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Effects of corporatization on the financial performance of non-financial state-owned enterprises in Latin America between 1999 and 2018

Efectos de la corporatización en el desempeño financiero de las empresas estatales no financieras en América Latina entre 1999 y 2018

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Effects of corporatization on the financial performance of non-financial state-owned enterprises in Latin America between 1999 and 2018*

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Abstract

This article provides empirical evidence on the effects of the corporatization and partial privatization of state enterprises (SOEs) in Latin America on their financial performance. Using dynamic panel data regression models, we identify variables that explain the profitability and investment of state-owned companies in three scenarios: companies with partial privatization by issuing shares in the stock market; non-privatized companies listed on the stock exchange through debt instruments; and unlisted companies. The study found that the partial privatization of EPE through the issuance of shares in the stock market has positive effects on profitability and investment. However, in the case of the bond issue, there was no conclusive evidence on the impact of its financial performance. Finally, for unlisted SOEs, the determinants of profitability and investment are asset size and cost management. The results of this research are relevant given the Latin American public sector reforms implemented in recent decades.

Keywords: corporatization; partial privatization; financial performance; state-owned enterprises.

JEL classification: H32, H83, M10

Resumen

El propósito de este documento es aportar evidencia empírica sobre los efectos de los procesos de corporatización y privatización parcial en el desempeño financiero de las empresas de propiedad del Estado (EPE) en Latinoamérica. A partir de modelos de regresión de datos de panel dinámicos se identifican las variables que explican la rentabilidad y la inversión de las EPE en tres escenarios: empresas con privatización parcial a través de la emisión de acciones en el mercado de valores; empresas sin privatización, pero con

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participación en el mercado de valores a través de instrumentos de deuda; y, empresas sin participación en el mercado de valores. El estudio encontró que la privatización parcial de las EPE a través de la emisión de acciones en el mercado de valores tiene efectos positivos en la rentabilidad y la inversión de estas empresas. En el caso de la emisión de bonos no se encontró evidencia concluyente sobre los efectos en su desempeño financiero. Finalmente, en el caso de las EPE sin participación en el mercado de valores los determinantes de rentabilidad e inversión son el tamaño de los activos y la gestión de costos. Los resultados de la investigación son relevantes dadas las reformas del sector público latinoamericano implementadas en las últimas décadas.

Palabras clave: Gestión pública; administración de participaciones estatales; administración empresa pública

1 Introduction

Implementing policies aimed at the efficiency of public management, such as total privatization processes for state-owned enterprises, has not demonstrated the expected results¹. Privatizations have not led to long-term structural transformation, so many of these enterprises were reversed, either by a halt in privatization or by new nationalization processes. As a result, the state maintained the same or higher levels of public expenditure and indebtedness, with an evident decline in its assets and increasing social ills due to the deterioration of public services and goods and demands to guarantee citizen's rights².

Furthermore, there were flaws in the privatization processes, which can be explained by two factors. First, dubious processes opened the door to corruption and opportunistic behavior. Secondly, the poor design of contracts and a lack of adequate regulation³. This situation led to reconsidering how the public policy agenda managed ownership of state-owned enterprises, with greater support for corporatization and partial privatization.

Corporatization is defined as a process to reform SOEs, whereby their legal, operational and functional conditions are changed to position these organizations in a competitive or market environment⁴. On the other hand, partial privatization involves the transfer of a non-controlling interest in SOEs to private investors⁵.

Concerning partial privatization, a review of international academic literature shows no consensus on its effects on enterprises with majority state interest and minority shareholding interest by private investors through the stock market. However, some research indicates that the transfer of the non-controlling interest of state-

¹ GUPTA, Nandini. Partial privatization and firm performance. *The Journal of Finance*, v. 60, n. 2, 987–1015, Mar. 2005. See also: ANUATTI-NETO, Francisco; BAROSSO-FILHO, Milton; CARVALHO, Gledson de; MACEDO, Roberto. Costs and benefits of privatization: evidence from Brazil. In: CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio (ed.). *Privatization in Latin America: myths and reality*. Washington, D.C.: Stanford University Press, 2005. p. 145–196. DEVLIN, Robert. Las privatizaciones y el bienestar social. *Revista de la CEPAL*, v. 49, p. 155–181, Apr. 1993. DONALDSON, Lex; DAVIS, James. Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management*, v. 16, n. 1, p. 49–64, June 1991.

² RAMÍREZ, Eduardo. El proceso de privatización: antecedentes, implicaciones y resultados. *Contabilidad y Administración*, n. 222, p. 97–114, May/Aug. 2007.

³ CHONG, Alberto; BENAVIDES, Juan. Privatization and regulation in Latin America. In: LORA, Eduardo (ed.). *The state of the state reform in Latin America*. New York: Stanford University Press, 2007. p. 263–290.

⁴ TEO, Stephen. Evidence of strategic HRM linkages in eleven Australian corporatized public sector organizations. *Public Personnel Management*, v. 29, n. 4, p. 557–574, Dec. 2000.

⁵ RAKHMAN, Fuad. Can partially privatized SOEs outperform fully private firms? Evidence from Indonesia. *Research in International Business and Finance*, v. 45, p. 285–292, Oct. 2018.

-owned enterprises has positive effects on their financial performance^{6,7,8,9,10}. In contrast, other analyzes claim that the partial privatization of minority or majority interests has significantly lower effects than the total privatization of previously state-owned enterprises^{11,12,13,14}. Likewise, some papers study corporatization processes, defined as creating, transforming, and managing state-owned enterprises, which operate as private companies under legal, organizational, and operational criteria¹⁵.

In Latin America, studies focus on the privatization processes of state-owned enterprises (SOEs) in general, with no distinction between total privatization and partial privatization, from the perspective of efficiency between private and public management¹⁶. They analyze the effects on profitability, investment, productivity, corporate governance, regulation and deregulation of the economic sectors of the state-owned enterprises. This represents an opportunity for researching the effects of partial privatization and, in general, on the corporatization of SOEs in the region.

This paper aims to provide empirical evidence on the effects of corporatization and partial privatization processes on the financial performance of state-owned enterprises (SOEs) in Latin America. We seek to determine whether the state's partial sale of equity interests and the issuance of debt in the stock market affect the performance of the region's SOEs. The study period is from 1999 to 2018 since the partial privatization and debt issuance processes of SOEs in the region developed mainly during this time. Furthermore, the selected SOEs are in non-financial sectors since the partial privatization processes have focused mainly on these companies. Measuring the effects of corporatization and privatization processes of financial companies requires the specification of variables involved in the financial sector because it is a highly regulated sector¹⁷; furthermore, the high dependence on external variables, such as the behavior of interest rates, makes the comparison with other sectors becomes very heterogeneous.

The countries studied are Argentina, Brazil, Chile, Colombia and Peru, which have the largest stock markets in the region, such as the *Mercado Integrado Latinoamericano* (MILA), São Paulo Stock Exchange in Brazil (Bovespa), and the Buenos Aires Stock Exchange (BCBA). In addition, these countries have undergone reforms in their public management over the past 40 years.

⁶ RAKHMAN, Fuad. Can partially privatized SOEs outperform fully private firms? Evidence from Indonesia. *Research in International Business and Finance*, v. 45, p. 285–292, Oct. 2018.

⁷ MILHAUPT, Curtis; PARGENDLER, Mariana. Governance challenges of listed state-owned enterprises around the world: national experiences and a framework for reform. *Corporate Practice Commentator*, v. 50, n. 3, p. 473–542, Sept./Nov. 2018.

⁸ CAI, Dongling; WANG, Leonard; WU, Xiaokai. Governance, privatization and foreign direct investment. *Nankai Business Review International*, v. 9, n. 4, p. 569–586, Oct. 2018.

⁹ CHAKRABARTI, Amit; MONDAL, Arindam. Can commercialization through partial disinvestment improve the performance of state-owned enterprises? The case of Indian SOEs under reforms. *Journal of General Management*, v. 43, n. 1, p. 5–14, Sept. 2017.

¹⁰ ASTAMI, Emita; TOWER, Greg; RUSMIN, Rusmin; NEILSON, John. The effect of privatisation on performance of state-owned-enterprises in Indonesia. *Asian Review of Accounting*, v. 18, n. 1, p. 5–19, May 2010.

¹¹ GUNASEKAR, Sangeetha; SARKAR, Jayati. Does autonomy matter in state owned enterprises? Evidence from performance contracts in India. *Economics of Transition and Institutional Change*, v. 27, n. 3, p. 763–800, Mar. 2019.

¹² ESTRIN, Saul; PELLETIER, Adeline. Privatization in developing countries: what are the lessons of recent experience? *The World Bank Research Observer*, v. 33, n. 1, p. 65–102, Feb. 2018.

¹³ BROWN, David; EARLE, Jhon; SHPAK, Solomiya; VAKHITOV, Volodymyr. Is privatization working in Ukraine?: new estimates from comprehensive manufacturing firm data, 1989–2013. *Comparative Economic Studies*, v. 61, n. 1, p. 1–35, Mar. 2019.

¹⁴ QI, Daqing; WU, Woody; ZHANG, Hua. Shareholding structure and corporate performance of partially privatized firms: evidence from listed Chinese companies. *Pacific-Basin Finance Journal*, v. 8, n. 5, p. 587–610, Oct. 2020.

¹⁵ TEO, Stephen. Evidence of strategic HRM linkages in eleven Australian corporatized public sector organizations. *Public Personnel Management*, v. 29, n. 4, p. 557–574, Dec. 2000. See also: GROSSI, Giuseppe; REICHARD, Christoph. Municipal corporatization in Germany and Italy. *Public Management Review*, v. 10, n. 5, p. 597–617, Sept. 2008. VOORN, Bart; VAN GENUGTEN, Marieke; VAN THIEL, Sandra. The efficiency and effectiveness of municipally owned corporations: a systematic review. *Local Government Studies*, v. 43, n. 5, p. 820–841, Apr. 2017.

¹⁶ CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio. The truth about privatization in America Latina. In: CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio (ed.). *Privatization in Latin America: myths and reality*. Washington, D.C.: Stanford University Press, 2005. p. 1–66.

¹⁷ RAKHMAN, Fuad. Can partially privatized SOEs outperform fully private firms? Evidence from Indonesia. *Research in International Business and Finance*, v. 45, p. 285–292, Oct. 2018.

Therefore, the research question is: What have been the effects of partial privatization through the public stock market and the issuance of debt securities in the profitability and investment of state-owned non-financial enterprises in Latin American countries between 1999 and 2018?

The research results contribute to define and evaluate public policies, and to improve the financial performance of these companies. This is also important for investors and other market agents interested in monitoring corporate results. Research results are also crucial to citizens due to the implications of public policies on public finance and the provision of strategic public services.

The structure of the remainder of the article is as follows: part two presents a summary of the literature review. Part three shows the methodological design, the hypotheses, the models used and the data. Part four contains the findings. Finally, section five contains the discussion and the conclusions.

2 Literature review

Corporatization and partial privatization of SOEs are of theoretical and empirical interest due to their importance and evolution throughout history. Based on agency theory¹⁸, it is argued that SOEs have difficulties monitoring managers because there is no owner or control system with solid incentives nor a public share price that provides information on the work of managers, thus limiting their assessment by the stock market participants¹⁹.

Thus, this research is based on the enterprise ownership structure theory developed by Jensen and Meckling²⁰, which takes up agency theory, property rights theory and theory of the firm.²¹ This is because the issuance of shares and bonds in the public securities market places SOEs in an intermediate position between public ownership and private control; therefore, market-driven information and dynamics would be expected to reduce the agency's problems caused by the separation of ownership and control considering the market-imposed discipline²².

¹⁸ JENSEN, Michael; MECKLING, William. Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, v. 3, n. 4, p. 305-360, Oct. 1976. See also: FAMA, Eugene. Agency problems and the theory of the firm. *Journal of Political Economy*, v. 88, n. 2, p. 288-307, Apr. 1980. EISENHARDT, Kathleen. Agency theory: an assessment and review. *Academy of Management Review*, v. 14, n. 1, p. 57-74, Jan. 1989. DONALDSON, Lex; DAVIS, James. Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management*, v. 16, n. 1, p. 49-64, June 1991. HOLMSTROM, Bengt; TIROLE, Jean. Market liquidity and performance monitoring. *Journal of Political Economy*, v. 101, n. 4, p. 678-709, Aug. 1993.

¹⁹ GUPTA, Nandini. Partial privatization and firm performance. *The Journal of Finance*, v. 60, n. 2, 987-1015, Mar. 2005.

²⁰ JENSEN, Michael; MECKLING, William. Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, v. 3, n. 4, p. 305-360, Oct. 1976.

²¹ See the arguments of Coase (1937, 1959, 1960), Alchian (1965, 1968), Alchian and Kessel (1962), Demsetz (1967), Alchian and Demsetz (1972), Monson and Downs (1965), Silver and Auster (1969), and McManus (1975).

²² MILHAUPT, Curtis; PARGENDLER, Mariana. Governance challenges of listed state-owned enterprises around the world: national experiences and a framework for reform. *Corporate Practice Commentator*, v. 50, n. 3, p. 473-542, Sept./Nov. 2018. See also: GUPTA, Nandini. Partial privatization and firm performance. *The Journal of Finance*, v. 60, n. 2, 987-1015, Mar. 2005.

2.1 Evidence on corporatization

Regarding the corporatization of SOEs, Ferry *et al.*²³, Khongmalai and Distanont²⁴, Shawtari *et al.*²⁵, Voorn *et al.*²⁶, Lindlbauer *et al.*²⁷, Li and Yueh²⁸, Shan and McIver²⁹, Bilodeau *et al.*³⁰, Aivazian *et al.*³¹ and Bozec and Breton³² agree that corporatization processes have positive effects on the operational and financial performance of SOEs in countries such as England, Taiwan, Malaysia, Germany, China and Canada. Some of the causes are explained by the decline of political control through increased corporate flexibility in labor deployment, the strength and independence of boards of directors, a change in management with a more strategic focus, and the implementation of corporate governance practices at all levels of the organization.

2.2 Evidence on total and partial privatization

Regarding privatization processes, Bachiller³³ conducted a meta-analysis on research results from several countries and regions, concluding that companies privatized through public offers in the stock market have a better financial performance, in privatization processes of developing countries, and the transfer of public ownership to private hands. In the same vein, Tihanyi *et al.*³⁴ also conducted a meta-analysis and identified that state ownership and political connection are factors affecting SOEs' strategies and financial performance. They conclude that state ownership has a negative effect on the financial performance of enterprises, especially in cases with a greater interest. From a systemic literature review extended to various regions of the world, Gakhar and Phukon³⁵ found that most research has revealed a significant improvement in the performance of SOEs in the post-privatization period. Additionally, Megginson³⁶ in his book he refers to the history of privatization, moving from a radical notion to economic orthodoxy, and how this changed the way we view the role of government in the business of nations.

²³ FERRY, Laurence; ANDREWS, Rhys; SKELCHER, Chris; WEGOROWSKI, Piotr. New development: corporatization of local authorities in England in the wake of austerity 2010–2016. *Public Money and Management*, v. 8, n. 6, p. 477–480, July 2018.

²⁴ KHONGMALAI, Orapan; DISTANONT, Anyanitha. Corporate governance model in Thai state-owned enterprises: structural equation modelling approach. *Corporate Governance*, v. 17, n. 4, p. 613–628, Aug. 2017.

²⁵ SHAWTARI, Fekri; HAR SANI MOHAMAD, Mohamad; ABDUL RASHID, Hafiz; AYEDH, Abdullah. Board characteristics and real performance in Malaysian state-owned enterprises (SOEs). *International Journal of Productivity and Performance Management*, v. 66, n. 8, p. 1064–1086, Nov. 2017.

²⁶ VOORN, Bart; VAN GENUGTEN, Marieke; VAN THIEL, Sandra. The efficiency and effectiveness of municipally owned corporations: a systematic review. *Local Government Studies*, v. 43, n. 5, p. 820–841, Apr. 2017.

²⁷ LINDLBAUER, Ivonne; WINTER, Vera; SCHREYÖGG, Jonas. Antecedents and consequences of corporatization: an empirical analysis of German public hospitals. *Journal of Public Administration Research & Theory*, v. 26, n. 2, 309–326, Apr. 2016.

²⁸ LI, Xiao; YUEH, Linda. Does incorporation improve firm performance? *Oxford Bulletin of Economics and Statistics*, v. 73, n. 6, p. 753–770, Dec. 2011.

²⁹ SHAN, Yuan; MCIVER, Ron. Corporate governance mechanisms and financial performance in china: Panel data evidence on listed non-financial companies. *Asia Pacific Business Review*, v. 17, n. 3, p. 301–324, July 2011.

³⁰ BILODEAU, Nancy; LAURIN, Claude; VINING, Aidan. “Choice of organizational form makes a real difference”: the impact of corporatization on government agencies in Canada. *Journal of Public Administration Research and Theory*, v. 17, n. 1, p. 119–147, Jan. 2006.

³¹ AIVAZIAN, Varouj; GE, Ying; QIU, Jiaping. Can corporatization improve the performance of state-owned enterprises even without privatization? *Journal of Corporate Finance*, v. 11, n. 5, p. 791–808, Jan. 2005.

³² BOZEC, Richard; BRETON, Gaétan. The impact of the corporatization process on the financial performance of Canadian state-owned enterprises. *International Journal of Public Sector Management*, v. 16, n. 1, p. 27–47, Feb. 2003.

³³ BACHILLER, Patricia. A meta-analysis of the impact of privatization on firm performance. *Management Decision*, v. 55, n. 1, 178–202, Feb. 2017.

³⁴ TIHANYI, Laszlo; AGUILERA, Ruth; HEUGENS, Pursey; VAN ESSEN, Marc; SAUERWALD, Steve; DURAN, Patricia; TURTUREA, Roxana. State ownership and political connections. *Journal of Management*, v. 45, n. 6, p. 2293–2321, July 2019.

³⁵ GAKHAR, Divya; PHUKON, Abhijit. From welfare to wealth creation: a review of the literature on privatization of state-owned enterprises. *International Journal of Public Sector Management*, v. 31, n. 2, p. 265–286, Mar. 2018.

³⁶ MEGGINSON, William. *The financial economics of privatizations*. Oxford: Oxford University Press, 2005.

Regarding partial privatization through the issuance of shares in the stock market, Rakham³⁷, Chakrabart and Mondali³⁸, Cavaliere *et al.*³⁹, Astami *et al.*⁴⁰, Sam⁴¹, Bilodeau *et al.*⁴², Richter *et al.*⁴³, Gupta⁴⁴, Aivazian *et al.*⁴⁵, Teo⁴⁶ and Kole and Mulherin⁴⁷, conclude that this process has a positive effect on the profitability, productivity and investment of state-owned enterprises in Indonesia, India, Italy, Singapore, Canada, Germany, China, Australia and the United States based on different quantitative methodologies (which typically use fixed effects and/or instrumental variables). On the other hand, Brown *et al.*⁴⁸ and Qi *et al.*⁴⁹ claim that in Ukraine and China, partial privatization of minority or majority interests has significantly lower effects than total privatization.

2.3 Background in Latin America

The creation of SOEs in Latin America was driven by protecting the domestic market from the import substitution industrialization model (ISI), among other factors. In addition, this economic model emerged from the high dependence of the countries of the region on goods manufactured in developed countries, leading to the creation of SOEs since the mid-twentieth century⁵⁰.

During the 80s and 90s, countries experienced a severe fiscal crisis and the exhaustion of the ISI, owing to high public spending and high external debt. This scenario led most Latin American countries to initiate structural reforms within the framework of the Washington Consensus and the New Public Management (NPM)⁵¹. This way, the privatization of SOEs emerges as a policy issue amid the debt crisis and the declining financial performance of the states in the 1980s⁵².

³⁷ RAKHMAN, Fuad. Can partially privatized SOEs outperform fully private firms? Evidence from Indonesia. *Research in International Business and Finance*, v. 45, p. 285–292, Oct. 2018.

³⁸ CHAKRABARTI, Amit; MONDAL, Arindam. Can commercialization through partial disinvestment improve the performance of state-owned enterprises? The case of Indian SOEs under reforms. *Journal of General Management*, v. 43, n. 1, p. 5–14, Sept. 2017.

³⁹ CAVALIERE, Alberto; MAGGI, Mario; STROFFOLINI, Francesca. Investment-driven mixed firms: partial privatization by local governments. *International Tax and Public Finance*, v. 24, n. 3, p. 459–483, June 2017.

⁴⁰ ASTAMI, Emita; TOWER, Greg; RUSMIN, Rusmin; NEILSON, John. The effect of privatisation on performance of state-owned-enterprises in Indonesia. *Asian Review of Accounting*, v. 18, n. 1, p. 5–19, May 2010.

⁴¹ SAM, Choon. Globalizing partially privatized firms in Singapore: the role of government as a regulator and a shareholder. *Journal of Asian and African Studies*, v. 45, n. 3, p. 258–273, June 2010.

⁴² BILODEAU, Nancy; LAURIN, Claude; VINING, Aidan. “Choice of organizational form makes a real difference”: the impact of corporatization on government agencies in Canada. *Journal of Public Administration Research and Theory*, v. 17, n. 1, p. 119–147, Jan. 2006.

⁴³ RICHTER, Peter; EDELING, Thomas; REICHARD, Christoph. Kommunale betriebe in größeren städten. In: KILIAN, Werner; RICHTER, Peter; TROPP, Hendrick. *Ausgliederung und privatisierung in kommunen*. Berlin: Empirische Befunde zur Struktur kommunaler Aufgabenwahrnehmung, 2006. p. 56–84.

⁴⁴ GUPTA, Nandini. Partial privatization and firm performance. *The Journal of Finance*, v. 60, n. 2, 987–1015, Mar. 2005.

⁴⁵ AIVAZIAN, Varouj; GE, Ying; QIU, Jiaping. Can corporatization improve the performance of state-owned enterprises even without privatization? *Journal of Corporate Finance*, v. 11, n. 5, p. 791–808, Jan. 2005.

⁴⁶ TEO, Stephen. Evidence of strategic HRM linkages in eleven Australian corporatized public sector organizations. *Public Personnel Management*, v. 29, n. 4, p. 557–574, Dec. 2000.

⁴⁷ KOLE, Stacey; MULHERIN, Harold. The government as a shareholder: a case from the United States. *Journal of Law and Economics*, v. 40, n. 1, p. 1–22, Apr. 1997.

⁴⁸ BROWN, David; EARLE, Jhon; SHPAK, Solomiya; VAKHITOV, Volodymyr. Is privatization working in Ukraine?: new estimates from comprehensive manufacturing firm data, 1989–2013. *Comparative Economic Studies*, v. 61, n. 1, p. 1–35, Mar. 2019.

⁴⁹ QI, Daqing; WU, Woody; ZHANG, Hua. Shareholding structure and corporate performance of partially privatized firms: evidence from listed Chinese companies. *Pacific-Basin Finance Journal*, v. 8, n. 5, p. 587–610, Oct. 2020.

⁵⁰ MISAS, Gabriel. *Regímenes de Acumulación y modos de regulación Colombia 1910-2010*. Bogotá: Universidad Nacional de Colombia, 2019.

⁵¹ GÓMEZ-VILLEGAS, Mauricio; BRUSCA, Isabel; BERGMANN, Andreas. IPSAS in Latin America: innovation, isomorphism or rhetoric? *Public Money & Management*, v. 40, n. 7, p. 489–498, June 2020.

⁵² CLAPHAM, Christopher; CAVENDISH, William; PERCY, Mistry. Adjusting privatization: case studies from developing countries. *African Economic History*, n. 22, p. 144–145, Mar. 1992. See also: MOLANO, Walter. The logic of privatization: the case of telecommunications in the southern cone of Latin America. *Journal of International Business Studies*, v. 29, n. 1, p. 205–208, Jan./Mar. 1998.

Privatization processes were not equally accepted in all countries. There was resistance and political opposition to these measures in Costa Rica and Uruguay⁵³. Mexico chose to nationalize the oil sector. Argentina, Bolivia and Peru were radical in accepting privatization processes. On the other hand, despite anticipating the reforms, Chile maintained public companies in the production of copper and oil⁵⁴.

However, given that privatization processes were not based on long-term structural transformations, the results of these processes were not as expected, leading the economy of these countries to once again suffer high levels of indebtedness, in a scenario in which the state had less wealth⁵⁵. This situation led to reconsider total privatization by promoting partial privatization or corporatization by implementing good governance practices in enterprises that were still owned by the state.

Musacchio *et al.*⁵⁶ and Penfold *et al.*⁵⁷ examined the challenges Latin American countries face to control their SOEs. They emphasize the importance of implementing corporate governance practices to strengthen the development of SOEs in the region.

Collazos and Ochoa⁵⁸ assessed the effects of privatization on productivity and profitability in Colombia during the 90s. They found that privatization has a positive impact on the profitability of enterprises. In the same vein, Chong and Lopez-de-Sinales⁵⁹ systematized a series of studies by different authors regarding the effects of total privatization in Latin American countries. In eight chapters, they present qualitative and quantitative documents on the privatization processes in Argentina, Bolivia, Brazil, Chile, Colombia, Mexico and Peru. There is widespread evidence that complete privatization processes generate efficiency in the enterprises transferred to private investors.

In this context, it is relevant to provide empirical evidence on SOEs' corporatization and partial privatization processes in Latin America over the past two decades.

3 Methodological design

3.1 Hypothesis

To address the research question, we raised three hypotheses from the following state-owned enterprises' ownership scenarios, namely:

- a) Corporatized SOEs with partial privatization through the issuance of shares in the stock market.

⁵³ OCAMPO, José. *El desarrollo económico de América Latina desde la independencia*. Bogotá: Fondo de Cultura Económica, 2013.

⁵⁴ OCAMPO, José. *El desarrollo económico de América Latina desde la independencia*. Bogotá: Fondo de Cultura Económica, 2013.

⁵⁵ RAMÍREZ, Eduardo. El proceso de privatización: antecedentes, implicaciones y resultados. *Contabilidad y Administración*, n. 222, p. 97–114, May/Aug. 2007.

⁵⁶ MUSACCHIO, Aldo; PINEDA, Emilio; GARCÍA, Gustavo. *State-owned enterprise reform in Latin America, issues and possible solutions*. Inter-American Development Bank, 2015. (Discussion Paper, n. IDB-DP-401). Available at: <https://publications.iadb.org/en/state-owned-enterprise-reform-latin-america-issues-and-possible-solutions>.

⁵⁷ PENFOLD, Michael; ONETO, Andrés; RODRÍGUEZ, Guillermo. *La transparencia del gobierno corporativo en las empresas de propiedad del estado en América Latina*. 2015. (Serie Políticas Públicas y Transformación Productiva, 20). Available at: <http://scioteca.caf.com/handle/123456789/767>.

⁵⁸ COLLAZOS, Jaime; OCHOA, Héctor. *Los efectos de la estructura monopolística de los mercados en la evaluación de las empresas privatizadas en Colombia*. Bogotá: Banco de la República, 2005. Available at: http://www.banrep.gov.co/sites/default/files/publicaciones/archivos/2005_junio.pdf.

⁵⁹ CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio. The truth about privatization in America Latina. In: CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio (ed.). *Privatization in Latin America: myths and reality*. Washington, D.C.: Stanford University Press, 2005. p. 1–66.

It is stated that the participation of SOEs in the stock market through the issuance of shares imposes a discipline on their management and disclosure of information⁶⁰. Consequently, based on the elements of the agency theory, property rights theory and theory of the firm, it is expected that the agency problems are reduced by placing SOEs in an intermediate position between public and private property. Therefore, based on the above, the following hypothesis is proposed:

Hypothesis a (H-a): Partial privatization of SOEs through the issuance of shares in the stock market has a positive relationship with the profitability and investment of these companies.

- b) Corporatized SOEs without partial privatization, with the issuance of debt in the stock market.

The second scenario seeks to analyze corporatized SOEs with interest in the stock market only through the issuance of debt to determine whether the debt market also imposes discipline on their management and disclosure of information. This is based on the argument that the availability and implementation of monitoring devices, typical of supervisory processes in the stock market, can favorably affect the performance of any enterprise —public or private— even in the case of issuance of fixed income securities⁶¹. Thus, the second hypothesis is:

Hypothesis b (H-b): the issuance of debt by SOEs in the stock market has a positive relationship with the profitability and investment of these companies.

- c) Corporatized SOEs, without stock market participation, with the implementation of private corporate governance systems and modules.

In this case, the effect of corporate governance on SOEs with no stock market participation (without the issuance of shares or bonds) is analyzed. The state assumes the role of an informed and active owner, establishing a clear and consistent ownership policy, seeking that the corporate governance of the SOEs is carried out transparently and responsibly, with the necessary level of professionalism and effectiveness⁶². From corporate governance theory, CEOs' career path, the effects of the CEO's change on companies' performance, and good governance practices are expected to improve the financial performance of SOEs. Consequently, the third hypothesis is as follows:

Hypothesis c (H-c): in SOEs without partial privatization and without stock market participation, the critical determinants for profitability and investment are asset management and cost optimization.

3.2 Regression models

Regression models with panel data structure were applied in all three scenarios.⁶³ The analysis focused on determining the statistical associations between different companies variables and proxy financial performance indicators such as return on assets (ROA) and an investment indicator defined as the productive assets' growth rate. This methodology has been applied in various research⁶⁴.

⁶⁰ MILHAUPT, Curtis; PARGENDLER, Mariana. Governance challenges of listed state-owned enterprises around the world: national experiences and a framework for reform. *Corporate Practice Commentator*, v. 50, n. 3, p. 473–542, Sept./Nov. 2018. See also: GUPTA, Nandini. Partial privatization and firm performance. *The Journal of Finance*, v. 60, n. 2, 987–1015, Mar. 2005.

⁶¹ KOLE, Stacey; MULHERIN, Harold. The government as a shareholder: a case from the United States. *Journal of Law and Economics*, v. 40, n. 1, p. 1–22, Apr. 1997.

⁶² ORGANIZACIÓN PARA LA COOPERACIÓN Y EL DESARROLLO ECONÓMICO. *Directrices de la OCDE sobre el Gobierno Corporativo de las Empresas Públicas*. 2011. Available at: <https://www.oecd.org/da/c/ca/corporategovernanceofstate-ownedenterprises/48632643.pdf>.

⁶³ i.e., cross-sections of enterprises observed over time (HSIAO, Cheng. *Analysis of panel data*. 2nd. ed. Cambridge: Cambridge University Press, 2003.).

⁶⁴ TRIEBS, Thomas; POLLITT, Michael. Objectives and incentives: evidence from the privatization of Great Britain's power plants. *International Journal of Industrial Organization*, v. 65, p. 1–29, July 2019. See also: BROWN, David; EARLE, Jhon; SHPAK, Solomiya; VAKHITOV, Volodymyr. Is privatization working in Ukraine?: new estimates from comprehensive manufacturing firm data, 1989–2013. *Comparative Economic Studies*, v. 61, n. 1, p. 1–35, Mar. 2019. RAKHMAN, Fuad. Can partially privatized SOEs

Different measures recognized by international literature such as asset value, operating income, financial leverage, among others, are used as explanatory variables in all cases⁶⁵. The models used in each of the three study scenarios are presented below.

For enterprises with partial privatization through the issuance of shares in the stock market (group 1), the two models to be estimated are described in [1] and [2]:

$$\text{Profitability}_{it} = \beta_0 + \beta_1 \text{Priv}_{it} + \beta_2 \text{Lev}_{it} + \beta_3 \Delta \text{OpInc}_{it} + \beta_4 \Delta \text{SC}_{it} + \beta_5 \text{Siz}_{it} + \beta_6 \text{StoMar}_{it} + \beta_7 \text{RegInd}_{it} + \beta_8 \text{IFRS}_{it} + \text{Enterprise} + \text{Year} + \varepsilon_{it}.$$

For enterprises issuing bonds in the stock market (group 2), the two models to be estimated are described in [3] and [4]:

$$\text{Profitability}_{it} = \beta_0 + \beta_1 \ln(\text{bonds})_{it} + \beta_2 \Delta \text{OpInc}_{it} + \beta_3 \Delta \text{SC}_{it} + \beta_4 \text{Siz}_{it} + \beta_5 \text{BonMar}_{it} + \beta_6 \text{IFRS}_{it} + \text{Enterprise} + \text{Year} + \varepsilon_{it}.$$

Finally, for companies without interest in the stock market (group 3), the two models to be estimated are described in [5] and [6]:

$$\text{Profitability}_{it} = \beta_0 + \beta_1 \Delta \text{OpInc}_{it} + \beta_2 \Delta \text{SC}_{it} + \beta_3 \text{Siz}_{it} + \beta_4 \text{IFRS}_{it} + \text{Enterprise} + \text{year} + \varepsilon_{it}.$$

Where:

Profitability_{it} = net profit divided by the total assets in the year **t** for the firm **i**, expressing the profitability of the assets based on the ability to generate profits from the main activity.

Investment_{t,i} = productive assets of the year **t**, less productive assets of the year **t - 1**, divided by productive assets in the year **t - 1**, determining the variation of investment (divestment) in productive assets during a given period.

Priv_{it} = percentage of the private equity interest in an enterprise **i** in the year **t**, allowing to identify the proportion of capital transferred to the private sector through the partial privatization.

outperform fully private firms? Evidence from Indonesia. *Research in International Business and Finance*, v. 45, p. 285–292, Oct. 2018. HOANG, Lai; NGUYEN, Cuong; HU, Baiding. Ownership structure and firm performance improvement: does it matter in the Vietnamese stock market? *Economic Papers*, v. 36, n. 4, p. 416–428, Aug. 2017. GUPTA, Nandini. Partial privatization and firm performance. *The Journal of Finance*, v. 60, n. 2, 987–1015, Mar. 2005. AIVAZIAN, Varouj; GE, Ying; QIU, Jiaping. Can corporatization improve the performance of state-owned enterprises even without privatization? *Journal of Corporate Finance*, v. 11, n. 5, p. 791–808, Jan. 2005. COLLAZOS, Jaime; OCHOA, Héctor. *Los efectos de la estructura monopolística de los mercados en la evaluación de las empresas privatizadas en Colombia*. Bogotá: Banco de la República, 2005. Available at: http://www.banrep.gov.co/sites/default/files/publicaciones/archivos/2005_junio.pdf. POMBO, Carlos; RAMÍREZ, Manuel. Privatization in Colombia: a plant performance analysis. In: CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio (ed.). *Privatization in Latin America: myths and reality*. Washington, D.C.: Stanford University Press, 2005. p. 275–348.

⁶⁵ ANUATTI-NETO, Francisco; BAROSSO-FILHO, Milton; CARVALHO, Gledson de; MACEDO, Roberto. Costs and benefits of privatization: evidence from Brazil. In: CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio (ed.). *Privatization in Latin America: myths and reality*. Washington, D.C.: Stanford University Press, 2005. p. 145–196. See also: BILODEAU, Nancy; LAURIN, Claude; VINING, Aidan. “Choice of organizational form makes a real difference”: the impact of corporatization on government agencies in Canada. *Journal of Public Administration Research and Theory*, v. 17, n. 1, p. 119–147, Jan. 2006. CAVALIERE, Alberto; MAGGI, Mario; STROFFOLINI, Francesca. Investment-driven mixed firms: partial privatization by local governments. *International Tax and Public Finance*, v. 24, n. 3, p. 459–483, June 2017. GUPTA, Nandini. Partial privatization and firm performance. *The Journal of Finance*, v. 60, n. 2, 987–1015, Mar. 2005. HOANG, Lai; NGUYEN, Cuong; HU, Baiding. Ownership structure and firm performance improvement: does it matter in the Vietnamese stock market? *Economic Papers*, v. 36, n. 4, p. 416–428, Aug. 2017. LILJEBLOM, Eva; MAURY, Benajmin; HÖRHAMMER, Alexander. Complex state ownership, competition, and firm performance: Russian evidence. *International Journal of Emerging Markets*, v. 15, n. 2, p. 189–221, Aug. 2019. RAKHMAN, Fuad. Can partially privatized SOEs outperform fully private firms? Evidence from Indonesia. *Research in International Business and Finance*, v. 45, p. 285–292, Oct. 2018. VITHESSONTHI, Chaiporn. Capital investment, internationalization, and firm performance: Evidence from Southeast Asian countries. *Research in International Business and Finance*, v. 38, p. 393–403, Sept. 2016.

Lev_{it} = total liabilities divided by the total assets in year t of enterprise i , establishing the proportion in which the assets are leveraged with external resources.

$\Delta OpeInc_{it}$ = operating income for year t minus income for year $t - 1$, divided by the operating income of enterprise i for year $t - 1$, measuring the growth of the income directly related to the firm's main activity.

ΔSC_{it} = sales cost for year t , minus sales cost for year $t - 1$, divided by the sales cost of year $t - 1$ for enterprise i , calculating the behavior of costs directly related to the generation of income from the organization's main activities. The inclusion of this variable is considered a novelty in the literature.

Siz_{it} = natural logarithm of the total assets in year t for enterprise i , measuring the size of the enterprise via the amount of total assets at a given time.

$StoMar_{it}$ = dummy variable equal to 1 if enterprise i participates in the stock market, whether domestic or national, in year t , otherwise it is equal to 0, thus identifying the participation in stock markets.

$RegInd_{it}$ = dummy variable equal to 1 if enterprise i is in a regulated industry in year t and 0 if it is not, understanding a regulated industry as that which has a sectoral commission that determines, for example, fees and costs.

$IFRS_{it}$ = dummy variable that is equal to 1 if enterprise i adopts the International Financial Reporting Standards in its accounting reports the year t , and 0 otherwise.

$\ln(\text{bonds})_{it}$ = natural logarithm of the monetary value of the bond issue in the stock market in year t for enterprise i . The inclusion of this variable is considered a novelty in the literature.

$BonMar_{it}$ = dummy variable equal to 1 if enterprise i participates in a bond market, whether domestic or international, in year t ; otherwise, it is equal to 0.

Enterprise = fixed effects by enterprise.

Year = fixed effects by time (per year).

ε_{it} = error term.

3.3 Data

The data of the study are taken from the financial reports published by the enterprises on their websites and by the entities that consolidate financial information in the countries studied⁶⁶. Group 1 includes 16 enterprises from Argentina, Brazil, Chile, Colombia and Peru. Group 2 includes 9 enterprises from Brazil, Chile, Colombia and Mexico. Group 3 includes 16 enterprises from Argentina, Brazil, Chile, Colombia, Mexico and Peru (see Table 1). All the above, for the period between 1999 and 2018.⁶⁷

⁶⁶ CONTADURÍA GENERAL DE LA NACIÓN DE COLOMBIA. *Reporte de notas a los estados financieros*. 2020. Available at: https://www.chip.gov.co/schip_rt/index.jsf#notas. Access in: 15 Nov. 2020. CONTROLADORIA-GERAL DA UNIÃO. *Fala*. BR: Plataforma integrada de ouvidoria e acesso à informação. 2020. Available at: <https://falabr.cgu.gov.br/publico/Manifestacao/SelecionarTipoManifestacao.aspx?ReturnUrl=%2F>. Access in: 20 Nov. 2020. CUENTA GENERAL DE LA REPÚBLICA DEL PERÚ. *Sector público*. 2020. Available at: <https://apps5.mineco.gob.pe/ctarepublica/>. Access in: 29 Oct. 2020. ESTADO DE CHILE. *Portal Transparencia*. 2020. Available at: <https://www.portaltransparencia.cl/PortalPdT/>. Access in: 8 Nov. 2020. GOBIERNO DE ARGENTINA. *Transparencia activa*. Ministerio de Economía. 2020. Available at: <https://www.argentina.gob.ar/economia/transparencia>. 2020. Access in: 20 Oct. 2020. GOBIERNO DE MÉXICO. *Cuenta Pública*. 2020. Available at: <https://www.cuentapublica.hacienda.gob.mx/>. Access in: 30 Oct. 2020. MINISTERIO DE ECONOMÍA Y FINANZAS DEL PERÚ. *Cuenta General de la República*. 2020. Available at: https://www.mef.gob.pe/es/?option=com_content&language=es-ES&Itemid=100808&view=article&catid=31&id=211&lang=es-ES. Access: 26 Oct. 2020.

⁶⁷ The data have an unbalanced panel structure for the three groups of enterprises (stock issuers, bond issuers, and non-issuers).

Table 1 – State-owned enterprises examined

Group 1	Group 2	Group 3
YPF (ARG)	<i>Compañía de Agua y Alcantarillado de Río de Janeiro</i> (BRA)	<i>Ferrocarriles Argentinos</i> (ARG)
<i>Companhia Paranaense de Energia</i> (BRA)	<i>Corporación Nacional del Cobre de Chile</i> (CHL)	<i>Agua y Saneamiento Argentinos</i> (ARG)
<i>Companhia Energetica de Sao Paulo</i> (BRA)	<i>Empresa Nacional del Petróleo</i> (CHL)	<i>Furnas Centrais Eléctricas</i> (BRA)
<i>Companhia de Saneam. Básico do Estado de São Paulo</i> (BRA)	<i>Empresa de los Ferrocarriles del Estado</i> (CHL)	<i>Centrais Eléctricas do Norte do Brasil</i> (BRA)
<i>Companhia de Saneamento de Minas Gerais</i> (BRA)	<i>Empresa de Transporte de Pasajeros Metro S.A.</i> (CHL)	<i>Company Hydroelectric San Francisco General</i> (BRA)
<i>Centrais Eléctricas Brasileiras</i> (BRA)	<i>Empresa Nacional de Aeronáutica de Chile</i> (CHL)	<i>Eletrusul Centrais Eléctricas</i> (BRA)
<i>Petróleo Brasileiro</i> (BRA)	<i>Empresas Públicas de Medellín</i> (COL)	<i>Petrobras Transporte</i> (BRA)
<i>Centrais Eléctricas de Santa Catarina</i> (BRA)	<i>Comisión Federal de Electricidad</i> (MEX)	<i>Empresa Nacional de Minería</i> (CHL)
<i>Telecomunicações Brasileiras</i> (BRA)	<i>Petróleos de México</i> (MEX)	<i>Ferrocarril de Arica a la Paz</i> (CHL)
<i>Zona Franca de IQUIQUE</i> (CHL)	<i>Petróleos del Perú</i> (PER) ⁶⁸	<i>Generadora y Comercializadora de Energía del Caribe</i> (COL)
<i>Empresa Colombiana de Petróleos</i> (COL)		<i>Electrificadora del Huila</i> (COL)
<i>Interconexión Eléctrica</i> (COL)		<i>Electrificadora del Meta</i> (COL)
<i>Empresa de Energía de Bogotá</i> (COL)		<i>Aeropuertos y Servicios Auxiliares</i> (MEX)
<i>Empresa de Telecomunicaciones de Bogotá</i> (COL)		<i>Telecomunicaciones de México</i> (MEX)
<i>Electricidad del Perú Electroperú</i> (PER) ⁶⁹		<i>Electro Ucayali</i> (PER)
		<i>Servicio de Agua Potable y Alcantarillado de Lima</i> (PER)

Most of the enterprises belong to the transport (rail or aeronautical), mining-energy, basic sanitation, water-sewerage and telecommunications sectors. On the other hand, the financial variables —shown in thousands of United States Dollars— were deflated with the base year 2018 for all the countries analyzed based on the information provided by the corresponding official statistical information entity in each country⁷⁰.

Table shows the summary of descriptive statistics and the p-value of the unit root tests for Im-Pesaran-Shin in 2003 Augmented Dickey-Fuller⁷¹ panel data. The average return on assets is positive for enterprises in group 1 (0.041) and negative for groups 2 (-0.001) and 3 (-0.303). Regarding the median of this indicator, although group 1 (0.043) remains the best-performing group, in this case, group 3 (0.016) is above group 2 (0.006). Regarding the investment indicator, there is a negative median for group 1 (-0.009), a positive median for group 2 (0.016) and equal to zero for group 3. Also, the enterprises in groups 1 and 2 have a similar size on average, both with higher assets than those in group 3.

⁶⁸ Shares listed on the exchange without trading but with debt in the securities market.

⁶⁹ Shares listed on the exchange without trading.

⁷⁰ DEPARTAMENTO ADMINISTRATIVO NACIONAL DE ESTADÍSTICA DE COLOMBIA. *Índice de precios al consumidor*. 2020. Available at: <https://www.dane.gov.co/index.php/estadisticas-por-tema/precios-y-costos/indice-de-precios-al-consumidor-ipc>. Access in: 15 Nov. 2020. INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATISTICA. *Índice nacional de preços ao consumidor amplo*. 2020. Available at: https://www.ibge.gov.br/estatisticas/economicas/precos-e-custos/9256-indice-nacional-de-precos-ao-consumidor-ampl.html?t=series-historicas&yutm_source=landing&yutm_medium=explicayutm_campaign=inflacao#plano-real-mes. Access in: 15 Nov. 2020. INSTITUTO NACIONAL DE ESTADÍSTICA E INFORMÁTICA DE PERÚ. *Índice temático: Economía*. 2020. Available at: <https://www.inei.gob.pe/estadisticas/indice-tematico/economia/>. Access in: 15 Nov. 2020. INSTITUTO NACIONAL DE ESTADÍSTICA Y CENSOS DE LA REPÚBLICA ARGENTINA. *Índice de precios al consumidor*. 2020. Available at: <https://www.indec.gov.ar/indec/web/Nivel4-Tema-3-5-31>. Access in: 15 Nov. 2020. INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA DE MÉXICO. *Índice nacional de precios al consumidor y sus componentes*. 2020. Available at: https://www.inegi.org.mx/app/tabulados/default.aspx?nc=ca55_2018. Access in: 15 Nov. 2020. INSTITUTO NACIONAL DE ESTADÍSTICAS DE CHILE. *Índice de precios al consumidor*. 2020. Available at: <https://www.ine.cl/estadisticas/economia/indices-de-precio-e-inflacion/indice-de-precios-al-consumidor>. Access in: 15 Nov. 2020.

⁷¹ CHOI, In. Unit root tests for panel data. *Journal of International Money and Finance*, v. 20, n. 2, p. 249–272, Apr. 2001.

The SOEs with the highest return on assets (ROA) are those that have been partially privatized, especially those with ownership transfer up to 35%, in the cases of Chile, Colombia and Brazil; this result is mainly due to higher operating margins and net margins. In relation to asset management, these companies are not characterized by having the highest total asset turnover. Therefore, the productivity of SOEs with partial privatization is mainly supported by the profitability of their operations. In the case of SOEs without partial privatization and without bond issuance, these companies are those with the highest total asset turnover, therefore, their productivity is supported by a higher efficiency in asset management.

Finally, the last two columns of Table show that, for all the analysis variables, and at any level of significance, the null hypothesis of the existence of unit root —not seasonality— for the different data panels is rejected. In other words, there are no problems in the statistical inference of the model given that the statistical parameters, such as the mean and variance of the variables analyzed, are not constant over the period analyzed.

Table 2 – Descriptive statistics and unit root test for data panels

Enterprises in Group 1 (n =295)								
Avg.	P25	P50	P75	SD	Min.	Max.	IPS	DFA
0.041	0.014	0.043	0.074	0.137	-1.151	1.463	0.000	0.000
0.068	-0.118	-0.009	0.111	0.654	-0.798	9.241	0.000	0.000
0.234	0.101	0.167	0.326	0.222	0.000	0.994	0.000	0.000
0.480	0.339	0.461	0.587	0.371	0.000	5.700	0.000	0.000
1.352	-0.131	0.000	0.138	12.435	-0.996	1.60.486	0.000	0.000
4.051	-0.130	0.002	0.147	55.238	-0.999	918.852	0.000	0.000
1.5855	1.4880	1.5699	1.7293	1.937	1.1191	2.0103	0.040	0.000
0.716	0.000	1.000	1.000	0.452	0.000	1.000	-	-
0.958	1.000	1.000	1.000	0.201	0.000	1.000	-	-
0.368	0.000	0.000	1.000	0.483	0.000	1.000	-	-
Group 2 Enterprises (n =130)								
Avg.	P25	P50	P75	SD	Min.	Max.	IPS	DFA
-0.001	-0.034	0.006	0.035	0.072	-0.401	0.256	0.000	0.000
5.640	-0.085	0.016	0.108	76.686	-0.999	1051.510	0.000	0.000
14.504	13.601	14.554	15.455	1.935	4.454	18.238	0.000	0.000
0.094	-0.081	0.023	0.160	0.569	-0.893	6.830	0.000	0.000
0.108	-0.063	0.038	0.181	0.558	-0.903	6.511	0.000	0.000
15.850	14.763	15.819	17.065	2.008	10.971	19.168	0.004	0.000
0.687	0.000	1.000	1.000	0.465	0.000	1.000	-	-
0.409	0.000	0.000	1.000	0.493	0.000	1.000	-	-
Group 3 Enterprises (n =284)								
Avg.	P25	P50	P75	SD	Min.	Max.	IPS	DFA
-0.303	-0.016	0.016	0.046	2.771	-26.238	0.979	0.000	0.000
45.724	-0.110	0.000	0.084	766.209	-1.000	12912.600	0.000	0.000
0.175	-0.107	0.000	0.120	1.245	-0.904	11.904	0.000	0.000
0.025	-0.113	0.000	0.099	0.567	-2.138	6.544	0.000	0.000
13.564	12.401	14.353	15.557	3.456	-2.286	17.744	0.000	0.000
0.383	0.000	0.000	1.000	0.487	0.000	1.000	-	-

Average = Avg.; first quartile = P25; second quartile (median) = P50; third quartile = P75; standard deviation = SD; minimum value = Min; maximum value = Max; Im-Pesaran-Shin test = IPS; Augmented Dickey-Fuller test = ADF.

4 Findings

The corresponding tests were applied in the econometric estimation to define the random effects (RE), the fixed effects (FE), or the clustered ordinary least squares (OLS). However, while controlling the invariant heterogeneity over time, to minimize the endogeneity problems, equations were also estimated through the generalized method of moments (GMM)⁷². This approach mitigates the problems arising from omitted variable biases and endogeneity.⁷³

To determine the best estimation alternative for the three panel data sets⁷⁴, Table 3 shows the decision given by each case at a significance level of 5% depending on the p-values of the application of i) Breusch Pagan test —via Lagrange multipliers— with H_0 : pooled OLS versus H_1 : RE; ii) **F** restrictive test with H_0 : pooled OLS versus H_1 : FE; and iii) Hausman (1978) test under the H_0 : difference in coefficients is not systematic —RE— versus the H_1 : difference in coefficients if it is systemic —FE—⁷⁵.

Table 3 – Brush Pagan, **F** restrictive and Hausman tests

Group of enterprises	Statistical model	– Decision at 5% significance			
		Breusch-Pagan	restrictive	Hausman	Decision
Stock issuers		RE	FE	FE	FE
		OLS	FE	FE	FE
Bond Issuers		RE	FE	RE	RE
		OLS	OLS	-	PCSE
No Trading		OLS	FE	FE	FE
		OLS	FE	FE	FE

Time-fixed effects are included in an equation if their **F** test is significant at 5% and results in appropriate behavior in the results of the estimates. Four variables, namely **Lev**, **ΔOpeInc**, **ΔSC** and **Siz**, are used to control firms' size and financial situation.

The regression results for the group of share-issuing enterprises (Table 4) show that partial privatization has a positive impact on the profitability and investment indicators, both by FE —statistically significant— and by GMM. In other words, the results provide evidence that the partial privatization of SOEs in Latin America has a positive effect on profitability and investment, therefore confirming H-a.

These findings demonstrate that the disciplining imposed by the market diminishes the agency problems generated by the separation of ownership and control. The results are consistent with those obtained in

⁷² ARELLANO, Manuel; BOVER, Olympia. Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, v. 68, n. 1, p. 29–51, July 1995. See also: BLUNDELL, Richard; BOND, Stephen. Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, v. 87, n. 1, p. 115–143, Nov. 1998.

⁷³ According to authors such as Gupta, the various equations with lagged exogenous variables were specified; however, under that scenario it was not possible to obtain adequate results from an econometric perspective.

⁷⁴ BLUNDELL, Richard; BOND, Stephen. Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, v. 87, n. 1, p. 115–143, Nov. 1998.

⁷⁵ When the null hypothesis is not rejected in the Breusch-Pagan and **FF** restrictive tests, the equation is estimated using a panel-corrected standard errors (PCSE) regression, ideal for unbalanced structures. It is assumed that the disturbances are heteroscedastic and contemporaneously correlated between panels by default.

studies in other regions of the world, such as the United States⁷⁶; Australia⁷⁷; India⁷⁸, Indonesia⁷⁹; China⁸⁰; Germany⁸¹; Canada⁸², Italy⁸³, Singapore⁸⁴, and the United Kingdom⁸⁵.

Table 4 – Results of regression on the performance effects of state-owned, share-issuing, non-financial enterprises in Latin America

Explanatory variables	Adjusted by enterprise			
	Model [1] - Endogenous variable: profitability		Model [2] - endogenous variable: investment	
	FE	GMM	FE	GMM
		0.094** (0.039)		0.163*** (0.050)
	0.176*** (0.046)	0.124** (0.063)	0.288 (0.359)	0.116 (0.321)
	0.149* (0.070)	0.159** (0.080)	-0.088 (0.115)	-0.073 (0.066)
	8.5x10 ⁻⁵ (2.0x10 ⁻⁴)	-5.0x10 ⁻⁵ (2.7x10 ⁻⁴)	-0.009*** (0.001)	-0.006*** (0.002)
	8.7x10 ⁻⁵ (5.5x10 ⁻⁵)	5.4x10 ⁻⁵ (4.9x10 ⁻⁵)	-7.6x10 ⁻⁵ (9.5x10 ⁻⁵)	-5.2x10 ⁻⁵ (1.6x10 ⁻⁴)
	-0.038* (0.020)	-0.009 (0.014)		

⁷⁶ KOLE, Stacey; MULHERIN, Harold. The government as a shareholder: a case from the United States. *Journal of Law and Economics*, v. 40, n. 1, p. 1–22, Apr. 1997.

⁷⁷ TEO, Stephen. Evidence of strategic HRM linkages in eleven Australian corporatized public sector organizations. *Public Personnel Management*, v. 29, n. 4, p. 557–574, Dec. 2000.

⁷⁸ CHAKRABARTI, Amit; MONDAL, Arindam. Can commercialization through partial disinvestment improve the performance of state-owned enterprises? The case of Indian SOEs under reforms. *Journal of General Management*, v. 43, n. 1, p. 5–14, Sept. 2017. See also: GUPTA, Nandini. Partial privatization and firm performance. *The Journal of Finance*, v. 60, n. 2, 987–1015, Mar. 2005.

⁷⁹ RAKHMAN, Fuad. Can partially privatized SOEs outperform fully private firms? Evidence from Indonesia. *Research in International Business and Finance*, v. 45, p. 285–292, Oct. 2018. See also: ASTAMI, Emita; TOWER, Greg; RUSMIN, Rusmin; NEILSON, John. The effect of privatisation on performance of state-owned-enterprises in Indonesia. *Asian Review of Accounting*, v. 18, n. 1, p. 5–19, May 2010.

⁸⁰ KANG, Young-Sam; KIM, Byung-Yeon. Ownership structure and firm performance: evidence from the Chinese corporate reform. *China Economic Review*, v. 23, n. 2, p. 471–481, June 2012. See also: AIVAZIAN, Varouj; GE, Ying; QIU, Jiaping. Can corporatization improve the performance of state-owned enterprises even without privatization? *Journal of Corporate Finance*, v. 11, n. 5, p. 791–808, Jan. 2005.

⁸¹ RICHTER, Peter; EDELING, Thomas; REICHARD, Christoph. Kommunale betriebe in größeren städten. In: KILIAN, Werner; RICHTER, Peter; TROPP, Hendrick. *Ausgliederung und privatisierung in kommunen*. Berlin: Empirische Befunde zur Struktur kommunaler Aufgabenwahrnehmung, 2006. p. 56–84.

⁸² BILODEAU, Nancy; LAURIN, Claude; VINING, Aidan. “Choice of organizational form makes a real difference”: the impact of corporatization on government agencies in Canada. *Journal of Public Administration Research and Theory*, v. 17, n. 1, p. 119–147, Jan. 2006.

⁸³ CAVALIERE, Alberto; MAGGI, Mario; STROFFOLINI, Francesca. Investment-driven mixed firms: partial privatization by local governments. *International Tax and Public Finance*, v. 24, n. 3, p. 459–483, June 2017.

⁸⁴ SAM, Choon. Globalizing partially privatized firms in Singapore: the role of government as a regulator and a shareholder. *Journal of Asian and African Studies*, v. 45, n. 3, p. 258–273, June 2010.

⁸⁵ TRIEBES, Thomas; POLLITT, Michael. Objectives and incentives: evidence from the privatization of Great Britain’s power plants. *International Journal of Industrial Organization*, v. 65, p. 1–29, July 2019.

Adjusted by enterprise				
Explanatory variables	Model [1] - Endogenous variable: profitability		Model [2] - endogenous variable: investment	
	FE	GMM	FE	GMM
	0.050 (0.032)	0.058*** 0.014	-0.248 (0.163)	-0.637 (0.391)
	-0.085** (0.031)	-0.054 0.042	0.090 (0.160)	0.596* (0.357)
	-0.021 (0.016)	-0.055*** (0.021)	0.060 (0.062)	-0.072 (0.050)
	0.619* (0.325)	0.115 (0.192)	-0.068 (0.279)	0.015 (0.131)
Time-fixed effects	Yes		Yes	
Observations	295	295	295	280
R-square (general)	0.101		0.044	
P-value of Wald test		0.000		0.000
P-value of the Arellano-Bold test AR (2)		0.236		0.241
P-value of the Arellano-Bold test AR (3)		0.863		0.413

Note: constant prices as of 2018. Robust standard errors are shown in parenthesis. Statistical significance at 1%, 5% and 10% are shown with ***, ** and *, respectively.

Regarding the results of the bond-issuing group of enterprises (Table 5), under the estimate by FE, the binary **BonMar** variable has a positive correlation with profitability; however, the opposite happens when the approximation is through GMM.⁸⁶ Unlike share-issuing enterprises, there is no conclusive evidence about H-b that suggests that issuing bonds improves the profitability and investment of SOEs in Latin America. This is consistent with the findings of other research⁸⁷ on corporatization through debt structuring that this factor plays a relatively small role in the financial performance of SOEs.

Table 5 – Results of regression on the performance effects of state-owned, bond-issuing, non-financial enterprises in Latin America

Adjusted by enterprise				
Explanatory variables	Model [3] - Endogenous variable: profitability		Model [4] - endogenous variable: investment	
	FE	GMM	FE	GMM
		0.538*** (0.125)		-0.050*** (0.017)
	-0.013 (0.009)	0.009* (0.005)	-0.463** (0.231)	1.248 (2.888)

⁸⁶ In the estimation by FE, as leverage increases through bond issuance, negative effects on profitability increase. In contrast, according to the GMM estimates, the issuance of high monetary debt securities is associated with better performance.

⁸⁷ QI, Daqing; WU, Woody; ZHANG, Hua. Shareholding structure and corporate performance of partially privatized firms: evidence from listed Chinese companies. *Pacific-Basin Finance Journal*, v. 8, n. 5, p. 587-610, Oct. 2020.

Explanatory variables	Adjusted by enterprise			
	Model [3] - Endogenous variable: profitability		Model [4] - endogenous variable: investment	
	FE	GMM	FE	GMM
	0.093*	0.138**	-14.339***	21.001
	(0.048)	(0.067)	(1.688)	(32.336)
	-0.091*	-0.117*	12.469***	-41.362
	(0.049)	(0.069)	(1.775)	(39.052)
	0.008	-0.003		
	(0.012)	(0.004)		
	0.012	-0.018	1.962**	-9.101
	(0.032)	(0.022)	(0.989)	(14.257)
	-0.005	-0.027***	2.664***	31.645
	(0.038)	(0.009)	(0.643)	(31.503)
	0.084	-0.055	3.489	-15.233
	(0.163)	(0.048)	(3.380)	(34.280)
Time-fixed effects	Yes		Yes	
Observations	130	130	130	126
R-square (general)	0.250		0.119	
P-value of Wald test		0.000		0.000
P-value of the Arellano-Bold test AR (2)		0.194		0.473
P-value of the Arellano-Bold test AR (3)		0.078		0.288

Note: constant prices as of 2018. Robust standard errors are shown in parenthesis. Statistical significance at 1%, 5% and 10% are shown with ***, ** and *, respectively.

Finally, the results for no trading in the stock market SOEs show that the critical determinant for profitability has been the size of the assets, while for the investment has been the cost of sales (Table 6). This suggests that the determinants for improving financial performance are asset management and cost optimization, thus confirming H-c. These findings can be supported by the implementation of good governance, control and risk management practices aimed at increasing the efficiency of SOEs.

Table 6 – Results of regression on the performance effects of state-owned, no trading, non-financial enterprises in Latin America

Explanatory variables	Adjusted by enterprise			
	Model [5] - Endogenous variable: profitability		Model [6] - endogenous variable: investment	
	FE	GMM	FE	GMM
		0.744***		
		(0.009)		
				-7.5x10 ⁻⁵
				(1.0x10 ⁻⁴)
	0.068	-0.016	413.697	0.122
	(0.044)	(0.011)	(265.332)	(0.127)

Explanatory variables	Adjusted by enterprise			
	Model [5] - Endogenous variable: profitability		Model [6] - endogenous variable: investment	
	FE	GMM	FE	GMM
	0.516	0.010	-462.163*	1.196*
	(0.316)	(0.032)	(259.916)	(0.617)
	1.192***	-0.171***		
	(0.202)	(0.027)		
	0.093	-0.068	-291.902	-0.831
	(0.448)	(0.085)	(193.377)	(0.538)
	-18.067***	2.367***	-155.043	-0.083
	(4.167)	(0.262)	(188.420)	(0.180)
Time-fixed effects	Yes		Yes	Yes
Observations	284	284	284	268
R-square (general)	0.213		0.439	
P-value of Wald test		0.000		0.000
P-value of the Arellano-Bold test AR (2)		0.321		0.605
P-value of the Arellano-Bold test AR (3)		0.386		0.383

Note: constant prices as of 2018. Robust standard errors are shown in parenthesis. Statistical significance at 1%, 5% and 10% are shown with ***, ** and *, respectively.

5 Discussion and conclusions

This study researches the effects of corporatization and partial privatization processes on the financial performance of SOEs in Latin America. From SOEs partially privatized through the issuance of shares in the stock market, SOEs without partial privatization but that issue debt in the stock market, and SOEs without partial privatization and no trading in the stock market in Argentina, Brazil, Chile, Colombia, Mexico and Peru between 1999 and 2018, it was found that partial privatization through the issuance of shares in the public stock market has a positive effect on the profitability and investment of SOEs in Latin America.

This result provides evidence that, given the information required by this market, partial privatization of SOEs through the issuance of shares in the stock markets of Latin America, reduces the agency problems caused by the separation of ownership and control and improves the financial performance of these enterprises. The discipline imposed by the stock market in the region is based on the strengthening of the MILA, Bovespa and BCPA over the last few decades.

In the case of debt issuance, there was no conclusive evidence suggesting that bond issuance improves the financial performance of SOEs in terms of profitability and investment. The results reaffirm that corporatization through debt structuring has a lower effect on the financial performance of SOEs compared to their interest in the stock market. This suggests that the bond market does not impose the same discipline as the equity market because the interests of debt holders are primarily focused on the enterprises' ability to pay regardless of their efficiency and profit generation.

Regarding SOEs without partial privatization and without participation in the stock market, the critical determinant for profitability and investment have been the size of the assets and the management of sales costs, respectively. Therefore, good governance practices could support the efficiency in the productivity of enterprises through asset management and cost optimization as part of improving the production processes of SOEs in Latin America.

One possible limitation of this study is the number of SOEs listed in the stock market considering the number of unlisted SOEs. Likewise, the impossibility of determining the period of implementing the corporate governance in unlisted SOEs.

As a future line of work, possible research to further explore the efficiency factors of SOEs could focus on establishing the impact of implementing good governance practices on the determinants of state-owned non-financial enterprises without partial privatization, not only in financial terms but also in terms of productivity and social and environmental impact.

References

AIVAZIAN, Varouj; GE, Ying; QIU, Jiaping. Can corporatization improve the performance of state-owned enterprises even without privatization? *Journal of Corporate Finance*, v. 11, n. 5, p. 791–808, Jan. 2005.

ANUATTI-NETO, Francisco; BAROSSO-FILHO, Milton; CARVALHO, Gledson de; MACEDO, Roberto. Costs and benefits of privatization: evidence from Brazil. *In: CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio (ed.). Privatization in Latin America: myths and reality*. Washington, D.C.: Stanford University Press, 2005. p. 145–196.

ARELLANO, Manuel; BOVER, Olympia. Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, v. 68, n. 1, p. 29–51, July 1995.

ASTAMI, Emita; TOWER, Greg; RUSMIN, Rusmin; NEILSON, John. The effect of privatisation on performance of state-owned-enterprises in Indonesia. *Asian Review of Accounting*, v. 18, n. 1, p. 5–19, May 2010.

BACHILLER, Patricia. A meta-analysis of the impact of privatization on firm performance. *Management Decision*, v. 55, n. 1, p. 178–202, Feb. 2017.

BALTAGI, Badi. *Econometrics*. 5. ed. Berlin: Springer, 2011.

BILODEAU, Nancy; LAURIN, Claude; VINING, Aidan. “Choice of organizational form makes a real difference”: the impact of corporatization on government agencies in Canada. *Journal of Public Administration Research and Theory*, v. 17, n. 1, p. 119–147, Jan. 2006.

BLUNDELL, Richard; BOND, Stephen. Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, v. 87, n. 1, p. 115–143, Nov. 1998.

BOZEC, Richard; BRETON, Gaétan. The impact of the corporatization process on the financial performance of Canadian state-owned enterprises. *International Journal of Public Sector Management*, v. 16, n. 1, p. 27–47, Feb. 2003.

BROWN, David; EARLE, Jhon; SHPAK, Solomiya; VAKHITOV, Volodymyr. Is privatization working in Ukraine?: new estimates from comprehensive manufacturing firm data, 1989–2013. *Comparative Economic Studies*, v. 61, n. 1, p. 1–35, Mar. 2019.

CAI, Dongling; WANG, Leonard; WU, Xiaokai. Governance, privatization and foreign direct investment. *Nankai Business Review International*, v. 9, n. 4, p. 569–586, Oct. 2018.

CAVALIERE, Alberto; MAGGI, Mario; STROFFOLINI, Francesca. Investment-driven mixed firms: partial privatization by local governments. *International Tax and Public Finance*, v. 24, n. 3, p. 459–483, June 2017.

CHAKRABARTI, Amit; MONDAL, Arindam. Can commercialization through partial disinvestment improve the performance of state-owned enterprises? The case of Indian SOEs under reforms. *Journal of General Management*, v. 43, n. 1, p. 5–14, Sept. 2017.

CHOI, In. Unit root tests for panel data. *Journal of International Money and Finance*, v. 20, n. 2, p. 249–272, Apr. 2001.

CHONG, Alberto; BENAVIDES, Juan. Privatization and regulation in Latin America. In: LORA, Eduardo (ed.). *The state of the state reform in Latin America*. New York: Stanford University Press, 2007. p. 263–290.

CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio. The truth about privatization in America Latina. In: CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio (ed.). *Privatization in Latin America: myths and reality*. Washington, D.C.: Stanford University Press, 2005. p. 1–66.

CLAPHAM, Christopher; CAVENDISH, William; PERCY, Mistry. Adjusting privatization: case studies from developing countries. *African Economic History*, n. 22, p. 144–145, Mar. 1992.

COLLAZOS, Jaime; OCHOA, Héctor. *Los efectos de la estructura monopolística de los mercados en la evaluación de las empresas privatizadas en Colombia*. Bogotá: Banco de la República, 2005. Available at: http://www.banrep.gov.co/sites/default/files/publicaciones/archivos/2005_junio.pdf.

CONTADURÍA GENERAL DE LA NACIÓN DE COLOMBIA. *Reporte de notas a los estados financieros*. 2020. Available at: https://www.chip.gov.co/schip_rt/index.jsf#notas. Access in: 15 Nov. 2020.

CONTROLADORIA-GERAL DA UNIÃO. *Fala.BR*: Plataforma integrada de ouvidoria e acesso à informação. 2020. Available at: <https://falabr.cgu.gov.br/publico/Manifestacao/SelecionarTipoManifestacao.aspx?ReturnUrl=%2F>. Access in: 20 Nov. 2020.

CUENTA GENERAL DE LA REPÚBLICA DEL PERÚ. *Sector público*. 2020. Available at: <https://apps5.mineco.gob.pe/ctarepublica/>. Access in: 29 Oct. 2020.

DE LA TORRE, Alfonso. Privatizar Sedapal. *El Comercio*, 5 Feb. 2019. Available at: <https://elcomercio.pe/economia/opinion/privatizar-sedapal-alfonso-torre-aniego-san-juan-lurigancho-noticia-604365-noticia/>.

DEPARTAMENTO ADMINISTRATIVO NACIONAL DE ESTADÍSTICA DE COLOMBIA. *Índice de precios al consumidor*. 2020. Available at: <https://www.dane.gov.co/index.php/estadisticas-por-tema/precios-y-costos/indice-de-precios-al-consumidor-ipc>. Access in: 15 Nov. 2020.

DEVLIN, Robert. Las privatizaciones y el bienestar social. *Revista de la CEPAL*, v. 49, p. 155–181, Apr. 1993.

DONALDSON, Lex; DAVIS, James. Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management*, v. 16, n. 1, p. 49–64, June 1991.

EISENHARDT, Kathleen. Agency theory: an assessment and review. *Academy of Management Review*, v. 14, n. 1, p. 57–74, Jan. 1989.

ESTADO DE CHILE. *Portal Transparencia*. 2020. Available at: <https://www.portaltransparencia.cl/PortalPdT/>. Access in: 8 Nov. 2020.

ESTRIN, Saul; PELLETIER, Adeline. Privatization in developing countries: what are the lessons of recent experience? *The World Bank Research Observer*, v. 33, n. 1, p. 65–102, Feb. 2018.

FAMA, Eugene. Agency problems and the theory of the firm. *Journal of Political Economy*, v. 88, n. 2, p. 288–307, Apr. 1980.

FERRY, Laurence; ANDREWS, Rhys; SKELCHER, Chris; WEGOROWSKI, Piotr. New development: corporatization of local authorities in England in the wake of austerity 2010–2016. *Public Money and Management*, v. 8, n. 6, p. 477–480, July 2018.

GAKHAR, Divya; PHUKON, Abhijit. From welfare to wealth creation: a review of the literature on privatization of state-owned enterprises. *International Journal of Public Sector Management*, v. 31, n. 2, p. 265–286, Mar. 2018.

GOBIERNO DE ARGENTINA. *Transparencia activa*. Ministerio de Economía. 2020. Available at: <https://www.argentina.gob.ar/economia/transparencia>. 2020. Access in: 20 Oct. 2020.

GOBIERNO DE MÉXICO. *Cuenta Pública*. 2020. Available at: <https://www.cuentapublica.hacienda.gob.mx/>. Access in: 30 Oct. 2020.

GÓMEZ-VILLEGAS, Mauricio; BRUSCA, Isabel; BERGMANN, Andreas. IPSAS in Latin America: innovation, isomorphism or rhetoric? *Public Money & Management*, v. 40, n. 7, p. 489–498, June 2020.

GROSSI, Giuseppe; REICHARD, Christoph. Municipal corporatization in Germany and Italy. *Public Management Review*, v. 10, n. 5, p. 597–617, Sept. 2008.

GUNASEKAR, Sangeetha; SARKAR, Jayati. Does autonomy matter in state owned enterprises? Evidence from performance contracts in India. *Economics of Transition and Institutional Change*, v. 27, n. 3, p. 763–800, Mar. 2019.

GUPTA, Nandini. Partial privatization and firm performance. *The Journal of Finance*, v. 60, n. 2, p. 987–1015, Mar. 2005.

HAUSMAN, Jerry. Specification tests in econometrics. *Econometrica*, v. 46, n. 6, p. 1251–1271, Nov. 1978.

HOANG, Lai; NGUYEN, Cuong; HU, Baiding. Ownership structure and firm performance improvement: does it matter in the Vietnamese stock market? *Economic Papers*, v. 36, n. 4, p. 416–428, Aug. 2017.

HOLMSTROM, Bengt; TIROLE, Jean. Market liquidity and performance monitoring. *Journal of Political Economy*, v. 101, n. 4, p. 678–709, Aug. 1993.

HSIAO, Cheng. *Analysis of panel data*. 2. ed. Cambridge: Cambridge University Press, 2003.

IM, Kyung; PESARAN, Hashem; SHIN, Yongcheol. Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, v. 115, n. 1, p. 53–74, July 2003.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA. *Índice nacional de preços ao consumidor amplo*. 2020. Available at: https://www.ibge.gov.br/estatisticas/economicas/precos-e-custos/9256-indice-nacional-de-precos-ao-consumidor-amplo.html?t=series-historicas&yutm_source=landingyutm_medium=explicayutm_campaign=inflacao#plano-real-mes. Access in: 15 Nov. 2020.

INSTITUTO NACIONAL DE ESTADÍSTICA E INFORMÁTICA DE PERÚ. *Índice temático*. Economía. 2020. Available at: <https://www.inei.gob.pe/estadisticas/indice-tematico/economia/>. Access in: 15 Nov. 2020.

INSTITUTO NACIONAL DE ESTADÍSTICA Y CENSOS DE LA REPÚBLICA ARGENTINA. *Índice de precios al consumidor*. 2020. Available at: <https://www.indec.gob.ar/indec/web/Nivel4-Tema-3-5-31>. Access in: 15 Nov. 2020.

INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA DE MÉXICO. *Índice nacional de precios al consumidor y sus componentes*. 2020. Available at: https://www.inegi.org.mx/app/tabulados/default.aspx?nc=ca55_2018. Access in: 15 Nov. 2020.

INSTITUTO NACIONAL DE ESTADÍSTICAS DE CHILE. *Índice de precios al consumidor*. 2020. Available at: <https://www.ine.cl/estadisticas/economia/indices-de-precio-e-inflacion/indice-de-precios-al-consumidor>. Access in: 15 Nov. 2020.

JENSEN, Michael; MECKLING, William. Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, v. 3, n. 4, p. 305–360, Oct. 1976.

KANG, Young-Sam; KIM, Byung-Yeon. Ownership structure and firm performance: evidence from the Chinese corporate reform. *China Economic Review*, v. 23, n. 2, p. 471–481, June 2012.

KHONGMALAI, Orapan; DISTANONT, Anyanitha. Corporate governance model in Thai state-owned enterprises: structural equation modelling approach. *Corporate Governance*, v. 17, n. 4, p. 613–628, Aug. 2017.

KOLE, Stacey; MULHERIN, Harold. The government as a shareholder: a case from the United States. *Journal of Law and Economics*, v. 40, n. 1, p. 1–22, Apr. 1997.

LI, Xiao; YUEH, Linda. Does incorporation improve firm performance? *Oxford Bulletin of Economics and Statistics*, v. 73, n. 6, p. 753–770, Dec. 2011.

LILJEBLOM, Eva; MAURY, Benajmin; HÖRHAMMER, Alexander. Complex state ownership, competition, and firm performance: Russian evidence. *International Journal of Emerging Markets*, v. 15, n. 2, p. 189–221, Aug. 2019.

LINDLBAUER, Ivonne; WINTER, Vera; SCHREYÖGG, Jonas. Antecedents and consequences of corporatization: an empirical analysis of German public hospitals. *Journal of Public Administration Research & Theory*, v. 26, n. 2, p. 309–326, Apr. 2016.

MARCHESAN, Ricardo. Eletrobras, Casa da Moeda, aeroportos: 75 privatizações previstas para 2018. *Economía*, 13 Jan. 2018. Available at: <https://economia.uol.com.br/noticias/redacao/2018/01/13/pacote-privatizacoes-2018.htm>.

MARTÍN, Rubén. En medio de campañas, privatizan el agua. *Sinembargo*, 17 June 2018. Available at: <https://www.sinembargo.mx/17-06-2018/3429702>.

MEGGINSON, William. *The financial economics of privatizations*. Oxford: Oxford University Press, 2005.

MILHAUPT, Curtis; PARGENDLER, Mariana. Governance challenges of listed state-owned enterprises around the world: national experiences and a framework for reform. *Corporate Practice Commentator*, v. 50, n. 3, p. 473–542, Sept./Nov. 2018.

MINISTERIO DE ECONOMÍA Y FINANZAS DEL PERÚ. *Cuenta General de la República*. 2020. Available at: https://www.mef.gob.pe/es/?option=com_content&language=es-ES&Itemid=100808&view=articulo&catid=31&id=211&lang=es-ES. Access: 26 Oct. 2020.

MISAS, Gabriel. *Regímenes de Acumulación y modos de regulación Colombia 1910-2010*. Bogotá: Universidad Nacional de Colombia, 2019.

MOLANO, Walter. The logic of privatization: the case of telecommunications in the southern cone of Latin America. *Journal of International Business Studies*, v. 29, n. 1, p. 205–208. Jan./Mar. 1998.

MUSACCHIO, Aldo; PINEDA, Emilio; GARCÍA, Gustavo. *State-owned enterprise reform in Latin America, issues and possible solutions*. Inter-American Development Bank, 2015. (Discussion Paper, n. IDB-DP-401). Available at: <https://publications.iadb.org/en/state-owned-enterprise-reform-latin-america-issues-and-possible-solutions>.

OCAMPO, José. *El desarrollo económico de América Latina desde la independencia*. Bogotá: Fondo de Cultura Económica, 2013.

ORGANIZACIÓN PARA LA COOPERACIÓN Y EL DESARROLLO ECONÓMICO. *Directrices de la OCDE sobre el Gobierno Corporativo de las Empresas Públicas*. 2011. Available at: <https://www.oecd.org/daf/ca/corporategovernanceofstate-ownedenterprises/48632643.pdf>.

PENFOLD, Michael; ONETO, Andrés; RODRÍGUEZ, Guillermo. *La transparencia del gobierno corporativo en las empresas de propiedad del estado en América Latina*. 2015. (Serie Políticas Públicas y Transformación Productiva, 20). Available at: <http://scioteca.caf.com/handle/123456789/767>.

POLÍTICA ARGENTINA. *El Gobierno avanza hacia la privatización de dos centrales eléctricas*. 2018. Available at: <https://www.politicargentina.com/notas/201801/24451-el-gobierno-avanza-hacia-la-privatizacion-de-dos-centrales-electricas.html>.

POMBO, Carlos; RAMÍREZ, Manuel. Privatization in Colombia: a plant performance analysis. In: CHONG, Alberto; LÓPEZ-DE-SILANES, Florencio (ed.). *Privatization in Latin America: myths and reality*. Washington, D.C.: Stanford University Press, 2005. p. 275–348.

QI, Daqing; WU, Woody; ZHANG, Hua. Shareholding structure and corporate performance of partially privatized firms: evidence from listed Chinese companies. *Pacific-Basin Finance Journal*, v. 8, n. 5, p. 587–610, Oct. 2020.

RAKHMANN, Fuad. Can partially privatized SOEs outperform fully private firms? Evidence from Indonesia. *Research in International Business and Finance*, v. 45, p. 285–292, Oct. 2018.

RAMÍREZ, Eduardo. El proceso de privatización: antecedentes, implicaciones y resultados. *Contabilidad y Administración*, n. 222, p. 97–114, May/Aug. 2007.

RICHTER, Peter; EDELING, Thomas; REICHARD, Christoph. Kommunale betriebe in größeren städten. In: KILIAN, Werner; RICHTER, Peter; TROPP, Hendrick. *Ausgliederung und privatisierung in kommunen*. Berlin: Empirische Befunde zur Struktur kommunaler Aufgabenwahrnehmung, 2006. p. 56–84.

SAM, Choon. Globalizing partially privatized firms in Singapore: the role of government as a regulator and a shareholder. *Journal of Asian and African Studies*, v. 45, n. 3, p. 258–273, June 2010.

SHAN, Yuan; MCIVER, Ron. Corporate governance mechanisms and financial performance in china: Panel data evidence on listed non-financial companies. *Asia Pacific Business Review*, v. 17, n. 3, p. 301–324, July 2011.

SHAWTARI, Fekri; HAR SANI MOHAMAD, Mohamad; ABDUL RASHID, Hafiz; AYEDH, Abdullah. Board characteristics and real performance in Malaysian state-owned enterprises (SOEs). *International Journal of Productivity and Performance Management*, v. 66, n. 8, p. 1064–1086, Nov. 2017.

TEO, Stephen. Evidence of strategic HRM linkages in eleven Australian corporatized public sector organizations. *Public Personnel Management*, v. 29, n. 4, p. 557–574, Dec. 2000.

TIHANYI, Laszlo; AGUILERA, Ruth; HEUGENS, Pursey; VAN ESSEN, Marc; SAUERWALD, Steve; DURAN, Patricio; TURTUREA, Roxana. State ownership and political connections. *Journal of Management*, v. 45, n. 6, p. 2293–2321, July 2019.

TRIEBS, Thomas; POLLITT, Michael. Objectives and incentives: evidence from the privatization of Great Britain's power plants. *International Journal of Industrial Organization*, v. 65, p. 1–29, July 2019.

VALORACIÓN de ISA abre paso a plan de privatizaciones. *Portafolio*, 14 May 2019. Available at: <https://www.portafolio.co/economia/gobierno/valoracion-de-isa-abre-paso-a-plan-de-privatizaciones-529569>.

VITHESSONTHI, Chaiporn. Capital investment, internationalization, and firm performance: Evidence from Southeast Asian countries. *Research in International Business and Finance*, v. 38, p. 393–403, Sept. 2016.

VOORN, Bart; VAN GENUGTEN, Marieke; VAN THIEL, Sandra. The efficiency and effectiveness of municipally owned corporations: a systematic review. *Local Government Studies*, v. 43, n. 5, p. 820–841, Apr. 2017.

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