Does Fiscal Decentralization Improve Gender Parity in Employment? Evidence from Pakistan

Sidra Naeem[1], Mahnaz Muhammad Ali[2] & Ishtiaq Ahmad[3]

Abstract

Pakistan has 48.76% female population, however, this population faces many hurdles in labor force participation, since their participation in the labor force is only 29% (world bank, 2021). There are so many factors responsible for female labor force participation, but the present study intends to explore the impact of fiscal decentralization on gender equality in employment since existing literature identified that Fiscal decentralization has a positive effect on employment generation. Using the time series data for Pakistan economy from 1975 to 2020, the study finds the impact of decentralization on gender parity in the labor market. Auto Regressive Distributed Lag model is used to find the long run relationship among the study variables. The results of the models prove the existence of a long-run relationship. The analysis of this study suggests that gender parity in employment can be successfully promoted through fiscal decentralization in Pakistan. It can be concluded that there is a greater ability in the fiscally decentralized economy to increase gender related employment activities compared to the central government.

1   Introduction

To promote the gender equality and empower the women, is 5th Sustainable Development Goal and it is the core of all SDGs[4].Women's empowerment is concerned with expending the choices of women regarding their well-being, control over assets

---

[1] Department of Economics, The Islamia University of Bahawalpur, Pakistan. Email: chaudhary_sidra@ymail.com
[2] Department of Economics, The Islamia University of Bahawalpur, Pakistan. Email: mahnaz.ali@iub.edu.pk
[3] Department of Economics, The Islamia University of Bahawalpur, Pakistan. Email: ishtiaqlodhran@hotmail.com
[4] Gender equality and gender parity are used alternatively in this study.

and resources, improves their positions in society and involvement in decision making at the local, provincial, and national levels. The labor force is a key arena for empowerment of women as it has maximum opportunities for women's liberation. According to global gender gap report (2020), countries are continuously reducing gender gaps in health, education and political participation from all over the world but gender gap in economic opportunity and participation is still extremely high even in high-income countries. There are differences in paid and unpaid work time relating to gender and these are important factors for gender disparity. Additionally, women spend most of their time on unpaid household work and family care while more time is spent on paid work by men. Hence, barriers are created by this unequal distribution of time for women to access the job market and decreases their economic security.

Unfortunately, women in Pakistan face structural barriers for full participation in labor market. In Pakistan, women are half of population representing 48.76 percent of the total population but in labor force, they remain marginalized. According to World Bank 2021, only 29 percent of Pakistani women are participating in the labor force compared with 71 percent of men, and among them only 5 percent are on leadership and senior posts. It is estimated that Pakistani women has lowest share in labor income in South Asian countries, which is only 18 percent of total labor income. A large proportion of women labor force i.e., 88.4 percent is involved in agricultural activities that do not contribute into their decision-making or financial autonomy.

Fiscal decentralization is concerned with transfer of expenditure and pooling authorities from central government to subnational government[5] and it is based on preferences matching, efficiency in public service delivery and accountability argument (Blöchliger, 2014). The objective of effective and efficient sub-national government is to achieve the preference matching principle (Bird & Vaillancourt, 2006). Preferences matching principle increases the efficiency of public service delivery as it knows the benefit areas should be matched by the financing

---

[5] Subnational government, provincial government are used synonymously.

areas[6]. Additionally there should be a match between expenditure responsibilities and revenue resources for local government (Bird & Tassonyi, 2003). Fiscal decentralization is expected to stimulate participation and improve accountability because it can reduce the distance between common man and the public office holders. It is acknowledged in fiscal federalism literature that local level government has comparative advantage in public service delivery due to less cost and more information advantage, but central government has more comparative advantage in more revenue collection. All broad-bases taxes are mobile hence local government cannot collect efficiently. Many redistributive taxes may fail at local level because local governments can indulge in regressive policies to get capital inflows in their jurisdictions. So, identifying a suitable tax base for local governments is very important as it ensures that they will raise enough collection to support their spending.

Beside all above stated arguments in favor of fiscal decentralization, it is argued that it can also increase the opportunity for female to enter in the political process. There are several reasons that how fiscal decentralization can increase the probability of female in political process. First, local level elections generally involved lower cost of election campaign due to lower scale. Less cost leads to lowering the financial hurdles for female politicians and increases the chances for them to be the part of political process (Maclvor, 2019; Trimble, 1995). Second, due to less competition at local level, there may be more chances for being elected for female candidates. Third, increasing female participation at local level can increase the chances of female representation at national level. At local level female can get better experience of political process and there will be more probability of being elected at national level (Adams & Schreiber, 2011). Indeed, it is argued that one of the leading reasons of less female participation in higher political process is the less female in the political pipeline to get experience at lower levels (Deckman, 2007). It is worth mentioning that why women participation is political process is important. The answer to this question is that increasing female participation in political process

---

[6] Benefit areas are e.g., school catchment area, areas served by public transit while financing areas over which fees or taxes are being levied to finance the service.

can be the steppingstone to reduce gender disparity in all fields of the life (Slack, Spicer & Montacer, 2014).

A large number of studies have empirically tested the roll of fiscal decentralization on economic growth (Ahmad, 2020; Faridi, 2011; Iqbal et al., 2013; Khattak et al., 2010; Malik et al., 2006) in Pakistan; (Fakhri et al., 2016) in resource rich economies;(Hamzah & Ritonga, 2004) in selected Muslim countries, employment (Buribayev & Khamzina, 2019) in Kazakhstan; (Faridi et al., 2012) in Pakistan , public service delivery (ur Rahim & Shirazi, 2018) in Pakistan; (Faguet & Sánchez, 2014) in Colombia, education and health (Ahmed & Lodhi, 2016; Khan & Mirza, 2011; Usman, 2021) in Pakistan; (Faguet et al., 2021) in Ethiopia, gender inequality in education (Stotsky, 2019) in India, human development (Habibi et al., 2003) in Argentina; (Mehmood et al., 2010) in Pakistan, on gender equality (Naeem & Khan, 2021) in developing economies, on poverty and income inequality (Shahzad & Yasmin, 2016) in Pakistan. To the best of our knowledge, none of the study is found that has focused the impact of decentralization on labor market outcomes for the case of Pakistan. So, the main purpose of the present study is to explore this area of research. By taking the time series data for Pakistan economy the aim of the study is to explore the impact of two different measures of fiscal decentralization (revenues and expenditures) on gender equality in employment in Pakistan. Gender equality is closely linked with expenditure decentralization as local government has better knowledge regarding local employment needs of gender hence can better access the gender aspect of employment. To improve the performance of local government, it is necessary revenue decentralization along with expenditure decentralization (Adam, 2007).

2   Problem Statement

Becker (1995) time distribution model is frequently used in theoretical framework, in which labor supply decision of female is based on substitution between work time and non-work time activities and showed a tradeoff between leisure and labor. Many public policies show positive impact on female labor force participation rate and their productivity in economic growth, because such policies increase the female labor force supply from

non-labor market to labor market. Such policies include access to education, reduction in gender wage gap, structural change are some major determinates of female labor force supply. However, no comprehensive study has analyzed the link between decentralization and female labor force participation in labor market in context of Pakistan.

The empirical evidences on determinants of female labor force participation rate can be found back to Goldin (1995) and a U-shape relationship is found between economic development and female labor force supply across the countries. Initially female labor force participation falls as income rises but rise again on the condition of increased female education because education increase the value of women's time in labor force. Khera (2016) presented a brief literature review and discussed number of factors that affects the female labor force participation. The study concluded that female workers have less educational skills relative to male, wage bargaining power is lower which create gender bias against women in formal employment, and lower preferences to work outside the home regarding the female safety concerns in developing countries are the major factors that decrease the female labor force participation rate. Similarly, Gaddis and Klasen (2008, 2012) also showed a U-shape relationship between female labor force participation and income while exploring structural change effect on female labor force.

It is considered that improvement in social sector of developing economies is linked with fiscal decentralization, as it is considered distinct tool to improve the public service delivery, and better infrastructure. Large number of empirical studies has verified that social sector service delivery is affectively addressed by decentralization as it has positive and significant in various socio-economic indicators. Women's participation in local government can also increases the public expenditures on revealed preferences by women. Does fiscal decentralization is helpful to improve the women well-being in education, health and employment? Several studies concluded that if women are politically active at subnational level, then it is beneficial for women in whole society. For instance, Chattopadhyay and Duflo (2004) showed female representation at third tier of the government is advantageous for Indian women. They found that women leaders in village councils, in West Bangal, are more

interested in infrastructure investment that is relevant to rural women's needs such as fuel, roads and drinking water. Furthermore, if the council leader is woman, then participants in the policymaking process are more likely are the village women. The study, however, has confronted a few criticisms. This study particularly focused on women preferences but it lack of gender aspect. Marqués and Rosselló (2004) empirically analyzed the relationship between decentralization and public employment in Spain. The results of the study confirmed the role played by the decentralization process and it is found that regions that have received larger levels of responsibilities have more public employees than reduction in public employees at Central level. Similarly, Rajaraman and Saha (2008) analyzed the impact of vertical decentralization on the size of civil services at sub national states in India. The results of the study suggested that horizontal breakage of federation into smaller sub national units increased the total size of the civil service in all sub national governments.

Faguet and Sánchez (2014) empirically proved that political competition and local democracy provides local officials more information about local people so their expenditure allocation maximize their impact in Colombian municipalities. Martinez-Vazquez and Yao (2009) found a decrease in public employment at sub-national level of government but it is overcome by increase in public employment at central level of government hence, total public sector workforces rise. Furthermore, the effects of decentralization are subject to institutional environment and level of development in a country. Similarly, Faridi et al. (2012) found that fiscal decentralization is helpful to rise the employment level in Pakistan. Similarly, Soejoto et al. (2015) proved that human development can be increased in Indonesia through fiscal decentralization.

Naeem and Khan (2021) investigated the impact of fiscal decentralization on gender equality in developing economies. The results of the study showed that gender equality is increased through fiscal decentralization in developing economies. Additionally, the results also suggested that low-income countries are more benefited from fiscal decentralization compared to upper-middle income countries in term of gender equality. Similar to Naeem and Khan, another study by Naeem

and Ali (2021) explored the impact of fiscal decentralization on gender parity for the case of developing Asia. While using panel data of developing Asia and three different measures of fiscal decentralization, the study employed system GMM for empirical investigation. Findings demonstrated that fiscal decentralization can improve gender parity. However, control on corruption can help to get the desired outcomes of fiscal decentration.

Faguet et al. (2021) identified that fiscal decentralization raised the school enrolment and female health in Ethiopia. Chakraborty (2021) discussed how gender equality is affected by fiscal decentralization and expenditure assignment. The study demonstrated the impact of fiscal decentralization on gender equality is dependent of institutional design and fiscal transfers among different levels of the government.

Fiscal decentralization can have implications on public service provision and labor market. A study by Bianchi et al. (2019) for Italian municipalities showed that municipalities that raised more revenues through decentralization experienced increased in female labor force participation as compared to the pre- fiscal decentralization period. Another study for Indian economy was conducted by Stotsky (2019). The study examined the impact of intergovernmental fiscal transfers on gender parity in India in education. Total transfers and grants were taken as proxy for deserialization suggested that fiscal decentralization from federal to states are not helping in achieving the gender equality in education. On the other hand, the disaggregated specifications of transfers and grants revealed that unconditional decentration improved gender parity in education and health, however the conditional decentralization had little impact on gender parity. Hence, it is concluded that the fiscal decentralization holds good for gender policies at local level. Gender equality is ultimate goal of all developed and developing economies around the world. In current study, we are interested to find out the effect of fiscal decentralization on gender employment in case of Pakistan.

In fiscal decentralization in a growing phenomenon from last two decades. Naeem, Ali and Rehman (2021) explored the impact of fiscal decentralization on gender parity in education for Pakistan economy. Using time series data from1975 to 2020, study employed ARDL approach to cointegration for empirical

investigation. Results confirmed that fiscal decentralization can improve gender parity in education for Pakistan economy. Another study for Pakistan economy is conducted by Shahid and Kalim (2021). They found that tax revenue decentralization is growth-promoting policy in Pakistan. However, Rauf et al. (2021) investigated the impact of power devolution on economic stability of Pakistan and fond that power devolution is not helpful to bring the economic stability in Pakistan. Another study by Bianchi, Giorcelli, and Martino (2022) was conducted to explore the impact of fiscal decentralization on female labor outcomes for Italy. For the case of Italy, the study explored that fiscal decentralization improved the quality of public good provision, especially childcare services. The availability of childcare services enhanced the female participation in labor market. The effect was stronger for the female aged 35 years and below, pointing that, affordable childcare services can enhance the labor participation of young mothers.

Some other empirical studies showed that fiscal decentralization increased the corruption in local governments. Such as Fan et al. (2009) analyzed the impact of political and fiscal decentralization on corruption in eighty developed and developing countries. They employed number of tiers of government to measure political decentralization and sub-national revenue share and public pay roll for fiscal decentralization. The findings of the study suggested that larger number of tiers of government and larger public pay rolls are linked with more corruption. Similarly, Altunbas and Thornton (2012) suggested that the positive effect of fiscal decentralization on corruption has been lessened in existence of vertical administrative decentralization.

These studies assert that fiscal decentralization affects the number of socio-economic indicators like economic growth, employment, effective delivery of public services for individual country as well as group of economies. Some studies also have explored the impact of fiscal decentralization on gender equality and gender related indicators like female employment in Italy. The existing theoretical and empirical literature reveals an important gap between fiscal decentralization and gender dynamics in Pakistan. After the 18th amendment in 8th NFC Award, provinces are fiscally more decentralized and gender inequalities in employment is still need to explore in Pakistan. Current study will

cover this gap by taking two indicators of fiscal decentralization on gender equality in employment to overcome the limitations of the previous studies.

3   Model Specification

For empirical investigation of the study variables, the functional form of the model can be written as.

$$GENEMPt = f(FISDECt, Xit) \tag{1}$$

Where, GENEMP is gender equality in employment, FISDEC represent the measures of decentralization, X: is used to represent the other control variables, μ is error term and t= 1, 2, ..., N.

The models of gender equality in employment with expenditure decentralization and revenue decentralization becomes as

$$GENEMP_t = \alpha_0 + \alpha_1 DEXP_t + \alpha_2 GPEDU_t + \alpha_3 FR_t + \alpha_4 PG_t + \alpha_5 TFI_t + \alpha_6 LEXP_t + \alpha_7 GDPPCG_t + \mu_{it} \tag{2}$$

$$GENEMP_t = \beta_0 + \beta_1 DREV_t + \beta_2 GPEDU_t + \beta_3 FR_t + \beta_4 PG_t + \beta_5 TFI_t + \beta_6 LEXP_t + \beta_7 GDPPCG_t + \mu_{it} \tag{3}$$

Table:1

Description of Variables

Variable	Description
Dependent Variable	
GENEMP	Gender equality in employment
Independent Variables	
DEXP	Decentralization of expenditures
DREV	Decentralization of revenue
GPEDU	Gender parity in education
FER	Fertility rate
POPG	Population growth rate
TFI	Total fixed investment rate
LEXP	Life expectancy of female at birth
GDPPCG	GDP per capita growth rate

3.1   Gender Equality in Employment

There are several ways to measure the gender inequality in employment such as wage gap, labor force participation ratio, estimated earned incomes and legislators and senior officials and manager. However, ratio of female to male labor force

participation often reveals gender differences in labor market. Hence, ratio of female to male labor force participation rate ILO estimate will be used in current study. It is assumed that increase in the female to male labor force participation ratio will increase the gender equality in employment.

3.2   Measures of Fiscal Decentralization

A large number of studies has frequently used two traditional measures of fiscal decentralization[7]. The first one is decentralization of expenditures that is ratio of provincial government expenditures to the total government expenditures (provincials plus federal) is taken to measure it.

$$DEXP = PEXP/(PEXP + FEXP) \qquad (4)$$

While the 2nd one is decentralization of revenue, and it is calculated as the ratio of the provincial government's revenue to the total government revenue (central plus provincial).

$$DREV = PREV/(PREV + FREV) \qquad (5)$$

Where   DEXP, PEXP, FEXP, DREV, PREV and FREV are decentralization of expenditures, provincial government expenditures, federal government expenditures, decentralization of revenue, provincial government revenue, and federal government revenue are respectively.

3.3   Control Variables

Several other control variables are used in this study found in literature which effects employment activities. To find the impact of gender policies on employment, gender parity index in education is taken which is ratio of girls to boys enrolled at primary and secondary levels in public and private schools in Pakistan. To find the impact of opportunities on employment, total fertility rate is taken. The opportunities may influence women's decision to participate. Empirical literature has supported the fact that availability of jobs and perception of opportunities themselves are drivers of women's empowerment. For instance Jensen (2012) proved in rural India that job offers to women, due to industrialization, made them less likely to have children or get married and chose to enter the labor force. It suggests that job offers increases the aspiration for their careers.

---

[7]Zhang & Zou (1998); Cantarero & Gonzalez (2009); Mehmood et al. (2010); Neyapti (2010).

Female with higher qualification have more probability to get highly paid job, which can increase the opportunity cost of having kids. So eventually it can reduce fertility rate of educated women. The demographic effect on employment is captured by population growth. Health of a female also affect her employment decision so life expectancy of female at birth is taken. One of most important determinants of economic growth is total gross fixed investment. it is assumed that more employment opportunities are generated by economic growth that is achieved through more investment. So, gross fixed capital formation to GDP ratio is taken and GDP per capita is used as proxy for income to capture the income impact on gender parity in labor market.

3.4 Sources of Data

Annual time series data from 1975–2020 for all variables is used for empirical analysis in current study. Pakistan's 1st NFC award was established in 1974. The beneficial results of the award came after one year in 1975, so the current study cover the period from 1975 to 2020. Data on fiscal decentralization is taken from several issues of Pakistan Statistical yearbook. Data on other explanatory variables like gender parity education index, fertility rate, population growth rate, life expectancy of female at birth, gross fixed capital formation and GDP per-capita growth is derived from WDI published by World Bank (2020).

3.5 The ARDL Model to Cointegration

Auto Regressive Distributed Lag (ARDL) approach is used in the present study for empirical investigation. This approach has many advantages over other techniques of cointegration. First, it can be employed if the variables have mix order of integration, for example if some variables are stationary at level and some are stationary at first difference. Secondly, the technique can give unbiased result in case of small sample size. Thirdly, in the framework of specific modeling, ARDL approach selects adequate lags (Laurenceson & Chai, 2003).

This approach is used by Pesaran and Shin (1995) and Pesaran et al. (2001) and has several advantages over the other methods to find the long run relationship. Primarily, the ARDL can be applied if regressors mix order of co-integration (Pesaran & Shin, 1995). Secondly, ARDL is more efficient in large sample size. For the present study the ARDL equation for bound testing

can be specified as under having variables in level and differenced form.

$$\Delta EDUGEN_t = \beta_1 + \beta_2 GENEMP_{t-1} + \beta_3 FISCD_{it-1} + \beta_4 X_{it-1} + \sum_{k=1}^{\rho} \beta_k \Delta GENEMP_{it-k} + \sum_{n=0}^{\rho} \delta_n \Delta X_{it-n} + \mu_{it}$$
(6)

where the Δ shows the change in variables.

At first step of the estimations bound testing analysis is performed. If the bound testing calculated F statistics confirm the cointegration among the study variables at second step long run coefficients of the variables are estimated. At the 3rd and last step short run dynamics are estimated by observing the error correction term.

$$\Delta GENEMP_t = \beta_1 + \sum_{k=1}^{\rho} \beta_k \Delta GENEMP_{it-k} + \sum_{n=0}^{\rho} \delta_n \Delta X_{it-n} + \varphi ECT_{t-1} + \mu_{it}$$
(7)

where ECT_{t-1} is lagged error correction term which is obtained from the long-run integration. The ECM identifies the adjustment speed back to the log-run equilibrium after a short-run shock. The diagnostic tests are taken out to confirm the goodness of fit of the ARDL model.

4   Results and Discussion
4.1   Stationarity Test

To avoid spurious results, the times series have to be tested to determine their data generation process. The ARDL approach is required that no variable should be stationary at I (2) therefore.

Table: 2
Stationarity of the Variables
Source: Author's Calculations

Variables	I(0)		I(1)	
	t-statistics	p values	t-statistics	p values
GENEMP	0.108	0.963	-4.655	0.000
DEXP	-2.070	0.257	-6.984	0.000
DREV	-1.923	0.319	-7.319	0.000
GPEDU	0.744	0.824	-3.357	0.018
FER	-4.417	0.001	-0.239	0.925
POPG	-0.616	0.856	-3.320	0.012
LEXP	-2.904	0.004	-0.548	0.830
TFI	-2.121	0.237	-0.872	0.000
GDP_PCG	-4.602	0.000	-10.308	0.000

to check the stationary of the study variables and to determine the order of integration Augmented Dickey Fuller test is employed. The results of stationary are presented in table 03. Results revealed that fertility rate, life expectancy and per capita GDP growth are stationary at level, while the other study variables are non-stationary at level and they become stationary at first difference. Hence, variables have mix order of integration and none of the variable is found having I (2).

In table 3 the value of bound testing and long run coefficient are presented. The value of calculated F-test is above than the upper bond of critical value at 1 % level for model 1 and 2 that confirms the long run relationship among study variable for both models. The long run coefficients of fiscal decentration are positive and significant indicating that fiscal decentralization can improve gender parity in employment for the case of Pakistan economy. The Oates (1972) theory of fiscal decentralization is related to these results. Better utilities are provided in decentralized setup because local levels of the government are well informed and can better target the gender issues in labor market. Additionally, the local level governments have better capacity to ensure the check and balance of the local institutions that leads to more productive efficiency. This can cause economies of scale which results in rise in production, growth and greater employment opportunities for female.

Results are consistent with the results of Rajaraman and Saha (2008), they confirmed the same results for India. Martinez-Vazquez and Yao (2009) proved the same results for developing

economies and Faridi et al. (2012) found that decentralization is helpful to increase employment level in Pakistan economy.

Table: 3

Results of Bound Testing and Long Run Analysis[8]

	Model-1 Decentralization of Expenditures	Model-2 Decentralization of Revenue
	Dependent Variable: GENEMP	
Variables	F-static value=8.393 1% (2.88 3.99)	F-static value=6.001 1% (2.88 3.99)
DEXP	10.035 (0.005)	
DREV		11.312 (0.018)
GPEDU	29.790 (0.09)	7.165 (0.01)
FER	3.372 (0.185)	
POPG	-5.422 (0.004)	-6.807 (0.000)
LEXP	0.947 (0.001)	1.295 (0.000)
TFI	0.085 (0.347)	0.528 (0.076)
GDPPCG	0.089 (0.018)	1.174 (0.00)
C	-73.476 (0.018)	-81.199 (0.000)

Note: Probability values are in parenthesis.

Female poverty was mainly caused by underemployment of female that eventually caused more disparity in gender relations in South Asia, claimed by Kelkar (2005). Bianchi et al. (2019) also found fiscal decentralization helpful policy to increase female employment rate in Italian municipalities. Fiscal decentralization can affect the gender equality in employment through direct and indirect channels. One of indirect channels is economic stability.

All control variables have expected impact on gender equality in employment just supporting the theory. Gender equality in education increases the employment equality. Fertility rate has dual impact on female employment as more fertility rate increase women household time and put barriers on female labor force participation. On the other side of the coin, employed women wants less children as it has more opportunity cost in term of her income and skills. Population growth is also a hazard on gender employment equality. Total fixed investment increases the growth of economy which is helpful to increase gender related employment opportunities. Economies response to higher women labor force participation and grow faster as more labor inputs in market. As countries develop, the capabilities of women improve

---

[8] Revenue decentralization and expenditure decentralization also regressed as explanatory variables in a single model (see results in appendix)

at the same time and social constraints weaken which enable the women to engage in work outside the home.

Table: 4

Short-run estimates of Models

Variables	Model-1 Decentralization of Expenditures	Model-2 Decentralization of Revenue
D(GENEMP)	0.570 (0.000)	0.506 (0.00)
D(EDUD)		
D(DR)		19.750 (0.000)
D(GPEDU)	25.870 (0.000)	0.0004 (0.13)
D(FER)	-53.399 (0.000)	-0.355 (0.95)
D(POPG)	-15. 61 (0.110)	-31.537 (0.00)
D(LEXP)	42.56 (0.00)	95.145 (0.000)
D(TFI)		-0.494 (0.000)
D(GDPPCG)	-0.149 (0.000)	-0.815 (0.000)
ECM (-1)	-0.604 (0.00)	-0.172 (0.00)
	Adjusted R^2= 0.81 D.W=2.5	Adjusted R^2= 0.73 D.W=2.5

Note: P-values are in parenthesis

Table 4 represent the estimates of short run. The lagged value of error-correction term has coefficient less than one with negative sign and it is significant at 1% level. The error correction coefficients represent the speed of convergence if any deviation occur from the longer run stable path. The value of ECM (-1) coefficients is -0.0604 and -0.0172 for both the models respectively, indicating the error will be corrected with the speed of 6.04% and 17.2% every year for both models respectively.

5   Conclusion

It is argued that local government are more aware about the needs of the local public compared to the central government. Moreover, local government can have more check and balance and accountability on the disbursement of funds and can monitor the public sector projects more vigilantly. This can lead to

increase in economic and productivity efficiency of local government. Pakistan has gender imbalance in almost all spheres of life. Fiscal decentralization can play role to reduce this gender disparity. The main aim of the present research was to investigate the role of fiscal decentralization to create gender parity in employment in Pakistan. Using time series data for Pakistan economy from 1975 to 2020, ARDL model is employed for empirical investigation.

The findings of the study suggest that decentralization of expenditures and revenue is a helpful policy tool to increase the gender equality in employment in Pakistan. Around the world, mostly countries decentralize the expenditures to lower levels of the government but the revenue policies are centralized. The results of the study imply that it is essential to decentralize the revenue autonomy to achieve the desired outcomes of fiscal decentralization. It is also recommended that policy should be geared towards improving the variables such as gender parity in education, fertility rate and health of female, as female employment generation is clearly affected by these variables.

References

Adam, B. E. (2007). Fiscal Decentralization and Public Service Delivery in South Africa, ATPC. *Work in Progress*, 58.

Adams, B. E., & Schreiber, R. (2011). Gender, campaign finance, and electoral success in municipal elections. *Journal of Urban Affairs*, *33*(1), 83-97.

Ahmad, I. (2020). Fiscal decentralisation and economic growth. *Pakistan Journal of Applied Economics*, *30*(1), 95-121.

Ahmed, M., & Lodhi, A. S. (2016). Impact of fiscal decentralizations on education and healthcare outcomes: Empirical evidence from Pakistan. *Journal of Applied and Emerging Sciences*, *4*(2), 122-134.

Altunbas, Y., & Thornton, J. (2012). Fiscal decentralization and governance. *Public Finance Review*, *40*(1), 66-85.

Bank, W. (2020). *World development indicators* https://databank.worldbank.org/source/world-development-indicators

Bianchi, N., Giorcelli, M., & Martino, E. M. (2019). The effects of fiscal decentralization on publicly provided services and labor markets. *CHILD Working Papers Series,* 1–40.

Bird, R. M., & Tassonyi, A. (2003). *Constraining subnational fiscal behavior in Canada: Different approaches, similar results?* MA: MIT Press.

Bird, R. M., & Vaillancourt, F. (2006). *Perspectives on fiscal federalism*. World Bank Publications.

Blöchliger, H. (2014). Fiscal equalisation–A cross-country perspective. Berlin Conference on Fiscal Equalisation, OECD,

Buribayev, Y. A., & Khamzina, Z. A. (2019). Gender equality in employment: The experience of Kazakhstan. *International Journal of Discrimination and the Law*, *19*(2), 110-124.

Chattopadhyay, R., & Duflo, E. (2004). Women as policy makers: Evidence from a randomized policy experiment in India. *Econometrica*, *72*(5), 1409-1443.

Deckman, M. (2007). Gender differences in the decision to run for school board. *American Politics Research*, *35*(4), 541-563.

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American statistical association*, *74*(366a), 427-431.

Dickey, D. A., & Fuller, W. A. (1981). Likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica: journal of the Econometric Society*, *49*(4), 1057-1072.

Faguet, J.-P., Khan, Q., & Kanth, D. P. (2021). Decentralization's effects on education and health: Evidence from Ethiopia. *Publius: The Journal of Federalism*, *51*(1), 79-103.

Faguet, J.-P., & Sánchez, F. (2014). Decentralization and access to social services in Colombia. *Public choice*, *160*(1-2), 227-249.

Fakhri, H., Mikayilov, J., & Aliyev, K. (2016). Impact of Fiscal Decentralization on Non-Oil Economic Growth in a Resource-Rich Economy. *Eurasian Journal of Business and Economics*, *9*(17), 87-108.

Fan, C. S., Lin, C., & Treisman, D. (2009). Political decentralization and corruption: Evidence from around the world. *Journal of public economics*, *93*(1-2), 14-34.

Faridi, M. Z. (2011). Contribution of fiscal decentralization to economic growth: Evidence from Pakistan. *Pakistan Journal of Social Sciences (PJSS)*, *31*(1), 1-13.

Faridi, M. Z., Chaudhry, I. S., Hanif, I., & Ansari, F. N. (2012). Fiscal Decentralization and Employment in Pakistan. *International Business Research*, *5*(11), 54-64.

Habibi, N., Huang, C., Miranda, D., Murillo, V., Ranis, G., Sarkar, M., & Stewart, F. (2003). Decentralization and human development in Argentina. *Journal of Human Development*, *4*(1), 73-101.

Hamzah, M. Z., & Ritonga, J. T. (2004). Fiscal decentralization and economic growth: evidence from selected muslim countries. *Economic Journal of Emerging Markets*, *9*(2).

Iqbal, N., Din, M. U., & Ghani, E. (2013). Fiscal decentralisation and economic growth: role of democratic institutions. *The Pakistan Development Review*, *51*(3)173-195.

Jensen, R. (2012). Do labor market opportunities affect young women's work and family decisions? Experimental evidence from India. *The Quarterly Journal of Economics*, *127*(2), 753-792.

Khan, A. M., & Mirza, M. S. (2011). Implementation of Decentralization in Education in Pakistan: Framework, Status and the Way forward. *Journal of Research & Reflections in Education (JRRE)*, *5*(2), 146-169.

Khattak, N. u. R., Ahmad, I., & Khan, J. (2010). Fiscal decentralisation in Pakistan. *The Pakistan Development Review*, *49*(4), 419-436.

Laurenceson, J., & Chai, J. C. (2003). *Financial reform and economic development in China*. Edward Elgar Publishing.

Malik, S., Mahmood-ul-Hassan, & Hussain, S. (2006). Fiscal decentralisation and economic growth in Pakistan. *The Pakistan Development Review*, 845-854.

MacIvor, H. (2019). Women and politics in Canada. In *Women and Politics in Canada*. University of Toronto Press.

Martinez-Vazquez, J., & Yao, M.-H. (2009). Fiscal decentralization and public sector employment: A cross-country analysis. *Public Finance Review*, *37*(5), 539-571.

Mehmood, R., Sadiq, S., & Khalid, M. (2010). Impact of Fiscal Decentralisation on Human Development: A Case Study

of Pakistan [with Comments]. *The Pakistan Development Review*, *49*(4), 513-530.

Naeem, S., & Khan, R. E. A. (2021). Fiscal Decentralization and Gender Equality in Developing Economies: Dynamics of Income Groups in Economies and Corruption. *Asian Economic and Financial Review*, *11*(9), 745-761.

Naeem, S., Ali, M. M., & ur Rehman, H. (2021). Fiscal Decentralization and Gender Parity in Education: Empirical Evidence from Pakistan. *Journal of Business and Social Review in Emerging Economies*, *7*(4), 949-962.

Naeem, S., & Ali, M. M. (2021). Fiscal Decentralization and Gender Parity in Developing Asia. *NUML International Journal of Business & Management*, *16*(1), 35-52.

Oates, W. E. (1972). *Fiscal federalism*. New York: Harcourt Brace Jovanovich , Inc.

Pesaran, M. H., & Shin, Y. (1995). An autoregressive distributed lag modelling approach to cointegration analysis.

Pesaran, M.H., & Shin, Y. (1995). *An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis*, Cambridge Working Papers in Economics, 9514.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, *16*(3), 289-326.

Rajaraman, I., & Saha, D. (2008). An empirical approach to the optimal size of the civil service. *Public Administration and Development: The International Journal of Management Research and Practice*, *28*(3), 223-233.

Rauf, A., Khan, H. U., & Khan, G. Y. (2021). Power devolution and economic stability: Evidence from Pakistan. *The Journal of Asian Finance, Economics and Business*, *8*(5), 573-581.

Shahid, M., & Kalim, R. (2021). Empirical Implications of Decentralization Dimensions and the Role of Political Institutions in the Economic Growth of Pakistan. *Empirical Economic Review*, *4*(1), 52-80.

Shahzad, S., & Yasmin, B. (2016). Does fiscal decentralisation matter for poverty and income inequality in Pakistan? *The Pakistan Development Review*, *55*(4) 781-802.

Slack, E., Spicer, Z., & Montacer, M. (2014). *Decentralization and gender equity*, Occasional Paper,14.

Stotsky, J. G., Chakraborty, L., & Gandhi, P. (2019). *Impact of intergovernmental fiscal transfers on gender equality in India: an empirical analysis*. National Institute of Public Finance and Policy.

Trimble, L. (1995). Politics where we live: Women and cities. *Canadian Metropolitics: Governing Our Cities*, *92*, 114.

Rahim, F.U. & Shirazi, N.S. (2018). Fiscal decentralization and citizen's satisfaction from local public service delivery in Pakistan, *International Journal of Ethics and Systems*, *34*(1),122-142.

Narmeen, N., Altaf, S., & Usman, S. (2021). Fiscal Decentralization and Quality of Education in Pakistan. *Journal of Contemporary Macroeconomic Issues*, *2*(1), 58-66.

Appendix
Revenue decentralization and expenditure decentralization as explanatory variables in one model

Variables	Model-3 Decentralization of Expenditures and Revenue
	F-static value=8.393 1% (2.88 3.99)
DEXP	21.19573 (0.04)
DREV	-6.568 (0.49)
LEXP	2.543354 (0.00)
TFI	0.040565 (0.597)
GDPPCG	0.463326 (0.07)
C	-159.3969 (0.000)