

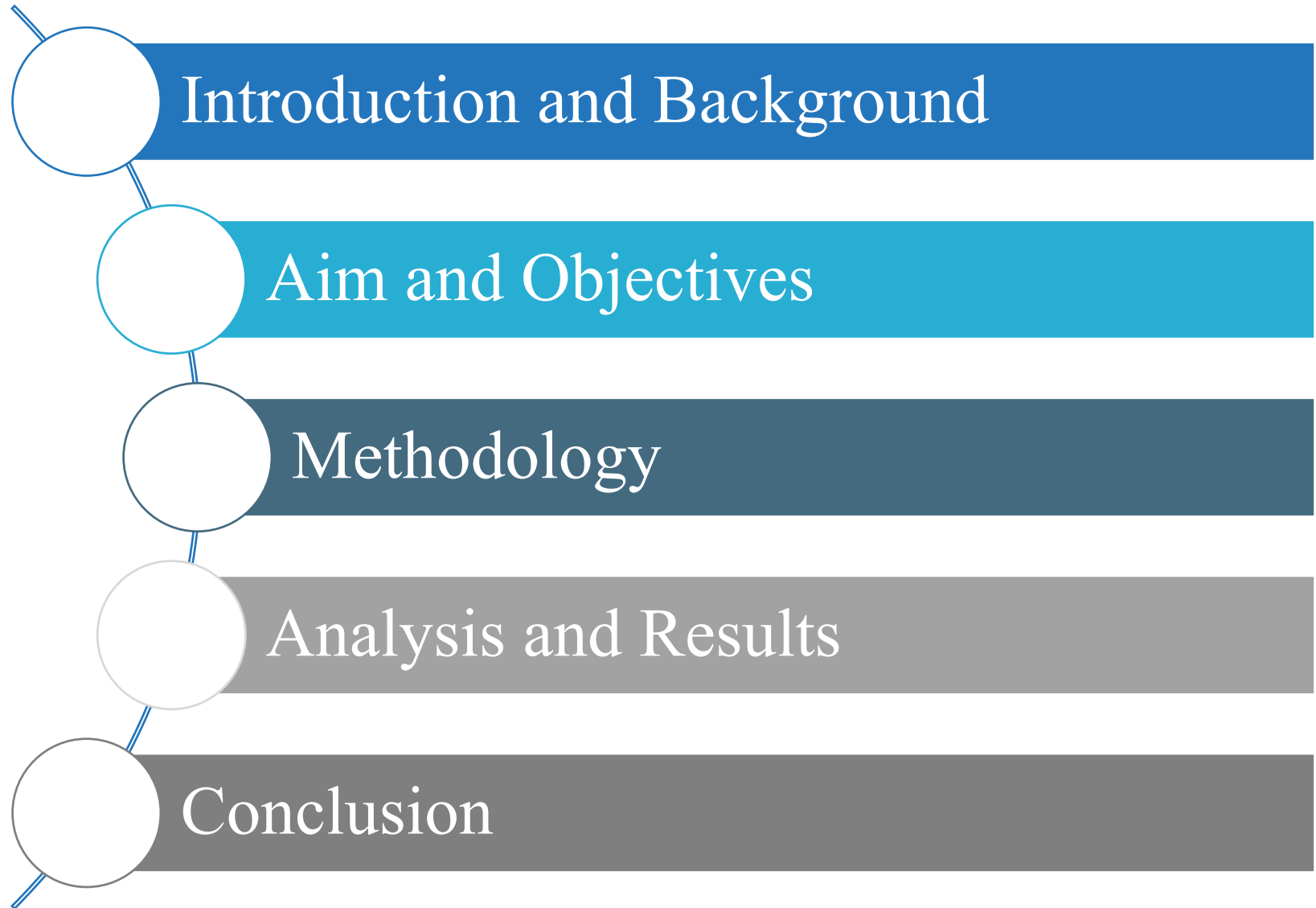
Kuwait's Employment and Economic Growth: Long-term Relationships and Short-term Disruptions

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Outline



Introduction and Background

- Developing countries find that rapid economic growth is necessary for productivity and employment, but it may not result in equitable distributional outcome, e.g. China and Vietnam (Khan, 2007).
- There is a wide variation in the employment intensity of growth in regions throughout the world (Kapsos, 2005)
- In Germany, the co-movement of employment and GDP has loosened (Klinger and Weber, 2020).

Introduction and Background

- The evidences favor manufacturing and services growth impact on employment, while it is lagging in the agriculture sector, in upper-middle-income and high-income-countries (Furceri et al., 2012; McMillan et al., 2014).
- Ben-Salha and Zmami (2021) analyzed the employment intensity of growth in six GCC countries (1970- 2017), and found that elasticities range between 0.4 and 0.6 and have an increasing pattern over time

Objectives

- To estimate the sensitivity of employers' demand to changes in key variables, notably the response of employment to GDP
- To discuss the potential effect of the government's accumulated investments in youthful Kuwaitis
- To determine the potential effect of increased Kuwaiti skills on the time-varying employment growth of foreign workers in the labor market

Methodology

Autoregressive distributed lag (ARDL) model

- ARDL model to test the long-term and short-term relationship between total employment and GDP and other variables in the time series (Pesaran et al. 2001)

$$\ln \text{totemp}_t = C_0 + C_1 \ln \text{gdpoil15}_t + C_2 \ln \text{skillk}_t + C_3 \text{postbal}_t + C_4 \ln \text{govcon15}_t + \varepsilon_t$$

- To total employment, Kuwaiti and Non-Kuwaiti employment respectively.
- ***totemp*** is total employment, ***gdpoil15*** is the GDP, ***skillk*** is the skill level of Kuwaitis, ***postbal*** is the fiscal balance, and ***govcon15*** is the government spending, and ε_t is the error term
- The time series data span quarterly over the long period 1970q1-2021q4
- Utilizing the community-contributed ARDL command in Stata (Kripfganz and Schneider, 2018)

Methodology

CEOs Survey and Focus group

Focus group

- A focus group session with CIOs and Innovation Specialists leading large service firms (more than 250 employees) in Kuwait
- The qualitative content analysis (Corbin and Strauss, 2014).
- All the responses to questions were coded using QualCoder software
- To solicit their opinions on the future of technology and business.

CEOs Survey

- Survey of 1000 Kuwaiti Business Leaders
- Representative sample in terms of size of, paid up capital, broad industrial and sector classifications
- To solicit opinion on
 - Corporate productivity rates
 - Covid19 impact on productivity and employment of Kuwaiti and foreign workers
 - Foreseeing the use of new technologies

Testing of ARDL Model

- All the variables have a unit root in levels and are stationary at 1st difference (I (1)).
- The results suggest that all variables may not be integrated of the same order.
- The ARDL approach has the advantage of yielding consistent long-run estimates irrespective of whether the regressors are I(1) or I(0)
- Specifications were tested for diagnostics of serial correlation, normality and heteroscedasticity; and the stability test (CUMSUM squares)

Analysis and Results

TS Pesaran 2001 Method of Cointegration (Total Employment)

ARDL(2,2,2,0,1) regression

Sample: 1993q4 thru 2020q4

Number of obs. = 109

R-squared = 0.9953

Adj R-squared = 0.9948

Root MSE = 0.0119

Log likelihood = 334.7558

D.Intotemp	Coefficient	Std. err.	t	P>t	[95% conf.	conf.
ADJ						
Intotemp						
L1.	-0.109	0.023	-4.700	0.000	-0.155	-0.063
LR						
lngdpoil15	0.283	0.057	4.970	0.000	0.170	0.396
lnskillk	0.585	0.053	10.950	0.000	0.479	0.691
postbal	-0.157	0.075	-2.090	0.039	-0.307	-0.008
lngovcon15	0.054	0.084	0.640	0.522	-0.112	0.220
SR						
Intotemp						
LD.	0.502	0.064	7.840	0.000	0.375	0.629
lngdpoil15						
D1.	0.045	0.021	2.160	0.034	0.004	0.086
LD.	-0.061	0.022	-2.780	0.007	-0.105	-0.017
lnskillk						
D1.	0.664	0.042	15.890	0.000	0.581	0.747
LD.	-0.429	0.066	-6.500	0.000	-0.559	-0.298
lngovcon15						
D1.	0.171	0.033	5.270	0.000	0.107	0.236
_cons	0.483	0.098	4.930	0.000	0.289	0.678

Analysis and Results

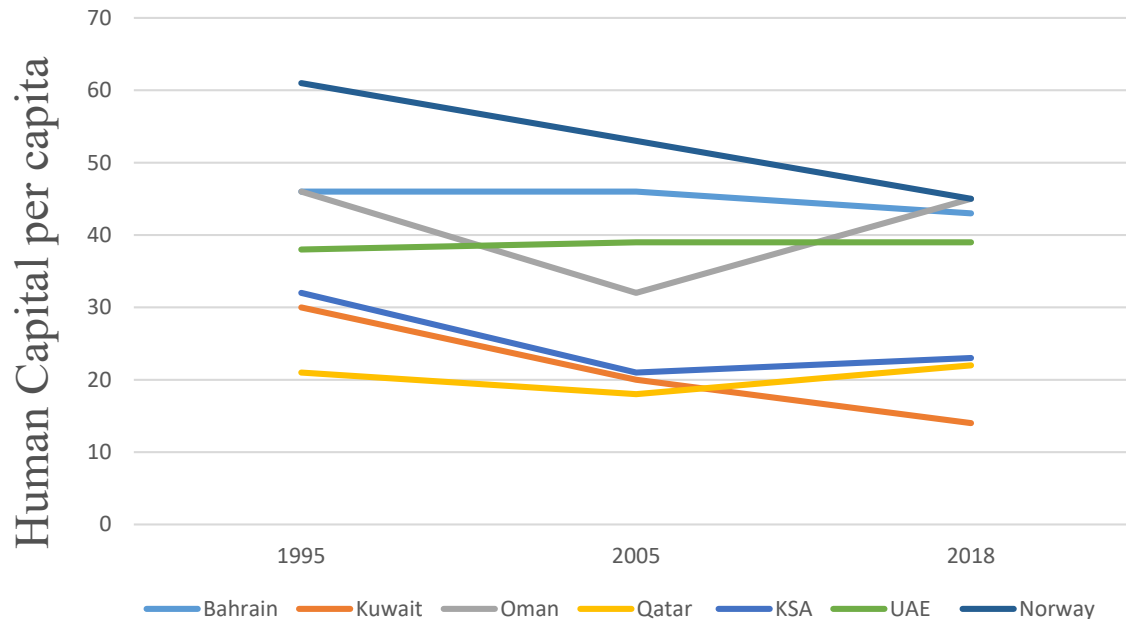
- For the overall employment, it takes short-term disequilibrium shocks nearly 10 quarters to restore to long-term steady state
- The skill composition of the Kuwaiti workforce exert more influence in shaping up employment and its long-run relationship with output
- In the short-run, the skill composition of the workforce applies a strong impact on short-term employment.
- GDP positively influences employment dynamics in the short run, and so does the government expenditure

Analysis and Results

- For Kuwaiti employment, the short-term disequilibrium shocks take on average nearly 10.5 quarters to restore to long-term steady state
- Fiscal deficit induces contractions to employment which is the opposite effect when the fiscal budget is healthy and in surplus
- In the case of foreign workers,
 - Fiscal imbalance produces a negative impact on employment
 - A strong positive impact of the skill composition of the workforce and the lagged government expenditure

Kuwait's Future Growth and Employment: Digital Transformation

- Kuwait's labor market will be in a state of transition towards digital skills and more tech-savvy tasks within jobs
- Does Kuwait have the requisite human capital skills needed for successful digital transformation?



Code Tree	Husam	Total
✓ Digital transformation	31	31
digital	14	14
Covid	7	7
collaboration	5	5
investment	3	3
AI	2	2
✓ Human Capital	24	24
upskilling	9	9
talents	7	7
education	5	5
Leadership	3	3
✓ Technological innovation	23	23
technology	12	12
innovation	6	6
technology change	3	3
in-house R&D	2	2
✓ Ecosystem	18	18
community	8	8
Regulation	6	6
MNCs	3	3
ecosystem	1	1

Skills Gap According to Economic Activity

Economic Activity	Workers' Skills do not match skills required by the jobs							
	Low Skill Gap		Moderate Skill Gap		High Skill Gap		Not Indicated	
	Count	%	Count	%	Count	%	Count	%
Manufacturing	142	35.4	99	24.7	152	37.9	8	2.0
Construction	29	27.4	34	32.1	40	37.7	3	2.8
Trading	75	34.6	60	27.6	74	34.1	8	3.7
Financial Services	50	41.0	32	26.2	35	28.7	5	4.1
Non-financial services	35	35.4	28	28.3	31	31.3	5	5.1
Education sector	4	44.4	0	0.0	5	55.6	0	0.0
Health sector	10	52.6	6	31.6	2	10.5	1	5.3
Real estate	6	35.3	4	23.5	5	29.4	2	11.8
Other	3	30.0	2	20.0	4	40.0	1	10.0
Total	354	35.4	265	26.5	348	34.8	33	3.3

Source: KISR's CEOs Survey October 2022

Investment, production, sales, value added, and employment growth rate by use of technology



Conclusion

- Kuwait urgently needs to transform its physical assets into innovative human assets
- Kuwait can utilize the advancement of ICT in education to accelerate the revamping of the education system
- Kuwait can advance its capabilities to produce a combination of complex energy and digital products and services
- Reskilling and upskilling programs are important for the digital transformation scenario to improve productivity and address the demographic challenge

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Thank you