

CITY UNIVERSITY OF HONG KONG
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**Effects of Foreign Direct Investment on
China's Seed Industry**
外商直接投資對中國種業影響研究

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摘要

國務院《關於加快推進現代農作物種業發展的意見》指出：種業是國家戰略性、基礎性核心產業，是促進農業長期穩定發展、保障國家糧食安全的根本。

我國種業 1990 年代出現市場行為，但全面市場化僅從 2000 年前後始，種子行業、內資種子企業均處於嬰幼期，可謂弱不禁風。

改革開發放以來，特別是加入 WTO 之後，境外資本全面進入中國農業，種業未能獨善其身。外商在種子行業的負面公眾事件時有發生，外商直接投資（FDI）與中國種業的爭論頗多，不僅成為社會焦點，也日益成為學界熱點。

無論如何，FDI 對中國種業的影響早已發生並繼續作用。本研究希望回答三個問題：“影響從何而來，影響如何發生，影響如何關乎產業安全”，進而正本清源，助益社會認識這一客觀現象，並為管理部門決策提供參考。

研究採用理論分析、實證分析、案例分析與政策分析相結合方法。

在外商直接投資理論和產業影響理論的基礎上，側重於 FDI 與產業安全，研究二者之間的作用機理框架：通過中介變量—產業鏈（育繁推一體化），在政府與國際市場這二個調節變量影響下，FDI 作用於技術、資本、渠道、勞動力等因數，影響種業產業安全這個因變量。上述變量的多種作用關係構成了 FDI 對種業產業安全影響體系。上述對“影響從何而來和影響如何發生”的重點研究，建立了 FDI 對種業產業鏈影響“作用機理模型”，這是本研究主要理論成果。

論文隨後通過實證分析來進行中觀研究。借用菲德模型和柯布-道格拉斯生產函數，抽樣選取 2005-2011 年間種業總產出及外商直接投資數據進行回歸分析，對“作用機理模型”進行深化驗證。

為進一步檢測上述結果，論文進行了微觀研究，選取孟山都、杜邦先鋒為代表的外資企業和以登海種業、隆平高科為代表的內資企業，採用事件分析和調查訪談法，按“作用機理模型”的框架進行了論證。

研究發現，“作用機理模型”中的其他變量顯著受 FDI 支配：外資片面追求市場佔有率，忽視技術創新和技術安全，對我國種業總產出和勞動生產率具有顯著負面影響；FDI 在技術、資本、渠道、勞動力等方面全面擠佔了國內企業空間，存在顯著的資本擠出現象，且難以按“育繁推一體化”科學格局發展；又由

於外資在生產過程中引入安全指數不確定的轉基因技術等，使種業具有生物意義上的潛在風險。

中國種業對外資形成了較顯著的依賴，種業的獨立競爭力和國際影響力下滑，產業基礎性地位受損，產業安全存在現實和潛在風險。在全球化資本流動時代，我國種業危機隨時可能爆發：如價格急漲急跌、獨立育種能力喪失、種質資源流失、生態惡化等，最大風險是糧食安全。

由此提出政策建議，既要尊重WTO原則，信守相關承諾；更要正視種業的特殊性，規範外資行為，限制外資壟斷。研究同樣從“作用機理模型”進行審視，借鑒西方國家成熟做法，建立了“現代種業發展及安全政策支持體系”，以期助益於多種積極因素協同作用，使處於嬰幼期的我國民族種業和種業企業規避惡意競爭，遵循科學規律，逐步成長壯大。

關鍵字：種業 外商直接投資 產業安全 育繁推一體化 政策體系

Abstract

In “accelerating the development of modern seed industry opinions”, the State Council declares that China is well-known in its agricultural production and seed consuming. The seed industry is a strategic and basic core industry, which is essential to promote long-term development of agriculture, and to ensure national food security.

China’s seed industry had market behaviors in 1990s and totally engaged in imperfect competition in 2000s. Still, China’s seed industry and companies haven’t got strong competence yet. Since the reforming and opening-up, especially after China becomes a member of WTO, foreign capital entered Chinese agricultural industry and seed industry. The incident of Monsanto genetic modified soybean seed and other cases absorbed lots of attention from the public, and brought out lots of arguments about FDI and Chinese seed industry. The impact of FDI has on seed industry has not only becomes a social focus, but also a new hot issue of academic research.

Nevertheless, FDI already had impacts on the development of domestic seed industry. This study aims at answering three following questions, including where the impacts come from, how those impacts work, and whether or not they will have influence on the safety of seed industrial. It offers the public a deep understanding of this phenomenon, and provides with reference to reasonable decisions.

The combination of theoretical analysis, empirical analysis, case analysis and policy analysis methods promotes the broadness and depth of the research. Through literature review, the research finds out FDI entered China’s seed industry through M&A, cooperation, establishing branches and joint venture etc., which affects seed industry in terms of capital, technology, markets, resource and environment effect based on FDI and Industrial Safety theories. The system of FDI-Seed industrial chain consists of FDI as independent variable and government, international market working as moderators. FDI affects Seed industry in terms of capital, technology, markets, resource and environment etc.. The study of how & why the effects occur

above comes up with the main findings of the research through establishing the causal mechanism between FDI and Seed Industry.

Further, the establishment of FDI- Seed industry affection-Model empirically explained the impact FDI has on the seed industry by combining Feder model and Cobb - Douglas production function. The study chooses data between 2005 and 2011 for regression analysis to confirm the model and hypotheses.

In order to confirm the results from empirical study from a micro perspective, this research chooses four cases including Monsanto, DuPont and Pioneer Pathway, Longping and Denghai, focusing on different part of cultivation, breeding and promotion system, are explored through event study and interview, which shed lights on the relationship between FDI and seed industry from different perspectives.

The results are consistent with the previous theoretical hypotheses which show that foreign companies like Monsanto have already had impact on China's seed industry from cultivation, breeding and promotion of the seed industry chain. The Domestic seed companies are falling behind in innovation and competitiveness.

The study indicates that FDI has significant impact on all the variables of the casual model. Most of the foreign capital mainly focuses on short-term interest and ignores technical innovation and the safety of technology. FDI had crowding-out effect on Seed industry in terms of capital, technology, markets, resource and environment etc., which decreases the policy effect of cultivation, breeding and promotion system. The GM technology which is not fully testified as secure has been brought in by foreign capital would arouse potential risks in China's seed industry.

Domestic companies rely on foreign capital to some extent and demolish the independence of China's seed industry which undermines the fundamental industry and triggers potential risks. With the flow of foreign capital, the crisis of seed industry could occur anytime and cause price fluctuation, loss of seed breeding ability and resource and deterioration of the environment and further the safety of food supply.

Therefore, the theoretical and empirical studies before lead to the establishment of Modern seed industry Development and Security policies Supporting System

which embeds with suggestions and recommendations of theories and policies of how to deal with foreign capital as well as healthy development of seed industry from the perspective of the government, industry and companies. All the policies recommendations emphasize the importance of the rule of equal from WTO and protection of domestic seed industry by making reasonable use of FDI. This study is expected to provide with theoretical results and practical outcomes which integrating and developing the current theoretical research while promoting the construction of China's seed industry policies and regulatory framework, including establishment of warning mechanism of industrial safety, cancellation of ultra-national treatment of FDI, management of negative list as well as supportive and regulative system for seed industry, through which promoting core competitiveness of domestic seed enterprises and securitizing domestic seed industry.

Keyword: Seed Industry FDI-Seed industry Impact Integration of Cultivation, Breeding & Promotion Industrial Policies

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