Regional Meeting on Financing Graduation Gaps of Asia-Pacific LDCs
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Session 3

Financing Graduation Gaps: Regional Estimates

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Contents

- What is the graduation gap?
- When we would like the gap to be closed?
- How investment can close the gaps?
- What are the scenarios?
- What are the results?
- What can we learn from such exercise?

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Graduation Gaps (2012)

Countries	EVI	HAI	GNI per capita ($)	GNI per capita only ($)
Graduation threshold	*32*	*66*	*1,190*	*2,380*
Afghanistan	38.8	22.5	357	357
Bangladesh	32.4	54.7	637	637
Bhutan	44.2	59.0	1,700	1,700
Cambodia	50.5	57.9	707	707
Kiribati	82.0	86.9	1,937	1,937
Lao PDR	37.1	61.4	913	913
Myanmar	45.0	68.8	704	704
Nepal	27.8	59.8	420	420
Solomon Islands	55.2	65.1	1,013	1,013
Timor-Leste	53.3	48.1	2,233	2,233
Tuvalu	63.9	88.1	4,993	4,993
Vanuatu	46.8	77.7	2,540	2,540

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Timeframe

- Steps for graduation:
  - Eligibility for graduation to be met at two consecutive triennial reviews
  - CDP may recommend the country for graduation
  - ECOSOC may endorse the recommendation by the CDP
  - General Assembly may take note of the decision of ECOSOC
  - Graduation takes effect three years after the decision by the General Assembly

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Timeframe #2

- Estimates of investment required to meet graduation criteria for the **1st time** by CDP review in **2021**

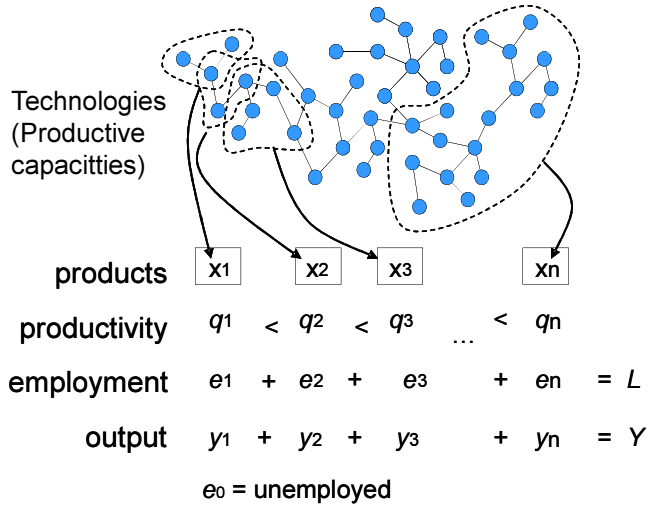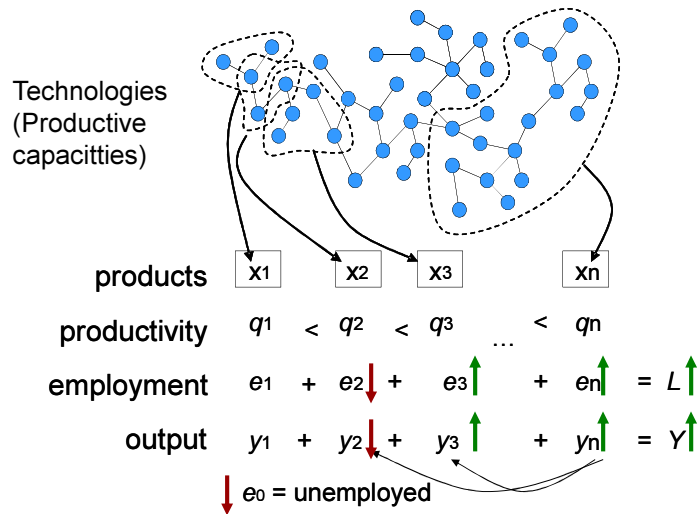| Already eligible	2015	2016	2017	2018	2019	2020	2021
Vanuatu Tuvalu Kiribati		Latest data for 2018 CDP review			Latest data for 2021 CDP review		

Threshold

- ## 2012 review threshold
- GNI per capita
  - $ 1190 (current) – applied as threshold of 3-year average (2008-2010)
  - It corresponds to 120% of WB GNI low income (2010) $ 995 (current)
  - Use in $ constant 2005 = $ 1085
- HAI
  - Threshold = 66
- EVI
  - Threshold = 32

Conceptual framework
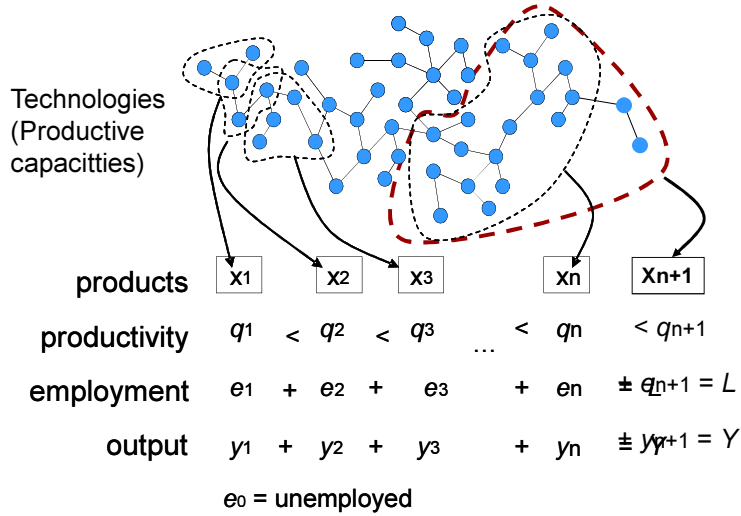
- Economy as a set of different economic activities

- Each producing a single product (x) with different:
  - productivity (q)
  - employment (e)
  - output (y)

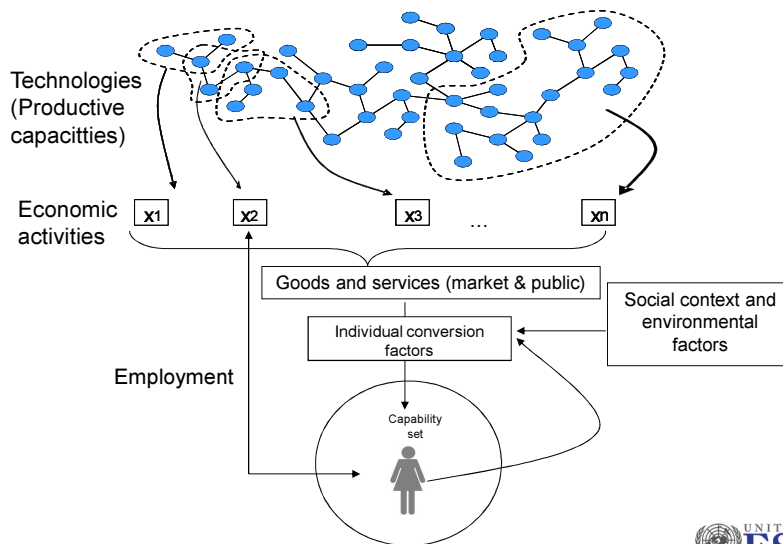- Each product requires a specific combination of technologies to be produced

Technologies (Productive capacitties)

products x_1 x_2 x_3 x_n

productivity q_1 $<$ q_2 $<$ q_3 ... $<$ q_n

employment e_1 $+$ e_2 $+$ e_3 $+$ e_n $=$ L

output y_1 $+$ y_2 $+$ y_3 $+$ y_n $=$ Y

e_0 = unemployed

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Economy evolves by (a) shifting employment and changing rate of growth by economic activity

Technologies (Productive capacitties)

products x_1 x_2 x_3 x_n

productivity q_1 $<$ q_2 $<$ q_3 ... $<$ q_n

employment e_1 $+$ $e_2 \downarrow$ $+$ $e_3 \uparrow$ $+$ $e_n \uparrow$ $=$ $L \uparrow$

output y_1 $+$ $y_2 \downarrow$ $+$ $y_3 \uparrow$ $+$ $y_n \uparrow$ $=$ $Y \uparrow$

$\downarrow$ e_0 = unemployed

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Economy evolves by (b) adding/removing technologies and diversifying the economy

Technologies (Productive capacitties)

products	X_1	X_2	X_3		X_n	X_{n+1}
productivity	q_1 <	q_2 <	q_3	... <	q_n	< q_{n+1}
employment	e_1 +	e_2 +	e_3	+	e_n	$\pm e_{n+1} = L$
output	y_1 +	y_2 +	y_3	+	y_n	$\pm y_{n+1} = Y$

e_0 = unemployed

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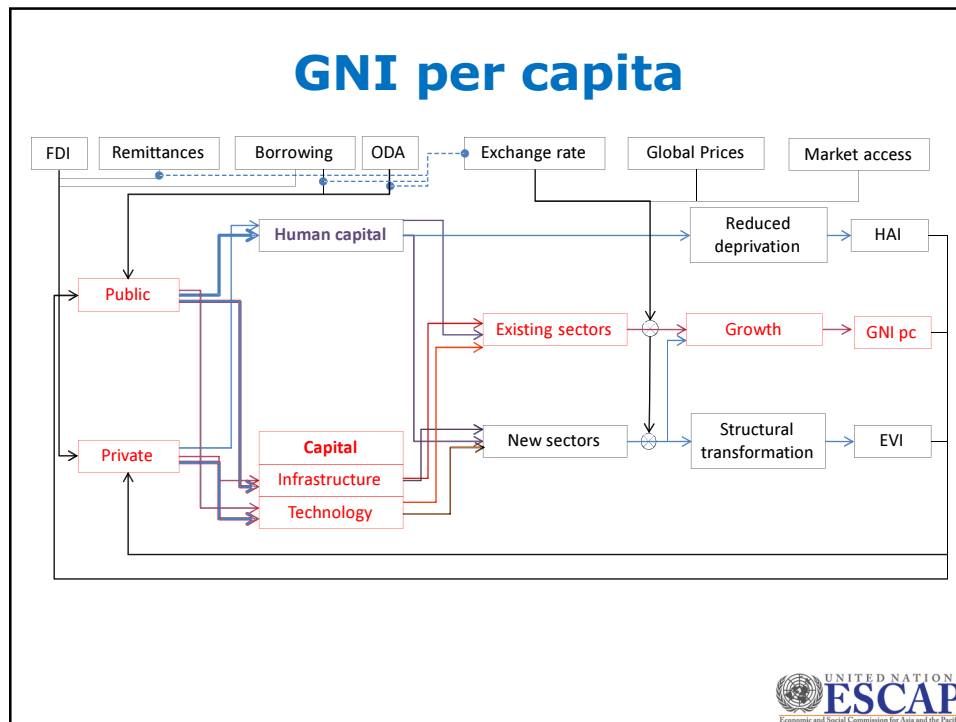## Inclusive development: growth with shift of employment to productive jobs and provision of basic services

Technologies (Productive capacitties)

Economic activities

x_1 x_2 x_3 ... x_n

Goods and services (market & public)

Social context and environmental factors

Individual conversion factors

Employment

Capability set

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More diversified economy increases resilience to economic and natural shocks

Technologies (Productive capacitties)

Economic activities

x1   …   Xn

Goods and services (market & public)

Individual conversion factors

Social context and environmental factors

Employment

Capability set

Conceptual Framework

FDI | Remittances | Borrowing | ODA | Exchange rate | Global Prices | Market access

Human capital

Public

Reduced deprivation — HAI

Existing sectors ⊗ Growth → GNI pc

Private

Capital
Infrastructure
Technology

New sectors ⊗ Structural transformation → EVI
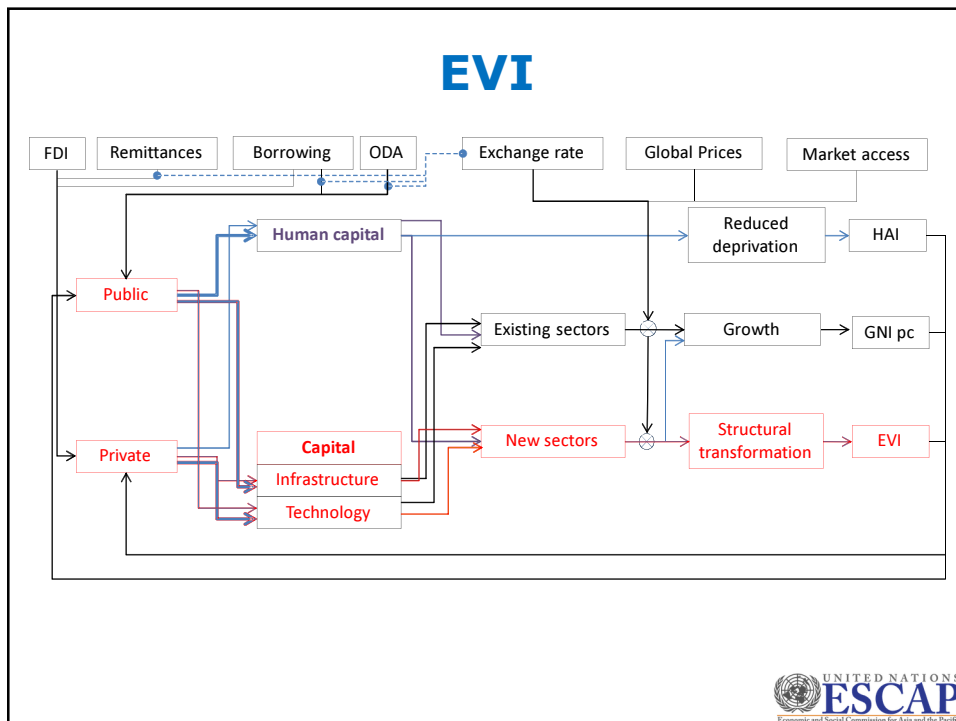
GNI per capita

GNI per capita

- Elasticity of gross capital formation (GCF) per capita on GNI per capita (constant terms)
- Panel data with 130 countries
- Controlling for changes in EVI and HAI
  - GNI per capita=f(GCF per capita, EVI, HAI)
- Elasticity used to estimate the increase in GCF required to increase GNI per capita to reach the threshold by 2019

Assumptions
(GNI)

- "Business as usual" (BAU) growth in GNI per capita in the period 2014-2019 :

    a) Compound average growth rate of GNI per capita in the period 2006-2011

    b) Same as the IMF estimates of real GDP per capita growth in the period 2014-2019

- BAU growth in gross capital formation in the period 2014-2019 estimated as compound average growth rate of GNI per capita in the period 2006-2011

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EVI

| FDI | Remittances | Borrowing | ODA | Exchange rate | Global Prices | Market access |

Human capital → Reduced deprivation → HAI

Public

Existing sectors → Growth → GNI pc

Private

Capital
Infrastructure
Technology

New sectors → Structural transformation → EVI

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EVI

- Elasticity of gross capital formation (GCF) on EVI
- Panel data with 130 countries
  - EVI=f(GCF)
- Elasticity used to estimate the increase in GCF required to increase EVI to reach the threshold by 2019
- Impact:
 - remoteness, exp. concentration, instability of exports, and share of agriculture on GDP

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Assumptions (GNI and EVI)

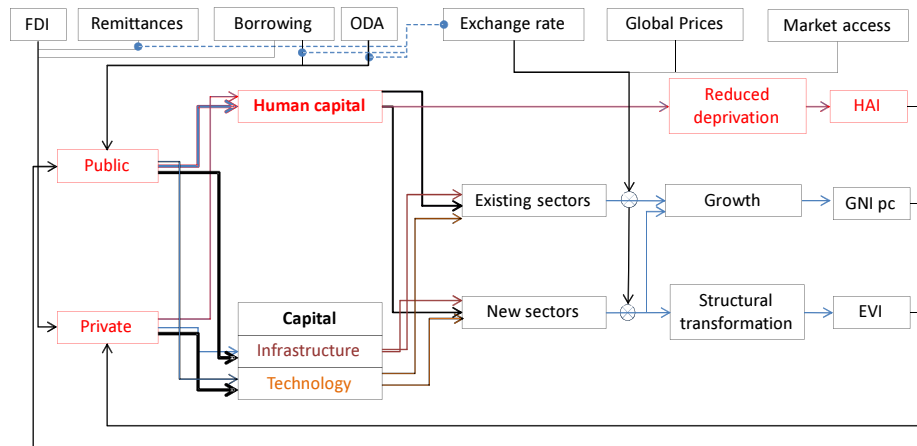- 1) Additional investment made in one year triggers endogenously the same level of investment in the following year

Investment

required

e

d

c

b

a

Initial trend

2014   2015   2016   2017   2018   2019

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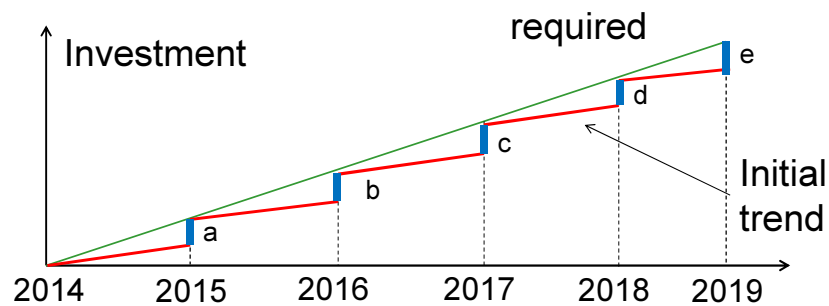
Assumptions (GNI and EVI) #2

- 2) Additional investment made in one year has no influence in the level of investment in subsequent years
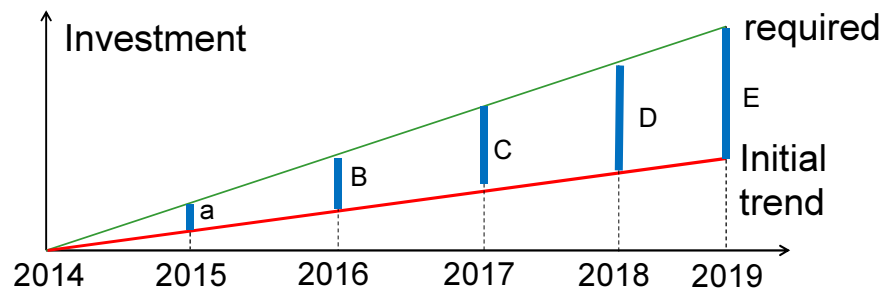
HAI

Assumptions
(HAI)

- Public expenditure in health and education in 2015-2019 period will impact:
  - Under-5 mortality rate (1/4)
  - Gross secondary school enrolment ratio (1/4)
- Will not impact
  - Adult literacy rate (1/4)
  - Percentage of population undernourished (1/4)
- Two set of estimates:
  - Under5 = f($pub\_xpd\_health\_edu$, $priv\_xpd\_health$, sec)
  - Sec = f($pub\_xpd\_health\_edu$, Under5)

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Preliminary Results

Estimates of additional resources required close graduation gaps, period 2015-2019 ($ billion)

	Low estimates					High estimates				
Country	GNI only	GNI	HAI	EVI	Total	GNI only	GNI	HAI	EVI	Total
Afghanistan	35.5	6.0	0.0	0.5	0.5	99.8	25.8	0.0	12.6	12.6
Bangladesh	296.0	18.7	60.3	0.0	18.7	695.0	61.1	167.7	0.0	61.1
Bhutan	0.0	0.0	0.5	1.5	0.0	0.0	0.0	1.0	103.8	0.0
Cambodia	31.9	3.4	2.8	0.0	2.8	56.5	4.6	6.2	0.0	4.6
Kiribati	0.2	0.0	0.0	0.2	0.0	0.3	0.0	0.0	48.6	0.0
Lao PDR	21.5	1.5	1.2	0.0	1.2	44.7	3.1	2.6	0.0	2.6
Myanmar	315.0	37.2	0.0	7.2	7.2	958.0	196.0	0.0	392.5	196.0
Nepal	281.0	60.4	6.1	0.0	6.1	552.0	146.0	13.6	0.0	13.6
Solomon Islands	3.8	0.5	1.5	0.8	1.3	5.9	0.5	3.8	127.5	4.2
Timor-Leste	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	150.4	0.0
Tuvalu	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Vanuatu	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	2.7	0.0
Total					37.8					294.7

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Take away message

- Graduation is affordable if investment is productive and has an spillover effect in generating further investments in the economy

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Thank you

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