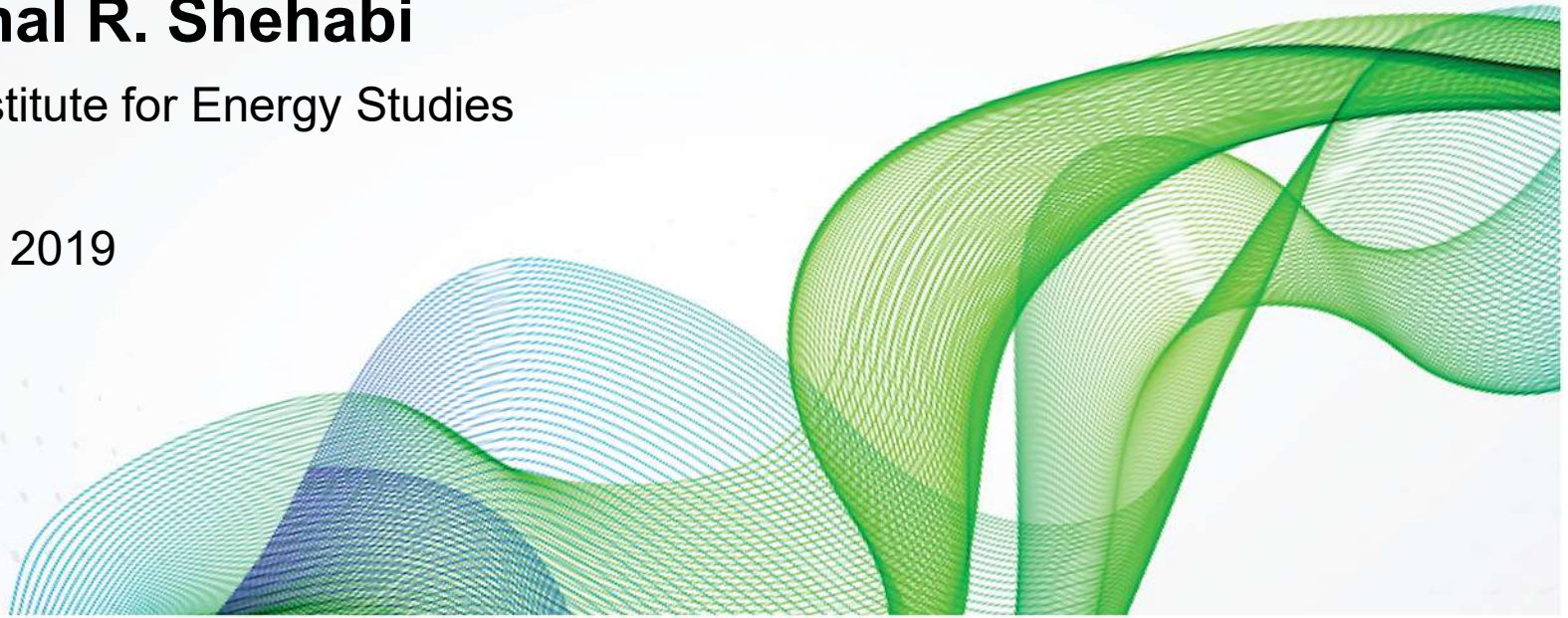# Economic Diversification and its Measurement Using Qualitative and Quantitative Tools

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Outline

➤ Economic diversification

➤ Qualitative tools for measuring diversification

➤ Quantitative tools for measuring diversification

➤ Example

Outline

- **Economic diversification:**
  - **What**
  - **Why**
  - **How**
- Qualitative tools for measuring diversification
- Quantitative tools for measuring diversification
- Examples

Economic Diversification

➢ This discussion builds upon the previous presentation on economic diversification.

➢ Analysing economic diversification at the national level adds value to planning policies aimed at increasing diversification sectors as adaptation measure; a response measure to climate change; or a means to reduce adverse impacts of response measures

➢ Economic diversification as a strategy to transform the economy:

  ➢ From using a single source to multiple sources of income

  ➢ Spread over primary, secondary and tertiary sectors

  ➢ involving large sections of the population.

➢ An instrument for long term solutions

1- What is Economic Diversification?

➢ There is neither a common definition of diversification nor common metrics to measure it

➢ Export diversification is often implicitly meant or used as a proxy

➢ BUT, economic diversification can mean:

   ➢ **Value added/GDP**: Share of a given sector in total GDP

   ➢ **Export** : Share of exports of a given sector in total exports

   ➢ **Fiscal /government budget**: Share of budget generated from a given sector in total government budget

   ➢ **Employment**: share of total employment in a given sector of the total workforce of an economy

   ➢ **Import concentration of intermediates:** share of total intermediates that is imported

• Understanding the right definition is important to identifying the right policies

Diversified or Not?

Hydrocarbon-dependent economies in the Middle East and North Africa (MENA) are often considered the post-child for undiversified economies that urgently need to diversify. **Energy sectors are capital-intensive!**

Share of mining, manufacturing, and utilities in MENA countries' GDP
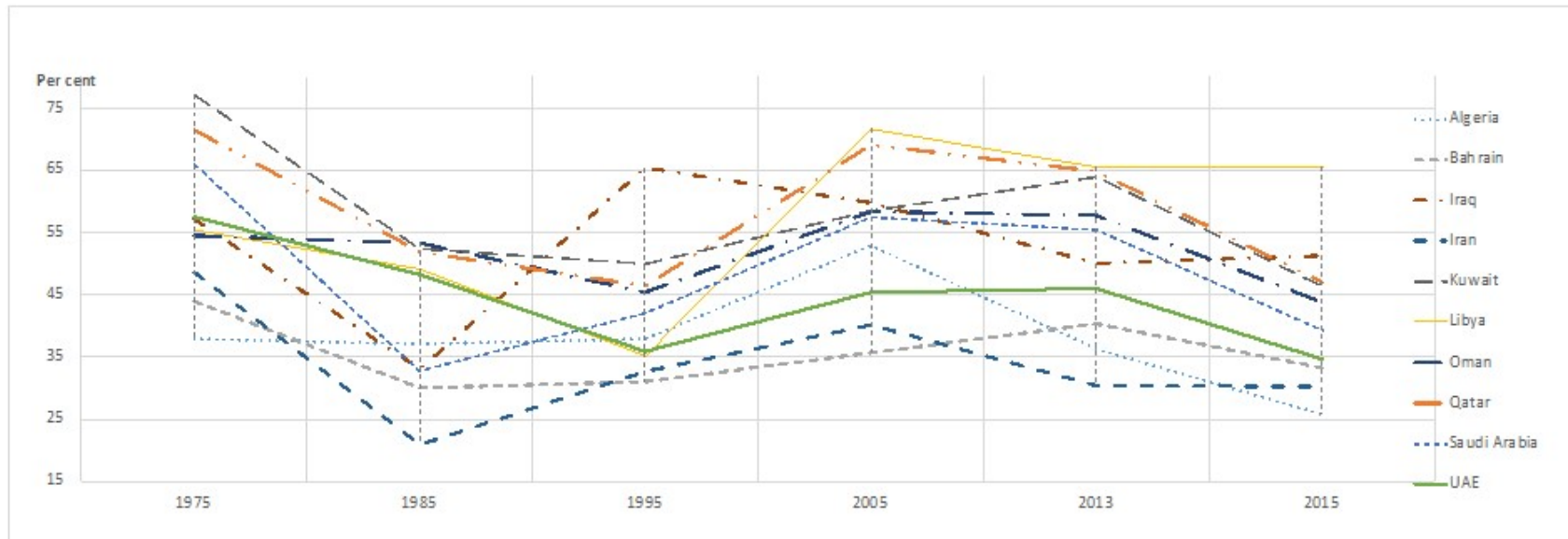
Source: UN Input Output Tables (2018).

Indicative data:

Overestimated as refining is the bulk of manufacturing
Underestimated after 2013 with drops in oil prices

The Need for Better Diversification

GCC non-energy sectors, 2014

Country	Share of non-energy sectors (%)
	In value added
Bahrain [a]	60
Kuwait [b]	39
Oman [c]	46
Qatar [d]	68
Saudi Arabia [e]	50
UAE [f]	55

Norway, by contrast, the share of mining, manufacturing, and utilities in GDP was 45% in 1975 and 34% in 2013.

Notes: The share of the non-energy sectors in value added was calculated as 100 per cent minus the share of the energy sectors. Unless otherwise stated, the share in government revenue was based on data reported by the government and may include income from oil and gas investments; thus, it may be overstated. For United Nations value added data (2018), sectoral data on the share of non-energy in value added were not available in the national accounts, so UN data for mining, manufacturing (including refining), and utilities were used as proxies; therefore, these figures may be underestimated. For Qatar, government revenue excludes income from oil and gas investments. Sources are listed below. For UAE, the share of non-energy exports is for 2016.

The Need for Better Diversification

GCC non-energy sectors, 2014

Country	Share of non-energy sectors (%)	
	In value added	In exports (includes re-exports)
Bahrain [a]	60	31
Kuwait [b]	39	9
Oman [c]	46	16
Qatar [d]	68	15
Saudi Arabia [e]	50	20
UAE [f]	55	22

Notes: The share of the non-energy sectors in value added was calculated as 100 per cent minus the share of the energy sectors. Unless otherwise stated, the share in government revenue was based on data reported by the government and may include income from oil and gas investments; thus, it may be overstated. For United Nations value added data (2018), sectoral data on the share of non-energy in value added were not available in the national accounts, so UN data for mining, manufacturing (including refining), and utilities were used as proxies; therefore, these figures may be underestimated. For Qatar, government revenue excludes income from oil and gas investments. Sources are listed below. For UAE, the share of non-energy exports is for 2016.

The Need for Better Diversification

GCC non-energy sectors, 2014

Country	Share of non-energy sectors (%)		
	In value added	In exports (includes re-exports)	In government revenue
Bahrain [a]	60	31	17
Kuwait [b]	39	9	9
Oman [c]	46	16	21
Qatar [d]	68	15	10
Saudi Arabia [e]	50	20	12
UAE [f]	55	22	40

Notes: The share of the non-energy sectors in value added was calculated as 100 per cent minus the share of the energy sectors. Unless otherwise stated, the share in government revenue was based on data reported by the government and may include income from oil and gas investments; thus, it may be overstated. For United Nations value added data (2018), sectoral data on the share of non-energy in value added were not available in the national accounts, so UN data for mining, manufacturing (including refining), and utilities were used as proxies; therefore, these figures may be underestimated. For Qatar, government revenue excludes income from oil and gas investments. Sources are listed below. For UAE, the share of non-energy exports is for 2016.

A Significant Diversified Base, But…

- Main message: the size of the non-energy base is sizable and has increased over time

- Factors aiding this diversified base in the Gulf area
  - Large non-tradable services sectors
  - An open exchange trade system
  - Savings in the sovereign wealth funds
  - Openness to expatriate labour.

- Yet this economic base fails to contribute to diversification of export revenues or government (fiscal) revenues due to structural constraints and economic distortions

- Therefore, economic diversification strategies must consider the combination of economic and energy policies that relax some of these constraints and distortions and impact of economic diversification measures.

Diversified or Not?

Contribution of agriculture to GDP in selected Asia-Pacific countries
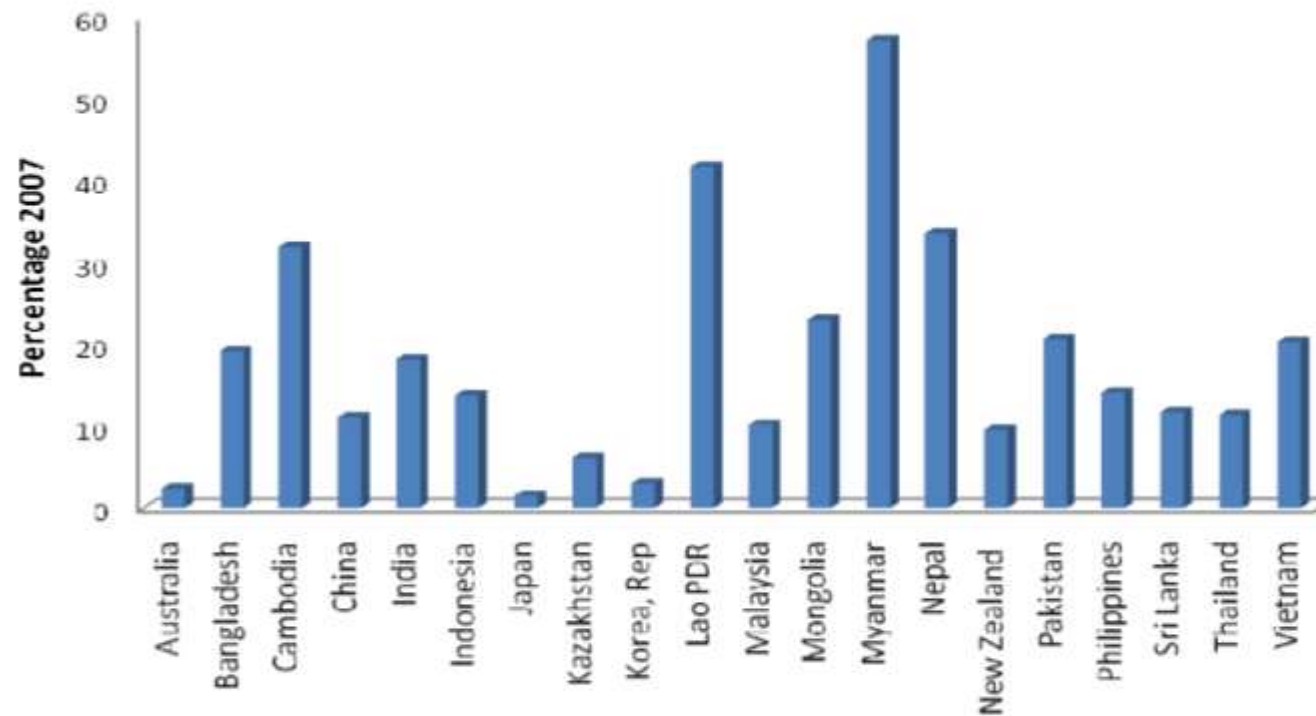
Source: FAO 2009

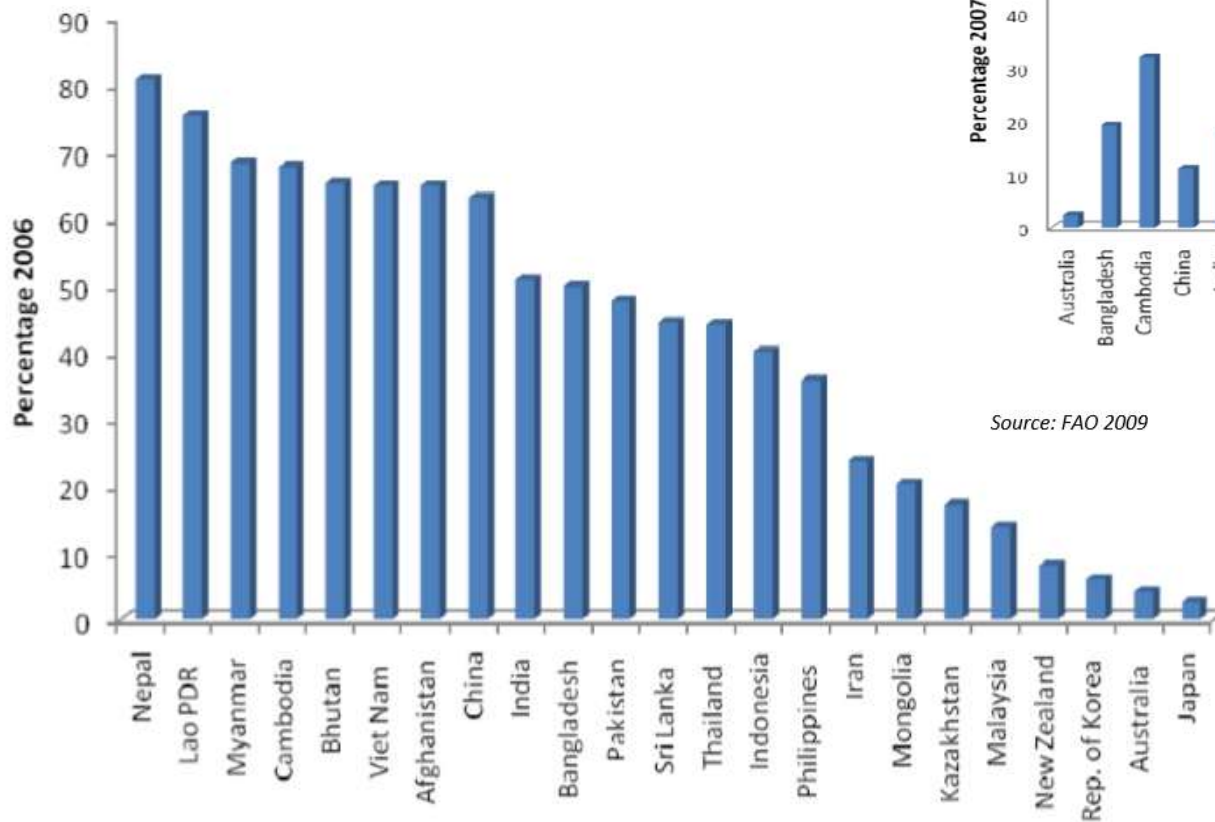**Agricultural sectors are labor-intensive!**
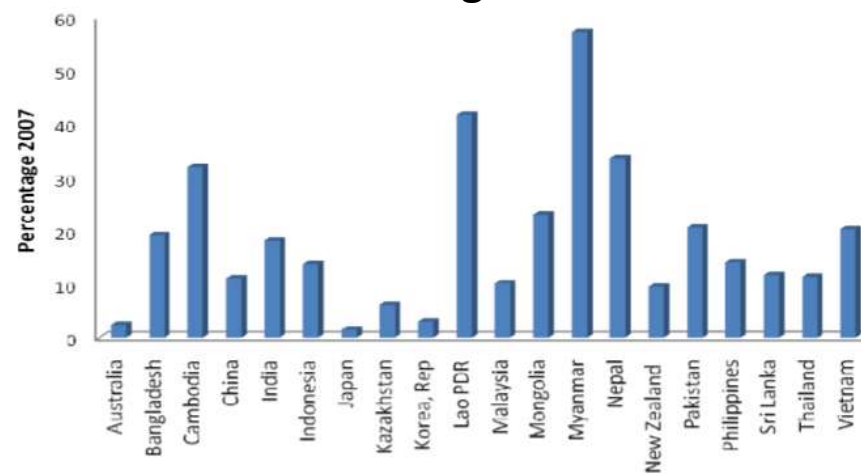
Labor in Agriculture

Contribution of Population working in agriculture to total population in Selected

Contribution of agriculture to GDP

Source: FAO 2009

Source: FAO 2009

Exports vs. GDP

Per capita agriculture exports and share of agriculture in GDP in selected Asia Pacific countries (2006)
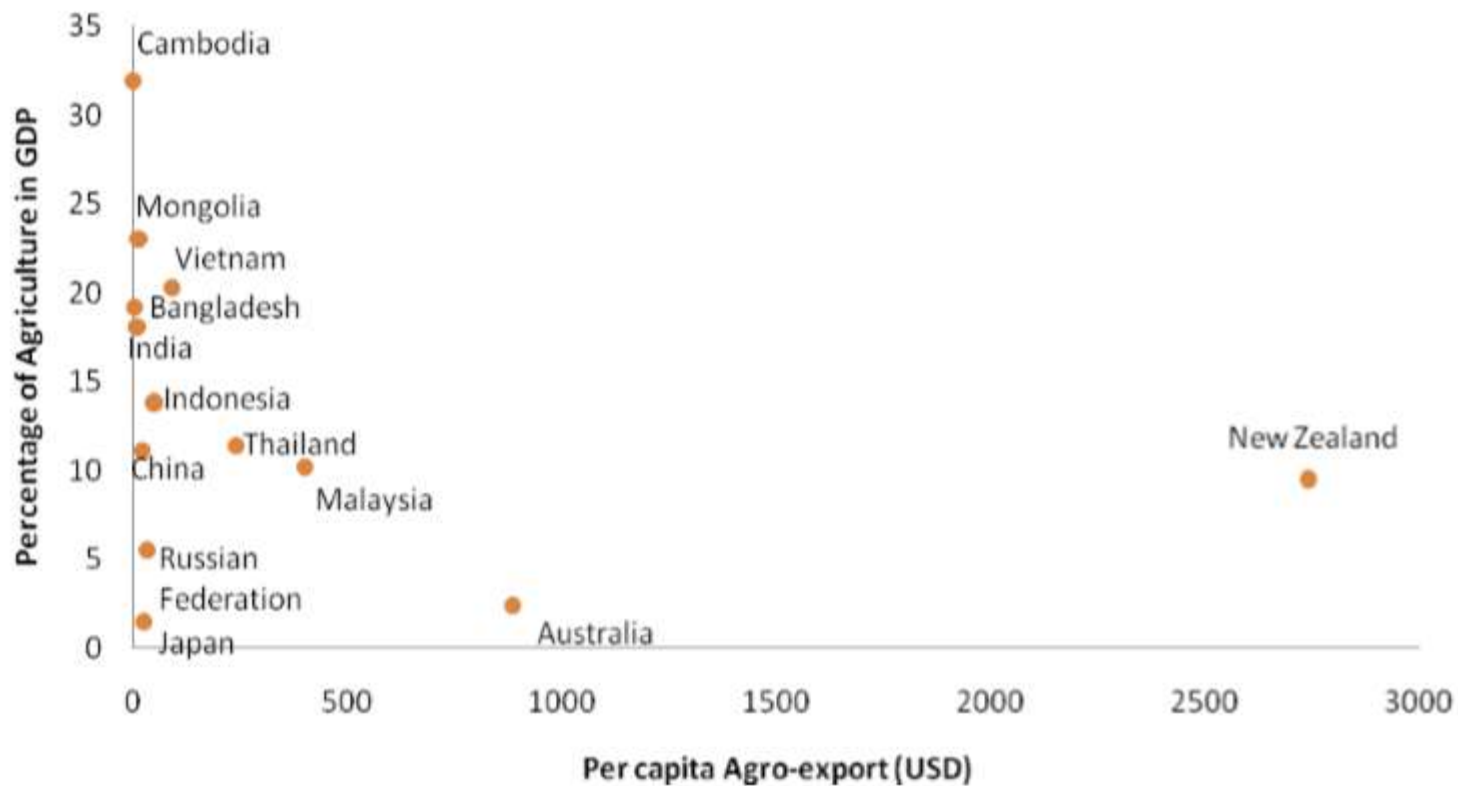
Source: FAO 2009 and COMTRADE 2011

Takeaway

- Economist diversification is nuanced and has different elements to it, all of which are important to policy making

- The size of a sector in terms of GDP or contribution to exports is not always indicative of the state of diversification or the extent to which a sector is "vulnerable"

- Factor intensity matters

- In the context of response measures, export diversification is not always the right proxy for either the level of diversification or the effect of response measures on climate change.

2- Why Economic Diversification?

- Important for economic, environmental, and energy sustainability
- But the type of economic diversification that is beneficial to an economy will depend on the economy's needs and specific circumstances
- In the context of Asia-Pacific, economic diversification matters for:
  - Countries that depend on exporting fossil fuels and energy resources, such as:
    - Saudi Arabia
    - Iran
    - Brunei
  - Countries that depend on exporting other natural resources of fisheries and agricultures, such as:
    - Thailand
    - Timor-Leste
    - Cambodia
  - Countries that import energy sources, such as:
    - Singapore
    - Egypt
  - Countries that emit very little carbon, but are affected, such as:
    - Maldives
    - Thailand
    - Sri Lanka
  - Landlocked developing countries (LLDCs): Of the total 32, 12 are located in Asia

3- How Can Diversification be Achieved?

➤ Not much literature on how economic diversification can be produced
➤ Takes a long time and requires long-term planning vision
➤ Path dependent
➤ Designing economic diversification policies and integrating them into existing or new sustainable development strategies with specific and measurable targets
➤ Applying tools and methods to assess policy impacts and measure achievements against targets
➤ Policy must be specific to a given economy taking into account the different levels of vulnerabilities of an economy depending on level of exposure, resources, and capacity, per previous examples
  ➤ Brunei
  ➤ Maldives
  ➤ Bangladesh
➤ Examples:
  ➤ New opportunities were achieve in Timor-Leste by rehabilitating the coffee sector (to increase the quality, quantity and value of coffee products), developing the aquaculture sector and providing capacity-building for small businesses in rural areas, particularly those run by women.
  ➤ New Zealand has identified as a goal achieving economic diversification that is independent of fossil fuels through the provision of secure, sustainable energy.

What Affects Economic Diversification

Existing factors: Endogenous variables

- Structural factors
  - Existing industries
  - Existing capital
  - Population, current and future
  - Human capital and skills
  - Quality of institutions
  - Education
  - Fiscal structure
- Productivity of firms (partly structural)
- Technology acquisition and development
  - Technology development, especially one tailored to the needs of a skilled workforce
- Existing physical infrastructure
  - Airports and harbors
  - Road infrastructure

What Affects Economic Diversification

➢ Existing resources
  ➢ Geographic location
  ➢ Future available workforce
  ➢ Natural resources
  ➢ Possibility of technology transfer
  ➢ Sufficient level of achieve economies of scale
➢ Good governance and existing policy frameworks
  ➢ Competition
  ➢ Labor upskilling and reskilling
  ➢ Intellectual property rights
  ➢ Productive policies
  ➢ Coordination
  ➢ Compensatory measures.

What Affects Economic Diversification

Changes in new policy or external circumstances: Exogenous variables

➢ Demand-side policy reforms:
  ➢ E.g., Taxation and subsidization policies
➢ Supply-side policy reforms:
  ➢ E.g., Education
    ➢ for example, the gradual build-up of a world-class network of technology institutes in India
  ➢ Labor upskilling and reskilling for those affected in vulnerable
➢ Productivity policy reforms:
  ➢ Competition-enhancing reforms
  ➢ Productivity-enhancing reforms
  ➢ Intellectual property rights
➢ External shocks
  ➢ War, financial crisis, climate change mitigation, decline in resource price, etc.

Cautionary Points…

➢ Diversification strategies do not necessarily mean:
  ➢ Green industries
    ➢ Transportation is not necessarily green
  ➢ New jobs
    ➢ Limited jobs of renewables energy sector
  ➢ Equitable rent distribution
    ➢ Technological adaptation can either enhance workforce skills, or it can also replace jobs through automation
  ➢ Large economic growth
  ➢ Economic transformation

➢ Hence the importance of designing economic diversification policies that are strategic and examine the economic, social, employment, trade, and environmental effects.

Outline

➢ Economic diversification

➢ **Qualitative tools for measuring diversification**

➢ Quantitative tools for measuring diversification

➢ Example

Starting Point

➢ There is neither common definition of diversification nor metrics to measure it.

➢ The measurement of export concentration as proxy to measure economic diversification is **not always the right measure!**

➢ A starting point for any assessment is a measurement of diversification:

  ➢ Value added/GDP

  ➢ Export

  ➢ Fiscal /government budget

  ➢ Employment

  ➢ Import concentration of intermediates

Qualitative Methods

➢ Qualitative methods produce a description of the potential effects of policies and measures

➢ An estimate of the direction of change (positive or negative) and/or its relative size (small, medium, large)

➢ There are no prescribed qualitative methods for measuring or assessing economic diversification

➢ Methods (akin to approaches) used by different parties:

  ➢ Method 1: Macroeconomic assessment

  ➢ Method 2: Microeconomic assessment

  ➢ Method 3: Policy attributes assessment

➢ Limitations of qualitative assessments; needs to be complements and measured by evidenced-based quantitative assessments.

Macroeconomic Assessment

➤ Based on application of understanding of economic theory and interaction of economic variables with a focus on the macro side, such as:
  ➤ Total growth, employment, inflation, investment
  ➤ Total GHG emissions and intensity
  ➤ Total energy poverty
  ➤ Exchange rate effects
  ➤ Government budget

➤ Insufficient by itself
➤ Looks at the aggregate result and examines net results
➤ Example: Country A removes restrictions on foreign investment to attract new industries
  ➤ What will happen to the aforementioned variables?
➤ Example: Country B removes trade barriers to expand exports of existing manufacturing currently consumed locally
  ➤ What will happen to the aforementioned variables?

Microeconomic Assessment

- Based on application of understanding of economic theory and interaction of economic variables with a focus on the micro side, such as:
  - Effects on industrial/sectoral performance
  - Firms' performance, productivity, and employment
  - Effects on specific groups of the population

- Insufficient by itself
- Takes into account winners and losers, rather than the net result
- Example: Country B removes trade barriers to expand exports of existing manufacturing currently consumed locally
  - What will happen to the aforementioned variables?
  - How are the results different from the macro level?

Policy Attributes Assessments

➢ Can be applied to macro or micro assessment, or a combination of both
➢ Diversification policy example: creating port facilities and knowledge-based shipping services
➢ Assessing the impact of a diversification policy by examining its attributes:
  ➢ **Effectiveness**
    ➢ Does the policy achieve the intended target?
    ➢ Examples of targets: welfare improvement, reduction of GHG emissions, increasing size of exports, etc.
  ➢ **Efficiency**
    ➢ What is the relationship between the objective that the policy is intended to achieve and the costs that the economy bears due to its introduction?
    ➢ Example: overall welfare costs
  ➢ **Equity**
    ➢ How does a given policy affect different categories in the economy?
    ➢ Example: effect of increase of a new tax on energy for workers in the industry versus other industries
  ➢ **Feasibility**
    ➢ How difficult is it to introduce and implement the policy? Are the necessary resources available?
    ➢ Relates to equity
    ➢ Example: targeting the creation of knowledge-based industries in an economy with weak educational infrastructure in the economy

Outline

➢ Economic diversification

➢ Qualitative tools for measuring diversification

➢ **Quantitative tools for measuring diversification**

➢ Example

Indices as Measurement Tools

- Indices are a means to measure the extent of diversification in an economy as a range (0 to 1)

- Assumes export diversification as the *right* or proxy measure

- Index values:

  – Calculated and monitored by different international organizations for different countries, <u>so they will not be covered in detail here</u>

  – One type measures country's absolute specialization, indicating the specialization in a country

    - E.g., ogive index, entropy index, Herfindahl- Hirschmann index, Gini index, diversification index;

  – A second type measures a country's economic structure from a reference group of industries

    - E.g. Theil index, relative Gini index, inequality in productive sectors.

- Other measures, such as economic complexity

Indices and Method to Measure Diversification

Measurement tool	Basis of making judgment on diversification	Relationship between index and diversification
Herfindahl-Hirschmann and ogive indices	Equal distribution of employment across sectors is the highest benchmark of diversification	The lower the value, the more diversified the economy
Entropy index (Shannon entropy index)	Equal distribution of employment across sectors is the highest benchmark of diversification	The higher the value, the more diversified the economy
Hachman index and location quotient	The resemblance of the employment distribution of a State or region to that of the nation is a measure of economic stability	The higher the value, the more stable the economy; a sector with a high value is an export sector
National average index	A region's share of stable or unstable sectors is a measure of economic diversity	As the region's share of economic activity approaches the country's share for all sectors, the index approaches zero
Portfolio variance	Captures the characteristics of individual industries, and inter-industry relationships with regional growth and instability	The lower the variance, the more diversified the economy

Main Quantitative Methods for Assessment

➤ **Econometric analyses**

Empirical research using complex econometric techniques

depend heavily on the statistical methods and measures

can offer correlation, explanatory, or predictive measures.

Economy-wide assessments

➤ Input–output (IO) model

➤ Applied general equilibrium (GE), usually in the form of a computable general equilibrium (CGE)

Input-Output Models

➤ A comprehensive framework for modeling a region's economic structure in terms of production, consumption and trade relationships (including the level and mix of exogenous final demands), and economic performance as a direct function of its economic structure.

➤ Enables assessment and comparison of the growth and stability impacts of different diversification strategies and their ranking

  ➤ E.g. Import substitution, changing levels and mix of exogenous final demands, export promotion program.

➤ Large data requirements

➤ Big limitations:

  ➤ Data limitations; lack of consistent I-O tables over time
  ➤ Assumptions of constant returns to scale are not realistic
  ➤ Does not allow the possibility of factor substitution
  ➤ Rigid
  ➤ Lays emphasis on the production side for the economy
  ➤ There is lack of time-series data on exogenous final demands to estimate their expected growth and variance
  ➤ Importantly, there is no mechanism for price adjustments

Why an Economy-Wide CGE Model

- Applied GE method for research and public policy
- Used when analysis requires considering the empirical implications of simultaneous equilibrium in a number of markets
- A class of economy-wide models that captures the major structural features of an economy, representing interactions between industries
- Offers industry disaggregation in a quantitative description of an economy through a set of mathematical equations
- Evaluating economy-wide impacts of policies and economic shocks in the presence of economic distortions requires capturing interactions between industries and second-best effects, which can be measured <u>only</u> by CGE models
- For policy makers, very useful whenever policy changes affect a large share of economic activity or when it is important to consider changes in the sectoral structure of output, trade, demand, employment, prices
- **Has become the preferred method to affect public policy**
- Uses input-output tables to build a social accounting matrix
- A very powerful tool….

   ….. but depends on the modeler's and user's interpretation of results

What is it..

- **IT IS:**

  ✓ Simulation tool
    – What if scenario
  ✓ Micro and macroeconomic foundations
  ✓ Real; relative prices (*numeraire)*

- **IT IS NOT:**

  X Prediction tool
      - What will scenario
  X Statistical correlation
  X Money (inflation)

General Model Types

➢ *Single country models*

– Norway and Australia are the two countries in which CGE modeling has had its highest profile in policy formation.

➢ *Regional and global models*

– Analysis of several major contemporary issues including: climate change, multilateral an bilateral trade agreements, immigration, and international financial imbalances, can benefit from a global perspective.

CGE for Measuring Diversification Strategies

- A very wide range of issues on which CGE models have had an influence, including:
  - Structural adjustment policies
  - International trade
  - Public finance
  - Agriculture
  - Income distribution
  - Energy and environmental policy
  - Migration
  - Industrial policy
  - Welfare transfers

- Examples:
  - *NAFTA negotiations*– impacts on trade, textile, agriculture, labor, migration
  - *Canada*– evaluating public finance options and taxation reform
  - *Australia*– motor vehicle tariffs, textile tariffs, overall protection and sales taxes, mining tax
  - *Sweden*– policy in climate change and levels of carbon taxation
  - *The Philippines*– energy taxes based on results of a CGE model
  - *Thailand*– effects of imposing VAT
  - *Europe*– nuclear energy policy

General Steps involved in Modeling

➤ Technical aspects of CGE modeling include:

- Data collection
- Construction of database of a base year
- Model construction by representing transactions of the economy in a set of mathematical equations
- Writing the mathematical equations in the programing language of the software used for solving the model
- Solving the model against the base year data to calculate or estimate parameters
- Computation and solving model against
- Validation
  - Computational validation;
  - consistency with history; and
  - testing base-line forecasts against reality.

➤ Can be comparative static (short vs. long run changes) or dynamic (changes with time)

➤ Behind any policy-relevant CGE result is an enormous amount of background work on data, estimation and computation.

Outline

➤ Economic diversification

➤ Qualitative tools for measuring diversification

➤ Quantitative tools for measuring diversification

➤ Challenges

➤ Be careful…

➤ **Example**

An Economy-Wide Model of the Kuwait Economy

- An example of an economy-wide computable general equilibrium (CGE) model for Kuwait

- Simulations from Shehabi (2017, 2019)

- A Social Accounting Matrix (SAM) was constructed using various data sources as the model database, which was then calibrated to the model

- The model database offers various details on the state of diversification on the economy

Model Structure

- One representative household; the behavior of :
    - households
    - firms
    - government
- Consumption of local products and imports per industry per demand side
- 14 industries; 8 non-tradable; 6 energy intensive

Adaptation of the Labor Market

- Separate labor markets and their structures

Sector	Kuwaitis		Non-Kuwaitis		Total	
	Numbers of employees	Percentage of total by sector	Numbers of employees	Percentage of the total labour force	Numbers of employees	Percentage of the total labour force
Public	326,271	70%	139,594	30%	465,865	100%
Private	93,195	5%	1,934,240	95%	2,027,435	100%
Unemployed	10,692	33%	21,255	67%	31,947	100%
Total	430,158	17%	2,095,089	83%	2,525,247	100%

Source: Author's analysis using Public Authority for Civil Information (PACI) - Population and labour force data, January 2015.

➢Factors of production: capital, arable land, natural resources, and 4 types of labor

   ➢ Kuwait skilled; Kuwaiti unskilled
   ➢ Expatriate skilled; Expatriate unskilled

Economic Structure

Economic structural elements 2013

Sector/ Percentage	Share of GDP^{FC}*	Share of total exports	Export share of output	Net exports over output
1 Agriculture	0.3	0.0	1.3	-63.3
2 Mining	1.4	0.0	0.0	0.0
3 Crude oil	48.9	42.1	50.5	50.3
4 Gas and petro-services	0.9	1.3	50.5	50.3
5 Oil refining	5.4	38.6	72.6	72.2
6 Chemical	1.1	3.4	37.4	-1.7
7 Light manufacturing	0.8	0.4	4.1	-56.0
8 Heavy manufacturing	0.8	1.9	8.1	-72.0
9 Electricity	0.6	0.0	0.0	0.0
10 Other network services	4.6	4.6	32.3	31.4
11 Construction	2.2	0.0	0.0	0.0
12 Transport	3.4	5.7	38.9	14.1
13 Financial services	7.8	0.7	4.1	-1.3
14 Other services	21.7	1.2	1.8	-15.6

* GDP^{FC} is GDP at factor cost, which is the sum of value added in each industry.

Source: Model database (social accounting matrix) constructed by author for 2013.

Factor Intensity

Table 3. Factor intensity in value added by industry, 2013

Industry	Per cent of factor in value added by industry						
	Physical capital	Kuwaiti unskilled labour	Kuwaiti skilled labour	Expatriate unskilled labour	Expatriate skilled labour	Arable land	Natural resources
Energy sectors							
Mining	9.3	12.8	29.8	2.8	1.9	1.1	42.3
Crude oil	13.1	4.2	9.9	0.4	0.3	0.1	72.0
Gas and petro-services	25.7	15.1	18.4	1.1	0.7	0.1	39.0
Oil refining	86.6	5.4	6.6	0.8	0.5	0.0	0.0
Electricity	86.1	7.6	4.9	0.8	0.5	0.0	0.0
Other network services	65.4	6.9	4.2	4.4	3.0	16.1	0.0
Non-energy sectors							
Agriculture	35.1	0.5	0.4	5.7	2.4	41.4	14.5
Chemicals	76.8	4.1	4.1	9.5	5.6	0.0	0.0
Light manufacturing	55.4	10.0	10.0	18.4	6.1	0.0	0.0
Heavy manufacturing	52.6	10.7	10.7	19.6	6.5	0.0	0.0
Construction	32.2	9.5	4.1	38.0	16.3	0.0	0.0
Transport	52.9	10.6	3.5	28.0	4.9	0.0	0.0
Financial services	31.2	8.3	19.3	14.5	26.8	0.0	0.0
Other services	17.0	1.7	14.9	41.8	24.6	0.0	0.0

Source: Model database (social accounting matrix) constructed by the author for 2013.

- ## Oligopolistic industrial structure

Cumulative Kuwaiti firm shares of industry revenue
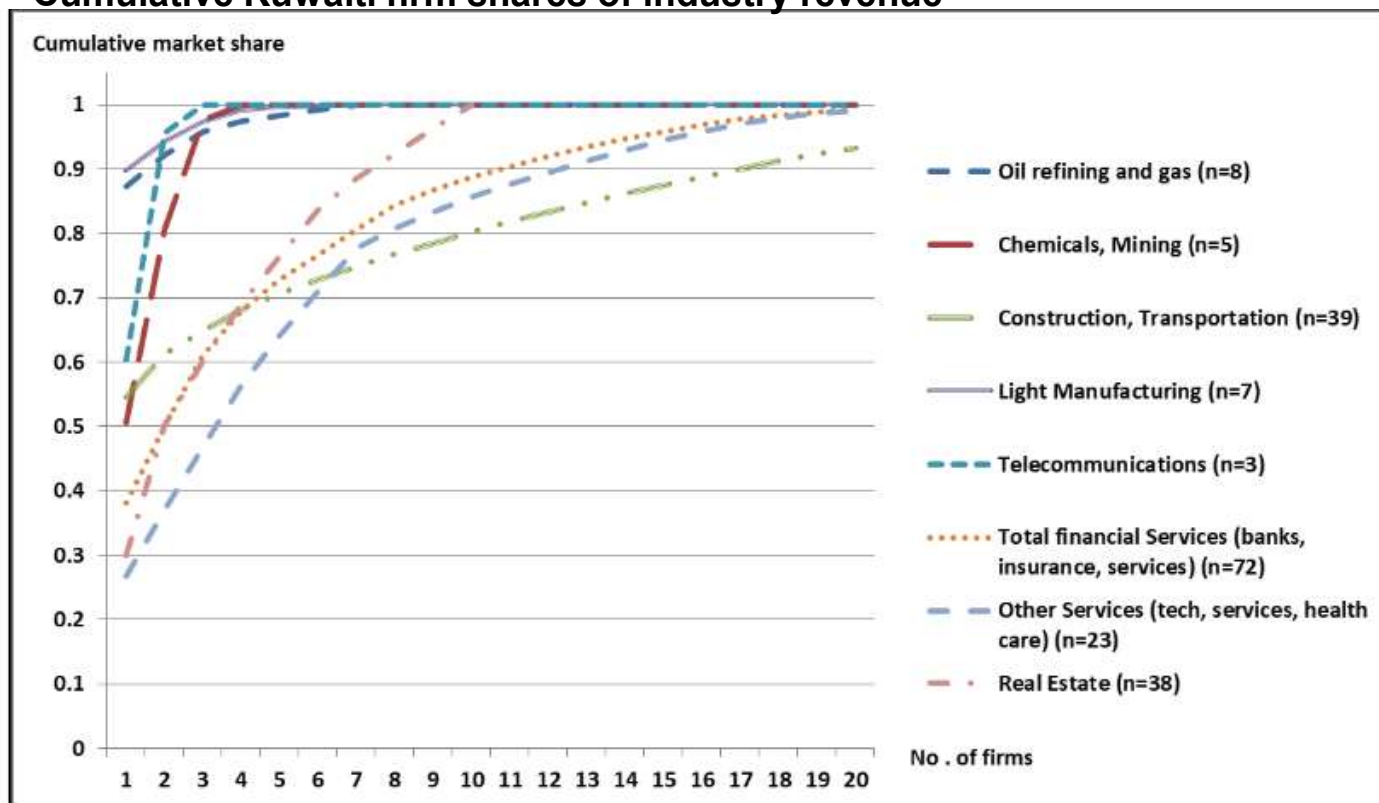
Source: Author's analysis using data from the Kuwaiti Stock Exchange.
Note: The vertical axis shows the cumulative share using revenue data except for financial services, which is calculated based on net profit (due to data limitations). The horizontal axis shows the number of total firms n.

Simulations to Analyze Economic Diversification

Example 1: Selected Long-run sectoral effects of following terms of trade shocks

Variable	Percentage change (departure from baseline)			
	Gross output	Gross output	Exports/GDP	Exports/GDP
Shock	-10%	+10%	-10%	+10%
2 Mining	38.7	-20.6	1.3	-0.8
3 Crude oil	-38.9	37.2	-10.4	11.5
5 Oil refining	-44.0	37.0	-16.4	14.7
6 Chemical	9.3	-15.7	0.2	-0.3
8 Heavy manufacturing	55.0	-36.6	0.9	-0.3
10 Other network services	3.3	-12.0	0.5	-0.6
14 Other services	6.8	-7.0	1.24	-1.2

Source: Simulation results.

Simulations to Analyze Economic Diversification

Example 2: Long-run sectoral changes in non-capital factor use by industry following a 2% decline in oil price

Industry	Percentage change (departure from baseline)						
	Physical capital	Kuwaiti unskilled labour	Kuwaiti skilled labour	Expatriate unskilled labour	Expatriate skilled labour	Arable land	Natural resources
Energy sectors							
Mining	5.16	5.74	2.86	2.93	2.29	14.54	5.16
Crude oil	-8.58	-8.14	-11.29	-11.22	-11.17	-0.53	-8.58
Gas and petro-services	0.99	1.37	0.41	0.42	-2.01	9.72	0.99
Oil refining	-9.34	-8.54	-22.85	-23.74	-9.97	-0.28	-9.34
Electricity	0.91	1.19	0.44	0.6	-1.83	8.84	0.91
Other network services	2.44	2.68	1.69	1.72	-0.27	10.61	2.44
Non-energy sectors							
Agriculture	4.85	5.45	7.49	7.2	4.76	17.3	4.85
Chemicals	3.46	3.59	3.4	3.47	-0.27	10.58	3.46
Light manufacturing	4.48	4.8	4.54	4.71	1.09	12.1	4.48
Heavy manufacturing	11.24	11.52	11.32	11.69	6.87	18.58	11.24
Construction	6.81	7.53	6.51	6.69	2.68	13.88	6.81
Transport	4.72	4.98	4.78	4.68	1.48	12.54	4.72
Financial services	1.97	2.33	2.03	2	-1.01	9.76	1.97
Other services	1.4	1.9	1.59	1.59	-1.36	9.37	1.4

Source: Simulation results.

Discussion