 12 months		International Labour Organization, 2014	
	Quantity of education	Average years of education for youth (aged 25-29)		Barro-Lee, 2010 (updated 2015 version); Human Development Index, 2014	
		Percentage of youth (age 15-24) with no schooling			
		Gross graduation ratio tertiary education		UNESCO, 2015	
	Quality of education	PISA test score performance		OECD's Programme for International Student Assessment (PISA), 2015	
		Employers' perception of the quality of the education system		WEF Global Competitiveness Index, 2014-15	
		Households' perception of the quality of the education system		LITS, 2016	
		Top university ranking		ARWU QS Top University Ranking, 2016	
	Skills mismatch	Skills gap between labour supply and demand (age 15-29)		ILO-KILM, 2013 or latest	
		Percentage of over-educated youth (15-29)			
		Percentage of under-educated youth (15-29)			
		Academic unemployment (age 15-29, unemployment rate of youth with tertiary level of education)		ILO, 2014 or latest	
		Employers' perception of skills shortage		BEEPS V and World Bank Enterprise Surveys, 2012-14	
	Financial inclusion	Difference between youth (age 15-24) with bank account compared with adults (age 25+)		Global Findex, 2014	
Difference between youth (age 15-24) with debit card compared with adults (age 25+)					
Difference between youth (age 15-24) with bank account used for business purposes compared with adults (age 25+)					
Percentage of youth saving in a formal financial institution, out of the total number of youth saving					

Quality	Components	Sub-components	Indicators	Source
	Regional disparities	Institutions	Corruption in administrative, health and education systems	LITS, 2016
			Quality of government services	
			Trust in local government	
			Satisfaction with local government services	
		Access to services	Access to water	LITS, 2016
			Access to heating	
			Access to gas	
			Access to computers	
			Access to internet	
			Household's perception of service satisfaction (electricity and road)	
			Household's perception of the quality of the health care system	
		Labour markets	Labour market status (worked in the last 12 months)	LITS, 2016
			Informal employment (ILO definition)	
			Underemployment	
		Education	Years of education	Gennaioli et al. data set, <i>Quarterly Journal of Economics</i> , 2013
			Completed education in working age (age 25-65)	LITS, 2016
Household's perception of the quality of the education system				
On the job training for permanent employees	BEEPS V and World Bank Enterprise Survey, 2012-14			
Firms' satisfaction with workforce education				

Quality	Components	Sub-components	Indicators	Source	
<b>Resilient</b>	Financial stability [70%]	Banking sector health and intermediation [65%]	Capital adequacy ratio	IMF, Fitch, S&P, national central banks, IHS Markit, 2015	
			Return on assets		
			Loan to deposit ratio		
			Non-performing loans (NPLs) to total gross loans (%)	IMF, national central banks, Fitch, Moody's, IHS Markit, 2015	
			Loan loss reserves/NPLs		
			Asset share of five largest banks	Bankscope, IMF, 2015	
			Asset share of private banks		
			Assets/GDP	IMF, Bankscope, national central banks, EBRD, 2015	
			Credit to private sector/GDP	World Bank, IMF, S&P, 2015	
			Foreign exchange loans to total loans	IMF, national central banks	
		Liquid assets to short term liabilities	IMF, World Bank, national central banks, IHS Markit, 2015		
		Alternative sources of funding [12%]		Other Financial Corporations' (OFC) assets to GDP	IMF, World Bank, national central banks, 2015
	Stock market capitalisation			World Bank, IMF, national statistical sources, 2015	
	Regulation, governance and safety nets [24%]		Well-functioning deposit insurance	EBRD assessment, latest available	
			Bank risk management capacity and corporate governance		
			Adequate legal and regulatory framework		
			Independent supervisory body		
	Energy sector resilience [30%]	Liberalisation and market liquidity [33%]	Sector restructuring, corporatisation, unbundling	EBRD assessment, latest available	
			Fostering private sector participation		
			Tariff reform		
System connectivity [33%]			Domestic connectivity	EBRD assessment, latest available	
			Inter-country connectivity		
Regulation and legal framework [33%]			Development of an adequate legal framework	EBRD assessment, latest available	
			Establishment of an independent energy regulator		
<b>Integrated</b>	Trade (external dimension) [50%]	Trade [33%]	Number of Regional Trade Agreements (RTAs)	WTO, 2015 or latest available	
			Binding overhang ratio (%)		
			Number of non-tariff measures		
			Total trade volume/GDP		UN Comtrade, 2015
		Foreign direct investment (FDI) [33%]		Number of bilateral investment agreements	UNCTAD, latest available
				Investing across borders score	World Bank, 2012
				FDI inflows/GDP	IMF, 2015
		Balance of payments (BoP) openness [33%]		Chinn-Ito Index of measuring financial openness	Chinn-Ito, 2014
	Non-FDI inflows/GDP			IMF, 2015	
	Infrastructure (internal dimension) [50%]	Cross-border infrastructure [25%]		Logistics performance index	World Bank, 2016
				Cost of trading across borders	World Bank <i>Doing Business</i> , 2015
		Domestic infrastructure quality		Logistics Performance Index (LPI) components for service delivery	World Bank, 2016
				Global Competitiveness Index (GCI) Quality of railways	WEF Global Competitiveness Index, 2015-2016
				GCI Quality of airports	
				GCI Quality of roads	
		Energy [25%]		GCI Quality of ports	
				GCI Quality of electricity supply	WEF Global Competitiveness Index, 2015-2016
Information communications technology [25%]			Losses due to electrical outages (% of annual sales)	World Bank Enterprise surveys, latest available	
			Level of competition for internet services	World Bank, 2015	
		Broadband penetration	WEF Global Competitiveness Index, 2015-2016		