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WOMEN IN LOCAL POLITICS AND BUDGET CREDIBILITY IN CROATIA AND SLOVENIA

ABSTRACT

Purpose: The position of women and their participation in political life are among the key issues in global gender equality debates. This paper examines the relationship between female representation in local politics and budget credibility in Slovenia and Croatia, addressing whether greater female involvement enhances budget transparency and accountability at the local level.

Methodology: The share of female council members is expressed as the percentage of all councillors, while the presence of a female mayor is represented by a dummy variable equal to one if the mayor is female, and zero otherwise. Budget credibility is assessed by budget deviations, calculated as the absolute difference between planned and actual total expenditures divided by planned total expenditures. Cluster analysis was conducted for all 212 Slovenian urban municipalities and municipalities and 556 Croatian cities and municipalities for the year 2023.

Results: The analysis reveals a negative relationship between the share of female councillors and total expenditure deviations. Local governments with a greater proportion of women in representative bodies tend to have higher budget credibility, indicating improved budget credibility associated with greater female representation.

Conclusion: Enhancing female representation in local councils promotes higher budget credibility, offering important policy implications for gender equality and fiscal governance in Slovenia and Croatia. These findings underscore the value of women's political participation in strengthening local financial management.

Keywords: Female representation, budget credibility, cluster analysis, local councils, local governments

1. Introduction

According to the European Institute for Gender Equality (2016), women remain underrepresented in local political life, highlighting the need to promote greater participation, especially at the local level. In 2021, women accounted for approximately 52% of the population in Croatia and 50% in Slove-

nia (Croatian Bureau of Statistics, 2024; Statistical Office of the Republic of Slovenia, 2024), yet their representation in politics remains significantly lower. Although the share of women in local politics has gradually increased over the last three election cycles in both countries, it remains modest. Currently, women hold executive positions in about

14% of Slovenian and 11% of Croatian local governments. Representation among local councillors is somewhat higher but still below parity—33% in Slovenia and 28% in Croatia.

Both countries have adopted legislative frameworks to promote gender balance in political representation. Under the Act on Local Elections (2007) in Slovenia and the Gender Equality Act (2017) in Croatia, electoral lists must include at least 40% of each gender. However, these quotas apply only to candidate lists and do not necessarily translate into equal representation after elections. In Slovenia, gender quotas are firmly implemented in both national and local elections. The Equal Opportunities for Women and Men Act (2002) and the Act on Local Elections (2007) require political parties to alternate male and female candidates (the so-called zipper system) on the top half of the list, ensuring real opportunities for women to be elected. Non-compliance can even lead to the rejection of the candidate list. In Croatia, although similar 40% quotas apply, enforcement has been weaker. Financial penalties for non-compliance exist but are inconsistently applied, and women remain underrepresented in higher positions. Nevertheless, the law represents an important step toward balanced political participation. Overall, while both countries meet EU normative frameworks on gender equality, Slovenia has achieved more effective implementation through stricter validation mechanisms and institutional oversight.

Budget credibility refers to the extent to which actual revenues and expenditures correspond to those planned in the approved budget (Prijaković, 2024; Prijaković, 2025). It is typically measured by budget deviations—the difference between planned and actual amounts divided by the planned amounts. Accurate budget forecasts are critical for sound policy formulation. Overestimated revenues often lead to mid-year spending cuts and reduced provision of public goods. Conversely, underestimating revenues or overestimating expenditures may be used as risk management tools or to comply with balanced-budget rules while masking fiscal optimism. Persistent overestimation of revenues can result in debt accumulation, diminishing resources available for local service provision and undermining long-term fiscal sustainability.

Gender representation and equality are recognised as essential components of good governance (OECD, 2014). This paper contributes to the

literature by investigating whether female political representation influences local budget credibility. The analysis focuses on Croatia and Slovenia, two neighbouring EU member states with similar legal and institutional frameworks, using 2023 data for all 212 Slovenian and 556 Croatian local governments. Cluster analysis and linear regression are applied to identify fiscal performance patterns and assess whether gender composition in councils and executive leadership affects total expenditure deviations. The paper proposes two hypotheses: (1) a higher share of women in local councils is associated with lower total expenditure deviations; and (2) local governments led by female mayors exhibit lower total expenditure deviations.

This paper is organised as follows. Section 2 gives a review of the literature on budget deviations and female representation in local politics. Section 3 describes the data, while Section 4 focuses on the methodology and results, and Section 5 presents conclusions, limitations and recommendations.

2. Literature review and theories

Recent studies emphasise the importance of institutional factors such as budget transparency, the quality and timeliness of budget reporting, and organisational capacity for robust forecasting and planning. These factors consistently correlate with increased budget credibility and reduced deviations between planned and actual outcomes. Moreover, political determinants—including political ideology, party fragmentation, election cycles, decentralisation, and the competitiveness of the political environment—play a significant role in explaining variations in budget credibility within local governments. For example, Beetsma et al. (2013) and Sarr (2015) provide evidence that enhanced transparency and external audit capacity positively influence budget credibility across sectors. More recently, Markovič Hribernik et al. (2025) identify a comprehensive set of political and economic determinants that affect the credibility of local government budgets. These findings are corroborated by international assessments, such as the Fiscal Transparency Handbook (IMF, 2018), which concludes that strong institutional capacity, transparent reporting, and political accountability correlate with smaller deviations between planned and executed budgets.

In addition to institutional and political influences, gender-related factors have also been linked to fis-

cal performance. Previous research suggests that increased female participation in decision-making enhances efficiency, transparency, and accountability (Dollar et al., 2001; Esarey et al., 2019; Sung, 2003). However, the role of women in local politics remains underexplored, with relatively few studies addressing this issue (Cuadrado-Ballesteros et al., 2022; Ríos et al., 2023; Stanić et al., 2020; Stanić, 2023; Stanić et al., 2025). Most prior research on local budget deviations has focused on political and economic determinants such as ideology, party fragmentation, unemployment, or income (e.g., Boukari & Veiga, 2018; Goeminne et al., 2008; Guillamón et al., 2024; Jorge et al., 2023; Ríos et al., 2018; Sedmihradská & Čabla, 2013). Gender aspects have been explicitly examined in only two studies: Cuadrado-Ballesteros et al. (2022) on Spanish municipalities, and the recent study by Stanić et al. (2025) on Croatian cities, which found that gender differences may influence spending priorities and thus shape fiscal behaviour.

Holman (2017) observes that women remain underrepresented in most local political positions, and gender diversity has not yet received sufficient attention, particularly at the local level. Research on local female political representation highlights disparities in women's preferences for the distribution of public funds and the positive effect of women's roles on public sector efficiency (Park, 2020). Female politicians tend to prioritise sectors such as education, healthcare, and social welfare—areas closely linked to long-term societal well-being and development (e.g., Lodi et al., 2024). Studies have also found a correlation between higher female representation and lower levels of corruption, suggesting that women may foster more transparent and accountable governance (e.g., Bauhr & Charron, 2020). Furthermore, women are often associated with more cautious and socially responsive fiscal management, leading to more effective and equitable use of public resources (e.g., Funk & Philips, 2019). Female leaders frequently adopt collaborative and participatory decision-making styles, enhancing policy implementation and responsiveness to citizens' needs (de Araujo & Tejedo-Romero, 2016). Collectively, these factors contribute to improved outcomes and greater trust in public institutions. Gender-responsive budgeting, defined as incorporating a gender perspective at every budgeting stage, aims to advance gender equality and

deliver economic and social benefits to society as a whole (World Bank, 2001).

Three theories are commonly invoked to explain the impact of female representation in politics. First, *social role theory* (Eagly, 1987) argues that gender stereotypes evolve from established social structures and community roles, where women and men are assigned specific social functions. This theory posits that females are expected to be more open and available than males, thereby mitigating information asymmetries. Consequently, female representation may enhance local government efficiency through more responsible behaviour. Second, *critical mass theory* (Kanter, 1977) suggests that a minority group remains ineffective unless it reaches a critical mass, typically between 20% and 40%, enabling it to influence group outcomes. Groups may be classified as uniform (0% women and 100% men or 100% women and 0% men), skewed (0–20% women and 80–100% men, or vice versa), tilted (20–40% women and 60–80% men, or vice versa), and balanced (40–60% women and 40–60% men), with significance attributed to attaining a critical mass. Third, the *citizen-candidate model* (Besley & Coate, 1997; Osborne & Slivinski, 1996) proposes that politicians' policy preferences vary with their individual characteristics, such as gender. Gender differences may thus translate into distinct perspectives on budgetary priorities and spending. This paper draws on all three theories—social role theory, critical mass theory, and the citizen-candidate model—to support the claim that women, being more socially and ethically sensitive, may produce more credible budgets.

A government's actual revenue and expenditure frequently differ from its planned budget (Goeminne et al., 2008). Expenditure or revenue overestimation occurs when planned amounts exceed actual amounts, while underestimation occurs when actual expenditures or revenues exceed planned amounts. Various papers have sought to explain the causes of budget deviations across countries and governance levels. Local governments may overestimate revenues (optimistic forecasting) to offer more public services or meet balanced budget requirements without immediate tax increases (Mayper et al., 1991), contributing to fiscal illusion (Campbell, 2004). Fiscal illusion theory holds that voters often fail to fully comprehend the costs of public goods, thereby enabling politicians to avoid tax rises by accumulating debt, as citizens overesti-

mate revenue and misjudge spending capacity (Buchanan & Wagner, 1977; Puviani, 1976). Conversely, pessimistic revenue estimates may help buffer against unexpected fiscal shocks, whereas underestimating expenditures can negatively impact financial management. Overestimating expenditures, however, may serve to maintain budget surpluses and financial resilience.

While empirical research increasingly examines economic, institutional, and political determinants of local budget credibility related to expenditures (e.g., Benito et al., 2015; Boukari & Veiga, 2018; Guillamón et al., 2024; Ríos et al., 2018; Siregar & Susanti, 2019), only two papers have incorporated gender as an explanatory factor. Cuadrado-Ballesteros et al. (2022) analysed 140 Spanish municipalities from 2008 to 2018 and found that female mayors and higher proportions of female councillors correlate with improved fiscal outcomes; specifically, greater female representation is associated with healthier local government finances. Stanić et al. (2025) analysed 128 Croatian cities from 2016 to 2021 and found that the share of women in city councils has a nonlinear (U-shaped) relationship with budget credibility. At low levels of female representation, cities tend to overestimate revenues and underestimate expenditures, resulting in overly optimistic and less credible budgets. Once women surpass roughly 30% of council seats (for revenues) and 40% (for expenditures), the pattern reverses: cities become more fiscally cautious, tending to underestimate revenues and overestimate expendi-

tures, which enhances budget discipline and budget credibility.

Based on the literature and the three theoretical frameworks outlined, this study formulates the following hypotheses to address gaps in the current research:

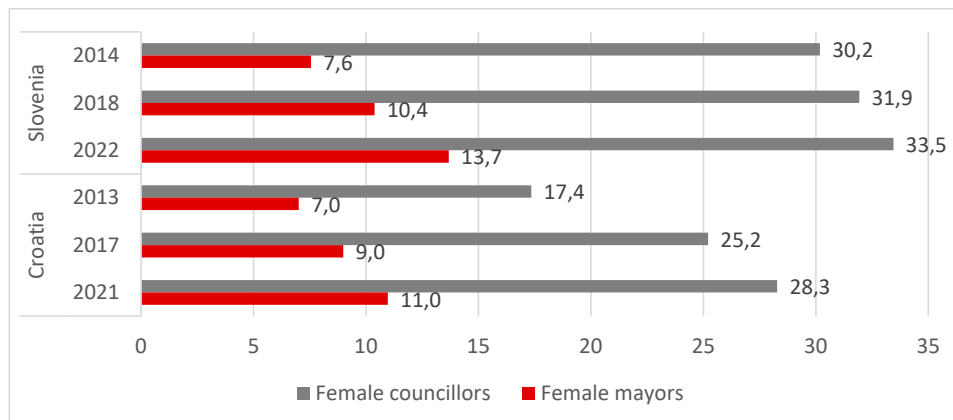
H₁: A higher percentage of women in local councils leads to lower total expenditure deviations.

H₂: Local governments led by female mayors exhibit lower total expenditure deviations.

3. Data

The paper examines the budgets of 128 cities and 428 municipalities in Croatia, and 12 urban municipalities and 200 municipalities in Slovenia, a total of 768 local governments across the two neighbouring EU countries for the year 2023. Political female representation is measured as the percentage of female councillors in local councils. Graph 1 shows the average share of female councillors based on Slovenia's 2014, 2018, and 2022 local elections and Croatia's 2013, 2017, and 2021 local elections. The proportion of female representatives has been steadily increasing in both countries; however, Slovenian local governments consistently exhibit higher female representation than those in Croatia. On average, smaller municipalities have more female mayors but fewer female councillors compared to larger municipalities.

Graph 1 Percentage of female councillors and female mayors at local elections in Slovenia and Croatia, in %



Source: Author's calculation

Total expenditure deviations were calculated using the following formula:

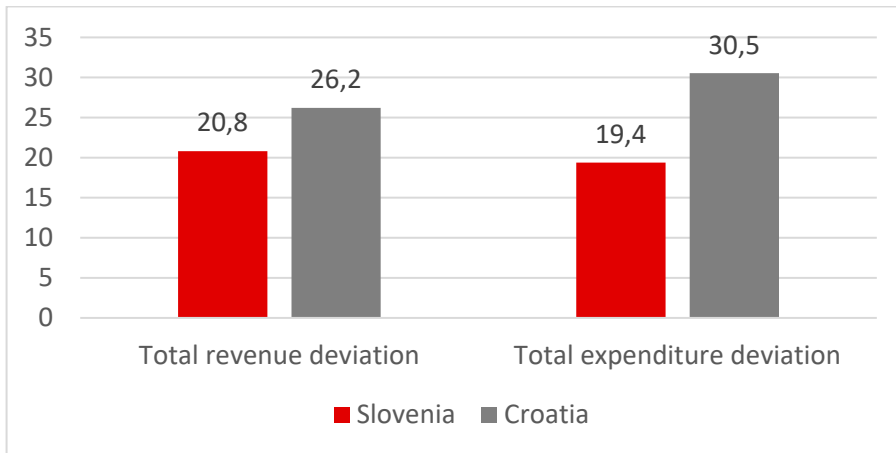
$$\text{total expenditure deviation} = \left| \frac{\text{planned total expenditure} - \text{executed total expenditure}}{\text{planned total expenditure}} \right|$$

The executed budget (end-year report) should be equal to the planned budget (enacted budget), but this is not always the case. Deviations can therefore be positive (indicating an overestimation of total expenditures) or negative (indicating an underestimation of total expenditures). In this paper, total expenditure deviations are expressed as absolute values, with smaller deviations considered better.

Graph 2 presents the deviations in total revenues and total expenditures. The results show that Slovenian local governments perform better than Croatian ones in budgetary planning. Slovenian local governments are slightly more accurate in planning total expenditures than total revenues, whereas Croatian local governments perform worse in planning total expenditures than total revenues (with an average total expenditure deviation of 31% across

all Croatian local governments). Accurate planning of total expenditures is particularly important for several reasons. While total revenues are often influenced by market fluctuations and external factors (e.g., economic conditions), total expenditures mainly result from internal decisions. Local governments have greater control over their expenditures than over their revenues. Inaccurate expenditures planning can lead to budget deficits and debt accumulation. If expenditures are planned too high, resources may be unnecessarily locked up; if they are planned too low, financial constraints can occur. Unlike revenues, which are largely based on projections and forecasts, expenditures represent concrete commitments that must be fulfilled. For these reasons, this paper focuses on total expenditure deviations rather than total revenue deviations.

Graph 2 Average total revenue and total expenditure deviations in local governments in Slovenia and Croatia in 2023, in %



Source: Author's calculation

Variables that may influence expenditure deviations include population size and local governments' own revenues per capita (all variables used are described in detail in Table 1). Population has been examined in numerous papers (e.g., Benito et al., 2015; Bohn & Veiga, 2021; Cuadrado-Ballesteros et al., 2022; Ríos et al., 2018). Evidence from Spanish

local governments suggest that municipalities with more inhabitants tend to exhibit lower expenditure deviations (Cuadrado-Ballesteros et al., 2022; Ríos et al., 2018), so a similar negative relationship might be expected in this paper. Local governments' own revenues have also been widely analysed as a determinant of expenditure deviations (e.g., Boukari

& Veiga, 2018; Guillamón et al., 2024; Jorge et al., 2023). Higher levels of own revenues, reflecting greater fiscal autonomy and economic independence, are typically associated with lower expenditure deviations, as such local governments are less likely to manipulate their planned expenditures. Consequently, a negative relationship is also anticipated here.

For robustness, the linear regression analysis also includes four additional control variables: grants per capita, political ideology represented by left and right dummy variables, and the Herfindahl index.

Similar control variables have been used in previous studies to account for fiscal capacity, political orientation, and market concentration effects. For instance, prior research has shown that grants per capita often influence budget credibility, political ideology can affect spending priorities and redistribution policies, while the Herfindahl index is commonly included to capture the degree of political or economic concentration that may impact policy outcomes (e.g., Cuadrado-Ballesteros et al., 2022; Guillamón et al., 2024; Ríos et al., 2018; Stanić et al., 2025).

Table 1 Description of local governments' data

Variable	Description	Source
Total expenditure deviation	Calculated for 2023 as $\left \frac{\text{plan} - \text{executed}}{\text{plan}} \right $.	Executed amounts are from the Ministry of Finance database (MoF, 2024a; 2024b), and planned amounts are from enacted budgets on local governments' official websites; author's calculation.
Population	Total number of inhabitants in every LG, population estimates for 2023.	Statistical Office of the Republic of Slovenia (2024) Croatian Bureau of Statistics (2024)
Own revenues per capita	Calculated as operating revenues minus grants in 2023.	MoF (2024a)
Grants per capita	Revenues from grants in 2023.	MoF (2024b)
Female mayor	The dummy variable, one if the mayor is female and zero otherwise. Based on the local elections in Croatia (2021) and Slovenia (2022).	State Electoral Commission of the Republic of Slovenia (2024) State Electoral Commission of the Republic of Croatia (2024)
Female councillors	Share of female councillors in local councils, in %. Based on the local elections in Croatia (2021) and Slovenia (2022).	
Left	The political ideology of the mayor, represented as a dummy variable taking the value one if the mayor is from a left-wing party, and zero otherwise.	
Right	The political ideology of the mayor, represented as a dummy variable taking the value one if the mayor is from a right-wing party, and zero otherwise.	
Herfindahl	Measures the concentration of political or councillor power among parties in local councils, with higher values indicating less fragmentation and greater concentration. It is calculated as $\sum_{i=1}^n \frac{S_i^2}{S^2}$, where S is the total number of councillors in the local council and S_i is the number of councillors of party i .	

Source: Author

4. Methodology and results

Cluster analysis is a useful method for classifying data according to their characteristics. Clusters should exhibit high within-cluster homogeneity and high between-cluster heterogeneity (Hair et al., 1995). This paper applies Ward’s method, employing both hierarchical clustering and k-means clustering to group local governments into three or four clusters based on the closest mean values.

Cluster analysis was conducted for all 556 local governments in Croatia and all 212 local governments in Slovenia. Correlation matrices are provided in the Appendix (Tables A1 and A2), showing no high correlations among the variables used. Descriptive statistics are presented in Table 2 and indicate substantial differences between the two countries in terms of local government characteristics.

In 2023, the lowest total expenditure deviations were recorded in Vrsi (0.02) in Croatia and Črenšovci (0.51) in Slovenia. Conversely, the high-

est expenditure deviations were found in eight Croatian local governments (Čabar, Čeminac, Desinić, Donja Stubica, Gornja Stubica, Kali, Komiža, and Krapinske Toplice) and in Črna na Koroškem (100%) in Slovenia. Following the most recent local elections, female mayors were elected in 61 Croatian local governments (11%) in 2021 and in 29 Slovenian local governments (14%) in 2022. Certain local governments have no female councillors, i.e., five (2%) in Slovenia and 22 (4%) in Croatia. In contrast, women hold a majority of council seats in Osilnica (71%) in Slovenia and in Kraljevec na Sutli (71%) in Croatia. Civljane is the smallest local government in Croatia, with 157 inhabitants, whereas Osilnica is the smallest in Slovenia, with 336 inhabitants. The most populated local governments are Zagreb (772,122) in Croatia and Ljubljana (298,227) in Slovenia. Own revenues per capita range from EUR 803 in Turnišče to EUR 2,749 in Solčava (in Slovenia), and from EUR 145 in Proložac to EUR 3,200 in Kolan (in Croatia).

Table 2 Descriptive statistics

Croatian local governments				
	Minimum	Median	Mean	Maximum
Total expenditure deviation	0.02	27.48	30.66	100
Population	157	2,591	6,946	772,122
Own revenues per capita	145.1	535.9	689.4	3,199.8
Female mayor	0	0	0.11	1
Female councillors	0	28.57	28.28	71.43
Slovenian local governments				
	Minimum	Median	Mean	Maximum
Total expenditure deviation	0.51	16.23	19.37	100
Population	336	5,048	10,030	298,227
Own revenues per capita	803	1,076	1,147.5	2,749
Female mayor	0	0	0.14	1
Female councillors	0	33.33	33.45	71.43

Source: Author

Cluster analysis results for total expenditure deviations are presented in Tables 3 and 4 for all Croatian and Slovenian local governments, respectively. The cluster mean values suggest a negative relation between total expenditure deviations and the percentage of female councillors in local government. The main finding is that local governments

with the lowest total expenditure deviations tend to have the highest proportion of female councillors. Conversely, local governments with the highest total expenditure deviations have the lowest share of female councillors. In addition, local governments led by female mayors exhibit lower total expendi-

ture deviations. Therefore, both hypotheses are confirmed.

Croatian local governments form four clusters with various contributions of variables (Table 3). The

most important variable is *female mayor*, ranging from -0.35 (Clusters 1, 2, and 4) to 2.85 (Cluster 3). The lowest contribution of the variable *population* ranges from -0.09 (Cluster 4) to 0.35 (Cluster 2).

Table 3 Average values of variables for Croatian cities and municipalities

Cluster	Number of local governments	% of local governments	Total expenditure deviation	Population	Own revenues per capita	Female mayor	Female councillors
1	187	34	22.54 (-0.38)	5,441 (-0.04)	545.72 (-0.31)	0 (-0.35)	37.5 (0.70)
2	90	16	25.45 (-0.24)	19,087 (0.35)	1,498.14 (1.76)	0 (-0.35)	28.2 (-0.01)
3	61	11	29.81 (-0.04)	5,020 (-0.06)	616.77 (-0.16)	1 (2.85)	36.1 (0.59)
4	218	39	40.00 (0.44)	3,763 (-0.09)	498.96 (-0.41)	0 (-0.35)	18.2 (-0.77)

Note: Cluster means (standardised values) are reported in parentheses.

Source: Author

Cluster 1 can be described as consisting of the best performers. In this cluster, Croatian local governments exhibit the lowest total expenditure deviations, meaning their budget deviations tend to approach zero. These local governments demonstrate stronger expenditure planning capacity, as their executed expenditures are more closely aligned with planned amounts. They also support the hypothesis concerning female representation in local politics, having higher percentages of female councillors. Conversely, Cluster 4 represents the worst performers, where Croatian local governments show

the highest total expenditure deviation and the lowest percentage of female councillors. This pattern is accompanied by the lowest levels of own revenues per capita and the lowest number of inhabitants.

Slovenian local governments form three clusters with different contributions of variables (Table 4). The greatest contribution is that of *female mayor*, ranging from -0.40 (Clusters 1 and 3) to 2.51 (Cluster 2). The lowest contribution is that of *own revenues per capita*, ranging from -0.12 (Cluster 1) to 0.28 (Cluster 2).

Table 4 Average values of variables for Slovenian cities and municipalities

Cluster	Number of local governments	% of local governments	Total expenditure deviation	Population	Own revenues per capita	Female mayor	Female councillors
1	100	47	15.52 (-0.25)	15,078 (0.22)	1,113.44 (-0.12)	0 (-0.40)	42.4 (0.67)
2	29	14	21.85 (0.16)	6,185 (-0.17)	1,226.94 (0.28)	1 (2.51)	36.3 (0.22)
3	83	39	23.14 (0.24)	5,291 (-0.21)	1,160.70 (0.05)	0 (-0.40)	21.6 (-0.89)

Note: Cluster means (standardised values) are reported in parentheses.

Source: Author

Cluster 1 can be highlighted as containing the best performers, as these Slovenian local governments exhibit the lowest total expenditure deviations

(tending toward 0%). They demonstrate stronger capacity for expenditure planning, with executed expenditures more closely aligned with planned

amounts. The results also support our hypothesis that local governments with higher percentages of female councillors tend to have lower expenditure deviations. This relationship is further associated with a higher number of inhabitants and higher own revenues per capita. Conversely, Cluster 3 can be highlighted as comprising the worst performers, where Slovenian local governments exhibit the highest total expenditure deviations and the lowest percentage of female councillors. This pattern is accompanied by the lowest number of inhabitants.

To further comment on female mayors, the average values in each cluster are calculated (Tables 3 and 4). Clusters 1, 2, and 4 (Croatia) and Clusters 1 and 3 (Slovenia) have no female mayors, while Cluster 3 in Croatia and Cluster 2 in Slovenia have female mayors. Thus, total expenditure deviations in clusters with female mayors exhibit an average of almost 30% in Croatian and almost 22% in Slovenian local governments. It is interesting that there are more female councillors in local governments with female mayors—in 11% of Croatian and in 14% of Slovenian local governments, female councillors account for an average of 36% of council members. In local governments where the mayor is a man—89% in Croatia—women councillors account for 27% on average, while in Slovenia (86% of local governments), they account for 33%. Cluster 3 in Croatia encompasses local governments with female mayors and a high percentage of female councillors; with an average of EUR 617 in revenues per capita and around 5,000 inhabitants. Cluster 2 in Slovenia also includes local governments with female mayors, a high percentage of female councillors, and the highest own revenues per capita (EUR 1,227) and around 6,200 inhabitants.

To ensure the robustness of the cluster analysis results, linear regression was conducted using the variables from cluster analysis, with four additional control variables included: grants per capita, political ideology (left and right), and the Herfindahl index, following the approach of research recently published by Stanić et al. (2025). Our findings support a negative relationship between the share of female councillors and total expenditure deviation in the pooled sample of all local governments in Croatia and Slovenia (Table 5). In other words, local governments with higher percentages of female councillors exhibit smaller deviations between executed and planned total expenditures, implying potential benefits of gender diversity in local councils.

However, the effect of having a female mayor is not statistically significant, which is consistent with the findings of Stanić et al. (2025).

Table 5 Linear regression results for the pooled sample of Slovenia and Croatia

Total expenditure deviation	OLS
Population	-0.0001** (-2.08)
Own revenues	-0.0058*** (-3.27)
Female mayor	-1.2773 (-0.52)
Female councillors	-0.0974* (-1.7)
Left	-2.7609 (-1.32)
Right	-4.2383** (-2.53)
Herfindahl	0.2186*** (4.77)
Grants	0.0042** (2.35)
Constant	27.05*** (8.78)
Number of observations	768
Prob > F	0.0000
R-squared	0.0894

Note: t-test values are given in parentheses.
Source: Author

Regression analysis presented in Table 5 examines the factors influencing total expenditure deviations in local governments using an OLS model, which is statistically significant overall. Population size has a small but significant negative effect, indicating that larger local governments tend to experience lower expenditure deviations, likely because of greater administrative capacity. Similarly, a higher share of own revenues is significantly associated with reduced deviations, suggesting that greater fiscal autonomy enhances budgetary discipline. Political orientation indicates that right-wing mayors significantly reduce expenditure deviations, pointing to a more conservative approach to fiscal management, while left-wing mayors show a non-significant negative effect. Political concentration, measured

by the Herfindahl index, significantly increases expenditure deviations, likely because lower political competition weakens accountability. Finally, higher revenues from grants are associated with larger deviations, reflecting the challenges of precise budget implementation when local governments rely heavily on external funding sources.

To conclude, the hypothesis that Croatian and Slovenian local governments with the lowest total expenditure deviations have the highest percentages of female councillors is confirmed (Cluster 1 in both countries). Moreover, in Croatian and Slovenian local governments led by female mayors, there is also a higher share of female councillors and lower total expenditure deviations. Conversely, local governments with the highest total expenditure deviations tend to have the lowest proportions of female councillors and the smallest populations in both countries. The linear regression results support our hypothesis about female representation in local politics, aligning with the findings for 140 Spanish municipalities in the period 2008–2018 (Cuadrado-Ballesteros et al., 2022) and for 128 Croatian cities in the period 2016–2021 (Stanić et al., 2025). Greater female political representation appears to contribute to improved budget outcomes, as the participation of female councillors and mayors enhances the financial performance of local governments.

5. Conclusion

This paper contributes to the ongoing discussion of gender disparity in public administration and women's role in improving governance quality. Its main objective was to examine whether gender influences local government budget credibility, specifically whether female representation in local leadership—through female mayors and/or a higher share of female councillors—affects budget credibility as reflected in total expenditure deviations. The analysis covered 2023 budgets of all 556 Croatian and 212 Slovenian local governments. A comparative analysis of Croatia and Slovenia in the context of local government budgets and women's political representation is particularly valuable given their shared historical and institutional foundations. Both countries encounter comparable challenges, including territorial fragmentation and limited decentralisation, which undermine local governance capacity and budget credibility.

The results show that local governments with the highest share of female councillors exhibit the lowest total expenditure deviations. Moreover, those led by female mayors tend to have more female councillors and smaller deviations in total expenditures. Conversely, local governments with the largest deviations record the smallest shares of female councillors in both countries. These findings confirm both hypotheses: higher female political representation contributes to better-planned and better-executed budgets, implying improved financial management. The results align with the findings of Cuadrado-Ballesteros et al. (2022) and Stanić et al. (2025), while this paper extends the evidence by providing the first cross-country local-level study for Croatia and Slovenia.

From a policy perspective, since greater female representation is associated with lower expenditure deviations, policymakers should strengthen mechanisms that promote women's political participation. Although gender quotas exist in legislation, their effect depends largely on proper enforcement. Quotas are often weakly applied or circumvented, and sanctions for non-compliance are rarely imposed. To ensure that gender quotas lead to genuine political participation and improved budget credibility, authorities must prioritise consistent enforcement, transparent oversight, and stronger accountability mechanisms.

The main policy implication is clear: female representation matters for local government budget credibility in both Croatia and Slovenia. Municipalities with a higher percentage of women councillors tend to have lower total expenditure deviations, while those led by female mayors show medium but still improved fiscal discipline. Future research could expand these findings by employing panel data over multiple years, examining political budget cycles, or including additional determinants such as mayoral tenure and educational background of councillors. Overall, this study demonstrates that women's representation in local politics is not only a question of fairness but also a driver of more credible and disciplined fiscal governance. Enhancing gender balance in political institutions should therefore be viewed as an investment in equality and effective public financial management.

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Appendix

Table A1 Correlation matrix for all Croatian local governments

	Total expenditure deviation	Population	Own revenues per capita	Female mayor	Female councillors	Left	Right	Herfindahl	Grants
Total expenditure deviation	1								
Population	-0.13	1							
Own revenues per capita	-0.14	0.15	1						
Female mayor	-0.01	-0.02	-0.06	1					
Female councillors	-0.03	0.03	0.05	0.21	1				
Left	-0.06	-0.01	0.12	0.07	0.15	1			
Right	-0.05	-0.04	-0.15	-0.10	-0.15	-0.47	1		
Herfindahl	0.14	-0.13	-0.14	-0.03	0.08	-0.01	0.20	1	
Grants	0.06	0.03	-0.24	0.18	0.11	-0.09	0.08	0.08	1

Source: Author

Table A2 Correlation matrix for all Slovenian local governments

	Total expenditure deviation	Population	Own revenues per capita	Female mayor	Female councillors	Left	Right	Herfindahl	Grants
Total expenditure deviation	1								
Population	-0.13	1							
Own revenues per capita	0.32	-0.03	1						
Female mayor	0.06	-0.07	0.11	1					
Female councillors	-0.03	0.19	0.09	0.09	1				
Left	-0.08	0.09	-0.08	-0.06	0.01	1			
Right	-0.05	-0.07	-0.15	-0.08	-0.12	-0.15	1		
Herfindahl	0.01	-0.14	0.08	0.05	0.11	-0.08	0.15	1	
Grants	0.38	-0.13	0.51	0.15	-0.02	-0.10	-0.08	-0.13	1

Source: Author