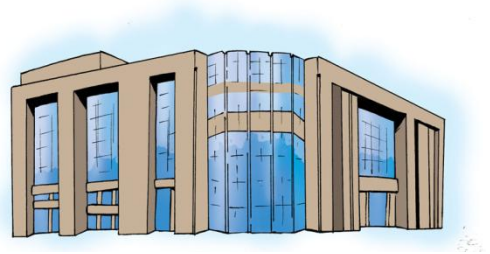
Richard Deiss,
European Commission, DG for Education and Culture

Indicators for EU education policy making

EIPPEE conference, The Hague, 9-10 May 2012

From Lisbon to Europe 2020



GDP growth

3.8	2.0	1.2	1.3	2.5	2.0	3.4	3.1	0.5	-4.3	1.9	1.6
2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011

March 2000:

Lisbon Strategy: Most competitive knowledge based economy in the world with better jobs and more social inclusion

March 2002:

Barcelona European Council with goals for RTD, languages,pre-school

Council conclusions on ET benchmarks

Council education :Detailed Work Programme

Later ET 2010

Council and Parl. Recomm on key comp.

Council conclusions on coherent framework for indicators

Council conclusions on ET 2020

Incl. Education benchmarks 2010

Bologna Leuven meeting

March 2010: Europe 2020 Strategy

Smart, sustainable and inclusive growth

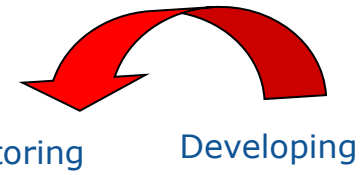
1999: Bologna declarat.

1st PISA study published

New programme generation

Use of indicators for policy making

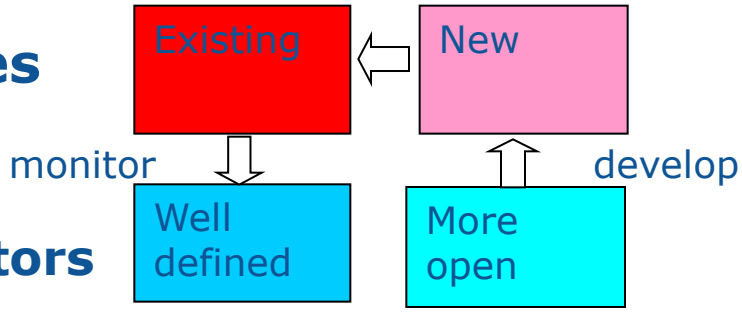
Policy



Indicators

There is an interaction between policy development and indicator development.

Policies



Indicators

Indicators are used for monitoring existing policies but also for developing new ones.

(Politicians) use statistics as a drunken man uses lamp posts- for support rather than for illumination. Andrew Lang

Data as a basis for indicators

Indicators used to compare performance and progress of countries. Units mostly %.

Benchmarks

Indicators + Targets → Benchmarks

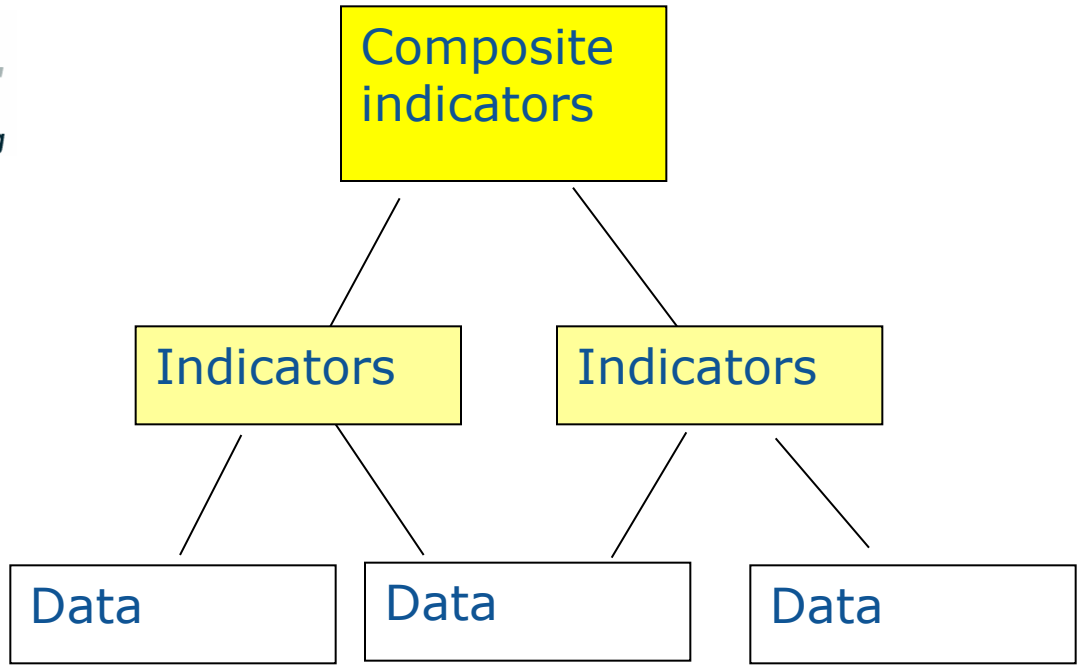
Composite indicators (researchers)

CRELL Centre for Research on Lifelong Learning

Indicator identification (policy)

Data producing (statistics)

eurostat



Data is a lot like humans. It is born. Matures. Gets married to other data, divorced. Gets old. One thing it doesn't do is die. It has to be killed. Arthur Miller

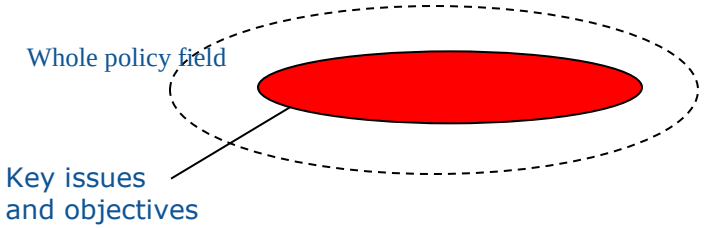
Comparing two countries

Data set/ Indicator	Problem	France	Bulgaria
Absolute amount of spending	Does not take into account differences in population size	80.5 bn Euro	**3.7** bn Leva
Spending per capita, national currencies	Does not take into account different currencies	1341 Euro	486 Leva
Spending per capita in Euro	Does not take into account differences in price levels.	1341	249
Spending per capita in Euro PPS	Does not take into account differences in per capita GDP	1219	623
Spending per capita in Euro PPS relative to GDP per capita	Does not take into account differences in population structure	5 %	7%
Spending per pupil in Euro PPS relative to GDP per capita	Ok, but difficult to understand meaning of data	20%	35%
Spending per pupil in Euro PPS relative to GDP per capita, EU = 100	***Final indicator***	100%	175%

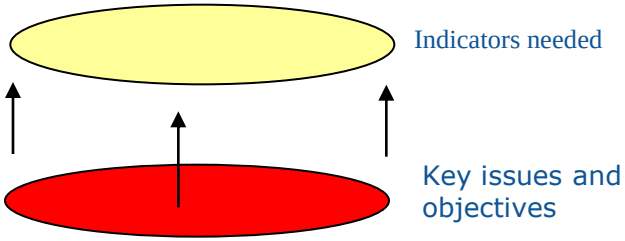
International comparisons are useful, as long as they are not taken too seriously. Ben Levin

Policy and indicator development: general sequence

1. Definition of key issues of policy area

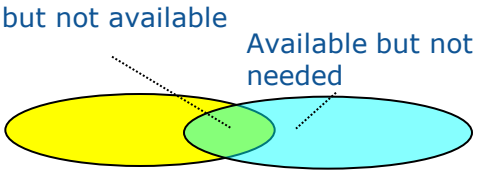


2. Identifying indicators needed to monitor the key policy issues

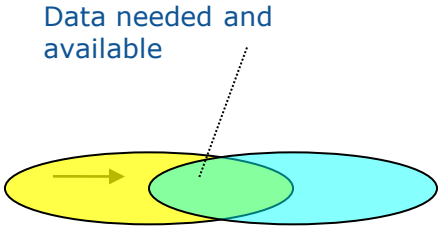


3. Prioritising within data needs and indicators

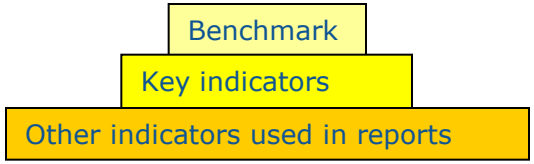
4. Assessing what data is available



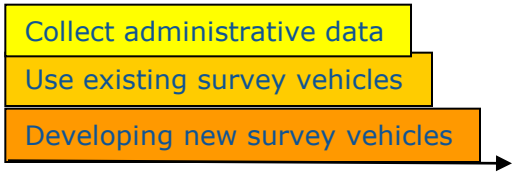
5. Bringing proposed indicators closer together with what is available (via iteration/ operationalisation)



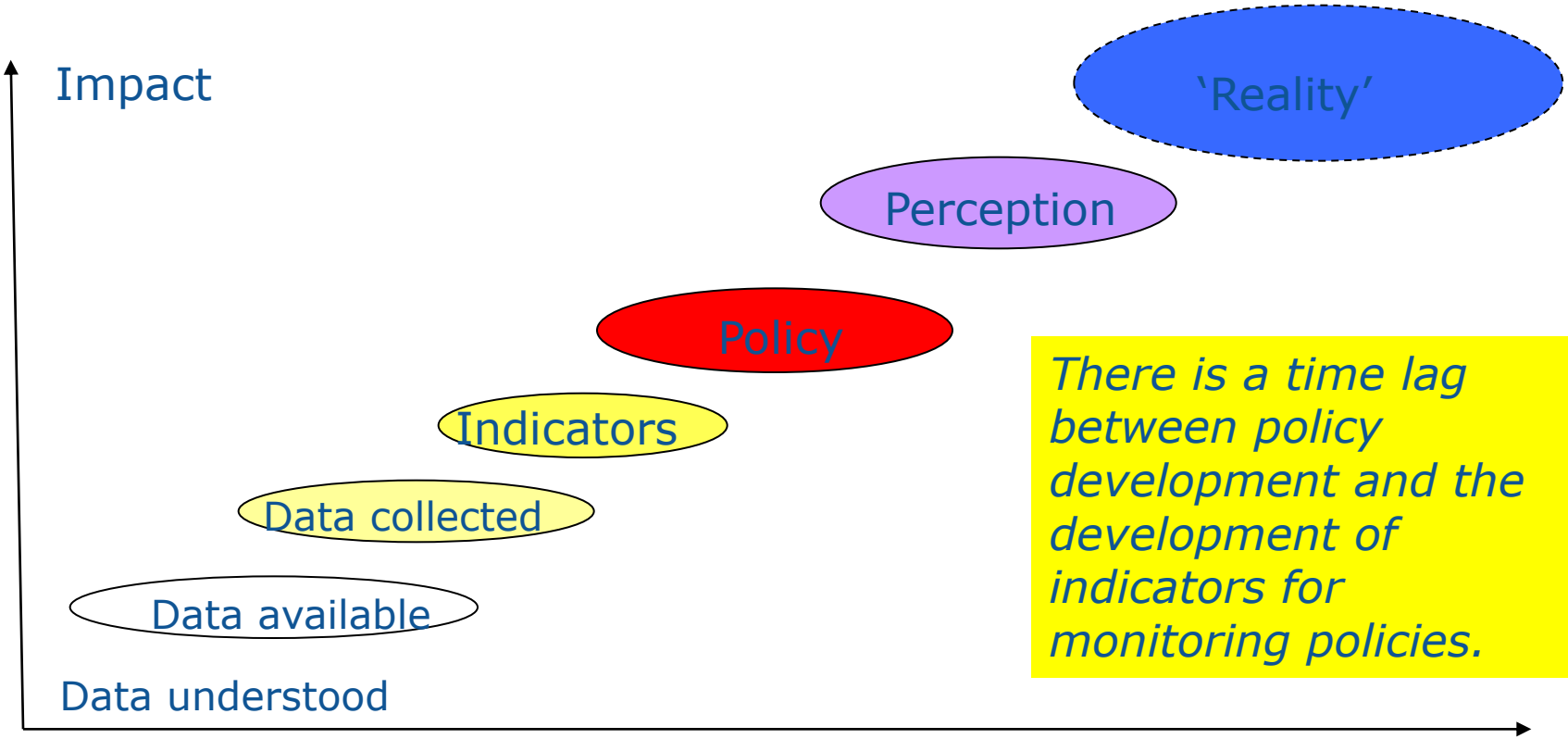
6. Identification of desired status of indicators



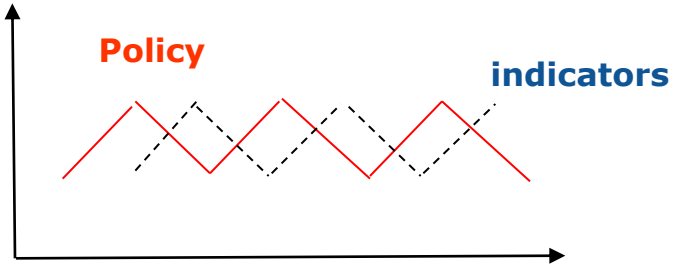
7. Developing strategy on how to obtain missing data

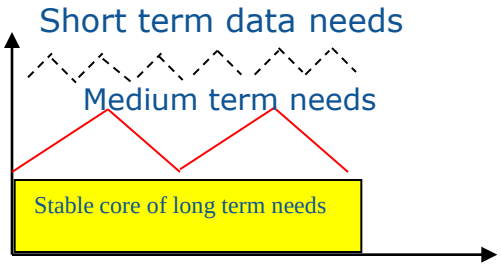


Policy and indicator development



There is a time lag between policy development and the development of indicators for monitoring policies.

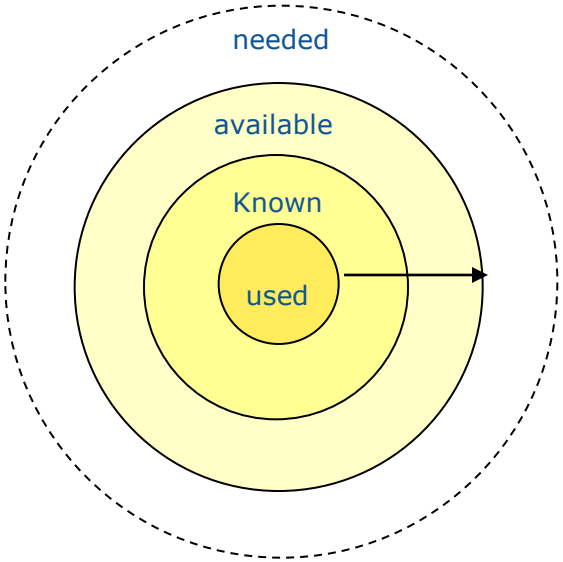




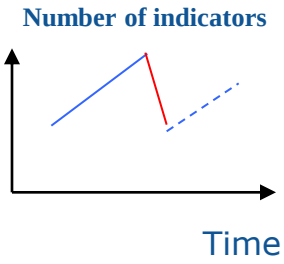
There are short, medium and long term data needs and their life cycles are different.

Data needs and data use

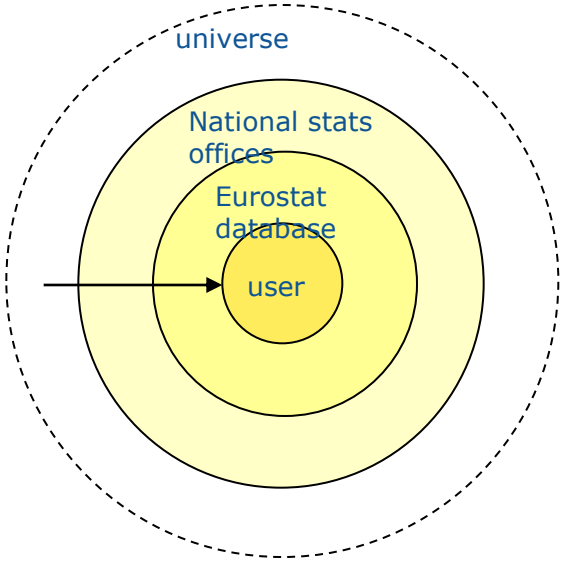
Data needs and use



The number of indicators used for monitoring tends to grow till a critical point is reached. Same observations sometimes for data.



Data availability and use



More data normally needed than available.
However, not all data available known and not all data known used.

Most efficient measure is always making better use of existing data.

Without data you are just another person with an opinion. Andreas Schleicher.

Development of missing data: Eurostat

Cooperation with Eurostat

Eurostat has 3 million education data points.

Key surveys	Current data	New developments
UOE (UNESCO-OECD-Eurostat collection)	Administrative data collection on students, teachers and spending	More data on short term mobility in HE
Labour Force Survey (LFS)	Educational attainment and LLL participation	Possible merging of household surveys
Adult Education Survey (AES)	Educational participation of adults (25-64)	Widening to younger age groups 18-64. Integration of iVET and general youth mobility variables
Continuing Vocational Training Survey (CVTS)	Continuing vocational training in enterprises	Revision of data collection at enterprise level

Smoking is one of the leading causes of statistics. *Liza Minelli*

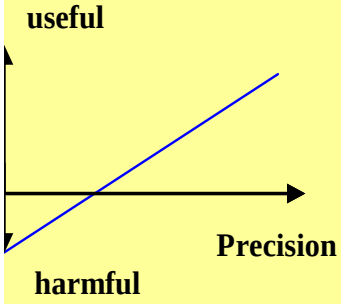
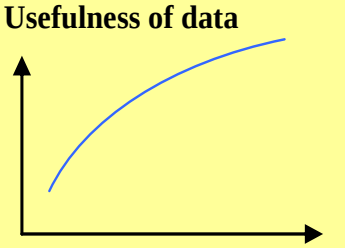
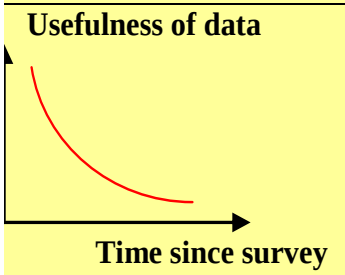
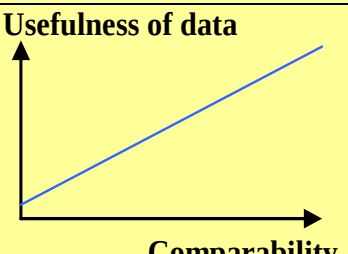
Development of missing data: skills

Surveys co-financed by the Commission

Organisation	Skills data (assessment)	Other data
Commission, DG EAC	Language Survey (ESLC 2011)	Ad-hoc studies (Mobility, others)
OECD	Adult skills (PIAAC 2011)	Teachers (TALIS 2013)
IEA	Civic skills (ICCS 2009)	(pupil, teacher and school question-naires provide additional data)
	ICT skills (ICILS 2013)	

IEA: oldest producer of international skills data (> 50 years).
OECD: largest internat. collector or socio-economic data, >3 billion data.

Quality criteria

Graph	Rule	Graph	Rule
	**Precision** *The more precise the data the more useful they are.* Data should be at least precise enough to mirror trends over time correctly. If data do not show the direction of change correctly, they can be even harmful.		**Comprehensiveness** *The better the coverage of data the more useful they are.* In the EU context data should cover as many countries as possible, at least the large majority of Member States.
	**Freshness** *The fresher the data the more useful they are.* The importance of freshness depends on the speed of change in what the data measure.		**Comparability** *The more comparable the data the more useful they are.* Data should ideally be comparable between countries and over time. However, harmonisation can sometimes imply breaks in series.

Quality criteria for indicators

-Underlying data: to be precise, timely, comparable, comprehensive
-Analytical soundness, relevance, elasticity (malleability)

Not everything that can be counted counts and not everything that counts can be counted. Albert Einstein

Data quality

In many surveys (PISA, LFS ESL data) only changes larger than 1 percentage point statistically significant.

Population data not very precise, EU population smaller ?

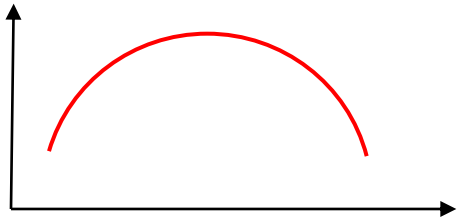
Country	*Eurostat data, m*		*2011 Census result, m*	*Difference in million*	*Difference in %*
	2000	*2011*			
Cyprus	0.69	0.80	*0.84*	*+0.04*	*+5.0*
Ireland	3.78	4.48	*4.58*	*+0.10*	*+2.2*
Portugal	10.20	10.63	*10.56*	*-0.07*	*-0.7*
Bulgaria	8.19	7.50	*7.36*	*-0.14*	*-1.9*
Greece	10.90	11.31	*10.79*	*-0.52*	*-4.6*
Lithuania	3.51	3.24	*3.05*	*-0.19*	*-5.9*
Latvia	2.38	2.22	*2.07*	*-0.15*	*-6.8*
Romania	22.46	21.41	*19.04*	*-2.37*	*-11.1*

There are lies, damned lies and statistics. Benjamin Disraeli.

Indicator use - other observations

Indicators should reflect the key aspects of an issue, but they should also help to reduce complexity.

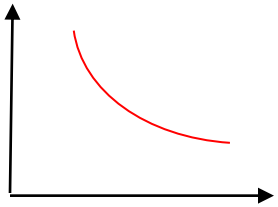
Information value



Number of indicators

For each analytical purpose/ target group there is an optimum number of indicators with an optimum information value.

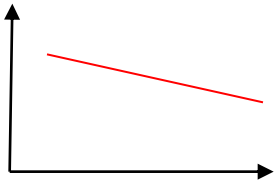
Attention given per indicator



Number of indicators

As the number of indicators grows attention given to each indicator declines

Consistency of message

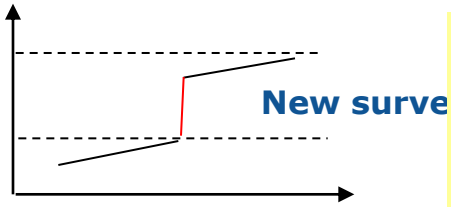


Number of indicators

The consistency of the message risks to decline with the number of indicators used

Paradox of two clocks

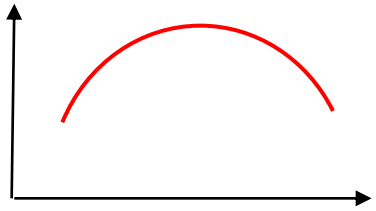
Costs



Number of indicators

The costs linked to indicators grow only slowly with their number if existing indicators are used. They grow strongly if new surveys are needed.

Number of countries being compared



Number of indicators

The number of indicators used tends to increase with the number of countries being compared until data availability limits possibilities to compare.

Make it as simple as possible, but not simpler. Albert Einstein

Indicator development and analysis - Partners

CRELL
Centre for Research on Lifelong Learning

Set up in 2005

About 10 researchers

Focus on quantitative analysis.

Hosted at Joint Research Centre (JRC)

EACEA
Education, Audiovisual & Culture Executive Agency

EURYDICE

Set up in 1980

About 35 people in Executive Agency in Brussels, plus national units

Other bodies

CEDEFOP (Thessaloniki)

ETF (Turin)

Special Needs Agency (Odense)

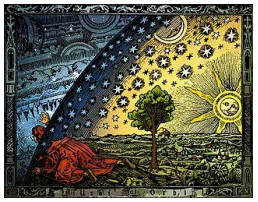
IPTS (JRC, Seville)

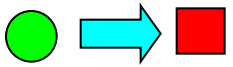
EENEE

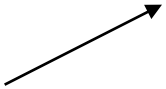
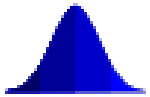
NESET

How to analyse results ? Background information on education systems, starting points and differences in structures between countries to be considered.

We sometimes know, sometimes don't…

Credibility of data: fact or fiction		
Comparability of systems: apples/oranges		

Cause and effect: first chicken or egg		
Correlation: covariation or causality		

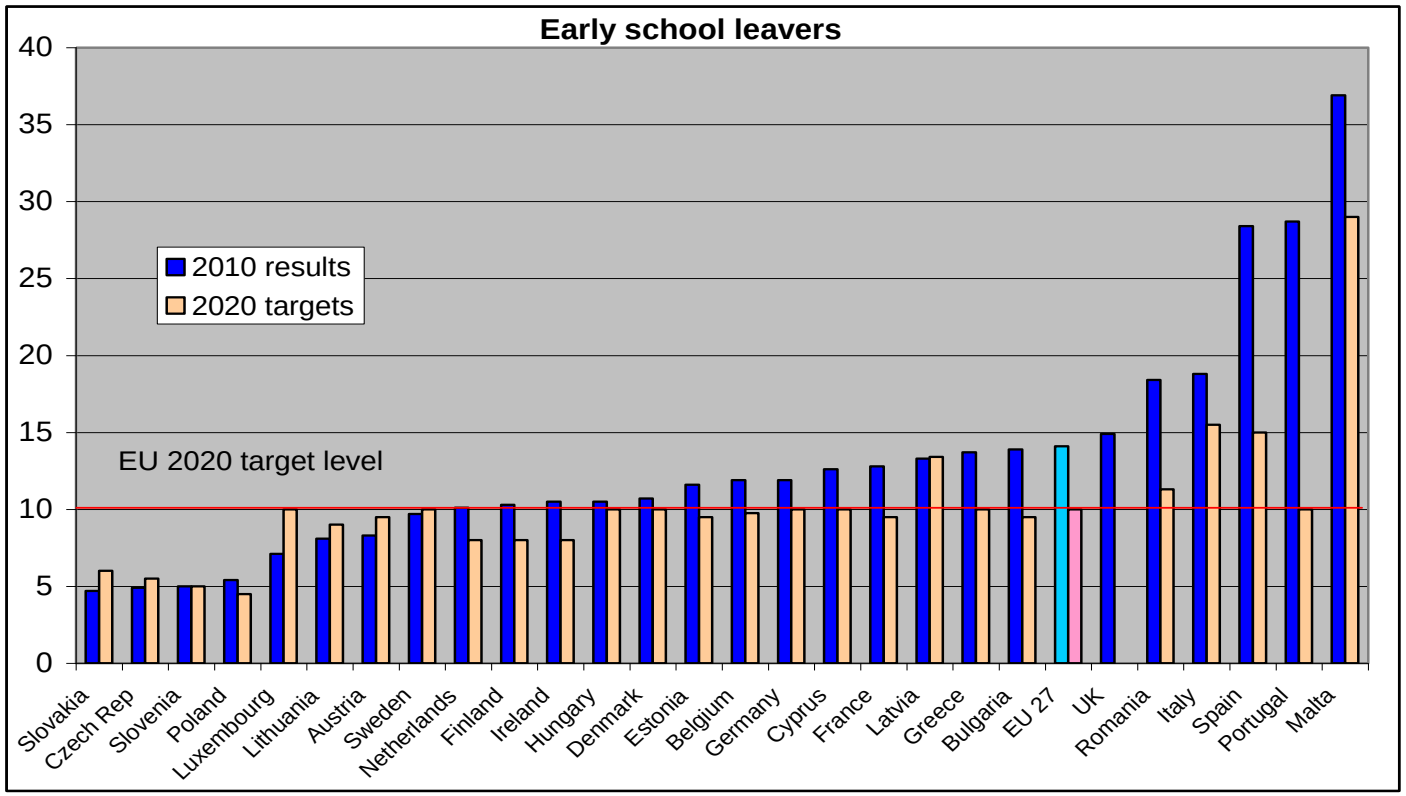
Change over time: trend or stat. noise		
Impact: time lags or lack of elasticity		

Skills: nature or nurture		
Degrees: Signalling/ own value		

There are also unknown unknowns- the ones we don't know we don't know.
D. Rumsfeld

Europe 2020 Strategy: 2 education targets

- 75 % of the population aged 20-64 should be employed.
- 3% of the EU's GDP should be invested in R&D.
- The "20/20/20" climate/energy targets should be met.
- The share of early school leavers (18-24) should be under 10% and at least 40% of 30-34 year olds should have tertiary attainment.
- 20 million less people should be at risk of poverty.



Education and training 2020

5 Benchmarks adopted in May 2009

95% Participation in early childhood education (4+)

15% Low performers in PISA (15; reading, math and science)

10% Early school leavers (18-24)

40% Tertiary completion (30-34)

15% Lifelong learning participation (25-64)

2 more benchmarks adopted November 2011/ May 2012:

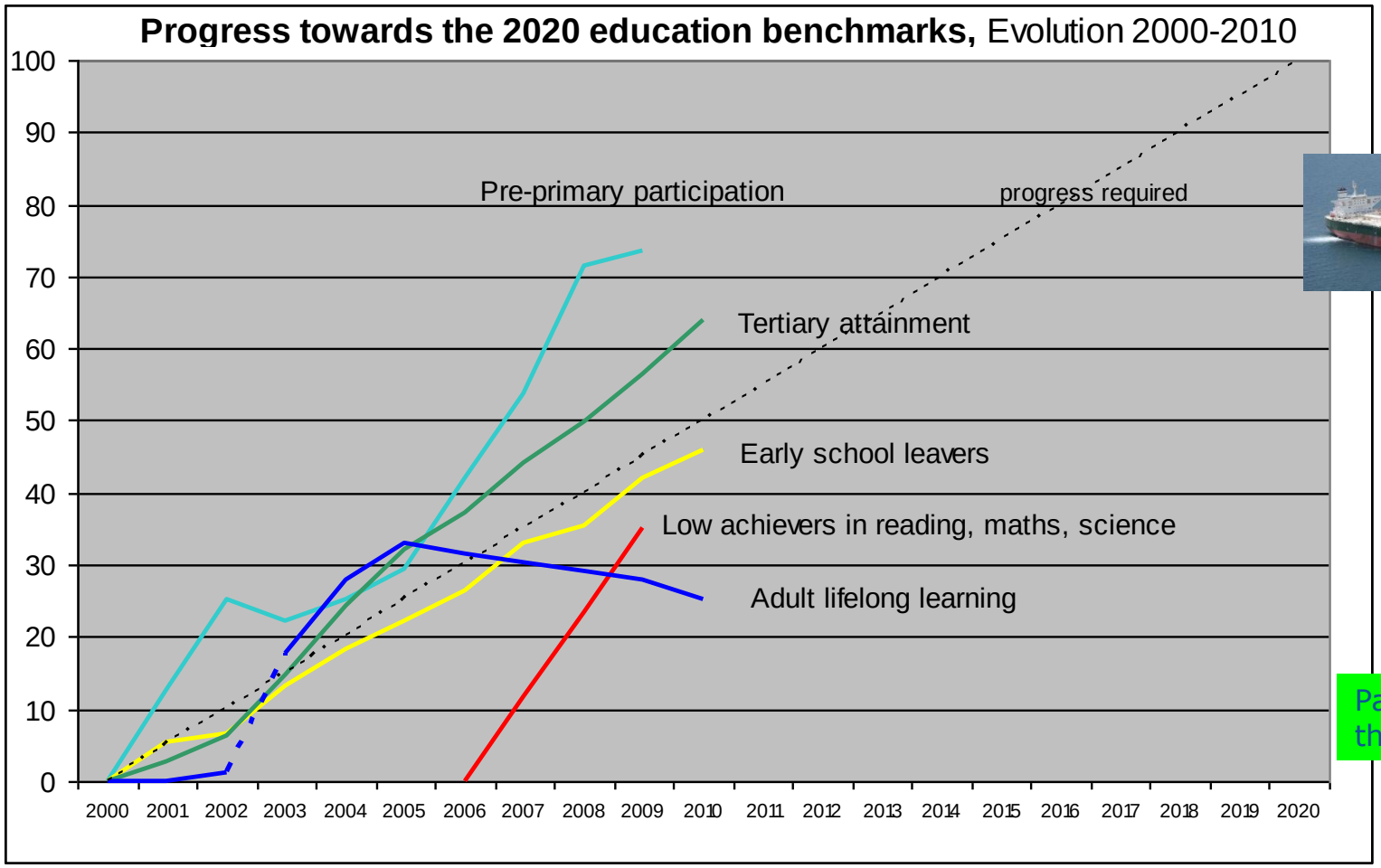
20% with mobility experience in higher education, 6 % in VET

82% employment rate 1-3 years after graduation

One more benchmark to be developed in 2012:

-Language skills

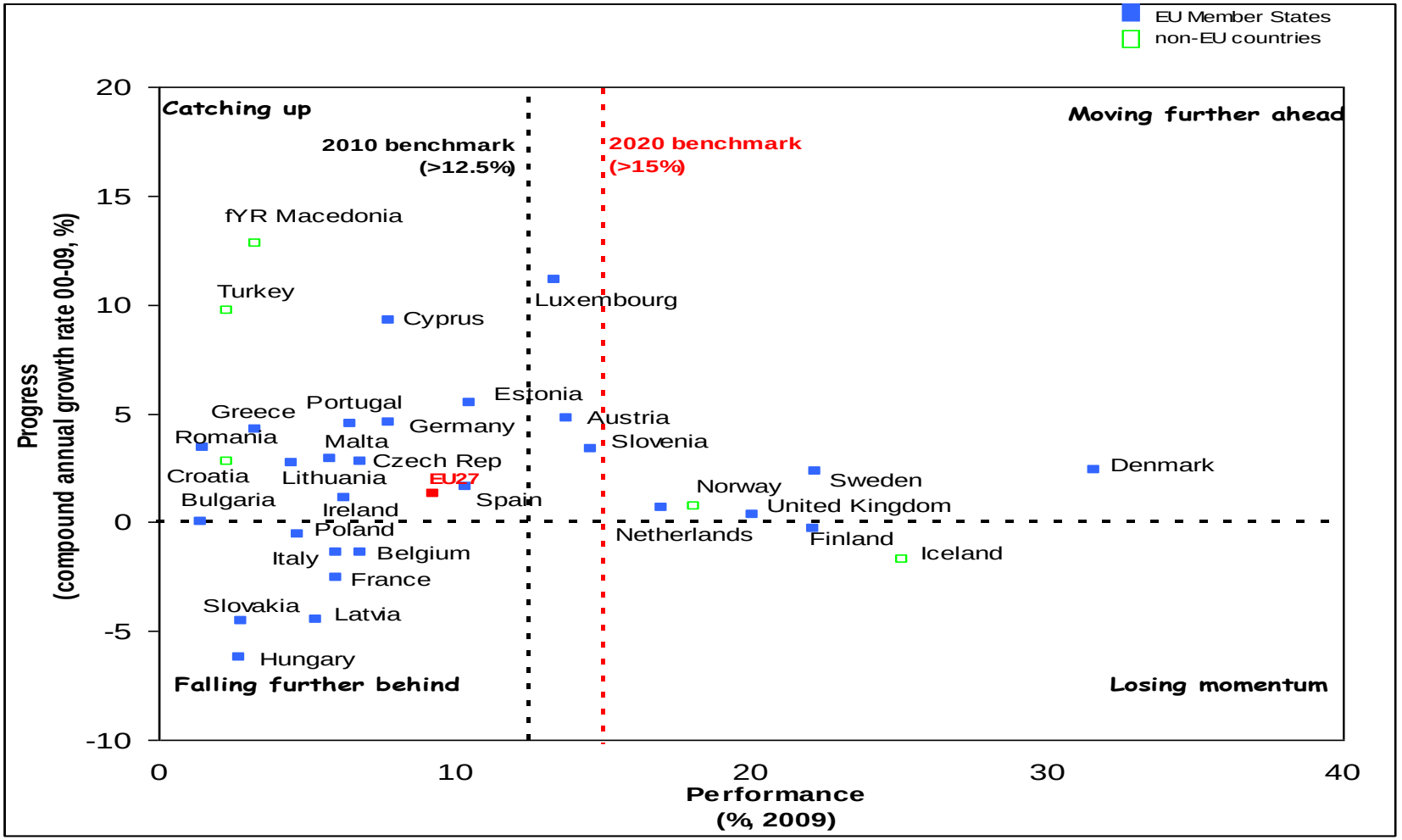
Education and training 2020



Parable of the three frogs

Progress on track (if based on past trends), except for adult LLL

ET 2020: adult lifelong learning



If you want to measure change, do not change the measures. Al Beaton

Thank you for your attention !

e-mail: richard.deiss@ec.europa.eu

DG EAC	http://ec.europa.eu/dgs/education_culture/index_en.htm
Annual education progress report	http://ec.europa.eu/education/lifelong-learning-policy/doc2881_en.htm
Eurostat	http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/
CRELL	http://crell.jrc.ec.europa.eu/

Our ~~days~~ minutes are counted- by statisticians. *Stanislaw J. Lec*