NEW EVIDENCE CONCERNING THE INEQUALITY - FINANCIAL DEVELOPMENT NEXUS IN ROMANIA. A COINTEGRATION APPROACH

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Abstract: *This paper revisits the ambiguous effect of financial development on income inequality in emerging countries by investigating the presence of cointegration between concepts in Romania. Since financial deepening seems to be beneficial in the income-disparities fight in advanced countries, opposite findings are found in the case of less developed or transition ones. Therefore, we employ a time-series model that accounts for inequality, financial deepening and economic growth as the main variables spanning more than 30 years of Romanian history. On average, a higher degree of financial development harms income distribution in the long term, while economic productivity manifests a non-significant influence on inequality. These outcomes are robust to other novel measures of finance that account for the global dimension of financial development: financial institutions, markets and private sector credits. To control for the potential bias of inequality's transmission channels, we include a proxy for inflation in our specification. By capturing the impact of financial expansion on inequality in the presence of inflationary pressure, our results reflect the sensitivity of the low-income groups to this phenomenon. In this regard, policymakers should pay attention to inflation-targeting strategies to support the condition of poor individuals who often cannot take advantage of the benefits of financial development.*

Keywords: financial development, inequality, inflation, cointegration, Romania

JEL classification: D63, E44, F43, P24.

1. Introduction

The relationship between financial development and income inequality has been extensively studied over the past decades, with researchers arguing for mixed empirical outcomes. One strand of literature claims that reducing financial market imperfections can efficiently diminish the inequality in income distribution (Galor and Moav, 2004; Braun et al., 2019). Moreover, financial deepening can improve capital allocation and foster economic growth in the long run (Thornton and Di Tommaso, 2019). In contrast, some authors argue for the existence of a non-linear connection between inequality and finance, in the form of an inverted U shape, supporting the idea that the impact of financial deepening on inequality depends on the level of economic development of a certain country (Greenwood and Jovanovic, 1990; Law et al., 2014). Another bulk of the literature shows evidence of a positive finance-inequality nexus, implying that a higher degree of financial openness may boost inequality among the population (Dabla-Norris et al., 2015; de Haan and Sturm, 2017).

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Therefore, the aim of this study is to investigate the financial development-income inequality linkage in Romania over the period 1990-2021 due to these conflicting outcomes in both developed and emerging economies and, more importantly, the scarce empirical literature focusing on the countries from East-Central Europe. By drawing upon cointegration techniques on large annual time-series data (i.e. 32 years), our findings support the existence of a direct equilibrium relationship between finance and income inequality in Romania. In other words, our results align with the branch of studies that argues for a positive finance-inequality association that seems to be common in emerging and less developed countries. The results obtained are robust to other financial indicators but sensitive to the influence of inflation at different levels of income distribution. This implies that inequality is fostered by disequilibrium in three dimensions: institutions, markets, and private sector credits. From another perspective, we find that inflation negatively and significantly affects income inequality at the aggregated level, arguing for the resources transfer effect of inflationary phenomena (Albanesi, 2006; Coibion et al., 2019). When observing the degree of inequality at the bottom deciles of the distribution, inflation tends to enhance the income gap due to the vulnerability of low-income households who usually hold large amounts of currency.

The novelty of our work arises from employing the newly developed financial indicators of the IMF (Svirydzenka, 2016) that cumulatively capture the influence of financial institutions and markets' efficiency on Romania through the Financial Development Index and its components. Moreover, we consider in our analysis the impact of inflation that affects inequality differently depending on the income group, especially poorer individuals.

The following Section briefly reviews the literature on the finance-inequality link. Section 3 describes the approached methodology. The main findings are illustrated in Section 4. Section 5 concludes and offers some policy suggestions.

2. Theoretical background

Several works have tackled the inequality-financial development nexus over time due to the ambiguous results obtained: a positive, negative or non-linear relationship (Greenwood and Jovanic, 1990; Galor and Moav, 2004; Furceri and Loungani, 2015). Financial development has been considered a transmission channel that can enhance economic growth, but its impact on income inequality remains unclear since this connection may be influenced by the cumulative effect of other socioeconomic factors, including human capital, poverty, investments, etc.

On the one hand, it is well known that when financial markets suffer from imperfections, the investment opportunities rely on private incomes and assets, and to obtain a loan, it is necessary to have some disposable capital. According to Aghion et al. (1999), an unequal resource distribution worsens the borrowers' incentives. In this case, low-income individuals have fewer opportunities to invest in human capital (i.e. education and health), implying under-investments and a lower economic growth rate compared to the growth rate of technological progress. It is usually assumed that economic growth is positively correlated with human capital accumulation. Because poor people have difficulties accessing credits to finance their education, a reduction in inequality will stimulate growth. These findings support those of Perotti (1996), who highlights that more equal societies have lower fertility rates and higher investment in education, both of which have been shown to improve economic performance. Additionally, Barro (2000) reports that barriers to accessing credits for the population will reduce the level of investment in human capital in the poor sectors with higher yields. Suppose the quality of the financial markets and institutions will improve as the economy develops. In that case, the negative influence of market imperfections will affect the developing countries rather than the advanced ones. This finding is in line with the idea

that inequality negatively influences economic growth in poor countries and positively in developed economies (Breunig and Majeed, 2020).
On the other hand, most recent studies claim that financial development diminishes inequality in developed states (Madsen, Islam and Doucouliagos, 2017; Jung, Vijverberg, 2019), while the effect seems to be the reverse in emerging and less developed countries (Seven and Coskun, 2016; Kim, Hsieh, and Lin, 2019; Thornton and Di Tomasso, 2019). For instance, by studying a panel of 21 OECD members from 1870-2011, Madsen, Islam and Doucouliagos (2017) argue that the adverse influence of inequality is more severe in financially less developed states with less credit opportunities for the population. Likewise, using spatial econometric techniques, Jung and Vijverberg (2019) show that a higher degree of financial development reduces income inequality in 29 administrative counties in China. Nevertheless, the authors show that access to different banking services, including deposits and loans, does not have a significant impact in reducing inequality. In contrast, Thornton and Di Tommaso (2019) employ panel cointegration methods to investigate the long-term relationship between finance and inequality and use a sample of 119 countries observed from 1980-2015. They find that a higher degree of financial markets development reduces the income gap between individuals, the results being robust to distinct measures of financial development.

3. Methodology and data

To assess the long-term dynamics between income inequality and financial development, we develop the following model:

$$LGINI_t = \beta_0 + \beta_1 LFD_t + \beta_2 LGDP_t + \varepsilon_t, \quad (1)$$

Where *GINI* is the net Gini coefficient for income inequality (in logs), *FD* represents the Financial Development Index (in logs) recently developed by Svirydzenka (2016) and ε the error term. In line with the work of Kuznets (1955) and Thornton and Di Tommaso (2019), we also include in the model the GDP per capita as a proxy for economic growth (GDP), which has been demonstrated to have a long-run influence on inequality.
As our data contain information from more than 30 years, an appropriate method to tackle the properties of our sample is testing for stationarity. Furthermore, if the hypothesis of non-stationary variables is confirmed, we will further examine the potential existence of a cointegration relationship between them using the ARDL Bound tests (Pesaran et al., 2001). Then, a relevant approach that is suitable to estimate potential short and long-run dynamics represents the ARDL model coined by Pesaran et al. (2001). ARDLs are least squares regressions that contain lags of the response and explanatory variables as regressors. Pesaran et al. (2001) developed an efficient methodology to examine the equilibrium long-run relationship, regardless of whether the regressors are stationary or non-stationary (in the ARDL model, the dependent variable is assumed to be I(1)). In this case, we may appropriately employ the ARDL method, including variables with different integration orders. Therefore, we consider estimating the conditional error correction equation as follows:

$$\Delta LGINI = \alpha_0 + \alpha_1 t + \gamma_0 LGINI_{t-1} + \gamma_1 LFD_{t-1} + \gamma_2 LGDP_{t-1} + \sum_{i=1}^{P} \Theta_i \Delta LGINI_{t-i} + \sum_{j=0}^{q} \Delta LFD_{t-j} + \sum_{l=0}^{n} \Phi_l \Delta LGDP_{t-l} + \mu_i, \quad (2)$$

Where ∆ is the first-order difference operator**.** The first differences of the variables denote how much they vary (i.e. increase or decrease) every year compared to the previous one.
The null hypothesis of a no-cointegrating relationship between GINI and FD is tested as the joint nonsignificance of the parameters of the lagged levels: H_0: $\gamma_0 = \gamma_1 = \ldots = \gamma_n = 0$. If the

calculated F-statistic overpasses the upper bound critical value, we can reject the null hypothesis. Otherwise, we fail to reject H_0 and conclude that cointegration does not exist between variables.

Regarding the data, we focus on annual time-series indicators for Romania spanning the period 1990-2021. Data for income inequality is collected from the World Inequality Database, accessed in July 2023, and is represented by the post-taxes Gini coefficient. The real GDP per capita (PPP) is taken from the World Bank's database, while the level of financial development is captured by a novel aggregate index constructed by the IMF: the Financial Development Index comprising financial institutions and markets dimensions (Svirydzenka, 2016). For complexity purposes, we employ three other measures of finance, namely the above-mentioned sub-indices of the Financial Development Index (i.e. the Financial Institutions and Markets Indexes) and the banks' credits to the private sector ratio as % of GDP. The description and source for the variables used in the analysis are provided in Table 1A in the Appendix. All variables are transformed in logs to control for heteroskedasticity and normalize data, except the inflation proxy.

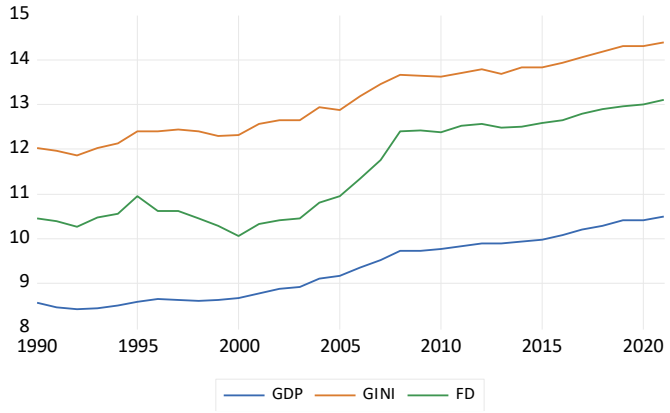

Figure 1. Evolution of inequality, financial development and economic growth
Source: Author's analysis in Eviews 13

From a graphical point of view, Figure 1 indicates that all variables pattern a mostly upward trend between 1990 and 2021, suggesting similar dynamics over time. This preliminary analysis denotes the presence of a long-run path between financial development, income inequality and economic growth. Summary statistics are presented below (Table 1).

Table 1. Descriptive statistics

Variable	Obs.	Mean	Std. dev.	Min.	Max.
GDP	32	9.332	0.705	8.415	10.499
GINI	32	3.781	0.137	3.446	3.944
FD	32	-1.598	0.363	-2.254	-1.176
FI	32	-1.245	0.524	-2.237	-0.677
FM	32	-2.477	0.503	-3.147	-1.651
PRIVC	27	3.076	0.612	1.964	4.379
INFL	32	40.897	67.368	-1.500	256.100
BOT50	32	2.916	0.172	2.696	3.373

Source: Author's analysis in Eviews 13

4. Results

According to Tables 2, 3 and 4, our results suggest that the majority of our variables are I(1), i.e. integrated of order 1, implying that they are stationary in first-difference form. However, the performed tests for private bank credits (% GDP) and inflation proxies show mixed results, reinforcing the validity of the chosen methodology. On the other hand, given the pattern of the financial indicators' graphs, we may expect potential structural breaks in the time series data. According to Caporale and Grier (2000) and Lazăr and Denuit (2011), among others, the common unit root tests can be biased by the existence of unexpected changes in parameters. Also, the empirical literature often finds structural changes in financial series (Andreou and Ghysels, 2009). In this regard, we employ the Zivot and Andrews (1992) test and claim that FD is non-stationary with a breakpoint in 2013, corresponding to the national market's reaction to the undertaken changes in the United States monetary policy regime. The same tests are conducted for the other financial indicators: FI and FM seem to be stationary in level with one structural break.

Table 2. Unit root tests (levels)

Test / Variab.	ADF H0: Unit root		ERS H0: Unit root		PP H0: Unit root		KPSS H0: Stationarity		Zivot-Andrews test
	int	int&trend	int	int&trend	int	int&trend	int	int&trend	int&trend
GINI	-2.470	-2.899	-1.390	-2.733	-2.499	-2.782	0.617**	0.142**	
GDP	1.309	-2.026	-0.494	-1.737	0.908	-3.040	0.727**	0.118**	
FD	-1.536	-3.654	-1.588	-2.138	-1.245	-1.708	0.350*	0.120*	-4.038 (2013)
FI	-0.689	-1.715	-0.702	-1.521	-0.900	-1.881	-0.500*	0.110	-2.803** (2005)
FM	-1.671	-1.712	-1.412	-1.818	-1.791	-1.789	0.412*	0.127	-5.404** (2000)
PRIVC	-1.896	-1.312	-0.973	-1.368	-1.312	-1.023	0.155	0.102	
BOT50	-2.934	-2.437	-0.974	-1.521	-3.058**	-2.437	0.442	0.178**	
INFL	-7.553***	-5.025***	-0.366	-0.592	-2.288	-3.980**	0.535**	0.159**	

Source: Author's analysis in Eviews 13

Table3. Unit root tests (first-differences)

Test / Variab.	ADF H0: Unit root	ERS H0: Unit root	PP H0: Unit root	KPSS H0: Stationarity
	intercept	intercept	intercept	intercept
ΔGINI	-6.857***	-6.943***	-6.770***	0.164
ΔGDP	-3.928***	-1.895*	-3.908***	0.313
ΔFD	-4.446***	-4.523***	-4.600***	0.134
ΔFI	-4.587***	-4.661***	-4.572***	0.153

Source: Author's analysis in Eviews 13

Table 4. Unit root tests (first-differences)

Test / Variab.	ADF H0: Unit root	ERS H0: Unit root	PP H0: Unit root	KPSS H0: Stationarity
	intercept	intercept	intercept	intercept
ΔFM	-5.296***	-5.384***	-5.293***	0.107
ΔPRIVC	-2.764*	-2.576**	-2.726*	0.193
ΔBOT50	-6.667***	-6.146***	-6.664***	0.405
ΔINFL	-4.510***	-0.876	-8.551***	0.500

Source: Author's analysis in Eviews 13

We then employ the ARDL Bound test to verify the existence of the cointegration relationship. The outcomes denote that the null is rejected in favour of the alternative H_1 since the calculated F-statistic surpasses the upper critical value at the 1% significance level (see Table 5). Therefore, our variables have the same dynamics over time, i.e. they are cointegrated.

Table 5. ARDL Bound Tests

Dependent variable: GINI **Null hypothesis: No relationship (in levels)**				
Test statistic	**Value**	**Signif.**	**I(0)**	**I(1)**
F-statistic	13.079	10%	3.17	4.14
Number of parameters (k)	2	5%	3.79	4.85
		2.5%	4.41	5.52
		1%	5.15	6.36

Source: Author's analysis in Eviews 13

Further, our objective is to investigate short- and long-term dynamics between income inequality, financial development and economic growth. The appropriate lag lengths for the ARDL (p_0, p_1, p_2) component of the equation are selected using the Akaike Information Criterion (AIC). In our case, the optimal estimated model is the ARDL (1, 4, 3) specification for the short-run dynamics. The short- and long-run relationships are presented below (Tables 6 and 7).

Table 6. ARDL (1, 4, 3) long-term coefficients

Variable	**Coeff.**	**Std. error**	**t-Statistic**	**Prob.**
Dependent variable: GINI				
GDP	-0.005	0.018	-0.286	0.778
FD	0.154***	0.030	5.150	0.000

Source: Author's analysis in Eviews 13

Table 7. ARDL Error correction model (ECM) – short-term dynamics

Variable	**Coeff.**	**Std. error**	**t-Statistic**	**Prob.**
ECM(-1)	-1.130***	0.171	-6.620	0.000
∆GDP	0.437**	0.167	2.616	0.018
∆GDP(-1)	0.372*	0.187	1.996	0.062
∆GDP(-2)	0.612***	0.188	3.254	0.005
∆GDP(-3)	0.560***	0.179	3.134	0.006
∆FD	0.115	0.087	1.328	0.202
∆FD(-1)	-0.198**	0.079	-2.497	0.023
∆FD(-2)	-0.223**	0.082	-2.703	0.015
Constant	4.516***	0.687	6.573	0.000
R^2	0.782			
Adj. R^2	0.706			
Log likelihood	54.441			
F-statistic	8.544			
Prob(F-statistic)	0.000			
Durbin-Watson statistic	2.279			

Notes: The dependent variable is the ∆GINI.
Source: Author's analysis in Eviews 13

As shown above, the long-run level relationship between GINI and (GDP, FD) is estimated by: $GINI_t = 0.154FD_t - 0.005GDP_t$, *(3)*

And it indicates that, in the long-term, one percentage increase in the GDP leads to a decrease of 0.005% in the Gini coefficient, assuming a negative but insignificant influence of economic growth on income inequality. In contrast, the results point out a positive and significant connection between inequality and financial development, arguing that increases in the development of financial institutions will trigger future increases in the degree of inequality by 0.154%. Similar outcomes are found by Tiwari, Shahbaz, and Islam (2013) and Cetin, Demir and Saygin (2021) in the case of India and Turkey, respectively. By including the lagged residual term in the short-run equation, we highlight how the Gini index adjusts in the short-run to the disequilibrium in the long-run.

4.1. Postestimation stability tests

Several stability tests concerning homogeneity, serial correlation, heteroskedasticity, and non-linearity were conducted to check the stability of the chosen ARDL (1, 4, 3) model. According to Table 8, the residuals are normally distributed and homogeneous and do not pattern serial correlation up to the 7th lag. Likewise, the performed cumulative sum of recursive residuals (CUSUM) and cumulative sum of the squares recursive residuals (CUSUMSQ) confirm the stability of our specification, testing for structural breaks in the residuals. Since the cumulative sum lies between the critical confidence interval bounds, we cannot reject the null hypothesis and claim that the predicted model accurately fits the data (Figures 2 and 3).

Table 8. Postestimation tests

Diagnostic Tests		
Jarque-Bera normality test	JB: 1.189	Prob.: 0.552
Breusch-Godfrey Serial Correlation Lagrange Multiplier test (7)	F-statistic: 1.124	Prob.F(7,10): 0.419
	Obs.*R-squared: 12.331	Prob.Chi-Square(7): 0.090
Breusch-Pagan-Godfrey Heteroskedasticity test	F-statistic: 0.800	Prob.F(10,17): 0.631
	Obs.*R-squared: 8.964	Prob.Chi-Square (10): 0.536
ARCH test (7)	F-statistic: 0.871	Prob.F(1, 25): 0.360
	Obs.*R-squared: 0.909	Prob.Chi-Square(1): 0.340
Ramsey RESET Test (1)	F-statistic: 3.460	Prob.: 0.081

Source: Author's analysis in Eviews 13

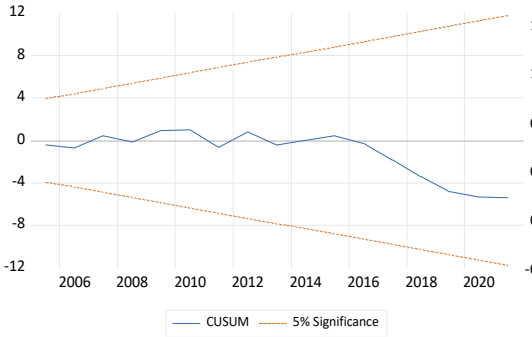

Figure 2. CUSUM graph
Source: Author's analysis in Eviews 13

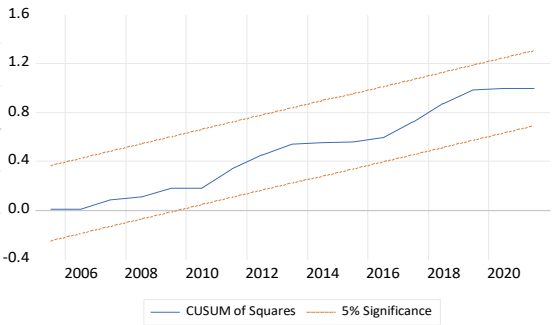

Figure 3. CUSUMSQ graph
Source: Author's analysis in Eviews 13

4.2. Robustness checks

On the other hand, another aspect that should be considered is the impact of inflation on our proposed equation. Given that high inflation rates may affect financial markets' stability, we include it in the model to control for the potential bias of omitted variables. In the same vein, the inflation-inequality nexus has been widely debated in the literature mainly due to its detrimental effect on the poorer individuals from the bottom deciles who tend to hold large shares of their income as currency, being the most exposed to inflationary phenomena (Albanesi, 2006; Coibion et al. 2019). The main results do not change in the presence of this additional factor, but we observe that, in the presence of inflation, one percentage increase in financial development leads to a higher increase in the inequality level compared to the baseline model (Table 9). Also, inflation significantly and negatively influences inequality in the long run, while the GDP's coefficient turns significant at the 5% significance level. These findings are in line with the work of Jin (2009), who argues for an inverse connection between inflation and inequality when capital heterogeneity is persistent.

Table 9. Long-run estimates (inflation proxy)

Variable	Coeff.	Std. error	t-Statistic	Prob.
Dependent variable: GINI				
GDP	-0.074**	0.031	-2.416	0.033
FD	0.249***	0.066	3.766	0.003
INFL	-0.0004***	0.0001	-3.472	0.005
Constant	4.832***	0.357	13.525	0.000

Source: Author's analysis in Eviews 13

To test our estimates' robustness, we change the measure of income inequality with another alternative, namely the bottom 50% of the population whose income falls below the median (Table 10, column 1(a)). In this manner, we also check the sensitivity of different income groups to inflation, testing the theory that inflationary pressure is more harmful to low-income individuals (Table 10, column 1(b)). As shown below, we notice that, in both models, financial development continues to significantly increment inequality in the long-term. Likewise, our results support the theory that inflation negatively influences the income distribution at the bottom deciles.

Table10. Long-run estimates (bottom 50%)

Variable	1(a)	1(b)
Dependent variable: BOT50	**ARDL (1, 2, 1)**	**ARDL (1, 0, 3, 0)**
GDP	-0.104** (0.047)	-0.004 (0.024)
FD	0.199** (0.080)	0.085** (0.035)
INFL	-	0.001*** (0.0001)
Constant	4.249*** (0.557)	3.081*** (0.278)

Source: Author's analysis in Eviews 13

From another perspective, we explore the impact of other financial indicators on income inequality, namely the sub-components Financial Institutions Index *(FI)* and Financial Markets Index *(FM),* and the commonly used banks' credit to the private sector ratio as % GDP *(PRIVC).* The FI and FM indicators are employed to assess the effect of institutions' and markets' development on income distribution individually to better explain the role of

these key financial factors. On the one hand, the FI index captures the cumulative influence of institutions' depth, accessibility, and efficiency, while on the other hand, the FM measure emphasizes the markets' background (Svirydzenka, 2016). These findings are reported in Table 11. In all situations, financial development acts as a contributor to Romania's long-term increases in the degree of inequality. This suggests that income inequality is fostered by disequilibrium in three dimensions: institutions, markets, and private sector credits. In contrast, GDP positively and significantly influences inequality in Eq. 1(b), suggesting that higher economic performance augments the disparity in income distribution over time. In conjunction with institutions' efficiency and private sector credit proxies, the GDP has no long-run relationship with the Gini coefficient.

Table 11. Long-run estimates (other financial indicators)

Variable	1(a)	1(b)	1(c)
Dependent variable: GINI	**ARDL (1, 4, 3)**	**ARDL (1, 3, 2)**	**ARDL (1, 4, 3)**
GDP	-0.003 (0.027)	0.102*** (0.020)	0.025 (0.024)
FI	0.094** (0.036)	-	-
FM	-	0.100** (0.036)	-
PRIVC	-	-	0.081*** (0.020)
Constant	3.878*** (0.289)	3.009*** (0.176)	3.266*** (0.171)

Source: Author's analysis in Eviews 13

5. Conclusion

By conducting a comprehensive time-series analysis concerning the relationship between financial development and inequality in Romania, we find that a higher level of financial deepening augments income inequality in the long term, arguing for an adverse effect of financial deepening in emerging countries. Concerning economic growth, the GDP per capita seems to have a beneficial but insignificant impact on reducing future inequality. When we individually explore the implications of the financial development in Romania using the recent indicators developed by IMF (Svirydzenka, 2016) that capture the dimension of financial institutions and markets development, our results remain robust, highlighting wider income disparities due to different forms of financial expansion. Given that financial market liberalization manifests a stronger influence on the inequality level than the financial institutions' indicator, we consider it appropriate to pay more attention to the stock market volatility. By supporting financial policies that secure both the stability and efficiency of stock markets, the inequality in income distribution may be significantly alleviated in the long term. From another point of view, our main findings do not change when accounting for additional factors, but we observe that, in the presence of inflation, one percentage increase in financial development triggers a higher increase in inequality compared to the baseline model. Furthermore, we support the detrimental influence of higher inflation rates on income distribution, especially for poor households. Therefore, policymakers should focus on inflation-targeting strategies that may improve the condition of low-income individuals and also reinforce at the national level the benefits of sustainable financial development observed in advanced countries.

One limitation of the current study is that we do not consider the impact of poverty when investigating the finance-inequality nexus. Considering that poor individuals have limited

access to credit markets and mostly live in rural areas, expanding the accessibility of financial services for this particular group may be advantageous over time. Additionally, the negative effect of inflation on the lower-income class questions for further research on the poverty topic. It would be relevant for financial expansion reforms to simultaneously assess the degree of domestic poverty to mitigate income discrepancies in Romania.

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Bio-note

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Appendix

Table 1A. Data description and source

Variable	Description	Source
Real GDP per capita (GDP)	The real GDP per capita expressed in PPP (current international USD)	World Development Indicators (WDI): https://databank.worldbank.org/
Gini coefficient (GINI)	The calculated net Gini coefficient after tax collection	World Inequality Database (WID): https://wid.world/data/
Financial Development (FD)	The Financial Development Index developed by the IMF (Svirydzenka, 2016)	International Monetary Fund (IMF) Database: https://data.imf.org/?sk=f8032e80-b36c-43b1-ac26-493c5b1cd33b&sid=1480712464593
Financial Institutions (FI)	The Financial Institutions Index developed by the IMF (Svirydzenka, 2016)	International Monetary Fund (IMF) Database: https://data.imf.org/?sk=f8032e80-b36c-43b1-ac26-493c5b1cd33b&sid=1480712464593
Financial Markets (FM)	The Financial Markets Index developed by the IMF (Svirydzenka, 2016)	International Monetary Fund (IMF) Database: https://data.imf.org/?sk=f8032e80-b36c-43b1-ac26-493c5b1cd33b&sid=1480712464593
Bank credits to the private sector (PRIVC)	The domestic credits provided by banks to the private sector as % of the GDP	World Development Indicators (WDI): https://databank.worldbank.org/
Bottom 50% (BOT50)	The bottom 50% of the population whose income falls below the median	World Inequality Database (WID): https://wid.world/data/
Inflation rate (INFL)	The inflation rate measured by the consumer prices index (annual %)	World Development Indicators (WDI): https://databank.worldbank.org/

Source: Author's processing