



Two Paths to Prosperity when Property Rights Enforcement is Weak

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Dos caminos a la prosperidad cuando la aplicación de los derechos de propiedad es débil

Dois caminhos para a prosperidade quando a aplicação dos direitos de propriedade é débil

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Governments are not always the most effective mechanism for guaranteeing private investment. In many countries governments are unable to enforce property rights, whatever the degree of protection promised by the law. In this context, I argue that there are at least two alternative private paths to prosperity. Firstly, businesses can adopt production technologies that are less sensitive to institutional voids. These are cheaper, mobile versions of existing technologies, so they can reduce exposure to the hold-up problem. Secondly, entrepreneurs can implement employee ownership, together with other motivational strategies, in order to preserve the ownership itself. Employees are thus encouraged to support the current allocation of property rights instead of challenging it.

Los gobiernos no siempre son el mecanismo más efectivo para garantizar la seguridad de la inversión privada. En muchos países los gobiernos son incapaces de hacer respetar los derechos de propiedad a pesar de que las leyes formalmente garantizan dichos derechos. Para estos casos existen por lo menos dos estrategias a nivel empresa que buscan aprovechar las oportunidades económicas y de desarrollo. Primero, las empresas pueden adoptar tecnologías que son menos susceptibles al problemático entorno institucional. Por ejemplo, para disminuir el riesgo de expropiación oportunista se pueden adoptar versiones móviles y baratas de las tecnologías ya existentes. Segundo, los empresarios podrán implementar políticas de motivación de personal incluida la co-propiedad con los trabajadores para poder garantizar sus propios derechos de propiedad. De esta manera los trabajadores tienen incentivos para respetar la asignación actual de los derechos de propiedad en vez de buscar redistribución.

Os governos nem sempre são o mecanismo mais efetivo para garantir o investimento privado. Em muitos países, os governos são incapazes de fazer valer os direitos de propriedade, seja qual for o grau de proteção prometido pela lei. Neste contexto, defendo que existem pelo menos dois caminhos privados alternativos para a prosperidade. Primeiro, as empresas podem adoptar tecnologias de produção menos sensíveis aos vazios institucionais. Existem versões móveis e mais baratas das tecnologias existentes, que podem reduzir a exposição ao problema da retenção. Segundo, os empresários podem aplicar a propriedade do empregado, em conjunto com outras estratégias de motivação, a fim de preservarem a própria propriedade. Os empregados são assim incentivados a apoiar a actual atribuição dos direitos de propriedade em lugar de os porer em causa.

1. Introduction

Numerous academic articles, on topics ranging from economic history to corporate finance, show that institutions that support fair market relations, by protecting investors' interests and improving the business climate, enhance economic growth. For developing and transition countries, the immediate implication is that they need to improve investor protection and guarantee effective enforcement of legally-guaranteed property rights. If any noticeable improvement in investor interests is to be achieved, national legislati-

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ve and enforcement structures need to be mobilized. International lenders use their influence to promote such government-targeted reforms. However, this behavior can be perceived as illegitimate because internal interest groups see reforms as imposed, and resist them (Henisz and Zelner, 2005). This not only reduces the effectiveness of such market-oriented reforms but irreparably damages the image of international lenders. Economic development can, however, be achieved by other means apart from centrally-directed institutional change. Two alternative private paths to prosperity are proposed here: cheap, mobile versions of existing technologies, and inclusive human resources practices.

First, businesses may be able to adopt production technologies that are less sensitive to institutional voids and, in particular, weak investor protection. I stress several characteristics that can improve the fit of technologies in the developing country context: asset mobility, re-deployability and low cost. As an example, I take the knowledge economy that has given rise to a situation in which a precarious telecommunications infrastructure dramatically limits the competitiveness of emerging markets. The problem is that investment in telecommunications infrastructure is argued to be extremely sensitive to institutional voids and that many developing countries offer textbook examples of bad institutions. Consequently, the established view is that cross-country differences in access to information and communication technologies reflect differences in the severity of institutional voids, implying that institutional reforms are a necessary condition for investment in telecoms infrastructure. By studying the relation between political constraints, risk of hold-up and adoption levels of mobile telephony, I show that technology can mitigate the effects of high political risk and low private investor protection.

Second, by implementing employee ownership, together with other inclusive motivational strategies (efficiency wages, profit-sharing, access to business information, participation in decision-making, etc.), firms can preserve the value of their assets in places where state-backed investor protection is weak and where workers can effectively destroy the value of capital assets without suffering any punishment. By applying such human resources policies, asset owners encourage employees to support the current allocation of property rights instead of challenging it. In this way, capital owners can de facto guarantee their property rights even when the environment lacks effective state-supported enforcement institutions. I illustrate these managerial practices with a case from Colombia, which is relevant to any country or region where state-provided institutions for investor's property rights protection are absent or ineffective.

In essence, I argue that private mechanisms for overcoming persistent institutional voids, such as the ability to guarantee private investment, may be the product of companies' strategies and their quest for profits. No altruistic preferences are assumed. However, companies should understand well how the strategic choices they make interact with the institutional environment in many developing nations.

KEY WORDS

Property rights; Technologies adoption, Motivational strategies

PALABRAS CLAVE

Derechos de propiedad, Adopción de tecnologías, Motivación de personal

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2. Technology

Mobile telecommunications might give us a new paradigm for shaping institutional reforms. Most efforts by governments and international organizations today focus on changing institutions by direct intervention, transforming the fundamental political and social rules of a society. However, it might be useful to consider changing institutions indirectly by introducing technologies that are less sensitive to an adverse business climate so that, through market dynamics, they can make institutions more market-supportive. As has recently been shown, modular and mobile technologies relying on low initial investments are viable business opportunities when the environment is not supportive to investors' interests (Hart and Christensen, 2002). Economic development thus comes as a by-product of firms' quests for profit, whenever there are technologies and business models that are viable in an adverse business climate.

It is widely accepted that when the institutional environment guarantees private investment security, it reduces the temptation of governments to expropriate private investors. This is the so-called hold-up problem. Many argue that differences in welfare today stem from institutional parameters, which determine the risk of hold-up. That is, credible and effective governments provide the investor protection needed for business, while ineffective, corrupt or unstable governments are not able to provide the required institutional safeguards for private investors so opportunities are missed. This argument suggests that institutional differences in government effectiveness and credibility resulting from historic, geographic and ad-hoc factors (colonization, for example) determine the fortune of nations and their chances for prosperity. Although there is some evidence supporting the existence of such institutional determinism, new mobile forms

of technology can transform the future of poor nations. Wireless telecommunications provide an example and are seen here as a paradigm for a viable business model in an environment of relatively scarce investor protection.

In fact, wireless telephony can afford access to information and telecommunications services in previously isolated and institutionally underdeveloped regions often with scarce government presence. It is built on cheaper, easily re-deployable infrastructure, and may achieve a high degree of connectivity in hostile institutional environments. In addition, mobile networks can be constructed faster than land-line networks, they need fewer subscribers to reach a minimally efficient scale, and their modules are mobile and easily transportable. So, from an institutional perspective, the difference between land-line and wireless telecommunications networks lies in the size of the sunk costs, the asset mobility and the investment risk related to the hold-up problem. I argue that these characteristics make wireless telephony a suitable technology for unfriendly business environments. The success of wireless telecommunications in countries at the bottom of the lists for institutional excellence demonstrates that economic progress is not exclusive to champions in ambitious and often externally-directed institutional reforms, but also to those countries whose production technologies suit their level of institutional development (David and Ochieng, 2006).

In Africa, for example, mobile telephony is a functional substitute for ill-developed fixed phone networks and roads, resulting in lower information asymmetry among economic agents and enhanced economic development. Investors who spotted the opportunity of mobile telephony in Africa went against the advice of analysts who

emphasized institutional voids as a deterrent. The result is that today telecoms companies in Africa are successfully providing services that are much in demand.

According to David and Ochieng (2006) in Senegal, Manobi-Senegal owned by Manobi (France) and Sonatel (Senegal) offers a service platform that provides subscribers with real-time price information for a number of agricultural products. The service is associated with a 15 per cent increase in profits (net of the service cost) for the subscribed farmers and is also profitable for the provider. Safaricom (Kenya) and MCell (Mozambique) introduced mobile airtime credit-swapping services which allow subscribers to transfer money to one another in the form of airtime credit. This works as a lending and repayment mechanism and substitutes for the underdeveloped financial sector services, allowing mobile operators to cash some of the profits banks could have appropriated. Vodacom Congo has 1.1 million subscribers despite political and security problems in the country. People in the jungle villages in Congo were so willing to be connected that they built a 50-foot-high treehouse in order to capture the signals from the nearest cellphone towers, thus paying themselves for the infrastructure that makes the technology work.

This anecdotal evidence is confirmed by econometric estimations (Andonova, 2006). When evaluating the importance of government credibility of 183 countries for the adoption of three different telecommunication services - land-line telephony, mobile telephony and Internet connectivity - we find that government credibility matters less for mobile telephony which relies on cheaper, re-deployable modules (Andonova and Luis Diaz-Serrano, 2007).

For the sake of hypothesis testing, we proxy government credibility by the *POL-*

CON index, a widely-used measure for investor exposure to governmental hold-up. *POLCON* is a structurally derived and internationally comparable index that reflects the degree to which the national political institutions, together with the preferences of political actors, constrain effects on government policy (Henisz and Zelner, 2001). In essence, using political science databases, the *POLCON* index represents a measure of institutional hazards, taking into account the number of veto points on a policy change and the homogeneity of preferences of political players.

We use the International Telecommunication Union data for the adoption level of the different technologies. The dependent variables are: Main Lines (ML), Internet Hosts (IH) and Cellular Phone Subscribers (CPS). Main Lines (ML) are the per capita main telephone lines in operation connecting the subscriber's terminal equipment to a public, switched network having a dedicated part in the telephone exchange equipment. This variable measures the adoption level of land-line telephony. Internet Hosts (IH) are the per capita number of computers in an economy that are directly linked to the worldwide Internet network. We choose to use Internet Hosts instead of Internet Users as a proxy for Internet penetration for reasons of quality. Internet Users are the per capita estimated number of Internet users based on the reports of Internet Access Provider subscriber counts or calculated by multiplying the number of Internet hosts by an estimated multiplier. This methodology may considerably understate the number of Internet users in developing countries (Chinn and Fairlie, 2004). This variable measures the adoption level of Internet connectivity. Cellular Phone Subscribers (CPS) are the per capita cellular telephone subscribers. This may include subscribers to analog and digital cellular systems and measures the adoption level of mobile telephony. The results of a GMM panel data

estimation are presented in Table 11. As expected, *POLCON* turns out to be statistically significant and positive. This result is consistent with that observed in earlier studies and indicates that government credibility is important for the dissemination of all telecommunications technologies. In addition, the effect of the *POLCON* variable is smaller for CPS than for ML and IH. This result is important, since it confirms that the adoption of cellular technology requires a relatively lower degree of political predictability and institutionally-supported investor protection. The semi-elasticities for the variable *POLCON* presented in Table 1 show that an increase of 0.1 in the political credibility variable increases the penetration rate of cellular telephony (CPS) by around 2 percent. The effects for the penetration level of main lines (ML) and Internet hosts (IH) are 3.4 and 17 percent, respectively. The relevant comparison is between the coefficients of *POLCON* for cellular telephony (2 percent) and Internet hosts (20 percent), given that fixed telephony (3.4 percent) is very advanced in its life cycle for the time period under study (1990-2004). Once the first lag of the logarithm of the per capita number of people on waiting lists for main lines is added to the core model, the level of *POLCON* coefficient for ML remains the same. However, in the case of the penetration level of Internet hosts (IH), this rises by up to 28 percent once a control for the per capita number of Internet users (IU) is included.

In the light of these results, we argue that picking the technology that best fits the institutional environment of a country is one of the things that policymakers and investors can do to foster technological adoption and the consequent economic prosperity in developing nations. This is not to say that institutional voids do not matter for investment decisions. However, it is important to understand that institutional voids may be less important than previously thought, given the existence of technologies which rely on cheap, mobile, re-deployable assets. For this reason, the idea that business opportunities in telecommunications services in institutionally underdeveloped countries are a huge risk fails to account for the current state of technology and disregards the limited institutional requirements characterizing wireless telephony.

(See Table 1, next page)

1. For a detailed description of the econometric model, estimation procedure and results description, see Andonova and Diaz-Serrano (2007).

Table 1: GMM estimates of the telecommunications penetration levels for 183 countries (1990-2004)

Dependant variable	Yt: Main lines (ML)		Yt: Internet hosts (IH)		Yt: Cellular (CPS)
	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	-0.6410 (-41.9)	-0.7292 (-36.7)	-4.2604 (-27.4)	-4.8709 (-23.3)	-1.0613 (-7.2)
Yt-1	-0.1134 (-36.1)	-0.1357 (-44.1)	-0.5224 (-31.3)	-0.6918 (-32.4)	-0.3621 (-18.8)
Log(GDP)t-1	0.1050 (38.2)	0.1385 (35.4)	0.6698 (27.9)	0.5428 (20.3)	0.4031 (28.5)
Δ Log(GDP)t	0.1717 (53.2)	0.0709 (24.4)	0.4721 (15.6)	0.4889 (12.6)	0.3011 (11.2)
POLCON t-1	0.3424 (25.7)	0.3246 (20.4)	1.7303 (6.4)	2.8147 (10.2)	0.2017 (2.6)
Yt-1POLCON t-1	-0.0694 (-12.8)	-0.0672 (-9.1)	0.0757 (1.3)	0.3778 (7.3)	-0.1857 (-4.1)
(TI/GDP)t-1	0.0540 (29.5)	0.0547 (22.5)	0.1229 (3.6)	0.1051 (3.9)	0.1897 (14.0)
Price t-1	-0.0634 (-39.6)	-0.0620 (-42.8)	-0.0903 (-2.2)	-0.1045 (-4.4)	-0.1392 (-8.2)
Log(WL)t-1		0.0276 (25.5)			
Δ Log(WL)t		0.0062 (0.6)			
Log(IU) t-1				0.1677 (7.8)	
Sargan test (χ^2 stat.)	113.3	88.02	86.98	91.22	88.03
Test AR(1) (z stat.)	-1.77	-2.36	-4.13	-3.52	-3.67
Test AR(2) (z stat.)	1.13	-0.38	-0.39	-0.16	-1.47
Sample size	1,234	806	907	818	616

Notes: (1) All models include dummy years; Yt-1 is the logarithm of ML, CPS and IH per 100 inhabitants; GMM is the variant of the Arellano and Bond's estimator; Standartized normal ratios in parentthesis. (2) Variables are: TI(investment in telecommunications), POLCON(Political constraints), GDP(gross domestic product), IU(Internet users), WL(waiting lists for main lines), Price CPS(price of a 3-minute cellular local call) and Price ML and IH (price of a 3-minute fixed-line local call).

3. Human resources policies

The second mechanism I propose, by which entrepreneurs can enhance economic prosperity in developing nations whose governments frequently fail to provide credible guaranties for investor rights, is the use of inclusive human resources practices.

In hostile environments, the volume of economic activity is limited and exchanges are carried out in intimidating settings. A precarious business climate directly influences the relationship between employers (owners) and employees. The latter are able not only to enhance the value of capital but also to destroy it without necessarily suffering punishment because enforceability of property rights is lacking. As a result, employee ownership, together with other motivational strategies, can be used to preserve the value of assets for capital owners when these suffer from weak property rights protection. Ultimately, better protection of investors' interests translates into greater economic activity and enhances growth.

In many developing and transition countries, the process of property rights creation is far from complete and enforcement is costly and complex. According to the index of property rights protection given by the Heritage Foundation in 2007, 86 out of 161 countries had poor property rights protection (scores of 40 or lower). In some of these places, by sharing ownership and profits, giving access to information and business decision-making, using efficiency wages and enhancing psychological ownership, asset owners can increase the workers' payoff from engaging in productive activities and can decrease their incentives to expropriate. In this way, asset owners can de facto enforce their property rights even where there is a lack of effective, state-supported enforcement institutions. Such actions maintain a favorable business climate as they lead to an increase in the expected income from licit behavior and in the opportunity cost of appropriative behavior. As a result, workers become supporters of the status quo instead of challenging established (but not enforceable) property rights (Andonova and Zuleta, 2007).

A number of works studying redistribution and the feasibility of land reform claim that more egalitarian distribution of the available land is in the interests of land owners as property rights holders because it prevents workers from leaving legal jobs and joining illegal bands, which bring down the value of the capital owners' assets. This is especially relevant for developing and transition countries where the basics of a market economy have been established only recently and where property rights enforcement is one of the main challenges to the creation of a welcoming investment climate and to growth. Under these circumstances, entrepreneurs can change the traditional roles of asset owners and workers, aligning the economic interests of both groups by offering capital ownership to workers. This compensation strategy, however, blurs the

boundaries of traditional social classes and can be difficult to implement in certain cultures. Alternative human resources policies that have similar outcomes for the business climate but maintain the traditional roles of owners and workers include paying above-market wages (efficiency wages). Efficiency wages increases the opportunity cost of disloyal behavior on the part of employees encourage workers to identify with the business interests and enhance psychological ownership.

Implementation of such human resources policies not only has positive effects on the business environment but correlates strongly with increases in productivity. In fact all of these human resources policies are recommended as remedies for the standard moral hazard problem and the construction of competitive advantage in hostile settings. For example, case studies in extremely unfriendly regions, such as rural Colombia, confirm the benevolent effects of such human resources policies on security and productivity (Andonova, Gutierrez and Avella, 2007).

The Colombian war-torn environment provides fruitful ground for investigating the role of company strategies, including strategic human resources management, for doing business in a hostile setting. Colombian spacious and rugged territory creates difficulties for the government to establish control throughout the country. The ongoing violence has been fed by several guerrilla groups, paramilitary armies and persistent drug trafficking. Under these conditions, companies ranging from farms to oil exploration businesses implement inclusive human resource policies to guarantee ownership.

The Case of Hacienda Gavilanes

In the area where Hacienda Gavilanes is located, paramilitary armies are particularly active. Spurred by government plans for a peace process, paramilitary leaders are actively purchasing land from landowners unable to manage their farms as a result of the coffee and sugar cane crises. A recently-imposed local tax on land puts additional strain on landowners who frequently find themselves forced to sell to the leaders of regional armed groups that are notorious for promoting drug trafficking and violence.

Hacienda Gavilanes started as a sugar cane farm located in Risaralda, a mountainous region in Western Colombia. In the 1990s, sugar prices fell sharply and the farm began to incur losses in an economic environment that was unlikely to change. Then the owner of Hacienda Gavilanes decided to restructure the farm's hiring and incentives policy, and encouraged the foundation of a labor cooperative, Cofudeco. Almost immediately, this cooperative improved working conditions as well as increasing the farm's security.

Hacienda Gavilanes became a client of the cooperative. The landowner no longer pays daily wages to the workers, but negotiates with Cofudeco on compensation for the completion of certain tasks. This arrangement creates incentives for time-saving innovations, and workers have come up with several proposals for improving the processes. Moreover, workers have the opportunity to attend courses related to their daily tasks. The acquisition of new skills is highly valued by the workers and helps them develop a sense of belonging and psychological ownership.

In addition, the members of Cofudeco have access to credit because the cooperative guarantees their personal loans. Access to

credit has allowed workers and their families to purchase groceries, home appliances and motorcycles. Additionally, they can have a bank account with a credit card. All these benefits increase the cost of leaving the labor cooperative, strengthen workers' commitment to the farm and guarantee unchallenged ownership over the assets.

Workers are also given considerable freedom to decide and suggest how to perform different tasks. This arrangement stands in sharp contrast to the widespread feudal relationships in the area. Another local innovation is the ongoing process of ownership sharing. Cofudeco is gradually becoming the owner of working tools such as machetes and knives, and its members plan to buy a tractor. Apart from capital accumulation and monetary rewards, Cofudeco members receive fringe benefits in the form of literacy programs and improved housing conditions for themselves and their families.

As the manager of Cofudeco states, "by offering jobs and social security, the farm has improved its security conditions". In fact, today this is the only farm that does not have a hired guard and one of the few economically sustainable farms in the area. (Andonova and Zuleta 2007).

Several challenges in implementing this strategy should be recognized. Ownership and profit sharing might not be necessary for settings with an abundant labor supply and with alternative mechanisms for moral hazard control, such as reputation or monitoring. In general, however, the greater the dependence on specific skills, the more appropriate are ownership and profit sharing. Specific skills are an indispensable part of almost all production technologies including agricultural activities, which is the largest production sector in most developing nations. While ownership and profit sharing might not be strictly necessary,

some means of reducing the divergence of interests in the employment relation is required. One method is to use efficiency wages. If the investment needed for monitoring workers is given to them in the form of efficiency wages, then the opportunity cost of both shirking and illegal activities will rise. As a result, the moral hazard problem will be under control and the employees will be strongly committed to the status quo assignment of property rights. In addition, efficiency wages are class-neutral as they maintain the traditional roles of owners and workers. Finally, improvement of the overall business climate as a result of private organizational and reward policies will take place only if entrepreneurs adopt these massively. Sporadic use of such mechanisms may have a local impact but will make hardly any difference on a national level and will not change the general country-level perception of investors' rights protection. Entrepreneurs should probably first be made to see that protection of their assets is to a large extent in their own hands.

4. Discussion

In spite of receiving relatively little attention in the literature these days, there are private paths for promoting market relations, improving the institutional environment and enhancing economic growth. Such private initiatives have the potential to transform developing nations without generating resistance, as they are free from the perception of imposition. The case of wireless telecommunications provides a model to follow.

The success of wireless telephony in countries with an adverse business climate shows that progress is possible when technologies suit the developing country's institutional environment. The implication is that investors in transition and developing countries should promote cheap, mobile, modular versions of existing technologies, thus greatly reducing the risk of hold-up by opportunistic governments. Such proactive behavior is justified because, first, technological parameters considerably reduce exposure to hold-up and, second, because waiting for complex institutional reform to take place and protect their interests prevents entrepreneurs from taking profitable business opportunities. But there is more that investors can do on their own for the improvement of business climate and economic growth.

Entrepreneurs can choose human resources policies that have considerable positive externality on environments where investors' property rights are poorly protected. Such policies range from participation in decision-making and business information sharing to workers' participation in profits and ownership. The positive effect of such human resources policies on status quo property rights distribution has not been studied because human resources management theories are drawn up in countries where recurrent expropriation of investors by both private agents and governments has not been a problem. This effect, however, is real in many developing nations and investors should be informed about it so that they can see their crucial role in the complicated task of carrying-out thorough institutional transformation to achieve market-based economic prosperity.

References

- Andonova, V. (2006) "Mobile phones, the Internet and the institutional environment", *Telecommunication Policy* 30, 29-45.
- Andonova, V., Gutierrez, R., and Avella, L.F. (2007) "The strategic importance of close employment relations in conflict-ridden environments", in *Best Human Resources Practices in Latin America*, Davilla, A. and M. Elvira (eds), Taylor and Francis (forthcoming).
- Andonova, V. and Diaz-Serrano, L. (2007) "Political institutions and telecommunications development", *IZA Discussion Paper No. 2569*. Available at SSRN: <http://ssrn.com/abstract=961371>
- Andonova, V., and Zuleta, H. (2007) "The effect of enforcement on human resources practices", *International Journal of Manpower* 28, 344-353.
- Chinn, M., and Fairlie, R. (2004) "The determinant of the global digital divide: Across-country analysis of computer and Internet penetration", *Center for Global International and Regional Studies, WP 2004-3*.
- Davis, K. and C. Ochieng (2006) "ICTs as appropriate technologies for African development", www.ifc.org/competition (consulted on 3/10/2006).
- Hart, S., and Christensen, C. (2002) "The great leap. Driving innovation from the base of the pyramid", *MIT Sloan Management Review* 44, 51-56.
- Henisz, W., and Zelner, B. (2001) "The institutional environment for telecommunications investment", *Journal of Economics and Management Strategy* 10, 123-147.
- Henisz, W., and Zelner, B. (2005) "Legitimacy, interest group pressures, and change in emerging institutions: The case of foreign investors and host country governments", *Academy of Management Review* 30, 361-382.