

EE441 Economics of Public Expenditure

## 7. Expenditure Analysis of Education

Euamporn Phijaisanit  
Faculty of Economics  
Thammasat University  
1/2017

## Outline of Topic 7

- Rationale: Public Responsibility for Higher Education and Research
- Expenditure Analysis of Education
- Countries Experiences

2

---

RATIONALE: PUBLIC RESPONSIBILITY FOR  
HIGHER EDUCATION AND RESEARCH

3

## Economics of education and research

- Education: increase in the stocks of skills, knowledge and understanding possessed by individuals or society
- Research: activity aimed at making discoveries or inventions and producing knowledge
- Economics: analysis of the choices in allocating resources to needs; i.e. affecting the stocks of skills and knowledge made by individuals or institutions

4

## Alternative or complementary interpretations

- Signalling: (higher) education does not increase *per se* the productivity of the workers but identifies those individuals who are *most productive* due to *motivations* and *innate abilities*

- Earnings are not a good indicator of (marginal) productivity, present or in the future

5

## University and Research .....

- Three core functions of Universities:
  - Learning and teaching
    - increase of human capital (investment)
    - entertainment services (consumption)
  - Scientific research
    - knowledge production (theoretical/empirical)
    - information storage
  - Provision of services to third parties

6

## ...and their impacts (missions)

- e.g. World Declaration on Higher Education (UNESCO)
  - qualified and responsible citizens to meet the needs of all sectors of human activities;
  - optimal range of choice and flexibility for the *individual* development;
  - provision of relevant expertise to *society* in cultural, social, economic development;
  - help protect and enhance *societal values* that form the basic democratic citizenship.

7

## Why public intervention ?

- Public responsibility for education motivated by
  - Market failures
  - Social cohesion/Nation-building
  - Equity (Human Rights?)

8

## Market failures

- Capital market imperfections
  - Education is a long-term investment process: financial institutions unwilling to take risk
  - Difficult for providers to borrow against future revenue stream
  - Difficult for students to borrow against future income stream
- Asymmetric information
  - School quality is hard to assess
  - Student quality is hard to assess

9

## Economic impact of higher education #1

- *Private economic benefits* for the educated, as education prepares for labour market (income)
  - education as an *investment* (theory of human capital)
  - high returns relative to other investment
  - private vs social returns
    - what are the costs ?
    - what are the benefits ?

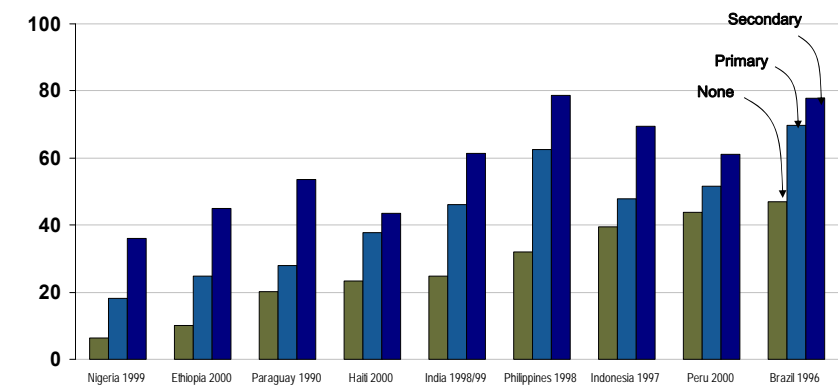
10

## Economic impact of higher education #2

- *Social economic and non-economic benefits (externalities)*
  - Spill-over to other individuals, firms, region, etc. (overall increase of productivity)
  - contribution to economic growth (GDP)
  - Inclusion of non-market activities
  - Indirect (positive) effects on public health, happiness, crime, political participation and social cohesion
  - Equity and Redistribution

11

## Externalities – social outcomes Percent of children with all immunizations by mother's education



Source: Analysis of Demographic and Health Survey data

12

## Equity

### Education as an anti-poverty program

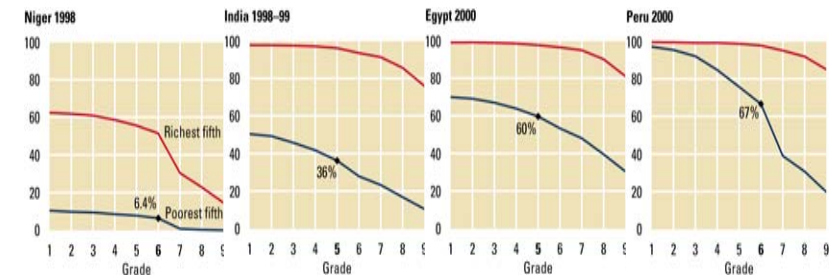
- If spending on education is justified as *an anti-poverty* program, then it needs to be assessed as such
  - Productivity
    - e.g. spread of adoption of green revolution technology in India (Foster and Rosenzweig, JPE 1995)
  - Social outcomes
  - Not just for the person making the education investments but others as well

13

## Equity

How unequally is education distributed – and where are the problems?

### Percent aged 15 to 19 completing each grade or higher

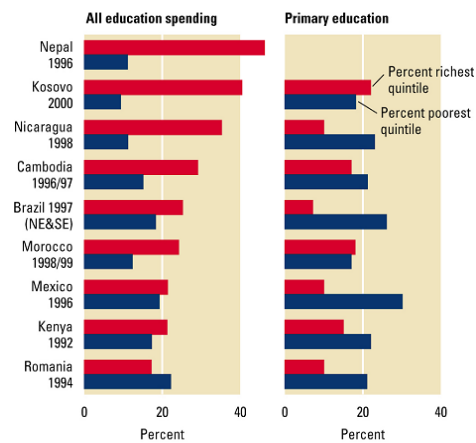


Source: WDR 2004

14

## Equity

Is the current allocation of expenditures pro-poor – benefit incidence analysis



15  
Source: WDR 2004

## Public responsibility for education

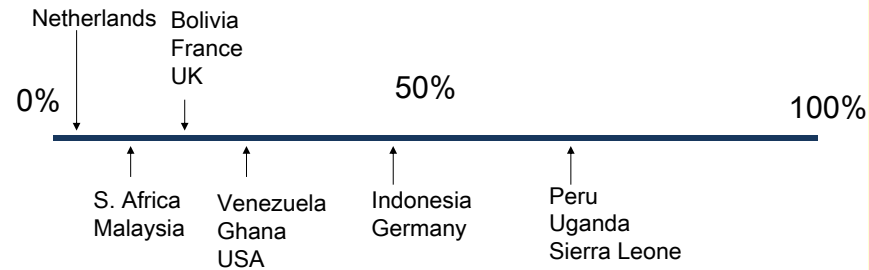
- A key question

Is public spending allocated in such a way as to address the *equity* and *efficiency* issues that motivate public involvement?

16

## The share of private spending also varies substantially

Private expenditure as % of total education expenditure



Source: Psacharopoulos and Nguyen 1995 "Fighting Poverty: the role of government and the private sector" World Bank.

17

## And government intervention need not be public provision or even public finance

- Regulation
  - Can regulate without financing or providing
  - Should regulate whether provision is public or private
  - If provision is public, regulator and provider should not be the same
- Information
  - To inform student and provider choice
  - To create incentives for policymakers and providers to deliver

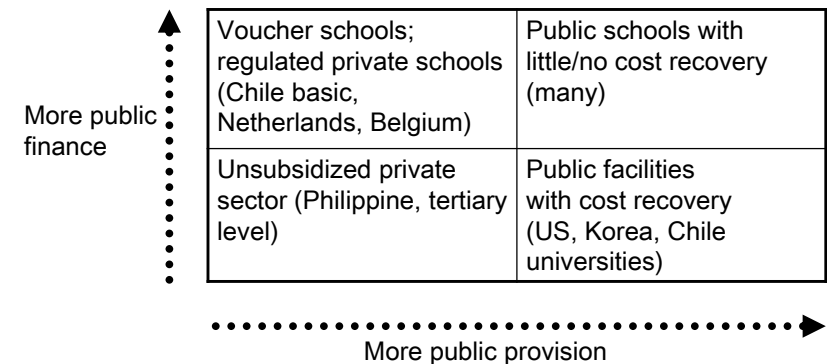
18

## Public or private provision

- Public provision
  - public sector production (vs purchase from the markets)
  - private non or for profit production with government financing
  - private for profit production (competition, benchmarking)

19

## Public provision and public finance ... no single model



20

Public provision is widespread in education, especially at basic levels

- Buying a sandwich vs. getting educated
  - Supply and consumption of educational services are not a simple market transaction with direct feedback from the customer
- Just as there are market failures, there are government failures

21

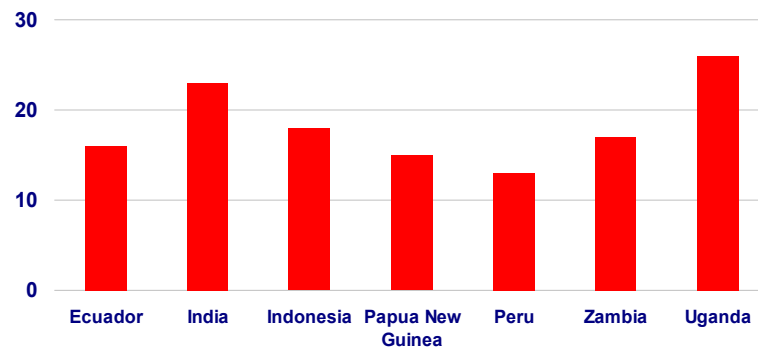
## Market and Government failures ?

- Theory of market failures based on extreme assumption of frictionless markets
  - call for unlimited government interventions
  - role of transaction cost: resources necessary to transfer, establish and maintain property rights
- Government failure
  - bureaucratic decision (top-down)
  - transaction costs of non-market decision

22

Building accountability into the system  
Compact – Staff absence

Percent of staff absent in primary schools



23

## Key elements of Public education assessment

- Basic budget information
- Data on outcomes
  - assessment system
  - household surveys
- Links between spending and outcomes
  - Household surveys
  - School surveys
  - Administrative data
- Impact evaluation evidence on programs
- What does this say about the adequacy of spending?
- What does this say about how to improve the effectiveness of spending?

24

## Example of advocates for publicly financing education in Thailand

- In the future, there will be less number of children, we want *quality* and *efficiency* increases
- Cost of education subsidies per unit can be *fixed*, and excess of that can be obtained from education loans
- Extension of compulsory education to *higher secondary level*
- Increase subsidies on *vocational education*

25

## Dynamic Analysis of CB

### •Costs

- Program Costs
- Benefits or Allowance of the Recipients
- Admin costs of 3% of total costs

### Returns (or Total Social Benefits)

- Direct Benefits, eg., employment, income
- Multiplier Effect on Consumption
- Tax Revenue, eg., Income tax, VAT

26

## Assumptions

- (1) No migration between formal and informal section
- (2) 70% of income goes to direct consumption
- (3) Tax revenue from VAT of 7% from marginal consumption due to income increase

27

## Child support

- Proposed policy: Child support of 400-500 Baht per person per month from 0-14 years old. (For those below the poverty line)
- Rationale:
  - Healthy childhood leads to high potentials of population in the future.
  - About 7% of the students in Thailand quit school due to poverty.
  - Those with primary level education will receive an average of 15,000 Baht per month. With higher education, they can receive higher income.

28

# Working age: Vocational Training

- Proposed policy: Vocational training 60-90 days for the unemployed and informal sector workers

- Rationale:

- Increase potentials and income
- Remarks:

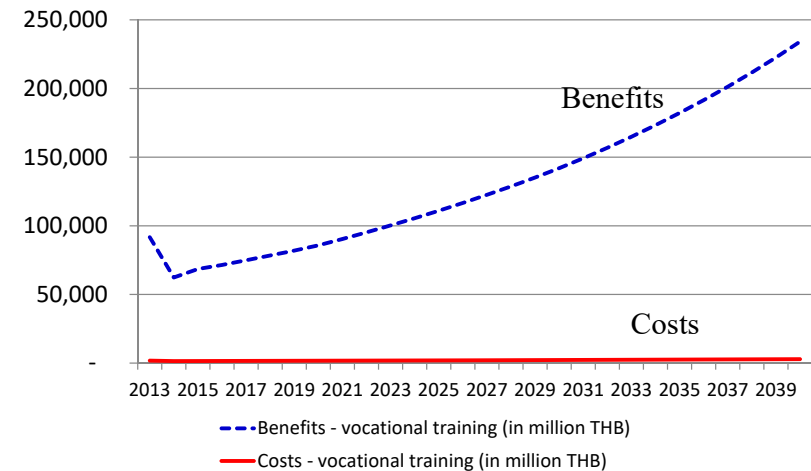
Need coordination between Ministry of Labour, Ministry of Education and other related bodies to determine the needs in the labour market.

Conditionalities required. Eg., training to care for the elderly, which demand exists.

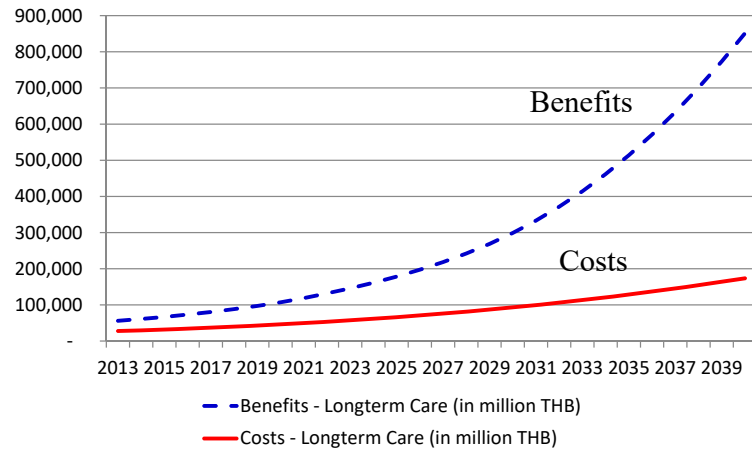
Vocational Training Programme (Costs)	Base year	Projections				
	2013	2014	2015	2016	2017	
Target population: Unemployed or Informal Sector workers	23,125	23,221	23,302	23,368	23,420	
COVERAGE (in thousands)						
Number of Beneficiaries (in thousands)	279	251	251	251	250	
- Pre and primary school (Training duration = 90 days)	131.02	118	118	118	117	
- Lower secondary (Training duration = 90 days)	142.26	128	128	128	128	
- Lower vocational (Training duration = 60 days)	5.24	5	5	5	5	
COSTS (from vocational/occupational training)						
Allowance for the poor/person/day (THB)	200	205	210	215	221	
Aggregate benefits (in millions THB)	4,982	4,607	4,717	4,830	4,945	
Training and administrative costs						
Training Cost/person/day ( indexed)	500	513	525	538	552	
Total training Cost	12,455	11,516	11,793	12,076	12,364	
Administrative Cost (%)	3%	3%	3%	3%	3%	
Administrative Cost (in million THB)	523	484	495	507	519	
<b>TOTAL COSTS (in million THB)</b>	<b>17,980</b>	<b>16,606</b>	<b>17,006</b>	<b>17,413</b>	<b>17,828</b>	
In % of GDP	0.149%	0.127%	0.120%	0.113%	0.107%	
In % of revenue and grants	0.736%	0.626%	0.588%	0.552%	0.519%	

Vocational Training Programme (Return & B-C)	Base year	Projections				
	2013	2014	2015	2016	2017	
<b>RETURN</b>						
Base wage rate (per month)	9,000.00	9,228.23	9,456.47	9,692.31	9,935.76	
Pre and primary education	9,900.00	10,151.06	10,402.11	10,661.54	10,929.33	
Lower secondary	10,170.00	10,427.90	10,685.81	10,952.31	11,227.40	
Vocational secondary	10,170.00	10,427.90	10,685.81	10,952.31	11,227.40	
Total Direct benefits from higher wage (in million THB)	25,228.00	23,326.87	23,887.97	24,460.79	25,044.62	
Indirect return from multiplier effect (in million THB)	84,009.25	77,678.49	79,546.94	81,454.43	83,398.60	
Indirect social benefits in terms of VAT revenue (in million THB)- assume 5% of increased consumption)	4,200.46	3,883.92	3,977.35	4,072.72	4,169.93	
<b>TOTAL RETURN or BENEFITS (in million THB)</b>	<b>113,437.71</b>	<b>104,889.29</b>	<b>107,412.25</b>	<b>109,987.95</b>	<b>112,613.15</b>	
<b>BENEFIT TO COST RATIO</b>	<b>6.316162</b>	<b>6.316162</b>	<b>6.316259</b>	<b>6.316395</b>	<b>6.316573</b>	
<b>BENEFIT - COST</b>	<b>95,478</b>	<b>88,283</b>	<b>90,407</b>	<b>92,575</b>	<b>94,785</b>	

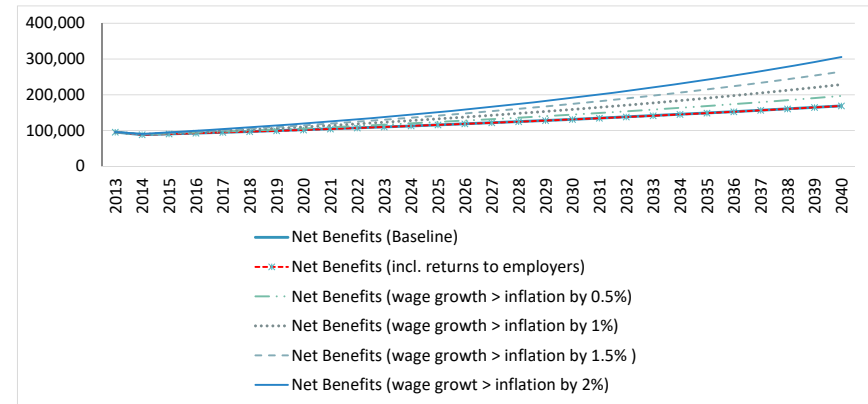
Scenario 1: Costs And Benefits from Vocational Training (in Million Baht)



Net benefits for Long-term Care and trainings for Long-term care



Vocational Training Sensitivity Analysis: Net Benefits in Million Baht



PUBLIC EXPENDITURE ANALYSIS FOR EDUCATION

## Key questions

- What are the basics of public expenditures?
  - How much, what are the trends, what is public money spent on, etc...
- How can public money be put to its best use?
  - What should government finance?
  - What is the distributional impact of public spending?
  - How can the system be improved in order to maximize the impact of public spending?

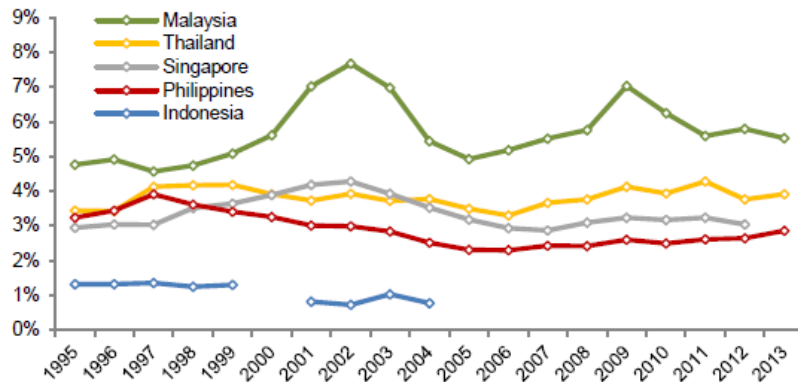
# The basics of public expenditures

- How much does government spend
  - As a share of GDP
  - As a share of total public expenditures
- And how has that changed *over time*

Government expenditure on education		
	% of GDP	% of total government expenditure
	2014	2014
Cambodia	2	9.9
China	..	..
Hong Kong SAR, China	3.6	17.6
Denmark	..	..
Germany	4.9	11.2
India	3.8	14.1
Indonesia	3.3	17.5
Iran, Islamic Rep.	3	19.7
Japan	3.8	9.3
Lao PDR	4.2	15.4
Myanmar	..	..
Philippines	3.4	20.3
Singapore	2.9	19.9
Thailand	4.1	18.9
United Kingdom	5.7	13
United States	..	..
Vietnam	6.3	21.4
World	4.4	14.3
Low income	4.2	16.7
Lower middle income	..	..
Upper middle income	4.2	15
High income	4.8	12.4

Source: World Development Indicators Database 2016

NG education expenditure as % of GDP



Sources: ADB; Note: No data for Vietnam; Gaps indicate absence of data

## Thailand Education Budget Has Risen 96% in the past 12 Years

### Thailand Education Budget and Total Government Expenditure



**Table I-2**  
**Budget Allocation Strategy FY 2016**

(in million baht)

Budget Allocation Strategy	Budget	
	Amount	%
<b>Total</b>	<b>2,720,000.0</b>	<b>100.0</b>
1. Expediting the establishment of foundation for the country's sustainable development	241,478.8	8.9
2. National security	239,034.3	8.8
3. Development of economic growth with stability and sustainability	218,572.1	8.0
4. Education, health, virtue, ethics and quality of life	989,295.0	36.4
5. Management of natural resources and environment	69,931.6	2.6
6. Development of science, technology and innovation	26,856.8	1.0
7. Management of foreign policy and international economic affairs	9,071.5	0.3
8. Management with efficiency and good governance	361,878.1	13.3
9. Expenditures on general administration	563,881.8	20.7

41

## Some things to keep in mind

- Planned vs. actual expenditures
- Real vs. nominal expenditures
- Consolidated budget:
  - all sources of public money
  - all expenditures for the sector

42

## Spending on what ...

- Type of spending
  - Capital vs. Recurrent (Current or routine)
- Functional allocations
  - budget shares by level of education
- Economic allocations
  - inputs—e.g., teachers, textbooks

43

	Government expenditure per student					
	Primary		Secondary		Tertiary	
	% of GDP per capita		% of GDP per capita		% of GDP per capita	
	1999	2014	1999	2014	1999	2014
Cambodia	5.7	6.8	10.9	..	41.8	..
China	5.9	..	11.5	..	89.5	..
Hong Kong SAR, China	12.2	14.9	..	19.3	..	24.6
Denmark	24.1	..	37.3	..	64.4	..
Germany	16.5	17.3	20.1	23.2	..	..
India	11.9	9.3	24.9	15.5	94.9	53.7
Indonesia	..	12.3	..	10	..	19.5
Iran, Islamic Rep.	8.7	8.2	9.4	15.5	33.1	13.8
Japan	20.8	23.9	20.6	25.7	14.9	25.2
Lao PDR	..	..	..	..	70	..
Myanmar	..	..	..	..	..	..
Philippines	12.1	..	10.3	..	14.5	..
Singapore	..	..	..	..	..	22.4
Thailand	17.4	23.1	18.7	17.8	35.2	18.1
United Kingdom	13.2	23.3	22.5	22.4	24.3	36.4
United States	17	20.6	21.4	22.8	25.8	..
Vietnam	..	23.8	..	..	..	41.2
World	..	..	..	..	..	..
Low income	..	..	..	..	..	..
Lower middle income	..	..	..	..	..	..
Upper middle income	..	..	..	..	..	..
High income	17.6	20.6	22.5	23.8	29.8	23.9

Source: World Development Indicators Database 2016

44

<b>4. Education, health, virtue, ethics and quality of life</b>		<b>989,295.0</b>
4.1	Programme on extending opportunity and improving quality of education	423,856.4
4.2	Programme on supporting arrangement of basic education	89,205.1
4.3	Programme on development of public health	55,616
4.4	Programme on development of health insurance systems	277,330.0
4.5	Programme on creating social welfare and elevating quality of life	85,117.1
4.6	Programme on raising people's quality of life	28,125.4
4.7	Programme on management of migrant workers and human trafficking problems	1,063.0
4.8	Programme on preventing, suppressing narcotic problems and rehabilitating drug addicts	10,711.2
4.9	Programme on conservation, promotion and development of religions, arts and culture	10,890.8
4.10	Programme on promotion and development of sports and recreation	7,380.0

Source: Thailand's Budget in Brief Fiscal Year 2016

45

## 1. The Functional and Economic Classification of Expenditures \*

### 1.1 Functional Classification

Budget expenditures classified by functions are expenditures based on the government purposes in providing public services. These functions are based on the International Monetary Fund\* which classifies government activities into 10 major groups under 3 categories.

#### General Services

1. General Public Services
2. Defense
3. Public Order and Safety

#### Economic Affairs

4. Economic Affairs

#### Community and Social Services

5. Environmental Protection
6. Housing and Community Amenities
7. Health
8. Recreation, Culture, and Religion
9. Education
10. Social Protection

46

## 9. Education

The amount of 549,708.1 million baht is allotted to education. It accounts for 20.2 per cent of the total expenditures. They will be for education administration from pre-primary level to university, non-formal education, scholarships for students and research on education. They also include subsidies to the Bangkok Metropolitan Administration and local administration offices' education expenses.

47

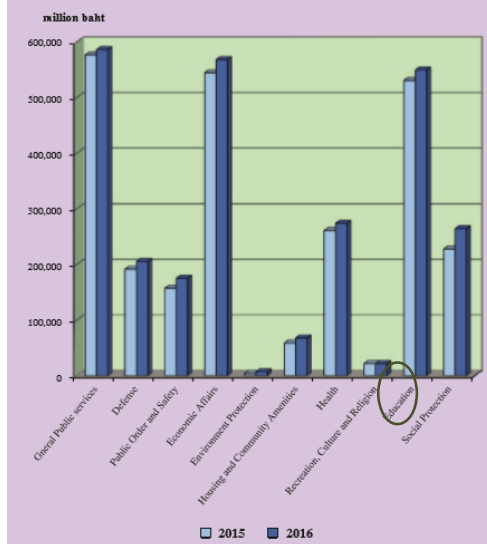
**Table III-1**  
**Functional Classification of Expenditures**

(in million baht)

Sector	Fiscal Year		FY 2015		FY 2016		Changes over the FY 2015	
	Amount	%	Amount	%	Amount	%	Amount	%
<b>General Services</b>	<b>925,740.7</b>	<b>35.9</b>	<b>966,821.8</b>	<b>35.5</b>	<b>41,081.1</b>	<b>4.4</b>		
General Public Services	576,735.2	22.4	586,368.6	21.6	9,633.4	1.7		
Defense	191,640.0	7.4	205,375.8	7.5	13,735.8	7.2		
Public Order and Safety	157,365.5	6.1	175,077.4	6.4	17,711.9	11.3		
<b>Economic Affairs</b>	<b>545,023.1</b>	<b>21.2</b>	<b>568,481.6</b>	<b>20.9</b>	<b>23,458.5</b>	<b>4.3</b>		
Economic Affairs	545,023.1	21.2	568,481.6	20.9	23,458.5	4.3		
<b>Community and Social Services</b>	<b>1,104,236.2</b>	<b>42.9</b>	<b>1,184,696.6</b>	<b>43.6</b>	<b>80,460.4</b>	<b>7.3</b>		
Environmental Protection	3,926.9	0.2	6,947.3	0.3	3,020.4	76.9		
Housing and Community Amenities	58,667.3	2.3	67,963.3	2.5	9,296.0	15.8		
Health	261,113.1	10.2	274,231.2	10.1	13,118.1	5.0		
Recreation, Culture, and Religion	21,688.2	0.8	21,553.6	0.8	-134.6	-0.6		
<b>Education</b>	<b>531,044.8</b>	<b>20.6</b>	<b>549,708.1</b>	<b>20.2</b>	<b>18,663.3</b>	<b>3.5</b>		
Social Protection	227,795.9	8.8	264,293.1	9.7	36,497.2	16.0		
<b>Total</b>	<b>2,575,000.0</b>	<b>100.0</b>	<b>2,720,000.0</b>	<b>100.0</b>	<b>145,000.0</b>	<b>5.6</b>		

48

**Figure III-1**  
Budget Expenditures Classified by Functions  
FY 2015-2016



49

**Table III-10**  
Appropriation for Education

(in million baht)

Education	FY 2015	FY 2016
1. Pre-Primary, Primary, and Secondary Education	387,886.6	388,080.8
2. Tertiary Education	97,725.7	106,829.1
3. Education not definable by level	2,780.7	9,214.5
4. Subsidiary Services to Education	22,521.1	25,386.7
5. Education not elsewhere classified	20,130.7	20,197.0
<b>Total Education</b>	<b>531,044.8</b>	<b>549,708.1</b>
<b>Percentage of the Total Budget</b>	<b>20.6</b>	<b>20.2</b>

50

**Table III-15**  
Budget Appropriation by Functions and Budget Structure

(in million baht)

Budget structure	Capital expenditures				Current expenditures				Principal repayments				Replenishment of treasury account balance			
	2015		2016		2015		2016		2015		2016		2015		2016	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Housing and Community Amenities	42,043.8	1.6	51,437.9	1.9	16,623.5	0.7	16,525.4	0.6	-	-	-	-	-	-	-	-
Health	23,463.3	0.9	30,629.7	1.1	237,649.8	9.3	243,601.5	9.0	-	-	-	-	-	-	-	-
Recreation, Culture, and Religion	5,056.0	0.2	5,319.2	0.2	16,632.2	0.6	16,174.4	0.6	-	-	-	-	-	-	-	-
Education	39,975.3	1.6	46,264.1	1.7	491,069.5	19.0	503,443.2	18.5	-	-	-	-	-	-	-	-
Social Protection	600.6	0.0	1,014.5	0.0	227,195.3	8.8	263,278.6	9.7	-	-	-	-	-	-	-	-
<b>Total</b>	<b>449,475.8</b>	<b>17.5</b>	<b>544,354.3</b>	<b>20.0</b>	<b>2,027,858.8</b>	<b>78.7</b>	<b>2,100,117.9</b>	<b>77.2</b>	<b>55,700.0</b>	<b>2.2</b>	<b>61,991.7</b>	<b>2.3</b>	<b>41,965.4</b>	<b>1.6</b>	<b>13,536.1</b>	<b>0.5</b>

N.B. % means percentage of the total budget.

Approx. 8% of Education expenditure

Approx. 92% of Education expenditure

51

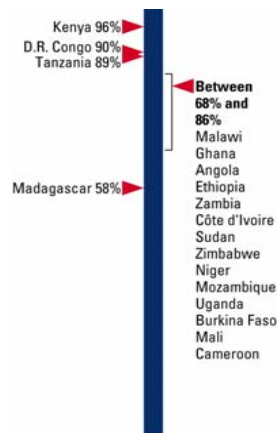
	Trained teachers		Pupil-teacher ratio	
	Primary	Secondary	Primary	Secondary
	% of total	% of total	pupils per teacher	pupils per teacher
	2014	2014	2014	2014
Cambodia	100	..	45	..
China	..	..	16	14.3
Hong Kong SAR, China	96.4	96.1	14	13.6
Denmark	..	..	..	..
Germany	..	..	12	12.2
India	..	..	32	30.8
Indonesia	..	..	17	15.5
Iran, Islamic Rep.	100	100	26	17.5
Japan	..	..	17	11.7
Lao PDR	98.3	99.6	25	18.3
Myanmar	99.5	93.8	28	31.8
Philippines	100	100	31	27
Singapore	..	..	..	..
Thailand	100	..	15	..
United Kingdom	..	..	17	15.8
United States	..	..	15	14.8
Vietnam	100	..	19	..
World	..	..	24	17.7
Low income	79.7	52.3	43	23.6
Lower middle income	83	..	29	24.2
Upper middle income	..	..	19	14.8
High income	..	..	14	12.9

Compare to here.

Source: World Development Indicators Database 2016

52

Spending on teachers in Sub-Saharan Africa – as a share of recurrent spending (primary level)



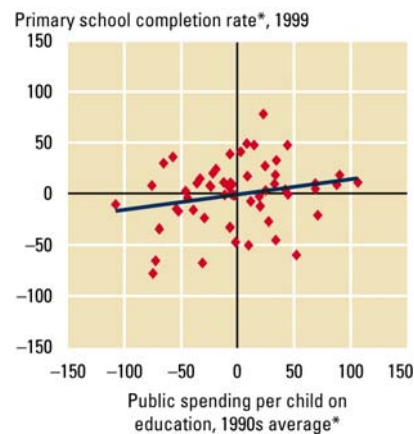
Source: WDR 2004

But don't get lost in the budget numbers!!!

- Frequently, more public money and better outcomes are not strongly related (or related at all)!!!!
  - Public Expenditure Analysis is an opportunity to reflect on *how to make money work to improve outcomes*



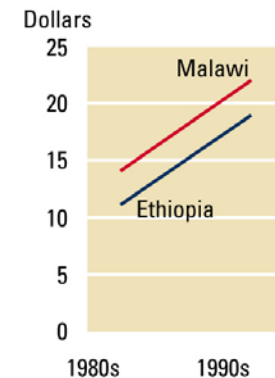
Primary completion rate and public spending on education across countries (conditional on GDP per capita)



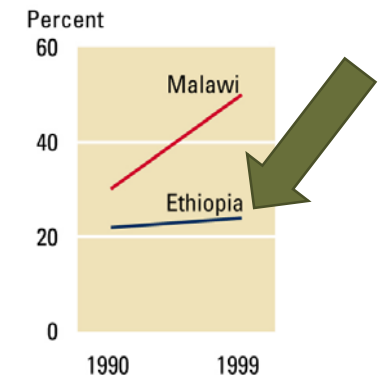
Source: WDR 2004

Changes in the primary completion rate and public spending on education within countries

Public spending on education

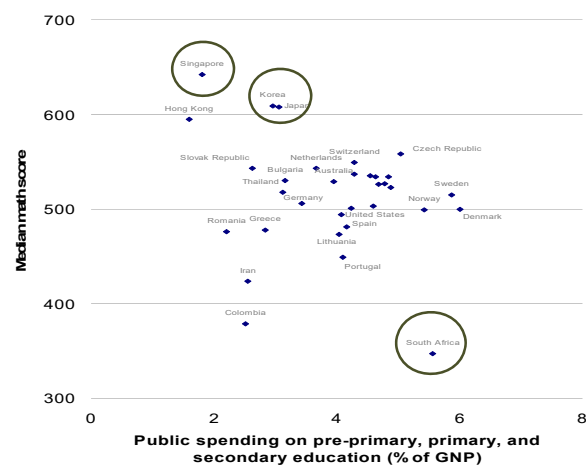


Primary school completion



Source: WDR 2004

## Education expenditures and learning Spending and median math test scores



57  
Source: TIMSS

## Education Efficiency: Cohort Survival Rate

	Reaching grade 5, male		Reaching grade 5, female	
	% of grade 1 students		% of grade 1 students	
	1999	2013	1999	2013
Cambodia	63	53	63	64
China	82	81	80	81
Japan	100	100	100	100
Lao PDR	55	76	54	79
Myanmar	55	..	55	..
Singapore	..	..	..	..
Thailand	83	94	88	96
United Kingdom	..	..	..	..
United States	..	..	..	..
Vietnam	80	84	86	96
World	..	..	..	..
Low income	..	..	..	..
Lower middle income	68	..	72	..
Upper middle income	..	85	..	85
High income	..	..	..	..

Source: WDI, 2017

58

## Education Efficiency: Cohort Survival Rate

	Reaching last grade of primary education, male	Reaching last grade of primary education, female
	% of grade 1 students	
	2013	2013
Cambodia	41	55
China	..	..
Japan	100	100
Lao PDR	76	79
Myanmar	..	..
Singapore	..	..
Thailand	92	95
United Kingdom	..	..
United States	..	..
Vietnam	84	96
World	71	74
Low income	50	51
Lower middle income	70	73
Upper middle income	79	80
High income	94	95

Source: WDI, 2017

59

## Education Efficiency: Cohort Survival Rate

	Transition rate to secondary education	
	Male	Female
	% of grade 1 students	
Cambodia	76	84
China	..	..
Japan	..	..
Lao PDR	92	89
Myanmar	..	..
Singapore	..	..
Thailand	100	98
United Kingdom	..	..
United States	..	..
Vietnam	85	89
World	91	91
Low income	78	76
Lower middle income	90	91
Upper middle income	96	96
High income	97	97

Source: WDI, 2017

60

	Lower secondary completion rate		%
	Male	Female	
	% of relevant age group 2014	% of relevant age group 2014	
Cambodia	45	45	
China	97	100	
Hong Kong SAR, China	94	92	..
Germany	57	56	..
Japan	..	..	..
Korea, Rep.	98	97	..
Lao PDR	56	52	
Malaysia	..	..	
Myanmar	47	50	
Philippines	77	88	
Singapore	..	..	
Thailand	88	90	
United Kingdom	..	..	..
United States	..	..	..
Vietnam	95	92	
World	75	76	
Low income	41	34	
Lower middle income	72	74	
Upper middle income	87	89	
High income	93	92	..

Source: WDI, 2017

61

	Adult literacy rate	
	Male	Female
	% ages 15 and older 2005-14	% ages 15 and older 2005-14
Cambodia	83	66
China	97	93
Hong Kong SAR, China	..	..
Germany	..	..
Japan	..	..
Korea, Rep.	98	98
Lao PDR	82	63
Malaysia	95	91
Myanmar	95	91
Philippines	96	97
Singapore	99	95
Thailand	95	92
United Kingdom	..	..
United States	..	..
Vietnam	96	91
World	89	81
Low income	66	48
Lower middle income	81	67
Upper middle income	96	92
High income	..	..

Source: WDI, 2017

62

	Students at lowest proficiency on PISA		
	Mathematics	Reading	Science
	% of 15 year-olds 2015	% of 15 year-olds 2015	% of 15 year-olds 2015
Cambodia	..	..	..
China	6	2	1
Hong Kong SAR, China	3	0	0
Germany	5	1	0
Japan	3	1	0
Korea, Rep.	5	1	0
Lao PDR	..	..	..
Malaysia	14	2	0
Myanmar	..	..	..
Philippines	..	..	..
Singapore	2	0	0
Thailand	24	3	1
United Kingdom	8	1	0
United States	11	1	0
Vietnam	5	0	0
World	..	..	..
Low income	..	..	..
Lower middle income	..	..	..
Upper middle income	..	..	..
High income	..	..	..



Source: WDI, 2017

63

## COUNTRIES EXPERIENCES

64

## Sources of funds for education

- In developed countries between 73% (Germany) and 99% (Denmark) of all funds for education come from *public sources*
- Non-public funds for education are concentrated in tertiary and post-secondary education
- Thus, *primary* and *secondary* education are mainly funded from public funds

65

## Sources of funds for education

- Primary and secondary education:
  - low private returns to education (high opportunity costs, lack of immediate labor market relevance)
  - high social returns to education (social and political cohesion, active citizens, literate workforce and soldiers)

66

## Sources of funds for education

- Tertiary and post-secondary education:
  - high private returns (education as “filtering system”, significance of degrees, high personal position in life)
  - relatively low social returns (social and political cohesion achieved already by secondary education)

67

## Sources of funds for education

Main sources of public funds for education:

- National budget: based on nationally collected taxes (PIT, CIT, VAT),
- Local budgets: based on local taxes (local fees, property tax, etc.)
- Local budgets: based on transfers from the national budgets (grants or shared taxes)

68

## Sources of funds for education

### Types of transfers:

- General or sector specific
- Categorical or unconditional
- Directly to the payment agent or passing through intermediary levels
- Needs based or taking into account local financial capacities

69

## Models of education decentralization

- With very few exceptions, most countries make an effort to decentralize their education systems

### Two visions of education decentralization:

- Decentralization to local governments
- Decentralization to schools

70

## Models of education decentralization

### Decentralization to *local governments*:

- School as a part of local education system, serving the local community,
- Municipalities express local preferences, and act as rational agents of network consolidation,
- Focus on *access* and *equity*,
- Cooperation of schools.

71

## Models of education decentralization

### Decentralization to *schools*:

- Strong, autonomous schools managed by a professional school director,
- Budgetary, programmatic, and institutional autonomy,
- Serves interests of parents, teachers, students.
- Competition between schools.

72

## Models of education decentralization

- Decentralization to local governments is the model by far most often adopted in post communist countries: Poland, Lithuania, Macedonia, Serbia, Slovakia,
- It also corresponds better to historical forms of school governance.
- Georgia, Armenia decentralized to schools.

73

## Models of education decentralization

- Two visions of education decentralization complement each other in many ways,
- They are, however, incompatible in two areas:
  - Finances (setting school budgets),
  - Network management (school closures).
- In those two areas decentralization to schools and to local governments are very different.

74

## Why decentralize education

- We note that the decentralization model chosen reflects the *political situation* and *priorities*
- This is especially transparent in countries which have not actually decentralized education despite many years of reforms
- Romania, for example, remains highly centralized although it has enacted many decentralization laws

75

## Financing decentralized education

- Education finance is part of public finance and follows the rules and procedures of public finance
- Education finance in any country must adapt to *governance* of education (to the model of education decentralization)

76

## Financing decentralized education

Under decentralization to *schools* :

- School budgets should be defined by a per student formula,
- The national or regional formula should take into account many factors to define adequate school budgets
- School vouchers are a brutally simple formula

77

## Financing decentralized education

Under decentralization to *local governments*:

- Per student education transfers from the central budget are defined by a formula,
- The formula may be simpler due to averaging
- Municipalities set budgets of individual schools
- They may also add funds from other sources to finance education better

78

## Financing decentralized education

Under decentralization to *schools*:

- School closures are unplanned results of competition for students,
- Lack of a natural local agent responsible for ensuring free access to education
- In practice, that responsibility is taken over by the Ministry (Georgia, for example)

79

## Financing decentralized education

Under decentralization to *local governments*:

- Local governments can plan future evolution of school networks,
- They may introduce gradual agreed closures of schools,
- There is time and place for discussion of teacher employment

80

## Financing decentralized education

- A good example of intermediate model is provided by Lithuania
- Lithuanian municipalities have significant managerial powers over their schools
- Education grant is calculated on a per student basis for each school (“student basket”) and the sum is sent to the municipality
- Municipality may reallocate up to 5% of grant

81

## Fragmentation

- A common situation in post communist countries is fragmentation of education finance
- *Fragmentations* arises when some parts of the school budgets come from different sources
- Fragmentation may harmful to schools and leads to inefficiencies

82

## Fragmentation

- Romania: school maintenance from local budgets, salaries through transfers from the central budget
- Lithuania: education environment from local budgets, education process through *student basket* from central budget
- Sometimes fragmentation is temporary (Macedonia)

83

## Fragmentation

- In post Soviet republics, a growing trend of using parental contributions collected by so called *charitable funds (boards of trustees)*
- In some cases, those contributions amount to over 50% of school budgets, but information is scarce and unreliable
- This creates a dangerous form of education finance fragmentation and risk of corruption

84

## Education sub-sectors

- Pre-schools are universally decentralized to local governments, sometimes to more than one level,
- Most often there are no special grant for pre-schools because they are not considered “education function”
- Often financed from own revenues of local governments

85

## Education sub-sectors

- Primary and secondary schools may be decentralized to different tiers of local government and at different times (Poland),
- Even if the tier is the same, the allocation formula may be different (Macedonia)
- Even if the formula is the same, position of schools may depend on fiscal capacity of local government (Poland)

86

## Education sub-sectors

- Some countries have special treatment of vocational schools (Ukraine, Lithuania)
- Education of special needs students requires special regulations and special financial mechanisms under decentralized system
- The same applies to schools for minorities and for excellent students

87