

政治联系的独立董事有助于中国民营上市公司涉入高壁垒行业吗？¹

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摘要

本文手工收集了2004至2010年中国民营上市公司的独立董事与CEO的政治联系的数据，研究了政治联系的独立董事对公司涉入高壁垒行业的影响。本文的研究结果表明：（1）政治联系的独立董事显著提高了民营上市公司涉入高壁垒行业的概率，并显著提高了民营上市公司涉入高壁垒行业的程度——高壁垒行业收入的比重。（2）与政治联系的CEO相比，政治联系的独立董事对民营上市公司涉入高壁垒行业的影响无论从统计意义上还是经济意义上均显著更高。（3）独立董事的政治联系的强度越高，对民营上市公司涉入高壁垒行业的影响越大。（4）独立董事拥有的中央与地方层级的政治联系对民营上市公司涉入高壁垒行业具有显著为正的影晌。（5）就对民营上市公司涉入高壁垒行业而言，无论是政治联系的强度与政治联系的层级，政治联系的独立董事的影响均大于政治联系的CEO的影响。本文的研究，拓宽了政治联系研究的范畴。

关键词：独立董事、CEO、政治联系、行业壁垒

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一、引言

在尝试解释中国经济高速发展与正式制度不匹配现象的过程中，政治联系（Political Connections）作为普遍存在于企业中的一种典型的非正式制度安排，愈来愈受到学者们的关注。之前的政治联系研究中，学者们一般将政治联系的主体划分为四类：（1）CEO（包括与 CEO 职能类似的董事长和总经理）；（2）除独立董事以外的董事会成员；（3）主要股东；（4）其他高管。换言之，学者们往往先验地认为独立董事天然是“独立、公正”的，并不直接影响企业的经营。鉴于此，多数前期文献都忽略了政治联系的独立董事这一特征及其经济后果。近年来，媒体频频曝光退休官员在上市公司担任独立董事，政治联系的独立董事逐渐开始受到公众的关注和质疑。依据《中国青年报》的粗略统计，在市值排名前 50 的上市公司中，有 34 位政府退休高官出任独立董事。在市值前 50 名的上市公司中，也不乏副部级以上高官担任独立董事。《投资者报》2010 年曾做过一项调查，全部 A 股上市公司中聘请的前官员总数达到 1,599 人，其中有 467 人目前的职务是独立董事。

改革开放以来，民营企业作为中国经济的重要有机组成部分，在经济持续高速发展过程中发挥着举足轻重的作用。截至 2010 年底，我国民营企业达 845 万余家，占全国工商企业总数的 90% 以上，从业人员 9,417 万人，民营经济税收占全国比重超过 50%，民营经济占 GDP 的比重超过 60%，盈利能力远超国有经济，投资的增速也已经超过了国有经济。虽然随着 2005 年“非公三十六条”的发布，政府逐渐鼓励民营经济涉足国有经济的传统垄断领域，例如，交通基础设施、能源、复合公用事业及水务、媒体、多元电讯服务等，但是，民营经济发展的范围和深度仍然受到诸多限制，“公权力”针对民营经济的“隐性歧视”仍然“隐约”存在。因此，民营经济并没有获得与国有企业等同的地位。实际上，针对民营经济的诸多壁垒，包括行业壁垒仍客观存在着，民营资本在垄断领域的投资准入受到政府严格的审批和管制，民营企业生存和发展的大量优良资源集中在政府手中。作为应对策略，民营企业不得不寄希望于通过各种途径寻求与政府建立各种“关系”，尤其是政治联系，希望借此突破“禁区”和“隐性壁垒”。

民营企业在建立、维护与强化政治联系的过程中，存在着不同的特征：（1）一些民营企业家本就是原来的政府官员下海经商，为此该类民营企业从建立之日起就具有了政治联系。（2）一些民营企业许以重金来“利诱”彼时仍在任的政府官员离开政府机关、进入企业担任高管、甚至是总经理等职位，这样的民营企业也后天开始具备政治联系。（3）一些民营企业家吸引退休的政府官员担任独立董事，从而成为政治联系的企业。前期文献主要关注的是第一、二类情况，而本文则希望将政治联系的独立董事纳入政治联系这一日益成熟的分析框架，并在控制政治联系的 CEO 这一因素的情况下，分析政治联系的独立董事对民营上市公司涉入高壁垒行业的影响。当然，本文附加地讨论政治联系的独立董事与政治联系的 CEO 的竞争性影响。

本文选取 2004 至 2010 年中国 A 股资本市场中民营上市公司作为研究对象。本文的研究结果表明，政治联系的独立董事对民营上市公司涉入高壁垒行业存在着显著为正的影 响。具体地，本文的研究发现包括：（1）政治联系的独立董事显著提高了民营

上市公司涉入高壁垒行业的概率，并显著提高了民营上市公司涉入高壁垒行业的程度——高壁垒行业收入的比重。(2) 与政治联系的 CEO 相比，政治联系的独立董事对民营上市公司涉入高壁垒行业的影响无论从统计意义上还是经济意义上均显著更高。(3) 独立董事的政治联系的强度越高，对民营上市公司涉入高壁垒行业的影响越大。(4) 独立董事拥有的中央与地方层级的政治联系对民营上市公司涉入高壁垒行业具有显著为正的影 响。(5) 就对民营上市公司涉入高壁垒行业而言，无论是政治联系的强度与政治联系的层级，政治联系的独立董事的影响均大于政治联系的 CEO 的影响。本文的研究贡献可能在于：(1) 前期文献多侧重于分析董事长、董事会、CEO 或高管具有的政治联系的经济后果，而对独立董事政治联系的经济后果则分析不足，本文的研究则是该领域内首次分析独立董事的政治联系及其经济后果的文献。(2) 本文建构了不同维度的政治联系的度量，包括政治联系虚拟变量、政治联系的个人级别，中央与地方层级的政治联系等。多维的政治联系度量，可以从一定程度上更好的刻画政治联系变量，从而为分析独立董事政治联系具有的经济后果提供坚实的基础。

本文其他内容安排如下：第二部分是本文的理论分析与研究假设，第三部分是研究设计，第四部分描述性统计和相关性分析，第五部分是实证研究结果、敏感性测试，第六部分是结论和进一步研究的展望。

二、理论分析与研究假设

(一) 政治联系的独立董事

由于 CEO 对公司经营决策产生最直接的影响，且在公司治理结构中处于核心地位，因此大量关于政治联系的研究都关注了 CEO 这个特定群体，Bertrand *et al.* (2004) 界定公司的 CEO 为具有政治联系的主体，他们认为曾经或正在任职于政府部门、曾经就读于精英学校，则具有了政治联系 (Bertrand *et al.*, 2007)。Fan *et al.* (2007) 将 CEO 现在或曾经在政府机关 (中央或地方)、军队任职视为具有政治联系。这一概念界定与大多数国内外的文献基本类似 (如 Faccio, 2006; Faccio *et al.*, 2006; 吴文锋等, 2008; 潘红波等, 2008; 余明桂与潘红波, 2008; 吴文锋等, 2009; 邓建平与曾勇, 2009; 余明桂等, 2010; 杜兴强与周泽将, 2010; 杜兴强等, 2011a, 2011b)。此外，民营企业中的创业企业家与 CEO 的作用类似，所以有部分学者的研究限定民营企业家作为政治联系的主体 (Li *et al.*, 2006; Li *et al.*, 2008; 白重恩等, 2005; 胡旭阳, 2006; 胡旭阳与史晋川, 2008; 冯天丽与井润田, 2009)。

在中国的新兴资本市场中，行政权力对资源的分配起到非常重要的作用，与掌握权力的官员建立长期稳定的、显性或隐性的“关系”是民营上市公司面对的重要问题和战略选择。民营企业选择通过独立董事制度建立政治联系，既获得了与政府官员进行互动的平台、又有助于平衡企业中各方利益。第一，独立董事并不直接影响企业经营或直接干预企业的经营决策，而是通过董事会讨论制定的有效规划来监督 CEO 完成企业的日常经营活动，因此，出于对控制权的考虑，聘请具有政治背景的独立董事可

以降低政策不确定性，减少经营风险，保障企业家的控制权不旁落他人。第二，之前的研究对于独立董事制度的审视，主要聚焦于其在股权结构和利益相关者利益的权衡中的作用。因此，学术界和社会公众却忽视了具有政治背景的独立董事在民营企业中频频现身及其相关的经济后果问题。独立董事在公众的眼中基本是独立、公正的形象，在保护中小股东利益方面发挥举足轻重的作用。此外，监管机构为了保证独立董事在资格、产生程序、经济上的独立性发布了一系列规定。⁵ 因此，外界天然地认为独立董事拥有“纯天然的独立性”，对独立董事的背景关注较少，使得政治联系的独立董事的寻租更“隐蔽”。第三，中国资本市场对独立董事缺乏公开透明的评定，对工作内容没有硬性的规定，导致对独立董事工作缺少监督。最后，中国资本市场法律法规不完善以及独立董事制度固有的缺陷，造成法律对独立董事的处罚往往执行不到位。例如，在财务舞弊案件发生后，监管部门并未对所有独立董事进行相应处罚，执行中重行政处罚，而轻民事处罚，⁶ 承担刑事责任则更是寥寥无几。另外，当独立董事是否提出异议后，证监会往往会降低对独立董事的处罚。

当然，企业通过引入退休的政府官员担任独立董事来建立政治联系并非百利而无一害。民营企业通过引入退休政府官员担任独立董事，或多或少总会受到行政权力的干预，例如，承担就业压力、公益性捐赠等。此外，对权力的寻租可能因为媒体舆论的监督而受到纪检部门的审查和增加了潜在的法律风险。然而，相比权力寻租带来的巨大利益，部分企业甘愿承担高风险借以获得更高的“潜在”、但垄断的收益。值得注意的是，官员对权力的寻租最为关注的莫过于法律上的安全性。虽然官员被聘请担任独立董事同样要受到纪检部门的审查，但是独立董事“公正、独立”的外衣以及法律惩罚的不完善降低了企业通过聘请政治联系的独立董事进行寻租的风险与成本。

（二）政治联系的独立董事与壁垒行业

在不完全竞争市场中，厂商时常面临竞争的壁垒，其形成的原因一般包括资本规模、核心技术、营销渠道、资源、行政管制等多个方面。从经济效率来看，规模壁垒、技术壁垒、资源壁垒、渠道壁垒作为厂商竞争的产物并不是一成不变的，随着市场竞争，企业透过兼并收购、增加研发、开发替代资源、创新渠道等一系列经济手段，仍然存在打破壁垒的可能性，有助于提升整个产业和国民经济的运行效率。然而，行政管制产生的壁垒则完全阻碍了市场规则，通过行政权力直接干预经济形成了无法跨越的“垄断鸿沟”，降低了资源的配置和使用效率。现阶段，我国民营企业面临的主要壁

⁵ 证监会规定七类人员不得担任独立董事：（1）在上市公司或者其附属企业任职的人员及其直系亲属和主要社会关系；（2）直接或间接持有上市公司已发行股份1%以上或者是上市公司前十名股东中的自然人股东及其直系亲属；（3）在直接或间接持有上市公司已发行股份5%以上的股东单位或者在上市公司前五名股东单位任职的人员及其直系亲属；（4）最近1年内曾经具有前3项所列情形的人员；（5）为上市公司或其附属企业提供财务、法律、咨询等服务的人员；（6）公司章程规定的其他人员；（7）中国证监会认定的其他人员。

⁶ “郑百文事件”中，郑百文虚增利润1,908万元，证监会对独立董事处罚10万元，董事长李福乾、董事、总经理卢一德分别被处罚30万元、20万元。因提供虚假报告，原郑百文董事长李福乾被判处有期徒刑3年（缓刑5年）并处罚金人民币5万元，原郑百文总经理卢一德、财务主管都群福分别被判处有期徒刑2年（缓刑3年）并处罚金人民币3万元。

垒仍然是行政管制，譬如《邮政法》、《烟草专卖法》为政企合一体制下的企业提供了法律上的保障，地方政府利用“红头文件”限制行业竞争，行政上规定石油进出口权由三家国有石油公司瓜分等。对于夹缝中求生存的民营企业来说，如何打破行业中行政管制的壁垒，进入具有发展潜力的行业，获取更多的收益，是其管理层面临的重要问题之一。在行业管制的背景下，行政权力作为一项稀缺的资源进一步凸显，行政权与垄断利益的联系更加紧密。高壁垒行业往往属于行政垄断的范畴，获得行政准入机制的庇护，攫取高额的垄断利润（过勇和胡鞍钢，2003；陈斌等，2008；罗党论和刘晓龙，2009），由高利润刺激向权力的寻租行为十分普遍。然而，直接行贿的违法性将造成缔结“关系”的高成本以及寻租过程的不确定性较大，企业往往并不采用此类寻租方式。此外，民营企业作为人大代表与政协委员所获得的权力则无法完全等同和替代政府官员手中掌控的行政权力。综合考虑，聘请退休的政府官员担任独立董事相对可以较好地实现成本效益的最大化。

政治联系作为市场经济中公共权力寻租的一类途径，在世界范围内普遍存在。寻租行为的产生主要是因为经济生活中广泛存在着政府的管制（Krueger, 1974）。正如 Shleifer and Vishny（1998）所指出，政府官员手中的权力越集中、政治透明度越低，政府官员权力寻租的现象就越普遍。图洛克（1989/2008）指出的，由于中国社会资源的过度集中，在中国存在着一些人，他们往往通过寻求与有权力的人建立私人关系来寻求“捷径”。可见在中国社会，寻租古而有之。改革开放以来，中国从计划经济逐步转向市场经济，然而过去计划经济的痕迹仍然非常明显，政治权力中心仍然掌握着大量的优质资源，经济领域中政府的管制行为相当广泛，例如“发改委”对市场价格进行管控、资源类行业普遍存在的准入标准，以及银行存贷款利差。此外，政府官员掌握着公共领域内的自由裁量权，预示企业频频针对官员拥有的公权力进行寻租，以期获得超额利润（杜兴强等，2010）。

虽然从税收、工业总产值以及就业来看，民营经济扮演着越来越重要的角色，但是并不意味着民营经济已经获得与国有经济相同的地位，全社会中针对民营经济的显性和隐性歧视无处不在。民营经济在国有经济的夹缝中求生存，天然地受到政府公权力的歧视。作为应对，民营企业不得不通过聘用具有政治背景的官员来有效地实施自我保护。据新华网报道，不断有一些领导干部选择去上市公司担任独立董事“发挥余热”。民营企业中政治联系的独立董事显然也是针对官员所拥有的公权力寻租的结果，利用独立董事的“人脉关系”和影响力能够建立与政府机关的“关系”。另外，独立董事作为现代企业的公司治理结构单元，企业需要向独立董事支付一定的薪酬确保其履行职责。由此可见，独立董事本身与企业本身并不是完全超然独立的（郭强和蒋东生，2003；谭劲松，2003；简新华和石华巍，2006）。Khwaja and Mian（2005）、Claessens *et al.*（2008）认为，政治联系往往是一个主体为了获得资源分配权而向政治权力“寻租”的典型产物。Faccio（2006）的研究结论表明，正式制度安排越无效，政府越容易干预经济；司法制度越不健全的国家或地区，企业通过建立政治联系获得当地官员手中权力的寻租行为的动机越强。因此，政治联系的广泛存在与经济领域的特权和优惠密不可分。例如，政治联系的上市公司常常可以获得税率的优惠、较低的贷款利率，获

得更多的补贴性收入,拥有更高的概率获得许可进入高壁垒行业等(吴文锋等,2009;白重恩等,2005;郭剑花、杜兴强,2011;罗党论、刘晓龙,2009;杜兴强等,2011a)。综合以上分析,本文提出以下假设:

H1: 限定其他条件,政治联系的独立董事增加了民营上市公司涉入高壁垒行业的概率。

H2: 限定其他条件,政治联系的独立董事增加了民营上市公司中来自于高壁垒行业的收入比重。

上述假设表达了独立董事有无政治联系对民营上市公司涉入高壁垒行业的影响,本文进一步关注独立董事政治联系的强度与层级(即中央或地方政治联系)对民营上市公司涉入高壁垒行业的影响。但是,本文并不拟就此提出专门的研究假设,而是采纳不同的政治联系变量对此进行深入稳健性测试。

三、研究设计

(一) 模型与变量

为了检验假设 1、2,本文构建模型如下:

$$\begin{aligned}
 BARRIERDUM = & \alpha_0 + \alpha_1 PC_IND_DUM + \alpha_2 PC_CEO_DUM \\
 & + \alpha_3 FIRST + \alpha_4 PLU + \alpha_5 SIZE + \alpha_6 LEV + \alpha_7 ROA \\
 & + \alpha_8 GOVINTER + \alpha_9 DBWY_IND_DUM \\
 & + \alpha_{10} DBWY_CEO_DUM + (Industry Dummies) \\
 & + (Year Dummies) + \varepsilon
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 BARRIERMAX = & \beta_0 + \beta_1 PC_IND_DUM + \beta_2 PC_CEO_DUM \\
 & + \beta_3 FIRST + \beta_4 PLU + \beta_5 SIZE + \beta_6 LEV + \beta_7 ROA \\
 & + \beta_8 GOVINTER + \beta_9 DBWY_IND_DUM \\
 & + \beta_{10} DBWY_CEO_DUM + (Industry Dummies) \\
 & + (Year Dummies) + \delta
 \end{aligned} \tag{2}$$

模型(1)是 Logistic 模型,模型(2)是 Tobit 模型。模型(1)的被解释变量为“民营上市公司是否涉入高壁垒行业”的虚拟变量(*BARRIERDUM*),模型(2)的被解释变量为“公司涉入高壁垒行业的营业收入占营业总收入的比例”(*BARRIERMAX*)。模型(1)、(2)中,主要的解释变量为“政治联系的独立董事”变量(*PC_IND_DUM*),同时我们在模型中引入政治联系的 CEO (*PC_CEO_DUM*) 这一变量,观察两者对民营上市公司涉入高壁垒行业的竞争性影响。

模型(1)、(2)的控制变量包括第一大股东持股比例(*FIRST*)、董事长、总经理是否两职合一的虚拟变量(*PLU*)、公司规模(*SIZE*)、资产负债率(*LEV*)、公司的盈

利能力 (*ROA*)、政府对经济的干预程度 (*GOVINTER*)、代表委员联系的独立董事 (*DBWY_IND_DUM*)、代表委员联系的 CEO (*DBWY_CEO_DUM*)，按照证监会分类公司所在行业 (*INDUSTRY*) 以及年度虚拟变量 (*YEAR*)，各变量的具体定义见表 1。

表 1 变量定义

变量	定义
<i>BARRIERDUM</i>	根据年报中披露的营业收入构成，如果当年的营业收入中涉及高壁垒行业，则变量等于 1，否则变量等于 0。根据深圳证券交易所、陈斌等（2008）的《我国民营上市公司发展实证研究》研究报告，按照 WIND 各行业对应的行业进入壁垒指数，将上市公司所处的行业划分为三大类，其中第一类即为进入壁垒高的行业（进入壁垒指数在 7 至 10 之间），包括：建筑与工程、能源设备与服务（石油、天然气与供消费用燃料）、金属、非金属与采矿、汽车、资本市场、电力、燃气、复合公用事业及水务、公路与铁路运输（交通基础设施）、媒体、海运、航空及航空物流和货运（航天、航空）及国防、多元电讯服务。
<i>BARRIERMAX</i>	根据年报中披露的营业收入构成，如果当年的营业收入中涉及高壁垒行业，则变量等于涉及的高壁垒行业的营业收入之和除以营业收入总和，否则变量等于 0。
<i>PC_IND_DUM</i>	若上市公司的独立董事曾经在党委（含纪委）、政府、人大或政协常设机构、法院、检察院任职，则认为独立董事具有政治联系，赋值为 1，否则取 0。
<i>PC_CEO_DUM</i>	若上市公司的 CEO 曾经在党委（含纪委）、政府、人大或政协常设机构、法院、检察院任职，则认为关键高管具有政治联系，赋值为 1，否则取 0。
<i>FIRST</i>	第一大股东持股比例。
<i>PLU</i>	若一人兼任公司的董事长和总经理，则变量为 1，否则变量为 0。
<i>SIZE</i>	公司期末资产的自然对数。
<i>LEV</i>	公司期末的负债总额除以期末的资产总额。
<i>ROA</i>	净利润除以期末总资产。
<i>GOVINTER</i>	上市公司注册地所在省、自治区或直辖市的政府干预指数（樊纲等，2009）。
<i>DBWY_IND_DUM</i>	若上市公司的独立董事曾经或现在担任人大代表或政协委员，则赋值为 1，否则取 0。
<i>DBWY_CEO_DUM</i>	若上市公司的 CEO 曾经或现在担任人大代表或政协委员，则赋值为 1，否则取 0。
行业	行业虚拟变量，根据 CCER 数据库提供的证监会行业代码设置。
年度	年度虚拟变量 2004 至 2010 年。

（二）样本选择与数据来源

本文的初始样本为 2004 至 2010 年间的中国 A 股民营上市公司，包括 4,523 个观测值。我们按照如下的方法对样本进行了筛选：（1）删除金融、保险类上市公司的观测值 29 个；（2）删除 ST、*ST 或 PT 类等非正常交易状态的观测值 324 个；（3）删除 2004 年之后首次发行的上市公司观测值 985 个；（4）删除相关财务数据缺失的观测值 8 个。最终筛选后获得 3,177 个观测值。总体来看，在我们的样本中，CEO 具有政治联系的观测值个数为 657，占样本的比例约为 20.7%，独立董事具有政治联系的观测值个数为 1,435，约占样本比例为 45.2%。逐年来看，拥有政治联系的独立董事的观测值数与拥有政治联系的 CEO 的观测值数均总体上呈现逐渐下降的趋势，该发现与杜兴强等（2010）的发现一致。此外，我们发现与 CEO 政治联系的比例相比，独董政治联系的比例显著更高（ $t = 21.51$ ），且拥有政治联系的独立董事的观测值比例各年度均显著高于拥有政治联系的 CEO 的观测值比例。表 2 报告了样本按照高低壁垒行业分组的逐年分布情况，可以看出从 2005 年之后涉入高壁垒行业的民营上市公司比例和数量均有所增加，但是从 2010 年开始比例和数量明显下降。

表 2 样本按照高低壁垒行业逐年分布的情况

年度	高壁垒行业	非高壁垒行业	合计	高壁垒行业占比
2004	113	342	455	24.84%
2005	118	337	455	25.93%
2006	120	335	455	26.37%
2007	121	332	453	26.71%
2008	119	335	454	26.21%
2009	121	332	453	26.71%
2010	114	338	452	25.22%
合计	826	2,351	3,177	26.00%

本文研究中所使用的行业壁垒数据、独立董事政治联系数据以及 CEO 政治联系数据，均来源于本文作者手工收集。具体如下：

（1）行业壁垒数据。依照陈斌等（2008）的研究结果将行业划分为高壁垒行业（国有垄断或具有较高垄断特征）、中壁垒行业（具有典型的垄断竞争特征）和低壁垒行业（行业竞争性较强，民营资本早已进入），依据 WIND 数据库和年报中提供的上市公司年度营业收入构成，如果上市公司当年的营业收入包含来自于高壁垒行业的收入，则表明上市公司的经营涉及了高壁垒行业，那么“是否涉入高壁垒行业”的虚拟变量 *BARRIERDUM* 为 1，否则 *BARRIERDUM* 为 0；此外，“涉入壁垒行业强度”*BARRIERMAX* 为来源于高壁垒行业的收入总额除以当年全部营业收入总额。

（2）政治联系数据。政治联系的独立董事与政治联系的 CEO 的数据搜集的具体思路如下：依据 CSMAR 数据库提供的上市公司年度高管的简历资料及职位信息，区分

上市公司的 CEO（董事长、总经理）和独立董事，再依照 Fan *et al.*（2007）的研究方法，逐个阅读数据库提供的高管简历，对 CEO 和独立董事是否具有政治联系判别赋值，即虚拟变量赋值。参考杜兴强等（2009、2010），对政治联系的强度和层级进行赋值，并作为被解释变量的敏感性测试。同理，本文手工收集了独立董事（CEO）的代表委员联系。

（3）本文研究中所需的第一大股东持股比例、董事长和总理是否兼任、财务数据均来源于 CSMAR 数据库，政府对经济的干预程度数据源于樊纲等（2009）。

为了降低极端值的影响，本文对连续变量（例如 *SIZE*、*LEV*、*ROA* 等）实施了 1% 和 99% 分位的 Winsorize 缩尾处理，借以增强研究结论的可靠性。

四、描述性统计与相关性分析

（一）描述性统计

表 3 提供了变量的描述性统计结果（缩尾后）。被解释变量 *BARRIERDUM* 的均值约为 0.260，表明大约有 26% 的观测值存在来源于高壁垒行业的营业收入。*BARRIERMAX* 的均值约为 0.128，说明高壁垒行业的营业收入占民营上市公司总营业收入的比重平均约为 12.8%。主要解释变量的统计结果显示，*PC_IND_DUM* 的均值大约为 0.452，说明大约 45.2% 的民营上市公司中存在政治联系的独立董事；*PC_CEO_DUM* 的均值大约为 0.207，表明大约 20.7% 的民营上市公司由政治联系的 CEO 负责经营。

控制变量方面，*FIRST* 的均值为 0.308、最大值为 0.760、最小值为 0.079，揭示了民营上市公司第一大股东持股比例的差异较大。*PLU* 的结果表明，大约有 14% 的观测值存在董事长、总经理职位由一人兼任的情况。*SIZE* 的描述性结果表明中国资本市场民营上市公司的规模平均约为 12.457 亿元（ $e^{20.943}$ ），公司间规模差异巨大，最大值约为 841.612 亿元，最小值约为 0.769 亿元，相差大约 1,094 倍，这与我国 A 股资本市场设置主板、中小板、创业板的情况基本吻合。*LEV* 的结果显示，民营上市公司的资产负债率的均值大约为 55.4%。此外，从企业盈利能力来看，样本的 *ROA* 均值为 0.007（中位数约为 0.026），说明平均意义上和整体上观察民营上市公司仅仅略微盈利。但是，民营上市公司同时呈现出公司间企业盈利能力差异较大，最大值为 0.429，最小值为 -0.953。*GOVINTER* 的统计结果表明，民营上市公司所在地域差异较大。*DBWY_IND_DUM* 的均值约为 0.082，说明样本中 8.2% 的民营上市公司建立了独立董事的代表委员联系，*DBWY_CEO_DUM* 的均值约为 0.144，表明约 14.4% 的民营上市公司存在 CEO 的代表委员联系。

（二）单变量 T/Z 检验

表 4 报告了被解释变量 *BARRIERDUM*、*BARRIERMAX* 及控制变量分别按照主要解释变量 *PC_IND_DUM*、*PC_CEO_DUM* 分组的 T/Z 检验结果。Panel A 显示总计有

1,435 个观测值存在独立董事的政治联系。与独立董事不具有政治联系的子样本相比, 独立董事具有政治联系的子样本中 *BARRIERDUM* 的均值(中位数)显著更高($t = 16.02$, $z = 15.84$), 以上结果初步支持了假设 1。 *BARRIERMAX* 的均值(中位数)同样显著更高 ($t = 11.29$, $z = 15.52$), 表明具有独立董事政治联系的公司更可能涉入高壁垒行业, 涉入高壁垒行业的营业收入比重更高。该结果为假设 2 提供了初步支持。

表 3 描述性统计

变量	N	Mean	Std. Dev	Min	25%	Median	75%	MAX
<i>BARRIERDUM</i>	3177	0.260	0.439	0	0	0	1	1
<i>BARRIERMAX</i>	3177	0.128	0.293	0	0	0	0.007	1
<i>PC_IND_DUM</i>	3177	0.452	0.498	0	0	0	1	1
<i>PC_CEO_DUM</i>	3177	0.207	0.405	0	0	0	0	1
<i>FIRST</i>	3177	0.308	0.138	0.079	0.213	0.280	0.380	0.760
<i>PLU</i>	3177	0.140	0.347	0	0	0	0	1
<i>SIZE</i>	3177	20.943	1.103	18.158	20.250	20.940	21.643	25.156
<i>LEV</i>	3177	0.554	0.231	0.040	0.397	0.546	0.689	0.999
<i>ROA</i>	3177	0.007	0.134	-0.953	0.006	0.026	0.056	0.429
<i>GOVINTER</i>	3177	7.567	3.399	-2.17	4.90	7.07	10.84	12.67
<i>DBWY_IND_DUM</i>	3177	0.082	0.275	0	0	0	0	1
<i>DBWY_CEO_DUM</i>	3177	0.144	0.351	0	0	0	0	1

FIRST、*PLU*、*LEV* 的统计结果说明, 按照 *PC_IND_DUM* 分组, 各变量的均值(中位数)不存在显著差异。独立董事具有政治联系的子样本中 *ROA* 普遍更低 ($t = -2.53$, $z = -1.32$), 表明建立独立董事政治联系的民营上市公司企业盈利能力更低; *SIZE* 的均值(中位数)显著更低 ($t = -2.39$, $z = -2.27$), 说明规模较小的民营上市公司, 由于不能达到规模效应致使其与大公司相比竞争力不足, 为弥补规模差距导致的竞争力下降, 小公司更加期望通过“关系”增强竞争能力。*GOVINTER* 的统计结果显示, 独立董事具有政治联系的分组中 *GOVINTER* 的均值(中位数)显著更低 ($t = -3.53$, $z = -3.75$), 表明制度环境越差, 企业更加希望也更加容易建立政治联系。该结果为 Shleifer and Vishny (1998) 的论点提供了经验证据。独立董事的政治联系样本中, 独立董事的代表委员联系 (*DBWY_IND_DUM*) 的均值(中位数)显著更高 ($t = 5.46$, $z = 5.60$), 变量 *DBWY_CEO_DUM* 的均值(中位数)也显著更高 ($t = 5.51$, $z = 5.59$)。

Panel B 的结果显示, 与 CEO 不具有政治联系的子样本相比, CEO 具有政治联系的子样本中, *BARRIERDUM* 的均值(中位数)显著更高 ($t = 4.38$, $z = 4.61$), *BARRIERMAX* 的中位数显著更高 ($z = 4.01$), 说明具有 CEO 政治联系的公司进入壁垒行业的概率更高; 此外, 由于变量 *BARRIERMAX* 的分布并非正态分布, 所以仅有中位数 Z 检验表明政治联系的 CEO 有助于提高民营上市公司来自于高壁垒行业的营业收入比重。*PLU* 的统计结果说明, 具有 CEO 政治联系的民营上市公司中, 董事长、总经

理两职合一的概率更低 ($t = -3.67$, $z = -3.31$), *PLU* 的统计结果与 Panel A 中的结果有所不同的主要原因可能是, 民营上市公司为了建立 CEO 政治联系且不丧失企业的控制权, 最有可能提供总经理的职位, 造成董事长、总经理两职合一的比例更低。Panel B 中 *SIZE*、*GOVINTER*、*DBWY_IND_DUM*、*DBWY_CEO_DUM* 的统计结果与 Panel A 中的结果相似。

表 4 单变量 T/Z 检验

Panel A: 根据独立董事是否存在政治联系的分组 T/Z 检验

变量	<i>PC_IND_DUM</i> = 1			<i>PC_IND_DUM</i> = 0			t 值	z 值
	(N = 1435)			(N = 1742)				
	均值	中位数	标准差	均值	中位数	标准差		
<i>BARRIERDUM</i>	0.396	0	0.489	0.148	0	0.355	16.02***	15.84***
<i>BARRIERMAX</i>	0.194	0	0.342	0.074	0	0.232	11.29***	15.52***
<i>FIRST</i>	0.307	0.282	0.137	0.308	0.279	0.138	-0.08	-0.15
<i>PLU</i>	0.146	0	0.354	0.135	0	0.342	0.88	0.88
<i>SIZE</i>	20.892	20.891	1.081	20.985	20.985	1.119	-2.39**	-2.27**
<i>LEV</i>	0.560	0.550	0.239	0.550	0.543	0.225	1.29	0.97
<i>ROA</i>	0.001	0.026	0.142	0.013	0.027	0.127	-2.53**	-1.32
<i>GOVINTER</i>	7.333	7.05	3.359	7.760	7.34	3.421	-3.53***	-3.75***
<i>DBWY_IND_DUM</i>	0.112	0	0.316	0.057	0	0.233	5.46***	5.60***
<i>DBWY_CEO_DUM</i>	0.183	0	0.386	0.113	0	0.316	5.51***	5.59***

Panel B: 根据 CEO 是否存在政治联系的分组 T/Z 检验

变量	<i>PC_CEO_DUM</i> = 1			<i>PC_CEO_DUM</i> = 0			t 值	z 值
	(N = 657)			(N = 2520)				
	均值	中位数	标准差	均值	中位数	标准差		
<i>BARRIERDUM</i>	0.330	0	0.471	0.242	0	0.428	4.38***	4.61***
<i>BARRIERMAX</i>	0.140	0	0.299	0.125	0	0.291	1.17	4.01***
<i>FIRST</i>	0.315	0.283	0.141	0.306	0.279	0.137	1.46	1.42
<i>PLU</i>	0.100	0	0.301	0.151	0	0.358	-3.67***	-3.31***
<i>SIZE</i>	20.855	20.831	1.056	20.966	20.969	1.113	-2.38**	-2.96***
<i>LEV</i>	0.555	0.551	0.229	0.554	0.543	0.232	0.03	0.18
<i>ROA</i>	0.006	0.029	0.131	0.008	0.026	0.135	-0.24	0.68
<i>GOVINTER</i>	6.922	6.81	3.208	7.736	7.34	3.428	-5.70***	-5.58***
<i>DBWY_IND_DUM</i>	0.105	0	0.307	0.076	0	0.265	2.20**	2.40**
<i>DBWY_CEO_DUM</i>	0.311	0	0.463	0.101	0	0.301	11.02***	13.63***

注: ***, **, * 分别代表 1%、5% 与 10% 的显著性水平 (双尾)。

(三) Pearson 相关性分析

表 5 报告了被解释变量与主要解释变量及控制变量的 Pearson 相关系数。被解释

表 5 Pearson 相关性分析

变量	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
<i>BARRIEDUM</i>	(1)	1											
<i>BARRIEMAX</i>	(2)	0.740***	1										
<i>PC_IND_DUM</i>	(3)	0.281***	0.203***	1									
<i>PC_CEO_DUM</i>	(4)	0.082***	0.021	0.138***	1								
<i>FIRST</i>	(5)	0.027	0.043**	-0.002	0.026	1							
<i>PLU</i>	(6)	0.048***	0.037**	0.016	-0.059***	-0.042**	1						
<i>SIZE</i>	(7)	0.093***	0.007	-0.042**	-0.041**	0.192***	-0.041**	1					
<i>LEV</i>	(8)	-0.004	-0.026	0.023	0.000	-0.021	-0.023	-0.093***	1				
<i>ROA</i>	(9)	0.034*	0.023	-0.045**	-0.004	0.066***	-0.008	0.239***	-0.367***	1			
<i>GOVINTER</i>	(10)	0.047***	0.002	-0.063***	-0.097***	0.014	0.054***	0.089***	-0.047***	0.076***	1		
<i>DBWY_IND_DUM</i>	(11)	0.032	0.044*	0.099***	0.043*	-0.017	0.070***	0.060***	0.033	0.025	-0.007	1	
<i>DBWY_CEO_DUM</i>	(12)	0.084***	0.044*	0.099***	0.242***	0.018	-0.024	0.142***	-0.088***	0.079***	0.012	0.142***	1

注：***、**、*分别代表1%、5%与10%的显著性水平（双尾）。

变量 *BARRIERDUM*、*BARRIERMAX* 与解释变量 *PC_IND_DUM* 均在 1% 显著水平上显著正相关，初步支持了本文的假设 1、2，即政治联系的独立董事显著增加了民营上市公司涉入高壁垒行业的概率、且显著增加了民营上市公司来自于高壁垒行业的收入比重。*BARRIERDUM* 与变量 *PC_CEO_DUM* 在 1% 显著水平上正相关，*BARRIERMAX* 与变量 *PC_CEO_DUM* 正相关但并不显著。变量 *DBWY_IND_DUM* 与 *BARRIERDUM* 正相关但不显著，与 *BARRIERMAX* 在 10% 水平上显著正相关。变量 *DBWY_CEO_DUM* 分别与 *BARRIERDUM* 和 *BARRIERMAX* 在 1% 或 10% 水平上显著正相关。此外，*BARRIERDUM* 与 *PLU*、*SIZE*、*ROA*、*GOVINTER* 均显著正相关，*BARRIERMAX* 与 *FIRST*、*PLU* 均显著正相关，揭示了多元回归中控制这些变量的必要性。值得指出的是，本文控制变量彼此之间的相关系数均相对较小，说明不存在严重的多重共线性问题。

五、实证研究结果及分析

（一）政治联系的独立董事与民营上市公司进入壁垒行业的概率

表 6 第 (1) 列报告了模型 (1) 的多元回归分析结果，采用 Logistic 回归，被解释变量为民营上市公司是否涉入高壁垒行业的虚拟变量 *BARRIERDUM*，主要解释变量是“独立董事是否具有政治联系”的虚拟变量 *PC_IND_DUM*。鉴于本文观测值在年度与行业中的 Cluster 现象，所以本文对所有报告的 t 值均进行公司和年度层面的 cluster 调整 (Petersen, 2009)。

表 6 第 (1) 列的结果表明，*BARRIERDUM* 与 *PC_IND_DUM* 在 1% 显著水平上显著正相关 (系数 = 1.455, $t = 8.38$)，该结果说明政治联系的独立董事的确显著增加了民营上市公司涉入高壁垒行业的概率，支持了本文的假设 1。此外，本文还计算了 *PC_IND_DUM* 对 *BARRIERDUM* 的边际影响。结果显示，政治联系的独立董事使得民营上市公司涉入高壁垒行业概率增加了 23.3%。

BARRIERDUM 与 *PC_CEO_DUM* 在 10% 显著水平上显著为正 (系数 = 0.327, $t = 1.75$)，这一结论与罗党论、刘晓龙 (2009) 的结果一致，即政治联系的 CEO 显著增加了民营上市公司涉入高壁垒行业的概率。进一步，*PC_CEO_DUM* 对 *BARRIERDUM* 的边际影响为 5.2%，即政治联系的 CEO 使得民营上市公司涉入高壁垒行业的概率增加了 5.2%。上述结果表明，*PC_IND_DUM* 对 *BARRIERDUM* 的边际影响要远大于 *PC_CEO_DUM* 对 *BARRIERDUM* 的边际影响 ($23.3\% > 5.2\%$)。此外，*PC_IND_DUM* 的系数在 1% 的水平上显著大于 *PC_CEO_DUM* 的系数 ($\chi^2 = 55.55$ ，见表 6 第 (1) 列的倒数第一行)。

表 6 第 (1) 列中控制变量的结果如下：*BARRIERDUM* 与两职合一变量 (*PLU*) 在 10% 的水平上显著正相关 (系数 = 0.356, $t = 1.74$)，边际影响为 5.7%，表明公司董事长和总理由一人兼任的情况下，上市公司涉入壁垒行业的概率越高，概率大约提升了 5.7%。*BARRIERDUM* 与公司规模 (*SIZE*) 的系数在 5% 的水平上显著正相关，表明公司规模越大，公司业务可能触及的行业越广泛，公司业务进入高壁垒行业的可能

性也越高；进一步，公司规模每增加 2.718 倍，公司业务进入高壁垒行业的概率增加了大约 3.2%。此外，*BARRIERDUM* 与第一大股东持股比例 (*FIRST*)、财务杠杆 (*LEV*)、经营业绩 (*ROA*)、民营上市公司所处地域的制度环境变量 (*GOVINTER*) 均正相关，但不显著。变量 *DBWY_IND_DUM* 的系数不显著，变量 *DBWY_CEO_DUM* 与 *BARRIERDUM* 正相关但不显著。

(二) 政治联系的独立董事与民营上市公司壁垒行业收入比重⁷

表 6 第 (2) 列报告了模型 (2) 的 Tobit 多元回归结果。被解释变量为“民营上市公司来自于高壁垒行业的营业收入的比重” (*BARRIERMAX*)，主要解释变量为“独立董事是否具有政治联系”的虚拟变量 *PC_IND_DUM*。

表 6 第 (2) 列的结果表明，*BARRIERMAX* 与 *PC_IND_DUM* 在 1% 的水平上显著正相关 (系数 = 0.557, $t = 9.46$)，说明政治联系的确显著增加了民营上市公司高壁垒行业收入的比重；政治联系的独立董事使得民营上市公司涉入高壁垒行业的程度增加，体现为民营上市公司高壁垒行业的收入比重因政治联系的独立董事而大约增加了 55.7%。上述结果表明，假设 2 为经验证据所支持。

BARRIERMAX 与 *PC_CEO_DUM* 正相关 (系数 = 0.089, $t = 1.41$)，说明政治联系的 CEO 对于增加民营上市公司来自于高壁垒行业收入的比重具有较弱的影响。

上述结果表明，*PC_IND_DUM* 对 *BARRIERMAX* 的影响的确要远大于 *PC_CEO_DUM* 对 *BARRIERMAX* 的影响 ($55.7\% > 8.9\%$)。进一步的比较发现，独立董事的政治联系即 *PC_IND_DUM* 的系数显著大于 CEO 的政治联系即 *PC_CEO_DUM* 的系数 ($\chi^2 = 55.08$, $p < 0.0001$)。这些结果联合表明，独立董事的政治联系对提高民营企业壁垒行业的收入比重影响更大。

(三) 对表 6 结果的进一步讨论

表 6 中系数差异的检验结果表明，与政治联系的 CEO 相比，政治联系的独立董事对公司涉入壁垒行业的概率和收入比重均影响更大，原因如下：⁸ 受到法律、媒体的监督现任政府官员直接涉足民营上市公司的情况极其罕见，因此民营企业家涉足政治的方式主要有两种，一是民企高管系前任官员下海经商，二是民企高管被提名选举为政协委员或人大代表 (白重恩等，2005；杜兴强等，2010)。一方面，下海经商的前任官员往往退出官员序列已久，其影响力往往不如刚刚退休的官员。因此，民营企业和高级别的官员出于自身风险和成本的考虑，均更加倾向于通过独立董事来建立政治联系。中国官员的权力结构中行政级别往往体现了他们手中可以掌握并协调权力的大小。为此，我们统计了全样本和高壁垒行业样本中 CEO、独立董事的政治联系个人级别的

⁷ 模型 (2) 的被解释变量为“高壁垒行业的营业收入占民营上市公司营业总收入的比例”。样本描述性统计的结果表明，变量 *BARRIERMAX* 的形态预示着其分布的非对称性，不符合 OLS 回归的基本假设。关于“进入壁垒行业程度”变量的正态分布检验，Kolmogorov-Smirnov 检验 ($D = 0.414$, P 值 < 0.01)、Cramer-von Mises 检验 ($W-Sq = 154.296$, P 值 < 0.005) 和 Anderson-Darling 检验 ($A-Sq = 769.558$, P 值 < 0.005) 均在 1% 显著水平上显著。

⁸ 感谢匿名审稿人提出的宝贵建议，引导我们从多个角度去思考这个问题。

均值, 并进行必要的 T/Z 检验 (表格从略)。结果表明, 无论是在全样本还是在高壁垒行业子样本中, CEO 的政治联系个人级别的均值显著地远小于独立董事的政治联系个人级别的均值 (全样本: $0.804 < 2.012$, $t = -20.82$; 高壁垒行业子样本 $1.042 < 3.309$, $t = -18.39$)。另一方面, 建立代表委员联系是民企高管涉足政治最常用的方式。我们统计了样本中代表委员联系的独立董事和 CEO 的情况, 发现无论从概率还是级别方面看, 代表委员的 CEO 的均值均显著高于代表委员的独立董事 ($0.144 > 0.082$, $t = 7.84$; $0.595 > 0.315$, $t = 8.55$)。然而, 人大代表或政协委员的权力仅限于参政议政和“自我的产权保护”(白重恩等, 2005), 他们的权力很难影响到政府对公共资源的分配决策。民营企业高管直接涉足政治而获得的权力无法完全替代政府官员手中控制的权力。表 6 的研究结果表明, 代表委员联系的 CEO 对公司涉入壁垒行业的影响远远小于政治联系的独立董事的影响。

表 6 政治联系的独立董事对民营上市公司进入高壁垒行业的概率与程度的影响

变量	(1)			(2)	
	假设 1: 因变量为 <i>BARRIERDUM</i>			假设 2: 因变量为 <i>BARRIERMAX</i>	
	系数	t 值	边际影响	系数	t 值
<i>PC_IND_DUM</i>	1.455***	8.38	0.233	0.557***	9.46
<i>PC_CEO_DUM</i>	0.327*	1.75	0.052	0.089	1.41
<i>FIRST</i>	0.362	0.52	0.058	0.317	1.12
<i>PLU</i>	0.356*	1.74	0.057	0.116	1.44
<i>SIZE</i>	0.200**	2.39	0.032	0.044	1.36
<i>LEV</i>	0.073	0.17	0.012	-0.110	-0.60
<i>ROA</i>	0.557	1.27	0.089	0.178	0.91
<i>GOVINTER</i>	0.036	1.11	0.006	0.006	0.39
<i>DBWY_IND_DUM</i>	-0.084	-0.38	-0.013	0.023	0.33
<i>DBWY_CEO_DUM</i>	0.276	1.36	0.044	0.097	1.23
截距	-7.531***	-4.28		-2.291***	-3.41
行业和年度	控制			控制	
观测值	3,177			3,177	
McFadden R ²	17.70%				
LR(p-value) /Log likelihood	644.66*** (p<0.0001)			-1797.46***	
<i>PC_IND_DUM</i> 与 <i>PC_CEO_DUM</i> 系数差	$\chi^2 = 55.55***$			$\chi^2 = 55.08***$	

注: ***, **和*分别表示在 1%、5%和 10%的显著性 (双尾), 所有 t 值均经过公司和年度 cluster 调整 (Petersen, 2009)。

(四) 假设 1 的敏感性测试: 基于政治联系强度与层级的进一步测试

本文进一步借鉴杜兴强等 (2009), 构建了政治联系强度的变量, 进行敏感性测试。

政治联系强度的度量方法具体如下：（1）依据 CSMAR 数据库提供的公司 / 年的高管简历资料，逐一阅读简历和职位。（2）依据简历分析出每位独立董事或 CEO（包括董事长和总经理）曾经在党委（含纪委）、政府、人大或政协常设机构、法院、检察院的任职经历，依据个人曾经的最高行政级别赋值个人级别即政治联系的强度。

表 7 第（1）列报告了独立董事的政治联系强度（*PC_IND_RANK*）和 CEO 的政治联系强度（*PC_CEO_RANK*）对 *BARRIERDUM* 的 Logistic 回归结果。结果表明，*BARRIERDUM* 与 *PC_IND_RANK* 在 1% 的水平上显著正相关（系数 = 0.243，t 值 = 9.02），支持了本文的假设 1。此外，*PC_IND_RANK* 对 *BARRIERDUM* 的边际影响为 0.040，这个结果表明独立董事的政治联系强度每增加一个单位，民营上市公司涉入高壁垒行业的概率将增加 4.0%。此外，*BARRIERDUM* 与 *PC_CEO_RANK* 在 10% 的水平上显著正相关（系数 = 0.069，t 值 = 1.79），边际影响为 1.1%。显然，对民营上市公司涉入高壁垒行业的影响而言，政治联系的 CEO 远低于政治联系的独立董事（系数差测试显示， $\chi^2 = 35.16$ ）。

表 7 的第（2）列进一步区分政治联系的层级进行敏感性测试。中央层面和地方层面的政治联系分别界定如下：（1）若曾在国务院各个部委、国务院下辖部门、中央部委外派机构任职，或曾在全国人大、全国政协等常设机构任职，则本文界定该政治联系属于中央层面。（2）若曾在地方各级（包括省、市、县、乡镇等）政府部门、人大或政协等常设机构任职，则本文界定该政治联系属于地方层面。依据同样的标准，本文分别将独立董事、CEO 的政治联系区分为中央层级政治联系（*PC_IND_CEN*、*PC_CEO_CEN*）与地方层级政治联系（*PC_IND_LOC*、*PC_CEO_LOC*）。

表 7 第（2）列采纳 Logistic 回归，报告了具有中央层面、地方层面政治联系的独立董事对 *BARRIERDUM* 的回归结果。回归结果显示，*BARRIERDUM* 分别与 *PC_IND_CEN*、*PC_IND_LOC* 在 1% 的水平上显著为正相关（系数 = 0.908，t = 5.05；系数 = 1.318，t = 7.38），该结果进一步支持了本文的假设 1。*BARRIERDUM* 与 *PC_CEO_CEN* 正相关，但不显著（系数 = 0.217，t = 0.50），与 *PC_CEO_LOC* 在 10% 的水平显著正相关（系数 = 0.375，t = 1.88）。值得指出的是，*PC_IND_CEN* 的边际影响显著高于 *PC_CEO_CEN*（ $\chi^2_{CENTER} = 4.31$ ），*PC_IND_LOC* 的系数在 1% 的水平上显著大于 *PC_CEO_LOC* 的系数（ $\chi^2_{LOCAL} = 38.13$ ）。*DBWY_CEO_RANK* 与 *BARRIERDUM* 正相关。上述结果表明，对民营上市公司涉入高壁垒行业概率而言，无论从中央层级和地方层级的政治联系来判断，独立董事的影响均显著高于 CEO。⁹

⁹ 我们统计了中央和地方政治联系的个人级别均值，t 检验的结果表明（限于篇幅，未报告表格），对于独立董事的政治联系而言，中央政治联系个人级别显著地高于地方政治联系个人级别（4.931 > 4.392，t = 4.16），这与中央行政级别较高的实际情况吻合。进一步，为何独立董事与地方政府的政治联系发挥了更加显著的作用，究其原因我们认为，可能主要是：（1）中央政治联系的独立董事受到的监督力度较大，引起的关注度较高，而地方政治联系的独立董事被审查的力度相对较低，因此造成对地方政府的官员寻租的程度和范围高于中央政府。（2）多数高壁垒行业的准入审核是由地方行政机构完成，与中央政治联系的独立董事相比，地方政治联系的独立董事借用人脉关系帮助企业寻租的可行性和成功率更高。

（五）假设 2 的敏感性测试：基于政治联系强度与层级的进一步测试

表 7 的第 (3) 列报告了 *PC_IND_RANK* 和 *PC_CEO_RANK* 对 *BARRIERMAX* 的多元回归结果，采用 Tobit 回归方法。结果显示，*BARRIERMAX* 与 *PC_IND_RANK* 在 1% 的水平上显著正相关（系数 = 0.089， $t = 9.15$ ），*BARRIERMAX* 与 *PC_CEO_RANK* 正相关但不显著（系数 = 0.016， $t = 1.24$ ）。这一结果进一步支持了假设 2。*PC_IND_RANK* 的边际影响显著大于 *PC_CEO_RANK* 的边际影响（ $\chi^2 = 35.04$ ， $p < 0.0001$ ），与正文结果一致。

表 7 的第 (4) 列报告了 *BARRIERMAX* 与政治联系划分层级的回归结果。*BARRIERMAX* 与 *PC_IND_CEN* 在 1% 的水平上显著正相关（系数 = 0.317， $t = 5.23$ ），与 *PC_CEO_CEN* 正相关、但不显著。此外，*BARRIERMAX* 与 *PC_IND_LOC* 在 1% 水平上显著正相关（系数 = 0.509， $t = 8.48$ ），与 *PC_CEO_LOC* 正相关但不显著（系数 = 0.099， $t = 1.47$ ）。进一步，*PC_IND_CEN* 的边际影响在 1% 水平上显著大于 *PC_CEO_CEN* 的边际影响（ $\chi^2_{CENTER} = 43.36$ ），*PC_IND_LOC* 的边际影响在 10% 水平上显著大于 *PC_CEO_LOC* 的边际影响（ $\chi^2_{LOCAL} = 3.36$ ）。综合表 7 第 (4) 列的结果，具有中央层级和地方层级政治联系的独立董事均显著增加了民营上市公司高壁垒行业收入比重，支持了假设 2。

六、自选择问题的讨论

实际上，本文研究政治联系的独立董事对民营上市公司进入行业壁垒的影响时，可能存在如下的情况：能够涉入高壁垒行业的民营上市公司往往业绩较好，所以能够吸引到相应的政府官员到企业担任独立董事。为了减轻自选择的影响，本文按照如下三种方法控制政治联系的独立董事与民营上市公司涉入高壁垒行业之间可能存在的自选择问题：（1）固定效应回归；（2）差分模型（change model）；（3）Heckman（1979）二阶段回归。

（一）固定效应回归

表 8 的第 (1)、(2) 列提供了按照固定效应回归 (Kim *et al.*, 2011; Lennox *et al.*, 2012) 的假设 1、2 的回归结果。表 8 的第 (1) 列表明，*PC_IND_DUM* 的系数在 1% 的水平上显著为正（系数 = 3.905， t 值 = 5.95），说明政治联系的独立董事显著增加了民营上市公司涉入高壁垒行业的概率，假设 1 被经验证据所支持。此外，*PC_CEO_DUM* 的系数亦在 1% 的水平上显著为正（系数 = 1.230， t 值 = 2.63），说明政治联系的 CEO 显著增加了民营上市公司涉入高壁垒行业的概率。进一步，系数测试的结果（ $\chi^2 = 18.49$ ）表明，政治联系的独立董事比政治联系的 CEO 对民营上市公司涉入高壁垒行业概率的影响显著更大。表 8 的第 (2) 列表明，*BARRIERMAX* 与 *PC_IND_DUM* 在 1% 的水平上显著正相关（系数 = 0.049， t 值 = 4.03），进一步支持了假设 2。此外，*PC_CEO_DUM* 与民营上市公司涉入高壁垒行业的概率显著正相关，但与高壁垒行业的收入比重不存在显著关系。

表 7 基于政治联系强度与层级的稳健性测试

变量	假设 1: 因变量为 <i>BARRIERDUM</i>				假设 2: 因变量为 <i>BARRIERMAX</i>			
	(1)		(2)		(3)		(4)	
	政治联系强度		政治联系层级		政治联系强度		政治联系层级	
	系数	t 值	边际影响	系数	t 值	边际影响	系数	t 值
<i>PC_IND_RANK</i>	0.243***	9.02	0.040					
<i>PC_CEO_RANK</i>	0.069*	1.79	0.011					
<i>PC_IND_CEN</i>				0.908***	5.05	0.147	0.317***	5.23
<i>PC_CEO_CEN</i>				0.217	0.50	0.035	0.053	0.43
<i>PC_IND_LOC</i>				1.318***	7.38	0.213	0.509***	8.48
<i>PC_CEO_LOC</i>				0.375*	1.88	0.061	0.099	1.47
<i>FIRST</i>	0.237	0.34	0.039	0.399	0.57	0.064	0.322	1.02
<i>PLU</i>	0.359*	1.72	0.059	0.379*	1.87	0.061	0.128	1.50
<i>SIZE</i>	0.177**	2.10	0.029	0.194**	2.31	0.031	0.041	1.24
<i>LEV</i>	0.123	0.29	0.020	0.015	0.03	0.002	-0.131	-0.68
<i>ROA</i>	0.532	1.23	0.087	0.609	1.33	0.098	0.158	1.06
<i>GOVINT</i>	0.042	1.32	0.007	0.034	1.07	0.005	0.005	0.37
<i>DBWY_IND_RANK</i>	-0.103*	-1.80	-0.017	-0.058	-1.03	-0.009	-0.020	-0.90
<i>DBWY_CEO_RANK</i>	0.047	0.93	0.008	0.050	1.00	0.008	0.021	1.16
截距	-6.656***	-3.80		-7.287***	-4.09	0.147	-1.954***	-2.74
行业和年度	控制			控制			控制	
观测值		3,177			3,177			3,177
McFadden R ²		16.81%			17.39%			
Log likelihood								
LR(p-value)	611.94***	(p<0.0001)		633.22***	(p<0.0001)		-1821.48***	
<i>PC_IND_RANK</i> 与	$\chi^2 = 35.16***$			$\chi^2_CENTER = 4.31**$			$\chi^2_CENTER = 43.36***$	
<i>PC_CEO_RANK</i> 系数差测试				$\chi^2_LOCAL = 38.13***$			$\chi^2_LOCAL = 3.36*$	

注: ***, **和*分别表示在 1%、5%和 10%的显著性(双尾), 所有 t 值均经过公司和年度 cluster 调整 (Petersen, 2009)。

表 8 政治联系的独立董事对民营上市公司进入高壁垒行业的概率与程度的影响 —— 自选择问题的讨论

变量	Section A: 固定效应				Section B: 差分模型				Section C: Heckman 二阶段			
	(1)		(2)		(3)		(4)		(5)		(6)	
	HI	Z 值	H2	t 值	HI	Z 值	H2	t 值	HI	Z 值	H2	t 值
<i>PC_IND_DUM</i>	3.905***	5.95	0.049***	4.03	0.060***	3.53	0.030***	3.53	3.391*	1.82	1.443**	2.44
<i>PC_CEO_DUM</i>	1.230***	2.63	0.011	0.93	0.023	1.60	0.011**	2.03	0.318*	1.68	0.074	1.32
<i>FIRST</i>	5.227	1.40	0.084	1.35	0.074	1.14	0.102*	1.78	0.455	0.64	0.288	1.29
<i>PLU</i>	-0.428	-0.52	0.002	0.13	-0.005	-0.50	0.001	0.06	0.357*	1.75	0.098	1.44
<i>SIZE</i>	0.869*	1.83	-0.001	-0.14	0.016	0.93	0.004	0.42	0.220**	2.52	0.050*	1.67
<i>LEV</i>	-0.597	-0.34	-0.058*	-1.93	-0.010	-0.27	-0.023	-0.66	-0.003	-0.01	-0.121	-0.85
<i>ROA</i>	-0.529	-0.32	0.015	0.57	-0.003	-0.12	0.001	0.06	0.722	1.58	0.247	1.38
<i>GOVINTER</i>	0.248	0.89	0.002	0.47	0.004	0.59	-0.000	-0.18	0.058	1.62	0.015	1.26
<i>DBWY_IND_DUM</i>	1.007	1.16	0.022	1.36	0.011	0.51	0.013	1.25	-0.082	-0.37	0.021	0.28
<i>DBWY_CEO_DUM</i>	1.196**	2.03	-0.010	-0.54	0.010	1.06	0.003	0.64	0.260	1.27	0.075	1.09
截距	-1.267***	-3.67	-0.005	-0.02	0.001	0.07	-0.005*	-1.81	-9.417***	-3.61	-3.011***	-3.63
IMR									1.212	1.03	0.594*	1.67
公司和年度	控制	控制	控制	控制	控制	控制	控制	控制	控制	控制	控制	控制
观测值	3,177	3,177	2,720	2,720	2,720	2,720	2,720	2,720	3,177	3,177	3,177	3,177
McfaddenR ² / R ²	38.38%	85.03%	1.96%	1.96%	1.96%	0.88%	0.88%	0.88%	17.86%	17.86%	2352	2352
LR/F(p-value)	3237.21*** (<.0001)	32.71*** (<.0001)	2.56*** (<.0001)	2.56*** (<.0001)	2.56*** (<.0001)	1.69*** (0.0072)	1.69*** (0.0072)	1.69*** (0.0072)	650.18*** (<.0001)	650.18*** (<.0001)	-1791.16	-1791.16
<i>PC_IND</i> 与 <i>PC_CEO</i> 的系数之差测试	$\chi^2=18.49***$	$\chi^2=12.81***$	F=6.74***	F=6.74***	F=6.74***	F=3.84*	F=3.84*	F=3.84*	$\chi^2=13.21***$	$\chi^2=13.21***$	$\chi^2=20.84***$	$\chi^2=20.84***$

注：***、**和*分别表示在 1%、5%和 10%的显著性（双尾），所有 t 值均经过公司和年度 cluster 调整（Peterson, 2009）。

（二）差分模型

本文采纳差分模型进一步控制政治联系的独立董事与民营上市公司涉入高壁垒行业之间的内生性。在差分模型中，本文对模型（1）、（2）中的所有变量，包括被解释变量、主要的解释变量、以及控制变量全部取 t 期与 $t-1$ 期的差额借以分析“独立董事的政治联系的变化”对“民营上市公司涉入高壁垒行业变化”的影响。

表 8 的第（3）、（4）列报告了按照差分模型控制内生性后的结果。结果表明， ΔPC_IND_DUM 与民营上市公司是否涉入高壁垒行业的概率和高壁垒行业比重都显著正相关（系数 = 0.060, $t = 3.53$ ；系数 = 0.030, $t = 3.53$ ）。 ΔPC_CEO_DUM 与民营上市公司是否涉入高壁垒行业的概率正相关（系数 = 0.023, $t = 1.60$ ），与民营上市公司涉入高壁垒行业的比重显著正相关（系数 = 0.011, $t = 2.03$ ）。然而， ΔPC_IND_DUM 的系数显著地大于 ΔPC_CEO_DUM 的系数，差分结果进一步为本文的假设 1 和假设 2 提供了经验支持。

（三）Heckman 二阶段回归¹⁰

表 8 第（5）、（6）列进一步提供了 Heckman 二阶段控制内生性的结果（Lennox *et al.*, 2012; Kim *et al.*, 2011）。结果表明， PC_IND_DUM 与 PC_CEO_DUM 均与民营上市公司涉入高壁垒行业的概率显著正相关，但前者即政治联系的独立董事对民营上市公司涉入高壁垒行业的概率影响更大。此外， PC_IND_DUM 与来自于高壁垒行业的营业收入比重显著正相关，但 PC_CEO_DUM 对 $BARRIERMAX$ 无显著影响。上述结果进一步支持了本文的假设 1、2。

七、进一步的测试

（一）独立董事的时间序列分布

2005 年 2 月国务院正式下发了《关于鼓励支持和引导个体私营等非公有制经济发展的若干意见》（以下简称《意见》），允许民营经济进入部分垄断行业。这一规定降低了民营上市公司聘请政治联系的独立董事帮助其进入壁垒行业的动机。为此，本文对独立董事政治联系在 2004 年与 2004 年之后各年的均值进行比较检验。结果表明，与 2004 年独立董事政治联系的均值相比，2004 年之后其他各年度的均值都显著地更低。进一步以 2005 年为基准年，比较 2006、2007、2008、2009 的均值，可以发现 2005 年的均值与 2006、2007、2008、2009 年的均值不存在显著差异，但总体呈现下降的趋

¹⁰ 借鉴 Chen *et al.* (2011)，本文在 Heckman 第一阶段中使用的解释变量包括：（1）宏观变量，包括民营上市公司所在地区的失业率（ $UNEMPR$ ）、地区财政赤字（ $LNFDDEF$ ）、人均 GDP、民营上市公司所在行业的竞争度（ $COMPETITION$ ）；（2）公司特征与财务变量，包括第一大股东持股比例（ $FIRST$ ）、公司业绩（ ROA ）、公司规模（ $SIZE$ ）、资产负债率（ LEV ）等。Heckman 第一阶段的回归结果表明，宏观因素影响了民营上市公司选择政治联系的独立董事。具体地，地区人均 GDP 越高，民营上市公司聘请政治联系的独立董事的概率越低；地区财政赤字越高、行业竞争度越高，民营上市公司越可能聘请政治联系的独立董事。

势。这一结果可以初步地说明，由于《意见》使得民营经济的准入门槛降低，民营上市公司对具有政治关联的独立董事的需求在下降。

表 9 民营上市公司独立董事政治联系时间序列均值对比

Variable \ Year	2004	2005	2006	2007	2008	2009	2010
	Mean	Mean	Mean	Mean	Mean	Mean	Mean
<i>PC_IND_DUM</i>	0.523	0.464	0.468	0.453	0.454	0.424	0.376
		2005 vs. 2004	2006 vs. 2004	2007 vs. 2004	2008 vs. 2004	2009 vs. 2004	2010 vs. 2004
t-test		-1.79*	-1.66*	-2.13**	-2.09**	-3.01***	-4.49***
			2006 vs. 2005	2007 vs. 2005	2008 vs. 2005	2009 vs. 2005	2010 vs. 2005
t-test			0.13	-0.34	-0.30	-1.21	-2.68***

注：***、**和*分别表示 1%、5%和 10%的显著性（双尾）。

（二）独立董事任职公告的市场反应

为了进一步为本文的结果提供佐证，我们收集了 2004 年至 2010 年民营上市公司 1,117 次独立董事任职的公告日期，以公告首日为窗口 0，按照市场模型分别计算了公告首日之后 1-5 天内的累积超额收益。表 10 报告了不同窗口是否具有政治关联独立董事的民营上市公司的 CARs 均值对比 t 检验结果。结果表明，独立董事任期公告首日，政治联系组中 CARs 的均值略大于不具政治联系组中 CARs 的均值（ $t = 0.88$ ）。窗口 1-5 天中，政治联系组中 CARs 的均值均在 5%显著水平上高于不具政治联系组中 CARs 的均值，说明资本市场的确对具有政治关联独立董事的上市公司产生了积极的反应，这为假设 1、2 提供了一定的检验证据支持。

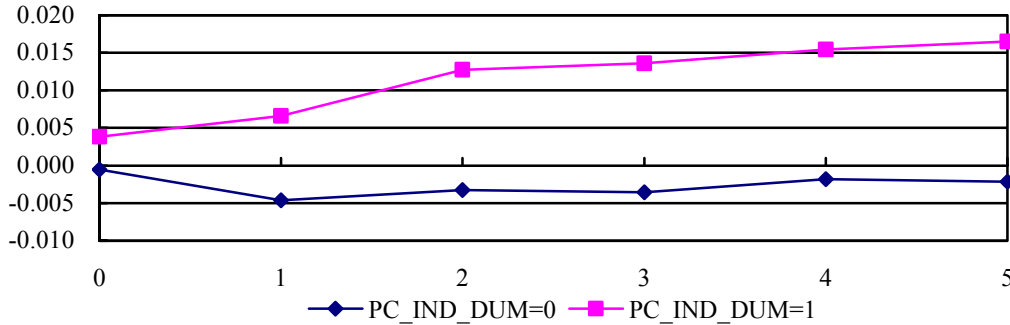
图 1 的上线和下线分别表示 0 至 5 天内具有政治联系和不具有政治联系的独立董事任职公告后累积超额收益率（CARs）均值曲线。图 1 显示，从独立董事任职公告首日开始，具有独立董事政治联系的公司的 CARs 逐步上升，不具有政治关联独立董事的民营上市公司的 CARs 均值曲线波动平缓但始终小于 0。

表 10 按照独立董事是否具有政治联系分组的 CARs 均值对比

	<i>PC_IND_DUM</i> = 1	<i>PC_IND_DUM</i> = 0	t-test
0	0.0038	-0.0005	0.88
1	0.0066	-0.0046	2.00**
2	0.0128	-0.0032	2.57**
3	0.0136	-0.0036	2.33**
4	0.0154	-0.0018	2.22**
5	0.0165	-0.0022	2.27**

注：***、**和*分别表示 1%、5%和 10%的显著性（双尾）。

图 1 独立董事任职公告的累积超额收益率



(三) 政治关联的独立董事与政治关联的 CEO：格兰杰因果检验

表 11 提供了对政治关联的独立董事与政治关联的 CEO 的格兰杰因果检验结果。表 11 第 1 列是格兰杰因果检验 (Granger causality testing) 中各滞后变量需要滞后的期数, 第 2 列是“政治关联的独立董事是否是政治关联的 CEO 的格兰杰因”所构建的 F 检验结果, 第 4 列是“政治关联的 CEO 是否是政治关联的独立董事的格兰杰因”的 F 检验结果, 第 3、5 列分别提供了滞后各期的格兰杰检验所对应的 P 值。表 11 的检验结果表明: (1) 从时间序列来看, 滞后 1 期的政治联系的独立董事显著地解释了当期 CEO 的政治联系 ($F = 4.03$, $P = 0.045$), 即政治关联的独立董事是政治关联的 CEO 的格兰杰因, 但滞后 1 期的政治联系的 CEO 并未显著地解释政治联系的独立董事 ($F = 2.41$, $P = 0.121$)。换言之, 从统计结果表达的时间序列含义来看, 政治联系的独立董事出现在政治联系的 CEO 之前, 说明政治关联的 CEO 并不是政治关联的独立董事的格兰杰因。(2) 滞后 2 期、3 期的格兰杰检验获得了与滞后 1 期格兰杰检验类似的结果, 滞后 2 期的政治联系的独立董事是政治联系的 CEO 的格兰杰因 ($F = 2.80$, $P = 0.061$), 而滞后 2 期的政治联系的 CEO 不是政治关联的独立董事的格兰杰因 ($F = 0.78$, $P = 0.460$); 滞后 3 期的政治联系的独立董事是政治联系的 CEO 的格兰杰因 ($F = 2.50$, $P = 0.057$), 但是滞后 3 期的政治联系的 CEO 不是政治联系的独立董事的格兰杰因 ($F = 0.72$, $P = 0.539$)。

表 11 的格兰杰因果检验的结果表明, 政治联系的独立董事与政治联系的 CEO 不存在互为因果的关系, 而是单向的因果联系。显然, 从统计意义和平均意义上讲, 民营上市公司选择了先聘请具有政治背景的退休官员担任公司独立董事, 然后进一步建立 CEO 的政治联系的寻租模式。换言之, 民营企业建立政治关系的路径应该是企业首先通过聘请政治关联的独立董事拉近企业与政府官员之间的沟通交流, 在独立董事“独立、公正”的外衣庇护下更加隐蔽地建立政治关系的“潜规则”, 就如同在政治与经济的鸿沟间架设了一座进退自如的“桥梁”, 其目的之一是为了将来能更进一步增强企业与政府权力之间的紧密关联程度, 最终为企业能够获取稳定的、排他性的、长期的寻租手段铺平道路。

表 11 格兰杰因果检验

LAG	H _{1a} : 政治关联的独立董事 (<i>POL_IND</i>) 是政治关联的 CEO (<i>POL_CEO</i>) 的因		H _{1b} : 政治关联的 CEO (<i>POL_CEO</i>) 是政治关联的独立董事 (<i>POL_IND</i>) 的因	
	F 值	p 值	F 值	p 值
1	4.03**	0.045	2.41	0.121
2	2.80*	0.061	0.78	0.460
3	2.50*	0.057	0.72	0.539

注：***、**和*分别表示 1%、5%和 10%的显著性（双尾）。

八、结论与进一步的研究方向

本文研究了政治联系的独立董事对民营上市公司涉入壁垒行业的影响。研究结果表明，政治联系的独立董事有助于民营上市公司打破行业壁垒，政治联系的独立董事显著地提高了民营上市公司进入高壁垒行业的概率以及上市公司源于壁垒行业收入的比重，与政治联系的 CEO 对进入高壁垒行业的影响相比，政治联系的独立董事对进入高壁垒行业的影响不论是统计上还是经济意义上均显著更高。此外，本文研究发现，独立董事的政治联系的强度越高，对民营上市公司涉入高壁垒行业的影响越大；独立董事拥有的地方层级的政治联系对民营上市公司涉入高壁垒行业具有显著为正的影响；就对民营上市公司涉入行业壁垒而言，无论是政治联系的强度与政治联系的层级，政治联系的独立董事的影响均大于政治联系的 CEO 的影响。本文的研究，拓宽了政治联系研究的范畴。

本文研究结果的启示意义在于：（1）前期文献对董事会或高管政治联系的经济后果进行分析，但对独立董事政治联系的经济后果缺乏系统的探讨和研究。实质上，独立董事的政治联系在中国上市公司中更为普遍，且从本文的研究结果看，其影响甚至超过了 CEO 的政治联系。鉴于此，本文的研究可以唤起政治联系领域内的深入研究。

（2）政治联系的独立董事一方面可以使得中国上市公司获得特权（譬如本文中的涉入高壁垒行业），但与此同时另一方面我们却更担忧如下的根本问题：政治联系的独立董事是否还具有基本的独立性？是否还能够履行保护中小投资者的基本职责？为此，证监会等其他监管部门应该注意到政治联系的独立董事的普遍性及其经济后果，制定切实可行的措施遏制政治联系的独立董事所具有的不利经济后果，特别应该制定监管措施来确保政治联系的独立董事的独立性的发挥。

本文研究存在的不足和进一步研究方向如下：（1）本文限于数据的可得性，无法准确地区分政治联系的独立董事的“寻租说”与“专有知识说”。¹¹ 的确，若政治联

¹¹ 感谢审稿人提出的宝贵意见，使得我们对该问题的思考进一步深入。实际上，政治联系的独立董事帮助公司进入壁垒行业存在着四种情况：[1] 既合法又合理；[2] 合法不合理；[3] 合理不合法；[4] 既不合理又不合法。这四类往往交织在一起，很难辨别。尤其是在中国转轨经济背景下，

系的独立董事通过法律不允许的方式帮助公司拿到了许可证，这是个寻租问题；但政治联系的独立董事由于对内部审批流程较为熟悉，帮助公司低成本地拿到许可证，这属于专有知识问题。更多的情况是，政治联系的独立董事帮助公司进入壁垒行业处于一种介乎于合法与不合法、合理与不合理之间的灰色地带。(2) 受到数据挖掘和作者理解的局限性，采用虚拟变量和赋值方法度量政治联系及其强度，并不能完美地描述现实中存在的政治联系，例如“潜规则”等，需要继续细致地发掘其他更好的替代变量，以备下一步深入研究。(3) 独立董事的政治联系与 CEO（高管）政治联系在中国上市公司内建立、强化或衰退的时间顺序如何？这些都是值得深入研究的问题。

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官员、包括已经退休但被企业聘为独立董事的官员很少也很难被监督，也很难被辨别究竟属于哪一类。除非被双规、包括在任双规和离任后双规，我们才能够从公开的信息上了解到（政治联系的独立董事帮助公司进入壁垒行业）究竟是属于哪一类。尽管如此，我们倾向于“寻租说”。“专有知识说”意味着“政治联系的独立董事由于对内部审批流程较为熟悉，帮助公司低成本地拿到许可证”。其实，内部业务流程并非高深莫测的事情，企业完全可以通过一些较为简单的途径进行了解。果真如此，企业为何还要聘请政治联系的独立董事进入企业，建立一种非“一次性”的较为长期的关系？较为合理的答案是，企业可能既利用了政治联系的独立董事的“专业知识”，又从更深层意义上希望通过“寻租”与较长期的关系获得特权与优惠。

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Do Politically Connected Independent Directors Help Chinese Listed Private Firms Enter High-Barrier Industries? ¹

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Abstract

On the basis of hand-collected data on political connections, this study examines the impact of politically connected independent directors on Chinese listed private firms' entry into high-barrier industries. Our findings reveal the following: (1) politically connected independent directors are significantly positively associated with the likelihood and the degree of Chinese listed private firms' entry into high-barrier industries; (2) in comparison with politically connected chief executive officers (CEOs), the influence of politically connected independent directors on Chinese listed private firms' entry into high-barrier industries is more pronounced in terms of both statistical and economic significance; (3) the rank of politically connected independent directors is significantly positively associated with the likelihood and the degree of Chinese listed private firms' entry into high-barrier industries; (4) both the central- and local-level political connections of independent directors significantly impact the likelihood and the degree of Chinese listed private firms' entry into high-barrier industries; (5) the influence of politically connected independent directors on the likelihood and the degree of Chinese listed private firms' entry into high-barrier industries is greater than that of politically connected CEOs regardless of the rank and the level of political connections. Our study extends the extant literature on political connections.

Keywords: Independent Directors, CEOs, Political Connections, High-Barrier Industries

CLC Codes: F23, F273.7

JEL Codes: G34, G38, M41

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I. Introduction

As a typical informal system in contemporary corporations, political connections have drawn increasing attention from researchers as they endeavour to explain the mismatch between rapid economic development and formal institutions in China. The measures of political connections are different across scholars and can be classified into four approaches: (1) chief executive officers (CEOs) (including chairmen and presidents with similar functions); (2) board members except for independent directors; (3) major shareholders; and (4) other top managers. In other words, independent directors are considered naturally “independent and impartial” and therefore have no direct impact on business operations. As a result, most of the previous literature ignores the phenomenon of politically connected independent directors and its economic consequences. However, recently, following media reports that many retired government officials serve as independent directors in Chinese listed firms, the public have turned their attention to politically connected independent directors and questioned their independence. According to preliminary statistics provided by China Youth Daily, in the top 50 Chinese listed firms by market value, 34 independent directors are retired government officials, some of whom held administrative ranks up to vice-ministerial level. According to a survey launched by Investor Journal in 2010, A-share listed firms have hired 1,599 former officials in total, 467 of whom are independent directors.

Since China’s reform and opening up, private firms, as an integral part of the Chinese economy, have played a crucial role in the country’s sustainable and rapid economic development. By the end of 2010, the number of private firms in China had climbed to over 8.45 million, accounting for more than 90 per cent of national industrial and commercial enterprises and employing 94.17 million people. The portion of tax and gross domestic product (GDP) received from the private economy has reached over 50 per cent and 60 per cent, respectively, suggesting that the profitability of the private economy is much higher than that of the state-owned economy. Moreover, the growth of private firms’ investment has surpassed that of their counterparts (i.e. firms in the state-owned economy). Since the State Council announced some opinions on encouraging the development of non-public economic support in 2005, the central and local governments have gradually encouraged the private economy to enter traditional monopoly industries such as transport infrastructure, energy resources, composite utilities and water, media, and a diverse range of telecommunications services. Nevertheless, there are still many restrictions on the scope and depth of private economic development because of “implicit discrimination”. As a result, the private economy has not earned equal status with state-owned enterprises. In fact, there are many barriers against the private economy, including industry barriers. Private investment into monopolistic areas is strictly examined and controlled by the government. Large amounts of

resources are under the control of the government, and this hampers the development of the private economy. To deal with the abovementioned situation, private firms seek to build “guanxi” (meaning “connections”, especially political connections) with the government so as to break through into “forbidden areas” and break up “implicit barriers”.

Private firms build, maintain, and strengthen political connections via different channels: (1) some private entrepreneurs are former government officials, so their firms are politically connected from their foundation; (2) some private firms promise a huge amount of money to motivate incumbent officials to leave the government and go into private enterprise to act as top managers and thus subsequently become politically connected; (3) some private entrepreneurs persuade retired government officials to act as independent directors and therefore establish political connections. Most of the prior studies focus on (1) and (2), but our study aims to incorporate politically connected independent directors into the analysis framework and also explores the influence of politically connected independent directors on listed private firms’ entry into high-barrier industries after controlling for the determinants of politically connected CEOs. Also, we compare whether politically connected independent directors and CEOs have a similar or different influence on Chinese listed private firms’ entry into high-barrier industries.

Using a sample of Chinese listed private firms for the period between 2004 and 2010, we provide strong and consistent evidence to show that politically connected independent directors are significantly and positively associated with a firm’s entry into high-barrier industries. Specifically, our findings reveal the following: (1) politically connected independent directors are significantly and positively associated with the likelihood of a firm’s entry into high-barrier industries as well as the proportion of sales revenue from high-barrier industries; (2) compared with politically connected CEOs, the influence of politically connected independent directors on a firm’s entry into high-barrier industries is more statistically and economically pronounced; (3) the rank of the political connections of independent directors is significantly and positively associated with listed private firms’ entry into high-barrier industries; (4) both the central- and local-level political connections of independent directors significantly impact the likelihood of entry into high-barrier industries and the proportion of sales revenue from high-barrier industries; (5) the influence of politically connected independent directors on the likelihood of entry into high-barrier industries and the proportion of sales revenue from high-barrier industries is greater than that of politically connected CEOs regardless of the rank and the level of political connections.

This study contributes to the existing literature in several ways. First, to our knowledge, and as shown by the available literature, the previous research pays more attention to the economic consequences of the political connections of chairmen, boards of directors, CEOs, or top managers rather than independent directors, and thus our study is the first to examine

the economic consequences of politically connected independent directors. Second, our study constructs multidimensional measures of political connections, including dummy variables for political connections and political connections at the personal, central, and local levels, to better describe political connections in the context of China. In this regard, we can provide a solid analysis of the economic consequences of politically connected independent directors.

The remainder of this paper is organised as follows. In the next section, we review the related literature, introduce the institutional background, and develop the research hypotheses. We then discuss the variables as well as the empirical model specifications; this discussion is followed by a section on the sample construction and descriptive statistics. We then report the empirical analysis results, conduct a variety of robustness checks, discuss the potential endogeneity problems, and report the results of additional tests. Finally, we summarise our conclusions.

II. Institutional Background, Literature Review, and Hypothesis Development

1. Politically Connected Independent Directors

The CEO plays a core role in corporate governance and directly influences corporate decisions, so a large number of previous studies address the influence of politically connected CEOs on corporate behaviour. Bertrand *et al.* (2007) define a politically connected CEO as a CEO who served or is serving the government or who graduated from an elite school. Fan *et al.* (2007) argue that if a CEO worked or is working for a central or local government agency or the army, then he/she is politically connected. This definition of political connections is generally quoted in most studies (Faccio, 2006; Faccio *et al.*, 2006; Wu *et al.*, 2008; Pan *et al.*, 2008; Yu and Pan, 2008; Wu *et al.*, 2009; Deng and Zeng, 2009; Yu *et al.*, 2010; Du and Zhou, 2010; Du *et al.*, 2011a, 2011b). Moreover, entrepreneurs in private firms play a similar role to CEOs, and so some scholars define private entrepreneurs as individual actors with political connections (Li *et al.*, 2006; Li *et al.*, 2008; Bai *et al.*, 2005; Hu, 2006; Hu and Shi, 2008; Feng and Jing, 2009).

In emerging markets like China where administration power plays a very important role in resource allocation, it is a vital issue and strategic choice for listed private firms to build long-term and stable *guanxi* with powerful government officials either explicitly or implicitly. When a listed private firm builds political connections by hiring independent directors, it will get not only a platform to interact with government officials but also assistance to balance the interests of all parties. The reasons for this are as follows. First, independent directors do not involve themselves in business operations or corporate

decision-making directly. However, from their position on the board of directors, they can supervise CEOs' daily operating activities through effective programmes. Therefore, listed private firms hiring independent directors with a political background can mitigate policy uncertainties and operational risks as there is less direct intervention from the government, thus ensuring that power of control remains in their hands.

Second, the independent director system was introduced into Chinese listed firms to protect the interests of minority stockholders, and so the role of independent directors in balancing the ownership structure and the interests of stakeholders is emphasised in the extant literature; thus, scholars and the public pay little attention to the phenomenon and economic consequences of politically connected independent directors in listed private firms. Traditionally, the public view is that independent directors should be independent and just and play an important role in protecting the interests of minority shareholders. In fact, China has issued a series of regulations to ensure independent directors' independence in respect of qualifications, selection procedure, and economics.⁵ Therefore, the public takes it for granted that independent directors have "natural independence". However, because the public pay little attention to the background of independent directors, rent-seeking by politically connected independent directors in listed private firms is more insidious.

Third, the Chinese capital market lacks an open and transparent assessment procedure for independent directors, and this means that there is a lack of hard rules on the duties and supervision of these directors. Finally, it is worth noting that the imperfection of laws and regulations in the Chinese capital market and the inherent defects of the independent director system result in weak implementation of legal penalties on independent directors: for instance, after a financial fraud occurs, not all independent directors are punished by regulators. Moreover, regulators focus on administrative penalties rather than civil penalties,⁶ and thus few independent directors assume criminal responsibility. In fact, if independent directors raise an objection, the China Securities Regulatory Commission (CSRC) always reconsiders and lowers the penalties imposed on them.

⁵ The China Securities Regulatory Commission (CSRC) forbids seven kinds of people from acting as independent directors: (1) people who serve in a listed firm or any of its affiliates, their immediate families, and main social relations; (2) shareholders who directly or indirectly hold more than 1 per cent of the outstanding shares of a listed firm or natural persons among the top 10 shareholders of a listed firm and their immediate families; (3) people working for a shareholder who directly or indirectly holds more than 5 per cent of the outstanding shares of a listed firm or people working for any of the top five shareholders of a listed firm and their immediate families; (4) people whose situation in the last year fits any of above three circumstances; (6) other people specified in the articles of association; (7) other people specified by the CSRC.

⁶ In the case of Zhengzhou Baiwen, the company made empty claims of expecting profits of RMB19.08 million. The CSRC fined the independent directors RMB100,000, the former board chairman Fuqian Li RMB300,000, and the former director and CEO Yide Lu RMB200,000. Fuqian Li was sentenced to three years' imprisonment (suspended for five years) and fined RMB50,000, and Yide Lu and the former CFO Qunfu Du were both sentenced to two years' imprisonment (suspended for three years) and fined RMB30,000 for providing fraudulent reports.

Of course, building political connections via hiring retired government officials as independent directors may have some adverse influences on the operations of listed private firms such as intervention from the administrative power requiring firms to share the burden of employment creation and give charitable donations. In addition, rent-seeking for power may be inspected by the disciplinary departments as a result of media coverage, and this creates increasing potential legal risks. Nevertheless, considering the fat profits obtained from rent-seeking, some listed private firms are still willing to take high risks to earn higher “potential” and monopolistic benefits. Remarkably, government officials consider legal safety as the most vital factor during rent-seeking for power. Although officials hired as independent directors are examined by the disciplinary departments, the “just and independent” appearance of independent directors and the imperfections of legal punishment lower the risk and cost of listed private firms’ rent-seeking through hiring politically connected independent directors.

2. Politically Connected Independent Directors and Barrier Industries

In imperfect competitive markets, manufacturers are usually faced with competition barriers which are commonly caused by capital scale, core technology, marketing channels, resources, and administrative control. With regard to economic efficiency, products of competition such as scale barriers, technical barriers, channel barriers, and resource barriers are not unchangeable. Along with market competition, it is still possible for corporations to break down barriers through economic means, such as mergers and acquisitions, increasing the intensity of research and development, exploring alternative resources, and creating new channels, which help to promote the efficiency of the whole industry and the national economy. However, administrative barriers completely prevent market rules from functioning, forming an insurmountable “monopoly gap” via direct intervention with the economy through administrative power and thus reducing the efficiency of resource allocation and utilisation. As a result, administrative regulations are still the major barrier confronting private firms in China. For instance, the *Postal Law* and the *Tobacco Law* provide legal protection for corporations under a government-enterprise integration system, in which the local government uses “official documents” to suppress industrial competition; for example, there are administrative rules providing that oil import and export rights are distributed to three state-owned oil companies. For top managers in private firms who are eager to survive in the market, one of the most vital issues is to break down industry barriers generated under administrative regulations and enter promising industries so as to earn more benefits. In the context of administrative regulation, administrative power, as a scarce resource, is playing an increasingly pronounced role and is more closely associated with monopoly interest. In most cases, high-barrier industries are under administrative monopoly and protected by administrative access systems and also seize a great deal of monopoly

profits (Guo and Hu, 2003; Chen *et al.*, 2008; Luo and Liu, 2009), thereby stimulating rent-seeking for administrative power. However, establishing *guanxi* by direct bribery costs a lot and is full of uncertainty; hence, corporations rarely adopt this method. Alternatively, the power that private entrepreneurs gain from their political involvement as deputies of the National People's Congress (NPC) or members of the Chinese People's Political Consultative Conference (CPPCC) does not equal or substitute for the administrative power of government officials. Thus, Chinese private firms choose to hire retired government officials as independent directors, which may be the better way to maximise cost effectiveness.

As one kind of conduit for public power rent-seeking in a market economy, political connections are universal all over the world. Krueger (1974) argues that administrative regulations are responsible for the existence of rent-seeking. As Shleifer and Vishny (1998) argue, the more centralised the power of government officials and the lower political transparency is, the more universal the phenomenon of power rent-seeking is. As Tullock (1989/2008) notes, because of excessive resource concentration, some people usually seek to build private relations with powerful men for "shortcuts". As a result, the public has witnessed the long history of rent-seeking in China. Since the reform and opening up of China, the country has gradually changed from a planned economy to a market economy. However, the impact of the planned economy is still obvious. Those in political power still control many excellent resources, and government control is popular in economic fields. The National Development and Reform Commission (NDRC), for example, manages and controls prices, the criteria for entry into resource-based industries, and the high interest spreads between deposits and loans in banking industries. Government officials own discretionary rights in the public domain, indicating that it is inevitable that corporations will be induced to rent-seek for public power under the control of officials in order to grab abnormal profits (Du *et al.*, 2010).

Although the private economy is playing an increasingly important role in the Chinese economy in terms of tax revenue, gross industrial output value, and employment, this does not mean that it has acquired equal status with the state-owned economy. In fact, there is explicit and implicit discrimination against the private economy in Chinese society. Private enterprises struggle to survive under the shadow of state-owned enterprises and are naturally discriminated against by the government. To respond to this difficult situation, private firms have to hire officials with a political background in order to protect themselves effectively. According to a report from the Xinhua net, more and more leading cadres choose to become independent directors in listed private firms in order to "devote their remaining energy" to these firms. Obviously, independent directors in listed private firms are also the products of rent-seeking targeted at officials with public power. With the help of interpersonal connections and the role of politically connected independent directors, listed private firms

can build *guanxi* with government agencies. Moreover, companies pay a certain amount of reward to independent directors to ensure that they play their role in contemporary corporate governance. Therefore, the relation between independent directors *per se* and firms themselves is not completely independent (Guo and Jiang, 2003; Tan, 2003; Jian and Shi, 2006). Khwaja and Mian (2005) and Claessens *et al.* (2008) argue that political connections are always the typical products of an entity's rent-seeking for political power for resource allocation rights. Faccio (2006) indicates that firms have stronger motivations to rent-seek for local officials' power via the establishment of political connections in countries or regions where formal institutions are less efficient, government intervention in the economy is more severe, and the judicial system is less sound. Hence, there is a close relation between political connections and privileges in the economic field: for instance, politically connected listed firms can obtain preferential tax rates, lower loan rates, more subsidised income, and a higher likelihood of involvement in high-barrier industries (Wu *et al.*, 2009; Bai *et al.*, 2005; Guo and Du, 2011; Luo and Liu, 2009; Du *et al.*, 2011a). On the basis of the aforementioned analysis, we formulate Hypotheses 1 and 2 below:

H1: *Ceteris paribus*, politically connected independent directors increase the likelihood of listed private firms' entry into high-barrier industries.

H2: *Ceteris paribus*, politically connected independent directors increase the proportion of sales revenue from high-barrier industries of listed private firms.

Hypotheses 1 and 2 aim at testing the influence of politically connected independent directors on listed private firms' entry into high-barrier industries. In the section on robustness checks, as the extension of Hypotheses 1 and 2, we further explore the influence of the rank and level (i.e. central or local political connections) of politically connected independent directors on listed private firms' entry into high-barrier industries.

III. Empirical Models and Variables

To test Hypotheses 1 and 2, we estimate Eq. (1) and Eq. (2) to link listed private firms' entry into high-barrier industries with politically connected independent directors, firm-specific variables, the government interference index, industry dummies, and year dummies:

$$\begin{aligned}
 BARRIERDUM = & \alpha_0 + \alpha_1 PC_IND_DUM + \alpha_2 PC_CEO_DUM \\
 & + \alpha_3 FIRST + \alpha_4 PLU + \alpha_5 SIZE + \alpha_6 LEV + \alpha_7 ROA \\
 & + \alpha_8 GOVINTER + \alpha_9 DBWY_IND_DUM \\
 & + \alpha_{10} DBWY_CEO_DUM + (Industry\ Dummies) \\
 & + (Year\ Dummies) + \varepsilon
 \end{aligned} \tag{1}$$

$$\begin{aligned}
BARRIERMAX = & \beta_0 + \beta_1 PC_IND_DUM + \beta_2 PC_CEO_DUM \\
& + \beta_3 FIRST + \beta_4 PLU + \beta_5 SIZE + \beta_6 LEV + \beta_7 ROA \\
& + \beta_8 GOVINTER + \beta_9 DBWY_IND_DUM \\
& + \beta_{10} DBWY_CEO_DUM + (Industry Dummies) \\
& + (Year Dummies) + \delta
\end{aligned} \tag{2}$$

Eq. (1) uses the logistic model and Eq. (2) adopts the Tobit model. In Eq. (1), the dependent variable is a dummy variable which indicates whether Chinese listed private firms enter high-barrier industries (*BARRIERDUM*). In Eq. (2), the dependent variable is the degree of entering high-barrier industries, measured as the proportion of sales revenue from high-barrier industries (*BARRIERMAX*). The independent variable in Eq. (1) and Eq. (2) is politically connected independent directors (*PC_IND_DUM*), and we also introduce politically connected CEOs (*PC_CEO_DUM*) to observe the competitive influence on Chinese listed private firms' entry into high-barrier industries between politically connected independent directors and politically connected CEOs.

The control variables of Eq. (1) and Eq. (2) include the percentage of common shares owned by the controlling shareholder (*FIRST*), an indicator variable that indicates whether the CEO and the chairman of the board are the same person (*PLU*), firm size (*SIZE*), financial leverage (*LEV*), profitability (*ROA*), the extent of government interference with the economy (*GOVINTER*), a dummy variable that indicates whether independent directors are NPC deputies or CPPCC members (*DBWY_IND_DUM*), a dummy variable that indicates whether CEOs are NPC deputies or CPPCC members (*DBWY_CEO_DUM*), industry fixed effects (*INDUSTRY*), and year dummies (*YEAR*). All the variables are defined in Table 1.

Table 1 Variable Definitions

Variable	Definition
<i>BARRIERDUM</i>	A dummy variable that equals 1 if there is revenue from high-barrier industries and 0 otherwise (according to revenue composition in the annual report).
<i>BARRIERMAX</i>	The degree of entry into high-barrier industries, measured as sales revenue from high-barrier industries scaled by the total sales revenue from all industries if a firm has sales revenue from high-barrier industries; it takes the value of 0 if a firm does not have sales revenue from high-barrier industries.
<i>PC_IND_DUM</i>	A dummy variable that equals 1 if an independent director of a Chinese listed firm served as an official in the Party Committee (including the Discipline Inspection Commission), the government, the standing committee of the NPC or the CPPCC, the courts, or the procuratorate and 0 otherwise.

<i>PC_CEO_DUM</i>	A dummy variable that equals 1 if a key manager of a Chinese listed firm served as an official in the Party Committee (including the Discipline Inspection Commission), the government, the standing committee of the NPC or the CPPCC, the courts, or the procuratorate and 0 otherwise.
<i>FIRST</i>	The ownership percentage of the largest shareholder.
<i>PLU</i>	A dummy variable that equals 1 if the same person serves as chairman and CEO simultaneously and 0 otherwise.
<i>SIZE</i>	The natural logarithm of total assets.
<i>LEV</i>	Financial leverage, measured as total liabilities deflated by total assets.
<i>ROA</i>	Return on total assets, measured as net income deflated by total assets at the beginning of the year.
<i>GOVINTER</i>	Government intervention index of provinces, municipalities, and autonomous regions where listed firms are registered (Fan <i>et al.</i> , 2009).
<i>DBWY_IND_DUM</i>	A dummy variable that equals 1 if an independent director is an NPC deputy or a CPPCC member and 0 otherwise.
<i>DBWY_CEO_DUM</i>	A dummy variable that equals 1 if a CEO is an NPC deputy or a CPPCC member and 0 otherwise.
<i>INDUSTRY</i>	Industry dummy variable based on the CSRC industry code.
<i>YEAR</i>	Year dummy variable based on the CSRC industry code.

IV. Sample and Descriptive Statistics

1. Sample and Data Sources

Our initial sample consists of all Chinese A-share listed private firms for the period between 2004 and 2010 and includes 4,523 firm-year observations. We then select our sample on the basis of four criteria. Specifically, we (1) exclude 29 firm-year observations pertaining to the banking, insurance, and other financial industries; (2) delete 324 firm-year observations with the trading status of special treatment (ST), suspension from trading (*ST), or particular transfer (PT); (3) eliminate 985 firm-year observations that went for initial public offerings (IPOs) after 2004; and (4) delete 8 firm-year observations with unavailable financial data. Finally, we obtain a sample of 3,177 observations.

Overall (non-tabulated for brevity), there are 657 observations with politically connected CEOs, accounting for about 20.7 per cent of our sample, and 1,435 observations with politically connected independent directors, accounting for 45.2 per cent of our sample.

Both the observations with politically connected CEOs and those with politically connected independent directors show a generally downward trend year by year, which is consistent with the findings of Du *et al.* (2010). However, the proportion of the latter is significantly higher than that of the former ($t = 21.51$), and furthermore, the proportion of politically connected independent directors is significantly higher each year. Table 2 reports the sample distribution by year in respect of the high-barrier industry group and the low-barrier industry group; the distribution suggests a growing number and proportion of Chinese listed private firms entering high-barrier industries after 2005 and an obvious decrease in number and proportion from 2010.

Table 2 Sample Distribution by Year – High and Low Barrier Industry Groups

Year	High-barrier industries	Low-barrier industries	Total	Ratio of high-barrier industries
2004	113	342	455	24.84%
2005	118	337	455	25.93%
2006	120	335	455	26.37%
2007	121	332	453	26.71%
2008	119	335	454	26.21%
2009	121	332	453	26.71%
2010	114	338	452	25.22%
Total	826	2,351	3,177	26.00%

We hand-collect data on high-barrier industries, politically connected independent directors, and politically connected CEOs. The specific procedures are as follows:

(1) Data on high-barrier industries. In accordance with the study by Chen *et al.* (2008) on the Shenzhen Stock Exchange, we specify high-barrier industries using the WIND industry entry barrier index (7-10), including construction and engineering, energy equipment and services (petroleum, natural gas, and consumable fuels), metals, non-metals and mining, car, capital market, electricity, gas, composite utilities and water, road and rail transport (transportation infrastructure), media, sea transportation, aviation and aviation logistics and freight forwarding (aerospace, aviation), national defense, and multiple telecommunications. On the basis of the WIND database and the composition of sales revenue in annual reports, we define *BARRIERDUM* as a dummy variable which equals 1 if a firm has sales revenue from high-barrier industries and 0 otherwise. Moreover, *BARRIERMAX* stands for the degree of entering high-barrier industries, measured as sales revenue from high-barrier industries scaled by total sales revenue from all industries.

(2) Data on political connections. According to the résumés of top managers and their positions in listed firms provided by the CSMAR database, we identify CEOs and

independent directors respectively. Then, following Fan *et al.* (2007), we read résumés case by case and decide whether CEOs and/or independent directors are politically connected and then further define the dummy variables of *PC_IND_DUM* and *PC_CEO_DUM*. Referring to Du *et al.* (2009, 2010), we also assign values to the rank and level of political connections for robustness checks. In the same way, we hand-collect data on *DBWY_IND_DUM* and *DBWY_CEO_DUM*.

(3) *FIRST*, *PLU*, and financial characteristics are obtained from the CSMAR database. The data on *GOVINTER* are obtained from Fan *et al.* (2009). Industry control information is obtained from the CCER database and CSMAR database.

To control for the influence of some extreme observations in our findings, we winsorise the top and the bottom 1 per cent of each continuous variable (e.g. *SIZE*, *LEV*, *ROA*, etc.).

2. Descriptive Statistics and Univariate Tests

Table 3 reports the descriptive statistics of the variables used in this study (winsorised). The dependent variable *BARRIERDUM* has a mean value of about 0.260, suggesting that 26 per cent of Chinese private listed firms have sales revenue from high-barrier industries. The mean value of *BARRIERMAX* is about 0.128, meaning that the proportion of sales revenue from high-barrier industries is about 12.8 per cent on average. As for the independent variables, *PC_IND_DUM* (*PC_CEO_DUM*) has a mean value of about 0.452 (0.207), revealing that about 45.2 per cent (20.7 per cent) of Chinese listed private firms hire politically connected independent directors (are managed by politically connected CEOs).

With regard to the control variables, *FIRST* has a mean value of 0.308, a maximum of 0.760, and a minimum of 0.079, indicating large differences among the ownership percentages held by the largest shareholder. The *PLU* results suggest that about 14 per cent of the sample observations have the same person serving as chairman and CEO simultaneously. The descriptive analysis of *SIZE* reveals that the average size of listed private firms in Chinese stock markets is about RMB1.2457 ($e^{20.943}$) billion, with a big difference (almost 1,094 fold) between the maximum of RMB84.1612 billion and the minimum of RMB76.9 million, providing arguments for setting up the main board, Small and Medium Enterprise (SME) board, and Growth Enterprise Market (GEM) in the A-share market. The *LEV* results suggest that the average financial leverage level is about 55.4 per cent. *ROA* has a mean (median) value of 0.007 (0.026), showing that Chinese listed private firms earn small profits on average. The *GOVINTER* results suggest that the region of registration varies to a large extent among Chinese listed private firms, which agrees with the unbalanced development status of different areas of China. The mean value of *DBWY_IND_DUM* (*DBWY_CEO_DUM*) is about 0.082 (0.144), meaning that 8.2 per cent (14.4 per cent) of independent directors (CEOs) in Chinese listed private firms are NPC deputies or CPPCC members.

Table 3 Descriptive Statistics

Variable	N	Mean	Std. Dev	Min	25%	Median	75%	Max
<i>BARRIERDUM</i>	3177	0.260	0.439	0	0	0	1	1
<i>BARRIERMAX</i>	3177	0.128	0.293	0	0	0	0.007	1
<i>PC_IND_DUM</i>	3177	0.452	0.498	0	0	0	1	1
<i>PC_CEO_DUM</i>	3177	0.207	0.405	0	0	0	0	1
<i>FIRST</i>	3177	0.308	0.138	0.079	0.213	0.280	0.380	0.760
<i>PLU</i>	3177	0.140	0.347	0	0	0	0	1
<i>SIZE</i>	3177	20.943	1.103	18.158	20.250	20.940	21.643	25.156
<i>LEV</i>	3177	0.554	0.231	0.040	0.397	0.546	0.689	0.999
<i>ROA</i>	3177	0.007	0.134	-0.953	0.006	0.026	0.056	0.429
<i>GOVINTER</i>	3177	7.567	3.399	-2.17	4.90	7.07	10.84	12.67
<i>DBWY_IND_DUM</i>	3177	0.082	0.275	0	0	0	0	1
<i>DBWY_CEO_DUM</i>	3177	0.144	0.351	0	0	0	0	1

Table 4 presents the results of T/Z tests for differences in the mean and median values of *BARRIERDUM* and *BARRIERMAX* between different subsamples. Panel A shows that 1,435 observations have politically connected independent directors. Compared with the subsample without politically connected independent directors, the subsample with politically connected independent directors has a significantly higher mean (median) value of *BARRIERDUM* ($t = 16.02$, $z = 15.84$), suggesting that firms with politically connected independent directors are more likely to enter high-barrier industries. These results provide preliminary support for Hypothesis 1. The mean (median) of *BARRIERMAX* is also significantly higher ($t = 11.29$, $z = 15.52$) for the subsample with politically connected independent directors than for the subsample without politically connected independent directors, meaning a higher proportion of sales revenue from high-barrier industries for firms with politically connected independent directors. These results provide preliminary support for Hypothesis 2.

There is no significant difference in the mean (median) values of *FIRST*, *PLU*, and *LEV* between the two groups divided by *PC_IND_DUM*. For the subsample with politically connected independent directors, (1) *ROA* is significantly lower ($t = -2.53$, $z = -1.32$), suggesting the poorer profitability of Chinese listed private firms that build political connections through independent directors; (2) the mean (median) value of *SIZE* is significantly lower ($t = -2.39$, $z = -2.27$), indicating that smaller listed private firms incapable of achieving the scale effect are more eager to enhance competitiveness via guanxi; (3) the mean (median) of *GOVINTER* is significantly lower ($t = -3.53$, $z = -3.75$), meaning that a worse institutional environment, especially government intervention, makes

firms more willing to build political connections and makes it easier for them to do so, thus validating the arguments in Shleifer and Vishny (1998); and (4) the mean (median) values of *DBWY_IND_DUM* and *DBWY_CEO_DUM* are both significantly higher ($t = 5.46$, $z = 5.60$, and $t = 5.51$, $z = 5.59$) for the subsample with politically connected independent directors than for the subsample without politically connected independent directors.

As shown in Panel B, the mean (median) value of *BARRIERDUM* is significantly higher ($t = 4.38$, $z = 4.61$) and *BARRIERMAX* has a significantly higher median ($z = 4.01$) in the subsample with politically connected CEOs than in the subsample without politically connected CEOs, suggesting a higher likelihood of entering high-barrier industries for firms with politically connected CEOs. In addition, *BARRIERMAX* is under the condition of non-normal distribution, so only the result of the z-test supports the argument that CEOs' political connections help Chinese listed private firms to increase the proportion of sales revenue from high-barrier industries. The *PLU* results reveal that the likelihood of the same person serving as chairman and CEO simultaneously is significantly lower ($t = -3.67$, $z = -3.31$) for firms with CEO political connections, which is different from Panel A, because it is most likely for listed private firms to offer general manager positions in order to establish political connections through CEOs without losing control. As for the statistical results of *SIZE*, *GOVINTER*, *DBWY_IND_DUM*, and *DBWY_CEO_DUM* in Panel B, these are similar to those in Panel A.

Table 4 Univariate T/Z Tests

Panel A: T/Z tests for differences between subsamples divided by *PC_IND_DUM*

Variable	<i>PC_IND_DUM</i> = 1 (N = 1,435)			<i>PC_IND_DUM</i> = 0 (N = 1,742)			t-value	z-value
	Mean	Median	SD	Mean	Median	SD		
<i>BARRIERDUM</i>	0.396	0	0.489	0.148	0	0.355	16.02***	15.84***
<i>BARRIERMAX</i>	0.194	0	0.342	0.074	0	0.232	11.29***	15.52***
<i>FIRST</i>	0.307	0.282	0.137	0.308	0.279	0.138	-0.08	-0.15
<i>PLU</i>	0.146	0	0.354	0.135	0	0.342	0.88	0.88
<i>SIZE</i>	20.892	20.891	1.081	20.985	20.985	1.119	-2.39**	-2.27**
<i>LEV</i>	0.560	0.550	0.239	0.550	0.543	0.225	1.29	0.97
<i>ROA</i>	0.001	0.026	0.142	0.013	0.027	0.127	-2.53**	-1.32
<i>GOVINTER</i>	7.333	7.05	3.359	7.760	7.34	3.421	-3.53***	-3.75***
<i>DBWY_IND_DUM</i>	0.112	0	0.316	0.057	0	0.233	5.46***	5.60***
<i>DBWY_CEO_DUM</i>	0.183	0	0.386	0.113	0	0.316	5.51***	5.59***

Panel B: T/Z tests for differences between subsamples divided by *PC_CEO_DUM*

Variable	<i>PC_CEO_DUM</i> = 1			<i>PC_CEO_DUM</i> = 0			t-value	z-value
	(N = 657)			(N = 2,520)				
	Mean	Median	SD	Mean	Median	SD		
<i>BARRIERDUM</i>	0.330	0	0.471	0.242	0	0.428	4.38***	4.61***
<i>BARRIERMAX</i>	0.140	0	0.299	0.125	0	0.291	1.17	4.01***
<i>FIRST</i>	0.315	0.283	0.141	0.306	0.279	0.137	1.46	1.42
<i>PLU</i>	0.100	0	0.301	0.151	0	0.358	-3.67***	-3.31***
<i>SIZE</i>	20.855	20.831	1.056	20.966	20.969	1.113	-2.38**	-2.96***
<i>LEV</i>	0.555	0.551	0.229	0.554	0.543	0.232	0.03	0.18
<i>ROA</i>	0.006	0.029	0.131	0.008	0.026	0.135	-0.24	0.68
<i>GOVINTER</i>	6.922	6.81	3.208	7.736	7.34	3.428	-5.70***	-5.58***
<i>DBWY_IND_DUM</i>	0.105	0	0.307	0.076	0	0.265	2.20**	2.40**
<i>DBWY_CEO_DUM</i>	0.311	0	0.463	0.101	0	0.301	11.02***	13.63***

Note: ***, **, and * represent the 1%, 5%, and 10% levels of significance, respectively, for two-tailed tests.

3. Pearson Correlation Analysis

Table 5 reports the Pearson correlation coefficient results. The dependent variables (i.e. *BARRIERDUM* and *BARRIERMAX*) are both significantly and positively correlated with the independent variable *PC_IND_DUM* at the 1 per cent level, lending preliminary support to Hypotheses 1 and 2 and suggesting that politically connected independent directors significantly increase both the likelihood of listed private firms' entry into high-barrier industries and the proportion of revenue from high-barrier industries. *BARRIERDUM* is significantly and positively correlated with *PC_CEO_DUM* at the 1 per cent level, while *BARRIERMAX* is insignificantly and positively correlated with *PC_CEO_DUM*. *DBWY_IND_DUM* is insignificantly and positively correlated with *BARRIERDUM* and is significantly and positively correlated with *BARRIERMAX* at the 10 per cent level. *DBWY_CEO_DUM* is significantly and positively correlated with *BARRIERDUM* and *BARRIERMAX* at the 1 per cent and 10 per cent levels, respectively. Moreover, *BARRIERDUM* is significantly and positively correlated with *PLU*, *SIZE*, *ROA*, and *GOVINTER*. *BARRIERMAX* is significantly and positively correlated with *FIRST* and *PLU*. These results suggest the need to control for these variables in multivariate regressions. It is noteworthy that the pair-wise correlation coefficients among the other control variables are generally low, suggesting that multicollinearity is not a serious problem.

Table 5 Pearson Correlation Matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
<i>BARRIEDUM</i>	(1)	1											
<i>BARRIEMAX</i>	(2)	0.740***	1										
<i>PC_IND_DUM</i>	(3)	0.281***	0.203***	1									
<i>PC_CEO_DUM</i>	(4)	0.082***	0.021	0.138***	1								
<i>FIRST</i>	(5)	0.027	0.043**	-0.002	0.026	1							
<i>PLU</i>	(6)	0.048***	0.037**	0.016	-0.059***	-0.042**	1						
<i>SIZE</i>	(7)	0.093***	0.007	-0.042**	-0.041**	0.192***	-0.041**	1					
<i>LEV</i>	(8)	-0.004	-0.026	0.023	0.000	-0.021	-0.023	-0.093***	1				
<i>ROA</i>	(9)	0.034*	0.023	-0.045**	-0.004	0.066***	-0.008	0.239***	-0.367***	1			
<i>GOVINTER</i>	(10)	0.047***	0.002	-0.063***	-0.097***	0.014	0.054***	0.089***	-0.047***	0.076***	1		
<i>DBWY_IND_DUM</i>	(11)	0.032	0.044*	0.099***	0.043*	-0.017	0.070***	0.060***	0.033	0.025	-0.007	1	
<i>DBWY_CEO_DUM</i>	(12)	0.084***	0.044*	0.099***	0.242***	0.018	-0.024	0.142***	-0.088***	0.079***	0.012	0.142***	1

Note: ***, **, and * represent the 1%, 5%, and 10 % levels of significance, respectively, for two-tailed tests.

V. Empirical Results

1. Multivariate Test of Hypothesis 1

Column (1) of Table 6 reports the multivariate regression results for Hypothesis 1. Using the logistic regression, the independent variable is dummy variable *BARRIERDUM*, which indicates whether a listed private firm enters high-barrier industries or not, and the dependent variable is dummy variable *PC_IND_DUM*, which indicates whether an independent director is politically connected or not. Considering the year and industry cluster of our sample, we report all *t* values using robust standard errors adjusted for clustering at the firm and year level (Petersen, 2009).

As shown in Column (1) of Table 6, *BARRIERDUM* and *PC_IND_DUM* are significantly and positively correlated at the 1 per cent level (1.455 with $t = 8.38$), suggesting that politically connected independent directors do increase the likelihood of listed private firms entering high-barrier industries, providing strong support for Hypothesis 1. Moreover, we calculate the marginal effect of *PC_IND_DUM* on *BARRIERDUM* and find that politically connected independent directors increase the likelihood of listed private firms entering high-barrier industries by 23.3 per cent.

BARRIERDUM is significantly and positively correlated with *PC_CEO_DUM* at the 10 per cent level (0.327 with $t = 1.75$), consistent with Luo and Liu's (2009) finding that politically connected CEOs increase the likelihood of listed private firms entering high-barrier industries. Furthermore, the marginal effect of *PC_CEO_DUM* on *BARRIERDUM* is 5.2 per cent, meaning that politically connected CEOs increase the likelihood of listed private firms entering high-barrier industries by 5.2 per cent. These results suggest that the marginal effect of *PC_IND_DUM* on *BARRIERDUM* is much larger than that of *PC_CEO_DUM* on *BARRIERDUM* (23.3 per cent > 5.2 per cent). In addition, the coefficient on *PC_IND_DUM* is significantly higher than the coefficient on *PC_CEO_DUM* at the 1 per cent level ($\chi^2 = 55.55$; see the last row of Table 6 Column (1)).

Next, we turn to the control variables in Column (1) of Table 6. *BARRIERDUM* and *PLU* are significantly and positively correlated at the 10 per cent level (0.356 with $t = 1.74$) with a marginal effect of 5.7 per cent, suggesting that when the same person serves as chairman and CEO simultaneously, the likelihood of listed private firms entering high-barrier industries will increase by about 5.7 per cent. The coefficient on *SIZE* is significantly positive with *BARRIERDUM* at the 5 per cent level, meaning that larger firms are more likely to enter high-barrier industries. Specifically, when total assets increase 2.718 times, the likelihood of a firm's business entering high-barrier industries will increase by about 3.2 per cent. In addition, *BARRIERDUM* is positively but not significantly correlated with *FIRST*, *LEV*, *ROA*, and *GOVINTER*. The coefficient on *DBWY_IND_DUM* is not significant, and the coefficient on *DBWY_CEO_DUM* is positive but not significant.

2. Multivariate Test of Hypothesis 2⁷

Column (2) of Table 6 represents the Tobit multivariate regression results for Hypothesis 2. The independent variable is *BARRIERMAX*, measured as the proportion of total revenue from high-barrier industries to total revenue. The dependent variable is the dummy variable *PC_IND_DUM*.

As shown in Column (2) of Table 6, *BARRIERMAX* and *PC_IND_DUM* are significantly and positively correlated at the 1 per cent level (0.557 with $t = 9.46$), suggesting that politically connected independent directors do increase the proportion of revenue from high-barrier industries by about 55.7 per cent. This finding lends strong support to Hypothesis 2.

BARRIERMAX is positively but insignificantly correlated with *PC_CEO_DUM* (0.089 with $t = 1.41$), suggesting the relatively weak influence of politically connected CEOs on the proportion of sales revenue from high-barrier industries.

The results in Column (2), taken together, suggest that *PC_IND_DUM* has a much greater influence on *BARRIERMAX* than *PC_CEO_DUM* does (55.7 per cent > 8.9 per cent). As shown by further comparison, the coefficient on *PC_IND_DUM* is significantly higher than that on *PC_CEO_DUM* ($\chi^2 = 55.08$, $p < 0.0001$). The above findings indicate that the positive influence of politically connected independent directors on the proportion of sales revenue from high-barrier industries is greater than the impact of politically connected CEOs on the proportion of sales revenue from high-barrier industries.

3. Further Discussion on Findings in Table 6

The coefficient difference tests in Table 6 show that for Chinese listed private firms, compared with politically connected CEOs, politically connected independent directors have a more pronounced impact on the likelihood of entering high-barrier industries and the proportion of sales revenue from high-barrier industries. We can explain these findings as follows.⁸ Because of legal requirements and media coverage, it is extremely rare for current government officials to work directly in listed private firms. Thus, there are mainly two ways for private entrepreneurs to take part in Chinese politics: (1) an official resigns from the government and becomes a top manager of a Chinese private firm; (2) the top manager of a Chinese private firm is elected as an NPC deputy or a CPPCC member (Bai *et al.*, 2005; Du *et al.*, 2010). For former officials going into business, their influence is often less than

⁷ In Eq. (2), the independent variable is the proportion of sales revenue from high-barrier industries. According to the descriptive statistics, the distribution of *BARRIERMAX* is not applicable to the fundamental assumption of OLS regression. Also, the results of the normal distribution tests are all significant at the 1 per cent level: specifically, Kolmogorov-Smirnov test ($D = 0.414$, $P\text{-value} < 0.01$), Cramer-von Mises test ($W\text{-Sq} = 154.296$, $P\text{-value} < 0.005$), and Anderson-Darling test ($A\text{-Sq} = 769.558$, $P\text{-value} < 0.005$).

⁸ We thank a referee for his valuable suggestions which motivated us to think about this problem from multiple angles.

that of just-retired officials because they have been out of the government system for a long time. Therefore, balancing risks and costs, both private firms and high-level officials are more inclined to build political connections via independent directors.

Since the administrative level always reflects the strength of power according to the Chinese government hierarchy, we summarise the mean values of the ranks of politically connected CEOs and independent directors in the full sample and the high-barrier-industry subsample and then conduct T/Z tests (non-tabulated for brevity). The results show that in both the full sample and the high-barrier-industry subsample, the rank of politically connected CEOs is significantly lower than the rank of politically connected independent directors ($0.804 < 2.012$ with $t = -20.82$ for the full sample, and $1.042 < 3.309$ with $t = -18.39$ for the high-barrier-industry subsample).

Table 6 Results of the Regression of the Likelihood and Degree of Chinese Listed Private Firms Entering High-Barrier Industries on Politically Connected Independent Directors and Other Determinants

Variable	(1)			(2)	
	Hypothesis 1: <i>BARRIERDUM</i>			Hypothesis 2: <i>BARRIERMAX</i>	
	Coefficient	t value	Marginal effect	Coefficient	t value
<i>PC_IND_DUM</i>	1.455***	8.38	0.233	0.557***	9.46
<i>PC_CEO_DUM</i>	0.327*	1.75	0.052	0.089	1.41
<i>FIRST</i>	0.362	0.52	0.058	0.317	1.12
<i>PLU</i>	0.356*	1.74	0.057	0.116	1.44
<i>SIZE</i>	0.200**	2.39	0.032	0.044	1.36
<i>LEV</i>	0.073	0.17	0.012	-0.110	-0.60
<i>ROA</i>	0.557	1.27	0.089	0.178	0.91
<i>GOVINTER</i>	0.036	1.11	0.006	0.006	0.39
<i>DBWY_IND_DUM</i>	-0.084	-0.38	-0.013	0.023	0.33
<i>DBWY_CEO_DUM</i>	0.276	1.36	0.044	0.097	1.23
Constant	-7.531***	-4.28		-2.291***	-3.41
Industry and year	Yes			Yes	
Number of Obs.	3,177			3,177	
McFadden R ²	17.70%				
LR (p-value) /Log likelihood	644.66*** (p < 0.0001)			-1797.46***	
Differences between <i>PC_IND_DUM</i> and <i>PC_CEO_DUM</i>	$\chi^2 = 55.55***$			$\chi^2 = 55.08***$	

Note: ***, **, and * represent the 1%, 5%, and 10% levels of significance, respectively, for two-tailed tests. All reported t-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Petersen, 2009).

In addition, the most prevalent way for top managers in private firms to get involved in politics is to become an NPC deputy or a CPPCC member. Non-tabulated results show that both the likelihood of being elected as an NPC deputy or CPPCC member and the deputy/member rank attained are significantly higher for CEOs than for independent directors ($0.144 > 0.082$ with $t = 7.84$ and $0.595 > 0.315$ with $t = 8.55$, respectively). However, for CPPCC members or NPC deputies, their political involvement is limited to participation in the management of state affairs and the protection of self-owned property (Bai *et al.*, 2005); thus it is difficult for NPC deputies or CPPCC members to directly affect the government's decisions on public resource allocation. In other words, the power that Chinese private firms' top managers obtain from political involvement as NPC deputies or CPPCC members cannot equal the power of government officials. As Table 6 reports, the impact of *DBWY_CEO_DUM* on a private firm's entry into high-barrier industries is significantly lower than that of politically connected independent directors.

4. Robustness Checks of Hypothesis 1 Using the Rank and Level of Political Connections

Following Du *et al.* (2009), we construct variables that measure the strength of political connections and then conduct robustness checks. Specifically, the measurement procedures are as follows: First, using the firm-year résumés of managers provided by the CSMAR database, we read the résumés of the top managers at each firm and note their positions within the firm case by case. Second, using the résumés, we analyse the experience of every independent director or CEO (including the chairman and the general manager). For independent directors or CEOs who worked in the Party Committee (including the Discipline Inspection Commission), the government, the standing committee of the NPC or the CPPCC, the courts, or the procuratorate, we assign different values according to their highest administrative position, and thus we obtain data on the ranks of politically connected independent directors or CEOs.

Column (1) of Table 7 reports the results of the logistic regression of the rank of politically connected independent directors (*PC_IND_RANK*) and CEOs (*PC_CEO_RANK*) on *BARRIERDUM*. As shown by the results, *BARRIERDUM* and *PC_IND_RANK* are significantly and positively correlated at the 1 per cent level (0.243 with $t = 9.02$), again supporting Hypothesis 1. Furthermore, the marginal effect of *PC_IND_RANK* on *BARRIERDUM* is 0.040, suggesting that the rank of politically connected independent directors increases by one unit and the likelihood of Chinese listed private firms entering high-barrier industries will increase by about 4.0 per cent. Also, *BARRIERDUM* and *PC_CEO_RANK* are significantly and positively correlated at the 10 per cent level (0.069 with $t = 1.79$) with a marginal effect of 1.1 per cent. Obviously, in terms of the positive impact on the likelihood of listed private firms' entry into high-barrier industries, politically

Table 7 Robustness Checks Based on Rank and Level of Political Connections

Variable	Hypothesis 1: <i>BARRIERDUM</i>				Hypothesis 2: <i>BARRIERMAX</i>			
	(1)		(2)		(3)		(4)	
	Rank of Political Connections		Level of Political Connections		Rank of Political Connections		Level of Political Connections	
	Coefficient	t-value	M. E.	Coefficient	t-value	M. E.	Coefficient	t-value
<i>PC_IND_RANK</i>	0.243***	9.02	0.040				0.089***	9.15
<i>PC_CEO_RANK</i>	0.069*	1.79	0.011				0.016	1.24
<i>PC_IND_CEN</i>				0.908***	5.05	0.147		
<i>PC_CEO_CEN</i>				0.217	0.50	0.035	0.317***	5.23
<i>PC_IND_LOC</i>				1.318***	7.38	0.213	0.053	0.43
<i>PC_CEO_LOC</i>				0.375*	1.88	0.061	0.509***	8.48
<i>FIRST</i>				0.399	0.57	0.064	0.099	1.47
<i>PLU</i>	0.237	0.34	0.039	0.379*	1.87	0.061	0.322	1.02
<i>SIZE</i>	0.177**	2.10	0.029	0.194**	2.31	0.031	0.128	1.50
<i>LEV</i>	0.123	0.29	0.020	0.015	0.03	0.002	0.041	1.24
<i>ROA</i>	0.532	1.23	0.087	0.609	1.33	0.098	-0.131	-0.68
<i>GOVINTER</i>	0.042	1.32	0.007	0.034	1.07	0.005	0.192	1.06
<i>DBWY_IND_RANK</i>	-0.103*	-1.80	-0.017	-0.058	-1.03	-0.009	0.005	0.37
<i>DBWY_CEO_RANK</i>	0.047	0.93	0.008	0.050	1.00	0.008	-0.007	-0.31
Constant	-6.656***	-3.80		-7.287***	-4.09	0.147	0.021	1.19
Industry and year	Yes	Yes	Yes	Yes	Yes	Yes	-1.954***	-2.74
Number of Obs.	3,177	3,177		3,177	3,177			
McFadden R ²	16.81%	17.39%		17.39%	17.39%			
Log likelihood								
LR(p-value)	611.94*** (p<0.0001)	633.22*** (p<0.0001)		633.22*** (p<0.0001)	-1821.48***			
Differences between <i>PC_IND_RANK</i> and <i>PC_CEO_RANK</i>	$\chi^2=35.16***$	$\chi^2=35.16***$		$\chi^2=38.13***$	$\chi^2=35.04***$		$\chi^2=35.04***$	
							$\chi^2_{CENTER}=43.36***$	
							$\chi^2_{LOCAL}=3.36*$	
								-1804.32***

Note: ***, **, and * represent the 1%, 5%, and 10% levels of significance, respectively, for two-tailed tests. All reported t-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Peterson, 2009).

connected CEOs are much weaker than politically connected independent directors (as the coefficient difference test shows, $\chi^2 = 35.16$).

Column (2) of Table 7 further distinguishes the level of politically connected independent directors to conduct robustness tests. Political connections at the central and local levels are defined as follows: (1) If an individual previously worked for ministries and commissions of the State Council, departments under the State Council, or permanent branches of the NPC and CPPCC or were expatriates of central ministries and commissions, we define the political connection as being at the central level; (2) if an individual once worked for government departments or for permanent branches of the NPC or CPPCC at local levels (including province, city, county, and township), we then define the political connection as being at the local level. According to the above criteria, we obtain data on the central-level political connections of independent directors and CEOs (*PC_IND_CEN*, *PC_CEO_CEN*) and the local-level political connections of independent directors and CEOs (*PC_IND_LOC*, *PC_CEO_LOC*), respectively.

Column (2) of Table 7 reports the results of logistic regressions and presents the results for independent directors with central-level and local-level political connections on *BARRIERDUM*. As shown by the results, *BARRIERDUM* is significantly and positively correlated with both *PC_IND_CEN* and *PC_IND_LOC* at the 1 per cent level (0.908 with $t = 5.05$ and 1.318 with $t = 7.38$, respectively), providing additional evidence to support Hypothesis 1. *BARRIERDUM* is positively but insignificantly correlated with *PC_CEO_CEN* (0.217 with $t = 0.50$) and positively and significantly correlated with *PC_CEO_LOC* at the 10 per cent level (0.375 with $t = 1.88$). Nevertheless, it is noteworthy that the marginal effect of *PC_IND_CEN* on *BARRIERDUM* is significantly greater than the marginal effect of *PC_CEO_CEN* on *BARRIERDUM* ($\chi^2_{CENTER} = 4.31$), and the coefficient on *PC_IND_LOC* is significantly greater than that on *PC_CEO_LOC* at the 1 per cent level ($\chi^2_{LOCAL} = 38.13$). *DBWY_CEO_RANK* and *BARRIERDUM* are positively correlated. These results demonstrate that with regard to the likelihood of listed private firms entering high-barrier industries, independent directors have a significantly stronger influence regardless of whether they have central-level or local-level political connections.⁹

⁹ We calculate the mean values of central-level and local-level political connections. The results of the t-test (non-tabulated for brevity) reveal that for politically connected independent directors, the individual rank of central-level political connections is significantly higher than that of local-level political connections (4.931 > 4.392 with $t = 4.16$), which coincides with the actual situation, namely that the central administrative level is higher. The reasons why politically connected independent directors and local government political connections play a more pronounced role in Chinese listed private firms' entry into high-barrier industries may be as follows: (1) Independent directors with central-level political connections are paid more attention and are under more supervision, while the local-level political connections of independent directors are investigated less. As a result, the extent and the range of rent-seeking towards local government officials are greater than those towards central government. (2) The examination and approval of most high-barrier industries are conducted by local administrative agencies. For the aforementioned reasons, compared with central-level politically connected independent directors, local-level politically connected independent directors have a higher success rate of using personal connections to help firms in rent-seeking.

5. Robustness Checks of Hypothesis 2 Using the Rank and the Level of Political Connections

Column (3) of Table 7 uses Tobit regression and reports the regression results of *PC_IND_RANK* and *PC_CEO_RANK* on *BARRIERMAX*. As shown by the results, *BARRIERMAX* and *PC_IND_RANK* are significantly and positively correlated at the 1 per cent level (0.089 with $t = 9.15$), while *BARRIERMAX* and *PC_CEO_RANK* are positively but insignificantly correlated (0.016 with $t = 1.24$). These results provide further evidence in support of Hypothesis 2. The marginal effect of *PC_IND_RANK* is significantly stronger than that of *PC_CEO_RANK* ($\chi^2 = 35.04$, $p < 0.0001$), consistent with the results of the main tests.

Column (4) of Table 7 shows the regression results of *BARRIERMAX* on different levels of political connections. *BARRIERMAX* is significantly and positively correlated with *PC_IND_CEN* at the 1 per cent level (0.317 with $t = 5.23$) and positively correlated with *PC_CEO_CEN* without significance. Moreover, *BARRIERMAX* is significantly and positively correlated with *PC_IND_LOC* at the 1 per cent level (0.509 with $t = 8.48$) and positively correlated with *PC_CEO_LOC* without significance (0.099 with $t = 1.47$). In addition, the marginal effect of *PC_IND_CEN* on *BARRIERMAX* is significantly greater than the marginal effect of *PC_CEO_CEN* on *BARRIERMAX* at the 1 per cent level ($\chi^2_{CENTER} = 43.36$). Also, the marginal effect of *PC_IND_LOC* on *BARRIERMAX* is significantly greater than the marginal effect of *PC_CEO_LOC* on *BARRIERMAX* at the 1 per cent level ($\chi^2_{LOCAL} = 3.36$). Overall, the results in Column (4) suggest that independent directors with both central-level and local-level political connections significantly increase private listed firms' proportion of sales revenue from high-barrier industries, thus supporting Hypothesis 2.

VI. Discussion on Potential Endogeneity

In fact, when we study the impact of politically connected independent directors on Chinese listed private firms' entry into high-barrier industries, we cannot *ex ante* exclude the possibility that listed private firms entering high-barrier industries always have better performance and thus can attract government officials to work for them as independent directors. To alleviate the influence of this potential endogeneity, we control for the potential endogeneity (the potential self-selection) between politically connected independent directors and listed private firms' entry into high-barrier industries through the following three approaches: (1) the fixed effect regression; (2) the change model; and (3) Heckman (1979) two-stage regression.

Table 8 Influence of Politically Connected Independent Directors on Likelihood and Extent of Listed Private Firms Entering High-Barrier Industries – Discussion on Endogeneity

Variable	Section A: Fixed effect		Section B: Change model		Section C: Heckman 2-stages	
	(1)	(2)	(3)	(4)	(5)	(6)
	HI	H2	HI	H2	HI	H2
<i>PC_IND_DUM</i>	3.905***	0.049***	0.060***	0.030***	3.391*	1.443**
<i>PC_CEO_DUM</i>	1.230***	0.011	0.023	0.011**	0.318*	0.074
<i>FIRST</i>	5.227	0.084	0.074	0.102*	0.455	0.288
<i>PLU</i>	-0.428	0.002	-0.005	0.001	0.357*	0.098
<i>SIZE</i>	0.869*	-0.001	0.016	0.004	0.220**	0.050*
<i>LEV</i>	-0.597	-0.058*	-0.010	-0.023	-0.003	-0.121
<i>ROA</i>	-0.529	0.015	-0.003	0.001	0.722	0.247
<i>GOVNTER</i>	0.248	0.002	0.004	-0.000	0.058	0.015
<i>DBWY_IND_DUM</i>	1.16	0.022	0.011	0.013	-0.082	0.021
<i>DBWY_CEO_DUM</i>	1.196**	-0.010	0.010	0.003	0.260	0.075
Constant	-1.267***	-0.005	0.001	-0.005*	-9.417***	-3.011***
IMR				-1.81	1.212	0.594*
Industry and year	Yes	Yes	Yes	Yes	Yes	Yes
N	3,177	3,177	2,720	2,720	3,177	3,177
McFaddenR ² / R ²	38.38%	85.03%	1.96%	0.88%	17.86%	2352
LR/F(p-value)	3237.21*** (<.0001)	32.71*** (<.0001)	2.56*** (<.0001)	1.69*** (0.0072)	650.18*** (<.0001)	-1791.16
Coefficient						
Difference between <i>PC_IND_DUM</i> and <i>PC_CEO_DUM</i>	$\chi^2=18.49***$	$\chi^2=12.81***$	F=6.74***	F=3.84*	$\chi^2=13.21***$	$\chi^2=20.84***$

Note: ***, **, and * represent the 1%, 5%, and 10% levels of significance, respectively, for two-tailed tests. All reported t-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Petersen, 2009).

1. Fixed Effect Regression

Columns (1) and (2) of Table 8 provide the results of the fixed effect regression (Kim *et al.*, 2011; Lennox *et al.*, 2012) for Hypotheses 1 and 2. As shown in Column (1), the coefficient of *PC_IND_DUM* is significantly positive at the 1 per cent level (3.905 with $t = 5.95$), suggesting that politically connected independent directors significantly increase the likelihood of listed private firms entering high-barrier industries, which supports Hypothesis 1. In addition, the coefficient of *PC_CEO_DUM* is also significantly positive at the 1 per cent level (1.230 with $t = 2.63$), meaning that politically connected CEOs significantly increase the likelihood of listed private firms entering high-barrier industries. Furthermore, as shown by the result of the coefficient difference test ($\chi^2 = 18.49$), the impact of politically connected independent directors on the likelihood of Chinese listed private firms entering high-barrier industries is significantly greater than the impact of politically connected CEOs. As shown in Column (2), *BARRIERMAX* and *PC_IND_DUM* are significantly and positively correlated at the 1 per cent level (0.049 with $t = 4.03$), providing further evidence to support Hypothesis 2. Moreover, although *PC_CEO_DUM* is significantly and positively correlated with the likelihood of listed private firms entering high-barrier industries, it has no significant influence on the proportion of sales revenue from high-barrier industries.

2. The Change Model

Next, we use the change model to control for the potential endogeneity between politically connected independent directors and listed private firms' entry into high-barrier industries. In the change model, we adopt the difference between t and $t-1$ of all the variables in Eqs. (1) and (2), including the dependent variables, the independent variables, and the control variables, to analyse the influence of the change in independent directors' political connections on the change in listed private firms' entry into high-barrier industries.

As shown by the results in Columns (3) and (4), using the change model, ΔPC_IND_DUM is significantly and positively correlated with both the likelihood of listed private firms entering high-barrier industries and the proportion of sales revenue from high-barrier industries (0.060 with $t = 3.53$, and 0.030 with $t = 3.53$, respectively). ΔPC_CEO_DUM is positively correlated with the likelihood of private listed firms entering high-barrier industries (0.023 with $t = 1.60$) and significantly and positively correlated with the proportion of sales revenue from high-barrier industries (0.011 with $t = 2.03$). Nevertheless, the coefficient of ΔPC_IND_DUM is significantly greater than that of ΔPC_CEO_DUM ($F = 3.84$). These results provide additional evidence in support of Hypotheses 1 and 2.

3. Heckman (1979) Two-Stage Regression¹⁰

Columns (5) and (6) of Table 8 provide the results of the Heckman two-stage regression (Lennox *et al.*, 2012; Kim *et al.*, 2011). As shown by Columns (5) and (6), both *PC_IND_DUM* and *PC_CEO_DUM* are significantly and positively correlated with the likelihood of private listed firms' entry into high-barrier industries, and the impact of politically connected independent directors is greater. In addition, *PC_IND_DUM* is significantly and positively correlated with the proportion of sales revenue from high-barrier industries, while *PC_CEO_DUM* has no significant impact on *BARRIERMAX*. These results further support Hypotheses 1 and 2.

VII. Additional Tests

1. Time Series Distribution of Independent Directors

In February 2005, the State Council issued the *Several Opinions on Encouraging, Supporting, and Guiding Private and Other Non-Public Economic Development* (hereinafter, "Opinions"), allowing the private economy to enter some monopoly industries. This regulation may reduce the motivation of Chinese listed private firms' motivation to hire politically connected independent directors to help their entry into barrier industries. Therefore, we conduct comparative tests between the mean values of politically connected independent directors in 2004 and those in each year after 2004. As shown by the results in Table 9, compared with 2004, the mean values in the years after 2004 are all significantly lower. Furthermore, we take 2005 as the benchmark year for comparison with the mean values in 2006, 2007, 2008, and 2009 and find no significant difference but a downtrend in general. This result preliminarily illustrates that the demand for politically connected independent directors in listed private firms is decreasing because the Opinions have lowered the access threshold for the private economy.

2. Market Reaction of Independent Directors' Employment Announcement

To provide more evidence for our results, we collect the employment announcement

¹⁰ Following Chen *et al.* (2011), we include independent variables in the Heckman first-stage regression as follows: (1) macro variables, including the unemployment rate (*UNEMPR*) in regions where listed private firms are located, regional fiscal deficit (*LNDEF*), GDP per capita, and the degree of competitiveness in listed private firms' industry (*COMPETITION*); (2) characteristics and financial variables, including the ownership percentage of the largest shareholder (*FIRST*), firm performance (*ROA*), firm size (*SIZE*), and financial leverage (*LEV*). The results of the Heckman (1979) first-stage regression illustrate that macro factors affect the choice of politically connected independent directors in Chinese listed private firms. Also, the higher the GDP per capita, the lower the likelihood of Chinese listed private firms hiring politically connected independent directors; the higher the regional fiscal deficit and the degree of competitiveness in an industry, the more probable it is that listed private firms will hire politically connected independent directors.

Table 9 Time Series Mean Value Comparison of Independent Directors' Political Connections in Listed Private Firms

Year \ Variable	2004	2005	2006	2007	2008	2009	2010
<i>PC_IND_DUM</i>	0.523	0.464	0.468	0.453	0.454	0.424	0.376
t-test		2005 vs. 2004	2006 vs. 2004	2007 vs. 2004	2008 vs. 2004	2009 vs. 2004	2010 vs. 2004
		-1.79*	-1.66*	-2.13**	-2.09**	-3.01***	-4.49***
t-test			2006 vs. 2005	2007 vs. 2005	2008 vs. 2005	2009 vs. 2005	2010 vs. 2005
			0.13	-0.34	-0.30	-1.21	-2.68***

Note: ***, **, and * represent the 1%, 5%, and 10% levels of significance, respectively, for two-tailed tests.

dates of 1,117 independent directors of Chinese listed private firms for the period from 2004 to 2010 and then take the first day as 0 to calculate the cumulative abnormal return (CAR) of day 1 to day 5 according to the market model. Table 10 reports the t-test results of the mean value comparison between Chinese listed private firms with and without politically connected independent directors in different time windows. As shown by the results in Table 10, on the first day of independent directors' employment announcement, the mean value of CARs in the group with politically connected independent directors is slightly higher than that in group without politically connected independent directors. In the windows of 1-5 days, the mean values of CARs in the group with politically connected independent directors are all significantly higher than the mean values in the group without politically connected independent directors at the 5 per cent level, meaning that the Chinese capital market does react positively to Chinese listed firms with politically connected independent directors, providing some additional evidence for Hypotheses 1 and 2.

Also, we plot Figure 1 to display the results in Table 10. In Figure 1, the upper line and the lower line represent the mean value curves of CARs in days 0-5 after the employment announcement of independent directors with and without political connections, respectively. As shown in Figure 1, from the first day of independent directors' employment announcement, the CARs of firms with politically connected independent directors rise gradually and the curve of the mean value of the CARs of firms without politically connected independent directors changes gently under 0.

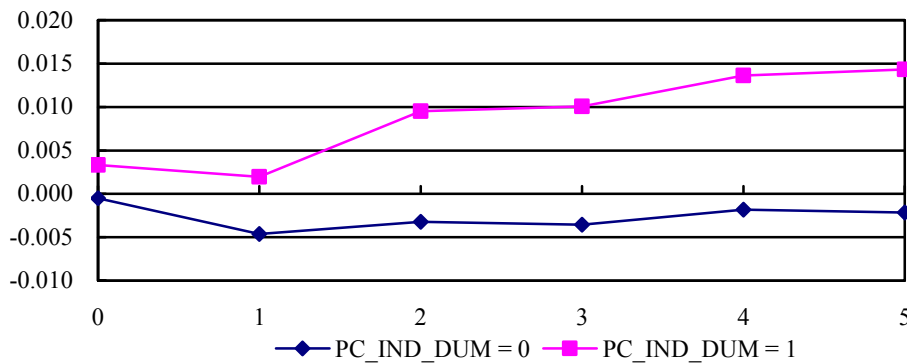
3. Politically Connected Independent Directors and CEOs: Granger Causality Test

Table 11 provides the results of the Granger causality test for politically connected

Table 10 Comparison of Mean Value of CARs between Groups With and Without Politically Connected Independent Directors

	<i>PC_IND_DUM</i> = 1	<i>PC_IND_DUM</i> = 0	t-test
0	0.0038	-0.0005	0.88
1	0.0066	-0.0046	2.00**
2	0.0128	-0.0032	2.57**
3	0.0136	-0.0036	2.33**
4	0.0154	-0.0018	2.22**
5	0.0165	-0.0022	2.27**

Note: ***, **, and * represent the 1%, 5%, and 10% levels of significance, respectively, for two-tailed tests.

Figure 1 CARs around Independent Directors' Employment Announcement

independent directors and politically connected CEOs. The first column presents the lag periods of the lagged variables in the Granger causality test, the second column shows the F-test result of whether politically connected independent directors are the Granger cause of politically connected CEOs, the fourth column presents the F-test result of whether politically connected CEOs are the Granger cause of politically connected independent directors, and the third and fifth columns present the lagged period p-values of the Granger tests. Looking at Table 11, we can see from the time series that politically connected independent directors of lag 1 significantly explain politically connected CEOs in the current period ($F = 4.03$, $P = 0.045$), that is, politically connected independent directors are the Granger cause of politically connected CEOs. However, politically connected CEOs of lag 1 do not significantly explain politically connected independent directors ($F = 2.41$, $P = 0.121$). In other words, according to the time series meaning of the statistical results, politically connected independent directors appear before politically connected CEOs, suggesting that politically connected CEOs are not the Granger reason for politically connected independent directors. Table 11 also shows that that the results of lags 2 and 3 are

similar to the result of the Granger test lag 1. Politically connected independent directors of lag 2 are the Granger reason for politically connected CEOs ($F = 2.80$, $P = 0.061$), while politically connected CEOs of lag 2 are not the Granger reason for politically connected independent directors ($F = 0.78$, $P = 0.460$). Politically connected independent directors of lag 3 are the Granger reason for politically connected CEOs ($F = 2.50$, $P = 0.057$), while politically connected CEOs of lag 3 are not the Granger reason for politically connected independent directors ($F = 0.72$, $P = 0.539$).

The results of the Granger causality test in Table 11 suggest that politically connected independent directors and politically connected CEOs are in a one-way causation relationship instead of a reciprocal causation relationship. Apparently, from both the perspectives of statistical significance and average meaning, Chinese listed private firms first choose to hire retired officials with a government background to be independent directors and then build a rent-seeking model via politically connected CEOs. In other words, with regard to establishing political connections, Chinese listed private firms first strengthen communications with government officials by hiring politically connected independent directors. As independent directors appear to be “independent and just”, Chinese listed private firms set up “hidden rules” through political connections more covertly, serving as a “bridge” between politics and economy that is free to advance or retreat. One of the purposes of this bridge is to ensure a close relationship between firms and those with power within the government in the future and eventually to establish steady, exclusive, and long-term rent-seeking methods.

Table 11 Granger Causality Tests

LAG	H _{1a} : Politically connected independent directors (<i>POL_IND</i>) are the Granger reason for politically connected CEOs (<i>POL_CEO</i>)		H _{1b} : Politically connected CEOs (<i>POL_CEO</i>) are the Granger reason for politically connected independent directors (<i>POL_IND</i>)	
	F-value	p-value	F-value	p-value
1	4.03**	0.045	2.41	0.121
2	2.80*	0.061	0.78	0.460
3	2.50*	0.057	0.72	0.539

Note: ***, **, and * represent the 1%, 5%, and 10% levels of significance, respectively, for two-tailed tests.

VIII. Summary and Conclusions

This study explores the influence of politically connected independent directors on

Chinese listed private firms' entry into high-barrier industries. Our findings reveal that politically connected independent directors help Chinese listed private firms to break down industry barriers and significantly increase the likelihood of Chinese listed private firms entering high-barrier industries and the proportion of sales revenue from high-barrier industries. In comparison with politically connected CEOs, the influence of politically connected independent directors on Chinese listed private firms' entry into high-barrier industries is more pronounced in terms of both statistical and economic significance. Moreover, the rank of independent directors' political connections is significantly and positively associated with the likelihood of entering high-barrier industries and the proportion of sales revenue from high-barrier industries. For independent directors, both central and local political connections have a significant influence on the likelihood of entering high-barrier industries and the proportion of sales revenue from high-barrier industries. The influence of politically connected independent directors on the likelihood of entering high-barrier industries and the proportion of sales revenue from high-barrier industries is greater than that of politically connected CEOs regardless of the rank and the level of political connections. This paper expands the scope of the literature on political connections.

Our results have some implications: (1) The prior literature analyses the economic consequences of politically connected directors or top managers but lacks a systematic discussion and examination of the economic consequences of politically connected independent directors. Actually, politically connected independent directors are more common in Chinese listed firms, and according to our study, their impact surpasses the influence of politically connected CEOs. Therefore, our research will hopefully evoke further exploration in the field of political connections.

(2) On the one hand, politically connected independent directors earn Chinese listed firms privileges (such as entry into high-barrier industries in our case). But on the other hand, we are more concerned about the following fundamental issues: Are politically connected independent directors still independent? Can they fulfil their duty to protect medium and small investors? Therefore, regulators such as the CSRC should pay attention to the universality and economic consequences of politically connected independent directors, establish practicable measures to suppress the detrimental economic consequences of politically connected independent directors, and, especially, formulate supervising policy to ensure the independence of politically connected independent directors.

Our study has its limitations. First, because of data limitations, we cannot exactly distinguish between the rent-seeking theory and the proprietary knowledge theory.¹¹ Indeed,

¹¹ We thank a referee for the valuable suggestions that urged us to think about this problem further. In fact, there are four situations related to politically connected independent directors helping firms enter barrier industries: [1] both legal and reasonable; [2] legal but unreasonable; [3] reasonable but illegal; [4] neither

if politically connected independent directors help firms obtain licences in ways forbidden by the law, then this is rent-seeking. If politically connected independent directors help firms get licences at a low cost because they are familiar with the internal examination and approval process, then this is consistent with the proprietary knowledge theory. More often, politically connected independent directors help firms enter high-barrier industries in the grey zone between legal and illegal or reasonable and unreasonable. Second, limited by data availability and our understanding, using dummy variables and assignment methods to measure political connections and their strength cannot perfectly describe political connections in real situations (e.g. “hidden rules”). Thus it is necessary to meticulously explore better proxy variables for further study. Third, what is the sequence for independent directors and CEOs (top managers) to build and intensify political connections or for political connections to decline in Chinese listed firms? These issues are all worth further and deeper exploration.

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legal nor reasonable. These four situations are always hard to distinguish, especially in the context of China, a typical transition economy where government officials and retired officials who are hired as independent directors are seldom supervised and are also hard to supervise. Hence, as for politically connected independent directors helping Chinese listed private firms enter high-barrier industries, their activities cannot be classified into any one of the aforementioned four situations unless disciplinary actions are taken against the concerned incumbent or retired officials, because in that case, public information would then be available. Nevertheless, we are inclined to use the rent-seeking theory to provide an explanation for our study. The proprietary knowledge theory means that politically connected independent directors help firms get licences at a low cost because they are familiar with the internal examination and approval process. Actually, the internal business process is not unfathomable and can be learned by firms in simple ways. If this is the case, why do firms hire politically connected independent directors and build not a one-time but rather a long-term relationship? A more reasonable answer should be that firms not only use the proprietary knowledge of politically connected independent directors but also wish to obtain privileges via rent-seeking and long-term relationships.

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