UNIVERSIDAD DE GRANADA

Departamento de Organización de Empresas II

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**Facultad de Ciencias Económicas y Empresariales**

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**TESIS DOCTORAL**

# RELACIONES ENTRE LA RESPONSABILIDAD SOCIAL CORPORATIVA, EL DESEMPEÑO FINANCIERO Y LOS PLANTEAMIENTOS INTERNACIONALES EN LAS EMPRESAS MULTILATINAS

Tesis doctoral presentada por:

**Eduardo Alexander Duque Grisales**

Codirigida por los profesores doctores:

**Javier Aguilera Caracuel**

**Jaime Guerrero Villegas**

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## PROGRAMA DE DOCTORADO:

*Programa Oficial de Doctorado en Ciencias Económicas y Empresariales*

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*"La mente es como un paracaídas... Solo funciona si la tenemos abierta"*

**Albert Einstein**

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# INTRODUCCIÓN

## 1.1 Introducción al tema objeto de estudio

### 1.1.1 Introducción

Durante las últimas dos décadas, ha surgido un grupo importante de empresas multinacionales en países catalogados como "emergentes" o "en vías de desarrollo", especialmente en Asia y América Latina, con presencia cada vez mayor en otros países. Algunos autores sostienen que la presencia de estas compañías fuera de sus países de origen se explica básicamente por su acceso privilegiado a recursos naturales escasos y/o acceso a mano de obra barata (Aharoni, 2010; Debrah et al., 2000; McCarthy et al., 2009). Otros, sin embargo, argumentan que estas empresas operan en entornos hostiles caracterizados por la presencia de instituciones débiles, sistemas judiciales y reguladores limitados y escaso control de la corrupción (Cuervo-Cazurra & Genc, 2008; Del Sol & Kogan, 2007). En este contexto, las empresas multinacionales de países emergentes han logrado desarrollar capacidades innovadoras, relativamente fáciles de transferir internacionalmente, que son claves a la hora de obtener "licencia para operar" en otros países (Casanova, 2009; Khanna et al., 2006; Khanna & Palepu, 2010; Uhlenbruck et al., 2003).

Dentro de las multinacionales de países emergentes, existe un grupo que ha aumentado su protagonismo significativamente, las denominadas "Multilatinas", es decir, empresas multinacionales cuyo origen se encuentra en países latinoamericanos. Las Multilatinas están adquiriendo un papel cada vez más relevante en los negocios globales, por lo que su estudio ha despertado el interés de los investigadores (Danso et

al., 2019; Duque-Grisales & Aguilera-Caracuel, 2019; Tsai & Liao, 2017). Algunas Multilatinas se han convertido en líderes mundiales de la industria en la que compiten (Cuervo-Cazurra, 2016) debido, en parte, a su liderazgo en costes y a sus actividades intensivas en conocimiento (Duque-Grisales & Aguilera-Caracuel, 2019). La creciente importancia de las Multilatinas se ha visto reflejada en los principales rankings internacionales. Según el Ranking Global 500 (2019) desarrollado por Fortune, existen 12 Multilatinas entre las 500 empresas más grandes a nivel mundial. Por su parte, el ranking The Wolrd's Biggest Public Companies (2019) publicado por Forbes, el cual realiza una clasificación de las 2000 empresas más grandes del mundo, muestra que 51 de las 2000 empresas más grandes del mundo son Multilatinas (20 de Brasil, 15 de México, 8 de Chile, 6 de Colombia, 2 de Perú).

Es notable el deseo de las Multilatinas por lograr una mayor internacionalización en búsqueda de legitimidad para operar en nuevos mercados, la adquisición de nuevos conocimientos y el reforzamiento de su posición competitiva (Hitt et al., 1997; Sapienza et al., 2006). Sin embargo, estas decisiones de internacionalización traen consigo fuertes presiones por parte de consumidores, inversores, empleados, poderes públicos, así como de organizaciones gubernamentales y no gubernamentales (ONGs) para el desarrollo de estrategias sociales (McWilliams & Siegel, 2001), prácticas medioambientales proactivas (Aragón-Correa & Sharma, 2003) y de otras actividades que involucran su gobierno corporativo (Foote et al., 2010).

Como respuesta a todo ello, las Multilatinas pueden lograr el éxito a través del desarrollo de una gestión medioambiental proactiva, la puesta en marcha de diversas

prácticas de Responsabilidad Social Corporativa (RSC) avanzadas y la implementación de buenas prácticas de gobierno corporativo, logrando así mantener relaciones sólidas con la sociedad y el medio ambiente (Foote et al., 2010). Las empresas pueden limitarse simplemente a cumplir con las exigencias mínimas marcadas por cada entorno en el que operan o, por el contrario, desarrollar políticas socialmente responsables, adoptar prácticas medioambientales proactivas en las distintas localizaciones donde actúan (Aragón-Correa & Sharma, 2003; Christmann, 2004; Christmann & Taylor, 2001; Darnall et al., 2008) e implementar innovaciones medioambientales que mejoren el entorno en el que operan (Cainelli et al., 2011; González-Benito & González-Benito, 2005; Lee & Min, 2015; Xie et al., 2019). En este último caso, pueden obtener beneficios muy positivos ligados a un aumento de su visibilidad y reputación (Aguilera-Caracuel & Guerrero-Villegas, 2018; Christmann, 2004), mejora de su imagen corporativa (Bansal & Hunter, 2003; Psomas et al., 2011), creación de valor (Chan et al., 1990; Darrough & Ye, 2007; Hall et al., 2007) y un incremento de su legitimidad internacional (Bansal, 2005; Kostova et al., 2008; Kostova & Zaheer, 1999).

Por tanto, esta investigación se justifica por el interés científico que busca una mayor comprensión en torno a las relaciones entre las estrategias medioambientales, de RSC y de gobierno corporativo y los planteamientos financieros e internacionales de empresas multinacionales ubicadas en países de América Latina (Multilatinas). Concretamente, y en relación a las empresas Multilatinas, nos planteamos los siguientes interrogantes:

- *¿En qué medida afectan las prácticas de RSC de las Multilatinas a sus niveles de desempeño financiero?*

- *¿Influye el nivel de diversificación internacional geográfica en la adopción de prácticas de RSC que mejoren el desempeño financiero de las Multilatinas?*

- *¿Influye la existencia de recursos financieros ociosos en la adopción de prácticas de RSC que mejoren el desempeño financiero de las Multilatinas?*

- *¿En qué medida afectan las estrategias medioambientales proactivas a la diversificación internacional geográfica de las Multilatinas?*

- *¿Influye la independencia del consejo de administración en la adopción de estrategias medioambientales proactivas que afecten a la diversificación internacional de las Multilatinas?*

- *¿En qué medida afectan las innovaciones medioambientales de las Multilatinas a sus niveles de desempeño financiero?*

- *¿Influyen las normas de certificación de calidad medioambiental en la adopción de innovaciones medioambientales que mejoren el desempeño financiero de las Multilatinas?*

- *¿Influyen los niveles de inversión en I+D+i en la adopción de innovaciones medioambientales que mejoren el desempeño financiero de las Multilatinas?*

Teniendo en cuenta todas las preguntas planteadas, en la presente tesis doctoral pretendemos dar respuesta a las mismas valiéndonos para ello de tres artículos de investigación.

### 1.1.2 Delimitación del tema objeto de estudio

Con el desarrollo de este trabajo pretendemos analizar el efecto de las prácticas de RSC tanto en el desempeño financiero como en el proceso de internacionalización de las Multilatinas. Para proceder con este cometido debemos delimitar previamente una serie de conceptos básicos.

En primer lugar, resaltamos la importancia que ha adquirido la RSC en el ámbito académico y de gestión empresarial en los últimos años (Arora & Dharwadkar, 2011; Bnouni, 2011; Muller & Kolk, 2009; Park & Ghauri, 2015). Los factores medioambientales, sociales y de gobierno corporativo (ESG) se han convertido en pilares esenciales para el desarrollo de estrategias sostenibles que afectan al desempeño financiero de las empresas multinacionales (Eccles & Serafeim, 2013). Las empresas más comprometidas con la problemática social y medioambiental se caracterizan por llevar a cabo políticas, programas y prácticas que tienen un efecto muy positivo en el bienestar de los diferentes grupos de interés (*stakeholders*) (Perrini et al., 2011). Como resultado de todo ello, las organizaciones tienden a formular e implantar una serie de estrategias que permitan afianzar las relaciones con dichos grupos de interés.

En cuanto a las organizaciones que desarrollan estrategias en materia ESG analizamos las empresas multinacionales de países emergentes, en particular, las

Multilatinas. Según la Comisión Económica para América Latina (CEPAL), el éxito de las Multilatinas en las últimas décadas se debe a las reformas económicas realizadas en los países de la región, la saturación de los mercados locales, la necesidad de diversificar los riesgos y especialmente la facilidad con que las empresas latinoamericanas se han expandido a los mercados locales e internacionales (CEPAL, 2015). La internacionalización de las Multilatinas ha sido una estrategia ineludible para mejorar la posición competitiva de las empresas, adquiriendo conocimiento tecnológico, productivo y comercial a través de fusiones y adquisiciones, generando la capacidad de conectarse más estrechamente con los consumidores y creando redes valiosas de innovación (Aguilera et al., 2017). Todo ello, les ha permitido no sólo acceder a nuevos mercados, sino también alcanzar mayores niveles de legitimidad (Eccles et al., 2014).

En el informe titulado "*Por qué las Multilatinas pueden ser la clave para el futuro económico de Latinoamérica*", The Boston Consulting Group (2018) resalta que las Multilatinas destacan por haber tenido un crecimiento medio anual del 5.2% en la última década, superando los mil millones de dólares de ingresos anuales, cifra muy superior que el promedio de la región, con una tasa del 1.8% para todas las empresas latinoamericanas (Aguiar et al., 2018). Las Multilatinas tienden a ser superiores a la mayoría de las empresas locales de la región. A pesar de que ambas están ubicadas en el mismo entorno institucional, las empresas locales tienen significativamente mayores dificultades regulatorias y fiscales, existiendo además instituciones con escaso compromiso e infraestructura en materia de RSC. Como consecuencia de ello, las Multilatinas en muchas industrias generan significativamente mayores ganancias de sus activos que sus competidoras que actúan únicamente a nivel local. Desde el año 2000

hasta el 2017, a pesar de los períodos de volatilidad, el rendimiento total promedio para los accionistas aumentó un 685% (Aguiar et al., 2018).

Asimismo, es importante enfatizar que las Multilatinas son significativamente diferentes de las multinacionales de países desarrollados en términos de sus prácticas sociales, culturales y de gestión (Griesse, 2007). De hecho, el contexto de las Multilatinas está muy condicionado por las particularidades institucionales y culturales de los países de origen (Cuervo-Cazurra, 2008; Marano et al., 2017), caracterizados generalmente por la debilidad de los sistemas de gobierno corporativo (Cuervo-Cazurra & Ramamurti, 2014), climas comerciales poco favorables, altos niveles de riesgo político (Henisz, 2000), regulaciones restrictivas y escaso control de la corrupción (Cuervo-Cazurra, 2016).

En esta investigación nos centraremos en la identificación de las prácticas en materia de RSC, haciendo especial énfasis en las prácticas medioambientales proactivas llevadas a cabo por las Multilatinas, y en el impacto en su desempeño financiero y en su proyección internacional. Además de todo ello, tendremos en cuenta otros factores que pueden fortalecer o debilitar las relaciones planteadas, como la existencia de recursos financieros ociosos (Aguilera-Caracuel et al., 2015; Allouche & Laroche, 2005; Surroca et al., 2010), la diversificación internacional geográfica (Aguilera-Caracuel et al., 2015; Hitt et al., 1997), la presencia de consejeros independientes (Barroso et al., 2011), la inversión en I+D+i (Ketata et al., 2015; Lee & Min, 2015; Parthasarthy & Hammond, 2002) y la existencia de normas de certificación medioambientales reconocidas

internacionalmente (Arnold & Hockerts, 2011; Demirel & Kesidou, 2011; Horbach et al., 2012).

En resumen, en esta tesis doctoral analizamos hasta qué punto la adopción de prácticas de RSC por parte de las organizaciones objeto de estudio (empresas Multilatinas) puede venir motivada por la creación de valor o por su mayor presencia en mercados internacionales.

### 1.1.3 Interés de la investigación

El presente trabajo presenta una compilación de tres artículos de investigación que versan sobre cómo las empresas Multilatinas adoptan prácticas de RSC y su efecto en los procesos de internacionalización y creación valor.

En el primer artículo examinamos si el desempeño financiero de las Multilatinas está asociado con un mejor desempeño en las dimensiones ESG. La literatura que relaciona el efecto de los factores ESG con el desempeño financiero presta atención a las multinacionales de países desarrollados (Brammer et al., 2006; Friede et al., 2015; Lee et al., 2016; McWilliams & Siegel, 2001; Ortas et al., 2015; Surroca et al., 2010), mientras que el impacto de esta relación en las multinacionales de mercados emergentes como América Latina (Multilatinas) ha sido escasamente estudiada (Bondy et al., 2012; Doh & Guay, 2006; Lourenço et al., 2012; Muller & Kolk, 2009; Orsato et al., 2015). Aunque la evidencia empírica reportada por estos estudios es bastante amplia y destaca la relevancia del valor de las actividades ESG, esta información no puede generalizarse a los mercados emergentes. Partiendo de esta base, nos vamos a centrar en analizar la

influencia de los niveles de desempeño global e individual de los factores ESG en el desempeño financiero de las Multilatinas.

Asimismo, también se tendrán en cuenta otros factores que pueden condicionar esta relación. En primer lugar, analizamos el efecto moderador del exceso de recursos financieros (*financial slack resources*). La literatura sostiene que dicha capacidad permite a las empresas invertir en mayor medida en prácticas ESG avanzadas y eficientes (Aguilera-Caracuel et al., 2015; Allouche & Laroche, 2005; Surroca et al., 2010; Waddock & Graves, 1997). En este sentido, analizamos hasta qué punto la existencia de una alta capacidad para generar recursos por parte de dichas empresas puede contribuir a que se produzca una inversión efectiva para desarrollar iniciativas ESG superiores que puedan mejorar los beneficios derivados de la visibilidad y reputación de las multilatinas, repercutiendo positivamente a su vez en su nivel de desempeño financiero. En segundo lugar, analizamos si el hecho de tener una mayor presencia internacional (*diversificación internacional geográfica*) puede conducir a desarrollar actividades y prácticas de gestión avanzadas en las dimensiones ESG que redunden en una mejora de su nivel de desempeño financiero. De hecho, una mayor presencia en mercados internacionales conlleva mayor presión sobre las Multilatinas para mantener la legitimidad en los diferentes mercados en los que operan (Kostova & Zaheer, 1999), siendo la gestión de los aspectos vinculados al ESG de vital importancia.

En el segundo trabajo de investigación nos planteamos cómo el hecho de adoptar estrategias medioambientales proactivas puede conducir a las Multilatinas a tener una mayor proyección internacional. Estudios previos han analizado la influencia de la

internacionalización en la gestión medioambiental, examinando aspectos tales como las regulaciones medioambientales (Christmann, 2004), la experiencia internacional y la diversificación internacional (Aguilera-Caracuel et al., 2012; Bansal, 2005), pero se ha prestado escasa atención a las estrategias medioambientales en las multinacionales de mercados emergentes (Danso et al., 2019; Duque-Grisales & Aguilera-Caracuel, 2019; Gallego-Alvarez et al., 2010; Tsai & Liao, 2017). Este análisis nos permitirá explorar otro tipo de condicionantes de la expansión internacional en el contexto de las Multilatinas, que, con el objetivo de penetrar en nuevos mercados, obtener mayores fuentes de ingresos, reforzar su imagen y prestigio nacional e internacional, y hacer frente a las distintas políticas gubernamentales y presiones institucionales, pueden desarrollar una gestión medioambiental avanzada y proactiva que les proporcione legitimidad corporativa y la construcción de una sólida reputación (López-Gamero et al., 2009; Molina-Azorín et al., 2009). Asimismo, nos planteamos explorar cómo el gobierno corporativo fomenta la gestión medioambiental (Berrone & Gomez-Mejia, 2009; Ortiz-de-Mandojana et al., 2016). Concretamente, analizamos como la presencia de consejeros independientes, a través de sus conocimientos y experiencia, pueden llevar a las Multilatinas a implementar prácticas medioambientales avanzadas que redunden en un mayor grado de internacionalización.

Finalmente, el tercer trabajo de investigación se centra en identificar cómo las innovaciones medioambientales llevadas a cabo por las Multilatinas les permiten obtener un mejor desempeño financiero. El hecho de tomar la decisión de adoptar innovaciones medioambientales tiene importantes beneficios para las organizaciones, tales como una mejora de su legitimidad y reputación nacional e internacional y un fortalecimiento de

su posición competitiva vía costes y diferenciación de producto y proceso (Berrone et al., 2013; Bossle et al., 2016; Brunnermeier & Cohen, 2003; Horbach, 2008). En ocasiones, las organizaciones están únicamente interesadas en cumplir con las leyes nacionales e internacionales (Cuerva et al., 2014; Dangelico & Pujari, 2010), viéndose forzadas a respetar unos mínimos de exigencia en cuanto a las relaciones laborales (Antonioli & Mazzanti, 2017), o a responder a presiones de diferentes partes interesadas (Guoyou et al., 2013; Kassinis & Vafeas, 2006; Sarkis et al., 2010). Sin embargo, en otras ocasiones, las empresas optan de manera voluntaria por ir más allá, en búsqueda de nuevas oportunidades empresariales (Calza et al., 2017). De esta forma, podemos estudiar si las Multilatinas adaptan sus prácticas medioambientales (innovaciones medioambientales en concreto) en función de las exigencias legales e institucionales de cada país (Aguilera-Caracuel et al., 2012) o si, por el contrario, buscan la innovación medioambiental como una verdadera fuente de ventaja competitiva que redunde en una mejora de su desempeño financiero. Junto a ello, analizamos dos factores claves en la literatura sobre gestión medioambiental e internacionalización que pueden condicionar el efecto de la generación de innovaciones medioambientales en el nivel de desempeño financiero de las Multilatinas: las normas de certificación medioambiental internacionales y la inversión en I+D+i. De esta manera, respondemos al dilema sobre si es más conveniente para las Multilatinas dedicar esfuerzos para obtener legitimidad a través de estándares de certificación internacionales en respuesta a presiones institucionales nacionales e internacionales o, si por el contrario, es más conveniente aumentar los niveles de inversión en I+D+i para crear una infraestructura sólida que permita una mejora continua y una cultura organizacional propicia, que conduzca a la

maximización de su rentabilidad gracias a una mejora sustancial en su grado de innovación medioambiental.

En cuanto a la metodología utilizada en la presente tesis doctoral cabe resaltar lo siguiente:

1. El proceso se inició con una revisión de literatura que permitió no solo enmarcar el estado de la cuestión en las áreas de interés, sino también identificar con detalle los últimos trabajos de investigación realizados sobre RSC, gestión medioambiental e internacionalización, prestando una especial atención a las relaciones abordadas en la tesis doctoral. En primer lugar, se utilizaron bases de datos de publicaciones electrónicas que contienen revistas a texto completo y entre las que destacan Science Direct, Scopus, ProQuest ABI/IMFORM, Business Source Premier y Emerald. La búsqueda bibliográfica se centró especialmente en las revistas de alto impacto según Journal Citation Reports - ISI Web of Knowledge (ISI/JCR), lo que garantizaba la relevancia de la información obtenida, un análisis adecuado del estado de la cuestión en los diversos ámbitos de interés de la tesis y la elección de los instrumentos de medida más oportunos. También, se realizó una revisión de algunas revistas no incluidas en ISI/JCR, considerando trabajos especializados de interés muy específico para la temática abordada en la presente tesis doctoral.

2. Además, se construyó una base de datos longitudinal con información financiera, medioambiental, social y de gobierno corporativo de empresas multinacionales de América Latina -en concreto, Brasil, México, Colombia, Chile y Perú- de los sectores

minero y extracción de gas y petróleo, químico, energético, manufactura, telecomunicaciones, transporte, banca y seguros, servicios públicos y construcción. En primer lugar, usamos la base de datos Thomson Reuters' ASSET4 ESG de Eikon. Estudios recientes hacen uso de esta base de datos (e.j. Cheng et al., 2014). Schäfer et al., (2006) sostienen que esta base de datos suministra información transparente, objetiva, auditable y comparable entre sí. Incluye más de 250 indicadores de desempeño agrupados en 18 categorías a lo largo de cuatro dimensiones: desempeño financiero, social, medioambiental y de gobierno corporativo. Concretamente, hacemos uso tanto de la información global como de la desagregada de dichas dimensiones. Thomson Reuters' ASSET4 ESG también nos ha permitido extraer información relativa a la internacionalización de nuestra muestra de empresas (diversificación internacional geográfica), tamaño, inversión en I+D+i (capacidad de innovación) y si tienen implantados sistemas de certificación medioambientales. En segundo lugar, hacemos uso de la base de datos Sustainalytics Company ESG Reports. Dicha base de datos nos facilita un ranking e indicadores medioambientales (E), sociales (S) y de gobierno corporativo (G) muy útiles para inversores e investigadores, indicando la formulación e implementación de estrategias en estos ámbitos. Finalmente, y dado el carácter transnacional de esta tesis, se incorpora información a nivel país de las siguientes bases de datos públicas: Banco Mundial, Foro Económico Mundial, Consejo Económico Mundial, MSCI Emerging Markets Index, Environmental Performance Index y Environmental Sustainability Index. Concretamente, incorporamos información relativa al perfil institucional de los países donde operan las Multilatinas.

3. En relación con la técnica estadística empleada para contrastar las hipótesis de investigación planteadas, cabe resaltar que en los tres artículos se utilizaron datos de panel. El uso de panel de datos tiene la ventaja de tener en cuenta tanto las variaciones de corte transversal como las diferencias a lo largo del tiempo. Se estimaron modelos de efectos fijos y aleatorios para la validación de las hipótesis. El modelo de efectos fijos implica estimar un parámetro para cada unidad transversal, en este caso las empresas. El modelo de efectos aleatorios asume que los términos específicos de la empresa se distribuyen aleatoriamente. Se valida la consistencia del estimador de efectos aleatorios a partir de la prueba estándar de Hausman. Un valor significativo para la estadística de prueba de Hausman implica que los estimadores de efectos fijos son inconsistentes y que las estimaciones de efectos aleatorios son más apropiadas (Baltagi, 2005). Las regresiones en este estudio se basan en la técnica de estimación de mínimos cuadrados ordinarios (OLS). Las hipótesis se contrastan utilizando un análisis de regresión lineal múltiple con efectos moderadores (Cohen et al., 2013), usando los softwares STATA y R Project for Statistical Computing.

4. Para la construcción de la variable “Estrategias Medioambientales Proactivas” en el segundo artículo y la variable “innovaciones medioambientales” en el tercer artículo, se realizó un análisis factorial exploratorio usando el método de rotación Varimax con normalización Kaiser por medio del software SPSS versión 24.0. Adicionalmente, se tuvieron en cuenta los parámetros KMO y el alfa de Cronbach para analizar la fiabilidad de los resultados (Fornell & Larcker, 1981).

## 1.2 Objetivos de la investigación

El principal objetivo de esta tesis doctoral consiste en el estudio de los vínculos existentes entre las actividades de RSC, el desempeño financiero y la proyección internacional de las Multilatinas. Para cubrir dicho objetivo, se analizan diversos factores que ayudan a comprender y explicar la existencia de tales vínculos. Los artículos presentados en esta tesis doctoral están enmarcados en esta temática y, aunque están claramente interconectados, conservan su propia contribución individual. A continuación, enumeramos los objetivos generales a alcanzar con esta tesis:

1. Aportar luz al dilema existente en cuanto a la relación entre desempeño financiero y desempeños en las prácticas de gestión medioambiental, social y de gobierno corporativo en el contexto de empresas multinacionales de países emergentes con sede matriz ubicada en países Latinoamericanos (Multilatinas).

2. Detectar los principales factores que pueden condicionar tales relaciones: prácticas de buen gobierno corporativo, procesos de internacionalización de la empresa (diversificación internacional geográfica), propensión innovadora de la empresa, presencia de recursos financieros ociosos y de sistemas de certificación medioambientales.

3. Identificar los factores constitutivos de las estrategias medioambientales proactivas que pueden adoptar las empresas Multilatinas, con base en los recursos y capacidades que posee la propia empresa con el fin de lograr una mayor internacionalización.

Por todo ello, esta tesis doctoral nos ha permitido el desarrollo de habilidades investigadoras tanto desde un punto de vista teórico como metodológico.

## 1.3 Estructura del trabajo de investigación

El presente trabajo de investigación está formado por un total de cinco capítulos. Además de este capítulo de introducción, se presentan tres capítulos, cada uno de ellos con un artículo de investigación específico y un último capítulo de conclusión. A continuación, realizamos una breve descripción de los contenidos de cada uno de los capítulos.

El capítulo dos de esta tesis doctoral recoge el artículo de investigación titulado "*Environmental, Social and Governance (ESG) scores and Financial Performance of Multilatinas: Moderating Effects of Geographic International Diversification and Financial Slack"*. Este primer estudio se centra en analizar cómo las iniciativas en materia medioambiental, social y de gobierno corporativo están condicionadas por el perfil institucional de los países de origen de las Multilatinas, siendo diferentes a las iniciativas de las empresas multinacionales de países desarrollados. Dado que las Multilatinas son diferentes en términos de sus prácticas sociales, culturales y de gestión, el desarrollo de este tipo de iniciativas ESG deben ser desarrolladas sistemáticamente, requiriendo mayor inversión y compromiso. Además, debido a que el nivel de desempeño ESG se basa en el desempeño de una empresa en los subfactores medioambientales (E), sociales (S) y de gobierno (G) en igual proporción, es posible que una empresa participe en actividades individuales E, S y G en diferentes niveles (Humphrey et al., 2012). Algunas compañías pueden desarrollar iniciativas en una de

estas tres dimensiones que contribuyen a la generación de valor, mientras que otras pueden disminuir el valor financiero. De esta forma, nuestro modelo teórico permite definir una serie de implicaciones en cuanto a la RSC de las Multilatinas. Dicho modelo refleja las relaciones básicas planteadas: influencia existente entre las prácticas de gestión medioambiental, social y de gobierno y el desempeño financiero de empresas multinacionales con sede en países latinoamericanos. Dichas relaciones están incluidas en un modelo de manera conjunta para ver el impacto global de cada una de las mismas. No obstante, dada la naturaleza heterogénea de cada dimensión ESG, se plantea también el efecto individualizado de cada una sobre el desempeño financiero, teniendo en cuenta para ello las principales variables que integran cada constructo medioambiental, social y de gobierno corporativo. De esta manera, se puede observar de manera pormenorizada el efecto de cada dimensión en relación al desempeño financiero. Finamente, en el modelo también se incorporan como factores internos la capacidad de generar recursos financieros (*financial slack resources*) y la diversificación internacional geográfica de las Multilatinas a la hora de reforzar/debilitar las relaciones planteadas. En definitiva, intentamos dar respuesta a los motivos que impulsan a las empresas Multilatinas a alcanzar desempeños superiores en las dimensiones ESG en pro de obtener un mejor desempeño financiero en los distintos países donde tienen presencia.

El capítulo 3 presenta el artículo de investigación titulado "*Can proactive environmental strategy improve Multilatinas' level of internationalization? The moderating role of board independence"*. Dicho trabajo se centra en la relación existente entre la gestión medioambiental y la internacionalización de empresas multinacionales de países emergentes, específicamente Multilatinas. Analizamos hasta qué punto las

Multilatinas que adoptan estrategias medioambientales proactivas experimentan un mayor grado de internacionalización. Encontramos evidencia teórica y empírica sólida para afirmar que la adopción de prácticas medioambientales en Multilatinas debe centrarse en cuatro dimensiones estratégicas de vital importancia: *iniciativas medioambientales, acciones medioambientales, innovaciones medioambientales y control de emisiones*. Por otra parte, consideramos la presencia de consejeros independientes en los consejos de administración de las Multilatinas como un factor relevante y esencial que influye en la toma de decisiones (Barroso et al., 2011; Kassinis & Vafeas, 2002), analizando concretamente el posible efecto moderador que puede ejercer en la relación existente entre proactividad medioambiental e internacionalización. De hecho, nuestros resultados muestran que la presencia de consejeros independientes, con sus conocimientos específicos y experiencia, tiene un papel esencial en el impulso de estrategias medioambientales proactivas, lo que permite lograr niveles aún mayores de internacionalización.

El capítulo 4 presenta el artículo de investigación titulado "*Examining green innovation´s effects on financial performance: The moderating role of ISO 14001 and R&D investments on Multilatinas*". Este trabajo parte de la necesidad de identificar el efecto específico de la adopción de innovaciones medioambientales en el desempeño financiero de las Multilatinas. Tradicionalmente la literatura ha prestado especial atención a la relación planteada en el contexto de multinacionales de países desarrollados, con resultados inconclusos (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; Kawai et al., 2018; Lee & Min, 2015; Przychodzen & Przychodzen, 2015; Tariq et al., 2019) y con escasa evidencia en el contexto de América Latina. Por otra parte, es

preciso tener en cuenta que las Multilatinas están muy condicionadas por el perfil institucional del país de origen (Cuervo-Cazurra, 2008) y no están lo suficientemente presionadas por la regulación medioambiental (Gammeltoft et al., 2010; Khanna & Palepu, 2010), al contrario de lo que ocurre en las multinacionales de países desarrollados. Este hecho hace que los directivos de las Multilatinas no vean la necesidad de adoptar innovaciones medioambientales frecuentemente y, de hacerlo, sean innovaciones medioambientales muy superficiales y poco sustanciales.

Una vez diseñado el marco de investigación, desarrollamos un trabajo de carácter empírico que permita arrojar luz acerca de dos factores clave que pueden explicar el efecto de la adopción de innovaciones medioambientales en el desempeño financiero de las Multilatinas. Concretamente, nuestros resultados contribuirán a dar respuesta al debate sobre si es más importante y conveniente para Multilatinas dedicar esfuerzos para buscar legitimidad a través de estándares de certificación medioambiental internacionales (ISO 14001 concretamente) en respuesta a presiones institucionales o, por el contrario, si es preferible que los gerentes de las Multilatinas muestren su compromiso con la innovación a través de mayores inversiones en I+D+i para mejorar sus procesos productivos y organizacionales.

Finalmente, en el capítulo 5, se presentan las conclusiones, identificando tanto las contribuciones que aporta a la literatura cada uno de los artículos presentados como la tesis en su conjunto. Hacemos también referencia a las implicaciones académicas, de gestión y para los reguladores públicos. Por último, destacamos las limitaciones

encontradas a lo largo del desarrollo del trabajo y mencionamos algunas líneas de investigación futuras que consideramos de interés.

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# CAPÍTULO 2

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) SCORES AND FINANCIAL PERFORMANCE OF MULTILATINAS: MODERATING EFFECTS OF GEOGRAPHIC INTERNATIONAL DIVERSIFICATION AND FINANCIAL SLACK

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) SCORES AND FINANCIAL PERFORMANCE OF MULTILATINAS: MODERATING EFFECTS OF GEOGRAPHIC INTERNATIONAL DIVERSIFICATION AND FINANCIAL SLACK

## Abstract

This study examines whether a firm's financial performance is associated with superior environmental, social and governance (ESG) scores in emerging markets of multinationals in Latin America. The study addresses the current research gap on this issue; it develops hypotheses and tests them by applying linear regressions with a data panel drawn from the Thomson Reuters Eikon™ database to analyse data on 104 multinationals from Brazil, Chile, Colombia, Mexico and Peru between 2011 and 2015. The results suggest that the relationship between the ESG score and financial performance is significantly statistically negative. Furthermore, in examining environmental, social and governance separately, to accurately determine each variable's relationship to multilatinas' financial performance, the results reveal a negative relationship. Finally, the empirical analysis offers evidence for a moderating effect of financial slack and geographic international diversification on the relationship between ESG dimensions and firms' financial performance. This study furthers the understanding of the relationship between ESG dimensions and financial performance for the Latin American business context.

Keywords: Environmental, social and governance dimensions; ESG performance; ESG score; financial performance; geographic international diversification; financial slack; emerging market multinationals; Multilatinas

## 2.1 Introduction

Corporate social responsibility (CSR) has acquired great relevance in the realms of academia and business management in recent years (Barrena et al. 2016; Madorran and García 2016). Organizations have been increasingly subjected to tremendous pressure to maximize productivity and profitability (Javalgi et al. 2009) while experiencing constant demand from consumers, suppliers, employees, investors, non-governmental organizations and public powers to invest in the development and implementation of CSR practices (Kolk and van Tulder 2010). Firms are thus concerned not only with economic issues but also with the social and environmental impacts of their activities (Maas and Reniers 2014). Consequently, a firm can achieve success through the implementation of good corporate governance practices and by maintaining strong relationships with society and the environment (Foote et al. 2010).

Environmental, social and governance (ESG) has emerged as an important pillar of CSR for the development of sustainable strategies that affect the financial performance (FP) of multinational firms (Eccles & Serafeim 2013). In fact, the relationship between ESG performance and FP has been widely studied (Brammer et al. 2006; Friede et al. 2015; Lee et al. 2016; Lo & Sheu 2007; McWilliams and Siegel 2000; Nollet et al. 2016; Ortas et al. 2015; Surroca et al. 2010; Van Beurden and Gössling 2008; Waddock & Graves 1997) and has produced controversial results. While some studies find that

investing in ESG activities improves FP (Cahan et al. 2015; Eccles et al. 2014; Fatemi et al. 2015; Filbeck et al. 2009; Lo and Sheu 2007; Rodriguez-Fernandez 2016; Wang and Sarkis 2017), certain researchers have found negative effects (Branco & Rodrigues 2008, Brammer et.al. 2006; Lee et al. 2009). For instance, Lee et al. (2009) found that ESG investment worsens FP and argue that this could indicate a lower cost of equity capital for firms with high ESG scores. A third group of authors concluded that there is, in fact, no relation between the ESG score and FP (Galema et al. 2008; Statman 2006; Horváthová 2010; Orlitzky et al. 2003).

All of these studies have been performed on multinationals of developed markets (DMNs) while the impact of this relationship on emerging market multinationals of Latin America (multilatinas) remains far from clear (Bondy et al. 2012; Doh and Guay 2006; Lourenço and Branco 2013; Muller & Kolk 2009; Orsato et al. 2015). Although the empirical evidence reported by these studies is quite broad and highlights the relevance of the value of ESG activities, this information cannot be generalized to emerging markets. It is important to emphasize that multilatinas are significantly and systematically different from DMNs in terms of their social, cultural and managerial practices (Griesse 2007); this is the case because enterprises from emerging economies must deal with weak or dysfunctional institutions (Aulakh et al. 2000; Contractor et al. 2007; Khanna and Palepu 2010; Peng et al. 2008), limited state control (Gammeltoft et al. 2010), less favourable business climates, a lack of corporate governance (Benites and Polo 2013; Peinado-Vara 2006), higher levels of uncertainty, specifically higher corruption levels (Beets 2005; Cuervo-Cazurra 2016) and greater political risks (Henisz 2000). In sum, Latin America serves as an interesting and rather unique context for

testing old theories and for generating new insights about CSR and specifically for identifying the effect that ESG practices have on the performance of multinationals. For this reason, this study analyses the relation between the FP of multilatinas listed as emerging markets (Brazil, Chile, Colombia Mexico and Peru) and their ESG scores. Our research hypotheses were confirmed from a sample of 104 multilatinas from 8 economic sectors during the 2011 – 2015 period. The results show that the relationship between ESG score and FP is negative for multilatinas.

Since the ESG score is based on a company's performance on the environmental (E), social (S) and governance (G) sub factors in the same proportion, it is possible for a company to participate in individual E, S and G activities at different levels (Humphrey et al. 2012). Some companies can develop initiatives in one of these three dimensions that contribute to the generation of value while others can decrease financial value. For example, a multilatina can manage social practices and relationships with stakeholders but may not be environmentally conscious or may employ weak governance practices. As such, a more detailed analysis of the sub factors can be advantageous in better understanding the impact of ESG activities on multilatinas' FP. In this sense, this paper also examines E, S and G separately to accurately determine each one's relation to FP in Latin America.

In addition, this paper proposes that these relations are moderated by multilatinas' geographic international diversification (GID) and by their capacities to generate financial slack (FS) resources. According to institutional theory, multilatinas' capabilities to operate in different institutional contexts can enable them to acquire

valuable knowledge (Doh et al. 2010) and to access substantial growth opportunities in the product markets of foreign countries (Hitt et al. 2006), leading them to develop advanced approaches to ESG, resulting in improved FP. On the other hand, the availability of financial slack resources in these organizations can contribute to their considering ESG dimensions a priority and as a source of competitive advantage (Hart 1995), resulting in enhanced FP. According to the resource-based view (RBV), firms with access to idle resources and with organizational-level capabilities (Barney 1991; Rugman and Verbeke 2002) develop efficient ESG initiatives. In this way, determining the existence of any of these moderations should be important for multilatinas in the development of their strategies, since they will seek the implementation of advanced ESG practices in the different markets where they operate to achieve a better reputation, legitimacy and approval from stakeholders.

This paper makes several key contributions. First, previous studies have mainly focused on the effect of ESG on the corporate financial performance of DMNs. In most cases, samples have included companies listed in a North American stock exchange (Friede et al. 2015). In contrast, this study focuses on emerging market multinationals (EMNs) and specifically on multilatinas. Although it is true that multinational firms founded in emerging economies have been studied in very recent literature (Cuervo-Cazurra 2016; Cuervo-Cazurra et al. 2018; Meyer and Estrin 2014; Marano et al. 2017; Orsato et al. 2015), few empirical studies have been performed on ESG dimensions in the EMNs. Second, this study represents an important advance in the International Business Literature on multinational firms, as it applies both resource-based views and institutional theory to analyse the influence of ESG scores and individualized effects of

each sub-factor (E-S-G) on multilatinas' FP results, contributing coherence to the study of multinational firms (Aguilera-Caracuel et al. 2012) and especially of multilatinas. The paper not only illustrates the effect of ESG scores on FP as a whole but also analyses how the three components (E, S and G) contribute to the aforementioned relationship. Finally, little attention has been paid to analysing the moderating effects of geographic international diversification and financial slack in the relation between ESG and FP (and even less for Latin American multinationals). This paper makes a unique contribution to the literature by analysing the moderating effects of GID and FS as key explanatory factors shaping the relations mentioned.

This article is organized as follows. It first discusses the theoretical framework and the two theories used to develop the hypotheses. Next, it describes the sample, data, and methodology used. Finally, it reports the results and offers a discussion of the main findings and concluding remarks.

## 2.2 Theoretical background

### 2.2.1 Importance of emerging markets multinationals

Over the last two decades, an important group of multinationals has emerged from developing countries, especially from Asia and Latin America. Some authors argue that the presence of such companies outside of their countries of origin is explained only by their privileged access to scarce natural resources and/or access to cheap labour (Debrah et al. 2000; Fleury et al. 2010). Others state that such EMNs operate in hostile environments due to the presence of weak institutions, judicial systems, limiting

regulations and feeble control of corruption (Cuervo-Cazurra and Genc 2008; Del Sol and Kogan 2007). As a result, EMNs have achieved innovative capabilities that are relevant to other countries and relatively easy to transfer internationally (Khanna and Palepu 2006).

An important characteristic that differentiates EMNs from DMNs lies in the presence of poor institutional conditions in home countries (Marano et al. 2017), especially with regard to weak corporate governance (Cuervo-Cazurra and Ramamurti 2014), higher levels of political risk (Henisz 2000) and corruption (Cuervo-Cazurra 2016). Hence, Cuervo-Cazurra et al. (2018) argue that EMNs employ better internationalization processes when they develop the capacity to manage uncertainties of political risk and corruption; these processes allow them to face political systems and conditions that differ markedly from those of their home countries and, in turn, allows them to adapt more easily to foreign markets with respect to compliance with rules and regulations. Other scholars such as Narula (2012) argue that EMNs behave similarly to other multinationals yet experience different sets of country- and firm-specific advantages.

Another striking difference lies in degrees of transnationality (that is, the volume of multinationals' foreign activities relative to all activities both domestic and foreign). First, EMNs are less transnational in terms of assets, sales and employment levels than DMNs. This is the case because although EMNs have expanded their foreign sales rapidly, the core basis of their production has remained in their home countries (UNCTAD 2014). Another explanatory factor concerns ownership. EMN ownership

structures often differ from those of DMNs, as the former are often owned by the state or by families, entities whose goals may extend beyond those related to business. The existence of other objectives (simply due to the participation of other owners) may explain the difference observed in EMN internationalization patterns (Cuervo-Cazurra 2012).

On the other hand, EMNs experience more risk in pursuing stronger ESG performance than that of DMNs due to issues of political uncertainty, corruption, working conditions and climate change faced in emerging countries (Clark et al. 2015). Additionally, limited corporate transparency in corporate cultures and business regulations lead perceived ESG risks to be more pronounced in emerging countries than in developed countries. In turn, EMNs must develop specific skills related to environmental, social and corporate governance dimensions that enable them to operate in more demanding institutional contexts (for example, in other geographic contexts). In sum, it is necessary to better understand these dimensions of the Latin American context to develop a stronger understanding of how EMNs differ from DMNs.

### 2.2.2 Multilatinas

One subgroup of EMNs that have developed a leading role is multilatinas or multinational firms originating from Latin American countries. Multilatinas have existed for many decades, but their visibility has grown considerably since the 1990s and even more in the new millennium (Aguilera et al. 2017). For example, 62 multilatinas appeared in the 2016 Forbes ranking of Global 2000 Leading Companies (Forbes 2016). From 2008 through 2016, the top 100 multilatinas registered annual revenue growth

levels of 5.2% measured in US dollars; this value is approximately three times higher than the average for all large Latin American companies (BCG 2018). The first multilatinas originally performed their activities in basic and manufacturing industries due to the large quantities of natural resources that their regions of origin possessed. Multilatinas' foreign activities were initially oriented towards such regions (markets located in Latin America) but are now increasingly oriented towards countries abroad, including both emerging and developed countries. Today, these firms also devote some of their activities to software development; the petrochemical industry and services such as finance, transportation, consumer goods and communications among others (UNCTAD 2014).

According to the Economic Commission for Latin America (ECLA) (CEPAL in Spanish), the success of these companies in recent decades has been due to economic reforms conducted in countries of the region, due to the saturation of local markets, due to the need to diversify risks and especially due to the ease with which Latin American companies have expanded into local and international markets (CEPAL 2009). As these multilatinas enjoy a privileged competitive position in their region, the fruits of technological, productive and commercial knowledge that they have acquired through mergers and acquisitions, and an ability to connect more intimately with consumers and to create innovation networks (Aguilera et al. 2017), they are now presented with the challenge to internationalize and access new markets to improve their reputations (Aguilera-Caracuel et al. 2017) and levels of legitimacy (Eccles et al. 2014).

## 2.3 Hypotheses

### 2.3.1 The ESG score and the financial performance of Multilatinas

The ESG score can be classified as the added value of CSR performance derived from many environmental, social and governance actions. Given that the Latin American context presents different conditions than those of developed markets, firms that achieve higher levels of ESG require greater investments. Thus, multilatinas must allocate considerable financial resources to strengthen their practices in these ESG factors and to develop effective organization-level capacities to achieve superior performance. However, costs related to the improvement of ESG are not often reflected in a firm's FP and possibly because such practices are not carried out in the most effective manner; these practices are not visible, and firms' stakeholders do not ascribe enough importance to them.

According to the traditional neoclassical approach, investing in ESG activities creates additional costs for a firm (Derwall et al. 2005; Hassel et al. 2005; Palmer et al. 1995; Semenova and Hassel 2008), which impacts the FP. For instance, investments required to reduce emissions or to improve the use of natural resources are excessive (Rassier and Earnhart 2010; Sueyoshi and Goto 2009), as well as some multilatinas' uses of obsolete technologies in their production processes (implemented without considering their effects on the environment and without clear emissions reduction, noise control or waste management policies) render the costs of converting processes into those that use clean technologies quite high. Thus, when these firms decide to invest in environmental initiatives, they find their economic resources compromised, and their performance

decreases since environmental goals are not priorities for them (neither is investment in environmental matters).

In addition, a lack of trust in corporate environments among multilatinas' stakeholders (Zhang et al. 2013) caused by high indexes of corruption in Latin American governments, political and business scandals due to bribes, the manipulation of information (as communications and media outlets create information asymmetries), low degrees of investor protection, etc., experienced in Latin America forces multilatinas to make more investments in corporate governance mechanisms (for example, hiring external auditors, modifying company bylaws, or affording more independence to boards of directors) to demonstrate greater legitimacy in questions relevant to its stakeholders (Reimann et al. 2012). These initiatives are generally short-term and are perceived as high expenses to companies that affect their performance.

On the other hand, despite efforts made to develop initiatives on social issues (Fiaschi et al. 2017; Gugler and Shi 2009; Marquis and Raynard 2015), multilatinas have not yet garnered sufficient trust and loyalty from their workers, from consumers and from society in general (governments, unions and NGOs among others). This may be the case because these companies suffer a lack of legitimacy due to weak institutions and the poor reputations of their home countries (Fiaschi et al. 2017). Furthermore, cultural and institutional differences observed in emerging markets in which multilatinas operate and the minimal set of ethical and moral values applied in these countries have resulted in corruption (Cuervo-Cazurra 2016), human rights violations, labour exploitation, limited placement of women in managerial positions and discrimination among other issues.

This has historically generated image issues in communities. Multilatinas' donations or social investments are often perceived as bribes and not as initiatives contributing to firm value. Thus, multilatinas' social benefits are left unrecognized, as their socially motivated actions receive little visibility and publicity (Araya 2006; Vives 2012). These activities do not attract stakeholder attention, improve a firm's brand image or grant subsidies to firms that work in these areas. For these reasons, we propose the following hypothesis:

***H1: Multilatinas' high ESG scores are negatively related to their FP.***

The ESG score of a company is based on its sub-factors' (environmental, social and governance) performance. Each sub factor's effect on corporate financial performance has been a topic of interest in the literature. Friede et al. (2005), Galema et al. (2008) and Statman and Glushkov (2009) note that the ESG score is determined from a number of factors, each of which may have a differing relation to and impact on FP. However, what dimensions of this ESG score affect the relationship to financial performance? There is no consensus on the actual effect of ESG on financial performance, as some authors (Limkriangkrai et al. 2017) state that the global score can be used while others (Humphrey et al. 2012) recommend using the individualized score of each dimension due to factors such as conditions of the country of origin, pressures from different stakeholders, and institutional conditions among others. For this reason, it is important to examine the relationship between E, S and G sub-factors and their effects on multilatinas' value. Based on these assertions, the following hypothesis are proposed as constituents of H1:

***H1a: Multilatinas' high E scores are negatively related to their FP.***

***H1b: Multilatinas' high S scores are negatively related to their FP.***

***H1c: Multilatinas' high G scores are negatively related to their FP.***

### 2.3.2 Moderating effects of financial slack on the relationship between ESG and FP

Financial resource availability is one factor that influences a firm's capacity to invest in ESG practices (Aguilera-Caracuel et al. 2015; Allouche and Laroche 2005, Surroca et al. 2010; Waddock and Graves 1997). When organizations have resources that can be dedicated to other uses, their managers tend to take more innovative action (Voss et al. 2008), satisfying corporate stakeholders' demands. Conversely, when resources are limited, firms are more likely to implement conservative strategies to protect themselves, investing in what they consider to be fundamental for their survival (Aguilera-Caracuel et al. 2015).

The existence of FS in multilatinas could thus help improve their performance in ESG dimensions and therefore help them achieve stronger financial performance (Brammer and Millington 2008; Velte and Velte 2016). Some authors such as Allouche and Laroche (2005) consider investments made in these dimensions to be dependent on resource availability or resources that are not committed to a firm's operations. In contrast, when financial resources are limited, priorities of ESG matters take second place (Sharma 2000). It is thus more likely that an E, S or G strategy will be implemented in firms with more financial resources and with superior management capabilities

(Christmann 2000; Sharma and Vredenburg 1998). The greater the degree of FS, the more liquidity there is to invest in ESG dimensions, fulfilling the social demands of interested parties in which firms operate and thus improving firms' financial results.

In sum, when multilatinas' managers have FS, they must change their perceptions of investments in ESG issues; if they want to operate similarly to DMNs, they must show greater concern for strengthening their relationships with different stakeholders, allocating more resources and time to improving environmental and social programmes. Such companies must render their information on corporate governance more visible and foster an environment of trust in the community in general to achieve a more positive image and superior levels of FP. These arguments lead the authors to propose the following hypotheses:

***H2: The availability of financial slack in multilatinas weakens the relationship between the ESG score and FP.***

The following hypotheses are proposed as constituents of H2:

***H2a: The availability of financial slack in multilatinas weakens the relationship between E scores and FP.***

***H2b: The availability of financial slack in multilatinas weakens the relationship between S scores and FP.***

***H2c: The availability of financial slack in multilatinas weakens the relationship between G scores and FP.***

### 2.3.3 Moderating effects of geographic international diversification in the relationships between ESG and FP

The Latin American context provides a different economic and institutional environment for firms' strategies of geographic international diversification. Multilatinas operate in national economies of relatively high risk and are subject to uncertain structural changes (Nachum 2004). Many emerging markets are still tightly regulated with strong restrictions placed on private firms. Such characteristics motivate the geographic international diversification of multilatinas. Internationalization provides significant opportunities for learning (Hitt et al. 1997); such knowledge acquisition leads to the satisfaction of actors' demands in the different contexts and markets in which multinationals operate. This fact also enables them to be viewed as responsible, legitimate and transparent entities committed to their environments (Christmann 2004). Being present in markets with different institutional profiles (i.e., differing legislation, cultures, languages, etc.) creates a need to secure legitimacy in the different contexts in which a firm operates (Kostova and Roth 2002). Such firms must thus strengthen their internal organizational frameworks by extending their business models beyond their boundaries (Aguilera-Caracuel et al. 2013) and efficiently transfer their best practices, policies and business models (Hitt et al. 1997) through standardized environmental and social management (Aguilera-Caracuel et al. 2012) and through the use of good governance models. Such activities can have very positive effects on financial performance through the development of ESG activities. Finally, a strong tendency towards exports or the presence of multilatinas in different markets with different

institutional profiles can define a proactive strategic orientation in terms of social and environmental governance.

As multilatinas increase their levels of GID, they become progressively more strict in developing ESG initiatives. Following Institutional Theory, these firms react in a strategic manner to institutional variations in their social environment and to the compliance of norms to obtain or maintain legitimacy and to thus be more visible (Suchman 1995); this practice leads them to establish higher E, S and G standards and to focus on ESG activities in a more advanced and responsible way to mitigate risks of negative effects (for example, from consumer associations, activists, NGOs and customers). Multilatinas that interact in foreign environments with their own institutional and cultural profiles (Hitt et al. 1997) need to obtain licenses to operate and are required to comply with different types of regulations. Such conditions lead them to implement and develop advanced ESG initiatives that improve their FP by improving their reputations and level of transparency (Bansal 2005; Christmann 2004) within their internal networks (Aguilera-Caracuel et al., 2013). For these reasons, the following hypotheses are proposed:

***H3: The geographic international diversification of multilatinas weakens the existing relationship between the ESG score and FP.***

The following hypotheses are proposed as constituents of H3:

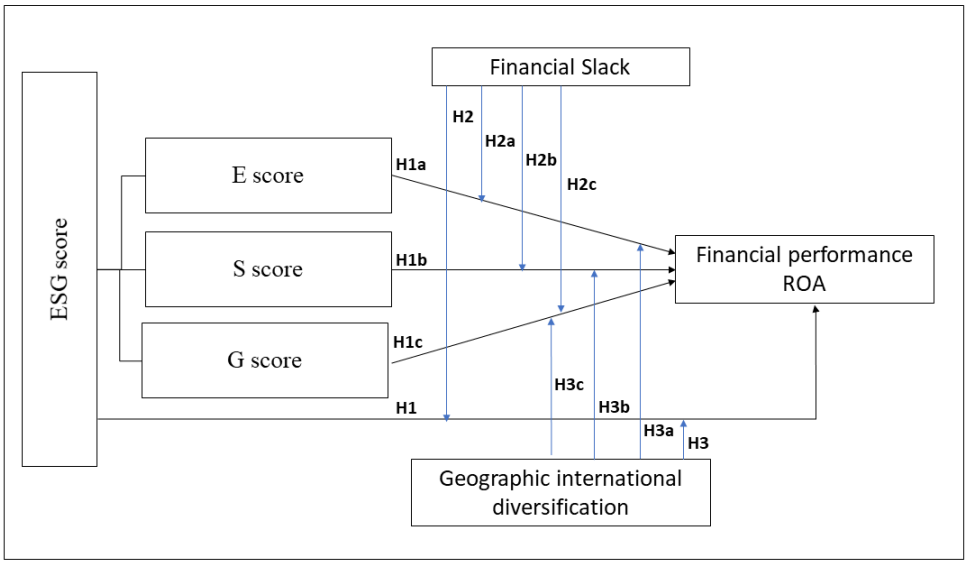
***H3a: The geographic international diversification of multilatinas weakens the relationship between E scores and FP.***

***H3b: The geographic international diversification of multilatinas weakens the relationship between S scores and FP.***

***H3c: The geographic international diversification of multilatinas weakens the relationship between G scores and FP.***

Figure 2-1 summarizes the research model developed in this study.

**Figure 2-1 Research model**




## 2.4 Methodology

### 2.4.1 Data

This study used several criteria to determine the sample. First, this study considered only multilatinas with more than USD $1 billion in annual revenue headquartered in Latin American countries included in the MSCI Emerging Markets Index. The MSCI Emerging Markets Index is designed to reflect the performance of large- and mid-cap securities in 24 emerging markets. In this sense, only multilatinas in Brazil (C1), Chile (C2), Colombia (C3), Mexico (C4) and Peru (C5) were selected. These 5 countries

represent the 88% of all multilatinas in the region (CEPAL 2015). Second, companies listed on the Latin America's stock market were chosen due to the quality of financial data and the availability of financial information identified. Finally, firms disclosing no financial, environmental, social and corporate governance or internationalization information on the Thomson Reuters' database or on ASSET4 ESG by Eikon for 2011-2015 were not taken into consideration. The latter database contains financial, environmental, social, corporate governance and internationalization information for over 6000 firms worldwide for all activity sectors, incorporating over 400 measures clustered into over 70 indicators and drawn from over 75,000 information sources, all of which are compared. All values are standardized and verified to facilitate the statistical analysis. The initial set of data consists of 147 companies from Brazil, Colombia, Chile, México and Peru. Of these, 24 companies not listed on the stock exchange and 19 not providing enough ESG or financial data were excluded.

As a result of the above, a longitudinal database composed of 104 firms and 520 observations was obtained; the firms were distributed into 7 activity sectors following the North American Industry Classification Systems (NAICs): 22.1% manufacturing (S31), 21.15% distribution (S44), 19.23% finance and insurance (S52), 15.38% utilities (S22), 9.62% mining and gas and petroleum extraction (S21), 6.73% transportation (S48) and 5.77% construction (S23). Complete information at the country level for this sample was obtained; these data include countries in which the selected multilatinas' headquarters are located and other countries in which they operate.

### 2.4.2 Variables

#### 2.4.2.1 Dependent variable

The dependent variable is financial performance. Return on Assets (ROA) is used in this paper as a proxy for the financial performance of a firm. Numerous studies show that the most commonly used FP variables are financial accounting returns (specifically Return on Equity and Return on Assets) and the Tobin-q (Elsayed and Paton 2005; Hart and Ahuja 1996; Rassier and Earnhart 2010; Tang et al. 2012). ROA is widely used in the literature as a proxy to examine the effects of ESG on financial performance (Choi and Wang 2009; Tang et al. 2012; Velte 2017). ROA is defined as the net income's ratio to total assets and focuses on how a company's earnings respond to different managerial policies and to the relative efficiency of asset utilization (Lee and Faff 2009). Thomson Reuters' DataStream was used to collect financial data on the selected multilatinas.

#### 2.4.2.2 Independent variables

This study uses the ESG score retrieved from Thomson Reuters' Asset4 database as independent variables. The total ESG score can be classified as an added value of CSR performance for the three subgroups (E, S and FG) (for example, emissions, environmental product innovation, human rights, employment quality, training and development, community, shareholders, etc.). Values range from 0 to 100 with 100 being the highest score. This allows one to quickly and easily identify each multilatina's ESG strengths (50–100 points) or weaknesses (0–49 points).

This paper also analyses the impacts of the three E, S and G score components separately: the environmental score (E score), the social score (S score) and the governance score (G score); these were obtained from Asset4 (Thomson Reuters 2017).

***E score:*** this component covers a firm's business actions in terms of environmental responsibility. For this dimension, 57 indicators were evaluated. Among them there are the implementation of actions for pollution control, emissions reduction policies, the use of renewable energy, eco-sustainable product development, environmental investment making and environmental standard establishment. This standard reflects the extent to which a company uses best management practices to avoid environmental risks and is capitalised from environmental opportunities. This composite index is generated from a weighted score of a company's strengths and weaknesses on indicators related to: (a) emissions reduction, (b) product innovation, and (c) resource consumption reduction.

***S score:*** this component reflects a firm's commitment to the community and not only to the community in which it operates but also beyond. The dimension contains 60 indicators that include information on the policies and the programmes implemented by the firms related to health, safety, workplace diversity, training and labour rights, employee and customer satisfaction, the percentage of women employed, whether a firm has received distinctions or prizes for its CSR and other social issues relevant to interested internal and external parties. It is a reflection of a company's reputation, which is a key factor in determining its ability to generate long-term value. The composite index is generated from a weighted score of a company's strengths and weakness on indicators

related to: (a) product responsibility, (b) community, (c) human rights, and (d) the workforce.

***G score:*** this component measures when a firm's systems and processes guarantee that its members and board executives act in the best interest of its shareholders in envisioning long-term operations. This dimension contains 48 indicators on levels of leadership team transparency with stakeholders; the completion of sustainability reports; minority shareholders' rights; and the remuneration of executives, independent board members and audit committees. It reflects a company's capacity (through its use of best management practices) to direct and control its rights and responsibilities through the creation of incentives. The composite index is generated from a weighted score of a company's strengths and weaknesses on indicators related to: (a) management (board functions and structures) and (b) CSR strategies.

#### 2.4.2.3 Moderating variables

- ***Financial slack***

As mentioned above, FS refers to the level of liquid assets such as cash without commitments made to any goal by an organization (Kraatz and Zajac 2001) and that can be invested into a wide range of activities. The following formula was used to calculate financial slack:

$$Slack_i = Current\ Assets/Current\ Liabilities \qquad (1)$$

We used Thomson Reuters' DataStream to collect financial slack data on multilatinas.

- ***Geographic international diversification***

Since the internationalization of a firm's sales can affect its social and environmental performance (Attig et al. 2016; Brammer et al. 2006; Kang 2013), the entropy index was used to measure a firm's degree of geographic international diversification. To calculate the entropy index, Hitt et al. (1997) and Aguilera-Caracuel et al. (2015) measured firms' sales made outside of the domestic market according to their global distribution; to do so, the following equation was used:

$$GID_j = \sum_{i=1}^{n} P_{i,j} \times \left( Ln \frac{1}{P_{i,j}} \right) \qquad (2)$$

Where $P_i$ is the sales percentage in a determined region $i$ and $Ln \frac{1}{P_i}$ represents the weight given to a region. The ratio considers both the number of regions in which a company operates and the relative relevance of each region to a company's total sales (Hoskisson et al. 1993). To calculate entropy, this study used international market sales data available in the Thomson geographic segment for each company; it classifies foreign markets into six relatively homogeneous global regions: North America, Central America, Latin America (without taking into account its own market), Europe, Asia-Pacific and Africa.

### 2.4.2.4 Control variables

To complete the model, we used several control variables identified in the literature as influencing ESG performance and firm value (Cho and Patten 2007; Clarkson et al. 2008; Jo and Harjoto 2011). These variables include proxies for firm size (logarithm of

sales, LogSales) and the leverage ratio (Lev), which was measured as the long-term debts ratio to total equity for a company and to the gross domestic product (GDP) of a firm's country of origin. Firm size may be relevant for several reasons (for example, the possible existence of economies of scale inherent to environmentally and socially oriented investments) (Elsayed and Paton 2005). Leverage is a proxy for unsystematic risk (Fischer and Sawczyn 2013). Firms with an increased level of ESG are perceived as less risky with regard to "insurance effects" and will be related to lower costs of debt capital (Orlitzky and Benjamin 2001; Godfrey et al. 2009).

To determine if there are any differences between the countries examined and their relations to the dependant variable, this study used four control variables (one for each country taking the form of a dummy variable). Such a variable is used as a way of quantizing a categorical variable containing non-numerical data. The dummy is coded as 1 when a company is located in a specific country and as 0 for a company operating in any other country. We also used six dichotomous variables for the seven activity sectors to consider possible effects of industry type on the sample of firms.

Table 2-1 presents the correlation matrix and descriptive statistics for each of the study variables. We can see that the correlation coefficients are not very high, indicating that our estimations do not suffer from collinearity among the independent variables. The average ESG score is 59.62. Of the three ESG pillars, the governance pillar takes the highest average score for the group of multilatinas followed by the social pillar. The environmental pillar presents the lowest values, highlighting a weakness of the studied multilatinas. Additionally, we find a positive but insignificant correlation between ESG

and E scores and ROA and a negative but non-significant correlation between S and ROA. The relationship between G scores and ROA is positive and significant at 5%. This result suggests that nonfinancial qualifications are not the only issues that explain the performance of assets as a measure of a firm's financial performance. A positive but insignificant correlation between firm size and ROA of 0.013 is found.

## Table 2-1 Descriptive statistics and correlations

| | *Mean* | *SD* | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* | *10* | *11* | *12* | *13* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1. ROA** | 0.06 | 0.09 | 1 | | | | | | | | | | | | |
| **2. ESG score** | 59.6 | 10.3 | 0.04 | 1 | | | | | | | | | | | |
| **3. E score** | 53.6 | 14.0 | 0.05 | 0.87** | 1 | | | | | | | | | | |
| **4. S score** | 61.1 | 10.6 | -0.06 | 0.80** | 0.52** | 1 | | | | | | | | | |
| **5. G score** | 66.1 | 13.1 | 0.12** | 0.78** | 0.57** | 0.45** | 1 | | | | | | | | |
| **6. Lev** | 3.93 | 3.61 | -0.26** | -0.04 | -0.12** | 0.18** | -0.21** | 1 | | | | | | | |
| **7. LogSales** | 3.44 | 0.61 | 0.01 | 0.25** | 0.30** | 0.15** | 0.12** | 0.11* | 1 | | | | | | |
| **8. GDP** | 3.01 | 0.41 | 0.09* | 0.14** | 0.25** | 0.003 | 0.053 | -0.10* | 0.10* | 1 | | | | | |
| **9. Slack** | 1.75 | 1.82 | 0.00 | -0.13** | -0.043 | -0.18** | -0.11** | -0.17** | -0.23** | 0.06 | 1 | | | | |
| **10. GID** | 0.88 | 0.47 | -0.18** | 0.10* | 0.10* | 0.050 | 0.11** | -0.04 | 0.17** | -0.07 | -0.07 | 1 | | | |
| **11. C1** | 0.47 | 0.50 | 0.15** | -0.03 | 0.02 | -0.08* | -0.039 | -0.17** | -0.02 | -0.07 | 0.20** | -0.21** | 1 | | |
| **12. C2** | 0.17 | 0.37 | -0.01 | 0.13** | 0.02 | 0.22** | 0.23** | -0.11** | -0.15** | -0.08* | -0.05 | -0.06 | -0.11** | 1 | |
| **13. C3** | 0.115 | 0.32 | -0.05 | 0.08 | 0.06 | 0.05 | 0.08* | -0.09* | 0.01 | -0.05 | -0.05 | 0.25** | -0.08 | -0.08* | 1 |
| **14. C4** | 0.202 | 0.40 | -0.17** | -0.22** | -0.06 | -0.38** | -0.10* | -0.18** | 0.04 | 0.14** | 0.14** | 0.16** | -0.17** | -0.19** | -0.13 |
| **15. C5** | 0.038 | 0.19 | 0.12** | 0.11** | 0.13** | 0.01 | 0.12** | -0.080 | 0.25** | 0.01 | -0.07 | -0.11** | -0.16** | -0.18** | -0.12 |
| **16. S21** | 0.096 | 0.29 | 0.005 | 0.13** | 0.10* | 0.061 | 0.18** | -0.031 | -0.07 | 0.06 | -0.07 | 0.04 | -0.07 | -0.08 | -0.0 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **17. S22** | 0.115 | 0.32 | -0.16** | -0.11** | -0.20** | 0.20** | -0.35** | 0.63** | -0.03 | -0.17** | -0.10* | -0.12** | -0.15** | -0.17** | -0.12 |
| **18. S23** | 0.058 | 0.23 | -0.05 | 0.08 | 0.06 | 0.05 | 0.08* | -0.09* | 0.01 | -0.05 | -0.05 | 0.25** | -0.06 | -0.11** | 0.29 |
| **19. S31** | 0.221 | 0.41 | -0.17** | -0.22** | -0.06 | -0.38** | -0.10* | -0.18** | 0.04 | 0.14** | 0.14** | 0.16** | 0.10* | -0.06 | -0.19 |
| **20. S44** | 0.212 | 0.40 | 0.12** | 0.11** | 0.13** | 0.01 | 0.12** | -0.080 | 0.25** | 0.017 | -0.07 | -0.11** | -0.06 | 0.07 | -0.11 |
| **21. S48** | 0.048 | 0.21 | 0.005 | 0.13** | 0.10* | 0.06 | 0.18** | -0.031 | -0.07 | 0.060 | -0.07 | 0.04 | 0.05 | 0.01 | -0.0 |
| **22. S52** | 0.192 | 0.39 | -0.16** | -0.11** | -0.20** | 0.20** | -0.35** | 0.63** | -0.03 | -0.17** | -0.10* | -0.12** | -0.16** | 0.03 | 0.20 |

## 2.5 Results

Our starting point is to estimate static panel data regression models of firm performance as a function of environmental, social and governance performance; it includes various controls as appropriate. The authors estimate both fixed and random effects models. The fixed effects model involves estimating a parameter for each cross-sectional unit—in our case, firms. The random effects model assumes that the firm-specific terms are randomly distributed. The random effects estimator will be inconsistent in the presence of correlations between fixed effects and one or more independent variable (Baltagi 2005). To control unobserved heterogeneities of the data, this study ran the Hausman test to determine when to use a model of fixed or random effects. The Hausman test compares two estimators: one consistent under both the null and alternative hypothesis and one that is consistent under the null hypothesis only. A significant difference between them indicates that the null hypothesis is unlikely to hold. Thus, the results for the Hausman test could imply that the estimators of fixed effects are inconsistent and that the estimates of random effects are more appropriate. The results of this test (for the models used in this article) denote a p-value of higher than 0.05 with a level of significance of 5%. This indicates that the null hypothesis cannot be rejected, and a random effects model is the preferred model for this regression. Finally, we used a multiple - moderated regression analysis (Cohen et al. 2013) to test the hypotheses while introducing the moderating effect as a multiplicative variable.

### 2.5.1 ESG performance and financial performance

Table 2-2 shows the results of the random effects regression analyses of each of the independent variables (ESG, E, S and G scores), including control variables industry type, home country, firm size, leverage and GDP. The variance inflation factors (VIF) are lower than 5 for each of the models presented, indicating that the results are not biased due to issues of multicollinearity (Hair et al. 2009). All of the values for adjusted $R^2$ are above the acceptable limit for the three models.

**Table 2-2 Regression analysis results: ESG score**

| | ***Model I (H1)*** | ***Model II (H1a)*** | ***Model III (H1b)*** | ***Model IV (H1c)*** |
|---|---|---|---|---|
| Constant | 0.120 (0.051)* | -0.261 (0.184) | -0.208 (0.186) | -0.270 (0.186) |
| **Control variables** | | | | |
| S21 | -0.006 (0.029)** | -0.002 (0.029)* | -0.015 (0.029) | -0.006 (0.029) |
| S22 | -0.020 (0.027) | -0.024 (0.027) | -0.025 (0.026) | -0.021 (0.027) |
| S23 | -0.056 (0.035) | -0.055 (0.035) | -0.064 (0.034) | -0.057 (0.035) |
| S31 | -0.087 (0.023)*** | -0.080 (0.022)*** | -0.096 (0.023)*** | -0.079 (0.022)*** |
| S44 | -0.027 (0.023) | -0.026 (0.023) | -0.037 (0.023) | -0.026 (0.023) |
| S48 | -0.016 (0.037) | -0.020 (0.036) | -0.030 (0.036) | -0.020 (0.037) |
| C1 | -0.127 (0.094) | -0.134 (0.095) | -0.133 (0.094) | 0.152 (0.094)* |
| C2 | -0.026 (0.043) | -0.029 (0.043) | -0.025 (0.043) | -0.034 (0.043) |
| C3 | -0.043 (0.050) | -0.051 (0.049) | -0.046 (0.049) | -0.056 (0.049) |
| C4 | -0.076 (0.076) | -0.082 (0.076) | -0.080 (0.076) | -0.095 (0.076) |
| LogSales | 0.045 (0.011)*** | 0.045 (0.011)*** | 0.043 (0.011) | 0.041 (0.011)*** |
| Lev | -0.009 (0.001)*** | -0.009 (0.000)*** | -0.008 (0.001)*** | -0.009 (0.001)*** |
| GDP | 0.123 (0.079) | 0.128 (0.079) | 0.124 (0.079) | 0.135 (0.079)* |
| **Independent variables** | | | | |
| ESG score | -0.001 (0.000)** | | | |
| E score | | -0.001 (0.000)* | | |
| S score | | | -0.004 (0.000)** | |
| G score | | | | -0.000 (0.000)* |
| | | | | |
| $R^2$ within | 0.1299 | 0.1253 | 0.1286 | 0.1195 |
| F-static | 15.352*** | 15.170*** | 15.342*** | 14.896*** |
| VIF | 1.222 | 1.368 | 1.674 | 1.515 |

Notes: Number of observations (*n*) = 520; number of groups (multilatinas) = 104. The table includes coefficients of the regression model (estimators); standard deviations are shown in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

For Model I the ESG score was used the independent variable. Our results show that achieving a high ESG score leads to worse FP ($\beta$ = -0.001; $p<0.05$), supporting Hypothesis H1. In Model II, the E score was used as the independent variable. Our results show that the relationship between the E scores and FP of the multilatinas in our sample is negative and statistically significant ($\beta$ = -0.001; $p<0.05$), supporting Hypothesis H1a. Our study shows that environmental performance does not lead to an increase in FP for the period analysed (2011-2015). Social performance was used as the independent variable for Model III. As observed for environmental performance, social performance is negatively related to multilatinas' financial performance ($\beta$ = -0.004; $p<0.01$). These results allow us to accept H1b on the existence of a negative association between the performance of a firm's investments and its behaviour in social terms. Finally, Model IV shows results obtained for independent variable G, providing evidence of a negative and significant relationship between G and ROA ($\beta$ = -0.0005; $p<0.05$). We can thus accept Hypothesis H1c.

### 2.5.2 Moderating role of financial slack and financial performance

Table 2-3 shows the results of the random effects regression analysis including the effect of moderating variable financial slack on the relationship between ESG scores and multilatinas' FP. Similarly, the effects of moderation on each relationship between sub factors E, S and G and FP are presented.

**Table 2-3 Regression analysis results: Financial slack**

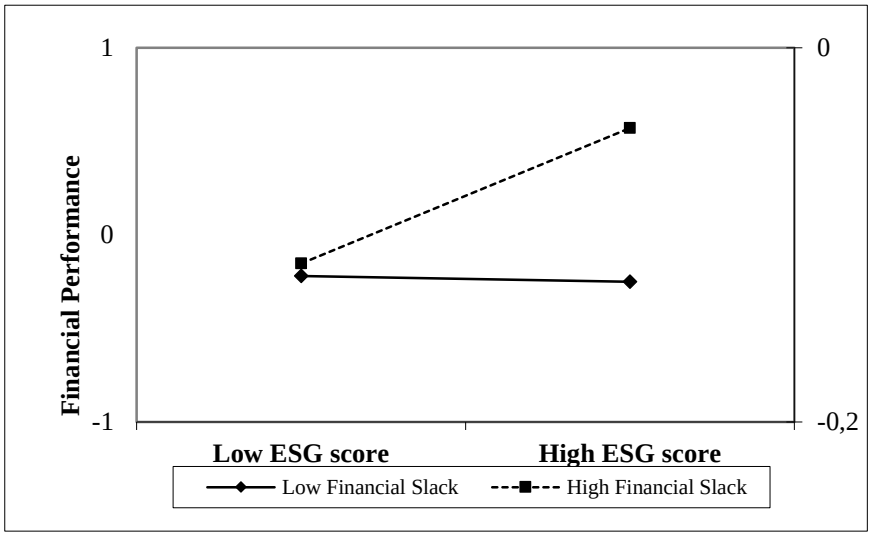
| | ***Model V (H2)*** | ***Model VI (H2a)*** | ***Model VII (H2b)*** | ***Model VIII (H2c)*** |
|---|---|---|---|---|
| Constant | -0.178 (0.184) | -0.161 (0.162) | -0.189 (0.186) | -0.239 (0.182) |
| **Control variables** | | | | |
| S21 | 0.011 (0.030) | 0.073 (0.019)*** | -0.004 (0.030) | 0.018 (0.030) |
| S22 | -0.023 (0.027) | 0.017 (0.017) | -0.026 (0.027) | -0.026 (0.028) |
| S23 | -0.061 (0.035)* | -0.001 (0.023) | -0.066 (0.035)* | -0.065 (0.035)* |
| S31 | -0.085 (0.023)*** | -0.004 (0.014)*** | -0.094 (0.023)*** | -0.077 0.023)*** |
| S44 | -0.028 (0.023) | 0.028 (0.015)* | -0.037 (0.023) | -0.027 (0.023) |
| S48 | -0.023 (0.037) | 0.008 (0.024)* | -0.034 (0.036) | -0.030 (0.037) |
| C1 | -0.115 (0.094) | -0.071 (0.082) | -0.128 (0.094) | -0.143 (0.093) |
| C2 | -0.014 (0.044) | -0.001 (0.030) | -0.020 (0.044) | -0.020 (0.044) |
| C3 | -0.035 (0.050) | -0.012 (0.036) | -0.044 (0.050) | -0.047 (0.050) |
| C4 | -0.059 (0.076) | -0.027 (0.064) | -0.073 (0.076) | -0.077 (0.075) |
| LogSales | 0.041 (0.011)*** | 0.039 (0.011)*** | 0.041 (0.014)*** | 0.032 (0.010)** |
| Lev | -0.009 (0.001)*** | -0.009 (0.001)*** | -0.009 (0.001)*** | -0.009 0.001)*** |
| GDP | 0.122 (0.078) | 0.124 (0.078) | 0.124 (0.078) | 0.139 (0.078)* |
| Slack | -0.011 (0.003)** | -0.010 (0.003)*** | -0.007 (0.004) | 0.014 (0.003)*** |
| **Independent variables** | | | | |
| ESG score | -0.001 (0.000)** | | | |
| E score | | -0.001 (0.000)* | | |
| S score | | | -0.001 (0.000)** | |
| G score | | | | -0.0006 (0.000) |
| **Moderating effects** | | | | |
| ESG score X Slack | 0.001 (0.000)* | | | |
| E score X Slack | | 0.0005 (0.000)** | | |
| S score X Slack | | | 0.0001 (0.000)* | |
| G score X Slack | | | | 0.0005 (0.00)*** |
| | | | | |
| R2 within | 0.1461 | 0.1465 | 0.1367 | 0.1485 |
| F-static | 15.370*** | 15.397*** | 14.978*** | 15.463*** |
| VIF | 1.348 | 1.198 | 1.333 | 1.821 |

Notes: Number of observations (*n*) = 520; number of groups (Multilatinas) = 104. The table includes coefficients of the regression model (estimators); standard deviations are shown in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

The relationships identified between ESG scores and financial performance are moderated by financial slack in multilatinas as is shown in Model V. It is interesting to note that despite the appearance of moderation effects, the observed linkages between firms' ESG scores and FP become positive ($\beta = 0.001$; $p < 0.05$). This suggests that high levels of financial slack in multilatinas allow them to adopt advanced ESG practices,

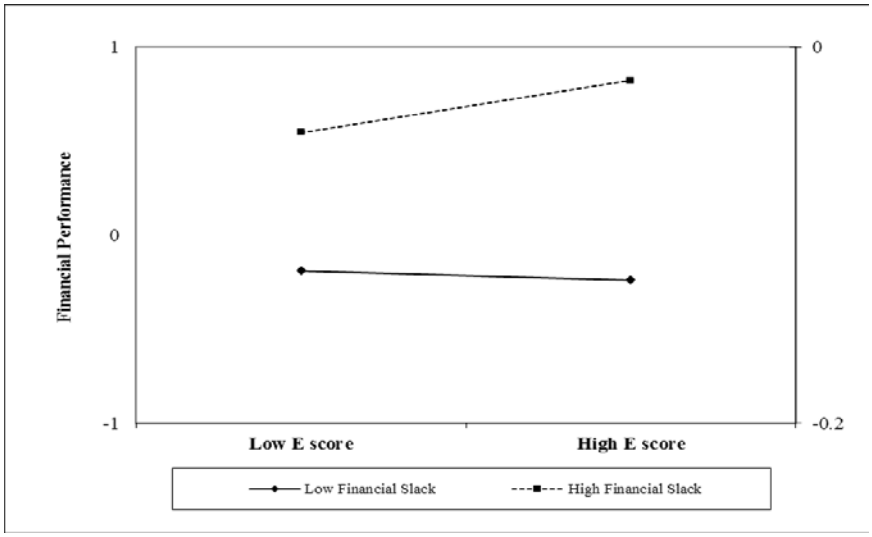
improving their financial performance (see Figure 2-2). In this way, Hypothesis H2 is accepted.

**Figure 2-2 The moderating effect of financial slack on the relationship between ESG score and Multilatinas´ FP**




In Model VI we see that the existence of financial slack not only weakens the relationship between environmental and financial performance but also reverses its sign ($\beta = 0.0005$; $p < 0.01$), obtaining a decreasing negative impact on FP. These results enable us to accept H1b; having access to slack financial resources not directly required for Multilatinas functioning likely changes the perspectives of managers, who begin to view investments in environmental matters as an interesting long-term option as is shown in Figure 2-3. As they begin to achieve better environmental performance (a product of the availability of financial resources), multilatinas' financial performance becomes positive.

**Figure 2-3 The moderating effect of financial slack on the relationship between E score and Multilatinas´ FP**




In Model VII we also observe that FS weakens the relationship between S scores and ROA ($\beta = 0.0001$; $p < 0.05$) with a slightly positive moderating effect (see Figure 2-4). These results allow us to accept Hypothesis H2b. When multilatinas' managers have access to FS resources, they manage to invest in social initiatives that are more efficient and visible to the community.

Similarly, Model VIII confirms Hypothesis H2c, according to which FS weakens the relationship between G scores and FP, reversing the direction of this relationship to a positive one ($\beta = 0.0005$; $p < 0.001$). Having access financial resources that can be allocated to activities other than operations causes managers of multilatinas to consider investing in better governance practices (such as hiring external auditors and modifying company statutes) as appropriate to achieve stronger FP over the long term (as a result of achieving more legitimacy in the eyes of stakeholders). Figure 2-5 illustrates this behaviour.

**Figure 2-4 The moderating effect of financial slack on the relationship between S score and Multilatinas´ FP**

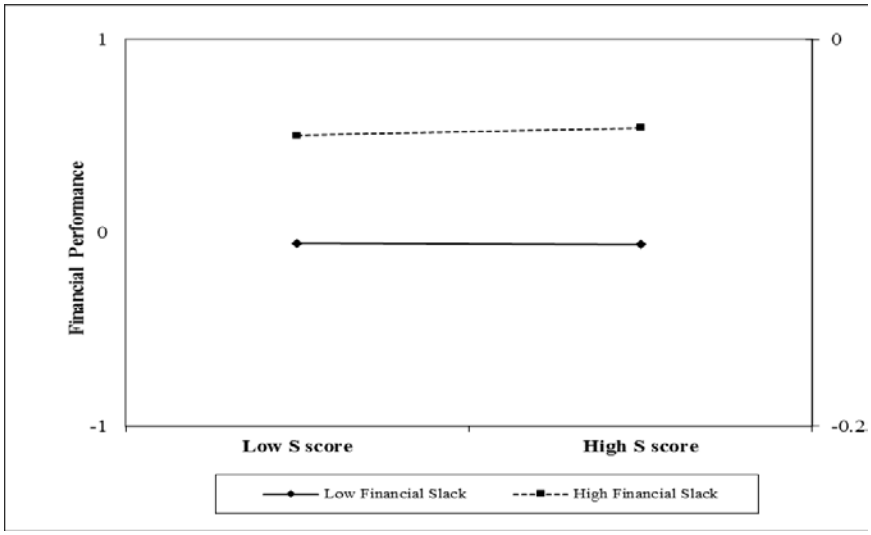
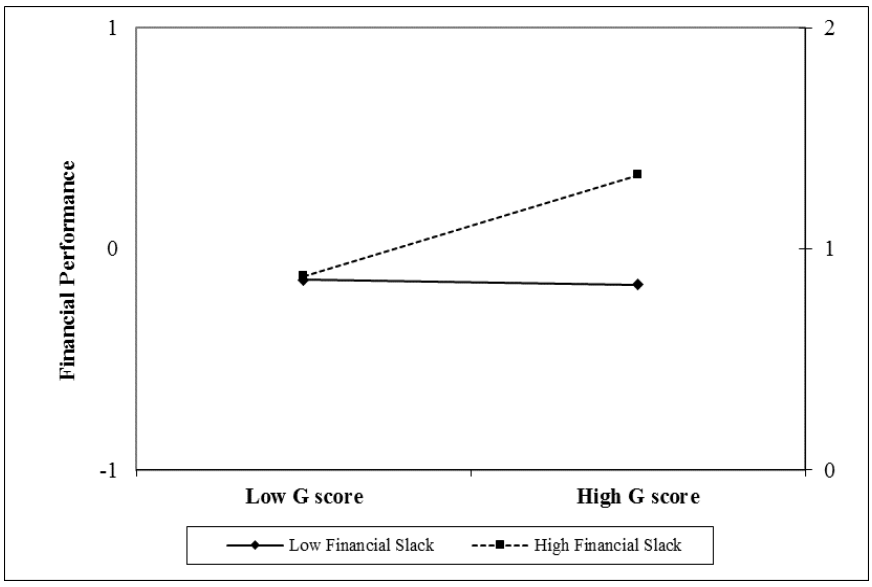



**Figure 2-5 The moderating effect of financial slack on the relationship between G score and Multilatinas´ FP**



### 2.5.3 Moderating role of geographic international diversification and FP

Table 2-4 presents the results of the random effects regression analysis, including the role of the moderating variable geographic international diversification (GID) in relationships between the ESG dimensions and FP of multilatinas.

**Table 2-4 Results of regression analysis: Geographic international diversification**

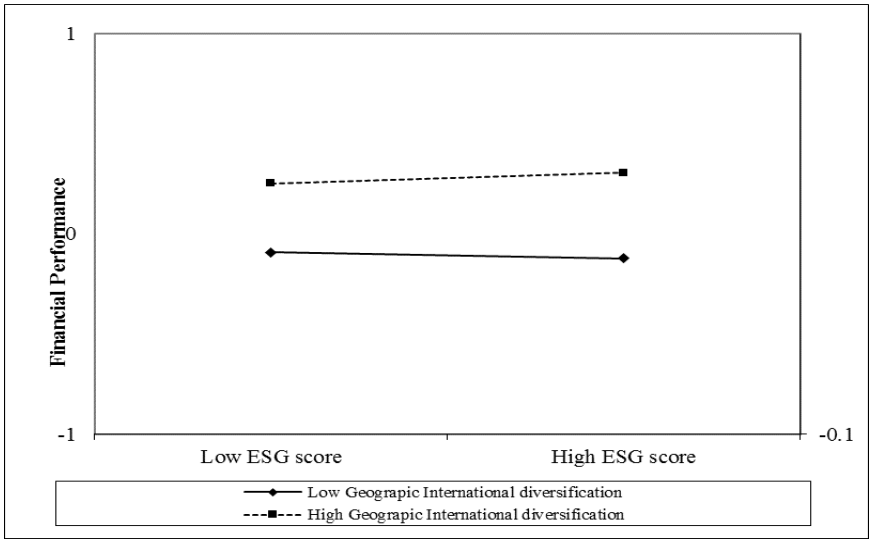
| | ***Model 9 (H3)*** | ***Model 10 (H3a)*** | ***Model 11 (H3b)*** | ***Model 12 (H3c)*** |
|---|---|---|---|---|
| Constant | -0.212 (0.186) | -0.254 (0.183) | -0.208 (0.186) | -0.288 (0.185) |
| **Control variables** | | | | |
| S21 | -0.004 (0.028) | -0.000 (0.028) | -0.008 (0.028) | -0.006 (0.028) |
| S22 | -0.029 (0.026) | -0.030 (0.026) | -0.026 (0.026) | -0.037 (0.027) |
| S23 | -0.029 (0.035) | -0.030 (0.035) | -0.045 (0.035) | -0.027 (0.035) |
| S31 | -0.081 (0.024)*** | -0.070 (0.023)** | -0.080 (0.024)** | -0.077 (0.024)*** |
| S44 | -0.021 (0.023) | -0.018 (0.023) | -0.026 (0.023) | -0.024 (0.023) |
| S48 | -0.016 (0.036) | -0.015 (0.036) | -0.019 (0.036) | -0.021 (0.036) |
| C1 | -0.129 (0.094) | -0.134 (0.094) | -0.139 (0.094) | -0.168 (0.094) |
| C2 | -0.021 (0.042) | -0.025 (0.042) | -0.027 (0.042) | -0.031 (0.041) |
| C3 | -0.039 (0.048) | -0.045 (0.048) | -0.047 (0.049) | -0.057 (0.048) |
| C4 | -0.072 (0.075) | -0.076 (0.075) | -0.082 (0.076) | -0.101 (0.075) |
| LogSales | 0.043 (0.011)*** | 0.045 (0.011)*** | 0.046 (0.011)*** | 0.040 (0.013)*** |
| Lev | -0.009 (0.006)*** | -0.009 (0.001)*** | -0.009 (0.001)*** | -0.009 (0.001)*** |
| GPD | 0.124 (0.079) | 0.123 (0.079) | 0.120 (0.077) | 0.144 (0.080)* |
| GID | 0.015 (0.012) | 0.021 (0.012)* | -0.022 (0.012)* | 0.019 (0.012) |
| **Independent variables** | | | | |
| ESG score | -0.001 (0.000)* | | | |
| E score | | -0.0007 (0.000) | | |
| S score | | | -0.001 (0.000) | |
| G score | | | | -0.0004 (0.000) |
| **Moderating effects** | | | | |
| ESG score X GID | 0.001 (0.001)* | | | |
| E score X GID | | 0.001 (0.000)* | | |
| S score X GID | | | -0.0001 (0.000) | |
| G score X GID | | | | 0.001 (0.000)* |
| | | | | |
| R2 within | 0.1406 | 0.1371 | 0.1349 | 0.1351 |
| F-static | 15.123*** | 19.113*** | 14.904*** | 19.809*** |
| VIF | 1.576 | 1.222 | 1.203 | 1.298 |

Notes: Number of observations (*n*) = 520; number of groups (Multilatinas) = 104. Numbers shown in parentheses are robust standard errors. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

In Model IX we see the moderating effect of geographic international diversification on the relationship ESG scores and FP ($\beta = 0.001$; $p < 0.05$). This result

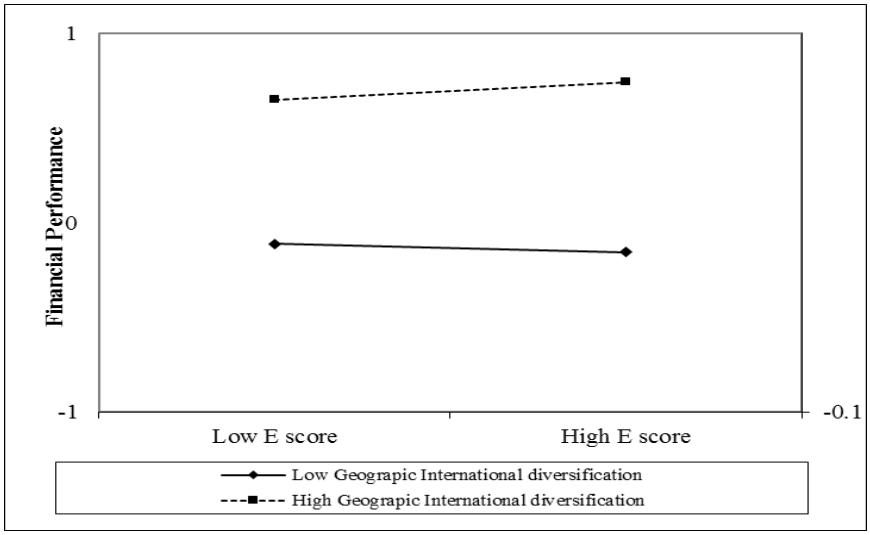
allows us to accept Hypothesis H3. The fact that multilatinas enjoy a stronger international presence allows them to achieve higher scores in ESG matters and better FP (see Figure 2-6).

**Figure 2-6 The moderating effect of geographic international diversification on the relationship between ESG score and Multilatinas´ FP**



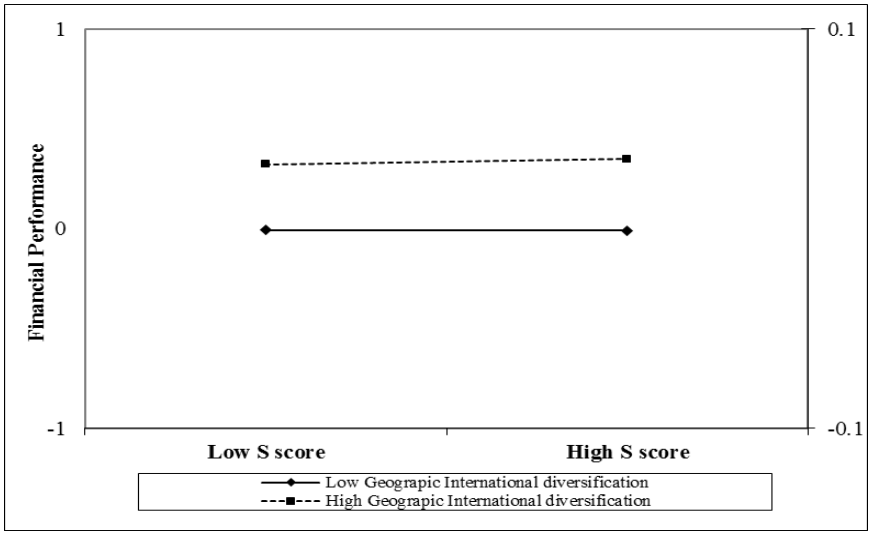

Model X shows the positive relationship between GID and FP for multilatinas included in our sample ($\beta = 0.021$; $p < 0.05$) and the moderating effect of GID on the relationship between E and ROA ($\beta = 0.001$; $p < 0.05$), confirming Hypothesis H3a. The results show that higher levels of GID weaken the relationship between a firm's E score and FP, improving ROA as shown in Figure 2-7.

**Figure 2-7 The moderating effect of geographic international diversification on the relationship between E score and Multilatinas´ FP**



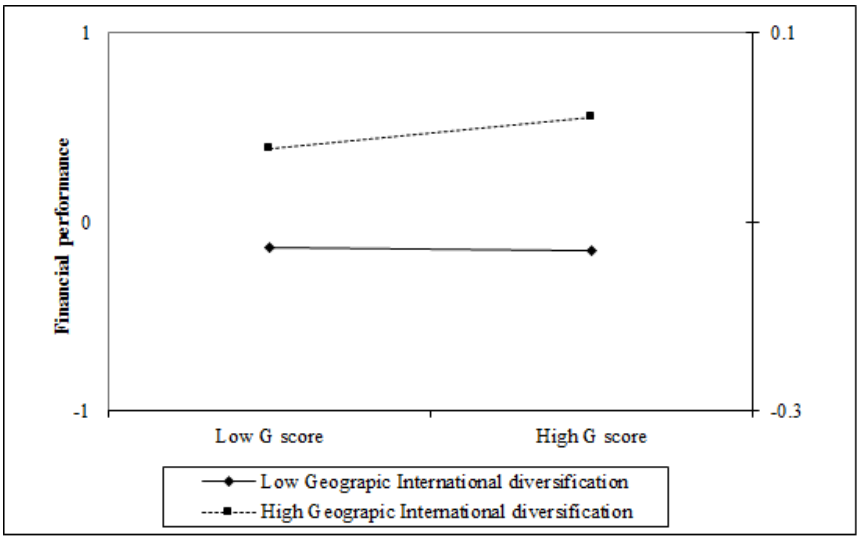

On the other hand, Model XI does not provide enough statistical support for Hypothesis H3b. That is, a firm's geographic diversification does not moderate the relationship between its S score and FP for our sample of firms as Figure 2-8 shows.

**Figure 2-8 The moderating effect of geographic international diversification on the relationship between S score and Multilatinas´ FP**



Finally, Model XII shows that GID has a positive moderating effect on the relationship between G scores and ROA ($\beta = 0.001$; $p < 0.05$). Multilatinas' presence in other geographic markets weakens the relationship between good governance and FP, even reversing the direction of the sign of the relationship (see Figure 2-9). Hypothesis H3c is accepted.

**Figure 2-9 The moderating effect of geographic international diversification on the relationship between G score and Multilatinas´ FP**




## 2.6 Conclusions and Discussion

To date, research on the relationship between the performance of ESG factors and the financial performance of multinationals has achieved limited advances in emerging markets. In particular, only slight attention has been paid to the Latin American context. We address this gap in the research by studying the relationship between the performance of ESG dimensions and FP with the advantage of focusing on firms from emerging markets. Our empirical results indicate that ESG scores are negatively associated with multilatinas' FP according to a random effects regression. The negative sign of this

association indicates that multilatinas with the best ESG scores tend to be less profitable. This finding could be the case because costs related to the implementation of ESG initiatives are not reflected in a company's financial performance because they are not realized in the correct manner or because there is not enough institutional support to render them more visible, thus not ensuring approval from stakeholders. Alternatively, when multilatinas make high investments in ESG, they may sacrifice their cash flow and divert resources required for their operation, decreasing their performance. This result is in line with Lee et al. (2009), who find that ESG investment reduces financial performance and who argue that this could indicate a lower cost of social capital for companies with high ESG scores. These findings also conflict with those of Miralles-Quirós et al. (2018), who find that the effect of ESG is positively related to economic performance among Brazilian listed companies.

Given that ESG scores are determined by a number of factors, each of which may have a different impact on performance (Galema et al. 2008), we analyse the individual effects of the E, S and G dimensions on multilatinas´ FP. While the results show a negative relationship between the three score dimensions and financial performance, social scores have a more significant negative impact on financial performance than governance and environmental scores; this may be the case because multilatinas do not always behave responsibly since poorly prepared managers often focus on responding to the most powerful parties' demands (Eweje 2006) and not to the needs of the community in general. It is expected that managers will only decide to spend on social issues when there is strong demand for this form of activity and when there are chances of the firm profiting; such managers believe that allocating funds to social issues does not guarantee

an improvement in terms of competitive advantage, even decreasing financial results (Lourenço and Branco 2013; Pillai and Al-Malkawi 2017). Likewise, due to the abundance of natural resources in Latin America and a lack of state regulation in environmental matters, multilatinas managers do not recognized the need to implement environmentally responsible activities. Thus, when these firms decide to invest in environmental initiatives, they find their financial resources compromised and their performance decreases since environmental goals are not priorities as part of their corporate strategies (neither is investments in environmental matters). Our results are consistent with the findings of prior studies conducted on the Latin American context and support inverse relationships between E, S and G and FP (Branco and Rodrigues 2008; Garcia et al. 2017).

We also analyse whether the existence of slack financial resources and degrees of geographic international diversification in our sample of multilatinas weaken the relationship between ESG scores and multilatinas´ FP. First, we find that the existence of FS resources in multilatinas that operate in diversified markets reverses the relation between ESG performance and FP, allowing for the more intense application of the E, S and G initiatives that improve FP. This finding clearly indicates that excess financial resources can facilitate multilatinas' efforts to invest in concerns other than their own operations such as environmental, social and governance issues, thereby improving their long-term FP because such resources can be designated adequately to meet the many demands of interest groups (Yang and Rivers 2009) and to address the diversity of these groups' demands (Kang 2013), improving multilatinas' reputations and visibility (Hah and Freeman 2013). Financial resources may also have a positive impact on good

governance in these firms because this possibility enables them to attract specialized personnel with more knowledge and superior abilities to achieve more efficient results in terms of ESG issues (Bowen 2002) in accordance with norms that integrate environmental, social and corporate governance principles. Consequently, investors can have more trust in decisions implemented by managers, enhancing company value creation.

Second, we find that a high degree of GID enables multilatinas to improve their FP based on the use of better practices concerning environmental and governance. In fact, the presence of multilatinas in other markets with different institutional profiles (Aguilera-Caracuel et al. 2013) allows them to acquire valuable knowledge (Hitt et al. 1997). This knowledge leads their administrative board members and executive managers to act more responsibly and transparently. Consequently, they gain competitive advantages and become more attentive to the needs and expectations of a wide range of stakeholders, leading firms to take proactive action towards the environment, contributing positively to performance (Brulhart et al. 2017). On the other hand, contrary to our expectations, we did not find evidence of a moderating effect of GID on the relationship between S scores and FP. This may be the case because although multilatinas operate in markets with different institutional social indicators, the issue of social responsibility does not have enough influence on financial indicators for these firms. Concretely, in the Latin American context, investors do not really value activities and investments related to social issues, as such actions are not enough visible and are not clearly publicized.

Our paper contributes to the literature on internationalization by extending the natural resource-based view of firms (Hart 1995; Russo and Fouts 1997) and institutional theory (Campbell 2007; Doh et al. 2010) to analyse the influence of financial slack and geographic international diversification on the relation between ESG performance and FP in the Latin America context. This study differs from those reported in the review of literature given that previous findings on the value relevance of relations between ESG and financial performance for DMNs cannot be generalized to emerging market multinationals such as Multilatinas due to different institutional conditions in their home countries. Indeed, these firms occupy different stages of CSR maturity. Thus, this study addresses an international research gap with respect to what has been examined in the previous international business literature in the context of emerging market multinationals. In addition, the study uses panel data and a diverse and complex methodology to strengthen the obtained results.

Our study also has significant implications for managers and policy makers. The results suggest that managers and CEOs should pay attention to financial slack as a monetary tool that should form an integral part of a firm's strategy and should contribute to targeted issues in societies in which they operate. Another implication of this study for managers relates to the benefits derived from geographic international diversification. However, a series of commitments must be met when multilatinas are willing to enjoy these benefits. Such commitments include addressing the different social and environmental needs, institutional requirements and expectations of stakeholders in the different markets in which they operate. By satisfying such needs multilatinas will be able to improve their ESG performance, enhance their competitive power against

multinationals from developed countries, and consequently enhance their financial performance over the long term.

Additionally, public and regulatory powers at the national and international levels should be able to create incentive programmes (i.e., subsidies) for companies that apply best ESG practices while showcasing the most responsible companies in terms of environmental and social issues. In this way, multilatinas and other firms will follow mans of formulating and implementing advanced and responsible environmental, social and governmental initiatives.

Our study presents several limitations. First, the EMNs considered in our sample originate from five Latin American countries due to availability of data. In future research it would be interesting to study multilatinas from the other countries of Latin America and EMNs from other continents for comparison. Second, the data used for each of the ESG dimensions have a global score based on secondary data. Although these variables have been widely used in the recent international business literature and are treated to facilitate statistical analyses, the score assigned to each variable is not free of subjective influences, which may decrease the validity of our results. Thus, future studies should propose other alternative and innovative measures of ESG performance (i.e., information derived from other secondary databases such as Sustainalytics and KLD and information obtained through questionnaires and interviews). Second, given that dimensions E, S and G are each shaped by several factors, analyses must be further disaggregated to determine the impacts of each factor on PF.

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# CAPÍTULO 3

# CAN PROACTIVE ENVIRONMENTAL STRATEGY IMPROVE MULTILATINAS´LEVEL OF INTERNATIONALIZATION: THE MODERATING ROLE OF BOARD INDEPENDENCE

# CAN PROACTIVE ENVIRONMENTAL STRATEGY IMPROVE MULTILATINAS' LEVEL OF INTERNATIONALIZATION? THE MODERATING ROLE OF BOARD INDEPENDENCE

**Abstract**

This paper explores the relationships between proactive environmental strategy (PES) and internationalization in Emerging Markets Multinationals from Latin America (Multilatinas). Drawing on the Resource-Based View and Institutional Theory, and using a sample of 86 listed firms during the period 2013–2017, we find that Multilatinas with higher tiers of PES are associated with higher degrees of geographic international diversification (GID). Since adopting PES is directly conditioned by institutional pressures to comply with stakeholders' regulations and expectations, Multilatinas that implement advanced PES will be able to achieve a higher level of international presence in foreign markets. Our results also reveal that board independence (BI) positively moderates the relationship between PES and GID. Specifically, BI provides Multilatinas with the opportunity to integrate valuable knowledge and expertise and thus to take advantage of implementing advanced PES to achieve even greater levels of internationalization. This study expands understanding of how environmental strategies influence internationalization of firms in the Latin American business context.

Keywords: Proactive environmental strategy; Multilatinas; Geographic international diversification; Board independence; Emerging markets multinationals; Latin America.

## 3.1 Introduction

During the last decade, the world has been experiencing the consequences of severe pollution and climate change, increasing organizations' environmental awareness of the importance of transforming production activities into environmentally friendly and profitable businesses (Bruni, Guerriero, & Patitucci, 2011; Duque, González, & Restrepo, 2016; González-Ruiz, Botero-Botero, & Duque-Grisales, 2018). As companies seek to improve their environmental performance to develop competitive advantages (Aragón-Correa & Sharma, 2003; Bansal, 2005; Molina-Azorín, Claver-Cortés, López-Gamero, & Tarí, 2009), environmental management becomes a strategic issue (González-Benito & González-Benito, 2006). Proactive environmental strategies (PES) are a valuable competency that can bring firms various business benefits (Sharma & Vredenburg, 1998). For instance, in addition to appreciating companies' distinguished corporate image, customers and other important stakeholders will view PES-adopting companies as good business citizens (Danso, Adomako, Amankwah-Amoah, Owusu-Agyei, & Konadu, 2019; Tsai & Liao, 2017).

Previous studies have analysed both the influence of internationalization on firms' tendency to launch products/procedures that mitigate environmental damage and the effects of internationalization on firms' adoption of environmental strategies. The literature examines aspects such as environmental regulations (i.e., Christmann, 2004), international experience and international diversification (e.g., Aguilera-Caracuel et al., 2012; Bansal, 2005). Other studies show that environmental management becomes relevant when companies operate in the international context (e.g., Aguilera-Caracuel,

Hurtado-Torres, & Aragón-Correa, 2012; Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; Bansal, 2005). Developing PES can thus help firms to integrate stakeholders' interests (Buysse & Verbeke, 2003; Christmann, 2004) and build a solid reputation to rise above business rivals in host country markets (Chen, Ong, & Hsu, 2016; López-Gamero, Molina-Azorín, & Claver-Cortes, 2009). As PES-adopting firms improve their expansion into foreign countries and attain solid corporate status (Aguilera-Caracuel & Guerrero-Villegas, 2018; Christmann & Taylor, 2001), they gain the legitimacy to operate beyond local markets.

Despite the studies mentioned, little attention has been paid to environmental strategies in emerging markets multinationals (EMMs) (e.g., Danso et al., 2019; Duque-Grisales & Aguilera-Caracuel, 2019; Gallego-Álvarez, 2018; Tsai & Liao, 2017). Even the largest Western multinationals acknowledge that EMMs are growing strikingly in scale and at remarkable speed. EMMs have procured new companies, expanding at a tremendous rate. The main drivers of expansion are the constant search for new markets, income sources, efficiencies, and in some cases even less-tangible elements such as national prestige and government policies. Even less research has analysed environmental strategies in EMMs with headquarters in Latin American countries (Multilatinas). Multilatinas have attracted attention from international business scholars (e.g., Duque-Grisales & Aguilera-Caracuel, 2019; Jormanainen & Koveshnikov, 2012). These firms are especially important in the international arena due to their great competitiveness in both costs and knowledge-intensive activities. Institutional Theory can be used to examine in depth the highly significant question of how Multilatinas become more internationally-oriented based on their environmental strategies. To fill this

research gap, our study seeks to provide evidence of the impact of PES on Multilatinas' level of internationalization.

Multilatinas tend to be organized in business or pyramidal groups with complex control and accountability structures. Aguilera, Ciravegna, Cuervo-Cazurra, & Gonzalez-Perez (2017) recently indicated the need for research on how these firms organize their boards of directors to handle growth derived from geographic diversification. The board of directors is at the apex of corporations' decision-making process. Every major operational or strategic decision, including the firm's policy concerning the natural environment, must be approved by the board (Kassinis & Vafeas, 2002). Previous studies also show that directors play the key role in companies' internationalization (Barroso, Villegas, & Pérez-Calero, 2011). In the context of Multilatinas, independent directors can be beneficial because they can improve the firm's reputation and leverage knowledge via better quality of governance (Love & Klapper, 2002). According to the Resource-Based View (RBV), independent directors with specific knowledge and expertise may influence the way Multilatinas develop their PES to achieve greater levels of internationalization. Further, this effect could occur through identification and selection of the most appropriate and profitable environmentally-responsible investment strategies, thus influencing Multilatinas' international expansion even more strongly. This paper proposes that the relationship between PES and Multilatinas' internationalization level is moderated by board independence (BI).

This paper makes three key contributions. First, it contributes to the existing literature on international business by extending Institutional Theory (Scott, 1987) and

the natural RBV of firms (Hart, 1995) to analyse both the influence of PES on geographic international diversification (GID) in the context of Multilatinas and the moderating effect of BI in that relationship. Second, this paper makes a unique contribution to the literature by combining the environmental management and corporate governance literatures to explain Multilatinas' GID. Recent studies explore how corporate governance encourages adoption of PES (Berrone & Gomez-Mejia, 2009; Ortiz-de-Mandojana, Aguilera-Caracuel, & Morales-Raya, 2016; Walls, Berrone, & Phan, 2012), but the effects of corporate governance on international expansion have not been sufficiently analysed (especially in EMMs). Our study focuses on the role of BI in the PES-GID relationship. Third, while this issue has recently attracted growing research interest, most empirical results are based on Chinese and Indian multinationals; little attention has been paid to Multilatinas. Our study analyses the phenomenon using a sample of Multilatinas, as Latin America provides an interesting and unique context for testing old theories and generating new insights into EMMs' internationalization (Aguilera et al., 2017).

This article is organized as follows: First, it discusses the theoretical framework and the three theories used to develop the hypotheses. Next, it explains the study sample, data and methodology. Finally, it reports the results, discusses the main findings and draws conclusions.

## 3.2 Theoretical background and hypothesis

### 3.2.1 Reactive and proactive environmental strategy in the context of Multilatinas

Over the last two decades, an important group of multinationals has emerged from the developing regions, especially from Asia and Latin America. Multilatinas have been shaped by poor institutional conditions in their home countries (Marano, Tashman & Kostova, 2017)—especially, weak corporate governance (Cuervo-Cazurra & Ramamurti, 2014), high levels of political risk (Henisz, 2000), limiting regulations and feeble control of corruption (Cuervo-Cazurra, 2016). Some authors argue that the presence of such companies outside their countries of origin is explained only by their privileged access to scarce natural resources and/or cheap labour (Debrah, McGovern, & Budhwar, 2000).

Multilatinas initially tended to develop reactive environmental strategies, merely responding to changes in environmental regulations or stakeholder pressures and not viewing environmental management as a priority. As different stakeholders and consumers in other international markets become better informed and more aware of the environmental impact of consumer products, however, they demand that firms improve their environmental performance. Multilatinas should thus adopt more PES by developing corporate environmental practices beyond the requirements of environmental regulations and standard actions in order to reduce the environmental impact of their operations (Aragón-Correa & Sharma, 2003). Since Multilatinas seek to achieve innovative capabilities relevant to other countries that are relatively easy to transfer

internationally (Khanna & Palepu, 2010), they can use these capabilities to improve their environmental strategy as an inevitable internationalization strategy. Improving their competitive position can enable Multilatinas not only to access new markets, but also to enhance their technology, production and trade.

Numerous typologies and taxonomies have anticipated different levels of environmental strategy proactivity, classifying strategies on a spectrum from passive (or reactive) to more advanced (or proactive) (Aragón-Correa, 1998; Buysse & Verbeke, 2003; Henriques & Sadorsky, 1999; Murillo-Luna, Garcés-Ayerbe, & Rivera-Torres, 2011). Hart (1995) distinguishes four types of environmental strategy: (1) end-of-pipe approach, (2) pollution prevention or total quality management, (3) product stewardship and (4) sustainable development. Henriques and Sadorsky (1999) identify four groups: Reactive Strategy, Defensive Strategy, Accommodative Strategy and Proactive Strategy. Both of these studies relate to more- or less-advanced environmental firm practices. Along similar lines, Buysse and Verbeke (2003) propose three categories of environmental strategies: Reactive Strategy, Pollution Prevention and Environmental Leadership. Murillo-Luna et al. (2011) find four types of environmental response pattern based on degree of proactivity—that is, on whether firms tend to anticipate or react to environmental requirements and to use prevention or corrective action in handling pollution: Passive Response, Attention to Legislation Response, Attention to Stakeholders Response and Total Environmental Quality Response.

Based on Hart (1995), Buysse and Verbeke (2003) and Murillo-Luna et al. (2011), this paper proposes PES that focuses on development of four required and essential

dimensions: environmental initiatives (EI), environmental actions (EA), green innovations (GI) and emissions control (EC). Like the end-of-pipe approach (Hart, 1995), EI reflect willingness to implement and fulfil environmental policies and must be adjusted continuously to changing regulatory pressures. EA implement EI through effective investments and environmental expenditures. GI involves forms of product differentiation in which products and manufacturing processes are designed to minimize the negative environmental burden during products' entire life cycle, as in the case of product stewardship strategy (Hart, 1995). Finally, in pollution prevention (Hart, 1995; Murillo-Luna et al., 2011), EC indicates firms' continuous adaptation of their products and production processes to reduce pollution levels below legal requirements. These four dimensions are presented in detail in Section 3-3.

### 3.2.2 Proactive environmental strategy and internationalization of Multilatinas

Firms develop PES by voluntarily investing resources to achieve their objectives. Environmentally proactive firms are likely to design or alter products and processes to avoid negative environmental effects (Porter & Kramer, 2006) and obtain competitive advantages (Tsai & Liao, 2017) that enhance their reputation and legitimacy (Berrone & Gomez-Mejia, 2009; Schnittfeld & Busch, 2016). Furthermore, corporations implementing PES and seeking to identify and evaluate environmental trends are likely to innovate and enjoy the competitive advantages gained by establishing industry standards that enable them to build potential entry barriers against competitors (Khanna & Palepu, 2010).

Multilatinas that implement PES beyond regulatory compliance can boost their sales and market share (Danso et al., 2019), and exploit new opportunities in foreign markets (Quan, Wu, Li, & Ying, 2018). Similarly, when Multilatinas consider institutional characteristics in both their home countries and their foreign host markets (Duque-Grisales & Aguilera-Caracuel, 2019), they can use PES to build a positive corporate image and obtain high levels of customer satisfaction (e.g., Bhattacharya & Sen, 2003). Such firms may obtain support and legitimacy from interest groups that lead them to achieve higher levels of internationalization (Murray, Gao, & Kotabe, 2011).

Moreover, Multilatinas can anticipate future regulations or evaluate environmental trends that positively affect the interactions between Multilatinas and their host countries´ governments (e.g., Rathert, 2016). As host countries' governments become more willing to cooperate with Multilatinas (Li et al., 2018), they may grant Multilatinas licenses to operate, clearly improving Multilatinas' market value (Bhanji & Oxley, 2013).

We propose that, because Multilatinas with stronger PES demonstrate greater commitment to environmental improvement, they may become more visible, gain increased recognition in various markets as environmentally-friendly companies and ultimately expand their operations easily in different countries and regions with varied institutional (Kostova & Roth, 2002), political, environmental and cultural profiles (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013). By responding properly to stakeholders' demands (Kang, 2013), such companies can overcome entry barriers in

specific markets, enhancing their reputation and legitimacy in the different markets in which they operate (Cuervo-Cazurra, 2016).

Based on the foregoing, we formulate following hypotheses:

***H1: Proactive environmental strategy is positively related to geographic international diversification of Multilatinas.***

Since PES focuses on development of four dimensions, we propose the following sub-hypotheses as constituents of H1:

***H1a: Environmental initiatives are positively related to geographic international diversification of Multilatinas.***

***H1b: Environmental actions are positively related to geographic international diversification of Multilatinas.***

***H1c: Green innovations are positively related to geographic international diversification of Multilatinas.***

***H1d: Emissions control is positively related to geographic international diversification of Multilatinas.***

### 3.2.3 Moderating effect of board independence

Having analysed the direct relationship between PES and internalization of Multilatinas, we can now identify other factors affecting the strategic decisions that firms

make. The board of directors is at the apex of the decision-making process in corporations. Every strategic decision, including the firm's policy toward the natural environment, must go through the board (Kassinis & Vafeas, 2002). Previous studies also show that directors play the key role in the internationalization of companies (Barroso et al., 2011). According to the RBV, one way directors provide resources is to participate in firm strategy (Barroso et al., 2011). Studies show the importance of BI, which is usually related to the presence of independent directors, that is, individuals not employed as officers of the company (Chen, 2011).

Independent directors with diverse background and skills provide counsel and advice to top managers, formulate corporate strategy, facilitate access to resources and build good external relations with stakeholders (Hillman, Cannella, & Paetzold, 2000; Van den Berghe & Levrau, 2004). Independent directors have a broader vision and experience of other sectors and can use their managerial expertise from other areas to bring companies valuable knowledge on how to operate in more diversified environments and markets (Sanchez-Bueno & Usero, 2014). Independent directors tend to promote PES because they understand better the importance of making long-term environmental investments (Calza, Profumo, & Tutore, 2016) and integrating them as a source of sustainable competitive advantage. Previous studies also note that director interlocks (i.e., directors who simultaneously belong to the boards of directors of several companies) with firms that provide knowledge-intensive business services are positively linked to the adoption of PES (Ortiz-de-Mandojana, Aragón-Correa, Delgado-Ceballos, & Ferrón-Vílchez, 2012).

In the context of Multilatinas, the broader vision and experience of independent directors may have a positive impact on strategic decision-making capacities and the quantity and quality of environmental investments (Cuadrado-Ballesteros, Rodríguez-Ariza, & García-Sánchez, 2015). Independent directors would persuade the firm to respond to different environments' needs and develop PES to enhance organizational legitimacy to operate in foreign markets (Reuber & Fischer, 1997). Such directors may lead Multilatinas to develop advanced, effective PES by establishing environmental policies and initiatives, green innovations and pollution control (González-Benito & González-Benito, 2010)—strategies that aim to improve stakeholder engagement and advanced corporate transparency (Frias-Aceituno, Rodriguez-Ariza, & Garcia-Sanchez, 2013). These strategies can also help firms to overcome environmental challenges (López-Gamero et al., 2009) and achieve higher international visibility and reputation, leading to higher GID. Taking into account the foregoing arguments, this paper proposes the following hypotheses:

***H2: Board independence positively moderates the relation between Multilatinas' proactive environmental strategy and geographic international diversification.***

Since PES focuses on development of four dimensions, we propose the following sub-hypotheses as constituents of H2:

***H2a: Board independence positively moderates the relation between Multilatinas' environmental initiatives and geographic international diversification.***

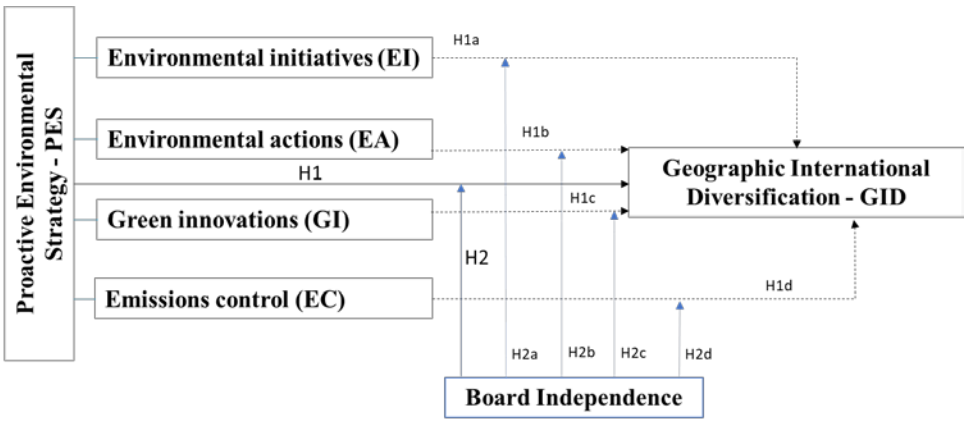
***H2b: Board independence positively moderates the relation between Multilatinas' environmental actions and geographic international diversification.***

***H2c: Board independence positively moderates the relation between Multilatinas' green innovations and geographic international diversification.***

***H2d: Board independence positively moderates the relation between Multilatinas' emissions control and geographic international diversification.***

Figure 3-1 summarizes the research model developed in this study.

**Figure 3-1 Research model**




According to each dimension's characteristics and the increasing role that the MNEs' internal institutional profile plays, we state that a high environmental institutional distance in the cognitive and normative dimensions is going to contribute to generating non-location-bound green FSAs within the MNE. In contrast, a high environmental regulatory distance will lead MNEs to generate location-bound green FSAs only in

specific countries, and consequently adapt their environmental practices to each country's legal requirements.

Regulatory, cognitive and normative dimensions may invoke different types of motivations for adopting social patterns that, in turn, may lead to different types and levels of adoption (DiMaggio & Powell, 1983). Hence, taking into account that each dimension reflects different facets of the same institutional environment, a separate analysis of each one to assess their influence on the generation of non-location-bound green FSAs within the MNE is necessary.

## 3.3 Material and methods

### 3.3.1 Data

Three criteria were employed for selecting the companies whose data were collected for analysis. First, we considered only Multilatinas that made over USD $1 billion in annual revenue and were included in the MSCI Emerging Markets Index. The MSCI Emerging Markets Index is designed to reflect the performance of large- and mid-cap securities in 26 emerging markets. This index is the most widely adopted mandate structure for emerging markets investors due to its risk and performance analytics. The MSCI methodology requires that the companies composing the index provide information on environmental, social and governance (ESG) strategies to the market. Second, we selected companies listed on the Latin American stock market, based on quality of financial data and availability of financial information. This filter produced 111 companies, primarily from Brazil, Mexico, Colombia, Chile and Peru. Third, we

chose companies that provided information on financial, environmental and governance factors to the Thomson Reuters' ASSET4 ESG database. Schäfer, Beer, Zenker, & Fernandes (2006) characterize the Thomson Reuters Asset4 database as containing transparent, objective, auditable, comparable and systematic economic ESG information to provide a comprehensive platform to establish benchmarks for assessment of corporate performance. After applying this filter, we obtained a total sample of 430 observations from 86 companies, distributed across 6 sectors identified by their 2-digit code in the North American Industry Classification System (NAICS), as follows: 26.74% Manufacturing (S31); 24.42% Retail Trade (S44); 17.44% Mining, Oil and Gas Extraction (S21);16.28% Utilities (S22) and 15.12% other. Our sample period is 2013–2017.

### 3.3.2 Variables

#### 3.3.2.1 Dependent variable

Our dependent variable is Geographic International Diversification. GID is a good proxy of internationalization because it is determined by the number of countries and/or regions in which firms develop their activities (Strike, Gao, & Bansal, 2006). Prior research recommends use of multiple dimensions to measure international diversification for more comprehensive assessment of the phenomenon (e.g., Hitt, Tihanyi, Miller, & Connelly, 2006). Following Aguilera-Caracuel et al. (2015), we measured GID as firm sales outside the domestic market according to distribution worldwide using the entropy index.

The following formula was used to calculate the entropy index:

$$GID = \sum_i P_i \, x \, Ln(1/P_i) \quad (1)$$

where $P_i$ is the sales percentage in a specific region i, and $Ln\left(\frac{1}{P_i}\right)$represents the weight given to a region. This ratio considers both the number of regions in which the company operates and the relative importance of each region to the company's total sales (Hoskisson, Hitt, Johnson, & Moesel, 1993). To calculate entropy, we use the international market sales data available in Thomson Reuters' geographic segment for each company to classify foreign markets into six relatively homogeneous global regions: North America, Central America, Latin America (excluding the firm's own market), Europe, Asia and the Pacific, and Africa. These regions are consistent with the World Bank's (2018) classification of regions.

#### 3.3.2.2 Independent variable

This study uses Proactive Environmental Strategy as an independent variable. Previous researchers have used qualitative measuring tools based on mail surveys conducted on specific company samples (Aragón-Correa, 1998; González-Benito & González-Benito, 2005) and environmental performance indicators provided by institutional agencies (Kock, Santaló, & Diestre, 2012). We decided to evaluate 32 indicators from the Thomson Reuters Asset4 database for this variable. These indicators characterize environmental proactivity as an overall measure and reflect a company´s performance and capacity to reduce the use of materials, energy or water and to find more eco-efficient solutions by improving supply chain management and creating new

market opportunities through new environmental technologies and processes or eco-designed products. The indicators also capture a company's commitment and effectiveness in reducing environmental emissions in production and operational processes. A wide range of relevant prior international business studies have used these indicators to capture degree of PES (e.g., Gallego-Álvarez, 2018; Semenova & Hassel, 2015; Taliento, Favino, & Netti, 2019).

**Table 3-1 Factors influencing PES**

| Indicator | Description |
|---|---|
| Resource Reduction Policy | Does the company have a policy to reduce the use of natural resources or to lessen the environmental impact of its supply chain? |
| Water Efficiency Policy | Does the company have a policy to improve its water efficiency? |
| Energy Efficiency Policy | Does the company have a policy to improve its energy efficiency? |
| Emissions Policy | Does the company have a policy to improve emissions reduction? |
| Resource Reduction Target | Does the company set specific objectives for resource efficiency? |
| Environmental Management Team | Does the company have an environmental management team? |
| Environmental Management Training | Does the company train its employees in environmental issues? |
| Toxic Chemicals Reduction | Does the company report on initiatives to reduce, reuse, replace or phase out toxic chemicals or substances? |
| Total Energy Use/Million in Revenue $ | Total direct and indirect energy consumption in gigajoules divided by net sales or revenue in US dollars |
| Renewable Energy Use | Does the company make use of renewable energy? |
| Total Water Use/Million in Revenue $ | Total water withdrawal in cubic meters divided by net sales or revenue in US dollars |
| Environmental Supply Chain Management | Does the company use environmental criteria (ISO14001, energy consumption, etc.) in selecting its suppliers or sourcing partners? |
| Environmental Controversies | Is the company in the media spotlight because of a controversy linked to the environmental impact of its operations on natural resources or local communities? |
| Total CO2 Emissions/Million in Revenue $ | Total CO2 and CO2 equivalents emissions in tonnes divided by net sales or revenue in US dollars |
| CO2 Equivalents Emission Total | Total CO2 and CO2 equivalents emissions in tonnes |
| Emissions Trading | Does the company report on its participation in any emissions trading initiative(s)? |
| NOx and SOx Emissions Reduction | Does the company report on initiatives to reduce, reuse, recycle, replace or phase out SOx or NOx emissions? |
| Particulate Matter Emissions Reduction | Does the company report on initiatives to reduce, reuse, recycle, replace or phase out particulate matter less than ten microns in diameter (PM10)? |
| Waste Recycled | Total recycled and reused waste produced in tonnes |
| Hazardous Waste | Total amount of hazardous waste produced in tonnes |
| Waste Reduction Initiatives | Does the company report on initiatives to reduce, reuse, recycle, replace or phase out total waste? |
| EMS Certified, Percent | Percentage of company sites or subsidiaries that are certified with any environmental management system |
| Environmental Restoration Initiatives | Does the company report or provide information on company-generated initiatives to restore the environment? |

| | |
|---|---|
| Environmental Investments | Does the company report on environmental expenditures or on making proactive environmental investments to reduce future risks or increase future opportunities? |
| Environmental Expenditures | Total amount of environmental expenditures |
| Environmental Provisions | Environmental provisions as reported in the balance sheet |
| Environmental Partnerships | Does the company report on partnerships or initiatives with specialized NGOs, industry organizations, or governmental or supra-governmental organizations that focus on improving environmental issues? |
| Environmental Products | Does the company report on at least one product line or service that is designed to have positive effects on the environment or that is labelled and marketed as environmentally preferable? |
| Eco-Design Products | Does the company report on specific products designed for reuse, recycling or reduction of environmental impacts? |
| Noise reduction | Does the company develop new products that are marketed as reducing noise emissions? |
| Environmental Products | Does the company report on product features and applications or services that promote responsible, efficient, cost-effective and environmentally preferable use? |
| Renewable/Clean Energy Products | Does the company develop products or technologies for use in the clean, renewable energy (such as wind, solar, hydro, geo-thermal or biomass power)? |

Exploratory Factor Analysis using principal component analysis and Varimax rotation method with Kaiser Normalization in SPSS version 24.0 were employed to reduce the number of items to a more manageable level. The reduction resulted in 5 factors with eigenvalues of over 1 and variance of over 79.03%. The KMO value is 0.943, with a Bartlett's test significance of 0.000. As the reliability analysis performed (Cronbach's Alpha > 0.8) was only satisfactory for 4 factors, we discarded the fifth. The average variance extracted (AVE) took values above 0.5, consistent with acceptable criteria (Fornell & Larcker, 1981); items with low loadings (< .5) were deleted.

Table 3-2 displays the results. Finally, to confirm our findings, we conduct confirmatory factor analysis and obtain 5 factors.

**Table 3-2 Rotated component Varimax matrix of factors influencing PES**

| Construct / Indicator | Loadings | Eigenvalues | % of variance | Cumulative % | Cronbach's Alpha |
|---|---|---|---|---|---|
| **Factor 1: Environmental Initiatives** | | **5.211** | **38.612** | **38.612** | **0.935** |
| Resource Reduction Policy | 0.886 | | | | |
| Policy Water Efficiency | 0.835 | | | | |
| Policy Energy Efficiency | 0.873 | | | | |
| Policy Emissions | 0.738 | | | | |
| Waste Reduction Initiatives | 0.561 | | | | |
| Environmental Partnerships | 0.685 | | | | |
| **Factor 2: Environmental Actions** | | **2.338** | **16.620** | **55.232** | **0.921** |
| EMS Certified Percent | 0.559 | | | | |
| Environmental Investments | 0.642 | | | | |
| Environmental Expenditures | 0.627 | | | | |
| Environmental Provisions | 0.613 | | | | |
| **Factor 3: Green Innovations** | | **1.720** | **17.451** | **72.683** | **0.865** |
| Environmental Products | 0.670 | | | | |
| Eco-Design Products | 0.876 | | | | |
| Product Environmental | 0.512 | | | | |
| Renewable/Clean Energy Products | 0.504 | | | | |
| **Factor 4: Emissions Control** | | **1.338** | **5.081** | **77.764** | **0.832** |
| Emissions Trading | 0.681 | | | | |
| NOx and SOx Emissions Reduction | 0.678 | | | | |
| Total CO2 Emissions / Million in Revenue $ | 0.724 | | | | |
| CO2 Equivalents Emission Total | 0.601 | | | | |
| **Factor 5: Toxic Chemical Reduction** | | **1.266** | **1.755** | **79.030** | **0.758** |
| Toxic Chemicals Reduction | 0.711 | | | | |

*Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. Rotation converged in 14 iterations.

The results of the factor analyses suggest that Factor 1 is the most important, as it explains about 38.6% of the total variation. Composed of six attributes, Factor 1 can be termed "Environmental Initiatives" (EI) and is associated with a company's compliance with environmental norms and policies. Four attributes contributed to Factor 2, "Environmental Actions" (EA). It is interesting to see how the managers want to protect the environment by giving environmental initiatives concrete form in effective investments. Factor 3 (Green Innovations (GI)), with three indicators, is related to the

company's commitment through new environmental technologies and processes or eco-designed products. Factor 4, “Emissions Control” (EC), also involves the company’s commitment to reducing environmental emissions. Finally, Factor 5 is discarded due to insufficient factor load.

Based on these results, PES is composed of four dimensions obtained in the factor analysis described above: EI, EA, GI and EC. These dimensions are theoretically consistent with the dimensions included in the PES construct in previous relevant literature (Buysse & Verbeke, 2003; Hart, 1995; Murillo-Luna et al., 2011).

#### 3.3.2.3 Moderating variable

Our moderating variable is Board Independence. Following Chen (2011), we measured BI as the ratio of nonexecutive directors serving on the board divided by the total number of board members. We obtained these data from the Thomson Reuters’ ASSET4 ESG database.

#### 3.3.2.4 Control variables

We incorporated a list of control variables at board, firm and industry levels to monitor the extent to which they might affect the relationships proposed. The information was obtained from Thomson Reuters’ ASSET4 ESG database.

***Activity sector:*** It is generally assumed that companies in environmentally sensitive industries tend to adopt better PES than companies in environmentally non-sensitive industries. To consider the possible effect of industry type on the sample of firms, we

incorporate two dichotomous variables for four of the five activity sectors. Including the industry dummy controls for some industry-level factors that have been presented to explain the variations in environmental engagement across industries.

***GDP:*** Higher levels of economic development are assumed to lead to greater environmental responsibility due to higher levels of resources and greater awareness of social and environmental problems. To consider the possible effect of home country on the sample, we incorporate Gross Domestic Product (GDP) for each country in our analysis.

***Firm size:*** We use the logarithm of total sales from each Multilatinas. Size may be relevant in several ways—company size, which affects the adoption of PES, and possible existence of scale economies inherent to environmentally-oriented investments (Carballo-Penela & Castromán-Diz, 2015).

***Financial performance (FP):*** While it is essential to focus on aspects that most directly affect companies' benefits, achieving better financial performance gives companies the economic means to implement PES. We therefore use return on assets (ROA) to measure FP. This ratio expresses how a company's earnings correspond to different managerial policies and to relative efficiency of asset utilization.

***Board size:*** We define board size as number of board directors. Some studies suggest that a board's size may condition the way companies adopt environmentally responsible activities (Guest, 2009; Helfaya & Moussa, 2017).

***EMS:*** To estimate EMS, we create a dummy variable to indicate the presence or absence of implementation of an environmental management system such as ISO 14001. ISO 14001 is a process standard that grants facilities flexibility in the types of environmental goals they wish to establish. It encourages facilities systematically to manage their environmental impacts by requiring them to implement a series of internal management procedures (Arimura, Darnall, Ganguli, & Katayama, 2015).

***Slack:*** This ratio refers to the organizations' level of liquid assets, such as cash uncommitted to any goal, that can be invested in a wide range of activities (Duque-Grisales & Aguilera-Caracuel, 2019). Slack is of interest because Multilatinas are often slower to implement PES. Perceiving themselves as having scarcity of resources, they do not see PES practices as a priority. It is therefore valuable to analyse whether the presence of slack can condition Multilatinas to have other priorities, such as adopting an efficient PES.

Table 3-3 presents the correlation matrix and descriptive statistics for each of the study variables. We can see that the correlation coefficients are not very high, indicating that our estimations do not suffer from collinearity among the independent variables. The average GID is 0.797. We find a positive and significant correlation between GID and EIs ($\beta = 0.111$; $p<0.05$), and between EAs ($\beta = 0.178$; $p<0.01$) and GIs ($\beta = 0.225$; $p<0.05$) but insignificant correlation of GID with EC. Additionally, control variables such as board size and firm size have a positive and significant correlation at 1% with GID.

## Table 3-3 Descriptive statistics and correlations

| | *Mean* | *SD* | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* | *10* | *11* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1. Geographic International Diversification** | 0.79 | 0.57 | 1 | | | | | | | | | | |
| **2. Environmental initiatives** | 0.85 | 0.35 | 0.111* | 1 | | | | | | | | | |
| **3. Environmental actions** | 0.72 | 0.44 | 0.17** | 0.000 | 1 | | | | | | | | |
| **4. Green innovations** | 0.80 | 0.39 | 0.22** | 0.000 | 0.000 | 1 | | | | | | | |
| **5. Emissions control** | -0.04 | 0.37 | 0.067 | 0.026 | -0.015 | 0.041 | 1 | | | | | | |
| **6. Board independence** | 0.31 | 0.21 | -0.008 | -0.12** | -0.18** | -0.076 | 0.056 | 1 | | | | | |
| **7. Board size** | 10.6 | 3.92 | 0.16** | 0.249** | 0.090 | -0.042 | -0.042 | -0.027 | 1 | | | | |
| **8. ROA** | 0.11 | 0.43 | -0.061 | 0.117* | -0.023 | -0.079 | -0.17** | 0.004 | 0.086 | 1 | | | |
| **9. Firm size** | 3.99 | 1.34 | 0.22** | 0.083 | 0.159** | 0.064 | 0.071 | -0.170** | 0.115* | 0.028 | 1 | | |
| **10. GDP** | 3.04 | 0.40 | -0.048 | 0.404** | 0.093 | -0.19** | 0.173** | -0.038 | 0.249** | 0.022 | 0.083 | 1 | |
| **11. EMS** | 0.55 | 0.49 | 0.105 | 0.179** | 0.123* | 0.164** | 0.099* | -0.080 | 0.025* | -0.051 | 0.078 | -0.170 | 1 |
| **12. Slack** | 1.75 | 1.82 | -0.070 | -0.125** | 0.188** | 0.214** | -0.26** | 0.063 | 0.039 | 0.007 | -0.237** | 0.062 | -0.057 |
| **13. Mining and oil and gas extraction** | 0.14 | 0.34 | -0.062 | 0.033 | 0.004 | 0.003 | 0.057 | 0.124* | -0.018 | 0.027 | 0.140** | -0.071 | 0.005 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14. Utilities** | 0.12 | 0.33 | -0.12** | -0.052 | 0.107* | 0.184** | -0.064 | -0.15** | -0.025 | 0.011 | 0.184** | -0.093 | 0.071 |
| **15. Manufacturing** | 0.23 | 0.42 | 0.25** | -0.098* | 0.099* | 0.023 | 0.179** | 0.038 | 0.041 | -0.163** | -0.155** | 0.202** | -0.204 |
| **16. Retail trade** | 0.20 | 0.40 | -0.028 | 0.105* | 0.086 | -0.18** | -0.099* | -0.051 | 0.164** | 0.070 | -0.080 | -0.081 | -0.057 |
| **17. Other sectors** | 0.16 | 0.37 | -0.2** | -0.113* | -0.20** | -0.23** | -0.16** | -0.038 | -0.13** | 0.041 | 0.024 | -0.047 | 0.075 |

[a] = 430 observations. Table contains Pearson's correlation coefficients. *p < 0.05; **p < 0.01.

### 3.3.3 Estimation approach

The hypotheses in this study are tested using static panel data regression models of firms' GID as a function of PES, including various controls as appropriate. The authors estimate both fixed and random effects models. To control for unobserved heterogeneities in the data, we ran the Hausman test to determine when to use a fixed vs. random effects model. The results for the Hausman test indicate that the fixed effects estimators are inconsistent and that random effects estimates are more appropriate. The results of this test (for the models used in this article) show a p-value above 0.05 with a significance level of 5%, indicating that the null hypothesis cannot be rejected and that a random effects model is the preferred model for this regression. Finally, we use multiple - moderated regression analysis (Cohen, Cohen, West, & Aiken, 2013) to test the hypotheses, introducing the moderating effect as a multiplicative variable.

## 3.4 Results

Table 3-4 shows the results of the random effects regression analyses for each independent variable (EI, EA, GI and EC), including the control variables industry type, firm size, board size, ROA, GDP, EMS and Slack. The variance inflation factors are below 5 for each of the models presented, indicating that the results are not biased due to multicollinearity (Hair, Sarstedt, Ringle, & Mena, 2012). The model shows good fit, supported by an R2 within value and the F-statistic. One significant finding—that firm size, depicted as a control variable for all models, is positively related to GID ($p < 0.01$)—implies that larger firm size increases the firm's presence in other markets.

**Table 3-4 Results of the random effects linear regression model**

| | ***Model 1*** | ***Model 2*** | ***Model 3*** | ***Model 4*** |
|---|---|---|---|---|
| Constant | 0.964 (0.664) | 1.154 (0.678) | 0.992 (0.644) | 0.978 (0.659)* |
| **Control variables** | | | | |
| Mining, Oil and Gas Extraction sector | -0.008 (0.205) | 0.003 (0.209) | -0.006 (0.205) | -0.009 (0.206) |
| Utilities sector | -0.311 (0.201) | -0.311 (0.204) | -0.310 (0.204) | -0.307 (0.202) |
| Manufacturing sector | 0.403 (0.168)* | 0.405 (0.170)* | 0.398 (0.170)* | 0.402 (0.168)* |
| Retail Trade sector | 0.153 (0.171) | 0.159 (0.173) | 0.156 (0.172) | 0.154 (0.172) |
| ROA | 0.033 (0.021) | 0.048 (0.021)* | 0.035 (0.021) | 0.033 (0.021) |
| Firm size | 0.122 (0.041)** | 0.122 (0.041)** | 0.122 (0.041)** | 0.122 (0.0409)** |
| PIB | -0.232 (0.225) | -0.309 (0.229) | -0.232 (0.225) | -0.242 (0.225) |
| Board size | 0.368 (0.124) | 0.318 (0.229) | 0.381 (0.224) | 0.377 (0.123)* |
| EMS | 0.114 (0.101)* | 0.113 (0.103) | 0.109 (0.101) | 0.114 (0.101) |
| Slack | 0.009(0.000)** | 0.009(0.001)** | 0.008(0.000)** | 0.009(0.000)** |
| **Independent variables** | | | | |
| F1 Environmental initiatives | 0.139 (0.034)* | | | |
| F2 Environmental actions | | 0.005 (0.017) | | |
| F3 Green innovations | | | 0.003 (0.014) | |
| F4 Emissions control | | | | 0.004 (0.011) |
| R2 within | 0,1372 | 0,1397 | 0,1346 | 0,1186 |
| F-static | 13.992** | 12.499** | 13.521** | 14.018*** |
| VIF | 1.324 | 1.638 | 1.564 | 1.536 |
| Notes: The table includes coefficients of the regression model (estimators); Standard deviations are included in parentheses. Significant at *p < 0.055; **p < 0.01; ***p < 0.001 | | | | |

As Table 3-4 shows, EI has a positive and significant effect on the firm's GID in Model 1 ($\beta = 0.139$; $p<0.05$). Hypothesis 1a is thus accepted. Since Models 2, 3 and 4 show that EA, GI and EC do not have a statistically significant effect on the firm's GID, Hypotheses 1b, 1c and 1d are rejected. In conclusion, Hypothesis 1 is partially rejected.

Finally, in Table 3-5, Models 5 to 8 show the full model, including moderating effects.

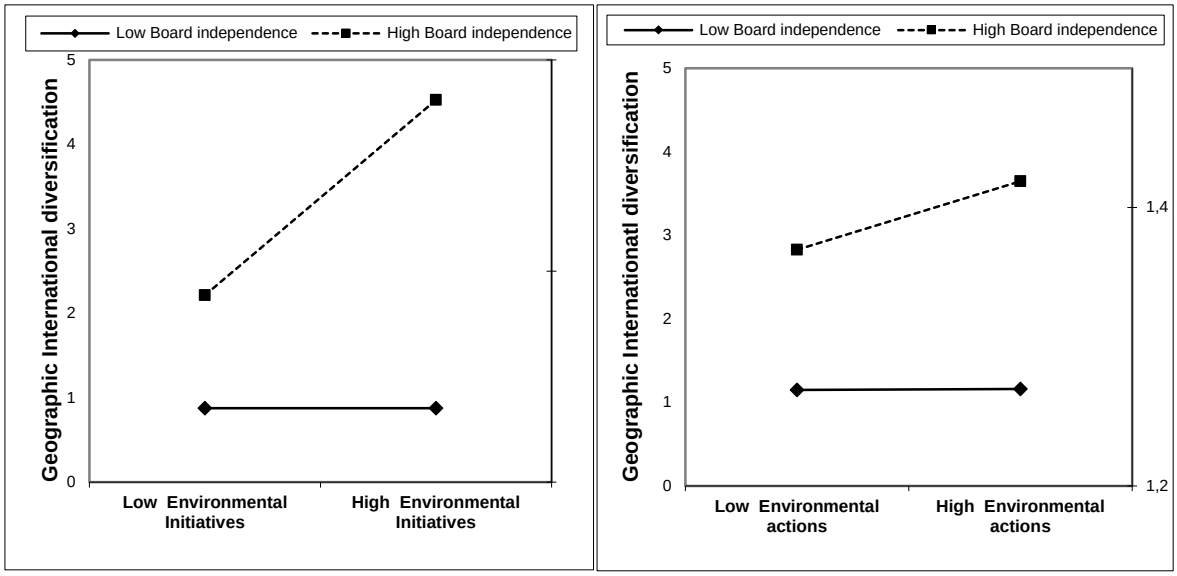
**Table 3-5 Results of the random effects linear regression model**

| | ***Model 5*** | ***Model 6*** | ***Model 7*** | ***Model 8*** |
|---|---|---|---|---|
| Constant | 0.954 (0.665)* | 1.223 (0.678)* | 1.144 (0.678) | 1.223 (0.678)* |
| **Control variables** | | | | |
| Mining, Oil and Gas Extraction sector | -0.009 (0.206) | 0.002 (0.210)* | 0.003 (0.209) | 0.002 (0.210)* |
| Utilities sector | -0.307 (0.202) | -0.315 (0.206) | -0.311 (0.204) | -0.315 (0.206) |
| Manufacturing sector | 0.402 (0.168)* | 0.399 (0.171)* | 0.405 (0.170)* | 0.399 (0.171)* |
| Retail Trade sector | 0.154 (0.172) | 0.161 (0.174) | 0.159 (0.173) | 0.161 (0.174) |
| ROA | 0.033 (0.021) | 0.048 (0.021)* | 0.048 (0.021)* | 0.048 (0.021)* |
| Firm size | 0.122 (0.0409)** | 0.124 (0.041)** | 0.122 (0.041)** | 0.124 (0.041)** |
| PIB | -0.242 (0.225) | -0.318 (0.229) | -0.309 (0.229) | -0.318 (0.229) |
| Board size | 0.377 (0.123)* | 0.311 (0.227) | 0.318 (0.229) | 0.311 (0.227) |
| EMS | 0.110 (0.110)** | 0.106 (0.103)** | 0.108 (0.101)* | 0.113 (0.101) |
| Slack | 0.009(0.000)** | 0.009(0.000)** | 0.008(0.000)** | 0.009(0.000)** |
| **Independent variables** | | | | |
| F1 Environmental initiatives | 0.137 (0.035)*** | | | |
| F2 Environmental actions | | 0.007 (0.017) | | |
| F3 Green innovations | | | 0.006 (0.034) | |
| F4 Emissions control | | | | 0.005 (0.042) |
| **Moderating effects** | | | | |
| Board independence | 0.079 (0.068) | 0.084 (0.073) | 0.089 (0.067) | 0.082 (0.075) |
| EI x board independence | 0.135 (0.143)** | | | |
| EA x board independence | | 0.015 (0.102)* | | |
| GI x board independence | | | 0.003 (0.022) | |
| EC x board independence | | | | 0.004 (0.057) |
| $R^2$ within | 0,1554 | 0,1692 | 0,1528 | 0,1511 |
| F-static | 14.873*** | 13.152*** | 14.719** | 13.548*** |
| VIF | 1.899 | 1.936 | 1.864 | 1.870 |

Notes: The table includes coefficients of the regression model (estimators); standard deviations are included in parentheses. Significant at *p < 0.055; **p < 0.01; ***p < 0.001

Hypothesis 2 suggests that BI moderates the relationships between each of the four PES analysed (EI, EA, GI and EC) and GID. Model 5 shows that BI moderates the relationship of EI and GID to Multilatinas ($\beta = 0.135$; $p<0.01$) (see Figure 3-2a). Additionally, Model 6 shows that BI positively moderates the relationship between EA and GID ($\beta = 0.015$; $p<0.05$) (see Figure 3-2b), supporting Hypotheses 2a and 2b.

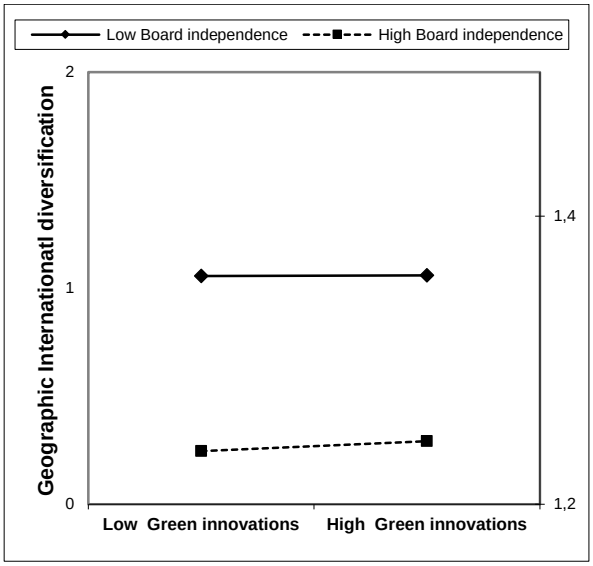
**Figure 3-2 The moderating effect of Board Independence on the relationship between EIs – EAs and GID**



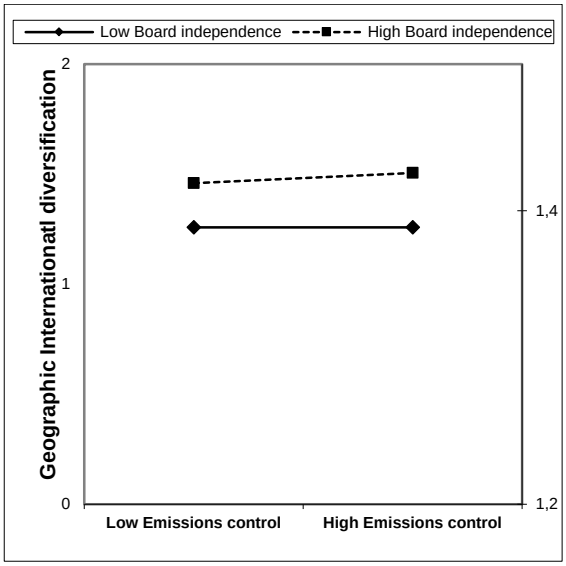

a) *BI - EIs – GID* b) *BI - EAs – GID*

Model 7, in contrast, does not provide sufficient statistical support for Hypothesis H2c. That is, a Multilatinas´ BI does not moderate the relationship between its GID and GI (Figure 3-3a). Finally, Model 8 shows that BI does not moderate the relationship between EC and GID ($\beta = 0.004$; $p < 0.05$) for our sample of firms (Figure 3-3b). This result allows us to reject Hypothesis H2d. Since two of the four dimensions that constitute PES are moderated by BI, we can partially accept Hypothesis 2.

**Figure 3-3 The moderating effect of Board Independence on the relationship between GI – EC and GID**




c) *BI - GI – GID*




d) *BI - EC - GID*

## 3.5 Discussion, limitations and future studies

This study explores the link between PES and GID in EMMs. It suggests a relationship between Multilatinas that deploy higher levels of environmental strategy with higher degrees of internationalization. Like Martín-Tapia, Aragón-Correa, & Rueda-Manzanares (2010), who find a positive relation between PES and internationalization activities by multinationals in developed markets, this study suggests that EMMs (Multilatinas in particular) adopting PES are more likely to pursue the benefits of internationalization.

We find robust theoretical and empirical evidence to affirm that PES should focus on four strategic dimensions: EI, EA, GI and EC. These dimensions demonstrate Multilatinas' commitment to the natural environment, which can help them to build a positive image of their products and processes by achieving a high level of customer and

stakeholder satisfaction. Effective development of this type of environmental strategy enables firms to gain greater international presence through improvement of transparency, reputation and legitimacy worldwide.

Firstly, our results confirm that only the relationship between EI and GID is statistically significant and positive in Multilatinas. When Multilatinas express their commitment to protecting the natural environment through compliance with international as well as local environmental policies, they show themselves to be agents of change. These companies then become more visible and project an environmentally-friendly corporate brand. As they develop more environmental initiatives, they acquire greater organizational capabilities to anticipate change and exploit new opportunities in international markets. For Shah, Arjoon, & Rambocas (2016), firms that develop environmental corporative responsibility should take development of environmental initiatives (environmental policies) into consideration first. Mastrandonas & Strife (1992) argue that the first step is an overall policy statement of a firm's environmental stewardship to obtain proactive communication with the corporation's stakeholders. Henriques & Sadorsky (1999) indicate that a firm's stakeholders can identify whether firms have a proactive ecological commitment to the nature through their environmental policy planning. Environmental initiatives are therefore key in helping Multilatinas initially to enhance their internationalization.

Multilatinas do not achieve higher levels of internationalization, however, when they attend to enhancing their EA and GI, and implementing advanced emission control programs. These results can probably be explained by the fact that environmental

investments in the Latin American context are still regarded as expenses that negatively affect performance, leading to misperceptions of such actions. Likewise, making efforts to improve production processes or to innovate in products or EC at the source does not guarantee Multilatinas' internationalization. These actions are not seen as a priority because they require great expense in the initial stage. Since Multilatinas do not have an approach to innovation, they neither seek patents to improve their environmental processes nor make their GI or EC sufficiently visible.

It is important to note that the benefits of environmentally friendly policies derive from Multilatinas' intentions, independent of effective implementation. Environmental initiatives do not necessarily guarantee that these firms will take the right actions to face environmental challenges. Opting to go green is thus an easy way access new demanding markets, but environmental policies could risk greenwashing (Meng, Zeng, Xie, & Zou, 2019) if firms do not change their way of producing, working and operating in subsequent years.

Secondly, to achieve greater visibility and higher levels of internationalization, Multilatinas must implement efficient internal governance mechanisms. This paper analyses whether BI moderates the effectiveness of PES in Multilatinas' GID. Our findings are consistent with recent studies (Fuente, García-Sanchez, & Lozano, 2017): the mere presence of BI does not affect GID in Multilatinas. Rather, independent directors must be aligned with the corporate environmental strategy. This study thus highlights the active role of independent directors in environmentally strategic decision-making processes and intentions. Independent directors must also work toward the firm's

compliance with government/international regulations, responsible behaviour and contribution to environmental issues by contributing their knowledge and expertise. We show that the relationship between EI and GID is stronger when the percentage of BI increases. As argued in theoretical development, director interlocks with firms providing knowledge-intensive business services are positively linked to the adoption of PES (Ortiz-de-Mandojana et al., 2012).

As to the relationship between EA and GID, we find empirical evidence to support the moderating role of BI as well. When independent directors of Multilatinas are concerned to implement EA, they promote firm internationalization. Since the board makes strategic investments in environmental issues, providing corporate visibility and positive reputation (Aguilera-Caracuel & Guerrero-Villegas, 2018), Multilatinas can display an accountable, legitimate, transparent corporate image committed to protecting the environment (Christmann, 2004). This image enables them to establish agreements and collaborations with other organizations and institutions and gain license to operate in international markets. In sum, these results suggest that the expertise and knowledge of the independent directors are more likely to develop environmental policies and initiatives and make effective investments to improve the firm's environmental reputation in the context of Multilatinas, increasing these firms' presence in other markets (Ortas, Álvarez, & Zubeltzu, 2017).

Contrary to our expectations, the analysis found no evidence of a moderating effect of BI in either the relationship between GI and GID or the relationship between EC and GID. These results suggest that development of GI and EC does not necessarily imply

greater internationalization of the firm, even when Multilatinas have independent directors. One possible explanation may be that independent directors do not focus especially on monitoring and promoting specific activities related to environmental strategies, such as innovative activities related to products, manufacturing processes and pollution prevention programmes. Another explanation could be that Multilatinas may not be especially interested in developing and implementing "green" products and processes, despite the presence of experienced independent directors (with skills and knowledge of the sector). This lack of interest may stem from the large quantity of resources that these activities consume, especially in the short term.

This study differs from those reported in the literature review. Previous findings on the value relevance of relations between PES and internationalization cannot be generalized to EMMs such as Multilatinas due to the different institutional conditions in their home countries. Our study thus addresses an international research gap in the previous International Business literature in the context of EMMs in general and of Multilatinas in particular. Additionally, our empirical results provide evidence to support the view that managerial perceptions of environmental pressures motivate firms to take developing advanced PES more seriously in order to improve GID (Sarkis, Gonzalez-Torre, & Adenso-Diaz, 2010; Wang & Sarkis, 2017). Beyond filling an international gap in the prior literature, this study analyses a variable previously ignored, specifically, the role of independent directors in the relationship between PES and internalization in the context of Multilatinas. This study further contributes to the existing International Business literature by extending Institutional Theory to analyse the influence of PES on

GID in the context of Multilatinas and the natural RBV of firms to analyse the moderating effect of BI in that relationship.

This study has significant implications for managers and policymakers. From a managerial point of view, Multilatinas that adopt PES are more likely to meet environmental expectations, which enable them to acquire and enhance legitimacy in foreign markets. These firms may thus improve the reputation of eco-firms and gain competitive advantage in the marketplace. Our findings imply that firms can build their reputation by adopting PES and achieving presence in different international markets. These results can motivate managers to deploy efforts and resources to long-lasting environmental initiatives to achieve the company's legitimacy in foreign markets. At the same time, managers must consider PES as an investment rather than an expense. Furthermore, this research suggests that managers and CEOs should pay attention to independent boards to integrate environmental sustainability as part of the Multilatina's strategy to contribute to GID. Multilatinas must thus stress selection of independent directors able not only to supervise the behaviour of top managers but also to formulate and implement environmental strategies. This approach would help the Multilatinas to improve its position in international markets. Finally, policymakers can benefit from this paper's results, which show not only that being more environmentally friendly always pays off in terms of GID, but also that BI is crucial to the effectiveness of environmental management practices and their impact on multinationals' level of internationalization. Finally, public and regulatory powers at national and international levels should be able to create incentive programmes (i.e., subsidies) for firms that adopt the best PES, while also showcasing the firms that are most responsible on environmental issues. Such

policies will encourage Multilatinas and other firms to formulate and implement advanced, responsible environmental strategies that lead them to expand their activities and actions efficiently in foreign markets.

This study encountered several limitations. First, due to data availability, the EMMs in our sample came from five Latin American countries. Our findings thus do not generalize to firms in other geographical regions. Future research should probably be extended to other countries in Latin America and EMMs from other continents as a basis for comparison (once data are available). Second, small sample size (86 companies) limits the scope of the results obtained. Third, the measurement of firms' environmental proactivity is based on secondary data. Although the items used in this study are widely recognised in the recent international business literature (Gallego-Álvarez, 2018; Semenova & Hassel, 2015; Taliento et al., 2019) and extremely valuable, having the potential to offer rich insights into the phenomenon studied, none of the indicators is free of subjective influence. As subjectivity might decrease the validity of our results, future studies should propose additional environmental metrics and/or extend the results by addressing questionnaires to CEOs (Aguilera-Caracuel et al., 2012). Finally, the scope of the factors that may influence adoption of proactive environmental practices is limited to a single corporate governance mechanism: BI. While we chose this mechanism due to the increasing focus on the role of boards, it would be useful for future research to analyse whether specific environmental committees, gender diversity or ownership structure influence adoption of PES.

It would be also highly significant for future research to compare EMMs' and developed multinationals' environmental management, internationalization and corporate governance approaches, highlighting differences and similarities.

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# CAPÍTULO 4

# EXAMINING GREEN INNOVATION´S EFFECTS ON FINANCIAL PERFORMANCE: THE MODERATING ROLE OF ISO 14001 AND R&D INVESTMENTS ON MULTILATINAS

# EXAMINING GREEN INNOVATION´S EFFECTS ON FINANCIAL PERFORMANCE: THE MODERATING ROLE OF ISO 14001 AND R&D INVESTMENTS ON MULTILATINAS

**Abstract:**

The purpose of this study is to explore the relationship between green innovation (GI) and financial performance (FP) in Emerging Markets Multinationals from Latin America (Multilatinas). Aligned with the Natural Resource-Based View and Institutional Theory, and using a sample of 86 listed firms during the period 2013–2017, we find that implementing effective GIs is not associated with greater FP. The paper also analyses the moderating effect of Environmental Management Systems (ISO 14001) and Research and Development (R&D) investment on the relationship between GI and FP. We find that Multilatinas' implementation of ISO14001 does not affect the way they adopt GI and thus does not enhance their levels of FP, but a positive moderating effect is generated as companies increase their level of R&D investment. The paper expands knowledge on the way GI affects Multilatinas' FP. These findings have policy implications for managers, policy makers, and government and other institutions.

Keywords: Green innovations; Multilatinas; Financial performance; Environmental Management Systems (EMS); ISO 14001; R&D investments; Emerging markets multinationals; Latin America.

## 4.1 Introduction

In recent years, green innovation (GI) has become a topic of interest as a key piece in the transition towards more sustainable production and consumption models that seek value creation both for different stakeholders, such as consumers and companies, and for the natural environment (Bocken et al., 2014). Customers frequently demand satisfaction on GI issues (Testa & Iraldo, 2010), requiring firms to possess and accumulate adequate resources (Hart, 1995). GI also requires a fundamental change in the organizational competencies needed to manage these resources (Russo & Fouts, 1997) to enable the firm to carry out sustainable practices that respond properly to these environmental needs (Kammerer, 2009).

GI involves changes in both resource and organizational capability (Ryszko, 2016). These changes include the initiative itself, participation of staff in developing sustainable ideas and actions (Smerecnik & Andersen, 2011) and the ability to share knowledge among members of the organization (Wong, 2013). GI is socially complex because its implementation requires companies to develop communication and cooperation relationships with various actors in their value network, such as supplier and customer partners (e.g., De Marchi & Grandinetti, 2013).

Organizations decide to adopt GI for several reasons (Bossle et al., 2016; Brunnermeier & Cohen, 2003; Horbach, 2008). Some are motivated only by having to comply with national and international laws (Cuerva et al., 2014; Dangelico & Pujari, 2010), industrial relationships (Antonioli & Mazzanti, 2017) or pressures from different

stakeholders (Guoyou et al., 2013; Kassinis & Vafeas, 2006). Others support GI voluntarily, seeking to create opportunities for business organizations (Calza et al., 2017) as result of the firm's profit orientation (Bansal & Roth, 2000), cost savings (Pereira & Vence, 2012), managerial environmental concerns (Chang & Chen, 2013), organizational slack (Berrone et al., 2013; X. Chen et al., 2018), corporate environmental ethics (Chang, 2011) and dynamic capabilities (Huang & Li, 2017), among other issues.

Although many studies concentrate on the relationship between GI and the firm's financial performance (FP) (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; Kawai et al., 2018; Lee & Min, 2015; Przychodzen & Przychodzen, 2015), the results in the literature are mixed and inconclusive. Studies have been undertaken primarily in developed countries (Horbach, 2008; Wagner, 2008) and pay little attention to Emerging Markets Multinationals (EMMs) (e.g., Danso et al., 2019; Duque-Grisales & Aguilera-Caracuel, 2019; Gallego-Álvarez, 2018; Tsai & Liao, 2017). Even less research has focused on resolving the managerial concerns regarding the GI-FP relationship in EMMs with headquarters based in Latin American countries (Multilatinas). Due to their tremendous competitiveness in both cost and knowledge-intensive activities (Duque-Grisales et al., 2020), international business literature is interested in analysing Multilatinas' environmental and social management approaches (e.g., Duque-Grisales & Aguilera-Caracuel, 2019; Jormanainen & Koveshnikov, 2012). The extant literature focuses on Multilatinas' strategies for internationalization (Aguilera et al., 2017; Ciravegna et al., 2016; Cuervo-Cazurra, 2008; Huesca-Dorantes et al., 2018), competitiveness (Carneiro & Brenes, 2014; Fleury & Fleury, 2011; Herrero, 2014) and Corporate Social Responsibility (CSR) (Duque-Grisales et al., 2020; Duque-Grisales &

Aguilera-Caracuel, 2019). However, the field lacks both evidence on the impact of GI on Multilatinas' FP and analysis of the variables that condition this relationship. The objective of this research is to show concrete bases in order to encourage business administrators towards achieving simultaneously GI and superior FP in Multilatinas. To fill this research gap, it is especially important that our study provide evidence of the impact of GI on Multilatinas' FP.

Recent studies suggest that different types of moderating variables can strengthen or weaken the GI-FP relationship (Przychodzen and Przychodzen, 2015). These variables include organizational capability, certification standards (Horbach et al., 2012; Rennings et al., 2006), human resource management (Antonioli et al., 2013), R&D investment (Demirel & Kesidou, 2011), policy orientation (Ghisetti & Pontoni, 2015) and market resource intensity (Tariq et al., 2019; Wagner, 2010). This study therefore focuses on two issues of great importance in the academic literature that have received little study in the context of the Multilatinas.

First, this study investigates how Multilatinas' GI approaches affect FP by considering Environmental Management Systems (EMS) (ISO 14001 in particular) as a moderator. Recent research stresses EMS' positive effect on organizations' environmental performance (Iraldo et al., 2009) when companies increase their commitment to continuous improvement of operations in order to develop standardized processes that lower costs and make organizational improvements. For other scholars, voluntary environmental management, measured in terms of effectiveness and maturity of ISO 14001 implementation, guides R&D investment to promote organizational

innovation in environmental technology (Inoue et al., 2013). Another line of research argues a more negative effect, finding that organizations may practice merely symbolic EMS, "greenwashing" their image without making a genuine commitment to better environmental performance (Ferrón-Vílchez, 2017; Peña-Vinces & Delgado-Márquez, 2013; Zeng et al., 2017). This more cosmetic approach does not tend to generate environmental innovations that improve or yield significantly high FP. Some evidence from developing countries shows that, despite weak environmental regulation and institutions, firms have recently been paying more attention to adopting environmental standards with the purpose of building, arranging and implementing procedures that are relevant and convenient in terms of quality enhancing and sustainable effects (Blackman, 2008; Zhu et al., 2012). As Multilatinas' interest in adopting EMS to gain legitimacy and operate in foreign markets increases, analysing EMS to determine its effect in this context becomes very important. To sum up, scant attention has been paid to how EMS implementation (ISO 14001 in particular) conditions the way Multilatinas adopt GI in terms of changes and actions within the company. More specifically, substantial GI improvement among Multilatinas through EMS implementation could translate into better financial results in the long term.

This study also considers R&D investment as an important intentional determinant of the GI-FP relationship because this relationship is the tool firms and governments can use to stimulate GI (Ghisetti & Pontoni, 2015). Investing in R&D might allow these firms to build a solid infrastructure to create the conditions necessary to establish GI in Multilatinas' internal network. Indeed, R&D investment not only generates new knowledge but also contributes to a firm's absorptive capacity, leading the firm to

acquire, convert and use new and valuable knowledge (Caloghirou et al., 2004; Cohen & Levinthal, 1990), including environmentally innovative knowledge. As a result, Multilatinas' new approach to GI may lead them to enhance their FP levels significantly.

The current study provides three fundamental improvements. Firstly, it reinforces knowledge to the existing literature on international business by broadening institutional theory (DiMaggio & Powell, 1983; Kostova & Roth, 2002; Scott, 1987) and the Natural Resource-Based View (NRBV) of firms (Aragón-Correa, 1998; Hart, 1995) to analyse both the influence of GI on FP in the context of Multilatinas and the moderating effects of EMS (ISO 14001) and R&D investment in that relationship. Secondly, unlike previous literature on GI, this research advances the literature by considering the influence of GI on Multilatinas. Although researchers have investigated GI's influence on a firm's profitability in the context of multinationals in developed countries, the empirical evidence in developing regions in general, and in the Latin America context in particular, is very limited (De Oliveira et al., 2010; Fikru, 2014). A sampling taken from Multilatinas has been used by this research to study this phenomenon. Specifically, Latin America offers distinctive and attractive conditions for testing the theoretical and empirical relationships among the variables included in the study. This fact also creates different understanding of the Multilatinas' internationalization, environmental and social approaches (Aguilera et al., 2017). Thirdly, this research contributes by highlighting the importance of potential moderators that may impact the relationship between GI and FP (Grewatsch & Kleindienst, 2017), specifically, the moderating effect of R&D investment and EMS (ISO 14001). We respond to a significant dilemma Multilatinas face: whether they should invest effort in seeking legitimacy through

international certification standards in response to institutional pressures or, instead, increase levels of investment in R&D to create a set of resources and capabilities to provide a solid infrastructure for continuous improvement and advanced organizational culture to maximize their profitability.

The structure of this paper is as follows. A detailed explanation of the theoretical framework and hypotheses development is included. Next, the article presents the methodological section, mentioning the sample, data, and the statistical methods that are applied. Finally, this research presents the results obtained and sets up a debate about the most relevant findings, as well as it shows the main conclusions and implications derived from the study.

## 4.2 Literature review and hypotheses

### 4.2.1 Green Innovation and Financial performance

GI constitutes one of the most relevant aspects that influence financial development, green sustainability and quality of life (Dangelico & Pujari, 2010). From among the multiplicity of terminologies (green innovations, eco-innovation, sustainable innovation, environmental innovation), this study defines GI as “innovations that consist of new or modified processes, practices, systems and products which benefit the environment and contribute to environmental sustainability” (Oltra & Saint Jean, 2009:567). This definition highlights GI’s promotion of both operational and organizational efforts of a firm to reduce negative environmental impacts. Such efforts can take the form of new products or new processes that contribute to sustainability and

environmental protection. Implementing GI represents a great challenge for Multilatinas because it often requires acquisition of new resources, capabilities and competencies that are not always available inside the firm (Calza et al., 2017; Das & Teng, 2000), in order successfully to innovate in products and processes.

Previous studies have analysed the relation between GI and the firm's FP (e.g., Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; Kawai et al., 2018; Lee & Min, 2015; Przychodzen & Przychodzen, 2015; Tariq et al., 2019), with inconclusive results. Based on a critical review, Grewatsch and Kleindienst (2017) show that 59% of studies find a positive relationship and 41% insignificant or mixed results on the relationship between firms' green efforts and FP. Some studies find a positive relationship based on arguments that environmental innovations generated by appropriate environmental standards can lower product costs or increase value (Porter & Van der Linde, 1995) because they allow companies to use their inputs more productively (e.g., (Cainelli et al., 2011; González-Benito & González-Benito, 2005; Lee & Min, 2015; Xie et al., 2019). Other studies find a negative association between the two constructs, arguing that companies that invest in green initiatives incur higher costs that can reduce incentives to invest in such activities (Jaffe et al., 2005; Rennings, 2000; Rosenbusch et al., 2011).

Based on the foregoing arguments, we propose that the relationship between GI and FP is negative in the case of Multilatinas for the following reasons. First, Multilatinas' context is highly conditioned by the institutional profile of the home country (Cuervo-Cazurra, 2008) because they operate in environments with abundance of natural resources. Because GI does not create a short-term competitive advantage

reflected in performance improvement for the company (Rassier & Earnhart, 2010; Sueyoshi & Goto, 2009), Multilatinas are not pressured enough by environmental regulations and institutions (Gammeltoft et al., 2010; Khanna & Palepu, 2010) to motivate their managers to see the real need to adopt GI. In the context of Latin America, it is also important to highlight that effective environmental policies are often insufficient due to lack of funds, trained personnel, public infrastructure and political will (Fikru, 2014).

Second, as Multilatinas' managers have a shorter-term vision, they expect immediate results. Adopting GI is seen more as an expenditure than as a strategic investment. When Multilatinas decide to pay attention to GI, they do not do so effectively, as GI compromises resources they need for their operations, sacrificing their cash flow and decreasing their profitability (Lee et al., 2009). Environmental issues are thus not a priority as these firms define their corporate strategy.

Third, compared to multinationals from developed countries, Multilatinas are smaller in size and have less cutting-edge technology and less-sophisticated resources (Duque-Grisales et al., 2020; González-Ruiz et al., 2018). Multilatinas managers do not believe they can engage in GI because they associate innovation with "obtaining patents", a process considered as very expensive and risky for the interests of the company (Scarpellini et al., 2019). These managers also view environmental efforts as an additional cost burden for the firm (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; Duque-Grisales & Aguilera-Caracuel, 2019) that affects FP.

Hence, Multilatinas organizational culture is clearly reluctant to regard GI as a substantial and potential source of competitive advantage. It does not treat GI as an investment that may not only reduce operational costs but also differentiate the firm from its competitors. For all of these reasons, implementing GI neither improves Multilatinas' products and processes in the long-term nor helps to improve company image and reputation. The efforts dedicated to environmental matters thus become a cost and a burden for Multilatinas.

In sum, we argue that adopting GI requires resources and capabilities that are sometimes not available in Multilatinas. Implementing innovations takes a lot of time, and investments are too high. All of these factors related to GI decrease the real profitability of the company in the short term. Based the foregoing, and considering the lack of institutional support by Multilatinas' home-countries for advanced environmental approaches, we formulate the following hypothesis:

***H1. Green innovations are negatively related to financial performance of Multilatinas.***

### 4.2.2 Green innovations and EMS

As a voluntary rather than a compulsory set of standards designed to improve the firm's environmental impact, EMSs foster systematic implementation of environmental management practices and procedures (Coglianese & Nash, 2001; Nicole Darnall et al., 2008). Effective EMS implements ongoing assessment of the production processes (behaviour, procedures, policies) that are less damaging to the environment. As an

integral part of the organization's management system responsible for planning, implementing and managing its environmental policy (Melnyk et al., 2003), EMS integrates interdependent elements—among them, the structure of the organization, responsibility sharing, and policies, processes and resources that the organization must possess to put its environmental policy into practice and achieve its objectives (Fortuński, 2008).

Adopting an EMS can improve a firm's environmental and organizational performance (Hillary, 2004). It enables compliance with local and international government regulations and industry standards (Zutshi & Sohal, 2004), meets customers and market demands (Waxin et al., 2019), improves corporate image (Bansal & Hunter, 2003; Psomas et al., 2011) and increases institutional legitimacy (Boiral, 2007; Castka & Prajogo, 2013; King et al., 2005). These benefits have motivated a yearly increase in the number of Multilatinas that adopt EMS in Latin America (De Camargo Fiorini et al., 2018), facilitating the inclusion of Multilatinas in international markets as they gain licenses to operate (Sena da Silva & Dumke de Medeiros, 2004).

Successful management and achievement of sustainable development are grounded in concrete objectives, planning, activities and metrics. Also, despite of the fact that the ISO 14001 standard does not offer specific goals for environmental efficiency, it is intended to contribute to the construction of a worldwide-known groundwork for environmental measuring, assessment and auditing. Hence, it offers firms the instruments to evaluate and regulate the consequences of environmental actions, goods and services they deliver (De Oliveira et al., 2010).

ISO 14001 guidelines for managing EMS are thus very general, leaving the specifics of formulation, implementation and management of routines up to the firms themselves. To gain certification, firms must thus identify and define their own environmentally beneficial routines and integrate these routines into the firm's specific organizational context (von Oelreich, 2004). ISO 14001 is perceived as providing both internal and external benefits. The main internal benefit is better financial productivity performance (Gavronski et al., 2008) and the main external ones new market access, managerial compliance with legislation, regulatory incentives, improved provision of insurance, availability of more potential capital and a better image. Effective EMS such as ISO 14001 can also improve relations with workers and the public, and even provide competitive advantage in certain segments (Ferrón-Vílchez, 2016; González et al., 2008).

Implementing ISO 14001 grants firm's legitimacy, increasing their business value. As such, it contributes to their endurance both within their national territory and internationally (Parida & Wang, 2018). According to Institutional Theory (DiMaggio & Powell, 1983), Multilatinas potential to obtain legitimacy by conforming to the dominant established practices in their institutional field motivates them to adapt to institutional expectations, embracing three fundamental institutional pillars: mimetic, regulatory and coercive. First, Multilatinas are subject to coercive pressure due to fear of sanction by a higher power (Aguilera-Caracuel et al., 2013). In this context, adopting an EMS provides a clear signal to the market, institutions and regulatory authorities that the Multilatinas are committed to improving environmental management (Nishitani, 2010). Second, mimetic pressure is the pressure to imitate the actions of successful competitors or

counterparts in developed countries that are perceived as having high reputation and transparency (Delmas & Toffel, 2004; Kostova et al., 2008). Multilatinas compare themselves to their peers and try to behave according to standards or norms prevalent in the same institutional field. ISO 14001 is very important in this respect, as it enables them to gain legitimacy and comply with market demand (e.g., (Beise & Rennings, 2005; Berrone et al., 2013). Third, normative pressure is latent, exercised through the expectation that practices will be implemented according to professional standards and culture viewed as appropriate and legitimate in the industry (Christmann & Taylor, 2001; Delmas, 2001; Delmas & Toffel, 2004). In sum, one way for Multilatinas to achieve organizational legitimacy is to adopt EMS, such as ISO 14001.

Simply adopting EMS, and specifically ISO 14001, enables Multilatinas to strengthen the relationship between GI and FP, since the entire organization engages in an internal process of continuous improvement (Bansal & Hunter, 2003). Under such systems, environmental innovations are developed in a more orderly and systematic way, responding to stakeholders' and institutions' needs and expectations, and establishing greater external legitimacy and a better corporate image (Potoski & Prakash, 2005) that improve FP in the long term.

We thus argue that Multilatinas that adopt ISO 14001 can find opportunities for further GI because they comply with national and international regulations, gain legitimacy from different stakeholders, increase their level of transparency and reputation by imitating competitors' "best environmental practices", and adopt environmental management practices widely accepted by the industry. We also propose

that, in addition to providing cost saving opportunities (Sroufe, 2003), ISO 14001 implementation leads Multilatinas to generate strategic knowledge (Delmas, 2001) that allows the GI adopted to benefit from constant improvement of the Multilatinas' internal processes and products, providing customer satisfaction and new access to markets (Darnall et al., 2001). For all of these reasons, we propose the following hypothesis:

***H2. ISO 14001 adoption positively moderates the relationship between Multilatinas' green innovations and financial performance.***

### 4.2.3 Green innovations and R&D investment

R&D investment plays a pivotal role in the firm's GI activities (Ketata et al., 2015; Lee & Min, 2015; Parthasarthy & Hammond, 2002) and is considered as one of the most essential factors in promoting economic growth and business value (Chan et al., 1990; Ghisetti & Pontoni, 2015; Hall et al., 2007; Szewczyk et al., 1996). R&D investment seeks to generate innovation that increases the company's sales. Such innovation can be achieved by developing new products, improving existing products, and gaining effectiveness and efficiency in production processes (Scarpellini et al., 2019). Thus, higher levels of R&D investment can contribute to the adoption and implementation of GI, making clean technologies more beneficial, with favourable and significant impact on growth of the firm's productivity (Wakelin, 2001).

Consistent with the NRBV, managerial resources and capabilities are very important in the firm's ability to perform GI activities. These capabilities also play a pivotal role in increasing the level of resources allocated to GI activities (Kesidou &

Demirel, 2012). Laursen and Salter (2006) argue that companies must obtain resources from the external environment in order to innovate.  this sense, firms' acceptance of the conditions of foreign markets is highly relevant to manage GI. Triguero et al. (2013) hold that having sufficient access to external knowledge correlates with the likelihood of developing GI activities (Bigliardi et al., 2012), and higher levels of R&D investment could help the firm to acquire such resources.

Today's rapidly fluctuating technological environment makes innovation even more important than previously (Berry, 2014). Yet, from an NRBV perspective, EMMs may be at a disadvantage relative to their competitors from the developed world. Firstly, EMMs may not have the innovative competencies that developed countries do to exploit disruptive new technologies (Fleury et al., 2013). Secondly, a significant gap in innovation capabilities separates EMMs from their established rivals, which are both far more experienced in innovation and more oriented towards it (Christensen et al., 2009). In this line, Zhu et al., (2011) argue that innovative strategies are required to be implemented by EMMs to enhance their levels of competitiveness. In order to do so, exploration and exploitation of existing a new knowledge is necessary. From this point of view, higher R&D investment could enhance development of innovative strategies.

Aiming at reacting promptly to face unplanned changes and with the purpose of planning diverse alternatives to supply latent customer requirements, Multilatinas have to restructure their ground-breaking strategies (DeSarbo et al., 2005). Greater investment in R&D will ensure that Multilatinas have enough market knowledge to support technological opportunities (Danneels, 2007) and improve their performance by focusing

on more valuable and differentiable products and better manufacturing processes (Kotabe et al., 2002). When Multilatinas invest in R&D, they can minimize the threat of technological obsolescence (Chesbrough & Garman, 2009) by developing their technological knowledge (Schoenmakers & Duysters, 2006) and identifying new technological trends (Laursen & Salter, 2006). In sum, we argue that investing in R&D enables better control and understanding of GI adoption to respond more effectively to the demanding environmental standards of stakeholders and different national institutional requirements.

Some Multilatinas are currently developing innovation networks and increasing R&D investments (Bianchi et al., 2019). As the level of R&D investment increases, Multilatinas' managers can make GI more effective by using their resources and capabilities efficiently, strengthening staff, improving processes, acquiring cutting-edge technology and meeting knowledge needs within the business. Multilatinas can thus improve their products and processes in the short term, while positioning themselves as companies committed to the environment can translate into financial benefits in the long term. Such management also enables Multilatinas to exploit their significant expert knowledge even more fully (Caloghirou et al., 2004; Huergo, 2006) and adopt better GI inside and outside the organization, making them more competitive and enabling them to overperform (Alam et al., 2019; Habbershon et al., 2003). Greater R&D investment thus makes the positive impact of GI on FP long-lasting and more effective.

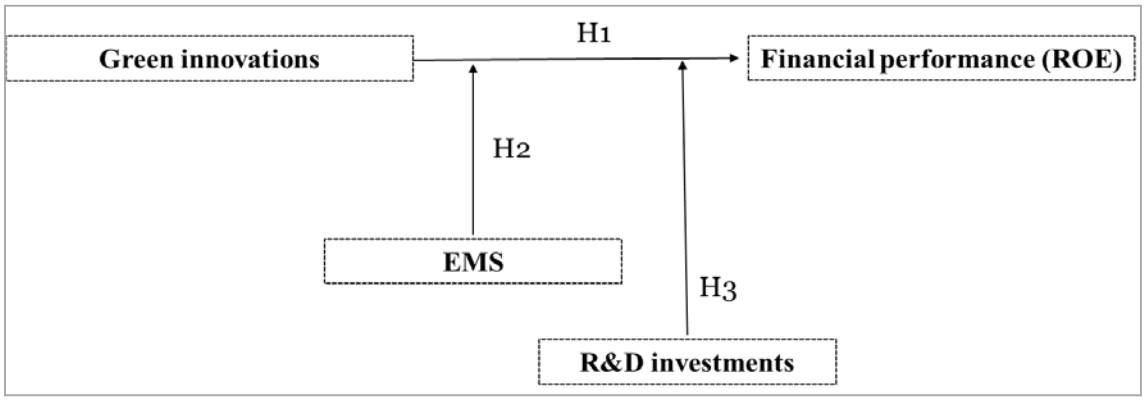
Based on these arguments, we can reasonably expect that success in pursuing GI to enhance FP will depend on the extent of R&D investment. In sum, R&D investment

can help Multilatinas to develop a set of unique resources and capabilities to increase their level and intensity of GI, leading to improvement in FP. Therefore, we propose that R&D investment has a positive moderating effect on the relationship between GI and FP.

***H3. R&D investment positively moderates the relationship between Multilatinas' green innovations and financial performance.***

Figure 4-1 summarizes the research model developed in this study.

**Figure 4-1 Research model**




## 4.3 Materials and methods

### 4.3.1 Data

Aiming at establishing the sample, the present research work used diverse criteria. Primarily, only Multilatinas that make up the MSCI Emerging Markets Index and earning annual profit of over USD $1 billion were included. This Index has been designed to show large- and mid-cap securities' performance in 26 emerging markets. Thanks to its risk and performance analytics, it has become the most globally accepted

authority for investors in emerging markets. Data on environmental, social and governance (ESG) strategies is required from the firms composing the Index in the MSCI methodology. Secondly, because of data availability, this article only involved Multilatinas listed in the Latin American Stock Market (Bovespa Index and S&P MILA Pacific Alliance). This filter generated 111 companies from Brazil, Mexico, Colombia, Chile and Peru. Thirdly, firms that provided information on financial and environmental factors to the Thomson Reuters' ASSET4 ESG database were selected. This database comprises financial, environmental, social, corporate governance and internationalization data of over 6000 firms globally in all sectors; it includes more than 400 measures clustered into over 70 indicators and drawn from over 75,000 information sources. All of them are juxtaposed (Schäfer et al, 2006). In order to ease the contrasted information's statistical analysis, all values were standardized and verified. The previous selection criteria generated a total sample of 430 observations from 86 firms, distributed across 6 sectors identified by their 2-digit code in the North American Industry Classification System (NAICS): 26.74% Manufacturing (S31); 24.42% Retail Trade (S44); 17.44% Mining, Oil and Gas Extraction (S21);16.28% Utilities (S22) and 15.12% other. Our sample period was 2013–2017. Part of this database has already been used in previous studies (Duque-Grisales & Aguilera-Caracuel, 2019; Duque-Grisales et al., 2020).

### 4.3.2 Variables

#### 4.3.2.1 Dependent variable

The dependent variable in this study is FP. Return on Assets (ROA), a standard accounting measure of financial performance commonly used in the GI literature, serves as a proxy for the firm's FP (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; Amores-Salvadó et al., 2014; Xie et al., 2019). ROA is defined as the net income ratio to total assets (Lee et al., 2009).

#### 4.3.2.2 Independent variable

Our independent variable is Green Innovation. This study draws on previous research (Chen, 2008; Chiou et al., 2011; Huang & Li, 2018) to measure GI, including green product innovation (Castellacci & Lie, 2017; Cheng & Shiu, 2012; Van Hemel & Cramer, 2002) and green process innovation (Dalhammar, 2016; Hellström, 2007; Rodriguez & Wiengarten, 2017).

Following Duque-Grisales et al. (2020), we evaluate 12 indicators from the Thomson Reuters Asset4 database for this variable. GI is portrayed by the selected indicators as a whole measure. It represents a firm's efficiency level and its capacity to decrease the use of materials, power or water. It also indicates its capacity to find more ecological-productive results by refining its products and processes. Those indicators also display a firm's commitment and performance in decreasing its emissions to the natural environment from its manufacturing and functioning processes. An extensive variety of fundamental preceding international business cases use the very similar

indicators to obtain the GI's measure (e.g., Cheng & Shiu, 2012; Theyel, 2000; Van Hemel & Cramer, 2002).

**Table 4-1 Indicators for Green Innovations**

| Indicator | Description |
|---|---|
| Renewable Energy Use | Does the company use renewable energy? |
| Product Impact Minimization | Does the company report on minimization of materials consumption, reuse of components or elimination of dirty components? |
| Water Technologies | Does the company use water technologies? |
| New Cleaner Material | Does the company use new cleaner material or new input with lower environmental impact? |
| Life Cycle Products | Does the company report on specific products with a longer life cycle? |
| Environmental Products | Does the company report on at least one product line or service that is designed to have positive effects on the environment or that is environmentally labelled and marketed? |
| Eco-Design Products | Does the company report on specific products that are designed for reuse, recycling or reduction of environmental impacts? |
| Noise Reduction | Does the company develop new products that are marketed as reducing noise emissions? |
| Environmental Product/service features | Does the company report on product features and applications or services that promote responsible, efficient, cost-effective and environmentally preferable use? |
| Renewable/Clean Energy Products | Does the company develop products or technologies for use in clean, renewable energy (such as wind, solar, hydro and geo-thermal, or biomass power)? |
| Environmentally-Friendly Technologies | Does the company make use of environmental-friendly technologies in its processes? |
| Waste Recycled | Total recycled and reused wasted produced, in tonnes |

With the purpose of decreasing the number of items to a more manageable status, this paper used the Exploratory Factor Analysis using key component analysis and the Varimax rotation method with Kaiser Normalization in SPSS (version 24.0). The decline caused two factors with eigenvalues of over 1 and variances of over 84.895%. The KMO value is 0.975, with a Bartlett's test significance of 0.000. As the reliability analysis performed (Cronbach's Alpha > 0.8) was satisfactory for one factor only, we discarded the second. The average variance extracted (AVE) took values above 0.5, consistent with

acceptable criteria (Fornell & Larcker, 1981); items with low loadings (< .5) were discarded. Table 4-2 displays the results.

**Table 4-2 Rotated component Varimax matrix of factors influencing GI**

| Component | 1 | 2 | Eigenvalues | % variance | Cumulative % | Cronbach's Alpha |
|---|---|---|---|---|---|---|
| **Factor 1 Green Innovations** | | | **1.913** | **66.365** | **66.365** | **0.937** |
| **Green Product Innovation** | | | | | | |
| Eco-Design Products | 0.709 | | | | | |
| Environmental Products | 0.832 | | | | | |
| New Cleaner Material | 0.773 | | | | | |
| Product Impact Minimization | 0.562 | | | | | |
| **Green Process Innovation** | | | | | | |
| Environmentally-Friendly Technologies | 0.782 | | | | | |
| Renewable Energy Use | 0.518 | | | | | |
| Water Technologies | 0.509 | | | | | |
| **Factor 2 Green Innovations** | | | **1.083** | **28.53** | **94.895** | **0.897** |
| Renewable/Clean Energy Products | | 0.872 | | | | |
| Waste Recycled | | 0.502 | | | | |
| Life Cycle Products | | | | | | |
| Noise Reduction | | | | | | |
| Products' Ability to Be Recycled | | | | | | |

*Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. Rotation converged in 14 iterations.

Following Duque-Grisales et al. (2020), the results of the factor analyses suggest that Factor 1 is the most important, as it explains about 56.36% of the total variance. This factor is composed of attributes of both green product innovation and green process innovation. The green product innovations factor encompasses aspects of the company such as development of eco-design products, minimization of materials consumption, existence of environmental products and use of new cleaner material or new input with lower environmental impact. Green process innovation includes aspects such as use of

environmentally-friendly technologies, especially those related to renewable energy and water conservation in the company's production processes.

#### 4.3.2.3 Moderating variables

This study investigates the potential moderating role of R&D investment and ISO 14001 adoption on the relationship between GI and FP. We obtained the data analysed from the Thomson Reuters' ASSET4 ESG database.

**ISO 14001:** The ISO 14001 variable is measured as a dummy variable. Concretely, this variable indicates the occurrence or absence of an implemented EMS like the ISO14001. ISO 1400 constitutes an international environmental management standard that provides premise flexibility to the types of sustainable objectives firms are willing to set up. It requires the implementation of a series of inner organisational processes to manage environmental impacts in a systematized way (Arimura et al., 2015; Arnold & Hockerts, 2011; Demirel & Kesidou, 2011; Horbach et al., 2012; Rennings et al., 2006).

**R&D Investments:** R&D investment is measured as a firm's annual R&D investment measured as percentage of its annual revenue (e.g., Balkin et al., 2000; Hoskisson et al., 2002; Brunnermeier & Cohen, 2003; De Marchi, 2012; Green et al., 1994; Horbach et al., 2012). Our study does not use the firm's R&D expenditure to measure R&D investment directly because this value always correlates closely with firm size (Tsai et al., 2011).

#### 4.3.2.4 Control variables

As in previous research, this study includes several control variables—firm size, activity sector, R&D country, financial slack and geographic international diversification. The information was obtained from Thomson Reuters' ASSET4 ESG database.

**Activity sector:** Compared to those companies from environmentally-sensitive industries, firms belonging to environmentally non-sensitive sectors are generally believed to decrease GI's levels (De Marchi, 2012). Two dichotomous variables (applied to four of the five activity sectors) were integrated in order to study the possible effect of the industry type on the sample. Industry dummy controls were included for certain industry-level factors presented. This control variable can capture differences in terms on environmental engagement and commitment among industries.

**Firm size:** Firm size has been widely used as an organizational control (Gompers et al., 2003; Kesidou & Demirel, 2012). It is measured here as the Multilatinas´ logarithm of total sales. Since larger firms tend to develop and adopt more GI, they may perform better than small firms (Berrone et al., 2013; Kim et al., 2004).

**R&D Country:** Higher levels of economic development at the country-level are assumed to explain greater environmental responsibility of the different stakeholders. The analysis includes R&D expenditure of each country in order to establish the potential influence of home countries' economic conditions on the sample (Lee, 2011).

**Financial slack:** Financial slack is the level of liquid assets—such as cash the organization has not committed to any specific goal—that can be invested in a wide range of activities, such as environmental issues and GI (Kraatz & Zajac, 2001). Higher levels of slack financial resources can lead to higher levels of GI (Ghisetti & Rennings, 2014; Voss et al., 2008).

The following formula was used to calculate financial slack (FS):

$$Slack_i = Current\ Assets/Current\ Liabilities \quad (1)$$

**Geographic International Diversification.** Taking into consideration that the firm's internationalization can influence its environmental and financial performance (Attig et al., 2016; Strike et al., 2006), the entropy index was used to measure the firm's geographic international diversification (GID). Following Aguilera-Caracuel et al. (2015), the GID was measured according to the distribution of sales worldwide using the entropy index, calculated as follows:

$$GID = \sum_i P_i\ x\ Ln(1/\ P_i\ ) \quad (2)$$

where $P_i$ is the sales percentage in a specific region i and $Ln\left(\frac{1}{P_i}\right)$ represents the weight given to a region. Both the number of regions where the firm operates in and the relative relevance of each region for the firm's total sales are considered by the ratio mentioned above (Hoskisson et al., 1993). In order to calculate this entropy index, the international market sales data, provided by the Thomson Reuters' geographic segment for each company was used. It classifies foreign markets into six relatively homogeneous global regions: North America, Central America, Latin America, Europe, Asia and the

Pacific, and Africa. It excludes the company's own market. These regions are consistent with the World Bank's (2018) classification of regions worldwide.

The correlation matrix and descriptive statistics for each of the study variables are presented in Table 4-3. The relatively low correlation coefficients indicate that our dates do not suffer from collinearity among the independent variables.

## Table 4-3 Descriptive statistics and correlations

| | *Mean* | *SD* | *1* | *2* | *3* | *4* | *5* | *6* | *7* | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. ROA | 0.116 | 0.236 | 1 | | | | | | | |
| 2. GI | 0.086 | 0.994 | 0.041 | 1 | | | | | | |
| 3. Firm size | 3.537 | 0.728 | 0.206 | 0.131 | 1 | | | | | |
| 4. R&D Country | 0.027 | 0.016 | 0.047 | -0.081 | 0.150 | 1 | | | | |
| 5. Slack | 1.924 | 1.423 | 0.042* | -0.066* | 0.314* | 0.080 | 1 | | | |
| 6. GID | 0.925 | 0.526 | -0.225 | 0.078 | 0.099 | 0.151 | 0.168 | 1 | | |
| 7. R&D investments | 0.039 | 0.189 | -0.137 | 0.011* | 0.431 | -0.085 | 0.228 | 0.100** | 1 | |
| 8. EMS | 0.700 | 0.459 | -0.053 | 0.230** | 0.185* | 0.123 | 0.134* | 0.078 | -0.172 | |
| 9. Mining and oil and gas extraction | 0.177 | 0.383 | 0.025** | -0.045* | -0.007 | -0.150 | 0.336** | -0.019 | -0.001 | 0 |
| 10. Utilities | 0.194 | 0.396 | -0.129 | -0.008 | -0.157 | 0.126 | 0.071 | -0.076 | 0.149* | 0 |
| 11. Manufacturing | 0.258 | 0.438 | -0.174 | -0.164* | 0.045 | 0.008* | -0.033 | 0.085* | -0.072 | 0.1 |
| 12. Retail trade | 0.210 | 0.408 | 0.171* | 0.166 | 0.169 | 0.219 | -0.192* | 0.010 | -0.037 | -0 |
| 13. Other sectors | 0.048 | 0.215 | 0.056 | 0.036 | -0.071 | -0.166 | -0.062 | -0.184 | -0.033 | -0 |

Note: 430 observations. Table contains Pearson's correlation coefficients. *p < 0.05; **p < 0.01.

## 4.4 Results

Static panel data regression models were estimated in this research, including control variables. Both fixed and random effect models were also calculated. In order to monitor data's unobserved heterogeneities, the Hausman Test was applied. It does help to determine whether fixed or random effects are more convenient. The results of this test show that the fixed effect estimators are not consistent, being the random ones more appropriate. Specifically, the results present a p-value higher than 0.05 and a significance level of 5% for all the models used in this research. This indicates that the null hypothesis cannot be rejected and that a random effect model is therefore the preferred model. Finally, multiple-moderated regression analyses were used to test the hypotheses, establishing the moderating effect as a multiplicative variable (Cohen et al., 2013)

Table 4-4 shows the results of the random effects regression analyses for each model, including the control variables industry type, firm size, R&D country, FS and GI. The variance inflation factors (VIFs) range from 2.11 to 2.57, indicating that multicollinearity does not seem to be a problem in our models (Hair et al., 2012). The model shows good fit, supported by a within R2-value and the F-statistic.

**Table 4-4 Results of random effects linear regression model**

| | ***Model 1*** | ***Model 2*** | ***Model 3*** | ***Model 4*** | ***Model 5*** |
|---|---|---|---|---|---|
| Constant | 0.0206 (0.167) | -0.133 (0.172) | 0.042 (0.175) | 0.037 (0.171) | -0.140 (0.171) |
| **Control variables** | | | | | |
| Mining, Oil and Gas Extraction sector | -0.131 (0.105) | -0.161 (0.104) | -0.140 (0.106) | -0.136 (0.106) | -0.158 (0.103) |
| Utilities sector | -0.151 (0.099) | -0.167 (0.099) | -0.158 (0.101) | -0.153 (0.101) | -0.163 (0.099)* |
| Manufacturing sector | -0.193 (0.095)* | -0.196 (0.094)* | -0.206 (0.097)* | -0.199 (0.097)* | -0.199 (0.093)* |
| Retail Trade sector | -0.040 (0.101) | -0.057 (0.101) | -0.042 (0.102) | -0.037 (0.099) | -0.053 (0.099) |
| C1 | -0.026 (0.145) | -0.087 (0.124) | -0.028 (0.125) | -0.037 (0.125) | -0.075 (0.124) |

| | | | | | |
|---|---|---|---|---|---|
| C2 | 0.217 (0.161) | 0.187 (0.158) | 0.211 (0.161) | 0.167 (0.145) | 0.231 (0.079) |
| C3 | 0.006 (0.145) | -0.037 (0.145) | 0.003 (0.146) | 0.024 (0.146) | -0.029 (0.143) |
| C4 | 0.368 (0.175)* | 0.297 (0.173)* | 0.365 (0.176)* | 0.362 (0.176)* | 0.330 (0.093)*** |
| Firm size | 0.084 (0.031)** | 0.141 (0.034)*** | 0.082 (0.031)** | 0.084 (0.031)** | 0.144 (0.037)*** |
| R&D Country | -1.093 (1.145)** | -1.046 (1.083)** | -1.272 (1.146)** | -1.274 (1.152)** | -0.940 (1.099)** |
| Slack | 0.027 (0.011)* | 0.033 (0.011)** | 0.027 (0.011)* | 0.027 (0.017)* | 0.033 (0.011)** |
| GID | 0.113 (0.039)** | 0.122 (0.041)** | 0.117 (0.039)** | 0.121 (0.038)** | 0.122 (0.040)** |
| R&D investments | | 0.232 (0.067)*** | | | 0.229 (0.067)*** |
| EMS | | | 0.039 (0.043) | 0.039 (0.043) | |
| **Independent variables** | | | | | |
| Green Innovations | -0.008 (0.016) | -0.008 (0.016) | -0.012 (0.0173) | -0.025 (0.028) | -0.816 (0.0168) |
| **Moderate variables** | | | | | |
| Green Innovations X EMS | | | | 0.018 (0.043) | |
| Green Innovations X R&D investments | | | | | 0.631 (0.137)* |
| | | | | | |
| VIF | 2.3345 | 2.2436 | 2.1135 | 2.5712 | 2.5104 |
| $R^2$ within | 0.1072 | 0.1276 | 0.1012 | 0.1241 | 0.2284 |
| F-static | 2.3243*** | 3.0839*** | 2.2067** | 2.0780*** | 2.8979*** |

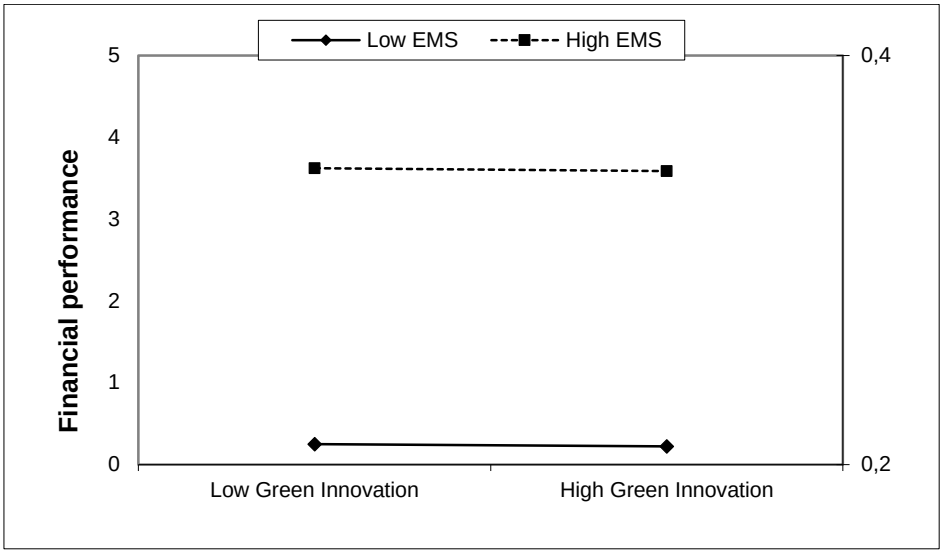
Notes: The table includes coefficients of the regression model (estimators); Standard deviations are included in parentheses.

As Table 4-4 shows, GI has a negative but insignificant effect on the firm's FP in Model 1 ($\beta$ = -0.008). For Models 2 and 3 respectively, R&D Investment and EMS were added as independent variables. The results showed no change, indicating that GI does not have a statistically significant effect on the firm's FP. Hypothesis 1 is thus rejected.

The results also reveal that, whereas the level of R&D investment has a positive and significant impact on FP, EMS do not lead to FP improvement in our sample firms. Further interpretation of these results is beyond the scope of this research.

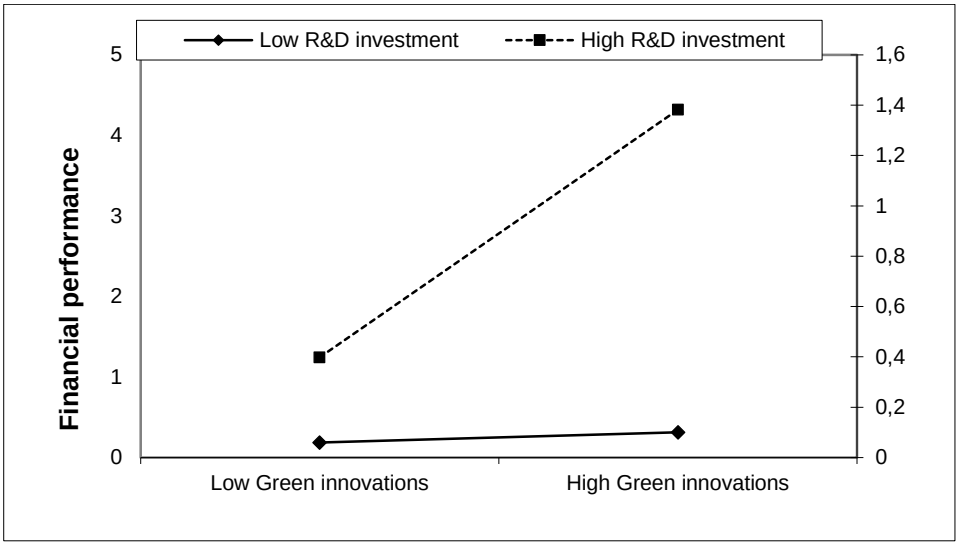
Finally, Models 4 and 5 represent the full model, which includes the two moderating effects. Model 4 does not provide sufficient statistical support for Hypothesis H2. That is, a Multilatinas´ EMS (ISO 14001) does not moderate the relationship between GI and FP (Figure 4-2).

**Figure 4-2 The moderating effect of ISO 14001 adoption on the relationship between Multilatinas' green innovations and financial performance**




Model 5, in contrast, suggests that R&D investment positively moderate the relationships between GI and FP in Multilatinas ($\beta = 0.137$; $p<0.05$). Figure 4-3 represents this behaviour, showing that the higher the level of R&D investment, the stronger the positive impact of GI on FP in our sample firms. Hence, hypothesis 3 is accepted in our sample firms.

**Figure 4-3 The moderating effect of R&D investments on the relationship between Multilatinas' green innovations and financial performance**




## 4.5 Discussion, limitations and future studies

The present study addresses a central question in the field of GI from the perspective of the NRBV and Institutional Theory. The study aims to determine the relationship of GI to FP and the moderating effects of EMS (ISO 14001) and R&D investment in the GI-FP relationship. Our focus differs from that of the studies summarized in the literature review in that findings evaluating the importance of the GI - FP relationship cannot be generalized or applied to Emerging Markets Multinationals (EMMs) in general, or to Multilatinas in particular. The different institutional conditions of Multilatinas in their home countries produce differences in GI activity levels and peculiarities in the frameworks of institutional, government and regulations. Our study, therefore, answers calls in the previous international business literature dealing with EMMs (Multilatinas in particular).

Our empirical results indicate that GI has no effect on Multilatinas' FP. Since Multilatinas' context is weak in environmental legislation, these firms feel little obligation to perform environmental innovations. Even if firms do decide to perform GI, the innovations are not regarded as a priority and usually lack the institutional support to make them more visible. GI can thus incur extra expenses that even decrease profitability. This result agrees with other studies suggesting that innovations efforts may generate impacts but no relevant and consistent improvements in FP (Jacobs et al., 2010; Konar & Cohen, 2001; Ngwakwe, 2009; Saliba de Oliveira et al., 2018; Stanwick & Stanwick, 1998). Indeed, this relationship depends on the presence of other conditioning variables in the context of Multilatinas.

Contrary to our expectations, the results show that EMSs (ISO 14001) do not significantly enhance the relationship between GI and FP. In other words, ISO 14001 cannot serve as an efficient moderator of the GI-FP relationship, and ISO 14001 implementation does not condition the way GI improves FP in Multilatinas. This finding may be explained by the orientation of ISO 14001 to the EMS process rather than its effects (Bansal & Hunter, 2003; Delmas, 2001). Although a Multilatinas that gains the ISO14001 certification standard probably has a coherent EMS monitored through data collection, mere certification reveals little about the firm's actual environmental impact (De Oliveira et al., 2010) or what GI are implemented. Multiple authors support our finding, arguing that mere possession of international certification standards or of EMS like ISO 14001 does not necessarily improve environmental performance and or advance more effective environmental management, such as GI (e.g., Ferrón-Vílchez, 2017;

Peña-Vinces & Delgado-Márquez, 2013; Zeng et al., 2017), since it does not strengthen Multilatinas' financial results.

This finding is somewhat expected. Multilatinas rarely go beyond minimal compliance with market, institutional and regulatory pressures (Al-Twaijry et al., 2003); they choose instead to secure symbolic legitimacy through the EMS without significant change. Since genuine or more extensive improvements are not perceived as profitable, firms opt for symbolic measures, implementing the minimum changes required to comply with bureaucratic regulations, seeking the semblance rather than substance of institutional legitimacy (Aravind & Christmann, 2011). In the case of ISO 14001, the emphasis on process rather than performance may not even generate capabilities that improve the firm's routines or reduce environmental damage through GI (Delmas, 2001; Ferrón-Vílchez, 2016). While these certifications are trendy and establish some basic standards, they do not ensure substantial, effective green product and process innovation. Finally, GI oriented to increasing the appearance of legitimacy and improving corporate image tends to remain superficial. The firm will not make lasting investment in GI, and ISO 14001 is unlikely to foster an environmentally-friendly culture and ethical commitment throughout the organization (Bansal & Clelland, 2004), remaining limited to symbolic "greenwashing" ( Delmas & Burbano, 2011).

On the other hand, our empirical evidence supports the moderating role of R&D investment on the relationship between GI and FP. When Multilatinas are genuinely committed to successful implementation of GI and its long-term benefits, they integrate GI into all areas and activities of the organization. Such integration enables Multilatinas'

R&D investment to promote effective use of clean technologies, increase skill in technological transformation of human talent, and improve processes and approaches to design new environmentally-friendly products (Tsai et al., 2011). Such changes help Multilatinas to be perceived as eco-friendly businesses and enhance their employer branding, achieving higher levels of customer satisfaction (i.e., Bhattacharya & Sen, 2003; Corkindale & Belder, 2009; Kammerer, 2009) and increasing their volume of sales. As Multilatinas develop better GI, superior organizational skills are developed by them, which can lead them to foresee change and develop new opportunities abroad (Duque-Grisales et al., 2020).

In other words, when Multilatinas acquire the right business culture to facilitate commitment to change (Horbach et al., 2012; Rehfeld et al., 2007) and to R&D investment as a solid infrastructure, they can develop a set of capabilities that lead them to adopt a more proactive and robust environmental position (focusing on environmental innovation in both products and processes), with a relevant and significant positive impact on FP in the long-term. As R&D investment increases, the effect of GI on FP is thus reversed, creating value. These findings align with those of Lee and Min (2015), who conclude that GI is closely related to enterprises' investment in R&D.

This study has significant implications for managers and policymakers. From a managerial point of view, the research suggests that managers and CEOs should be careful when implementing EMS in a merely symbolic way (to comply with social norms or conform to environmental practices adopted by other companies). Such token adoption can be perceived as greenwashing (Bowen & Aragon-Correa, 2014) and cause

loss of confidence from their consumers, supply chain agents and other stakeholders, generating a negatively impact on the company's reputation and low long-term brand positioning. Based on the foregoing, it is also important to consider the importance of integrating the EMS throughout all organizational areas and activities to ensure that employees meet consumers' and other stakeholders' needs and expectations. Furthermore, Multilatinas that adopt GI should invest resources in strengthening business culture by focusing on continuous improvement so that investments in R&D are effective and enable them to meet the environmental expectations of their various stakeholders. The results of this work may encourage managers to regard GI as an investing rather than as an expenditure, deploying efforts, actions and resources to enhance GI. As a result, Multilatinas will be able to achieve license to operate in external markets.

Finally, those Multilatinas adopting the best GI should receive diverse types of incentives (i.e. subsidies, tax reduction) from public governments and institutions at local and international levels. Thus, these agents should promote the use of new clean technologies, while simultaneously praising those more environmentally responsible companies. Such policies will encourage Multilatinas to implement advanced and responsible GI, leading them to expand their activities and actions efficiently into foreign markets.

This study encountered several limitations. The first involved data availability: The lack of information accessibility caused that the EMMs in the sampling were finally selected from Latin American countries. Our results should, therefore, not be generalized

to EMMs headquartered in other geographical regions (i.e., Africa, developing regions in Asia) as a basis for comparison. Secondly, sample size (86 companies) can limit the scope of the results obtained. Thirdly, we analysed the moderating effects of EMS and R&D investment, but other factors, such as business environment, international approaches, internal and external entrepreneurial orientation and organizational flexibility, may also play a significant and relevant moderating role, and deserve future study and consideration to reinforce our results.

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# CAPÍTULO 5

# CONCLUSIONES, LIMITACIONES Y FUTURAS LÍNEAS DE INVESTIGACIÓN

## 5.1 Introducción

El presente capítulo trata de resaltar las aportaciones realizadas por los tres artículos de investigación presentados en esta tesis doctoral. También hacemos referencia a las implicaciones académicas, de gestión y para los reguladores públicos. Finalmente, destacamos las limitaciones encontradas a lo largo del desarrollo del trabajo y planteamos futuras líneas de investigación que consideramos de interés.

## 5.2 Conclusiones del trabajo de investigación

La aportación principal del trabajo de investigación desarrollado, y que está presente en cada uno de los tres artículos, reside en el estudio combinado e interrelacionado de las prácticas de RSC y su efecto en el desempeño financiero y en los planteamientos internacionales de las Multilatinas. A lo largo del trabajo, nuestros resultados ponen de manifiesto que el perfil institucional del país de origen de las Multilatinas condiciona el modo en el que éstas desarrollan sus prácticas de RSC y, especialmente, la adopción de prácticas de gestión medioambiental avanzadas. De esta manera, su desempeño financiero y su deseo de internacionalización está sujeta a variables moderadoras que condicionan dichas relaciones. De manera particular, cada uno de los tres artículos de investigación recoge las siguientes conclusiones.

Capítulo 2: "*Environmental, Social and Governance (ESG) scores and Financial Performance of Multilatinas: Moderating Effects of Geographic International*

*Diversification and Financial Slack*". La principal conclusión obtenida de este trabajo de investigación radica en la necesidad de prestar una mayor atención al efecto que ejercen las prácticas de RSC en sus dimensiones medioambiental, social y de buen gobierno (ESG) en el desempeño financiero en el contexto de empresas multinacionales de mercados emergentes (*Emerging Markets Multinationals*), en concreto, de América Latina (Multilatinas). Integrando la perspectiva de recursos y capacidades y la teoría institucional, evidenciamos que el desempeño de las dimensiones ESG está asociado negativamente con el resultado financiero de las Multilatinas. Esto se presenta porque las Multilatinas, al no contar con suficiente apoyo institucional para desarrollar actividades ESG eficientes y hacerlas visibles ante sus diferentes grupos de interés, incurren en costes elevados que comprometen en gran medida sus recursos financieros. Esto obliga a los gerentes de las Multilatinas a sacrificar su flujo de caja y desviar recursos necesarios para el correcto funcionamiento de la empresa, que se traduce en una pérdida de rentabilidad (Lee et al., 2009).

Adicionalmente, dado que el desempeño en las dimensiones ESG está determinada por una serie de factores, cada uno de los cuales puede tener un impacto diferente en el rendimiento (Galema et al., 2008), analizamos los efectos individualizados de las dimensiones medioambiental (E), social (S) y de gobierno corporativo (G) en el desempeño financiero de las Multilatinas, encontrando de igual manera una relación negativa. En esta misma línea, nuestros resultados evidencian que el efecto más negativo se presenta en el caso de la dimensión social. Esto puede ser debido a que las Multilatinas no siempre se comportan de manera responsable ya que, en ocasiones, los directivos se centran en responder a las demandas de los grupos de interés más poderosos -por

ejemplo, los accionistas- (Eweje, 2006) y no a las necesidades reales de la comunidad en general. En este sentido, se espera que los directivos solo decidan destinar recursos a iniciativas sociales cuando haya una fuerte demanda de algunos grupos de interés o cuando exista la posibilidad de que la empresa logre un beneficio inmediato. En otras palabras, los directivos creen que asignar fondos a cuestiones sociales no garantiza una mejora en términos de ventaja competitiva sostenible e incluso puede perjudicar los resultados financieros (Lourenço & Branco, 2013; Pillai & Al-Malkawi, 2017). Por otra parte, debido a la abundancia de recursos naturales en América Latina y la falta de regulación estatal en materia medioambiental, los directivos de las Multilatinas no reconocen la necesidad de invertir en iniciativas medioambientales puesto que ven comprometidos sus recursos financieros, disminuyendo su desempeño financiero. Esto se presenta porque los objetivos medioambientales no constituyen una prioridad en la formulación de sus estrategias corporativas. Finalmente, dada la poca existencia de mecanismos de gobierno corporativo en el contexto latinoamericano, que hacen que los diferentes grupos de interés se sientan vulnerables a la hora de invertir o negociar con Multilatinas, estas empresas buscan compensar dichas carencias aumentando su inversión en la contratación de auditores externos o modificando los estatutos de la empresa para mostrar una mayor legitimidad en las preguntas relevantes para sus grupos de interés (Reimann et al., 2012). Sin embargo, estas iniciativas son generalmente implementadas en el corto plazo, siendo consideradas como un gasto para la empresa (no como inversión) disminuyendo su rentabilidad.

Por otra parte, encontramos que factores internos como la capacidad de generar recursos financieros (*financial slack resources*) y la diversificación internacional geográfica son fundamentales a la hora de reforzar dichas relaciones. En primer lugar, el exceso de recursos financieros en las Multilatinas que operan en mercados diversificados invierte la relación entre el desempeño ESG y el desempeño financiero. Este hallazgo indica claramente que el exceso de recursos financieros facilita que el desarrollo de iniciativas medioambientales, sociales y de gobierno, mejore el desempeño financiero de las Multilatinas. Dichas iniciativas permiten satisfacer la diversidad de demandas de los diferentes grupos de interés (Kang, 2013; Yang & Rivers, 2009), mejorando la reputación y la visibilidad de las Multilatinas (Hah & Freeman, 2014). La existencia de estos recursos también pueden tener un impacto positivo en estas empresas, permitiéndoles atraer e incorporar a la empresa personal especializado con conocimientos y habilidades específicos sobre cuestiones relacionadas con las dimensiones ESG, logrando así resultados más eficientes (Bowen, 2002). En consecuencia, los inversores pueden confiar más en las decisiones implementadas por los directivos, mejorando la creación de valor de la empresa.

En segundo lugar, encontramos que aquellas Multilatinas con un alto grado de diversificación internacional geográfica pueden llegar a adquirir conocimientos valiosos (Hitt et al., 1997) y comportarse de una manera más responsable y transparente a la hora de implementar mejores prácticas relacionadas con el medio ambiente y el gobierno corporativo. En consecuencia, obtienen ventajas competitivas y tienden a prestar más atención a las necesidades y expectativas de los diferentes grupos de interés, lo que las lleva a tomar medidas proactivas hacia el medio ambiente y su buen gobierno

corporativo, contribuyendo positivamente al rendimiento. Por otro lado, y en contra de nuestras expectativas, no encontramos evidencia de un efecto moderador de la diversificación internacional geográfica en la relación entre desempeño social y desempeño financiero. Este puede ser el caso porque, aunque las Multilatinas operan en mercados con diferentes indicadores sociales institucionales, el ámbito social no tiene aún suficiente influencia en los indicadores financieros para estas empresas. Concretamente, en el contexto latinoamericano, los inversores no valoran realmente las actividades e inversiones relacionadas con cuestiones sociales, ya que tales acciones no son lo suficientemente visibles y no se publicitan claramente.

Capítulo 3: "*Can proactive environmental strategy improve Multilatinas' level of internationalization? The moderating role of board independence"*. Este artículo presenta varias conclusiones, ampliando la comprensión de cómo las estrategias medioambientales influyen en la internacionalización de las empresas en el contexto empresarial latinoamericano. En primer lugar, este artículo presenta evidencia teórica y empírica sólida para afirmar que las estrategias medioambientales proactivas en el contexto de las Multilatinas deberían centrarse en cuatro dimensiones estratégicas: *iniciativas medioambientales, acciones medioambientales, innovaciones medioambientales y control de emisiones.* Estas dimensiones demuestran que el compromiso de las Multilatinas con el medio ambiente puede ayudarlas a construir una imagen positiva de sus productos y procesos, logrando un alto nivel de satisfacción de los clientes demás grupos de interés. El desarrollo efectivo de este tipo de estrategias

medioambientales permite a dichas organizaciones obtener una mayor presencia internacional a través de la mejora de la transparencia, la reputación y la legitimidad en todo el mundo.

En segundo lugar, nuestros resultados muestran que, en el caso de las Multilatinas, la única dimensión que está relacionada positivamente con la diversificación internacional geográfica es la referida a las *iniciativas medioambientales*. Cuando las Multilatinas expresan su compromiso real de proteger el medio ambiente a través del cumplimiento de las políticas medioambientales internacionales y locales, se muestran como verdaderas agentes de cambio. Estas empresas se vuelven más visibles y proyectan una imagen corporativa "ecológica". A medida que desarrollan más iniciativas medioambientales, adquieren mayores capacidades organizativas para anticipar el cambio y explotar nuevas oportunidades en los mercados internacionales. Sin embargo, las multilatinas no alcanzan niveles más altos de internacionalización cuando atienden a mejorar sus acciones e innovaciones medioambientales ni cuando implementan programas avanzados de control de emisiones. Es probable que estos resultados se puedan explicar por el hecho de que las inversiones medioambientales en el contexto latinoamericano todavía se consideran gastos que afectan negativamente al desempeño a corto plazo, lo que lleva a la percepción errónea de tales acciones. Del mismo modo, destinar esfuerzos para mejorar los procesos de producción, innovar en productos o implementar estrategias para la disminución de sustancias contaminantes no garantiza la internacionalización de las Multilatinas. Estas acciones no se consideran prioritarias porque requieren una gran inversión en la etapa inicial, no estando los directivos de estas organizaciones dispuestos a asumirlos en el momento actual.

En tercer lugar, para lograr una mayor visibilidad y mayores niveles de internacionalización, las Multilatinas deben implementar mecanismos eficientes de gobierno interno. Nuestros hallazgos resaltan la importancia de contar con *consejeros independientes* que estén alineados con la estrategia medioambiental corporativa. Por lo tanto, este estudio destaca el papel moderador de los consejeros independientes en los procesos e intenciones de toma de decisiones estratégicas medioambientales (iniciativas y acciones medioambientales). Los consejeros independientes, con su conocimiento y experiencia, se preocupan no solo por qué la empresa cumpla con las regulaciones nacionales e internacionales, sino que también promueven la realización de inversiones y acciones estratégicas en materia medioambiental. Esto hace que las Multilatinas sean más visibles y muestren una imagen corporativa comprometida con el medio ambiente. De esta manera, logran establecer acuerdos y colaboraciones con otras organizaciones e instituciones, y obtienen licencia para operar en mercados internacionales.

En contra de nuestras expectativas, no encontramos evidencia del efecto moderador de la presencia de consejeros independientes en las relaciones entre innovaciones medioambientales y el control de emisiones con la internacionalización de las Multilatinas. Esto posiblemente se debe a que los consejeros independientes en las Multilatinas no se centran especialmente en controlar y promover actividades específicas relacionadas con estrategias medioambientales, como actividades innovadoras relacionadas con productos, procesos de fabricación y programas de prevención de la contaminación. Además, las Multilatinas no siempre están interesadas en desarrollar e

implementar productos y procesos "verdes", a pesar de la presencia de consejeros con habilidades y conocimiento del sector. Esta falta de interés puede deberse a la gran cantidad de recursos que consumen estas actividades, especialmente en el corto plazo.

Capítulo 4: "*Examining green innovation´s effects on financial performance: The moderating role of ISO 14001 and R&D investments on multilatinas*". Este artículo presenta varias conclusiones. En primer lugar, integrando la perspectiva de recursos y capacidades y la teoría institucional, encontramos que la implementación de innovaciones medioambientales no está asociada con un mayor desempeño financiero en el contexto empresarial de América Latina. Dado que el contexto de las Multilatinas es débil con respecto a la legislación medioambiental, no existe la obligación de llevar a cabo innovaciones medioambientales y, si deciden hacerlo, no se consideran prioritarias ni cuentan con el suficiente apoyo institucional para hacerlas más visibles, lo que conlleva a gastos adicionales que incluso pueden generar alguna pérdida de rentabilidad en las organizaciones.

En segundo lugar, encontramos que los esfuerzos de las Multilatinas en la implementación de normas de certificación medioambientales, como la norma ISO 14001, no condiciona el impacto de las innovaciones medioambientales en el desempeño financiero de las Multilatinas. En este sentido, la simple adopción de la norma ISO 14001 permite a las Multilatinas garantizar su legitimidad al cumplir con las mínimas presiones institucionales y regulatorias del mercado (Al-Twaijry et al., 2003). No obstante, en muchas ocasiones, esta adopción es simbólica -no sustancial- y no implica necesariamente mejoras en las prácticas y procesos en la empresa que conduzcan a

innovaciones medioambientales efectivas y que redunden en una mejora de sus resultados financieros.

En tercer lugar, encontramos evidencia empírica para apoyar el papel moderador de las inversiones en I+D+i en la relación entre innovaciones medioambientales y el desempeño financiero. Cuando las Multilatinas realmente quieren implementar con éxito innovaciones medioambientales y lograr sus beneficios en un horizonte temporal a largo plazo, deben integrarlos en todas sus áreas y actividades. En este sentido, la inversión realizada por las Multilatinas en I+D+i puede promover el uso efectivo de tecnologías limpias, aumentar las habilidades en la transformación tecnológica del talento humano y mejorar los procesos y enfoques en el diseño de nuevos productos y servicios respetuosos con el medio ambiente (Tsai et al., 2011). De esta manera, las Multilatinas pueden hacerse más visibles y proyectar una marca corporativa ecológica, obteniendo altos niveles de satisfacción de sus clientes (Bhattacharya & Sen, 2003; Corkindale & Belder, 2009; Kammerer, 2009) e incrementando sus ventas. A medida que aumentan sus niveles de inversión en I+D+i, las Multilatinas adquieren una cultura empresarial adecuada que facilita el compromiso de cambio (Horbach et al., 2012; Kammerer, 2009; Rehfeld et al., 2007). Además, estas inversiones en I+D+i permite a las Multilatinas desarrollar un conjunto de capacidades que los llevan a adoptar una posición medioambiental más proactiva y robusta (centrada en las innovaciones medioambientales en términos de productos y procesos), con un impacto positivo en los niveles del desempeño financiero a largo plazo.

## 5.3 Implicaciones del trabajo de investigación

### 5.3.1 Implicaciones académicas

La investigación académica sobre la RSC, la gestión medioambiental y la internacionalización se ha desarrollado ampliamente en la última década, prestando especial interés en las multinacionales de países desarrollados y centrándose en aspectos relacionados con la influencia de las dimensiones ESG en el desempeño financiero (Atan et al., 2016; Balatbat et al., 2012; Fatemi et al., 2017; Friede et al., 2015; Lo & Sheu, 2007; Nollet et al., 2016; Ortas et al., 2015; Sahut & Pasquini-Descomps, 2015; Surroca et al., 2010), o la influencia de los grupos de interés en las prácticas de RSC (Barrena Martínez et al., 2016; Berman et al., 1999; Carroll, 1999; Choi & Wang, 2009; Sen et al., 2006; Waddock & Graves, 1997). También se ha estudiado la influencia de las regulaciones medioambientales en la adopción de estrategias medioambientales (Christmann, 2004; Rugman & Verbeke, 1998), la influencia de la experiencia internacional y la diversificación internacional en las estrategias medioambientales (ej, Aguilera-Caracuel et al., 2012; Bansal, 2005) y cómo la adopción de estrategias medioambientales proactivas favorecen la internacionalización (Martín-Tapia et al., 2010). Otros estudios muestran que la gestión medioambiental se vuelve relevante cuando las empresas operan en el contexto internacional (ej., Aguilera-Caracuel et al., 2012; Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; Bansal, 2005). Por otro lado, se han llevado a cabo estudios sobre las razones que tienen las empresas multinacionales para adoptar innovaciones medioambientales (Berrone et al., 2013; Bossle et al., 2016; Brunnermeier & Cohen, 2003; Dangelico & Pujari, 2010; Guoyou et al., 2013; Horbach

et al., 2012; Sarkis et al., 2010) analizando factores internos como la capacidad organizativa y los estándares de certificación (Arnold & Hockerts, 2011; Demirel & Kesidou, 2011; Rennings et al., 2006), la gestión de recursos humanos (Antonioli et al., 2013), inversiones en I+D+i (Demirel & Kesidou, 2011; Ghisetti & Pontoni, 2015), la orientación política (Ghisetti & Pontoni, 2015), las turbulencias de mercado y tecnológicas (Chang et al., 2016) y la intensidad de los recursos del mercado (Tariq et al., 2019; Wagner, 2010). Sin embargo, hasta el momento, se ha prestado escaso interés al estudio detallado de las distintas conexiones existentes entre las prácticas de RSC, el fenómeno de internacionalización y la gestión medioambiental llevada a cabo por multinacionales de mercados emergentes, particularmente Multilatinas. Por tanto, la presente tesis doctoral supone un gran esfuerzo para abordar esta temática mediante la aplicación de postulados teóricos consolidados y el desarrollo de diversos análisis empíricos.

En relación al análisis de las prácticas de RSC y su efecto en el desempeño financiero de las Multilatinas, integramos la teoría de recursos y capacidades, así como la teoría institucional para determinar una serie de condicionantes tanto internos (capacidad para generar exceso de recursos financieros, también denominada *financial slack resources*) como externos (diversificación internacional geográfica) que influyen en la referida relación. Cuando los directivos de las Multilatinas disfrutan de la disponibilidad de recursos financieros pueden dedicar sus esfuerzos a adoptar prácticas ESG más eficientes y sostenibles e integrarlas en la estrategia corporativa de la empresa.

Estas acciones pueden ayudar a hacerlas más visibles y a disfrutar de un mayor reconocimiento de los diferentes agentes del entorno, permitiéndoles reducir costes y mejorar su desempeño financiero. Además, las Multilatinas que aumentan su presencia en nuevos mercados con perfiles institucionales diferenciados parecen estar motivadas para llevar a cabo las mejores prácticas de ESG como mecanismo de legitimación, lo que les otorga licencia para operar y disfrutar de la reputación de organizaciones transparentes y comprometidas con el medio ambiente y la sociedad.

En relación al análisis de la estrategia de proactividad medioambiental de las Multilatinas, nos basamos en los postulados de la teoría de recursos y capacidades y de la teoría institucional para explicar la importancia de tener en cuenta características institucionales, tanto en los países de origen como en los mercados de acogida extranjeros (Cuervo-Cazurra et al., 2018), a la hora de adoptar estrategias medioambientales proactivas. De esta manera las Multilatinas podrán desarrollar ciertas capacidades internas (Aragón-Correa & Sharma, 2003; Blomstermo et al., 2004; Hart, 1995) y acceder a nuevos mercados, logrando aumentar sus niveles de internacionalización. Asimismo, pretendemos fortalecer los postulados del referido enfoque teórico mediante la consideración del papel que puede jugar la presencia de consejeros independientes en la relación entre proactividad medioambiental e internalización en el contexto de Multilatinas. De hecho, nuestros resultados muestran evidencia que respalda la idea de que las percepciones de los consejeros ante las presiones medioambientales motivan a las organizaciones a tomar más en serio el desarrollo de estrategias medioambientales proactivas avanzadas para incrementar su grado de internacionalización (Sarkis et al., 2010; Wang & Sarkis, 2017).

De igual manera, utilizamos un enfoque teórico combinado con postulados de recursos y capacidades y teoría institucional para analizar la influencia de las innovaciones medioambientales en el desempeño financiero en el contexto de Multilatinas y los efectos moderadores de las inversiones en I+D+i y la adopción de normas de certificación internacional, como ISO 14001, en esta relación. Nuestros resultados destacan el efecto moderador de las inversiones en I+D+i y su importancia para que las Multilatinas desarrollen un conjunto de capacidades que conduzca a la adopción de una posición medioambiental más proactiva y robusta (centrándose en la innovación medioambiental tanto en productos como en procesos), con un impacto positivo relevante y significativo en el desempeño financiero a largo plazo. Sin embargo, la adopción de normas de certificación internacional (ISO 14001) no puede servir como mecanismo que refuerce la relación existente entre la innovación medioambiental y el desempeño financiero. La razón principal reside en que las normas de certificación medioambiental ISO 14001se orientan más en el proceso que en sus efectos (Bansal & Hunter, 2003; Delmas, 2001). Múltiples autores (ej., Ferrón-Vílchez, 2017; Peña-Vinces & Delgado-Márquez, 2013; Zeng et al., 2017) respaldan nuestro hallazgo, argumentando que la mera adopción de la norma ISO 14001 no mejora necesariamente el desempeño medioambiental ni promueve innovaciones medioambientales efectivas.

### 5.3.2 Implicaciones para la gestión

Como principales implicaciones para la gestión destacamos la necesidad por parte de los directivos de prestar especial atención al papel que tienen la internacionalización

y la disponibilidad de recursos financieros a la hora de planificar y gestionar las diferentes prácticas de RSC (dimensiones E, S y G). Los directivos de las Multilatinas deben aprovechar la presencia de la organización en otros mercados internacionales con perfil institucional diferenciado para diseñar prácticas medioambientales y sociales novedosas y avanzadas. Al mismo tiempo, se requiere prestar atención a la disponibilidad de recursos financieros como una herramienta monetaria que debe formar parte integral de la estrategia de RSC de las Multilatinas. De esta manera, podrán ser vistas como empresas transparentes y comprometidas con el medio ambiente y la sociedad.

Los directivos de las Multilatinas deben adquirir una visión más a largo plazo y desplegar esfuerzos y recursos hacia la adopción de prácticas medioambientales proactivas y una apuesta constante por la innovación medioambiental. Esto les permitirá obtener una ventaja competitiva sostenible y adquirir legitimidad en los mercados extranjeros, lo que les otorga licencia para operar. Además, esta investigación sugiere que los órganos de gobierno de las empresas Multilatinas deben prestar atención a los consejeros independientes con el objetivo de integrar la sostenibilidad medioambiental en la estrategia corporativa. Las Multilatinas deben contar con la presencia de consejeros independientes capaces no solo de supervisar el comportamiento de los altos directivos sino también de formular e implementar estrategias medioambientales efectivas. Este enfoque ayudará a las Multilatinas a mejorar y reforzar su posición competitiva en los mercados internacionales.

Por otra parte, esta investigación sugiere que los directivos deben reflexionar sobre la implantación de normas de certificación internacional de manera simbólica (solo para

cumplir con las normas sociales o para ajustarse a las prácticas medioambientales adoptadas por otras compañías). El simbolismo en el ámbito de la certificación medioambiental puede ser percibido como "*Greenwashing*" (Bowen & Aragón-Correa, 2014). Este hecho podría causar la pérdida de confianza de consumidores, agentes de las cadenas de suministro y el resto de agentes del entorno, ocasionando un impacto negativo en la reputación de la empresa y generando un peor posicionamiento de marca a largo plazo. Teniendo en cuenta lo anterior, también es importante resaltar la importancia de implementar normas de certificación integradas en todas las áreas y actividades de la organización para que puedan satisfacer las necesidades y expectativas de sus consumidores y el resto de grupos de interés.

Finalmente, los directivos de las Multilatinas deben aumentar los niveles de inversión en sus prácticas de RSC y en particular en inversiones en I+D+i efectivas con el fin de fortalecer una cultura empresarial centrada en la mejora continua que cumpla con las expectativas medioambientales de sus diferentes stakeholders y permita el desarrollo de innovaciones medioambientales de larga duración para lograr la legitimidad de la empresa en los mercados extranjeros. Por tanto, con estas inversiones se mostrará un compromiso real de la empresa por mejorar sus acciones en el ámbito medioambiental, contribuyendo no solo a una mejora en el desempeño empresarial de la empresa, sino a que la organización sea vista como un ente socialmente responsable en todos los países donde opera.

### 5.3.3 Implicaciones para los reguladores públicos y agentes de interés

Los poderes públicos y reguladores a nivel nacional e internacional deberían ser capaces de crear programas de incentivos para promover la realización de prácticas de RSC eficientes y motivar la realización de innovaciones medioambientales. Por un lado, se deberían otorgar ayudas a las empresas que apliquen las mejores prácticas de RSC, así como otorgar mayor visibilidad a aquellas empresas que son más responsables en términos medioambientales y sociales. Por otra parte, sería aconsejable la creación de incentivos (subsidios o disminución en el pago de impuestos) para las empresas que adopten innovaciones medioambientales, tanto en productos como en procesos. Dichas políticas alentarían a las Multilatinas y a otras empresas a formular e implementar estrategias medioambientales, sociales y de buen gobierno responsables, que las llevaran a expandir sus actividades y acciones de manera eficiente en los mercados extranjeros.

En el contexto de América Latina es necesario que los gobiernos, poderes públicos e instituciones adopten una posición normativa más exigente y contundente en términos medioambientales. De esta manera, las Multilatinas y otras empresas podrían destinar más esfuerzos en la realización de innovaciones medioambientales efectivas que contribuyan a proteger el medio ambiente y a llevar a cabo comportamientos socialmente responsables en los distintos contextos internacionales donde operan.

## 5.4 Limitaciones del trabajo de investigación

Todo trabajo de investigación no queda exento de limitaciones. A continuación, indicamos las limitaciones que presenta esta tesis doctoral.

- ✓ La muestra de empresas utilizada en los tres artículos de investigación proviene de cinco países latinoamericanos debido a la poca disponibilidad de datos. Nuestros hallazgos, por lo tanto, no se pueden generalizar a las empresas pertenecientes a otras regiones geográficas.
- ✓ Respecto a las bases de datos utilizadas en el primer artículo, cabe señalar el hecho de que los datos utilizados para cada una de las dimensiones ESG tienen una puntuación global basada en datos secundarios. Aunque estas variables se han utilizado ampliamente en la literatura reciente y se tratan para facilitar los análisis estadísticos, la puntuación asignada a cada variable no está exenta de influencias subjetivas, lo que puede disminuir la validez de nuestros resultados.
- ✓ En el segundo artículo de investigación, la construcción de la variable de proactividad medioambiental de las empresas se basa en datos secundarios. Aunque los datos utilizados en este estudio son ampliamente reconocidos y avalados por la literatura científica reciente (Gallego-Álvarez, 2018; Semenova & Hassel, 2008; Taliento et al., 2019), y tienen potencial contrastado a la hora de ofrecer información valiosa sobre el fenómeno estudiado, ninguno de los indicadores está exento de subjetividad.
- ✓ Para el análisis de la información de los tres artículos se utilizó el análisis de regresión múltiple incluyendo variables moderadoras. Esta metodología utiliza un tipo de moderación de naturaleza lineal. Por tanto, en los casos en los que no se ha encontrado efecto moderador no quiere decir que no exista moderación, ya que ésta podría ser no lineal. En definitiva, existe la posibilidad de que se puedan presentar formas funcionales alternativas a la lineal (Jaccard et al., 1990: 24).

## 5.5 Futuras líneas de investigación

La presente tesis doctoral pretende servir como marco de referencia para el desarrollo de futuros trabajos de investigación, que puedan solventar las limitaciones expuestas en el epígrafe anterior. Entre las líneas de investigación que serían susceptibles de realización en un futuro destacamos las siguientes:

- ✓ En primer lugar, en trabajos futuros, sería interesante estudiar Multilatinas de otros países de América Latina y/o multinacionales de países emergentes de otros continentes para comparar los resultados.
- ✓ En segundo lugar, como la subjetividad puede disminuir la validez de nuestros resultados, los estudios futuros deberían proponer otras medidas complementarias e innovadoras del rendimiento de las dimensiones ESG (es decir, información derivada de otras bases de datos secundarias como KLD, e información obtenida a través de cuestionarios y entrevistas). Asimismo, es necesario incluir otras medidas medioambientales adicionales y/o extender los resultados dirigiendo cuestionarios a los altos directivos y trabajadores (Aguilera-Caracuel et al., 2012) para la elaboración del constructo "proactividad medioambiental".
- ✓ En tercer lugar, el alcance de los factores que pueden influir en la adopción de prácticas medioambientales proactivas se limita a un solo mecanismo de gobierno corporativo: la presencia de consejeros independientes. Si bien elegimos este mecanismo debido a que desempeña un papel clave, sería útil para futuras investigaciones considerar otras características de los órganos de gobierno, como la presencia de comités medioambientales específicos o la estructura de propiedad.

- ✓ Finalmente, proponemos la inclusión de nuevas variables que refuercen el estudio combinado de la RSC – gestión medioambiental e internacionalización. De manera más concreta, proponemos introducir nuevas variables mediadoras y moderadoras que enriquezcan los resultados obtenidos en nuestros tres trabajos de investigación, tales como la capacidad de absorción, la flexibilidad organizacional, la cultura innovadora de los miembros de la organización, la existencia de comités medioambientales específicos o la presencia de mujeres en los consejos de administración.

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