

Foreign Direct Investment versus Licensing

ERASMUS KERSTING*

SEMINAR TRADE AND FACTOR MOBILITY

WS 2002/03

* e-mail: sumsare1@aol.com

Table of Contents

Abstract	3
Introduction	3
Effects of FDI and Licensing on the Host Country	4
Modelling Costs of Licensing: Internalisation	6
Recent Work on FDI versus Licensing	11
Concluding Remarks	14
References	15

Abstract

This paper provides an overview of the existing literature concerning entry into a foreign market. It especially focuses on multinational enterprises (MNE) facing the decision of whether to enter via foreign direct investment (FDI) or via a licensing agreement with an already existing domestic company. Different aspects of this decision process and its consequences are presented, as well as the way numerous economists have created models showing welfare effects to the MNE and the host country. Using a general-equilibrium approach, Beladi and Ciao (1993) find FDI to dominate licensing in the short-run, but not in the long-run. According to the internalisation theory, FDI dominates licensing as shown by the papers by Markusen (1987, 1993) or Saggi (1996, 1999, 2002).

1. Introduction

The emergence of globalisation went hand in hand with an emergence of multinational enterprises. Trade theory had to adapt, the notion of clearly defined national firms did not describe reality anymore, and lessons learned might not remain applicable (Markusen, 1995). Multinationals are firms that engage in direct foreign investment: they either set up a subsidiary or take a certain degree of control of a firm in a foreign country. This raises numerous questions: What exactly determines what form of entry a MNE chooses, and does one option clearly dominate the other? Furthermore, what are the implications for the host country as far as welfare is concerned? Are there any conclusions to be drawn regarding policy recommendations for developing countries aiming to attract foreign capital?

In the following chapter, I will deal with the consequences of FDI and licensing for the receiving country by following a general-equilibrium model by Beladi and Chao (1993). Chapter 3 introduces the notion of internalisation according to Dunning (1981) and examines the application of internalisation models by Markusen, Saggi and Das to the question of FDI versus licensing. The fourth chapter introduces recent work on the subject, and the fifth chapter concludes the paper.

2. Effects of FDI and Licensing on the Host Country

To examine the effects of the two forms of market entry on the host economy, Beladi and Chao (1993) construct a general-equilibrium model differentiating between the short run with capital being fix in a specific sector, and the long run with capital being completely mobile between sectors. In addition to that, they do not follow a full-employment approach but adopt a Harris-Todaro (1970) approach, which I will briefly outline.

In the Harris-Todaro model there are two sectors: an agricultural sector and an urban sector. Wages paid in these two sectors differ, and the fact that the urban wage w_u is higher than the wage paid in the agricultural sector, w_a , accounts for migration and urban unemployment. According to this theory, workers in the rural areas are attracted by the higher wages in the urban sector, and therefore migrate. But not all the migrants really do find employment in the urban sector, and so the urban sector is split into a formal and an informal sector. While the wages paid in the formal sector w_u really are the high wages that attracted the migrants, the informal wage rate w_i is actually lower than w_a . In equilibrium, the expected wage rate of the urban and the agricultural sector have to be equal – in this case meaning that $w_a = pw_u + (1-p)w_i$, with p being the probability of getting into the formal sector once arrived in the urban area. This is the Harris-Todaro equilibrium condition in which no person wishes to migrate from one sector to the other.

In Beladi and Chao's model, good X can only be produced with technology provided by the MNE in the urban sector. Good Y is the agricultural good. The main difference between licensing and direct foreign investment is the different prices of good X that domestic producers face: It is p^* (the world price) in the case of FDI, and $p^* - t$ in the case of licensing (t being the licensing fee per unit of X). But to evaluate the effects of the MNE's form of market entry labour, market repercussions have also to be taken into account.

In comparison to licensing, the prices faced by domestic producers in the urban sector in the FDI framework are higher. Therefore, an inflow of solely foreign capital (domestic capital is sector-specific) leads to an expansion of output and, consequently, a higher demand for labour. Beladi and Chao show this to reduce the urban unemployment ratio, because the migra-

tion of workers from the agricultural sector to the urban sector is more than compensated for by the increased demand for labour. Thus, FDI dominates licensing for technology-receiving countries in the short run.

With perfectly mobile capital, however, returns to capital in both sectors will always be equal. The increase in price for good X would now also lead to an inflow of *domestic* capital into the urban sector. But this means that the marginal product of labour and the wage rate in the rural sector drop, causing more migration than in the case of sector-specific capital. So in this case the urban unemployment ratio actually rises, because now the increased demand for labour does not suffice to take in all the migrated workers (Beladi and Chao, 1993).

Beladi and Chao then attempt to examine the realistic situation of a developing country: they show that if K_F , the amount of foreign capital in the economy, is small, the gain from increased production of good X can dominate the loss through increasing unemployment, leaving FDI as the preferred policy. On the other hand, if \bar{K} , the total amount of domestic capital is small, the change from licensing to FDI actually lowers national welfare. The reason for this is that overall output of X is low, and thus, the increase in production under FDI will at best have a small positive effect. This can by no means outweigh the welfare losses caused by more urban unemployment under the regime of FDI.

Beladi and Chao (1993) conclude that a developing country is likely to have a small amount of domestic capital, and although FDI is a desirable strategy in the short run, it is actually dominated by licensing in the long run, since the negative employment effects caused by urban migration can not be offset by the production gains. The authors do point out, however, that an incorporation of imperfect competition in the current analysis would be desirable. Their paper did not put any emphasis on the structure of goods and factors markets, but in the case of technology-supplying firms the decision between FDI and licensing may very well also depend on the prevailing market structure. A monopolistic market would be preferred in the case of FDI because here a defaulting licensee could cause a lot of harm. Licensing would take place in a competitive market (Beladi and Chao, 1993).

In an earlier paper, Bardhan (1982) also evaluated the two market entry possibilities and their welfare effects. By comparing consumer's surplus in the subsidiary case with consumer's

surplus plus the firm's profits in the licensing case, he found FDI to contribute more to national welfare than licensing the technology from the MNE. The primary reason for this is the assumption of monopoly pricing of intermediate goods for downstream producers: in the licensing case, the domestic firm is forced to pay monopoly prices for the intermediate goods to the MNE from which it also licenses the production technology. Since this does not take place in the case of FDI, the end product prices are lower and therefore the consumer's surplus higher. Abel-Latif and Nugent (1993) later use Bardhan's framework and add countertrade as a third option, finding that countertrade (a transaction in which a seller provides a buyer with deliveries and contractually agrees to purchase goods from the buyer equal to an agreed-upon percentage of the original sales value) is superior to both FDI and licensing. The reason is the mutually beneficial relationship created by the countertrade agreement between the developing country and the MNE.

3. Modelling Costs of Licensing: Internalisation

Now the focus shifts to the other side of the decision process. One way to describe and evaluate the market entry decision of the MNE is the use of internalisation models. Internalisation is a part of what has become known as Dunning's OLI framework (Dunning, 1981), which presents three key advantages and conditions under which direct investment will occur (Markusen, 1995). According to Dunning, a firm first needs to have at least one firm-specific ownership advantage. This can be a product, a blueprint or even something intangible like a reputation for quality. It is exactly this ownership advantage that has to be present to initially outweigh the cost disadvantage of doing business in a foreign market by generating either higher revenues or lower costs. In addition to this, Dunning identifies a location advantage that the foreign market must offer. This simply means that there have to be reasons for choosing to produce abroad rather than exporting the goods, the most obvious one being tariffs, quotas or transport costs. Whereas these location advantages decrease costs once production is set up in the foreign country, other location advantages like closeness to the customers can generate more revenue. In addition to an ownership advantage and a location advantage, according to Dunning, there also has to be an internalisation advantage, meaning there are additional reasons (e.g. the product is very R&D intensive), which cause the firm to set up an own subsidiary rather than produce at arm's length. Internalisation models first introduce these reasons as costs when licensing is chosen over FDI and then examine the different parameters that cause

the MNE to choose one over the other. Models like these have been used by James R. Markusen (1987, 1993, 1995), Kamal Saggi (1996, 1999) and Satya P. Das (1999), among others. I will start by examining Markusen's way of modelling internalisation, leaving the analysis of papers by Saggi and Das mainly to the fifth chapter.

When trying to determine which form of market entry the MNE will choose, modelling the costs of licensing and comparing them with the costs of FDI is an obvious approach. According to Markusen (1995, 1993, 1987), investment in a foreign country mainly takes place when there are crucial, intangible and knowledge-based assets derived from engineering, management and marketing expertise that are crucial to the production process and allow a cost-advantage when setting up a multi-plant enterprise. The "problem" with these intangible and knowledge-based assets is the fact that they share a lot of qualities with public goods – and these 'public-goods' properties invite agent opportunism (Markusen, 1987). In addition to the problem of production knowledge dissipation, there are also problems of asymmetrical information. Markusen (1995) points out three possible cases: The MNE may not want to completely reveal the process or product technology to a potential licensee out of fear of being copied, the MNE may not truthfully reveal the product's quality to the licensee to keep the licensing fee high, and third, the licensee may not be truthful about information concerning the local markets and other local specifics to keep the MNE from choosing FDI over a licensing agreement.

Horstmann and Markusen (1987) examined the MNE's choices under a framework consisting of products of two qualities (q^l and q^h) and the following two different scenarios. In the first scenario, customers know the quality of the product *prior* to purchase; in the second scenario the quality of the product is not to be found out prior to purchase, and so the asset 'reputation' is introduced. In both scenarios the MNE is the only firm with the means to produce the high quality product. In the first scenario, the MNE chooses to license the technology to produce q^h because there are no inefficiencies and there are no higher profits to be gained from producing for itself. In the second scenario, however, the licensee has an incentive to "cheat" for one period by producing goods with quality q^l , getting the profits caused by the difference between the price of q^h and the production cost of q^l . The only way to prevent this would be for the MNE to ask for a licensing fee so low that FDI actually becomes the dominant strategy. So, as soon as there is imperfect quality information, the asset 'reputation' is inefficiently

transferred from MNE to the licensee, and the MNE is better off transferring it internally, i.e. choosing FDI over licensing (Horstmann and Markusen, 1987).

In a later paper, Ethier and Markusen (1993) dealt with the problem of knowledge dissipation. Here I present a simplified version, as described by Markusen (1995). In a two-period model, both the MNE and the licensee decide about continuing the license agreement at the beginning of the second period. Therefore, for the contract to be self-supporting, neither the MNE nor the licensee would wish to defect at the beginning of the second period. If the license agreement lasts both periods, total rents are $2R - F$, where R is the rent available in each period, and F is the cost for physical capital required for production. If the MNE sets up a subsidiary, rents are $2M - F$, where M represents the rents of the subsidiary. By assumption, $2R - F > 2M - F$. If the licensing arrangement only lasts one period and a duopoly exists in the second period, rents are $R + D - 2F$, because the fixed costs occur twice and D is the rent for both duopolists in the second period. Finally, licensing fees are L_1 in the first period and L_2 in the second (Markusen, 1995).

For the licensing arrangement to hold (from the perspective of the licensee):

$$R - L_2 \geq R - F$$

For the licensing arrangement to hold (from the perspective of the MNE):

$$L_2 \geq R - F$$

Therefore, licensing will continue if $R < 2F$, that is, if the rent is not greater than twice the fixed costs. In this case, the MNE can also extract the maximum rents $L_2 = F$ and $L_1 = 2R - F$ from its licensee. If so, the licensee makes zero profit because the MNE extracts all the rents ($2R - F + F = 2R$), but also does not have any incentive to defect. If the condition $R < 2F$ does not hold, then overall rents go down because the fixed costs occur again after the first period, since the licensee will defect at the beginning of the second period and a duopoly will form. In the case of $F = 0$ there are no fixed costs of production; this is a simulation of the case that only knowledge-capital is involved. In this case licensing will never sustain itself and FDI will take place. (Markusen, 1995). This simplified model therefore also

makes the point of showing the reasons for intangible assets being crucial when it comes to deciding whether to produce at arm's length via a licensee, or directly via a subsidiary.

Kamal Saggi (1996) examines an entrant's choice between FDI and technology licensing when the host country's industry is an asymmetric Cournot duopoly (meaning the two firms in the host country have different marginal costs). The world consists of a host country and the rest of the world (ROW). There are three firms, two in the host country (h_1 and h_2) and a foreign firm, f , that is a monopolist in the rest of the world. The foreign firm is considering entry into the host country's market. Marginal costs of production differ for all firms, but costs for the second home firm are always higher than for the first ($c_2 > c_1$). In the model, f first chooses between FDI and licensing, and then the firms compete in quantity. The foreign firm can license h_1, h_2 or both. The quantity supplied by the monopolist is $q^m(c_f)$, his marginal cost of production is c_f . The associated price is $p^m(c_f)$. The duopoly equilibrium price of firms with marginal production costs c_i, c_j is $p(c_i, c_j)$. This leads to four possible cases:

'Drastic case': $p^m(c_f) \leq c_1$ the foreign firm has lower costs than either domestic firm; a monopoly will always be the result.

'Asymmetric case': $c_1 < p^m(c_f) \leq c_2$ here it depends on which firm the foreign firm chooses – either a monopoly or a duopoly is the result

'Duopoly case': $p(c_f, c_1) \leq c_2 < p^m(c_f)$ only with FDI would a monopoly come into being, otherwise a duopoly is formed

'No-Exit case': $p(c_f, c_1) > c_2$ There will be no exit whatsoever, even under FDI a second firm will always prevail

Saggi then continues to look at the results of his model under two scenarios. In the first scenario, there is "no opportunism," meaning f can legally prevent its licensee from using the acquired technology to compete in the ROW market. Since there is no opportunism, there is

no risk to licensing (as described above), therefore FDI is *never* the strategy of choice for the MNE in this case.

In this scenario, the welfare implications are only of limited interest to this paper, since FDI will not occur. Saggi finds, however, that domestic producers' profits will be reduced below the autarky levels in all cases and under all licensing regimes. The change in consumer welfare, which directly relates to the change in prices, is ambiguous. Even in case of a monopoly, which happens under the drastic and the asymmetric case, prices might still decrease, because the marginal cost of the monopolist is lower than that of the duopolists. The licensing of both domestic firms, L_b , will *always* mean lower prices than the licensing of h_1 , L_1 , because of complete technology diffusion.

Opportunism is allowed in the second scenario, which means that the domestic firms can enter the ROW markets to compete with f . So f has to increase the license fee in order to extract the licensee's profits in these markets. FDI can therefore only be the strategy of choice for the MNE if it cannot recover its anticipated losses caused by losing its monopoly in the ROW markets via the licensing fees. In fact, Saggi (1996) finds that in *all* cases except the asymmetric one, FDI is the dominant strategy. Under the asymmetric case, f has a monopoly position in the host country's market when choosing licensing, but has to compete with the licensee in a duopoly in the ROW markets. If it chooses FDI, the situation is reversed. Thus, the more attractive alternative depends on the relative duopoly profits in the two markets, because by assumption the monopoly profits in both the host country's and the ROW markets are equal. If this assumption is violated, the result will change in an obvious way: the firm will choose its policy according to which monopoly generates more rents and is therefore to be protected with priority (Saggi, 1996).

Welfare comparisons can only be made for the asymmetric case in this opportunism scenario, since only then is licensing a possible equilibrium outcome. Saggi concludes that under the asymmetric case domestic welfare is higher under FDI than under L_1 , because FDI "intensifies the competition in the domestic industry, while licensing stifles it" (Saggi, 1996). On the producer's side, licensing does not generate higher profits for the domestic firm than FDI does, since the MNE extracts those by making a "take-it-or-leave-it offer," leaving the domestic firm indifferent.

Note that these findings stand opposed to Beladi's result above, which states that developing countries are better off under licensing in the long run. Because of assuming perfect competition, Beladi's approach does not allow benefits by increasing competition through FDI, whereas Saggi's model does not include migration or urban unemployment issues.

4. Recent Work on FDI versus Licensing

In a later paper, Saggi adds to the intangible assets mentioned before another aspect of importance for the choice of the form of market entry: technology transfer-caused resource costs. Multinational firms respond to these costs by decentralizing market specific R&D to their subsidiaries (Saggi, 1999).

Using these assumptions, Saggi builds up a two-period model with two firms operating in two segmented markets: home and abroad. The foreign firm in this model owns a more efficient technology than the domestic firm. In the first period, the foreign firm can enter the domestic market either via setting up a subsidiary, which is then a competitor to the domestic firm, or via licensing the technology in exchange for a fee. The latter option avoids competition but also allows the domestic firm insight into the technology resulting in a higher R&D productivity in the second period. This would lower the foreign firm's second period profits. In the second period the choices are the same, but here FDI would have the advantage of lower costs of technology transfer, but still the drawback of having to face competition (Saggi, 1999). So from the domestic firm's point of view, initial licensing followed by FDI would mean the strongest boost for innovation, since in the first period it would gain the technological knowledge, and in the second period it would actually compete against the foreign firm with its own technology. Supporting this result, Saggi shows that total consumer surplus is also at its maximum if there is licensing in the first period and FDI in the second. In his conclusion Saggi states that this model offers an explanation for the difference between the course of action chosen by a lot of MNEs and the policies of the host countries, which often promote licensing agreements. In fact, the MNE's mode of entry of choice is not maximizing host country welfare (Saggi, 1999).

Saggi picks up again the notion of innovation and its significance for the host country's growth in a later paper together with Amy J. Glass (2002). They have developed a two coun-

try model that shows policy implications on rate and magnitude of innovations – also dependant on the mode of entry the MNE chose to use. The model is symmetric (meaning both countries are assumed to be identical) because of simplicity, but according to Glass and Saggi this assumption is also likely to be not too far from reality since most FDI occurs between similarly developed countries (Glass and Saggi, 2002). Tariffs or transportation costs are assumed to be sufficiently high to allow only FDI or licensing as relevant options to serve the foreign market. So a fraction η of all industries use multinational production, while the remaining $1 - \eta$ use licensing. In the following, I will briefly present the obtained results of the model, since the scope of this paper prohibits a more detailed summary.

At the heart of all the results concerning the ratio of industries using multinational production to industries using licensing are the following key parameters and statements:

- There is a cost disadvantage ζ to production in the foreign country.
- There is a share θ of profits a licensee retains.
- Multinational firms choose larger innovations than licensors.

The last statement is proven by Glass and Saggi and results from multinationals increasing their ownership advantage (see above: OLI framework by Dunning) by innovation to compensate the cost disadvantage ζ . Concerning subsidies by the host country, Glass and Saggi then find subsidies to multinational production to expand the extent of FDI and to contract the amount of licensing. Since this subsidy decreases ζ , FDI industries will decrease their amount of innovation out of the same reason stated before. But the decrease in ζ also means that some industries switch from licensing to FDI, which means an increase in innovation. So “the average innovation magnitude under FDI falls but the overall average innovation magnitude (under FDI and licensing) rises, provided the subsidy is not too large” (Glass and Saggi, 2002). Concerning the share of profits retained by licensees θ , an increase also enlarges the extent of FDI and decreases the extent of licensing. Again, industries that switch from licensing to FDI increase their innovation magnitude, causing both the FDI and the overall average innovation magnitude to rise. Finally, Glass and Saggi draw a direct relation between ζ and θ on the one hand and speed and magnitude of innovation on the other hand: “If multina-

tional cost disadvantage falls (such as due to a subsidy to multinational production), innovation occurs fast and are larger. If the licensee's share of profits rises, innovations occur slower but are larger" (Glass and Saggi, 2002). If one takes innovation to stand for growth and welfare as well, this model clearly suggests FDI to be superior to licensing, since it causes the MNEs to invest more in innovation because they have to make up for the cost disadvantage of producing in a foreign market. Following this logic, all policies causing more industries to switch from licensing to FDI and therefore increasing the average magnitude of innovation are beneficial.

Satya P. Das (1999) introduces a third option into the question subsidiary (S) versus licensing (L) in another recent paper: Joint venture (J). Also, a policy moral hazard is introduced, which means that the host country's government policies are unknown and can turn out to be either conducive or restrictive towards the MNE's engagement in the country. Furthermore, risk-aversity is introduced, namely the MNE is risk-neutral whereas the potential host firm is risk-averse. During his analysis, Das shows that the 'Licensing' option is just a special case of the 'Joint Venture' option, where the share of participation is 100%. Therefore, the effects of different degrees of risk on the MNE's preferences are examined, and Das found that the riskier the project, the less likely is a joint venture, and the more likely is the set-up of a subsidiary. This can be explained by the fact that the host company needs to be compensated for the higher risk in order to still participate in the joint venture. Therefore, from some point on a direct investment is more profitable for the MNE. Another finding is that in the absence of policy intervention, either S or J are the preferred options, and L is always dominated by J. This can be explained by the project risk. In the case of licensing, the host company carries all of it, whereas in the case of a joint venture, the MNE carries at least some of the risk, leaving the risk-averse host company better off. In the case of policy intervention, the results are not clear-cut. The optimal form of market entry is still dependent on the risk of the project: very low risk means licensing, very high risk means a subsidiary is the best solution. A joint venture is only the optimal solution under policy intervention if the MNE is extremely dependent on the host company in matters concerning knowledge about the local markets. This result of Das' work can be compared with an earlier paper by E. Mansfield and A. Romeo (1980), which dealt with the question of age and leakage of U.S. technology transferred overseas. The two authors examined a random sample of 65 technologies that have been transferred overseas between 1960 and 1978. The finding was that owned subsidiaries received clearly newer technology than licensed firms. While the average age of a technology transferred to a sub-

sidiary in a developed country was 5.8 and in a developing country was 9.8 years, the average age of a technology transferred to a licensing or joint venture was 13.1 years. The age, in this case, is the time that has passed between first emergence on the US market and the transfer. So newer technology, which is more risky, is transferred to subsidiaries, while less risky older technology is then brought to a foreign market via licensing.

5. Concluding remarks

During the last two decades, the approach to modelling trade has changed considerably. With the emergence of imperfect competition models, it became possible to construct models closer to the reality that they are supposed to describe. In addition to this, stylised facts about trade and foreign direct investment are known and widely accepted now, limiting the range of results that new papers can bring forth. Foreign direct investment is one of the phenomena that have accelerated most rapidly over the last years. While earlier theories were still dealing with the problem of developing countries that lack own capital and therefore should attract foreign capital (but don't), current theories deal with symmetric countries, having given in to the data suggesting that most foreign direct investment takes place between similar, highly developed countries. Taking the occurrence of FDI as given, the question of its *form* is a most logical one. My paper shows different economists' approaches to tackle the question "FDI vs. Licensing." They range from displaying the consequences of the influx of foreign capital on a Harris-Todaro developing country to integrating joint ventures, countertrade and innovation incentives into the problem. The most common result, however, was FDI dominating licensing, no matter whether the host country's or the MNE's perspective was taken. This result is strong, considering the fact that many different approaches with a lot of different assumptions and priorities were used. It challenges the still widely spread opinion, that FDI stands for exploitation with no benefits to the host country, while licensing is a more "fair" way of market entry. However, before these results are translated into policies, surely more thorough checking is necessary, but some present anti-FDI policies certainly have to be strongly questioned.

References

- Abdel-Latif, A.M. and Jeffrey B. Nugent, (1993), "Countertrade, Licensing and Direct Foreign Investment: Comparative Effects on LDCs and MNEs," *Asian Journal of Economics and Social Studies*, 12(2), 81-96.
- Bardhan, P., (1982), "Imports, Domestic Production and Transnational Vertical Integration: A Theoretical Note," *Journal of Political Economy*, 90(5), 1020-1034.
- Beladi, H. and Chi-Chur Chao, (1993), "The Choice of Licensing Versus Direct Foreign Investment in Developing Countries," *Journal of Economics*, 58(2), 175-186.
- Das, S. P., (1999), "Direct Foreign Investment Versus Licensing," *Review of Development Economics*, 3(1), 86-97.
- Dunning, J.H., (1981), International Production and the Multinational Enterprise, London: George Allen and Unwin.
- Ethier, W.J. and James R. Markusen, (1993), "Multinational Firms, Technology Diffusion and Trade," *NBER working paper*.
- Glass, A.J. and Kamal Saggi, (2002), "Licensing versus direct investment: implications for economic growth," *Journal of International Economics*, 56, 131-153.
- Horstmann, I.J. and James R. Markusen, (1987), "Licensing Versus direct Investment: A Model of Internalization by the Multinational Enterprise," *Canadian Journal of Economics* 20, 464-81.
- Mansfield, E. and Anthony Romeo, (1980), "Technology Transfer to Overseas Subsidiaries by U.S.-based Firms," *The Quarterly Journal of Economics*, 95, 737-750.
- Markusen, J.R., (1995), "The Boundaries of Multinational Enterprises and the Theory of International Trade," *The Journal of Economic Perspectives*, 9(2), 169-189.

Saggi, K., (1996), "Entry into a Foreign Market: Foreign Direct Investment versus Licensing," *Review of International Economics* 4(1), 99-104.

Saggi, K., (1999), "Foreign Direct Investment, Licensing, and Incentives for Innovation," *Review of International Economics*, 7(4), 699-714.

This document was created with Win2PDF available at <http://www.daneprairie.com>.
The unregistered version of Win2PDF is for evaluation or non-commercial use only.