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Performance Analysis of Women in Central Bank Monetary System using Business Intelligence

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Performance Analysis of Women in Central Bank Monetary System using Business Intelligence

Shrutika Mishra

Abstract- Gender diversity is a great concern in the globe. Women's have multidimensional skills and they are able to execute multiple tasks concurrently. But the representation of women's are very less as per literatures available in the globe. In the same line Central bank women's participation is not known completely and many questions are unanswered yet. In this paper we are trying to get the solution of the problem.

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I. Introduction

*Brainpower pooling has the great impact in the society (Bellavite et al., 2011). The men and women's ratio in industry, academic sector, employee's domain and even students representation in Universities and Institute affect the atmosphere of the ecosystem. The monetary and financial sector is also not untouched with this proposition. The women's representation in banking sector is less compared to other sector (Charelety et al., 2017). On the globe women's representation is less than 20% in executive positions (Charelety et al., 2017, Kuehnen 2012). As per IMF report in 2010-2011 graduates of Management, Business and Humanities representation of women's is almost 50% while economics graduates is only 30%in US and UK.In recent study very few women reach the top in the public sector banking industry (Kuehnen, 2012). Women started joining public and private sector bank in late 1970s as low level executives and clerical positions. The representation of women in higher position is negligible at that period(Charelety et al., 2017).*Many European states leading gender shares for large and listed companies (*Masciandaroai et al., 2015, 2016*). Employee diversity across the line of gender, origin, culture, civilization, society, age, education etc. has become a sizzling boardroom topic across the sphere. It is now a crucial part of executive strategy and become a critical issue for executives (*Oxford Economics, 2016, Seker et al., 2018*). Some nation like Norway, and France started to legislate on diversity issues such as genders quota in federal states. Minimum number of women's quota is fixed in the company executives positions. Recently, Govt. of India also introduces at least one women director among three directors must be kept in the executive board of Institute of Company Secretary of India (ICSI). Securities Exchange Board of India (SEBI) also introduces the same model. Recently in India 2017 & 2018, IIT council introduced supernumerary seats especially for girls to balance the gender representation in top technical institution of India (*The Telegraph, 2017*). We expect more country to follow this model.

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II. Research Problem

Gender multiplicity is a great debate among the society in various respects. Does this attribute make the monetary policy system more efficient? It is a big debate also in the financial domain and policy and planning manufacturer. But the dilemma always exists in the monetary system and planning. Women's are multitasked as revealed by the various studies (Diouf et al., 2017). So a question arises among the economist that does gender diversity exist in international financial domain? Is the ratio of women's representation is adequate in the central bank? Does the good number of representation of women's in economic sector of central bank boost the economy and efficiency and culture of the central bank? What would be the impact if large number of women's will dominate the central bank functioning? Will the economic system of the country will result changes in the behavior of working pattern of men and women? Does the gender parity make the monetary policy system more efficient? Today it's a need of the policy makers and society for any noble organizations to keep the data alive and process these data with high precision business intelligence tools and use the talent gender biased. *It is very important to federal body and senate should look into this argument and appoint qualified female candidate in the top level of executive to see the gender parity consequences. These are the some questions that are unanswered which we have reveal from the research.*

III. Tools Required for Analysis

However, there are so many and new tools available that help us to discover our research goals. These tools, known as Business intelligence (Kimball, 1998). Some of the intelligent tools are incorporating cloud based solutions and services (Golfarelli et al. 2016). Just plug the data and get the required cloud based solution and services on your convenience. Customer and business partners have freedom to be a part of online environment (Parker et al. 2017). Some of the well-known tools which is useful for analysis and better executive decisions purposes: Digital Ecosystem

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Management (DEM) Solutions, DEM solutions are the market leader simulation, Open-source mobile digital platforms, Matlab Econometric tool kits, SPSS, R Programming, BIRT, Pentaho, SpagoBI, ReportServer, OLAP analytics etc (Golfarelli et al. 2016).

IV. Methodology

We plan to our study in two ways. First we will study compressive data for women's in central bank and then categorize with attributes. Then we analyses the data with various econometric tools. Second, we discuss and argue about the new results that reveals the women on central bank and their role and efficiency in central bank across the globe. We will also discuss the possible effect on central bank stability, through optimum representation of women in the system. The Entropy index will be calculated with the help of following formula:

$$Entropy\ \ Index = \sum_{i=1}^{N} S_i\, ln\left(\frac{1}{S_i}\right) = -\sum_{i=1}^{n} S_i\, ln(S_i)$$

Where N= Number of segments, S_i= Share of economic activity in i^{th} industry, ln= $\log_e$ natural logarithm. Entropy is useful for measure the comparison of employment distribution among central bank in a region with equal proportional distributions. High level of entropy index suggests much relative diversification and low level of index suggests more specializations (Leeper, 1991, Alexander et al., 1993, Huddy et al., 1993, Burell, 1994).

V. Literature Review

The female talent is diversified from country to country (*Oxford Economic, 2017, Charlety, 2017,*Leeper, 1991, Alexander et al., 1993, Huddy et al., 1993, Burrell, 1994*)*. Even in countries where women ascended to chief director status fluctuates greatly from country to country (*Charlety, 2017*). From last three centuries no Women's representation was assigned to US Federal Bank. US President Barak Obama in October, 2013 nominated Janet L. Yellen to the Head of the US Federal Reserve Board. Yellen is to be considered as a dovish behavior as she preferred looser policy such as low interest rate that meant to stimulate economic growth. In her tenure she achieved 2% US economic growth and 4.1% unemployment growth. No one achieve this lowest final rate since 1970. Elvira Nabiullina took the position of Governor in Central Bank of Russia in June 2013 and she helped to make bad situation to better in economic position(Wikipedia, 2018).She brought the inflation level of 7% to 3-4%.According to Validimer Putin, President of Russia, the Russian economy is in bad line but Elvira has saved it from shoddier situation. Following table shows the difference in GDP rate of Russia and USA with gender discrimination between 2002-2018 (Wikipedia, 2018).

Table 1

Tenure(In Years)	Russia(GDP RATE)		USA(GDP RATE)	
	Men	Women	Men	Women
2002	4.7	-	-	-
2003	7.3	-	-	-
2004	7.2	-	-	-
2005	6.4	-	-	-
2006	8.2	-	2.7	-
2007	8.5	-	1.8	-
2008	5.2	-	-0.3	-
2009	-7.8	-	-2.8	-
2010	4.5	-	2.5	-
2011	4.3	-	1.6	-
2012	3.4	-	2.2	-
2013	1.3	1.3	1.7	-
2014	-	0.7	2.6	2.6
2015	-	-3.7	-	2.9
2016	-	-0.6	-	1.5
2017	-	1.5	-	2.3
2018	-	PRESENT	-	2.6

From the above table it is obvious that the difference in GDP rate of Russia and USA has good impact with it women's Central bank governors namely Elvira Nabiullina and Janet L. Yellen with 1.3 in 2014 ending with 1.5 in 2017,where in USA there seems a stability with growth rate at 2.6. There is a comparison to Serge Lgnatyev and Ben Bernanke it's men's governors achieving a diminishing rate from 4.7(2002) to 1.3(2013), where in USA fall of 0.1% is recorded. It is to be noted that this tenure was having maximum of deficit than compared to any other women governors.

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All-in-all we can have a better perspective with comparison of two most powerful nations working style and pattern of having a strong women leading governors in comparison to men to have a better economic stability and growth.

This led to women's dovish conduct and growth of economy. The highest female representation on corporate board is as belowworldwide.Norway-36 %, Philippines -23%, Sweden-23%, Lativa-22% and Slovakia-22% (Seker et al., 2018). In this regard Norway is in the top ranking on measures of diversity. Gender equality is vital to whether and how economics and societies flourish (*Oxford Economics, 2017*). Warranting the bursting enlargement and applicable placement of 50% of the world's total talent pool has a gigantic attitude on the evolution, effectiveness and future inclination of economies and professional worldwide. The Global Gender Gap Report benchmarks of 144 countries on their growth towards gender equality across four thematic dimensions: Economic Involvement and Opening, Educational attainment, Health and Survival, and Political Enablement. In addition this year's issue also investigates the dynamics of gender gaps across industry talent pool and occupations.

The following is the Global Gender Gap as reported in Global Gender Gap Index, 2017.

Global Top 10

The Global Gender Gap Index	Global rank*
Iceland	1
Finland	2
Norway	3
Sweden	4
Rwanda	5
Ireland	6
Philippines	7
Slovenia	8
New Zealand	9
Nicaragua	10

Source: The Global Gender Gap Report 2016
Note: *2016 rank out of 144 countries

Figure 1

The lowest female executive board representation in Portugal is 0.4%, Japan 0.9%, UAE 0.9%, Korea 1.0% and Chile is 2.4 % (*Oxford Economics, 2016*). The US ranks 9th on the index, the UK is on 17th, Germany is on 23rd and Brazil ranks on 30th. In this way US has sensibly good score but David Roman in Bloomberg reported that Women in Central Bank bosses outnumber men in Southeast Asia, and they are doing much better than US and Europe (*Roman D, 2017*).But then again the most diverse labor in the globe is Norway, New Zealand, Iceland, Australia, Switzerland, the Netherlands and Canada. Towards the bottom of the ranking are Italy, Japan and France, placed slightly ahead the least diverse labor in the Czech Republic, Turkey and Pakistan. India has attained good place in the ranking in respect of Pakistan and Turkey. But India dipped 27% globally. In this way gender diversity is scattered around the globe. The financial movements for women are usually below the benchmark in developing economies but it has been observed that in the developing country like Italy female activity growths are also stumpy. It might be due to socio economic factor or federal policy. The female Chief Executive Officer has augmented suddenly from 18.8 % since 2002 (*Tsang, 2013*).

Some of the researcher like Blinder (Blinder, 2007, Blinder et al., 2005, 2008) have discussed about the heterogeneity disfavor and diversity in the central bank. The researcher in the filed argues that the diversity and gender heterogeneity is triggered with monetary policy and regulations (Besley et al., 2008, Hansen et al., 2008, Gerlach-Kristen et al., 2009, Masciandaroai et al. 2016). Gender heterogeneity also affects the decision making process and consequently affect the profit of the central bank (Eijffinger et al., 2013, 2015, Masciandaroai et al., 2016). The gender multiplicity in central bank governing board also upset the monetary strategy and macroeconomics effects (Hix et al., 2010, Romelli *D, 2016*). But there is no evidence on the fact that women's participation in the monetary policy making affect the inflation. Currently most of the central bank applying monetary policymaking through committees (Fry et al., 2000, Masciandaroai, 2016, 2017, 2018). This led diversified behavior of gender heterogeneity. A recent research shows that female voters tend with dovish behavior while men are perceived to be more belligerent

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on policy areas (Masciandaroai et al., 2016, 2017; 2018, Matland, 1994, Kahn, 1996, Sanbonmastu, 2002, Lawless, 2004; Dolan, 2010; Thompson 2011, Tsang, 2013). Hence dovishness can be assumed as a gender characteristics and attribute. So in broad spectrum if women care more about social problems in the field of monetary strategy they can be used as a monetary gears to fix recurring macroeconomic glitches (Pollard, 2004, Lybek at al., 2004).Studies show that gender representation is contrariwise linked with inflation rate and money evolution (Masciandaroai et al., 2017). Masciandaroai et al. argues about the gender and monetary policymaking and found that the presence of women's in Central Bank Executive Boards gives the impression with more pugnacious approach to monetary policy decision (Masciandaroai et al., 2017, Tsang, 2013, Diouf et al., 2017).The following is the data of Central bank published in the Bloomberg literature (*Roman D, 2017*).

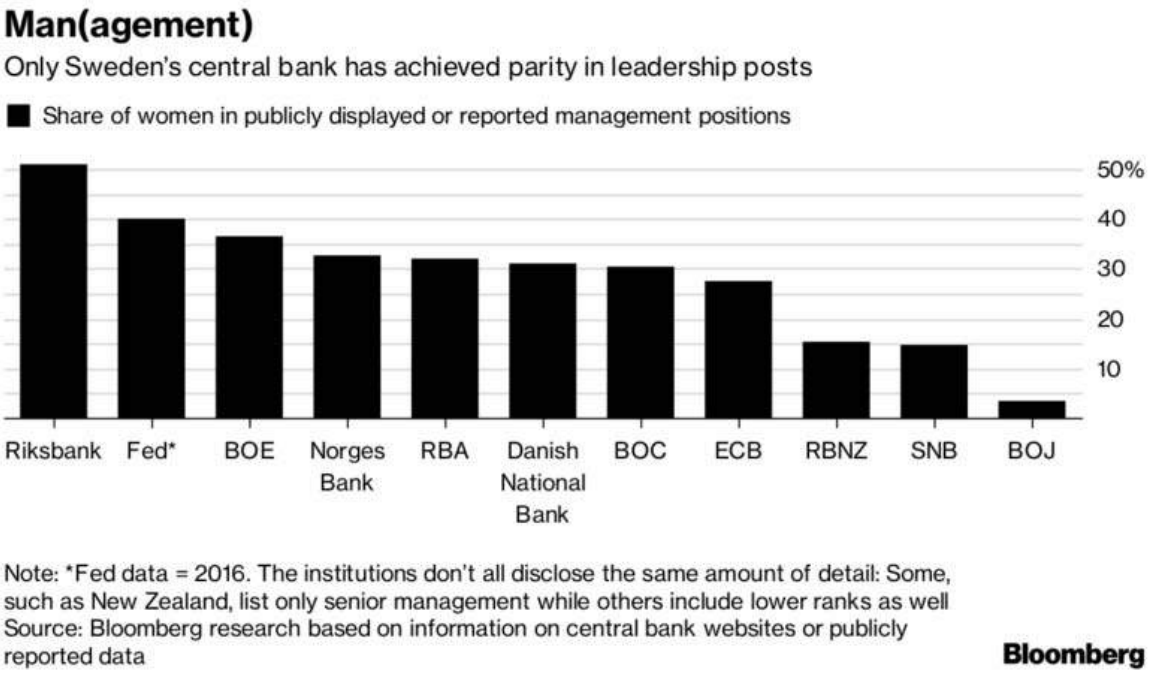
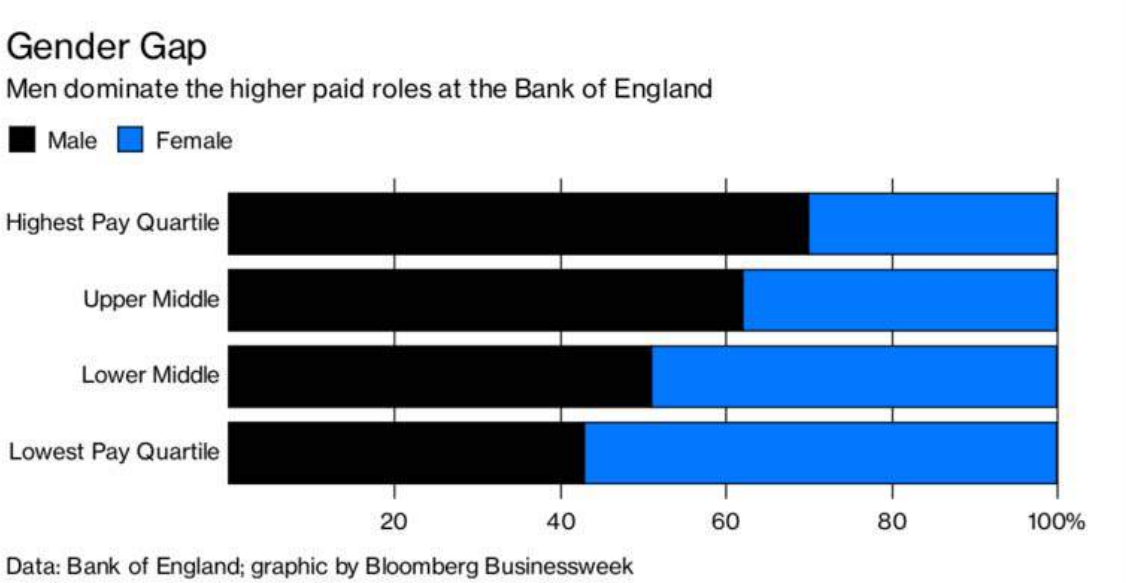


Figure 2

The below graph represents the gender gap in the bank of England as per source of Bloomberg (*Roman D, 2017, Diouf et al., 2017*).



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The study of women's representation in Central Bank is still not done completely and efficiently. The following is the data collected from the central bank directory (*Roman D, 2017, Diouf et al., 2017*).

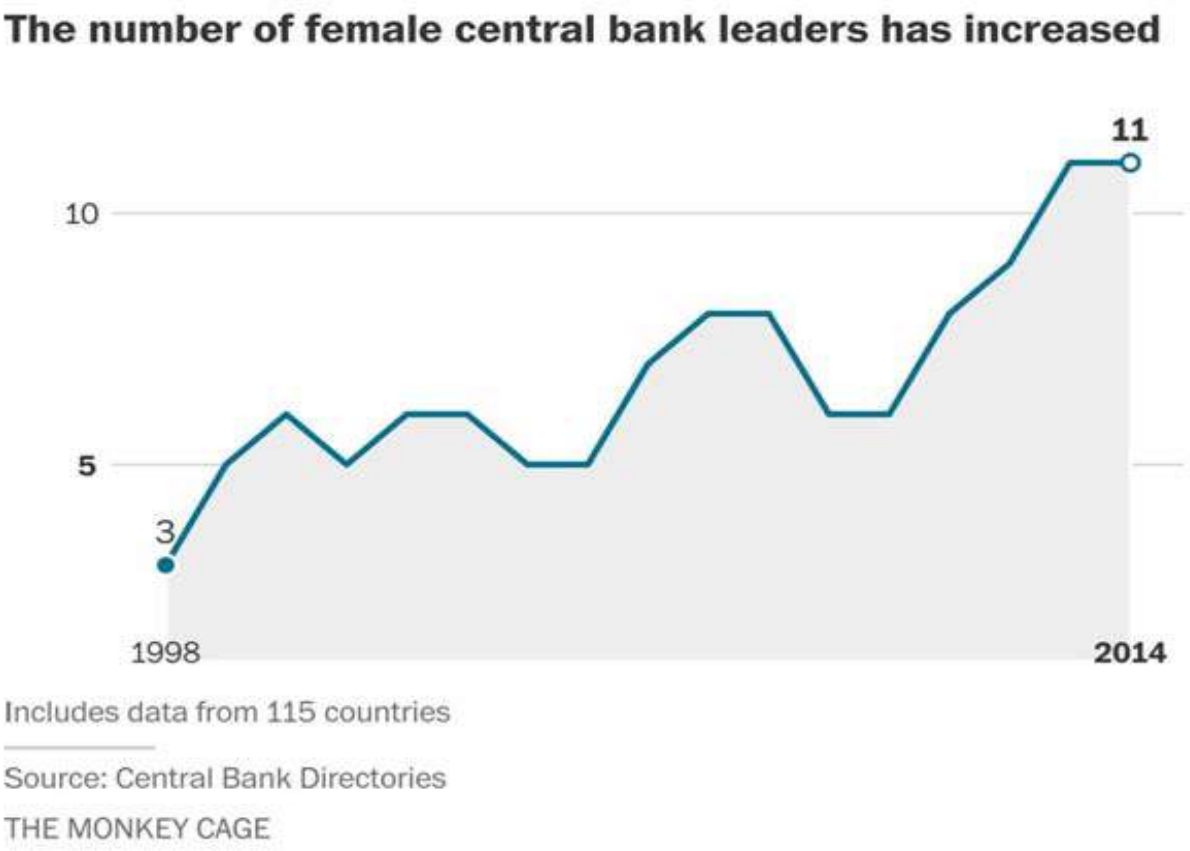

Figure 4

VI. Conclusions

By nature Women's have multidimensional skills and they are able to execute multiple tasks concurrently. But the participation of women's is very less as per literatures available in the globe. In the same line Central bank women's participation is not known completely and many questions are unanswered yet. Today it's a need of the frontrunners and society for any noble organizations to keep the data alive and process these data with high precision business intelligence tools and use the talent gender biased. Women's multidimensional skills can contribute the central bank efficiency in the term of work culture and financial growth of the system. *Women are understated in the field of economics profession, especially in finance and accounts, macroeconomics which is the spine of central banking. It is very important to federal body and senate should look into this argument and to research this problem and appoint qualified female candidate in the top level of executive to see the gender parity consequences.*

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