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The effect of social capital, ESG, and globalization on economic growth

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Abstract

This study examines the relationship between social capital and economic growth and investigates whether this relationship varies across institutional and external environments, as proxied by sovereign ESG and globalization. The results indicate that social capital is positively associated with economic growth, while governance exhibits the most consistent positive association with growth among the ESG dimensions. We further find that the interaction between social capital and governance is generally negative, suggesting that the marginal benefits of governance-related improvements may be weaker in countries with higher levels of social capital. Similarly, the interaction between social capital and globalization is negative, indicating that the association between globalization and economic growth may diminish as social capital increases. These interaction patterns are more pronounced in civil law countries, particularly for the governance dimension, indicating that the relationship between social capital and economic growth may depend on institutional conditions.

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1. Introduction

Social capital is characterized as a resource available to individuals, arising from their social connections (Coleman, 1990; Guiso et al., 2004). Similarly, Fukuyama (2002) broadens this definition, describing social capital as extending beyond individuals' ability to collaborate in groups, encompassing any instance in which people cooperate toward shared goals based on common informal norms and values. Putnam (1995) defines social capital as the networks among people and the trust and norms established through these connections, arguing that such social capital is essential for the well-being of individuals and communities. Collectively, social capital is often characterized by three primary elements: trust, ease of cooperation, and networks (Paldam, 2000). According to the literature, fostering trust and building social networks is thought to benefit markets by enhancing information flow (Dasgupta, 2000) and reducing both search and transaction costs (Kranton, 1996). Social capital plays a vital role in facilitating cooperation within communities and achieving shared goals, thereby enhancing political participation, economic performance, and overall quality of life (Putnam, 1993, 1995; Knack and Keefer, 1997; La Porta et al., 1997; Brehm and Rahn, 1997).

Building on these views, this study examines whether social capital contributes to economic growth. More specifically, it investigates whether the relationship between social capital and economic growth varies depending on broader institutional and socioeconomic conditions, including sovereign ESG characteristics and globalization. While social capital and ESG-related measures share certain conceptual similarities, they capture different dimensions of societal and institutional characteristics. Social capital primarily reflects informal social structures such as trust, social cohesion, and shared norms that facilitate coordination and collective action (Putnam, 1993; Fukuyama, 1995), whereas ESG measures evaluate environmental, social, and governance conditions using formal institutional and sustainability-related indicators (Eccles et al., 2014). Thus, while some overlap may exist, particularly with the social and governance dimensions of ESG, the Social Capital Index captures broader informal societal characteristics that are not fully reflected in ESG-related measures.

This study is structured around three primary areas of investigation. First, it employs Solability's Social Capital Index and sovereign ESG measures obtained from the Sovereign ESG Data Portal to examine the relationship between social capital and economic growth, as well as whether this relationship varies across different institutional dimensions. Second, the KOF Globalization Index is introduced to assess whether external socioeconomic conditions alter the association between social capital and economic growth. Third, the sample is segmented according to legal origin, specifically common law and civil law systems, to examine whether the interaction between social capital and institutional factors differs across legal environments. This analysis provides additional insight into how informal social structures interact with formal institutional arrangements in shaping economic development.

The study's structure is as follows: Section 2 provides a literature review on the impact of social capital, sovereign ESG, and globalization on economic growth; Section 3 presents the data; Section 4 discusses the empirical analysis and findings; and Section 5 concludes the paper.

2. Literature Review

Since Coleman's (1988) pioneering paper, numerous studies have explored the role of social capital in enhancing economic growth. Building on Putnam's (1993) seminal work on the impact

of social capital on economic and political performance in Italy, Helliwell and Putnam (1995) further explore the relationship between economic growth and social capital across Italian regions. Using proxies of social capital, such as an index of civic community involvement, indices of various direct measures of regional government effectiveness, and surveys on citizen satisfaction with regional governments, they find that regions with higher levels of social capital tend to experience greater economic growth. The study suggests that social capital has a significant contribution to economic performance, highlighting the role of social cohesion and trust in promoting regional economic development. Based on a sample of 29 countries, Knack and Keefer (1997) find that higher levels of social capital correlate with higher economic growth rates, suggesting that trust and cooperative norms can reduce transaction costs and increase productivity. Similarly, La Porta et al. (1997) also find that countries with higher levels of trust and social capital tend to have better-performing economies. Whiteley (2000) analyzes the link between social capital and economic growth across 34 countries from 1970 to 1992 within a modified neo-classical growth model framework. Findings indicate that the effect of social capital on growth is at least as influential as that of human capital or education and is comparable to the impact of catch-up, where poorer nations adopt innovations from wealthier counterparts. Thompson (2018) presents an innovation-based growth model that demonstrates how collective social capital enhances innovation, thereby promoting economic growth. In a self-reinforcing cycle, social capital boosts innovation activities, which in turn raise monopolistic profits and further increase social capital.

The effects of ESG on national economies have been examined in the context of sovereign risk, borrowing costs, and investment outcomes. Zhang et al. (2022) show that stronger ESG performance helps mitigate debt overhang pressures and promotes corporate investment, particularly through governance-related channels. Similarly, Crifo et al. (2017), using a panel of 23 OECD countries, find that higher ESG ratings are associated with lower sovereign borrowing costs. Pineau et al. (2022) further document that the importance of ESG factors differs across country groups, identifying governance as the most critical factor in advanced economies. These findings suggest that the governance dimension may play a particularly important role in linking ESG-related characteristics to macroeconomic outcomes.

In light of the environmental dimension of sustainability, prior studies have also examined how climate-related factors affect economic growth. Dell et al. (2012) find that higher temperatures significantly reduce economic growth in low-income countries, with broad adverse effects on production, investment, and political stability. Similarly, Fankhauser and Tol (2005) show that climate change may negatively affect long-run economic growth through its effects on savings, capital accumulation, and technological change.

The economic implications of sustainability-related activities may also differ across countries depending on their legal systems. Common law systems are generally characterized by a shareholder-oriented governance framework, whereas civil law systems tend to adopt a broader stakeholder-oriented approach that more readily incorporates environmental and social objectives into regulatory and corporate decision-making processes. Consistent with this distinction, Kock and Min (2016) find that common law systems are generally associated with lower environmental performance relative to civil law systems.

The relationship between globalization and economic growth is examined by analyzing the effects of globalization on economic growth, with a focus on key factors such as trade, foreign direct investment (FDI), technology transfer, labor markets, income inequality, and economic integration. Borensztein et al. (1998) examine how FDI affects economic growth in developing countries,

noting that globalization through FDI promotes growth, especially in countries with high levels of human capital. The seminal study by Frankel and Romer (1999) indicates that trade exerts a quantitatively substantial and robust positive effect on income, although its statistical significance is only moderate. Grossman and Helpman (2015) examine the mechanisms by which international integration influences incentives for knowledge accumulation and enhances the effectiveness of this process. They argue that integration facilitates cross-border knowledge flow, gives innovators access to larger markets, and introduces greater competition from foreign counterparts, thereby promoting specialization based on comparative advantage and shaping incentives for technological diffusion. Fatima et al. (2022) evaluate the effects of globalization and institutional quality on economic growth, showing that while globalization enhances economic growth, the outcomes are influenced by the quality of governance and regulatory structures.

3. Data

Our sample dataset encompasses 171 countries over the period 2018 to 2022. International ESG data is sourced from the World Bank's Sovereign ESG Data Portal. For the measurement of social capital levels across the sample countries, we employ the Social Capital Index, a sub-score of the Global Sustainable Competitiveness Index (GSCI) developed by Solability Sustainable Intelligence.[1] To assess levels of globalization, we utilize the KOF Globalization Index, provided by the KOF Swiss Economic Institute (Konjunkturforschungsstelle). Finally, we measure economic development using the annual GDP growth rate reported by the World Bank. Countries are categorized by legal origin in accordance with La Porta et al. (1998, 2000, 2002) and La Porta, Lopez-de-Silanes, and Shleifer (2008). Table I presents the Pearson correlation coefficients among the main variables of interest: annual GDP growth rate (GR), social capital, ESG, and the globalization index (Global).

Table I. Pearson Correlation

This table presents the Pearson correlation coefficients for the variables used in the empirical analysis. GR is the annual GDP growth rate, SC is Solability's Social Capital Index, ESG is the sovereign ESG from World Bank, and $Global$ is the KOF Globalization Index. The sub-indices of ESG and $Global$ are also presented. Under ESG, there are three sub-indices: ENV is the environmental index, SOC is the social index, and GOV is the governance index. Under $Global$, there are three sub-indices: $ECON$ is the economic globalization index, SG is the social globalization index, and POL is the political globalization index. *lnGDP* and *lnGDPpcpt* refer to the log of GDP and GDP per capita.

[1] The Social Capital Index developed by Solability is a sub-component of the Global Sustainable Competitiveness Index designed to capture social cohesion and societal stability using both quantitative and survey-based indicators. Additional details are provided in Appendix A and Appendix Table A1.

	GR	SC	ESG	ENV	SOC	GOV	Global	ECON	SG	POL	*ln*GDP	*ln*GDP*pcpt*
GR	1											
SC	-0.117	1										
ESG	0.057	0.694	1									
ENV	0.419	-0.072	0.232	1								
SOC	-0.067	0.703	0.882	-0.073	1							
GOV	-0.023	0.634	0.892	0.036	0.679	1						
Global	-0.06	0.696	0.821	-0.02	0.816	0.737	1					
ECON	-0.08	0.623	0.75	-0.041	0.717	0.715	0.851	1				
SG	-0.12	0.646	0.866	-0.067	0.862	0.798	0.889	0.843	1			
POL	0.034	0.465	0.454	0.046	0.47	0.357	0.74	0.331	0.413	1		
*ln*GDP	-0.003	0.427	0.45	-0.055	0.535	0.328	0.651	0.291	0.414	0.838	1	
*ln*GDP*pcpt*	-0.118	0.638	0.813	-0.107	0.831	0.746	0.833	0.781	0.911	0.415	0.544	1

4. Hypothesis and Empirical Analysis

4.1 The Effect of Social Capital and Sovereign ESG on Economic Growth

To mitigate potential endogeneity concerns and the conceptual overlap between the Social Capital Index and ESG-related measures, we construct orthogonalized measures of ESG and its subcomponents. Specifically, we regress ESG measures on the Social Capital Index using a panel fixed-effects estimator and use the residuals as the orthogonalized ESG measures. By construction, $\Delta ESG_{i,t}^{\perp}$ is purged of the variation shared with social capital, thereby capturing the independent component of ESG that is orthogonal to social capital. We then re-estimate our main specifications by replacing ESG with the orthogonalized ESG measure.

$$\Delta ESG_{i,t}^{\perp} = \Delta ESG_{i,t} - \hat{\alpha}_1 - \hat{\alpha}_2 \Delta SC_{i,t} \tag{1}$$

To examine the effects of social capital and ESG on economic growth, we estimate the following econometric specification using a fixed-effects estimator, as supported by the Hausman test.[2]

$$\Delta GR_{i,t} = \beta_0 + \beta_1 \Delta SC_{i,t-1} + \beta_2 \Delta ESG_{i,t-1}^{\perp} + \beta_3 \Delta SC_{i,t-1} \times \Delta ESG_{i,t-1}^{\perp} + Control\ Term + Year\ dummy + \varepsilon_{i,t} \tag{2}$$

where GR is the annual GDP growth rate, SC is Solability's Social Capital Index, and ESG is the aggregated ESG index from the World Bank. Our control variables are the log of GDP, the log of

[2] Although the fixed-effects framework and orthogonalization procedure help mitigate concerns regarding omitted variable bias and conceptual overlap among the key variables, endogeneity concerns cannot be fully ruled out. In particular, reverse causality may remain a concern, as economic growth itself may influence social capital, ESG development, and globalization.

GDP per capita, the lagged annual GDP growth rate, and year dummies. A positive coefficient indicates that the corresponding variable is associated with higher economic growth.

4.1.1 Does Social Capital Increase Economic Growth?

Table II presents the coefficient estimates from Eq. (2), where the dependent variable is the $\Delta GR_{i,t}$, and the primary variables of interest are $\Delta SC_{i,t-1}$, $\Delta ESG^{\perp}_{i,t-1}$, and $\Delta SC_{i,t-1} \times \Delta ESG^{\perp}_{i,t-1}$. Across all specifications, the coefficient on social capital is positive, and it remains statistically significant in four of the five models. In Models (1), (2), (3), and (4), the estimated coefficient for the social capital with a one-year lag (β_1) is significantly positive, 0.187 (t-statistic = 1.970), 0.191 (t-statistic = 2.038), 0.188 (t-statistic = 2.056), and 0.204 (t-statistic = 2.216). This finding suggests that higher levels of social capital are associated with stronger subsequent economic growth. It is also consistent with existing studies, such as those by Whiteley (2000), Thompson (2018), and Helliwell and Putnam (1995).

To examine whether the relationship differs across ESG dimensions, Models (2)–(5) separately consider the environmental, social, and governance components. The results suggest considerable heterogeneity across ESG dimensions. While the environmental component is not significantly related to economic growth, the social component is negatively associated with growth, with coefficients of −14.132 (t-statistic = −1.838) and −15.505 (t-statistic = −2.034) in Models (2) and (4), respectively. In contrast, the governance component is positively associated with growth, with coefficients of 23.951 (t-statistic = 2.617) and 18.331 (t-statistic = 2.023) in Models (2) and (5), respectively. These findings suggest that the growth implications of ESG are not uniform across dimensions and that governance may represent the primary channel through which sovereign ESG contributes to economic performance. The negative coefficient on the ESG social dimension, in contrast to the positive association between social capital and economic growth, suggests that the two measures may capture different aspects of a country's social environment.

4.1.1.1 Do Social Capital and Sovereign ESG Jointly Contribute to Economic Growth?

While prior studies document the independent effects of social capital and sovereign ESG on economic growth, little is known about their joint influence. On the one hand, social capital can strengthen the effectiveness of ESG-related initiatives by facilitating trust, cooperation, and institutional coordination (Jha and Cox, 2015). On the other hand, strong social cohesion may reinforce existing institutional arrangements and increase resistance to organizational or regulatory change, thereby raising the adjustment costs associated with ESG-related reforms (North, 1990; Hannan and Freeman, 1984). As a result, social capital may either complement or constrain the growth effects of ESG, depending on the institutional environment, rendering the expected interaction effect theoretically ambiguous.

Given these competing mechanisms, our empirical findings provide limited evidence of a systematic interaction effect between social capital and sovereign ESG. In Model (1), the interaction between social capital and the aggregate ESG measure is positive but statistically insignificant. Similarly, the interaction terms involving the environmental and social dimensions are positive but insignificant across specifications. Among the ESG dimensions, evidence of a moderating effect is observed only for the governance component. Specifically, the coefficient on SC×GOV is −7.652 (t-statistic = −2.197) in Model (2), even though governance itself exhibits a

positive association with economic growth. This result suggests that the marginal growth benefits of governance-related improvements may be weaker in countries characterized by stronger social cohesion. One possible explanation is that dense social networks and established informal norms may increase institutional inertia and slow the adaptation of new governance practices, reducing the incremental gains from governance reforms (North, 1990; Hannan and Freeman, 1984). However, this interaction effect becomes weaker and loses statistical significance in Model (5), suggesting that the evidence should be interpreted cautiously.

Overall, the results provide limited evidence that social capital systematically moderates the growth effects of ESG. Nevertheless, the negative interaction observed for the governance dimension suggests that the relationship between social capital, governance, and economic growth may depend on institutional conditions, an issue explored further in the subsequent analyses.

Table II. The Effect of Social Capital and Sovereign ESG on Economic Growth

This table presents the coefficient estimates and statistical significances from the following regression:

$$\Delta GR_{i,t} = \beta_0 + \beta_1 \Delta SC_{i,t-1} + \beta_2 \Delta ESG^{\perp}_{i,t-1} + \beta_3 \Delta SC_{i,t-1} \Delta ESG^{\perp}_{i,t-1} + Control\ Term + Year\ dummy + \varepsilon_{i,t}$$

where GR is the annual GDP growth rate, SC is Solability's Social Capital Index, and ESG is an aggregated ESG index of sub-indices. Also, the sub-indices of ESG are used: ENV is the environmental index, SOC is the social index, and GOV is the governance index. Numbers in parentheses are the *t*-statistics, and *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
SC	0.187**	0.191**	0.188**	0.204**	0.117
	(1.970)	(2.038)	(2.056)	(2.216)	(1.288)
ESG	-10.701				
	(-0.776)				
ENV		-16.067	-15.804		
		(-1.643)	(-1.638)		
SOC		-14.132*		-15.505**	
		(-1.838)		(-2.034)	
GOV		23.951***			18.331**
		(2.617)			(2.023)
SC*ESG	0.495				
	(0.118)				
SC*ENV		5.242	3.210		
		(1.557)	(1.086)		
SC*SOC		3.173		3.088	
		(1.037)		(1.035)	
SC*GOV		-7.652**			-3.858
		(-2.197)			(-1.238)
Control	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES
No of countries	169	169	171	169	171
R^2	0.855	0.861	0.859	0.856	0.860

4.1.2 To What Extent Does Legal Origin Influence the Impact of Social Capital and Sovereign ESG on Economic Growth?

Building on the evidence reported in Table II, Table III examines whether the relationship between social capital, sovereign ESG, and economic growth differs across legal origins. Following La Porta et al. (1998, 2008), legal origin serves as a useful proxy for institutional structure, with common law systems generally relying more heavily on market-based coordination and civil law systems placing greater emphasis on formal legal and regulatory institutions.

The results indicate substantial heterogeneity across legal origins. In common law countries, social capital remains positive and statistically significant across all specifications, with coefficients ranging from 0.288 (t-statistic = 1.952) to 0.341 (t-statistic = 2.196). By contrast, social capital is not statistically significant in civil law countries. These findings suggest that informal trust, networks, and cooperative norms may play a more prominent economic role in institutional environments that rely less heavily on centralized legal coordination (Williamson, 1985; Knack and Keefer, 1997; La Porta et al., 1998).

The effects of ESG also differ across legal systems. In civil law countries, the governance dimension is positively associated with economic growth, with coefficients of 21.698 (t-statistic = 2.147) and 20.715 (t-statistic = 2.073) in Models (2) and (5), respectively. In contrast, the environmental dimension exhibits a negative association with growth in Model (2) (coefficient = −19.883, t-statistic = −1.709), suggesting that environmental initiatives may involve short-run adjustment costs.

The results further indicate that the interaction between social capital and ESG differs across legal systems. In common law countries, the interaction between social capital and the aggregate ESG measure is positive and statistically significant (coefficient = 13.940, t-statistic = 2.182). This effect appears to be partially driven by the environmental dimension, as the interaction between social capital and environmental ESG is positive and significant at the 10% level in Model (3) (coefficient = 8.498, t-statistic = 1.887). This finding is consistent with the view that social capital may facilitate collective coordination in the implementation of environmental initiatives.

In civil law countries, the governance dimension exhibits a consistently negative interaction with social capital. Specifically, the coefficients on SC×GOV are −11.426 (t-statistic = −2.767) and −11.528 (t-statistic = −2.930) in Models (2) and (5), respectively. This finding is consistent with the evidence reported in Table II, where the interaction between social capital and governance is also negative. The stronger and more robust estimates observed in the civil law sample suggest that the negative interaction is concentrated in countries characterized by a greater reliance on formal legal and regulatory institutions (La Porta et al., 1998, 2008). In such settings, strong social ties may reinforce existing institutions and dampen the marginal growth-enhancing effects of governance.

Overall, the results suggest that the interaction between social capital and ESG is highly context dependent. While social capital appears to complement environmental initiatives in common law countries, it may constrain the growth benefits of governance-related reforms in civil law countries. These findings provide qualified support for the view that the relationship between social capital and economic growth is shaped by the interaction between formal institutional arrangements and informal social structures (North, 1990; Williamson, 1985; La Porta et al., 1998, 2008).

Table III. The Effect of Social Capital and ESG on Economic Growth across Legal Origins

This table presents the coefficient estimates and statistical significances from the following regression, estimated separately for common-law and civil-law country subsamples:

$$\Delta GR_{i,t} = \beta_0 + \beta_1 \Delta SC_{i,t-1} + \beta_2 \Delta ESG^{\perp}_{i,t-1} + \beta_3 \Delta SC_{i,t-1} \Delta ESG^{\perp}_{i,t-1} + Control\ Term + Year\ dummy + \varepsilon_{i,t}$$

where GR is the annual GDP growth rate, SC is Solability's Social Capital Index, and ESG is an aggregated ESG index of sub-indices. Also, the sub-indices of ESG are used: ENV is the environmental index, SOC is the social index, and GOV is the governance index. Numbers in parentheses are the *t*-statistics, and *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	Common law countries					Civil law countries				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
SC	0.341**	0.306*	0.306**	0.299*	0.288*	0.146	0.174	0.179	0.170	0.139
	(2.196)	(1.910)	(2.082)	(1.971)	(1.952)	(1.259)	(1.508)	(1.566)	(1.464)	(1.250)
ESG	-23.339					-0.574				
	(-0.922)					(-0.037)				
ENV		-11.610	-18.340				-19.883*	-17.847		
		(-0.651)	(-1.104)				(-1.709)	(-1.543)		
SOC		-19.089		-23.277			-3.012		-3.354	
		(-1.282)		(-1.635)			(-0.337)		(-0.378)	
GOV		16.806			11.567		21.698**			20.715**
		(0.912)			(0.670)		(2.147)			(2.073)
SC*ESG	13.940**					-12.294**				
	(2.182)					(-2.307)				
SC*ENV		6.323	8.498*				1.427	-3.134		
		(1.083)	(1.887)				(0.343)	(-0.798)		
SC*SOC		6.432		8.563			-2.454		-3.704	
		(1.139)		(1.627)			(-0.670)		(-1.037)	
SC*GOV		0.324			6.768		-11.426***			-11.528***
		(0.051)			(1.387)		(-2.767)			(-2.930)
Control	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
No of countries	50	50	52	50	52	114	114	114	114	114
R^2	0.895	0.898	0.901	0.894	0.901	0.861	0.867	0.859	0.858	0.864

4.2 Economic Growth, Social Capital, and Globalization

To mitigate potential conceptual overlap between the Social Capital Index and globalization, we construct an orthogonalized globalization measure. Specifically, we regress the globalization index and its constituent dimensions on the Social Capital Index within a fixed-effects framework and use the resulting residuals in subsequent analyses. By construction, $\Delta Glob_{i,t}^{\perp}$ excludes the variation attributable to social capital, thereby capturing the dimension of globalization that is orthogonal to social capital.

$$\Delta Glob_{i,t}^{\perp} = \Delta Glob_{i,t} - \hat{\alpha}_1 - \hat{\alpha}_2 \Delta SC_{i,t} \quad (3)$$

To examine the effects of social capital and globalization on economic growth, we estimate the following econometric specification using a fixed-effects estimator, as supported by the Hausman test.

$$\Delta GR_{i,t} = \beta_0 + \beta_1 \Delta SC_{i,t-1} + \beta_2 \Delta Glob_{i,t-1}^{\perp} + \beta_3 \Delta SC_{i,t-1} \times \Delta Glob_{i,t-1}^{\perp} + Control\ Term + Year\ dummy + \varepsilon_{i,t} \quad (4)$$

where $Glob$ is the KOF Globalization Index, and all other variables are the same as in the previous section. Also, the sub-indices of the KOF Globalization Index are used: $ECON$ is the economic globalization index, SG is the social globalization index, and POL is the political globalization index. Our control variables include the log of GDP, the log of GDP per capita, the lagged annual GDP growth rate, and year dummies.

4.2.1 Does Globalization Increase Economic Growth?

Table IV reports the coefficient estimates for social capital, the orthogonalized globalization index, and their interaction terms based on Eq. (4). Across specifications, the coefficient on social capital remains positive and is weakly significant in Models (2), (3), and (5), with estimated coefficients of 0.152 (t-statistic = 1.651), 0.158 (t-statistic = 1.722), and 0.163 (t-statistic = 1.831), respectively. These results are broadly consistent with the findings reported in Table II, suggesting a positive association between social capital and economic growth. Among the globalization measures, only the political globalization dimension exhibits a positive and weakly significant association with economic growth. The coefficients on political globalization are 0.287 (t-statistic = 1.844) in Model (2) and 0.277 (t-statistic = 1.786) in Model (5). In contrast, the economic and social globalization dimensions do not exhibit statistically significant associations with economic growth. These findings provide limited evidence that political globalization may be more closely related to economic growth than other dimensions of globalization, consistent with studies emphasizing the role of international political integration, policy coordination, and institutional development (Dreher, 2006; Chang and Lee, 2010; Bergh and Nilsson, 2014).

4.2.1.1 Do Social Capital and Globalization Synergistically Contribute to Economic Growth?

Prior research suggests competing views regarding the relationship between social capital and globalization. While strong social networks and trust may facilitate adaptation to an increasingly interconnected global economy (Putnam, 1993; Fukuyama, 1995; Knack and Keefer, 1997), the benefits associated with globalization may partially overlap with the functions already provided by social capital, limiting their complementarity (Dasgupta, 2000; Woolcock and Narayan, 2000). Therefore, while social capital can enhance adaptability and resilience to globalization, it may also limit the economic benefits that can be derived from it.

The results in Table IV provide support for the latter view. In Model (1), the interaction between social capital and the aggregate globalization measure is negative and statistically significant (coefficient = −0.232, t-statistic = −2.007). Similar patterns are observed for the social and political globalization dimensions. The interaction between social capital and social globalization is negative and weakly significant in Models (2) and (4), with coefficients of −0.210 (t-statistic = −1.950) and −0.206 (t-statistic = −1.967), respectively. Likewise, the interaction between social capital and political globalization is negative and weakly significant in Models (2) and (5), with coefficients of −0.108 (t-statistic = −1.692) and −0.108 (t-statistic = −1.704), respectively.

Taken together, these findings suggest that the positive association between globalization and economic growth may become weaker as social capital increases. More broadly, the results are consistent with the view that social capital and globalization may serve partially overlapping roles in facilitating coordination, information exchange, and economic integration (Dasgupta, 2000; Woolcock and Narayan, 2000).

Table IV. The Effect of Social Capital and Globalization on Economic Growth

This table presents the coefficient estimates and statistical significances from the following regression:

$$\Delta GR_{i,t} = \beta_0 + \beta_1 \Delta SC_{i,t-1} + \beta_2 \Delta Glob^{\perp}_{i,t-1} + \beta_3 \Delta SC_{i,t-1} \Delta Glob^{\perp}_{i,t-1} + Control\ Term + Year\ dummy + \varepsilon_{i,t}$$

where GR is the annual GDP growth rate, SC is Solability's Social Capital Index, and $Glob$ is the KOF Globalization Index. Also, the sub-indices of the KOF Globalization Index are used: $ECON$ is the economic globalization index, SG is the social globalization index, and POL is the political globalization index. Numbers in parentheses are the *t*-statistics, and *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
SC	0.133	0.152*	0.158*	0.135	0.163*
	(1.473)	(1.651)	(1.722)	(1.492)	(1.831)
Global	0.287				
	(0.956)				
ECON		-0.130	-0.118		
		(-0.880)	(-0.799)		
SG		0.253		0.234	
		(0.875)		(0.815)	
POL		0.287*			0.277*
		(1.844)			(1.786)
SC*Global	-0.232**				
	(-2.007)				
SC*ECON		0.004	-0.009		
		(0.061)	(-0.169)		
SC*SG		-0.210*		-0.206*	
		(-1.950)		(-1.967)	
SC*POL		-0.108*			-0.108*
		(-1.692)			(-1.704)
Control	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES
No of countries	171	170	170	171	171
R^2	0.859	0.862	0.858	0.859	0.860

4.2.2 To What Extent Does Legal Origin Influence the Impact of Social Capital and Globalization on Economic Growth?

Additionally, we examine whether the relationship between social capital, globalization, and economic growth varies across legal origins. The results are reported in Table V.

The coefficient on social capital remains positive across specifications in both common law and civil law countries and is statistically significant in several models. The globalization measures exhibit different patterns across legal systems. In common law countries, neither the aggregate globalization measure nor its subdimensions are significantly associated with economic growth. In civil law countries, political globalization is positively associated with economic growth in Model (5) (coefficient = 0.268, t-statistic = 1.666), whereas economic globalization is negatively associated with economic growth in Models (2) and (3), with coefficients of −0.311 (t-statistic = −1.775) and −0.328 (t-statistic = −1.941), respectively. The negative coefficient on economic globalization is consistent with the view that greater economic integration may require economic and institutional adjustments that offset some of its potential growth benefits (Rodrik, 1998). This

relation is observed only in civil law countries and may reflect their greater reliance on formal legal and regulatory institutions, which can make adaptation to external economic change more gradual (La Porta et al., 1998, 2008).

The interaction terms also vary across legal origins. In common law countries, none of the interaction terms are statistically significant. In contrast, the interaction between social capital and the aggregate globalization measure is negative and statistically significant in civil law countries (coefficient = −0.241, t-statistic = −1.833). This finding is consistent with the negative interaction reported in Table IV. Overall, the results suggest that the relationship between social capital and globalization may vary across legal systems.

Table V. The Effect of Social Capital and Globalization on Economic Growth across Legal Origins

This table presents the coefficient estimates and statistical significances from the following regression, estimated separately for common-law and civil-law country subsamples:

$$\Delta GR_{i,t} = \beta_0 + \beta_1 \Delta SC_{i,t-1} + \beta_2 \Delta Glob^{\perp}_{i,t-1} + \beta_3 \Delta SC_{i,t-1} \Delta Glob^{\perp}_{i,t-1} + Control\ Term + Year\ dummy + \varepsilon_{i,t}$$

where GR is the annual GDP growth rate, SC is Solability's Social Capital Index, and $Glob$ is the KOF Globalization Index. Also, the sub-indices of the KOF Globalization Index are used: $ECON$ is the economic globalization index, SG is the social globalization index, and POL is the political globalization index. Numbers in parentheses are the *t*-statistics, and *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	Common law countries					Civil law countries				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
SC	0.270*	0.259	0.275*	0.235	0.290*	0.161	0.212*	0.224*	0.168	0.156
	(1.845)	(1.639)	(1.874)	(1.576)	(1.917)	(1.386)	(1.811)	(1.934)	(1.464)	(1.391)
Global	0.266					0.040				
	(0.418)					(0.123)				
ECON		0.033	-0.010				-0.311*	-0.328*		
		(0.119)	(-0.037)				(-1.775)	(-1.941)		
SG		0.339		0.329			-0.001		0.012	
		(0.613)		(0.615)			(-0.003)		(0.035)	
POL		0.219			0.183		0.287*			0.268*
		(0.523)			(0.443)		(1.766)			(1.666)
SC*Global	-0.087					-0.241*				
	(-0.413)					(-1.833)				
SC*ECON		0.042	0.018				-0.072	-0.061		
		(0.469)	(0.215)				(-0.952)	(-0.858)		
SC*SG		-0.258		-0.231			-0.081		-0.081	
		(-1.386)		(-1.303)			(-0.632)		(-0.656)	
SC*POL		-0.036			-0.037		-0.088			-0.098
		(-0.229)			(-0.243)		(-1.258)			(-1.407)
Control	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
No of countries	52	52	52	52	52	114	114	114	114	114
R^2	0.897	0.900	0.897	0.899	0.897	0.859	0.864	0.861	0.857	0.860

5. Conclusion

This study examines the relationship between social capital and economic growth and investigates whether this relationship varies across institutional and external environments. Specifically, we analyze the independent and interactive associations of social capital, sovereign ESG, and globalization with economic growth and assess whether these relationships differ across common law and civil law countries.

The empirical findings indicate that social capital is generally positively associated with economic growth. This result is particularly evident in common law countries, where informal networks, trust, and decentralized coordination may play a more prominent economic role (Putnam, 1993; Knack and Keefer, 1997). In contrast, the results for ESG and globalization are more heterogeneous. Among the ESG dimensions, governance exhibits the most consistent positive association with economic growth. At the same time, the interaction analyses suggest that higher levels of social capital may be associated with a weaker positive association between governance-related improvements and economic growth. This pattern is most evident in civil law countries, where the negative interaction between social capital and governance is concentrated. Similarly, the interaction between social capital and globalization is generally negative, suggesting that the relationship between globalization and economic growth may become weaker as social capital increases.

Taken together, these findings suggest that social capital plays a dual role in economic development. On the one hand, social capital is positively associated with economic growth through its contribution to trust, cooperation, and coordination (Putnam, 1993; Fukuyama, 1995; Knack and Keefer, 1997). On the other hand, strong social capital does not necessarily reinforce the growth associations of governance-related institutional change or globalization. One possible interpretation is that social capital may serve as a partially overlapping mechanism for facilitating coordination and information exchange, thereby reducing the marginal benefits of certain governance- and sustainability-related initiatives (Dasgupta, 2000; Woolcock and Narayan, 2000). Overall, these findings highlight the importance of considering both formal institutions and informal social structures when evaluating the determinants of economic growth. From a policy perspective, the results suggest that governance reforms and globalization initiatives may not generate uniform outcomes across countries, as their associations with economic growth appear to depend on underlying social and institutional conditions. Future research may further explore the mechanisms underlying these interactions and examine whether similar patterns emerge across different stages of economic and institutional development.

This study is subject to several limitations. Although the fixed-effects framework and orthogonalization procedure help mitigate concerns regarding omitted variable bias and conceptual overlap among the variables, endogeneity concerns cannot be fully eliminated. In particular, reverse causality between economic growth, social capital, ESG, and globalization may remain a concern. Therefore, the reported estimates should be interpreted as associations rather than definitive causal effects. In addition, the use of composite indices and the relatively short sample period may limit cross-country comparability and the ability to capture long-run institutional dynamics. Future research could address these limitations through alternative identification strategies, including instrumental variable approaches and dynamic panel estimators, while also leveraging longer time horizons and more granular institutional data.

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Appendix A. Components of Solability's Social Capital Index

Dimension	Example Indicators
Healthcare Systems	Availability and affordability of healthcare
Population Health	Population health statistics
Gender Equality	Gender equality indicators
Income Equality	Income and wealth distribution
Safety & Crime	Crime and public safety indicators
Freedom	Political freedom, happiness, freedom from fear

Appendix Table A1. Yearly Summary Statistics of Solability's Social Capital Index

	Mean	Median	Std. Dev.	Min	Max
2018	41.40	39.95	7.60	27.23	59.72
2019	42.04	40.72	7.63	23.91	58.78
2020	44.56	43.05	8.46	28.19	65.37
2021	44.70	43.54	8.74	26.22	64.13
2022	45.50	44.63	9.00	26.59	66.04

Note: The Social Capital Index is obtained from Solability's Global Sustainable Competitiveness Index. The description of the index components is based on Solability's Global Sustainable Competitiveness Index Report, available at https://solability.com/the-global-sustainable-competitiveness-index/global-sustainability-index-downloads. The index combines quantitative and survey-based indicators intended to capture social cohesion and societal stability. Solability does not publicly disclose the exact weighting methodology for all subcomponents of the index. As with other cross-country composite indices, the measure may be subject to limitations related to data availability, reporting differences, and cross-country comparability.