JOURNAL FÜR ENTWICKLUNGSPOLITIK
herausgegeben vom Mattersburger Kreis für Entwicklungspolitik
an den österreichischen Universitäten

vol. XXIX 2–2013

TRADING KNOWLEDGE IN A GLOBAL INFORMATION SOCIETY

The Southern Dimension of TRIPS and GATS

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mandelbaum *edition südwind*

Journal für Entwicklungspolitik (JEP)
Austrian Journal of Development Studies

Herausgeber: Mattersburger Kreis für Entwicklungspolitik an den österreichischen Universitäten

Produktionsleitung: Bettina Köhler
Umschlaggestaltung: Bettina Köhler
Titelfoto: Oliver Niedhöfer

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Journal für Entwicklungspolitik XXIX 2-2013, S. 4-10

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Trading Knowledge: The Southern Dimension of TRIPS and GATS

Since the conclusion of the GATT Uruguay Round in 1994, both the content of human intellectual activity and its dissemination have undergone a fairly contested process of commodification. Under the regime of the World Trade Organization (WTO), cultural and technological inventions have been subsumed under a far-reaching intellectual property rights agreement (TRIPS), by which intangible ideas are transformed into tradable goods. At the same time, the dissemination of human experiences and thoughts, for instance in education and broadcasting, is increasingly perceived as a merchantable service (GATS). The predominant focus on the exchange value triggers a redefinition of knowledge itself, while at the same time altering the modes of its production and distribution (May 2000, 2002).

In an historical perspective, the WTO agreements of the mid-1990s can be regarded as the codification of powerful interests' preferences in industrialised countries which succeeded in imposing their perspective on the relationship between ideas and property on a global scale (May/Sell 2006; Drahos/Braithwaite 2002). While recent developments, most notably in Europe, show that the fixation of ever-expanding property rights does not remain unchallenged in industrialised countries themselves (Haunss 2012; Schneider 2010; Eimer 2011), the commodification of knowledge has met even more resistance throughout the Global South. Since the early 2000s, Brazil and many other emerging and developing countries claim, through various international organisations, that the presumed incentive effects of private property rights for ideas must be weighed against the limitations in the adaptation and dissemination of technologically, socially, and culturally relevant knowledge (May 2008; Sell 2010; Muzaka 2010). More-

over, they argue that the WTO regime enshrines a specific European and Anglo-American concept of knowledge production and distribution that ignores alternative traditions and cultures (Goff 2009; Helfer 2004).

While scholars have recently started to address the distributional and ideational conflicts on the international level (e.g., May 2008; Sell 2010; Morin/Gold 2010), domestic controversies on the calibration of property rights for intangible assets have remained rather neglected for the time being. The lack of in-depth case studies on emerging and developing countries, however, prevents a comprehensive understanding of policy trajectories in this field, since the WTO agreements only provide a framework that leaves considerable room for interpretation during the implementation of the agreements on a domestic level (Sell 1995). This special issue shall shed some light on the implementation of knowledge-related international commercial law in the Southern hemisphere.

Generally, the articles in this issue confirm the observation that the definition of property rights for knowledge still remains a prerogative of the nation state (Drahos/Braithwaite 2002: 28). As Ken Shadlen and Christof Mauersberger (both in this issue) show, national regulations play a pivotal role for the transmission or reinterpretation of the international framework. The notion of state sovereignty, however, does not help us to predict what developing countries and emerging economies actually do when implementing TRIPS and GATS. Governments may use their prerogatives in order to confirm or even to reinforce the commodification of knowledge, as stipulated by the international agreements (Randeria 2007). But they may also try to carve out loopholes in order to use the existing 'policy space' for their own economical, developmental, social, and cultural priorities (Gallagher 2007; Eren-Vural 2007). Although the articles of this special issue do not suggest generalisable propositions on Southern governments' preferences and strategies, they reveal distinctive tendencies as well as potential causal mechanisms and behavioral patterns.

Most of the articles in this special issue put TRIPS and GATS into perspective. While the WTO agreements are crucially important, they are embedded in a 'regime complex' (Raustiala/Victor 2004) of sector-specific conventions and resolutions, bilateral agreements, and regional arrangements (Helfer 2004; Sell 2010; Drahos/Maher 2004). In some cases, the multitude of internationally recognised norms helps governments to limit

the monopolistic position of corporate actors (see, for example, Mauersberger in this issue) or justifies the rejection of multinational firms' claims within other jurisdictions (see Rauchecker). In the context of South-South cooperation, emerging and developing countries can potentially use regional arrangements in order to counterbalance the demands from industrialised countries (see Shadlen). In other cases, however, sector-based or bilateral agreements may provoke a 'TRIPS plus effect' (see Graf) or favour the interests of industry actors, both in industrialised and emerging economies, to the detriment of other societal groups (see Eimer).

Although governments do make direct use of international agreements for their own purposes, the impact of international regulations often seems to depend on transnational actors which refer to these norms in order to substantiate their claims on a domestic level (Keck/Sikkink 1998; Risse 2002). Multinational firms use TRIPS to justify demands for all-encompassing private property rights in the seeds sector (see Rauchecker), and transnational environmental NGOs refer to international environmental law in order to advance the commodification of biological resources and associated traditional knowledge (see Eimer). However, transnational civil society actors and academics can also transmit alternative norms such as common good perspectives from one jurisdiction to another (Dobusch/Quack 2010; Biehl 2007). Such a transfer may be facilitated by regional institutions (see Mauersberger) or ethnic relations (see Eimer). Although transnational actors are usually thought of as non-public entities, Ken Shadlen shows that an increased transnational bureaucratic cooperation could also lead to a more careful (and thus more limited) definition of private property rights in the field of patentable technologies.

The impact of transnational actors seems to depend on their ability to engage in partnerships with domestic pressure groups (Kennedy 2007; Acharya 2004). Markus Rauchecker demonstrates that Monsanto's failure in Argentina can at least partially be explained by its detachment from local farmers' organisations with regard to the question of royalties. Domestic actors, however, do not necessarily have to engage in partnerships with foreign allies in order to gain influence, if they can rely on their already established contacts with decision-makers (Shaffer et al. 2008; Pedersen 2008). Christof Mauersberger's article illustrates how domestic actors can build up considerable pressure on policy leaders to uphold the commodi-

fication of knowledge and knowledge-related services. On the other hand, however, domestic actors may also reinforce the private property perspective of the WTO agreements. Without Mexican scientists' approval of patent-based research (see Graf), and without the support of Indian corporations for the commodification of traditional knowledge (see Eimer), TRIPS and related agreements could not have attained the level of legitimacy they enjoy in emerging economies, at least in specific sectors.

Taken together, the articles in this special issue show a considerable variety of different constellations of international norms, transnational actors, and domestic pressure groups. These constellations support the WTO-inspired commodification of knowledge or help to advance alternative perspectives, or do both at the same time.

The article of Patricia Graf generally confirms the trend of globally triggered knowledge commodification in emerging countries. Her analysis of the Mexican innovation system assesses the prospects for technological learning in the light of two international agreements, namely TRIPS and NAFTA. The contribution not only points to a reinforcement of TRIPS provisions through NAFTA, but also reveals that the ways in which global norms affect technological learning are sector-specific. Graf's article hence gives us a gentle indication of the existence of sectoral knowledge societies.

Similarly, Thomas R. Eimer discusses a predominantly capitalist perception of knowledge in the international framework in his study of traditional knowledge regulation in India and Brazil. While the presence of a diversified 'regime complex' enables non-commodifying national approaches in the first place, deviating regulations of traditional knowledge, as those in Brazil, seem to be becoming destabilised due to certain undermining mechanisms at the international level. The article thus draws our attention to the sustainability of domestic regulation patterns in the global context.

The contribution is followed by the articles of Christof Mauersberger and Markus Rauchecker who both take up the role of non-state actors. Mauersberger analyses the media markets in Argentina and Brazil in the conflicted area between commercial markets and communication rights. He illustrates that (transnational) social movements and academics can (re)frame the debate about media regulation by referring to global human rights norms. Furthermore, his study points to the fact that social movements can also inspire reforms in other countries. Brazilian activists are

learning from their Argentinean counterparts and are progressively integrating internationally codified communication rights into their approach.

Markus Rauchecker takes the perspective of a multinational company. His article analyses the appropriation of rent between farmers and seed breeders in the specific case of RR Soy in Argentina. He traces the attempts of Monsanto to generate a universal norm of remuneration within a 'regime complex' of contradictory international and national legal norms. Rauchecker finds the alliance between the Argentinean government and the farmer's associations to be one key factor in the failure (so far) of Monsanto's various proceedings.

Finally, Ken Shadlen deals with the national implementation of patent policies. He examines the trade-offs countries face in pursuing three objectives, namely speed of examination, patent quality, and expenditure of resources, and presents those as a trilemma where only two (of the three) can be maximised at the same time. Shadlen suggests we regard patent quality as the most important objective and discusses cooperation arrangements for developing countries to minimise resources spent while retaining high examination quality.

The limited selection of articles in this special issue can only offer a snapshot of the dynamics that are evolving around the commodification of knowledge and its countercurrents in the Southern hemisphere. However, it may stimulate further research directions in this policy field. It seems that the policy trajectories are strongly influenced by regional patterns. With the exception of Mexico, Latin-American countries seem to be resisting the global trend towards commodification, whereas Asian countries like India rather try to use it for their own economic advantage. More research is needed to assess whether these findings indicate a general tendency and what we could expect in African countries, which have not been addressed in this special issue. Given that regional policy patterns can be identified, further research should also ask for their sustainability against the backdrop of an international regime complex that predominantly favors the commodification of knowledge. If it can be shown that alternatives to the WTO regime are politically viable, socially accepted, and economically sustainable, we might imagine the emergence of a knowledge society in the Global South that not only imitates industrialised countries' blueprints, but adds creative and perhaps even more welfare-enhancing priorities to the currently hegemonic formations.

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Journal für Entwicklungspolitik XXIX 2-2013, S. 11-30

Patricia Graf

Research and Development in Mexican-American Relations Post-NAFTA

1. Introduction

One might think that cooperation in research and development is something obvious, something that develops due to its very nature, "given the proclivity of science to go international" (Dufour 1995). The technological competition of the Cold War years seems to have dissipated, freeing the way for global cooperation in research and development. The advance of knowledge requires exchange and learning across borders. This is consistent with empirical data that shows an increasing number of transnational research projects with the participation of scientists from several countries, increased possibilities for communication that facilitate the exchange of knowledge, and the greater need for knowledge transfer through the increasing standardisation of products due to globalisation, as well as the increasing knowledge content of products. Nevertheless, research and development remains a conflict-ridden policy area. Knowledge is still kept secret, above all when it is linked to the military, but also because of profit motives. Innovation policy[1] is thus a dialectical field which oscillates between opening and closure. In addition to this, many interest groups do not see the advantages of cooperation in the area of research and development, particularly in the context of processes of opening, as they prefer to leave this to market forces. Another problem is that macro and microeconomic policies are too divergent to allow cooperation in the field of research and development.

Using the example of Mexico and the USA, the following will show the interest that two such different countries can have in the integration of research and development, what prevents this, and how economic integration creates new pressures. The North American Free Trade Area (NAFTA) has

significantly changed the structure of the participating economies. Documentation from the 1980s, such as *Face to face with new technology* (Thorup 1987), a publication by renowned scientists and politicians, provides evidence that there was in fact interest in a strategic partnership in this area. A glance at the facts shows, however, that although interaction in the area of Research and Development (R&D) exists and spillover effects took place in the context of NAFTA, this is happening on a much smaller scale than expected. The following article examines how regulations for the protection of intellectual property and the traffic of services that were set out in the NAFTA Treaty have changed the Mexican innovation system. This firstly involves determining to what extent the NAFTA conditions correspond to the expectations which were held at the time by the USA and Mexico. One advantage of shared regulations in the area of intellectual property is that it can improve the possibility of technology transfer between the participating countries. Drawing on secondary literature, it will therefore be examined to what extent spillover effects have occurred since the conclusion of the NAFTA Treaty. The perception of the regulations from the perspective of companies and research institutes will then be analysed, using expert interviews. This will show that the regulations had very differing effects on the various actors.

2. Integration in the R&D area in the context of NAFTA

2.1 Links between the innovation systems in Mexico and the USA

To what extent are there links or fundamental differences between the US American and Mexican innovation systems?[2] First of all, one is struck by the sheer size of the research and development (R&D) budget. The USA has the highest volume of investment in R&D worldwide; in 2006 they spent $US 343 billion on research and development.[3] Mexico is dwarfed in comparison, having spent $US 5.6 billion in 2006. The reason for the smaller expenditure in Mexico is due to limited spending by the private sector which shows a restricted willingness to innovate (Interview P16, P2). This can already be seen as a barrier to shared activity, as it is difficult for businesspeople in the US to find contacts in the private sector. The unclear or indeed non-existent division of responsibilities in the Mexican case (as opposed to the USA) also makes cooperation difficult. In

the research field, however, there are links between the two countries. Both countries promote scientific quality and both countries produce researchers at the world level who are also internationally visible. In these areas, cooperation between the two countries already takes place on the individual level. Mexican researchers are well connected to international colleagues, above all with US American and Canadian scientists. In 1991, 44% of all co-authored publications in scientific journals were collaborations with US American scientists, while 29% of shared patents had a partner from the USA (OECD 2007).[4] There is also regular exchange between research institutes. Above all, since Mexico's public research institutes have begun to rely on private sources of funding, the USA has become a popular market for Mexican innovations, as our case studies will show.

An important difference between Mexico and the USA lies in the policy fields innovation policy is associated with. In the USA, innovation policy grew hand in hand with security policy and drew legitimacy from this (Hughes 2006). Mexican innovation policy, however, grew mostly out of education and science policy (Casas 2004). Another problem involves the institutional structure: neither the USA nor Mexico has a ministry for technology, which means that cooperation efforts are more difficult to implement, as no ministerial decision is possible. A further problem is the decentralised structure of the USA as opposed to Mexico's centralised structure. As has already been set out, in the USA it is above all the states that finance R&D. In the Mexican case efforts are being made towards decentralisation (Corona Treviño et al. 2006); however the national technology council (CONACYT) makes the majority of decisions regarding expenditures. The states can finance on their own projects through mixed funds with CONACYT or other sector institutions, but this budget is still relatively small. Amongst the Mexican states, such as Nuevo Leon, there are some exceptions in which a greater amount of cooperation takes place with US states.

2.2 Mexico and the USA's interests in integration in the research and development field

The previous section has placed research and development in the free trade area in the context of the two innovation systems. The following will examine which interests both Mexico and the USA associate with the free trade area in the field of research and development.

NAFTA was signed in 1992 and came into force in 1994. It is a preferential agreement that provides for the dismantling of customs and trade barriers within the zone, but not for a customs union, as in the EU (Scheerer 2004: 4). The treaty regulates the free traffic of goods, services and capital. Although some areas were liberalised immediately, others were temporarily or completely removed, or were made subject to quotas, such as was the case with corn and beans (ibid.). NAFTA was the continuation of the "silent integration" of Mexico into the North American space, given that for years Mexico had been sending the majority of its exports to the USA (Schirm 2004: 188; for another perspective, cf. Preusse 2004). This silent integration had begun long before, above all in the border region. In 1965, during the period of import substitution industrialisation, the export processing zone had already been set up as part of the Border Industrialization Program. In this way, US American companies could set up factories within the zone. The components necessary for products could be imported from the USA duty-free, with only the added value being taxed when they were exported (Brenner et al. 2000: 261).

As has been mentioned, Mexico saw the opening of the free trade area as the only chance to make its economy competitive again. By opening the economy towards the USA, they hoped for the necessary technology transfer, direct investments and spillover effects. Mexican elites considered it more favourable to rely on foreign technology and to apply it to Mexican circumstances than to invest in the domestic research community (Thorup 1987: 6). At this point Mexico was already highly dependent on US technology: two thirds of Mexican contracts for technological rights of use had a business partner in the USA. The problem with this dependence was clear to the political elites, yet the high levels of debt in the country allowed little choice, and the hope of foreign direct investment seemed the most viable alternative (ibid.: 7).

Critiques of the NAFTA Treaty feared a too strong focus on the export economy and favoured a development strategy centred on the domestic market (Maaß/Witte 2003). Furthermore, critics worried that NAFTA would increase Mexico's "economic, social and territorial polarization" as only some sectors and enterprises would be able to meet the Treaty's requisitions and therefore benefit from free trade, while the majority and especially small firms would lag behind (Dussel Peters 2000: 2). There was also

a suspicion that an increase of the phenomenon of 'brain drain', that is the migration of highly skilled Mexicans, would occur (Aupetit 2006).

In the USA, the realisation that the country had lost its dominance in the research and development field played an important role in the search for partners. Towards the end of the 1980s, Japan and Europe were considered the prime competitors to the USA. In 1982 George A. Keyworth, Director of the US Office of Science and Technology Policy remarked somewhat cynically: "As I have stated on other occasions, there are a number of good reasons why we cannot expect to be preeminent in all fields, nor is it necessarily desirable. The idea that we can't be first across the spectrum of science and technology is not simply a function of our current economic situation. The fact is that immediately after World War II this country was alone in developing and pursuing technology. Since then the rest of the world has been catching up – with much help from us" (cited in Rycroft 1983: 52).

Cooperation in the field of technology was thus seen as an "especially attractive option […] Not only can joint action reduce the strain on American resources, but the capabilities of other advanced, industrialized countries, and occasionally those of underdeveloped ones, are welcome assets in the pursuit of the benefits of science and technology" (Rycroft 1983: 52).

This is particularly clear in relation to Mexico, where the USA saw potential assets in the free traffic of services in the research and development field. This attitude contrasted with that of the 'techno-nationalists', who – in the tradition of neo-realism – were convinced that technology transfer was not a mutually profitable empowerment of both business partners, but rather a danger to the domestic market or even a security threat (Florida 1995).

The convergence of both countries was also intended to regulate the migration flow. Related to this is the ongoing need in the USA for well-educated workers and engineers. The USA is to a large degree dependent on foreign scientists: "the List of American Nobel Prize Winners is full of Scientists who immigrated to the United States" (Hughes 2006: 19). One third of scientists and engineers in the USA were not born there. "Give me your educated engineers, yearning for opportunity" – this play on the words from the statue of liberty (ibid.) is also true of the relationship between the USA and Mexico. In the scientific field Mexico can certainly contribute to covering the US American need for foreign workers, but this

is less true for engineers or technicians. What is advantageous for the USA is viewed negatively in Mexico as a brain drain, and is considered by some scientists to be a problem for the whole nation (Aupetit 2006). This list of common interests in the field of research and development between the two countries could naturally not be fulfilled by NAFTA, given that NAFTA established a free trade area but was not supported by additional technology agreements (in the areas of environment and labour there are additional agreements). The Canadian author Dufour (1995) has found that "the NAFTA that came into force in January 1994 has little to say about the role of technology, or R&D in its agreement". However, shared regulations regarding the protection of intellectual property rights are expected to raise the attractiveness of cross-border investments in research and development. Common standards and norms are intended to reduce the transaction costs of cross-border investments and to ease the flow of services. The following will present the NAFTA regulations that protect intellectual property rights.

2.3 Protection of intellectual property and the traffic of services in NAFTA

In contrast to the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of the multilateral General Agreement on Tariffs and Trade (GATT), the protective rights under NAFTA are trilateral. The NAFTA Treaty was concluded around the same time as the TRIPS Treaty. The NAFTA Treaty both incorporates and further extends the TRIPS regulations, which is why the NAFTA regulations are often referred to as 'TRIPS plus' (Park 2012: 4). The NAFTA Treaty contains a commitment to the obligatory conventions, namely the Geneva Convention, the Bern Convention, the Paris Convention and the Convention of the International Union for the Protection of New Varieties of Plants (UPOV), all referring to the protection of property rights. Furthermore, Article 17 provides for further rights to protection. This section deals above all with trade secrets, patents, and copyright protection. There are important protective mechanisms for the fields of telecommunications, pharmacy, computers and computer accessories, machines, and space travel. Article 17 provides that all persons from NAFTA member states be treated as nationals, although each country can exclude areas that are not subject

to this provision. Chapter 12, which deals with the traffic of services, is also important for the technology trade and is a further extension of TRIPS. Here, too, service providers from the three NAFTA countries have to be treated in the same manner. Certifications must not present unnecessary barriers to trade. Moreover, TRIPS grants a minimum length of 20 years for patents from their application, while NAFTA grants a minimum of 17 years. This is sensible, as the period of application is often long. Differences are also apparent in Chapter 17 of the NAFTA Treaty. In contrast to TRIPS, this chapter imposes tighter restrictions on governments who might wish to limit or remove patent rights from the patent holders, for example when patent holders create monopolies or the patents are of societal interest. Both TRIPS and NAFTA address trademark counterfeiting and copyright piracy (UNCTAD/ICTS 2005). Article 1714 of the NAFTA Treaty operationalises these regulations by addressing the implementation of property rights at the border (Park 2012).

Even if customs charges for the trade of products and services with technological content were considerably reduced within NAFTA, there still remain both tariff and non-tariff barriers to trade in many areas, such as taxing cross-border payments for ownership rights (Manolakas/Brown 2000). The relatively strong regulations in Article 17 and 12 have been criticised, above all from the Mexican side, as they have prevented the desired spillover effects and technology transfers. For the patenting system, Shadlen (2012) has shown that there is a mismatch between the development profile of the Mexican Innovation System and the patenting system. Promoters of NAFTA have argued that without these strong regulations many US American companies would probably not have set up in Mexico and that NAFTA could bring important learning effects. As Shadlen shows, the promoters clearly form the stronger coalition. On the one hand, Mexico did not make use of the transition period for developing countries foreseen in both TRIPS and NAFTA. On the other hand, Mexico is a strong promoter of the Anti-Counterfeiting Trade Agreement (ACTA), an international framework that aims for joint actions to protect intellectual property rights (see European Commission 2010). Furthermore, Mexico prefers to cooperate with other OECD members in strengthening the IP system, whereas Argentina, Brazil and India are attempting to change the global IP system (Shadlen 2012: 309): these three countries advocate the "Devel-

opment Agenda at the World Intellectual Property Organization" (ibid.). Brazil and India also try to use the loopholes of the IP-System, for example by applying compulsory licensing to pharmaceutical patents (Süddeutsche Zeitung, 17.3.2012).

The policy coalitions and the historical pathways of Mexico's IP policy have been investigated in depth. In the following section we will therefore examine what the NAFTA regulations mean for different actors of the innovation system and to what extent technology transfers and spillover effects have taken place.

2.4 Technology transfer and spillover effects in the context of NAFTA

Before presenting the three case studies, we will very briefly review the literature on spillover effects due to NAFTA. Direct investments raise the expectation that they will bring not only a flow of capital, but also new knowledge, administrative and management skills, and new technologies (Romo Murillo 2003: 230). In Mexico, technological learning was expected in the following four areas: education, innovation through quality management, information and documentation systems, and the renewal of equipment and technologies (Domínguez Villalobos/Brown Grossman 2004: 52).

Mexico was able to attract a high degree of direct investment. This was due, amongst other things, to the step-by-step liberalisation of the legislation that supports foreign direct investments (FDI) (Zschiedrisch/Kubeile 2004: 32). The companies that invested came primarily from the USA, followed by Europe and Japan. These companies wanted above all to make use of the cheap cost of labour to undertake process or product specialisation. Therefore, the export of technology-intensive products from Mexico to the USA has risen.

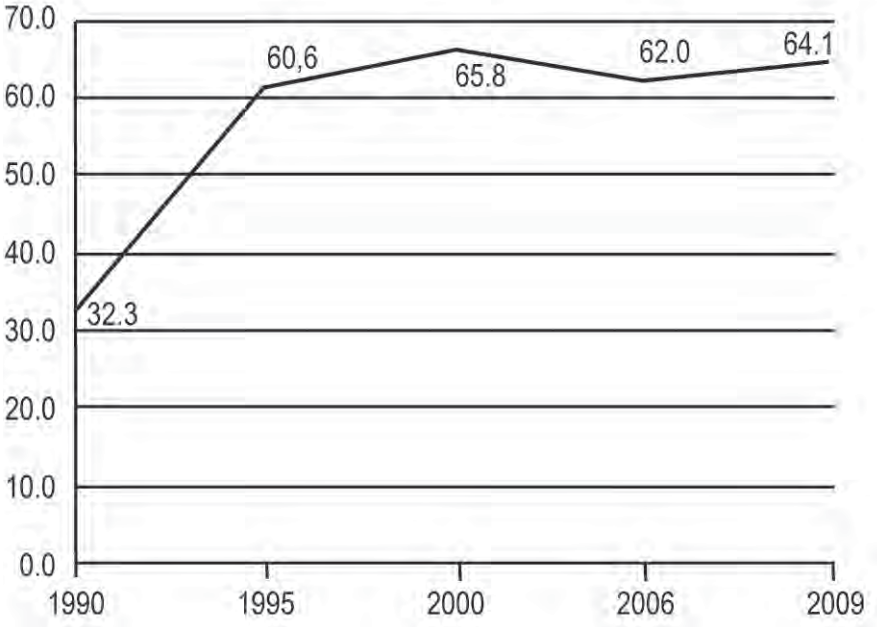

Figure 1: Development of exports with medium or high technological content as share of total exports from Mexico to US [in %], 1990–2009
Source: CEPAL (o.J.)

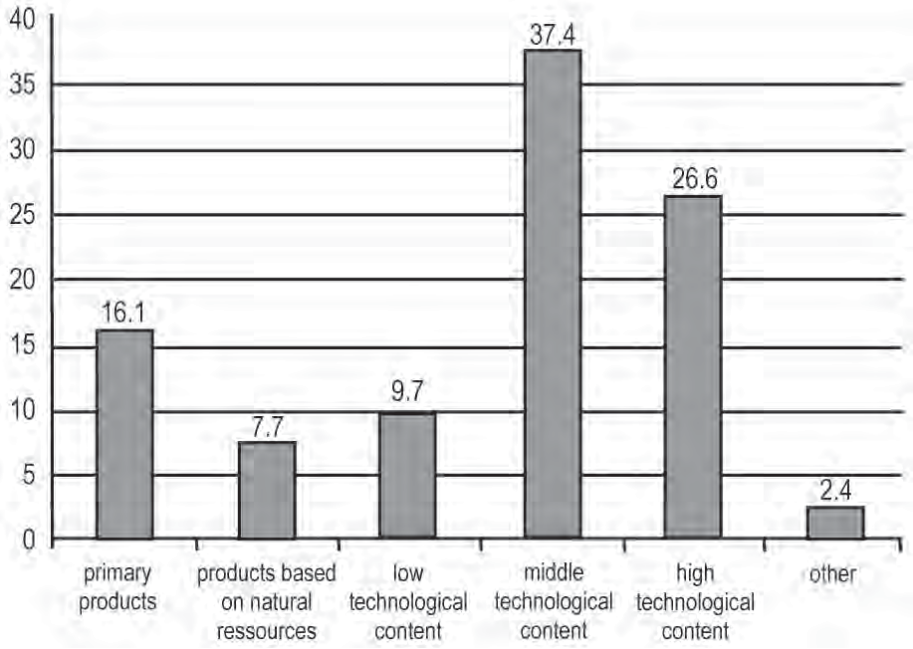

Figure 2: Exports per category as share of total exports from Mexico to US [in %] in 2009.
Source: CEPAL (o.J.)

In 2009, "products with medium technology content" represented the highest share of Mexican exports to the USA. The share of high-tech products rose from 7% in 1990 to 26.9% in 1999. It has since sunk slightly to 25% in 2006, still hovering around 26% in 2009. However, if we take a look behind the positive balance of technology, we see that, in the field of high-tech products, only a few production steps have been implemented in Mexico. That means that high-tech products are imported for a short term and the necessary labour-intensive production steps are undertaken in Mexico before exporting the product.

A series of high-tech products are now developed only in Mexico, such as Volkswagen's new Beetle. However, in the case of most of these product specialisations, only the production takes place in Mexico, all other functions taking place elsewhere (Zschiedrisch/Kubeile 2004). Most companies in these sectors are strongly dependent on foreign technology licenses (Musik 2000). This often means that companies have very little room to make improvements. With some exceptions,[5] most in-house innovation takes place in the marketing or organisation fields.

NAFTA has meant positive growth for Mexico. However, Musik suspects that Mexico may already have exhausted NAFTA's benefits and can no longer compete with countries with even lower wages. There is also a dual economy: Some strong companies have realised the opportunities that NAFTA offered, in contrast to a large number of small or medium-sized enterprises (SMEs) which have no room to manoeuvre in order to take up these opportunities. This duality is also geographic, as some states such as Nuevo Leon or Jalisco have used their opportunities, while others were thrown even further back. The duality is above all due to the fact that many companies were reluctant to implement structural adjustment and did not react to new innovation processes, but rather continued, and still continue to, attempt to remove the free trade area (Musik 2004).

3. Perception of the measures to protect intellectual property amongst Mexican businesspeople and researchers

Following the previous examination of the effect that the NAFTA regulations were intended to have on technology transfer, the subsequent section will examine how the protective measures are perceived by Mexican businesspeople and researchers. For this purpose, the shoe cluster in the states of Jalisco and Guanajuato will be used as an example for the low-technology sector, and the electronic and software cluster in Jalisco will be used as an example for the high-technology sector. A research institute focused on applied science will be used as an example for the scientific sector. The three cases are only examples of the manifold effects NAFTA has on the Mexican economy, and were chosen as they show the variety of impacts. They are part of a bigger research project that compared innovation policy in Jalisco and Guanajuato. It showed that economic and political actors in Jalisco are very proactive, while in Guanajuato the actors from science dominate and business is only partially included in the policy making process. With regards to NAFTA the cases show different reactions: fear and anger, adjustment, and over-eagerness.

3.1 Method

The empirical observations were drawn from regional studies and 64 qualitative, face-to-face interviews conducted by the author with government officials, members of the regional scientific community and business associations from Mexico City, the state of Jalisco and the state of Guanajuato. In the following, 16 interviews are presented in depth, while the interviews held with experts from Mexico City and Guanajuato served to gain an understanding of general Mexican innovation policy and of regional innovation processes and thereby provide an important source for contextualisation. All interviews took place between July and October 2007 during the author's stay as guest researcher at the Colegio de Mexico. The interviewees were questioned about their negotiation strategies, their preferences, and their attitude towards the policy field. The interviews are cited anonymously and have been rendered in the text as Person 1 (Interview P1), etc.

The transcripts were analysed by means of a qualitative content analysis (Mayring 2008). The qualitative analysis was supplemented by a quantitative analysis of three interviews, which helped to identify diverging connotations of the terms technology, innovation and patenting.

3.2 The electronic cluster in Jalisco

The electronic cluster in Jalisco dates back to the 1960s, when several big companies in the electronics industry such as IBM, Kodak, Motorola and Siemens set up in the state. Since then, the electronic industry has undergone several transformations and has recently diversified with the development of the software industry. When NAFTA came into force, businesspeople in the electronics industry first complained about the heavy burden it created. However, they then began to use innovation policy instruments to cope with the new circumstances. They also tried to actively influence innovation policy and launched a programme to support the software industry (PROSOFT), together with the regional government. The aim of the programme is to support the development of software made in Mexico. Ultimately, this should increase the volume of patented technologies (Interview P4). Conflicts with the NAFTA regulations are run of the mill quite frequent, as the software development often involves the reproduction of already existing technology. "There are companies that make software, for example for hospitals and we do the hardware. There are others that work with GPS. These are things that already exist in the world but we want to do it here in Mexico with Mexican technology and replace the technology already existing" (Interview P3). However, this objective runs contrary to the role of Mexico as a leading promoter of the Anti-Counterfeiting Trade Agreement (ACTA; for an overview of this promoter role see Shadlen 2012: 309). Thus, even in the electronics and software industry, which are high-technology sectors, there are conflicts relating to NAFTA.

With regard to learning, most of the learning processes were established before NAFTA. Since the 1960s, IBM, in particular, invested in all four areas of learning described in section 2.4. Further initiatives by the Mexican state or by corporate business, such as the foundation of a Campus of the Technical University of Monterrey in Guadalajara, cannot

be directly linked to NAFTA. With regard to its attitude towards NAFTA the electronics and software industry tries to adjust to the regulations, but in some areas also runs contrary.

3.3 The shoe cluster in Jalisco and Guanajuato

NAFTA is also a burden for the shoe cluster in the states of Jalisco and Guanajuato. The industry associations have therefore attempted to reorient the sector, trying to make Mexican footwear internationally recognised for its high quality. A new certification standard for shoes was implemented, as shoe producers were not able to reach the previous norm (ISO 9000) and wanted to proceed more slowly in the certification process (Ruiz Durán 2000: 33). Furthermore, a design institute (INMODA) was founded in the state of Guanajuato. However, due to political conflicts and the dominance of some footwear entrepreneurs, INMODA was soon closed (Martinez 2006: 124; Interview P8). Nevertheless, these initiatives can be seen as direct learning processes stimulated by NAFTA in the areas of quality management and information systems. Besides these initiatives, little was done to improve the conditions of shoe production. Shoe companies have been inactive for a long time, hoping that the federal government would manage the challenges caused by NAFTA. Radical innovations – such as a completely new design, the exploration of new consumer groups or new material – are mainly due to the contact with suppliers of equipment or material. These suppliers are both national and international; therefore, the learning effects can be seen as being partly stimulated by NAFTA.

One of the main problems in the shoe sector is the great mistrust and lack of cooperation between entrepreneurs. Little information and technology is shared between companies (Interview P16, P9, P10, P11, P12, P8, P13). Family networks are still the major sources of information exchange between enterprises (Martinez 2006: 120). Networks between entrepreneurs do exist, but they are generally between shoe manufacturers and suppliers (Interview P16, P10, P9, P11, P14). In contrast to the strong links between universities and companies in the electronics and software industry, such links are weak in the shoe industry. Martínez (2006) has shown that many entrepreneurs are not aware of the opportunities to undertake vocational training at local universities. Therefore, NAFTA has not strengthened learning effects in human capital. Even before NAFTA, these entrepre-

neurs were reluctant to cooperate because they wanted to protect their trade secrets; however, the free trade agreement has intensified this pre-existing climate of competition. Moreover, technological content in the footwear industry is largely based on tacit knowledge, but no codification of this knowledge has taken place (Martinez 2006: 265).

Furthermore, the co-occurrence analysis of three selected interviews showed that the interviewees (Interview P16, P15, P10) do not at all connote technology, competitiveness and development with patents. With regard to intellectual property, companies in the footwear sector in Jalisco and Guanajuato thus face similar problems as other SMEs worldwide. Concerning NAFTA, the shoe industry fears its propositions and is angry that it has been left alone in the adaptation process.

3.4 Research institutes in Guanajuato

There are some winners as a result of the NAFTA regulations, namely high profile Mexican research institutes. Interviews with members of two institutes in Guanajuato showed that these institutes are highly embedded in international research networks. The NAFTA guidelines for the free traffic of services offer the research institutes new possibilities (Interview P1, P5, P6, P7). One research institute covers the majority of its budget by providing technological services for companies or research institutes in the USA (Interview P1). The initiative for such cooperation was taken by a scientist who had gained experience of the European and US American scientific contexts while completing his Ph.D and post-docs. Scientists from both research institutes also stated that they were interested in cooperation with Mexican companies (Interview P1, P7). However, in the past such requests from the business sector were mostly for small, insignificant issues, the solving of which was not in the interest of the scientists. Mexican companies are also often not prepared to invest money in research cooperation (Interview P1, P7). One scientist criticises Mexican innovation policy for not daring to admit that money can be made with science, for example through the provision of services for companies in the USA. Instead, the few good basic researchers in Mexico are subordinated to the interests of local business (Interview P1). To sum up, at least one institute has learned in all four areas described in section 2.4. It has professionalised its management and information system and has adapted

to the quality standards required by US companies and research institutes. The international research networks also facilitate the interchange of personnel and therefore enhance the quality of human capital. Furthermore, the money earned with international R&D services can be invested in the renewal of equipment and technologies. It is therefore no wonder that this research institute belongs to the coalition that wants Mexico to promote a strong patenting system. Together with other research institutes, this institute forms the group of enthusiastic adherents. They see NAFTA as a big opportunity, as it strengthens their quest for internationalisation. Therefore, they are opposed to other researchers that claim that research should have an impact on local (Mexican) problems. These researchers, in contrast, consider the international IP and publication system as one major barrier to the social effect of research.

4. Conclusion

"It was always clear at all stages of the TRIPS negotiations that the principal players (US, EC and Japan) saw TRIPS as setting only minimum obligations. Nevertheless, developing countries might reasonably have expected the World Trade Organization (WTO) or World Intellectual Property Organization in some cases to become the principal fora for the negotiation of new intellectual property standards" (Drahos 2002: 17). The NAFTA Treaty is evidence of the fact that the USA was able to tighten their minimum standards as a result of TRIPS. Since the NAFTA Treaty was not equipped with an additional agreement in the field of technology transfer, this tightening of standards has to date been to the detriment of Mexico. In view of the motivations that prompted Mexico and the USA to cooperate in the fields of R&D, it is clear that the results remain considerably below what could be expected. The results of Kenneth Shadlen show that this is due to an actor constellation that pressed for the introduction of a strong IP System, but neglected the need for accompanying innovation policies. Cooperation in the fields of R&D is still considerably behind the level of economic integration in the North American area. This means that neither NAFTA partner can make optimal use of the free trade area, although the consequences for Mexico are probably worse. As the qualita-

tive analysis shows, there are big differences between the sectors. Even in the states of Jalisco and Guanajuato, which are often cited as examples of successful regional innovation systems, the discrepancies between winners and losers of in NAFTA are substantial. The quantitative analysis of the interviews showed that the strong patenting system in particular does not match the demands of the shoe industry, which does not use patents as tools to secure intellectual property and is rather reluctant to cooperate with universities. Instead of 'innovation' the interviewees use the terms 'development' and 'competitiveness'. Their general use of the term 'technology' shows that they have no specific idea what technological innovations could be in their case and how they could secure these innovations with patents. The qualitative analysis shows that there is a need to support design-driven innovation and quality management. With regards to this, NAFTA has stimulated innovation.

The case of the electronics and software industry differs from the shoe industry with regards to their reaction towards NAFTA. The entrepreneurs tried to adapt to the quality standards and to innovate. Nevertheless, for these very dynamic actors too, the patenting system is a barrier. Drawing on the qualitative analysis, the high profile research institutes seem to be the winners of the NAFTA regulations. They were able to professionalise and strengthen their international networks. These findings fit with the research carried out by Kenneth Shadlen on actor constellations in the pharmacy sector and by Marcela Suárez Estrada on networks in the nanotechnology sector. In order to broaden the base of those that can draw advantage from the NAFTA regulations, flanking measures in the R&D field are needed. Besides the actors that pushed the patenting system, as described by Shadlen, there are various political actors and innovation researchers on both sides of the border who are calling for the incorporation of "science, technology and innovation matters in the relations between Mexico and the United states" (Solleiro/Castañón 2005: 1069). Until this happens, it is clear that the "liberating forces of science and knowledge" that Dufour hoped for have not developed post-NAFTA.

1 Innovation policy is focused on the whole innovation system, while technology policy is directed towards the technological system, and science policy towards the scientific system (Lundvall/Borrás 2005: 607). An example for Mexican innovation policy is the support of R&D networks in the Software Industry of the State of Guanajuato,

which aims at connecting research institutes with software developers (see Graf 2011 for an evaluation of this policy).

2 I am not referring here to the compatibility of the two economies, but rather to the basic orientation of the public and private institutions in the research and development field.

3 Measured in % of GDP they are surpassed by Japan. The USA is also neither the leader regarding the number of patents per capita, nor the number of researchers per capita. In the first case Japan is leading in the case of researchers Finland is leading (OECD 2006).

4 This point also demonstrates Mexico's high dependence on foreign countries, as Mexico is the country with the second highest rate of co-patents (of all patents) (OECD 2007: 3) which means that in many cases the infrastructure is missing that would allow these patents to be developed alone.

5 The companies Delphi (Carrillo/Hualde 1997) or IBM (Interview P3) can be considered exceptions.

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P1: Representative of Cinvestav, 2.10.2007, Irapuato, Guanajuato.
P2: Expert from the Colegio de México, 23.8.2007, Mexico City.
P3: Expert from Tec de Monterrey, Campus Guadalajara, 14.9.2007, Jalisco.
P4: Representative of the National Chamber of the Information, Technologies, Electronics and Telecommunications Industry (Canieti), 13.9.2007, Guadalajara, Jalisco.
P5: Representative of CINVESTAV, 2.10.2007, Irapuato, Guanajuato.
P6: Representative of CINVESTAV, 3.10.2007, Irapuato, Guanajuato.
P7: Representative of CIMAT, 4.10.2007, Guanajuato.
P8: Representative of the technology council of Guanajuato, 26.9.2007, Guanajuato.
P9: Engineer from the CIATEC, 28.9.2007, Leon, Jalisco.
P10: Representatives of the Chamber for Shoe Suppliers/Leon, 2.10.2007, Leon, Jalisco.
P11: Representative of CIATEC, 2.10.2007, Leon, Jalisco.
P12: Expert from the Faculty of Social Sciences of UNAM, 19.10.2007, Mexico City.
P13: Representative of the Union of Social Entrepreneurs, 7.9.2007, Guadalajara, Jalisco.
P14: Expert from CIATEC, 11.9.2007, Guadalajara, Jalisco.
P15: Representative of the Chamber of the Textile Industry Guadalajara, 12.9.2007, Guadalajara.
P16: Representative of the Chamber of Commerce for the Footwear Industry, 7.9.2007, Guadalajara, Jalisco.

Abstracts

The following article examines the influence that the NAFTA regulations to protect intellectual property and the traffic of services have had on the Mexican innovation system. To begin with, Chapter 12 (traffic of services) and Chapter 17 (intellectual property) of the NAFTA regulations will be compared to the provisions of the TRIPS agreement. This will be followed by a consideration of the spillover effects that have occurred since the introduction of the NAFTA Treaty. Following this, the article examines the innovative behaviour of Mexican companies and research institutes since the introduction of NAFTA, and analyses how the treaty is perceived by the latter. The work is based on a document analysis of the NAFTA Treaty as well as on interviews with trade associations, researchers and politicians in the field of innovation policy, which were carried out by the author in 2007.

Der folgende Beitrag untersucht den Einfluss der NAFTA-Regelungen zum Schutz geistigen Eigentums und zum Verkehr von Dienstleistungen auf das mexikanische Innovationssystem. Kapitel 12 (Verkehr von Dienstleistungen) und Kapitel 17 (geistiges Eigentum) der NAFTA-Regelungen werden zunächst mit den Bestimmungen des TRIPS-Abkommens verglichen. Danach werden die Spillover-Effekte untersucht, die seit der Einführung von NAFTA beobachtet werden konnten. Welchen Einfluss die NAFTA-Regelungen auf das Innovationsverhalten mexikanischer Unternehmen und Forschungseinrichtungen haben, wird mit Hilfe von drei Fallstudien herausgearbeitet. Die Arbeit basiert auf einer Dokumentenanalyse des NAFTA-Vertrags sowie Interviews mit Verbänden, ForscherInnen und PolitikerInnen im Bereich der Innovationspolitik, die von der Autorin im Jahr 2007 durchgeführt wurden.

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Journal für Entwicklungspolitik XXIX 2-2013, S. 31-50

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Global Wordings and Local Meanings: The Regulation of Traditional Knowledge in India and Brazil

Introduction[1]

In many countries, most notably in the southern hemisphere, indigenous groups and traditional communities live in close interaction with their natural environment. Based on centuries-old experiences, they have learned how to make use of local animals and plants in order to cope with their daily needs. In many cases, their experiences are embedded in a context of complex socio-cultural practices that are closely associated with cosmological, epistemological, and transcendental convictions. Customary laws regulate the access, transmission, and diffusion of knowledge within the communities (Gudeman 1996; Rao 2006). In some cases, local communities try to keep certain elements of their knowledge secret, since they consider it to be sacred and thus inalienable (Interview 186). In other cases, they refuse to allow a commercial exploitation of their knowledge because of its spiritual significance (Malayali 2009). Generally, indigenous and local communities insist on their right to decide by themselves and by their own rules the conditions under which, if at all, they are willing to disclose their knowledge.

During the last 30 years, 'traditional knowledge'[2] has aroused the attention of scientists, corporations, and environmental groups. Both scientists from public research institutions and corporate actors from the life sciences and agriculture industry perceive traditional knowledge as a means with which to accelerate their research into new drugs and farming methods (Dutfield 2011; Pandikumar et al. 2011). More recently, environmental non-governmental organisations have started to make use of indigenous knowledge for climate protection schemes like the Clean Develop-

ment Mechanism (CDM) or Reducing Emissions from Deforestation and Degradation (REDD) programmes (Debbarma 2006). Their varying motivations notwithstanding, most external actors only perceive traditional knowledge as useful raw material for their own purposes, tending to ignore its socio-cultural ramifications and disregarding the customary rights of the affected communities (Agrawal 2002).

Within multiple international forums, negotiators from emerging and industrialised countries, industry representatives, scientists, civil society actors, and indigenous groups try to come to a common understanding on mutually acceptable standards for bio-explorations and related activities. Although there is no single international treaty that exclusively deals with traditional knowledge, many agreements, conventions and resolutions touch upon this issue. However, the international "regime complex" (Raustiala/Victor 2004) contains many ambivalent, inconsistent and even outright contradictory prescriptions, which leaves some room for interpretation during the course of domestic implementation.

This paper addresses the impact of the international regime complex on national regulatory initiatives with regard to traditional knowledge. On the domestic level, it focusses on diverging regulatory approaches in India and Brazil. The Indian eco-capitalist model prioritises economic development, scientific research, and, albeit to a lesser degree, environmental protection. Brazilian regulations in this field, in contrast, are inspired by the leitmotif of *socioambientalismo*, through which the economic and scientific exploitation of traditional knowledge is balanced with the respect for indigenous and local communities' customary rights. The article shows that the international framework supports Indian regulations, whereas the Brazilian approach is destabilised by international commercial and intellectual property law.

The remainder is organised as follows. Section 1 focusses on the international level of traditional knowledge regulations. Section 2 and 3 describe the Indian and the Brazilian regulations with regard to their political priorities and their respective effectiveness against the backdrop of the international framework. The paper concludes with a few remarks on the preponderance of an eco-capitalist conception of knowledge that undermines alternative (traditional) ways of thinking and living.

1. Traditional knowledge in the international arena

Since the beginning of the colonial era, indigenous communities' nature-related knowledge has attracted the attention of scientists and researchers. Based on observations and interviews, explorers like Alexander von Humboldt 'discovered' new species, which were further investigated by researchers in the botanical gardens of their homelands. Botanists like Carl Linnaeus developed zoological and botanical taxonomies based on the insights of indigenous groups (Brush 1996). While this kind of unregulated knowledge transfer had largely remained undisputed, the interaction between local communities and external actors has taken centre stage of an international debate since the 1980s (Bastos 2009).

There are several reasons for an increased attention to traditional knowledge policies. Firstly, the research on biodiversity-related knowledge has dramatically intensified since the life-science and agro-industries have begun to use bio-explorations as a means to accelerate their research into new drugs and farming methods (Dutfield 2011; Pandikumar et al. 2011). Secondly, environmental groups have identified traditional knowledge as an important tool with which to preserve biodiversity. Increasingly, their conservationist activities are related to climate protections schemes like the Clean Development Mechanism (CDM) or REDD (Reducing Emissions from Deforestation and Degradation) programmes (Debbarma 2006). Thirdly, governmental actors from developing countries perceive the genetic diversity of their natural resources as an economic asset ('green gold') that has to be protected from an unremunerated extraction ('biopiracy') by foreign researchers (Dutfield 2004).

Discussions picked up pace during the course of the pre-negotiations on the Convention on Biodiversity (CBD), when developing countries' governments and non-governmental environmental groups formed an alliance in order to prevent what they perceived as an exploitation of the Global South. Whereas governmental representatives prioritised the economic value of their countries' biological resources, environmental groups focussed on the preservation of nature as an end in itself. Since they generally approved an economic utilisation of biological resources, business actors and industrialised countries abstained from an outright rejection of their claims. Instead,

they succeeded in avoiding stricter rules and enforceable standards for bio-prospecting activities (Bastos 2009: 33ff; Raustiala/Victor 2004).

The convention stipulates that biological resources and associated traditional knowledge must be regarded as property that is owned by the nation-state of its origin (Götting 2004). Indigenous local communities are conceptualised as 'knowledge holders'. Although the convention vaguely mentions their 'prior informed consent' (PIC), it focusses on the commercial exploitation of genetic resources and associated traditional knowledge. The CBD stipulates that any bio-prospection shall be subjected to 'fair and equitable access and benefit sharing' (ABS) between all stakeholders involved. The preponderance of an economic utilisation of traditional communities' knowledge is inspired by the idea that monetary compensation should serve as an incentive to preserve natural resources and to share indigenous knowledge with external actors. However, the CBD lacks any indication of how to resolve the complex technical and distributional questions which follow from these provisions. The recently agreed Nagoya Protocol, an amendment of the CBD, slightly reinforces the procedural rights of traditional and indigenous communities, but generally remains as vague as the CBD itself.

Indigenous lawyers argue that international environmental law must be read in the light of other United Nations resolutions and declarations. They often refer to the International Labor Organization (ILO) Convention No. 169. Although the convention does not directly address the regulation of traditional knowledge, it clearly supports indigenous claims for self-determination and the respect for traditional communities' customary law. In recent years, indigenous advocacy groups have won another victory on the international level. They successfully insisted that the UN Declaration of Indigenous Rights (United Nations 2007) endorse the concept of 'free, prior and informed consent' (FPIC), which also includes the right of indigenous communities to decide by themselves and by their own customary rules whether or not they want to disclose their knowledge.

However, the international recognition of traditional communities' rights remains quite weak, for several reasons. Apart from the fact that many industrialised countries did not ratify either the CBD (for instance, the US) or the ILO Convention (the case of Germany, for example), international environmental and indigenous rights treaties lack effective

enforcement mechanisms that would ensure the compliance of its signatory states. Moreover, indigenous representatives often claim that the international secretariat of the CBD supports ABS, but yet does not perceive PIC as a substantive clause that has to be recognised as a goal in itself. Whenever they call for a concretisation of PIC, the CBD secretariat, state representatives and transnational environmental groups remain noncommittal (CBD 2011). The same holds true for other international organisations and mechanisms that deal with environmental issues and climate protection, e.g. the UNFCCC or the World Bank's Forest Carbon Partnership Facility (Thompson et al. 2011; Eastwood 2011).

Even worse, traditional communities' rights are seriously undermined by international trade treaties operating under the umbrella of the World Trade Organization (WTO) and the World Intellectual Property Organization (WIPO). Of utmost importance is the Agreement on Trade-Related Intellectual Property Rights – TRIPS (WTO 1994). Due to the intensive lobbying efforts of US and European industry representatives and open threads from the US government, nearly all developing and emerging countries have signed the WTO agreement (May/Sell 2006). Although its wording does not explicitly address traditional knowledge, TRIPS stipulates that "patents shall be granted in all fields of technology" (TRIPS, Art. 27).

This does not mean that traditional knowledge is directly patentable, since it does not meet the necessary requirements. Quite to the contrary, traditional knowledge per se is excluded from patent eligibility, because is considered not to be 'novel' in the sense of an individually accountable invention (Dutfield 2011). However, the TRIPS agreement stipulates a dichotomy between patented innovations which must not be imitated without the consent of the patent holder, and not-patentable technological knowledge, which is perceived as a public good and free to be used by everyone. This means that researchers can obtain patent protection for inventions that are derived from the utilisation of traditional knowledge. The treaties thus clearly favour the life sciences industries (mainly in industrialised countries) to the detriment of the Southern provider countries (Rosendal 2006).

For almost 15years, both indigenous groups and governments from developing countries have demanded that TRIPS be amended to endorse the recognition of traditional knowledge related to biodiversity. In 2004, Brazil

forged the coalition of the 'Friends of Development' in order to advance an amendment to TRIPS that would introduce a 'disclosure requirement'. The amendment would request patent applicants to declare whether their invention is based on biological and associated knowledge resources. In the case of bio-prospecting, they would have to prove that they respected all relevant regulations in the source countries. Moreover, developing countries demand that the lack of accurate, or use of misleading, information in patent applications would lead to the revocation of a patent. While environmental groups remain on the sidelines, governmental representatives from industrialised countries strongly reject this claim. The most vociferous opponents are from the US, Germany, Great Britain and France (Interview 187), whose governments are intensively lobbied by their domestic life science industries (Interview 055, 063, 420). Under these circumstances, it appears very unlikely that a recent resolution of the European Parliament (2012) to link TRIPS with the CBD will eventually be supported by the EU Commission or the member states in the council.

All in all, it seems fair to say that the international framework of traditional knowledge regulation remains ambiguous at best. In the context of environmental treaties, traditional knowledge is predominantly perceived as a means to preserve natural resources by means of its potential economic valorisation. This perspective significantly differs from ILO and UN conventions, which stipulate the acceptance of indigenous communities' customary rights. However, both the focus on environmental protection and traditional communities' rights are in stark contrast to international commercial law, which by and large endorses the economic interests of industrialised countries and their corporations. Due to the ambivalences of the international regime complex, the specific balance between the various interests in the field of traditional knowledge policies seems to depend on the domestic implementation.

2. India: Traditional knowledge as national wealth

The Indian debate on traditional knowledge is characterised by fragments of the internationally prevailing perspectives on the one hand and a reflection of the country's colonial past on the other. Indian scientists, civil

society representatives, and corporate and political actors are convinced that traditional knowledge should be used to sustain environmental, economical, and developmental goals at the same time (Interview 138, 135, 143). The eco-capitalist perspective often goes hand in hand with post-colonial and Hindu-nationalist attitudes. India's biodiversity is regarded as a national asset that has to be protected against the intrusion of foreign 'biopirates' (Interview 131, 134). In this context, the TRIPS agreement is often portrayed as a resumption of colonial dictatorship by different means. Politicians, practitioners and academics claim that industrialised countries compel India to protect their industrial inventions from imitation while at the same time 'plundering' India's biodiversity (Shiva 2001). Under these circumstances, traditional knowledge is considered to be of national importance (Mukherjee 2004; Kaushik 2004), and its richness should be used to compete with the former colonial rulers (Dutfield 2004).

Indigenous voices are hardly ever heard in the Indian debate on traditional knowledge. Although their absence is usually explained by a lack of interest, illiteracy, and poor linguistic capacities, field research on a local level reveals that there are many members of indigenous communities and traditional healers who can and do express themselves quite clearly on traditional knowledge policies (Interview 308, 307). However, they often suffer from political repression at the hands of the local government, in the form of military operations on their territories, and of violent threats from private landlord armies. Although most indigenous groups claim the right to self-determination as regards their traditional knowledge, the major prerequisite to defend their land and life often prevents them from a more substantial involvement with what is perceived as a comparatively less important issue (Interview 308).

Due to the absence of indigenous voices, the Indian approach to traditional knowledge regulation mirrors the prevailing elite consensus. Its main focus is on the prevention of piracy (Kaushik 2004; Damodaran 2003). On the basis of the National Biodiversity Act and the Biodiversity Rules, foreign bio-prospectors must apply for a permit, if they attempt to access local communities' knowledge or to acquire intellectual property protection (e.g. patents) for inventions that are based on traditional knowledge. They have to address their request to the National Biodiversity Authority (NBA), whereas Indian bio-prospectors can directly refer to the State

Biodiversity Boards (SBBs) in order to accelerate the approval procedure (Damodaran 2003). The authorities should take into account the objections or defences of local Biodiversity Management Committees (BMCs), which are supposed to represent the interests of traditional groups at community (Panchayat) level; however, they are not required to follow their recommendations (Kaushik 2004).

Both the NBA and its subordinated administrative units are characterised by serious institutional weaknesses (Interview 133). The NBA itself is poorly staffed and ill-equipped to fulfil its tasks (Interview 137, 138, 144). So far, the authority has neither established clear standard operating procedures nor implemented any provisions against illicit bio-prospecting activities (CAG 2010). As regards the subordinated regional units, many SBBs have not been established, or only exist on paper. With the exception of Kerala, local biodiversity management committees have been only sporadically established, and their relationship to other community bodies has not been defined for the time being (Interview 141). Thus, it seems fair to say that the whole monitoring structure for bio-prospecting activities appears fragile at best.

However, at the same time, there is a vast multiplicity of initiatives to document and to catalogue biological resources and associated traditional knowledge all over the Indian subcontinent (Venkataraman/Latha 2008). The most prominent, internationally recognised project is the Traditional Knowledge Digital Library (TKDL) under the auspices of the Council of Scientific & Industrial Research (CSIR). So far, the project is focussed on written traditional knowledge that is extracted from the Hindu religious writings, but it is planned to extend the scope of the TKDL to oral traditions. Apart from the TKDL, many non-governmental organisations, corporations, and hybrid entities are involved with documentation activities on a local scale. In some cases, the projects are financed by international organisations (e.g., The World Bank), foreign development organizations, or transnational environmental groups (Interview 138, 144, 146).

Generally, the legal status of the various documentations and databases remains unclear at the current time (Misra 2007). Whether traditional communities' preferences and their customary laws are acknowledged or not, depends on the concept of the various documentation initiatives. Many non-governmental organisations, the activities of which are infor-

mally sponsored by state authorities and/or corporations, completely ignore the CBD requirements of prior informed consent and deny any substantial benefit-sharing (Sharma 2006; Interview 122, 141). Some transnational environmental groups perceive the consent of indigenous communities as an unnecessary burden because of the supposedly superior importance of their preservationist goals (Interview 144, 337). Even in those projects which are financed by international organisations, there is often no safeguard mechanism to ensure that indigenous claims are seriously taken into account (Interview 317).

Nevertheless, the various documentation projects enjoy the support of most stakeholders, because they serve several purposes at the same time. Firstly, from the perspective of environmental groups, the documentations are an opportunity to gather relevant data in respect of preservation priorities and climate protection programmes. In some cases, they can also sell the acquired knowledge to Indian or international corporations in order to finance their preservation projects (Interview 144). Secondly, the collected knowledge may serve the development of local villagers (Gupta et al. 2003), a process which is mainly approved by those public servants who attempt to modernise the rural society by integrating its population into the Indian economy.

Thirdly, and most importantly, the collected data serves the interests of Indian corporations, because they can use the documentation and registers as a protection against patent applications both inside and outside India. As soon as foreign bio-pirates have disclosed their discoveries by means of a patent application (mostly in the US or in Europe), the Indian government or Indian firms can oppose their patent claims on the ground of 'prior art', as described in the documentations (Kaushik 2004). At the same time, Indian corporations may use these applications as an indicator for a promising market opportunity and commercialise the already documented knowledge by themselves. Alternatively, they can also use this option as a bargaining chip in order to negotiate better contract conditions in joint ventures with international firms (Interview 138).

Due to the weak institutionalisation of the National Biodiversity Authority, indigenous communities cannot expect to be compensated for the use of their knowledge in most of these cases (Interview 122). It is even less likely to assume that they would receive any support from the authori-

ties if they decided not to disclose their knowledge. The ignorance of their customary rights with regard to traditional knowledge often goes hand in hand with a violation of indigenous land tenure rights (Ramdas 2012). All in all, the prevailing ignorance of indigenous customary rights reinforces the opposition of indigenous groups to governmental activities and increases their sympathies for terrorist (Naxalite) groups (Interview 138, 141), which in turn helps the Indian political, economic, and environmentalist elite to justify an ongoing "accumulation by dispossession" (Harvey 2003).

3. Brazil: A precarious balance

In Brazil, the debate on traditional knowledge regulation is dominated by the antagonism of two opposed camps with regard to the specific modalities of access conditions. Scientists, most notably from public research institutions, perceive biodiversity-related traditional knowledge as a mine of information that should be explored in order to enhance pharmaceutical and agronomic research (Interview 174, 190). As regards the latter, they are strongly supported by the *agronegócio*, i.e. Brazilian agricultural corporations, and by the Ministry of Agriculture (Interview 183, 192). Proponents of facilitated access regulations often refer to TRIPS and WIPO. They claim that the commercial utilisation of traditional knowledge assets could be helpful to in enhancing Brazil's competitiveness on the world market, but they also use ethical considerations (healthcare, world food situation, environmental needs) to substantiate their arguments (Interview 219, 192, 183).

To a certain degree, multinational pharmaceutical and agricultural corporations support the scientists interested in using traditional knowledge to further research. Large international companies sponsor the conferences of scientists, corporations, non-governmental organisations, and politicians in order to influence public opinion and pressure the Brazilian government. Transnational environmental groups like Greenpeace and the World Wide Fund for Nature (WWF) partially support these moves, as long as the demand for an economic exploitation of traditional knowledge is linked to a sustainable preservation of nature or to the mitigation of climate change (Interview 196, 213). However, the relationship between

Brazilian and transnational actors appears quite ambivalent. International environmental groups are often met with distrust, as their influence on Brazilian politics is perceived to be illegitimate (Interview 199). Moreover, Brazilian scientists and corporate actors are quite suspicious of multinational firms because they fear that international actors "just take the knowledge and run away" (Interview 220).

The rather loosely organised supporters of facilitated access modalities face an organised and strong opposition from a network of indigenous and traditional communities. Their claims are not confined to self-determination with regard to traditional knowledge, but also include land rights and human rights in a broad sense (Interview 186). The issue-linkage is helpful in forging a coalition among different ethnic groups across and even beyond the Brazilian territories, since they are closely linked to other Latin and North American indigenous peoples (Interview 188, 196). Moreover, indigenous representatives regularly take part at UN conferences, which helps to pressurise the Brazilian government. At the same time, indigenous and traditional communities are supported by Brazilian non-governmental organizations and by left-wing politicians and bureaucrats, whose political careers often originated in social movements (Interview 182, 223). Notwithstanding finely nuanced differences, traditional communities, activists, politicians, and bureaucrats within this coalition agree on the concept of *socioambientalismo* (social environmentalism), by means of which social and ecological priorities are placed over short-term economic gains (Santilli 2005).

Despite the precarious balance, indigenous communities and their allies could benefit from a window of opportunity at the beginning of the new millennium. Due to a publicly scandalised case of alleged biopiracy, the President of the Republic (Fernando Henrique Cardoso), drew on a legislative initiative of the Congress which had been already advanced by Marina Silva, a left-wing senator and former activist of the rubber tappers' movement (Interview 182). After a series of amendments, the presidential decree no. 2.186/2001 still today serves as the basis for the regulation of traditional knowledge in Brazil. It declares that biological resources and associated traditional knowledge are state property (*bens da união*). At the same time, indigenous groups and traditional communities are granted perpetual, unalienable usufruct rights. The decree stipulates that their customary laws

shall be respected in any case of access to their resources and the associated knowledge (Santilli 2005: 186ff). That is why the Brazilian government refrains from a generalised traditional knowledge documentation programme, which is opposed by the representatives of indigenous groups.

The most important element of the Brazilian regulation is the establishment of a rigorous authorisation process for the access to traditional knowledge (Azevedo 2005). The procedures are organised by the Conselho de Gestão do Patrimônio Genético (CGEN) and the Instituto do Patrimônio Histórico e Artístico Nacional (IPHAN). While both authorities decide in consultation with state departments, indigenous communities, civil society actors, scientists and corporate actors can participate at the meetings as observers. Any application for bio-prospection is subjected to the assessment of the prior informed consent of the affected communities and the subsequent conclusion of an access and benefit sharing agreement.

Applicants have to inform the communities in comprehensible terms about the research goals, the geographical and temporal extension of their project, and expected (e.g. economic) outcomes. The communities are free to decide by their own rules, whether and under which conditions they agree to bio-prospecting activities on their territories. If needed, potential bio-prospectors can be requested to hire an anthropologist, who must learn the relevant indigenous languages and study their customs in order to confirm that the decision to disclose the knowledge is based on the prior informed consent of the community. The bio-prospector has to display evidence before the CGEN (or the IPHAN) that he has fulfilled these conditions before he is allowed to negotiate an access and benefit agreement with the community. Only if the authorities have also verified that the ABS agreement meets the will of the indigenous groups, is the bio-prospection project legally approved (Bucher 2008: 212ff).

Brazilian authorities attempt to prevent the avoidance of the approval procedure by strict controls. In recent years, IBAMA (the governmental environmental protection agency) has caused a stir with large-scale crackdowns on alleged offenders. Additionally, the Brazilian public prosecutor's department (*Ministério Público*), the Brazilian military forces, and the intelligence service are involved, through the persecution of illegal bio-prospecting activities (Interview 173, 189, 191). Apart from command-and-control structures, Brazilian regulations also draw on an incentive system

for legal bio-prospection. According to the Brazilian patent law, inventions that are based on traditional knowledge are principally patentable, but applicants must procure certification from the authorities, by which they prove that they had abided to the rules of the CGEN / IPHAN authorisation process. The nexus between patent law and access conditions is expected to enforce Brazilian traditional knowledge regulations within the domestic jurisdiction (Interview 163, 172).

However, the enforcement of Brazilian regulations is seriously impeded by the context of the international regime complex. While the nexus between traditional knowledge and patent regulations at least partially deters Brazilian researchers from illegal bio-prospecting activities, multinational corporations are not affected by these rules (Hathaway 2004), as long as they do not apply for a patent within the Brazilian jurisdiction. Due to the lack of an internationally binding disclosure requirement (see section 1), they are not required to declare the sources of their inventions in their patent applications in the US or in Europe. As Brazilian authorities respect the will of indigenous groups and refrain from documenting their knowledge, it is nearly impossible for them to procure any evidence that domestic regulations have in fact been infringed (Interview 189, 199).

The enforcement problem has far-reaching consequences, because the lack of international acceptance also destabilises the Brazilian regulation on the domestic level. Brazilian scientists and corporations rightly claim that they are seriously disadvantaged. Whereas they are compelled to adhere to strict authorisation procedures, foreign competitors can ignore these rules without punitive consequences (Bastos 2009). That is why Brazilian researchers and industry representatives vociferously argue for an easing of access conditions, even if they admit that the recognition of indigenous customary rights should be maintained (Interview 174, 220).

4. Conclusion

The previous sections show that traditional knowledge policies are shaped by a complex interplay between international law, domestic regulations, and local practices. Although the international framework does not determine a unique approach to reconcile the diverging interests in this

field, it offers an ideological base that sets the course for national regulatory initiatives through its impact on the effectiveness of varying national approaches.

The international framework is predominantly characterised by a capitalist perception of knowledge. This holds equally true for trade and environmental law as well as for the activities of the relevant international organizations (Zeller 2008). Alternative perspectives, as suggested by the ILO convention and the UN Declaration on Indigenous Rights, are not completely ruled out, but remain rather marginalised. The case studies of India and Brazil illustrate that the international framework still leaves room for some flexibility with regard to domestic priorities, but clearly favours the logic of commodification. Whereas the Indian approach, which is to document traditional knowledge for economic and environmental purposes, is facilitated by the CBD and international patent law, the Brazilian approach, with its focus on indigenous self-determination, suffers from a lack of an international enforcement mechanism, which also destabilises its application on the domestic level.

In sum, the international framework ideologically favours the perspective that traditional knowledge is a potential commercial good, the utilisation of which should serve economic, developmental, and environmental goals. Alternative approaches that focus on indigenous customary rights and traditional communities' self-determination are not completely ignored, but their practical application is seriously impeded. While it seems premature to assess whether the submission to an (eco-)capitalist logic is the only practicable alternative (Harvey 1996), the article indicates that further research must simultaneously address both the international and the domestic level in order to understand the dynamics of traditional knowledge policies.

1 The paper summarises initial findings from a research project funded by the German Research Foundation (Project SFB 700-TP D7). Empirical evidence was obtained by document-based process tracing and 110 interviews in Geneva, Munich, Berlin, Brussels, India, and Brazil between 2009 and 2012. All interview partners were ensured confidentiality by not revealing individual names or other information that might endanger their anonymity. I am deeply indebted to Bineet Mundu for his support during the field research in Jharkand (India). Without his help, I would not have been able to conduct an in-depth research on the local level. A preliminary version of the

paper was presented at a conference of the SFB 700 and at the authors' workshop of this special issue. I would like to thank all participants at these meetings. Moreover, I would like to express my thanks to Anke Draude, Matthias Kranke, Susanne Lütz, and two anonymous reviewers for their helpful comments and suggestions.

2 This paper focuses on oral traditional knowledge related to biodiversity. While it is acknowledged that traditional knowledge is sometimes stored in religious texts and may also refer to cultural practices without any natural substrate (Mills 1996), this subject matter is left out for the sake of simplicity. In a similar vein, the paper does not differentiate between indigenous and other traditional communities, because all these groups face the same conflicts with regard to bio-prospecting activities.

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Abstracts

In many countries of the Global South, indigenous communities have learned how to make use of the local biodiversity. However, their traditional knowledge has aroused the attention of scientists, corporations, and environmental groups. Most of these actors only perceive traditional knowledge as useful raw material for their own purposes and disregard the indigenous customary rights which are associated with its dissemination. The resulting conflicts are shaped by national regulations and an international regime complex of environmental and commercial law. This paper addresses the impact of the international regime complex on national traditional knowledge regulations. It compares the eco-capitalist approach in India with the more inclusive concept in Brazil with regard to their respective political priorities and their effectiveness against the backdrop of international agreements.

In vielen Ländern des globalen Südens verfügen indigene Gemeinschaften über beträchtliches Wissen zur Nutzung der lokalen Biodiversität. Ihr traditionelles Wissen hat das Interesse von Wissenschaftlern, Unternehmen und Umweltschutzgruppen geweckt. Externe Akteure begreifen traditionelles Wissen jedoch oft nur als Inspiration für eigene Untersuchungen und missachten gewohnheitsrechtliche Praktiken zu dessen Verbreitung. Die hieraus resultierenden Konflikte werden von nationalstaatlichen Regulierungen und internationalem Handels- und Umweltrecht geprägt. Der Artikel behandelt den Einfluss des internationalen Regimekomplexes auf nationalstaatliche Regulierungsversuche. Er vergleicht den

öko-kapitalistischen Ansatz in Indien mit dem inklusiveren Konzept in Brasilien in Hinblick auf die jeweiligen Zielsetzungen und ihre Effektivität vor dem Hintergrund internationaler Vereinbarungen.

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Journal für Entwicklungspolitik XXIX 2-2013, S. 51-68

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Commercial Markets or Communication Rights? International Norms and the Democratisation of Media Markets in Argentina and Brazil

1. Introduction[1]

As Habermas argues, the public sphere in any modern society is structured and constrained by the mass media (Habermas 1992: 437). From a normative perspective, the media sector should therefore reflect pluralist perspectives and offer equal access conditions to enable meaningful public debates in a democracy. In the real world, however, access is restricted at the level of consumption (Who can buy/read a newspaper? Who can watch television?) and at the level of dissemination (Whose perspective gets cited in a newspaper? Whose voice gets on air at a radio station? Who counts as an expert?). Restrictions of both kinds can originate not only from governments (e.g., through censorship, political distribution of advertisements, discretionary provision of public information), but also from market mechanisms. In Latin America, governmental restrictions do exist and are the concern of several (international) NGOs and the international press. However, the effect of market mechanisms usually attract scant attention as they are less visible, although media markets in all Latin American countries are, and almost always have been, predominantly commercially structured (Becerra/Mastrini 2009; Lugo-Ocando 2008). Social movements and communication scholars in the continent thus describe the media sector as undemocratic, since it impedes equal opportunities of access, prohibits the existence of plural perspectives and instead favours the perspectives of the (economic) elite. The 'informed citizen' and democratic debate are, in the best of all cases, only a positive external effect of commercial media driven by market mechanisms. In this regard,

the democratisation of communication represents an interesting case of the decommodification of knowledge, affecting its modes of production and dissemination.

This paper is concerned with the restrictions on freedom of expression through market mechanisms in the media sector and examines the role of international regimes, both in current national regulation and in ongoing debates about reforms. Although media policy is usually characterised as a domestic policy domain (Straubhaar 2001), there do exist competing international norms. While in Europe and North America the World Trade Organization (WTO) and UNESCO are considered the international 'antagonists' in this field, in South America this observation has to be qualified. Although the WTO is a major driving force for liberalisation, its impact on the regulation of the continent's audiovisual sectors has so far been limited. UNESCO, on the other hand, has lost its relevance for the debate on the democratisation of media structures after it dropped the issue in the late 1980s; however, it has recently turned to related questions of cultural diversity and trade. Interestingly, in Latin America, human and communication rights, as a third set of norms, play an increasingly pivotal role in the debate on media reforms, legitimating calls for decomodification and leaving their mark on recent reforms.

In this paper, I analyse the impact of these three international regimes to show how and under which conditions international norms influence national regulation and are used by domestic political movements in debates calling for reforms. I argue that the relevance of international regimes depends on the domestic context in terms of existing legislation and the structure of advocacy coalitions. As media regulation is a predominantly national policy domain, international norms can be particularly relevant for the framing of the demands.

I chose Argentina and Brazil as case studies because they show similar market structures and because both have active communication movements; however, they differ with regard to the role international regimes play in the debate and with regard to policy reform. These differences allow for a better understanding of the conditions for the relevance of international regimes in media policies in Latin America. Empirical data is obtained from available publications and from about 60 interviews conducted with communication activists, representatives of commercial media, local researchers and govern-

mental representatives. In the following section, I discuss the potential influence of three competing international regimes (WTO/GATS, UNESCO, Inter-American Commission on Human Rights). Following this, the two case studies are discussed. I conclude with a comparative summary of the major findings.

2. International norms for media regulation

2.1 GATS and the audiovisual sector

The audiovisual sector has been part of trade conflicts and negotiations since the 1920s (Graber 2004). The line of conflict remained quite stable until recent years. On the one hand, the US maintains that audiovisual goods and services are, like any other commodity, primarily a commercial good. Thus, the relevance of cultural goods is to be determined by consumer choice (e.g., markets); governmental interference in altering these choices is considered protectionist and paternalistic. On the other hand, Europe, led by France, and Canada emphasise that the value of culture goes beyond market criteria. Cultural and media policies must thus protect diversity in order to strengthen democratic societies.

During the Uruguay Round (1986–1994), Europe and Canada failed in their intent to establish a general 'cultural exception' clause within GATS. The audiovisual sector, confirming the strong shift towards liberalising trade in services, is fully included in GATS and thus subject to its dynamics of liberalisation (Pauwels/Loisen 2003: 294ff). Commitments in section 2.D on 'audiovisual services' would prevent states from employing several measures that until now have been part of media policies in many countries: limits on dubbing of foreign audiovisual content, other support programmes for local content production, limits on foreign investments in the media, quota regulations, discriminatory licensing in broadcasting, or even subsidising public broadcasting (for more detail, see Beviglia-Zampetti 2005: 263f; Puppis 2008).

Despite the fact that audiovisual services fall fully under GATS, actual liberalisation has been limited so far due to the scarce amount of commitments submitted. Contrary to GATT (the WTO treaty for goods), GATS (its equivalent for services) has a 'positive list'-approach. Market access and

national treatment are only to be granted after a country has submitted a legally binding commitment for specific (sub-)sectors. At the end of the Uruguay Round, only 13 countries made such a commitment for section 2.D. This number only rose slowly to 30 as of February 2013, still making it one of the sectors with the fewest commitments and with the highest number of exceptions. No South American country filed commitments, including Brazil and Argentina. Although service negotiations have intensified since 2011, they have led to little progress in the audiovisual sector. Most countries continue to express "their cultural and political sensitivities in the sector" (WTO 2011: 3). According to the WTO, however, the lack of commitments does not reflect the market realities (e.g., the state of liberalisation) of many countries.

Even if liberalisation has, so far, advanced rather slowly, there seems to be a consensus among scholars that "the 'commodification of culture' is irreversible" (including within the broadcasting sector), with the WTO regime being the major driving force (Pauwels/Loisen 2003: 306). Firstly, the audiovisual sector is fully included in GATS; there is no "cultural exception clause" and thus a "momentum towards market access in audiovisual services" (Magder 2004: 390). Secondly, liberalisation through GATS is a one-way road. Once commitments are made, there is no way to take them back. Although some authors maintain that GATS "allows ample room to pursue specific domestic policies and regulation" (Beviglia-Zampetti 2005: 264), this is misleading. The door to that 'room' is closed once a government has filed commitments. Thirdly, the US has a strong interest in further liberalisation, and their negotiating power is particularly powerful in one-to-one negotiations. One example is South Korea, which, in order to sign the Bilateral Investment Treaty with the US, had to reduce screen quota for national movies even against the backdrop of local mass demonstrations and hunger strikes (Magder 2004: 391). Liberalisation might also be pursued via TRIPS, the WTO Dispute Settlement Body or GATT, e.g. by redefining certain services as electronic goods (Pauwels/Loisen 2003: 301). Fourthly, technological development in the form of media convergence is used as an argument to describe media specific regulation as obsolete (ibid.: 300). However, recent debates in Latin America show that regulation for social and political objectives remains highly relevant.

2.2 UNESCO: From democratisation to cultural diversity

In the last decade, European States and Canada have brought back UNESCO to the stage of global media governance in an attempted "countermanoeuvre to the free trade doctrine of the WTO" (Puppis 2008: 416). Back in the 1970s and 1980s, the UNESCO was the leading actor in the debate on the New World Information and Communication Order, with the *MacBride Report* (UNESCO 1980) being considered its culmination point. The official report questioned the hegemonic liberal concept of free communication flows and called for a 'democratization of communication', taking up the concept of the 'right to communicate', first proposed by Jean D'Arcy in 1969 (ibid.: 166, 172). These considerations provoked powerful opposition from the US and the UK, which both left UNESCO, which subsequently dropped the topic at the end of the 1980s.

Then, in 2000, UNESCO again took up communication policies and demanded to be included in the dialogue regarding the trade of audiovisual services and cultural goods (Pauwels/Loisen 2003: 309). It has since worked to establish the concept of 'Cultural Diversity', the implicit justification of which is the limitation of trade. In 2005, UNESCO adopted the legally binding Convention on the Protection and Promotion of the Diversity of Cultural Expressions (CCD). Only the US, which returned to the UNESCO in 2003, and Israel voted against it, four others abstained. The CCD entered into force in March 2007 and the number of member states rose to 125 by February 2013, thus marking the fastest ratification process in UNESCO's history. Brazil ratified the CCD in 2007, Argentina doing so in 2008. The CCD is considered relevant for the debate on trade as it acknowledges the importance of culture in development and explicitly legitimises governmental regulation of electronic media (Puppis 2008: 416f).

However, there are two central caveats to be made. Firstly, scholars seem to agree that the CCD is too weak to oppose GATS. It is criticised for being too 'fuzzy' and for not including enforceable obligations. Further, UNESCO lacks the institutional strength of the WTO. The impact of the CCD is thus rather political as it might influence the debate about classifications within the WTO and in bilateral FTAs (Burri-Nenova 2008: 28ff; Puppis 2008: 418ff). Secondly, the concept of cultural diversity is often considered to be a Western one. It focuses exclusively on the rights of states, not on those of indigenous groups, minorities or media organisations (Burri-Nenova 2008:

24ff), and also ignores the state of the debate surrounding human rights in Latin America. Thus, as we will see, the UNESCO is not perceived as an influential actor in the Latin American debate on media democratisation, except for the historical references to the MacBride report (Interview 010, 041, 043, 048).

2.3 Communication rights and the Special Rapporteurs for Freedom of Expression

An additional set of international norms relevant for communication policies in the Western hemisphere emerges from the Inter-American System and particularly the Commission on Human Rights, part of the Organization of American States (OAS). To stimulate the respect for the freedom of expression, considered crucial for consolidating democracies, the Commission in 1998 founded the Office of the Special Rapporteur for Freedom of Expression (SRFE) (Bertoni 2007: xiv). The SRFE publishes detailed annual reports about the state of freedom of expression in the hemisphere, but also develops recommendations for regulatory policies. Contrary to the WTO doctrine of liberalisation, but also different to the UNESCO approach, the SRFE is concerned with citizens' rights and translates them into state obligations.

The recent work of the SRFE not only addresses traditional violations such as the murder of journalists or direct impediments to journalists' work, but also highlights the need for specific communication policies, the dangers of media concentration and the positive potential of community radio stations (Schönsteiner et al. 2011: 365ff). For the OAS, Freedom of Expression is defined (and has been since 1985) as encompassing both the "expression and dissemination of ideas and information as indivisible concepts" (CtIADH 1985: para. 31). To guide the work of the SRFE, in 2000 the Commission approved the Declaration of Principles on Freedom of Expression, which serves as a "legal framework to regulate the effective protection of freedom of expression in the hemisphere" (Grossman 2000: 456). In its 2002 report, the SRFE explicitly addresses the deficiencies of traditional (i.e., commercial) mass media in the Latin American context of social inequalities. As these media "are not always accessible for disseminating the needs and claims of society's most impoverished or vulnerable sectors", the importance of non-discriminatory measures towards community media is

stressed (OAS 2003: cxxvii). In sum, it is concluded that "it is the *state's duty* to guarantee equal opportunities for all for with respect to the discrimination-free receiving, seeking out, and sharing of information through any communication channel whatsoever, eliminating all measures that discriminate" (OAS 2003: cxx, emphasis added). The SRFE of the UN (currently Frank La Rue), whose full title is Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression, shares a similar perspective (see, for example UN 2010: 11f).

3. Argentina: The fencing of commercial markets

Argentina's current media system is marked by the neoliberal restructuring that intensified during the 1990s. Under the presidency of Carlos Menem (1989–1999), television and radio stations and even the management of frequencies were privatised. Regulatory limitations were reduced (e.g., concerning cross media ownership and the maximum number of broadcasting licenses to be held), which led to the emergence of powerful private media conglomerates. Argentina's status as a neoliberal model student in the 1990s is also reflected in the fact that it filed an unusually large number of GATS commitments, including 37% of all negotiable items (232 out of 620). The Argentinean government used the GATS commitments to 'lock-in' liberalisation reforms, and to send "a strong signal of commitment to economic reform and to 'increase the costs' of future policy reversals" (Bouzas/Soltz 2005: 50). However, the audiovisual sector was not among the commitments and thus constitutes an ambiguous case. Although the media sector was largely liberalised and developed an almost exclusively commercial character during the 1990s, no GATS commitments were filed here.

While the centre-left presidency of Néstor Kirchner (2003–2007) marked a watershed in many aspects, it did not do so in media policy. Concentration in the media market increased further, promoted by favourable decrees attributed to the close relationship between the President and the leading Clarín Group. One example is the Law for the Protection of Cultural Goods, approved in 2003 and popularly known as the 'Clarín Law', that limits the participation of foreign capital in culturally relevant compa-

nies and exempts them – read: Clarín itself – from the bankruptcy law. In 2005, a decree unconditionally extended all broadcasting licenses for 10 years.

To bring together those groups that have fought for the democratisation of communication since the return to democracy in 1983, in 2004 the Coalition for Democratic Broadcasting was founded and immediately passed "21 Basic Points for a Right to Communicate". At this stage, any attempt to reform the broadcasting law sanctioned in 1980 by the military dictatorship was frustrated due to the close relationship between the dominant media and the political elite. The Coalition consisted of movements and activists from the human rights area, academia, community radio organisations and journalism. Between 2004 and 2008, they popularised the topic and tried to put it on the governmental agenda. However, it was only in 2008 that a window of opportunity opened up, when newly elected President Fernández de Kirchner (2007–today) found herself in a violent conflict about agro-taxes, a conflict in which Clarín took an explicit political stance against the government. The Clarín Group is the single most powerful media conglomerate, publishing the most important newspaper Clarín, owning several radio stations and controlling the cable TV market (Vialey et al. 2008: 13). Now conscious of the political dangers of a media oligopoly, or, depending on the political view, just to punish 'disloyal' Clarín, Fernández drew upon the 21 Points of the Coalition to reform the broadcasting law.

The new Law on Audiovisual Services (Ley 26.522) was sanctioned in October 2009 (detailed in Mauersberger 2012). Central features of the new regulation include stricter ownership limits and the necessity of a balance between *non-commercial* private media (for which one-third of all frequencies are reserved), commercial, and public media. The regulation acknowledges the necessity of governmental communication policies to guarantee freedom of expression as a citizen's right. No content regulation is established beyond consensual measures, e.g. to protect minors from harmful content. The law was published as a commented norm with ample references and included a broad number of cited legal and academic texts. However, while the legislative process and the content of the law can be considered very democratic, its implementation by the current government is somewhat ambivalent.

Although the political process of the new regulation was strongly determined by national politics, three assertions can be made regarding the role of international regimes. Firstly, at the level of regulation itself, the purport of the law deviates from liberal rationales and thus, by decommodifying media markets, contradicts WTO logic. Rather, the social and political importance of communication in democratic societies is emphasised, translating into the need for governmental regulation to guarantee the freedom of expression. Although the intent to break (media) oligopolies is consistent also with liberal calls for competitive markets, the rationale was explicitly *not* to create competitive *markets*, but to guarantee equal access to means of communication. The quotas of nationally produced content (60% for TV, 70% for radio stations, cf. Art. 65) did not come under attack, neither from the opposition nor from private media. Participants of the group that edited the new law reported that GATS was, due to the absence of Argentinean commitments, perceived not as an actual limitation but rather as a potential threat that had to be reckoned with (Interview 017).

Secondly, the reform is largely compatible with the recommendations of the SRFE. These norms played a central role for the policy debate. While the SRFE of the UN, Frank La Rue, endorsed the law in public acts together with the President (Télam 2009), the SRFE of the OAS, Catalina Botero, remained more on the sidelines in the political conflict but supported specific aspects of the law (Interview 021, 041). During the actual process of editing the new law, the SRFE were only one source amongst others. However, during the preceding years, their presence at many different forums guaranteed that regulation is talked about from a communication rights perspective and thus helped to discredit the accusation that any public regulation means censorship (Interview 021). The SRFEs thus supported, at different stages, a reframing of media policy from market requirements towards those of human rights.

Thirdly, the driving forces for change and for the integration of international regimes were social movements and political activists from academia. In particular, the world association of community radios Amarc, whose Latin American regional coordination operated in Buenos Aires from 2003–2011, and academics highlighted the importance of regional exchange. Indeed, from 2002 on, Amarc intensified contact with the SRFE of the OAS. Personal interventions of Amarc activists from Argentina and Uruguay

(where the working group on comparative legislation was located) helped to put community radio and legislation at the centre of the SRFE's agenda and thus facilitated their support at later stages of the debate. Currently, Amarc is also directly cooperating with the SRFE of the UN (UN 2010: 12). Commercial media are less organised at the regional level, as the Interamerican Press Association (SIP) and similarly the Latin American International Association of Broadcasting (AIR-IAB) are largely concerned with governmental violations of press freedom, but hardly with other aspects of communication policies. While large national commercial media organisations have an interest in market liberalisation, their owners also fear a loss of political control if foreign capital were given an equal stance and thus do not ever refer to free trade norms to support their claims (Interview 037, 074). The 'Clarín Law' mentioned above exemplifies this ambivalence.

4. Brazil: No country is an island

In Brazil, television has been a central tool since the 1950s for the state to promote nation building within the vast territory. The last military dictatorship (1964–1985) intensified this strategy, but also restricted media through censorship and persecution. Television was used explicitly for "the creation of a consumer culture" (Straubhaar 2001: 137ff). After the return to democracy, the close relationship between the political elite and large media groups remained widely intact.

Today, the Brazilian media sector is characterised by three distinctive features (Pieranti 2006; Amaral 2002; Brant 2008). Firstly, the O Globo Group is the dominant actor. O Globo controls the most important national TV and radio networks, owns several newspapers and participates in cable TV. In 2008, its TV network controlled almost 50% of the audience and 75% of the total advertising budget (Moyses/Gindre 2009: 133). Secondly, there is an intimate relationship between broadcasting and local politics, called *coronelismo eletrônico*. Licenses are exchanged for political favours and many legislators are license-holders themselves (Brant 2008: 114). A presidential decree from 1995 made the granting of frequencies somewhat more transparent, but the discretionary political use of licenses is still widespread and their non-renewal remains virtually impossible (De Lima 2011: 50). Thirdly,

many constitutional and legal provisions have still not been implemented. The Brazilian Constitution from 1988 is comparatively democratic, as its chapter on communication guarantees the freedom of expression, foresees a balance between private, public, and state media, prohibits politicians from owning broadcasting licenses, foresees a Council of Social Communication, and bans oligopolistic structures. However, none of these provisions have been implemented, with the exception of the Council, which met only between 2002 and 2006 and again since September 2012. These three features translate into a hostile environment for alternative media. The number of community radio stations (broadly defined) is estimated to be around 10–20,000, but only around 4,000 have a license. While many of them fulfil important functions at the community level, operating within restrictive boundaries and on a very precarious basis, others are in fact rather evangelical, political or even local commercial radio stations. Thus, despite their large numbers, community radio stations in Brazil hardly constitute a powerful political movement.

The résumé of the two popular governments of Lula (2003–2010) and the first two years of Dilma Rousseff's term is, from the movement's perspective, at best mixed. Reform efforts have hardly been successful and have not addressed the structural problems. Still, the Lula government decentralised and diversified the use of the official advertisement budget (De Lima 2011: 57). It also reorganised and strengthened the state-public broadcasting system by founding the public Brazilian Communication Enterprise (EBC) in 1997. Yet, the EBC is still comparatively weak and its TV signal cannot even be received by terrestrial airwaves in São Paulo. Importantly, in 2009 Lula's government sponsored the First National Communication Conference (Confecom) which brought together actors from all sectors and from across the country and strengthened the public debate on media regulation. However, three years later, activists still await policy reforms.

Brazil has seen a movement for the democratisation of communication since the 1980s as a corollary of the demand for political democratisation. The group that in 1991 founded the National Forum for the Democratization of Communication (FNDC) had already participated in the formulation of the 1988 Constitution. The FNDC, dominated until 2011 by the Journalist's Federation FENAJ, lost visibility during the 1990s, but regained new impetus through the Confecom, its largest success so far. In

2011, several new organisations joined the FNDC, now under the leadership of the central union CUT.

International norms played a different role in Brazil than in Argentina. By analogy, again, three assertions can be made. Firstly, the WTO is quite absent from the current debate, as most political activists involved barely know of its potential relevance. However, Brazil is a strong exporter of audiovisual services in the region and in lusophone Africa. Unsurprisingly thus, the country was more involved in the debate within the WTO. During the Uruguay Round, it supported the EU's position. Later, in an official statement from 1999 (WTO 2001), Brazil stressed the potential for economic growth and suggested that countries file commitments. Still, it also proposed instruments to safeguard national autonomy on cultural policies. Resembling a classic mercantilist approach, Brazil was concerned to promote the export capabilities of emerging economies. At least since Lula took office, however, the audiovisual sector was "adamantly opposed to any market opening", according to a cable from the US embassy from 2005 (US Embassy 2005).

Secondly, due to the long history of the Brazilian communication movement, many activists still name UNESCO's MacBride Commission as a theoretical reference. The 1980s debate is still present and also had an impact on the 1988 Constitution. Today, however, the UNESCO is not perceived as an important actor. Additionally, the SRFE are less present in Brazil than in Argentina, which has to do with the structure of the movement (see below) but also with the lack of attention the SRFE have historically dedicated to the complex situation in Brazil (Interview 020, 058, 075). At the discursive level, the central legitimisation for the demand to democratise communication involves the lack of implementation of the National Constitution, rather than a reference to international norms. As a consequence, the term 'freedom of expression' still largely connotes, in public debate, a defence of the status quo ('freedom from state intervention') and is not framed to justify regulatory interventions ('a right that needs protection by the state').

Thirdly, the movement in Brazil is older and has a stronger institutional base than in Argentina. However, the dominant organisations have historically been unions and professional organisations, which focussed more on the defence of their base's interests and the traditions of participatory politics than on international norms or even specific regulatory politics. The

role of academics, who are regionally well integrated, is comparatively less pronounced in the movement (Interview 048). Still, events in neighbouring countries are closely observed and facilitate learning opportunities for Brazilian activists. Identifying the 21 Points formulated in 2004 as pivotal for the movement's success in Argentina, the Brazilian movement broke down the roughly 600 propositions that emerged from the Confecom and in 2011 adopted "20 Points to Democratize Communication" (Interview 043, 058; Plataforma 2011). The role of international communication rights is likely to increase in the debate as the more internationally connected NGOs Intervozes and the Brazilian chapter of Article 19 became more involved within the FNDC in the aftermath of the Confecom. Amarc Brasil also plans to take a case of community radio repression to the Interamerican Court of Human Rights – a move learned from activists in Argentina and Uruguay (Interview 044).

5. Conclusions

Although media regulation is generally considered a domestic policy domain, international regimes and transnational links do matter for domestic regulation and policy debates. From the discussion of the two cases of Argentina and Brazil, three conclusions can be drawn. Firstly, at the level of actual regulation, both countries have not (yet) filed any commitments to GATS' audiovisual sector, although media regulation is (in the case of Argentina, was) inspired by liberal-commercial values. The WTO, however, remains a potentially powerful driving force for liberalisation, although possibly not in the current political context of the two countries. Thus, the neglect of the WTO might be treacherous for social movements, as they may underestimate its potential in limiting public media policy once a future government files commitments that cannot be taken back. So far, even large media companies seem not to wholeheartedly embrace the WTO's approach, as the liberalisation beyond the national border would come with a potential loss of domestic political influence.

Secondly, at the discursive level, internationally codified communication rights are increasingly part of domestic media policy debates (and in Argentina have already found their expression in a comprehensive reform law).

In particular, the Special Rapporteurs on Freedom of Expression (SRFE) of the OAS and the UN play an important supportive role in attempting to legitimate media regulation aimed at the democratisation of broadcasting. They argue that, particularly in unequal societies, freedom of expression can not be left to market mechanisms but must rather be guaranteed by the state through an adequate regulatory framework that promotes alternative media. As part of this agenda, the SRFE helped to reframe community radio stations from 'illegal pirate radio stations' to legitimate expressions of communication rights. The cases also show that the UNESCO, in the academic literature on media policy in Europe and North America the sole counterforce to the WTO, does not provide an adequate argumentative framework with which to address the restrictions on freedom of expression by market mechanisms. Media regulation in Latin America is not so much discussed in terms of cultural diversity and sovereignty of the states (as the UNESCO defends), but rather as a question of citizen rights.

Thirdly, the higher pertinence of international human rights norms in Argentina can be explained by two factors. On the one hand, the Brazilian movement can refer to unimplemented articles of their national constitution in order to legitimate several of their demands. On the other hand, the compositions of the movements differ. In opposition to Argentina, in Brazil the movement relies more on unions and professional organisations, which still relate to the UNESCO debate of the 1970s/80s, and less so on (transnational) media activists and academics. The latter, however, were largely responsible in Argentina for the integration of international human rights norms. Also, the community radio stations in Brazil are, despite their large number, not as consolidated as in Argentina and thus less able to spend resources on political debates. Both the movement's composition and the relevance of international norms are slowly changing in Brazil, as activists learn from the example of neighbouring countries.

In summary, while the WTO still lurks in the background calling for the liberalisation of media markets, alternative norms are gaining strength that identify media policy's responsibility in enhancing communication rights. Movements and activists are, in both cases, the driving force for change and for the integration of international norms in national debates and, ultimately, in regulation. Through personal links, social forums and conferences, civil society is much more regionally integrated in terms of policy

debates than are market actors and governments. In particular, the two cases show that in a context of commercially structured and concentrated media markets, alternatives are deduced from human rights norms. The framing of media regulation in terms of communication rights has proved to be essential and is backed by the corresponding international regimes. Thus, while the commodification of culture and media is often said to be irreversible due to the power of liberal regimes such as the WTO, Latin American social movements show how this trend can be successfully countered.

1 I would like to thank the participants of the authors' workshop held for this special issue, particularly Claudia Zilla, the editors, and Renata Motta, as well as the two anynomous reviewers for their helpful comments on previous versions of this article.

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Abstracts

Media markets in Latin America are generally concentrated and commercially structured. This has negative consequences for democratic debates as it constrains pluralist representations within the public sphere, particularly in unequal societies. Social movements and activists in the continent are thus demanding a democratisation of communication, for example through public regulation. At the international level, media policies are contested by different international regimes dealing with trade, culture and human rights. This article examines the debates in Argentina and Brazil to analyse the role of these international regimes and to show how and under which conditions they affect the political debate and current regulation.

Medienmärkte in Lateinamerika sind in der Regel oligopolistisch konzentriert und kommerziell ausgerichtet. Dies wirkt sich negativ auf die Möglichkeiten demokratischer Debatten aus, da es eine pluralistische Repräsentation innerhalb der öffentlichen Sphäre besonders in ungleichen Gesellschaften einschränkt. Soziale Bewegungen und Aktivisten verlangen daher eine Demokratisierung der Kommunikation, unter anderem durch gezielte Regulierung. Auf internationaler Ebene wird Medienpolitik in unterschiedlichen Regimen zu Handel, Kultur und Menschenrechten verhandelt. Vor dem Hintergrund der Diskussionen in Argentinien und Brasilien analysiert der Artikel die Rolle dieser internationalen Regime und zeigt, wie und unter welchen Bedingungen sie für die nationalen Debatten und die Regulierung relevant sind.

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Journal für Entwicklungspolitik XXIX 2-2013, S. 69-86

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Intellectual Property Rights and Rent Appropriation: Open Conflict regarding Royalties on RR Soy in Argentina

1. Issue and central question

"Argentine farmers have the right to replant – although not to sell – seed generated from a harvest originating from registered seeds without paying royalties" (O'Donnell 2011b). This quotation from a cable signed by the ambassador of the United States in Argentina, Lino Gutierrez, points directly to the core of the conflict between Monsanto, Argentine soy farmers and the Argentine government about royalties on the transgenic seed Roundup Ready (RR) Soy, which is tolerant to the pesticide glyphosate. The dispute arose with the introduction of RR Soy in the Argentine market by Monsanto via licensees in 1996, but without them holding a patent on RR Soy. The conflict takes place in the context of the broader debate concerning two contrary concepts of the appropriation of rents, in this case generated by the soybean cultivation in Argentina, concepts which are based on different interpretations of intellectual property rights: the intellectual property rights of seed breeders versus the farmers' privilege.

This paper focuses on the crucial aspect of rent appropriation within the debate on intellectual property rights regarding agricultural production; in short, the effects of the commercialisation of knowledge. Rent appropriation is understood as a reduction of agricultural rents via royalties, or export taxes in this case. Both compete for the same slice of the cake. Departing from the understanding of knowledge as a private, patentable and tradable good in international treaties (UPOV 1978: Art. 2; TRIPS 1994: Section 5: Patents) and Argentine legal norms (Law 20.247/1973, Art. 19-24; Presidential decree 260/1996, Art. 4-7), this paper discusses the range of intellectual property rights within the area of agricultural production and processing,

in the sense of the control and remuneration of knowledge. The main question to be asked is this: why did Monsanto fail to impose a collectively binding norm of rent appropriation via royalties and through that a certain interpretation of intellectual property rights in Argentina? This paper attempts to contribute to the study of rent appropriation, especially that without a clear basis in national legal norms, within the debate regarding intellectual property rights. The seed breeders (Monsanto is used here as an example) fight for the introduction of royalties. The big farmers' associations Federación Agraria Argentina (FAA), Confederaciones Agrarias (CRA), CONINAGRO and Sociedad Rural Argentina (SRA), in general have different interests depending on the size of the farmers they represent. FAA, which represents small farmers, rejected all proposals for a royalty system, because it would reduce the agrarian rents. In contrast, SRA, the association of big farmers, is mostly in favour of royalties, because of the interest of big farmers in new technologies. The two other farmers' associations are located between FAA and SRA. The Argentine government vacillates in its position because of its dominant interest in the appropriation of soy production rents by export taxes. In this sense the Argentine government is not only understood as an intermediary but as a conflict actor with its own interests.

The analysed case of the conflict concerning royalties on RR Soy is mainly located within the national context of Argentina but also in the supranational context of the European Union. The case is constructed as an archetypal case study, which seeks to generate theory (Hague et al. 1998). The uniqueness of the case lies in the intent of rent appropriation by royalties through seed breeders in spite of the lack of a patent on the transgenic seed RR Soy. The text material (see References) is evaluated based on the Qualitative Content Analysis[1] (Mayring 2000).

The empirical investigation uses the governance approach as an analytical tool to visualise the role of private actors in the generation of collectively binding norms. The state is no longer the steering protagonist but rather only one producer of governance output. Three modes of coordination are distinguished: a (state) actor can force other actors to follow its rules (in the mode of hierarchy), whereas non-hierarchical modes require cooperation and the balancing of different public and private interests by negotiation and competition. Within the process of negotiation or compe-

tition certain actors can have more power and resources, but they are not able to exert force over other actors. A (possible) hierarchical intervention by (external) state actors is ascribed a privileged function, because it can induce and backup non-hierarchical modes of coordination constituting a shadow of (external) hierarchy. The modes of coordination are determined by an institutional structure, which can be hardly changed by the governance actors (Börzel 2010; Mayntz 2005).

The empirical analysis is structured in two parts. Firstly, the nested governance structure of the conflict on royalties on RR Soy – consisting of the international treaties, the International Convention for the Protection of New Varieties of Plants (UPOV 1978, 1991) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS 1994), as well as the national legal norms seed law and patent law – is discussed. This part treats the convergence of the international and respective national norms towards a restriction of the farmers' privilege and the persisting contradiction on both levels regarding the farmers' privilege, which gives rise to the conflict under analysis. Secondly, the paper focuses on the struggle between seed breeders, in this case mainly Monsanto, Argentine soy farmers and the Argentine government regarding royalties on RR Soy since 1996. The conflict is analysed from the perspective of Monsanto in order to highlight the company's strategies, based on (non-)hierarchical modes of governance, to generate a collectively binding norm in spite of the lack of a patent and the contradiction in the governance structure. At the same time, Monsanto aims to alter the governance structure itself by encouraging the adherence of Argentina to UPOV 1991 and the reform of the Argentine seed law. Finally, the paper concludes with three explanations as to why Monsanto's struggle for remuneration has not been successful so far.

2. Nested governance structure: contradiction of norms as a source of the conflict

2.1 International treaties: UPOV vs. TRIPS

To understand the legal norms in Argentina and their interpretation, as well as the analysed conflict, it is essential to analyse their overarching governance structure which consists of the international treaties UPOV

1978, 1991 and TRIPS. These treaties generate two diverging positions in the debate between the intellectual property rights of the seed breeders and the farmers' privilege. However, both treaties conceptualise knowledge as a private, patentable and tradable good, as well as introducing the concept of remuneration (royalties) (UPOV 1978: Art. 2, 9; TRIPS 1994: Section 5: Patents).

This study focuses mainly on UPOV 1978 (to which Argentina is a member) and will only describe the main changes in UPOV 1991, because some actors of the above mentioned conflict demand the adherence of Argentina to the latter and argue based on its concepts. UPOV 1978 clearly establishes the intellectual property rights of the seed breeder of a new variety (Art. 2, 5) for a defined time period (Art. 8). The farmers' privilege is not mentioned explicitly but rather implicitly in Art. 5 paragraph 1. This paragraph determines three actions (production for purposes of commercial marketing, offering for sale, marketing), which require the former authorisation of the seed breeder. More important is what is not mentioned: while the production of the protected variety for commercial purposes is prohibited, the right of the farmer to save seeds and sow them on his own plantation is not addressed and therefore not prohibited (Kochupillai 2011: 2-5; Phillips 2007: 54-56).

UPOV 1991 introduces the explicit privilege of the farmer as an optional exception implemented in national legal norms (UPOV 1991: Art. 15, para. 2). However, the treaty establishes the new distinction between marketed and unauthorised material of the protected variety (UPOV 1991: Art. 16). The further use of marketed material is excluded from the authorisation of the seed breeder. Nevertheless, the products obtained from unauthorised material of the protected variety, such as "harvested material" and "products made directly from harvested material", (UPOV 1991: Art. 14, para. 2, 3) require the authorisation of the seed breeder. Therefore, the range of the property rights of the seed breeder and the collection of royalties is extended to the harvest and the products directly made from harvested material (Borgarello/Lowenstein 2006: 221-223; Borowiak 2004: 518-519).

Differing from UPOV 1978 and 1991, the TRIPS Agreement does not contain the farmers' privilege or any reference to that. Essential for our discussion is the fact that non-biological and microbiological processes can not be excluded from patentability by the legislation of the member states

(TRIPS 1994: Art. 27, para. 3), a point which enforces the patentability of transgenic seeds in national legal norms. To clarify the range of the intellectual property rights of a patent holder, it is necessary to analyse the exclusive rights in Art. 28 and its exceptions in Art. 31 of TRIPS (1994) in comparison to UPOV 1978 and 1991. Art. 28 prohibits the use and production of the patented product, of the patented process and of the product obtained directly from the patented process without the authorisation of the patent holder. As a result, the interpretation of the intellectual property rights of the seed breeder goes clearly further than in UPOV 1978 and 1991. The exception in Art. 28, the use without authorisation of the patent holder, is limited to governments and third parties authorised by the government in the case of emergency or public non-commercial use based on the remuneration of its use (TRIPS 1994: Art. 31). The exception of the intellectual property rights of the seed breeder are more limited than in UPOV 1978 and 1991, which allow non-commercial use, experimental use and the use to breed other varieties by any other party.

UPOV 1978 and 1991 as well as TRIPS can be understood as conflicting international treaties regarding the range of the intellectual property rights of the seed breeder and the farmers' privilege. This is important for the empirical case, because UPOV 1978 and TRIPS, as ratified international treaties, have a legal status between the national constitution and laws in Argentina (Argentine National Constitution 1994: Art. 75, para. 22). Furthermore, the corresponding Argentine legal norms – seed law and patent law – reproduce the legal conflict which exists between UPOV 1978, 1991 and TRIPS.

2.2 National legal norms: seed law vs. patent law

Through the analysis of the Argentine seed law and patent law, this paper intends to underline the convergence between the national governance structure with the content and logic of the international treaties, UPOV 1978, 1991, and TRIPS. This nested governance structure on two different levels forms the framework for the struggle between multinational seed breeders, Argentine farmers and the Argentine government.

The Law of Seeds and Fitogenetic Creations (Law 20.247/1973), which was set in force in 1973 and so prior to UPOV 1978 and Argentina's adherence to this in 1994, determines fitogenetic creations, in which trans-

genic seeds are included (Art. 2, para. b, extended in Presidential Decree 2.183/1991: Art. 1, para. b), as private goods (Art. 19-24). The inventor of a new variety obtains the property rights *(derecho del obtentor)* through its registration in the National Register of the Property of Plants. But this right of the seed breeder differs from a patent. The seed law contains a widely interpreted farmers' privilege in Art. 27. Apart from the authorisation of the intellectual property holder, the farmers' privilege makes two exceptions to the intellectual property right of the seed breeder:

(1) The reserve and sowing of seeds for own use
(2) The use or sale of raw material or food as the product obtained from the cultivation of the fitogenetic creation.

Thus, the Argentine seed law uses a broader interpretation of farmers' privilege than UPOV 1978, 1991 and TRIPS. It restricts the range of the intellectual property rights of the seed breeder, which end with the cultivation of the protected plant variety.

Within the context of Argentina's adherence to UPOV 1978 in 1994 and the introduction of RR Soy in the Argentine market in 1996, the farmers' privilege was restricted both implicitly (Presidential decree 2.183/1991: Art. 44) and explicitly (INASE Resolution 35/1996: Art. 1-2) to only allow for reserving and sowing seeds on farmers' own plantations. Through these measures, the Argentine government adopted the logic of the farmers' privilege used in UPOV 1978. Resolution 35/1996 of the National Institute of Seeds (INASE) established a difference between legally and illegally acquired seeds, as in UPOV 1991, which was not signed by Argentina. It also excluded the seeds obtained by the cultivation of illegally acquired seeds from farmers' privilege. Such limitations of the farmers' privilege show a clear convergence with the content and logic of UPOV 1978 and 1991. It is important to reiterate that these reforms were made before the introduction of RR Soy in the Argentine market and the subsequent conflict between seed breeders, Argentine soy farmers, and the government.

Within the legislation process of the patent law in 1995 and 1996, we observe an important change. The original version of the patent law, which passed in Congress as Law 24.481 from 23.5.1995, included major parts of TRIPS (1994: Art. 27, para. 2, 3). What is especially interesting are the exclusions from patentability: in the first version of the Argentine patent law micro-organisms and essentially biological processes are not excluded

(Law 24.481/1995: Art. 7, para. c). This law was vetoed, with changes by the President. In the newer version of the patent law, paragraph c of Art. 7 was deleted without replacement. Therefore, micro-organisms and essentially biological processes can be understood as being excluded from patentability. This point is crucial, because the current version of the patent law contains no reference to microbiological processes, which cover transgenic seeds, like TRIPS. Although the patentability of transgenic seeds is open to further interpretation, in practice several patents of transgenic seeds already exist (Borgarello/Lowenstein 2006: 228-241).

To move on from the general question of patentability to the concrete question of the farmers' privilege, an important point to be considered is this: what exactly is protected by a patent? As in Art. 27 of the TRIPS Agreement, the patent prohibits the production, use, offering for sale, sale and import of the patented product by a third party without the authorisation of the patent holder. Regarding the patent of a process we observe a difference; the Argentine patent law only prohibits the use of the patented process and there is no reference to the product obtained by the protected process (Presidential decree 260/1996: Art. 8). Therefore, the cultivation of reserved transgenic seeds without the authorisation of the patent holder is not explicitly prohibited. The rights of the patent holder are open for interpretation.

To make it clear, the national legal norms in Argentina introduce two different concepts of intellectual property rights: rights protected by patents and the rights of the seed breeder *(derecho del obtentor),* as protected by the National Register of the Property of Plants. The reconstruction of the interaction between the nested governance structure and the governance modes in the struggle between seed breeders, Argentine farmers and government is the theme of the next section.

3. Archetypal case: conflict regarding royalties on RR soy in Argentina

This study analyses the previously mentioned struggle from the perspective of Monsanto, because the US-American company played the most active part in the conducting of the conflict. The other actors largely

reacted to the actions of Monsanto. Moreover, this analytical view enables us to identify the strategies of a non-state actor – based on a mix of the governance modes (external) hierarchy and bargaining – to generate and implement a collectively binding rule without a clear legal basis in different governance arenas with diverging actors.

In 1996 Roundup Ready Soy was introduced by Asgrow in the Argentine market, based on a license of Monsanto. Asgrow Argentina was later acquired by Nidera and with that the license to release and sell RR Soy in Argentina. Nidera obtained the official permission to release RR Soy in Argentina on 25.3.1996, but Nidera could not request either the patent or the protection by seed breeders' rights, because Nidera was not the inventor. Monsanto requested the patent, but it was denied because of the already exceeded time limits and the prior release of the gene construct, and thus it did not fulfil the requirement of novelty in the Argentine patent law and seed law. Monsanto tried to contest the denial of the patent with various appeals up to the Argentine Supreme Court, which finally denied the request of a patent of RR Soy by Monsanto in 2001. From 1996 on Monsanto signed private license contracts with other seed companies, in which Monsanto included a type of royalty. Nevertheless, Monsanto could not collect royalties from the farmers and also could not exert control over the use of its RR Soy seeds because of the denied intellectual property rights based on a patent and on the plant breeders' rights by the registration in the National Register of the Property of Plants (Bird 2006: 293-294; Brieva 2006: 243-244, 252-253; Trigo et al. 2002: 119-120; Vara 2005: 23). Simply put, Monsanto lacked the legal basis of the remuneration of the use of their RR Soy seeds, which is an important characteristic of the conflict.

Despite all of this, Monsanto strengthened its intents, since 1997, to collect royalties from the soy farmers on the basis of private contracts, which oblige the farmers to pay royalties as well as restricting the farmers' rights to reserve and sow seeds on their own fields, which is permitted by the seed law. The farmers' association, FAA, went to court and won the case based on the farmers' privilege in the seed law. In 1998 Monsanto came up with a new contract, in which the farmers had to recognise the intellectual property rights of Monsanto and follow the restrictions in the patent law, although Monsanto did not hold a patent on RR Soy; otherwise, the farmers would have been excluded from the seed sale. Monsanto also

forced the other seed companies, like Nidera, to require the signing of that contract by the soy farmers. Besides the restriction of the right to reserve seeds for the next sowing, the contract obliged the farmers to sell the entire harvest to a specific company and to pay extended royalties for the use of reserved seeds. Through these private contracts with farmers, Monsanto tried to implement a collectively binding norm, based on the governance mode negotiation, in order to collect royalties and to exert control over the use of its transgenic soy seeds (Bird 2006: 295, 302-304; Brieva 2006: 250; Vara 2005: 24). This intent mostly failed because of the practice of the white bag trade *(bolsa blanca)* of unregistered seeds. The share of white bag traded and reserved seeds of all seeds cultivated is estimated as being between 30 % to 80 % (e.g. Trigo et al. 2002: 119-120; Vara 2005: 23-24). That is why Monsanto adopted other strategies and switched to other governance arenas with different actors in order to obtain the remuneration for their RR soy seeds.

In 2004 Monsanto increased the pressure with the suspension of the seed sale and of the further introduction of new technologies like the second generation of RR Soy in the Argentine market, using its market dominance to influence the negotiation in its favour. Monsanto argued that the business is not profitable because of the loss of royalties due to the white bag trade of non-registered seeds. The Argentine government reacted with the proposal of a reform of the seed law to adhere to UPOV 1991 and of universal royalties on the sale of harvested crops through the technology compensation fund. These global royalties were limited to seven years, so seeds introduced in 1996 were not included. The farmers' privilege to reserve and sow seeds was restricted to plantations smaller than 65 acres and fines were introduced for the cultivation of unregistered seeds. In 2002 the farmers' associations CONINAGRO, SRA and FAA had already agreed on their rejection of Argentina's adherence to UPOV 1991. The legislative initiative from 2004 was partly accepted by the majority of the farmers' associations, but completely rejected by the FAA. Monsanto also demanded an alteration of the time limitation up to 20 years in the proposal (Brieva 2006: 251-252; Federación Agraria Argentina 2005; Vara 2005: 27-29; Varise 2005a).The negotiation on the legislative initiative to alter the governance structure went on until 2008, but the farmers' strike altered the context and led to its breakdown. The farmers' strike in 2008 and 2009 changed

the focus of discussion to another important point of the rent appropriation: the export taxes. While the farmers perceive the royalties and the export taxes as two different forms of rent appropriation (Roulet 2005), the Minister of Agriculture, Miguel Campos, emphasised the importance of the soy sector to generate state income via export taxes (Mira 2006). The conflict regarding this form of rent appropriation froze the struggle on the above-mentioned legislative initiative. (O'Donnell 2011a, 2011b) Therefore, Monsanto's plan to change the governance structure failed. An important change in the legislative initiative was the collection of royalties on the sale of harvested soybeans from the former demand to charge royalties on the sale of the RR Soy seeds. This new concept converges with the extension of the seed breeders' rights to the harvest of unauthorised cultivated seeds in UPOV 1991 (Art. 14), which was not signed by the Argentine government.

In 2004 Monsanto legally contested the importation of Argentine soybeans and derivatives in several countries of the European Union based on the patent of RR Soy in the EU to obtain the collection of royalties at European harbours and by so doing enforce the introduction of royalties in Argentina. Therefore, Monsanto left the Argentine national arena in order to enforce its interests in a different national as well as supranational arena with a different legal context. The threat of collectively binding decisions by courts in the EU, enforced by hierarchical instruments, should alter the conflict in Argentina and can therefore be described as governance mode of external hierarchy. Besides this, Monsanto opposed another actor group of the Argentine soy sector – the importers of soybeans and derivatives – and aimed to levy royalties indirectly from the soy farmers. This action follows the extension of seed breeders' rights to products directly obtained from harvested material based on the unauthorised cultivation of protected varieties in UPOV 1991. Dutch judges sent the case to the Court of Justice of the European Union in 2008 demanding a leading decision (Brieva 2006: 252; Mira 2006; Premici 2010; UPOV 1991: Art. 14; Vara 2005: 31-32). The Argentine government participated in the trial as co-defendant to protect the Argentine agricultural sector and its taxation by the Argentine state, and to defend the Argentine national legislation of intellectual property rights based on the lack of a patent on the RR Soy of Monsanto. The government's position was backed by the farmers' associations, especially by SRA and FAA (La Nación 2006; Mira 2006; Varise 2005b). In connec-

tion with the above-mentioned willingness to change the seed law, and to adhere to UPOV 1991 and to implement royalties, the participation in the trial shows the oscillating position of the Argentine government regarding the royalties on RR Soy. On 6.7.2010 the Court of Justice of the European Union (2010: Art. 1) denied Monsanto's claim for patent protection for products cultivated with RR Soy in Argentina: "On those grounds, the Court (Grand Chamber) hereby rules: 1. Article 9 of Directive 98/44/EC of the European Parliament and of the Council of 6 July 1998 on the legal protection of biotechnological inventions is to be interpreted as not conferring patent right protection in circumstances such as those of the case in the main proceedings, in which the patented product is contained in the soy meal, where it does not perform the function for which it is patented, but did perform that function previously in the soy plant, of which the meal is a processed product, or would possibly again be able to perform that function after it had been extracted from the soy meal and inserted into the cell of a living organism".

The judgment made it clear that the characteristics of the patented RR Soy seeds are not in performance in harvested and processed material and therefore the court restricted the range of patent protection. Moreover, the Court of Justice of the European Union declared that Art. 27 and Art. 30 of the TRIPS Agreement do not affect this interpretation (Court of Justice of the European Union 2010: Art. 3). As consequence of the judgment Monsanto withdrew the lawsuits against companies that import soy from Argentina and focussed its strategies on the protection of new technologies and on the direct negotiation with Argentine soy farmers, thereby bypassing the farmers' associations (Interview 1; Premici 2010).

A governance arena, one characterised by the governance mode of external hierarchy, was the non public meetings of Argentine and US government officials and congress members who exerted pressure in favour of Monsanto. These previously unknown connections were uncovered and published by Wikileaks on the basis of the cables sent from the US Embassy in Argentina to the US State Department. The cables show that the pressure from US representatives on the Argentine government to implement royalties on RR Soy in favour of Monsanto was strengthened in 2006 and went on until 2009, during the legal conflict between Monsanto and the Argentine state in the European Union. The main addressees of the 11 meet-

ings were the Argentine Minister for Economic Affairs and the Secretary of Agriculture. One consensus of the conversations was the right of Monsanto to collect royalties, but their amount and their form, as well as the pressure from Monsanto, were questioned by the Argentine government officials. The US representatives insisted on the implementation of a system of royalties not only based on intellectual property rights, but also on the rejection of the competitive advantage of the Argentine over the US soy farmers. The US officials and congress members demanded that the Argentine government moderate the conflict between Monsanto and the Argentine soy farmers in favour of the US-based company. Another concern in the meetings was the protection of the second generation of RR Soy, which will be introduced in Argentina by Monsanto at some stage. (O'Donnell 2011a, 2011b).

Furthermore, Monsanto used another instrument of its market dominance to enforce its interests in the negotiation: new technology, precisely the second generation of RR Soy (RR2YBt). Monsanto follows a double strategy: legal protection of the intellectual property rights of RR2YBt through a patent in 2009 and private contracts with soy farmers. In the contract, the soy farmers accept the intellectual property rights of Monsanto and oblige themselves to pay royalties as remuneration for the use of the RR2YBt seeds. The Argentine soy farmers partly fear the loss of their international competitive ability without the new transgenic soy seeds. But only 7,000 farmers have up to now signed the private contract with Monsanto, which represents around 10 % of all soy farmers in Argentina. FAA maintained its rejection of the private contracts with Monsanto, while several big farmers, represented by SRA, tend to sign the contract (Bertello 2011; El Diario24 2011; Interview 1; La Nación 2012b; La Política Online 2009).

Despite this, Monsanto still claims the reform of the seed law and, through that, of the governance structure. A new legislative initiative, elaborated by the Ministry of Agriculture, to reform the Argentine seed law and especially to restrict the farmers' privilege to small farmers was introduced in the House of Representatives on 27.11.2012, and is still in progress. The FAA rejected the proposal while the other farmers' associations are mostly in favour of the reform (Diputados Expediente 8288-D-2012; La Nación 2012a). The introduction of the second generation of transgenic soy seeds of Monsanto as well as the reform of the seed law are still pending and so is the conflict about the remuneration.

4. Conclusion: why has Monsanto failed so far?

This paper shows that, despite several attempts by Monsanto to enforce the payment of royalties in different governance arenas based on the governance modes of negotiation and external hierarchy, the farmers' privilege is still in force; because of that the intent of remuneration through royalties has so far failed. To answer the main question, I want to offer three interconnected explanations as to why the attempts of Monsanto failed to generate and implement a collectively binding norm of remuneration.

Firstly, the nested governance structure on the international and national level contains a contradiction regarding the farmers' privilege between UPOV 1978, 1991 and the Argentine seed law, as well as TRIPS and the Argentine patent law. This legal contradiction enables the rejection of royalties by the Argentine soy farmers and it causes the conflict I have analysed in the paper. That is why Monsanto tries to alter the governance structure through the adherence of Argentina to UPOV 1991 and the reform of the seed law. The lack of a Monsanto patent and the seed breeder's right on RR Soy seems to be a minor factor. The convergence of the governance structure towards an extension of seed breeders' rights and a restriction of the farmers' privilege did not help Monsanto to introduce a collectively binding norm regarding royalties.

Secondly, the big farmers' associations acted in different constellations at different moments of the conflict against differing actions of Monsanto; FAA, SRA and CONINAGRO found consensus on their rejection of the adherence to UPOV 1991, but they disagreed on the payment of royalties. FAA contested the private contracts between Monsanto and farmers at the beginning through a court case and later by claims towards the government in spite of the threat of Monsanto not to introduce the second generation of transgenic soy seeds in Argentina. During the trial between the soy importers, the Argentine government and Monsanto in the European Union, FAA and SRA supported the government's position against the collection of royalties at European ports. As well as the political actions of the farmers' associations, the farmers' practice of the white bag trade of unregistered seeds is also part of the resistance. The resistance is directed against the rent appropriation and not against the use in itself. Monsanto's strategies – understood as non-hierarchical governance modes, which

require a certain degree of collaboration – collapsed, because of the resistance of the farmers' associations and despite Monsanto trying to exert its negotiating power, based on its market dominance.

Thirdly, the Argentine government acted both in favour of and against the remuneration of RR Soy. The government made various proposals for legislation but took into account the positions of Monsanto and the farmers' associations. But the government also participated in the trial in the European Union on the side of the soy importers against Monsanto and resisted the pressure from the US government to introduce royalties. The reason for such vacillation on the side of the government is the priority of the rent appropriation by export taxes over royalties. Thus, the Argentine government's actions were directed against the exerting of external hierarchy and towards the partial refusal to back Monsanto's strategies with hierarchical instruments; this led to the failure of Monsanto.

To sum up, the contradiction in the nested governance structure enabled the refusal of royalties by the Argentine soy farmers and the resistance of the farmers' associations thwarted the non-hierarchical strategies of Monsanto, which lacked the support of hierarchical instruments of the Argentine state or external state actors like US government officials. The interplay of these three factors led to the failure of Monsanto to introduce a collectively binding norm regarding royalties on RR Soy. Future research should focus on a small-N comparison with cases like Bolivia, Brazil and Paraguay to analyse the validity of these conclusions for other cases.

1 Qualitative Content Analysis is a systematic and rule-led approach to analysing text material with the aim of inductive or deductive category building (Mayring 2000).

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Interview 1: Monsanto representative, Buenos Aires, 7.12.2012.

Abstracts

The paper analyses the interaction between the governance structure – consisting of the international treaties UPOV and TRIPS and the Argentine seed law and patent law – the hierarchical instruments of state actors and the (non-)hierarchical instruments used by Monsanto to generate and implement a collectively binding norm regarding royalties on RR Soy and to alter the governance structure of rent appropriation. The paper addresses the reasons for the breakdown of Monsanto's strategies in the struggle with the Argentine soy farmers and government and offers three possible explanations: conflict of legal norms, resistance of farmers' associations, and the partial support of the Argentine government.

Der Artikel analysiert die Interaktion zwischen der Governance-Struktur – die aus den internationalen Verträgen UPOV, TRIPS sowie dem argentinischen Saatgutgesetz und Patentgesetz besteht –, den hierarchischen Instrumenten staatlicher Akteure und den (nicht-)hierarchischen Instrumenten, die von Monsanto verwendet werden, um eine kollektiv verbindliche Norm bezüglich der Lizenzgebühren auf RR-Soja zu generieren, zu implementieren sowie die Governance-Struktur der Rentenaneignung zu verändern. Dabei werden die Gründe für Monsantos Scheitern im Konflikt mit den argentinischen Sojabauern und der Regierung auf der Basis dreier Erklärungsansätze thematisiert: Konflikt rechtlicher Normen, Widerstand der Bauernverbände, teilweise unterstützt durch die argentinische Regierung.

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Journal für Entwicklungspolitik XXIX 2-2013, S. 87-105

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The Patent Policy Trilemma[1]

Patents provide private rights of exclusion over knowledge. They can serve as incentives to the generation and commercialisation of new knowledge, yet by converting knowledge into private goods, the use of which is controlled by owners, patents can also impose barriers to the dissemination of knowledge. Given the important role that patent policies play in the distribution of private rights of exclusion over knowledge, and the vital role that access to and use of knowledge plays in development, studying patent policies is of crucial significance for development.. To appreciate patents as a policy variable, it is important to appreciate that the private rights of exclusion conferred by patents are national: having a patent in one country does not give rights over the knowledge in another country, which means that patents must be obtained in each country where protection is sought. It is possible that some knowledge may be privately owned in one country but in the public domain in another one.

Notwithstanding the considerable degree of harmonisation of national patent systems that has been introduced by the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), it is widely recognised that one area where countries retain potentially important levers of policy discretion regards the administration of national patent offices (Commission on Intellectual Property Rights 2002; UCTAD-ICTSD 2005; Drahos 2010). In particular, how countries go about operationalising and applying the key patentability criteria of 'novelty' and 'inventive step', through both patent office guidelines and examination procedures, remains a feasible source of cross-national variation in patent policies – one that can affect the balance between private rights and the public domain. Yet, despite the near-universal recognition of both the potential importance of patent examination as a remaining

policy instrument and the possibilities for variation in examination practices, minimal attention has been paid to analysing the topic in the context of developing countries.

In this article I analyse the challenges that developing countries face in taking advantage of these opportunities for policy innovation. I focus on the intrinsic trade-offs between three objectives that characterise patent policy: (1) the quest for *examination speed* to increase legal certainty and reduce application backlogs; (2) the desire to achieve high standards of *examination quality* to minimise the granting of non-deserving patents; (3) the *preservation of resources* to minimise, among other things, the opportunity costs of having highly-qualified, scientifically-trained professionals dedicated to examining others' (largely foreigners') patent applications rather than engaging directly in their own productive and scientific activities.

Policymaking always entails trade-offs; a measure that accomplishes one goal may undermine (or complicate) the achievement of another goal. The notion of 'policy trilemmas' allows us to conceptualise the trade-offs in situations where policymakers have three desirable – but conflicting – objectives. In this paper I treat the desire to accomplish the three policy objectives indicated above – speed, quality, and resource preservation – as a trilemma: only two of the three objectives can be maximised simultaneously. Of course, the trade-offs between doing things quickly, doing things well, and doing things at minimal expense apply to many policy areas; politics entails making trade-offs and choosing which objectives to prioritise. The patent policy trilemma discussed here, then, is a specific example of a more general policy challenge.[2] I show that most responses to the trilemma typically subordinate patent quality to examination speed and resource preservation. In contrast, I suggest that quality should be the highest priority, and that perhaps resource preservation is the objective to de-emphasise.

In the next section I explain in more detail the significance of each of the three objectives, and why the importance of each is particularly acute in the case of developing countries. A key contribution of the article is to show that each objective presents particular challenges in developing (i.e. resource poor) countries. This discussion allows me to present the trilemma, showing how efforts to achieve any two objectives come at the expense of the third. I then consider responses, both national and interna-

tional, and draw attention to different responses' approaches to the issue of patent quality. In the concluding section, I consider how an appreciation of the importance of preserving the public domain and knowledge commons – and regarding examination practices that focus on patent quality as a means for doing so – may lead to a reconsideration of the trade-offs.

To be sure, references to resource-poor developing countries, in general, are overly simplistic, as developing countries differ significantly in their degrees of resource scarcity and the particular challenges they face in introducing new patent systems. However, the generalisation, in addition to being practical in facilitating discussion, is not entirely flawed in an analytical sense. All developing countries introducing new patent systems in the wake of TRIPS face a general set of challenges and trade-offs; the subsequent similarities of the trade-offs faced by all developing countries are as interesting as the differences between countries. In the text below, then, I continue to rely on this broad category of 'developing countries', but I also discuss differences among developing countries where relevant.

1. Objectives and trade-offs in patent policy

Fast prosecution of patents, i.e. minimising the time from when an application is filed to when a decision (granting or rejection) is made, is important for both legal and political reasons. Legally, it creates juridical certainty by removing questions of whether the knowledge is privately owned or in the public domain. Applicants want to know whether they own the knowledge or not, so they can proceed with investment and licensing decisions. Potential users want to know if the knowledge is privately owned or not, so they can make their own investment and market decisions (for example, whether to launch potentially infringing products on the market, risking litigation, or whether to negotiate licensing agreements). Politically, governments may seek to reduce the considerable external pressures that many are subject to on account of application backlogs. Countries are routinely criticised for not examining patent applications quickly enough. This is a recurrent theme in the United States Trade Representative's (USTR) annual Special 301 reports, for example, as the USTR tends to regard slow patent examination as an implicit evasion of international

obligations. The pressures do not just come from foreign governments: long examination times and the existence of backlogs are also invoked by patent owners as grounds to request extensions of existing terms.

Countries have an interest in the quality of patents granted. Assuring that patents are granted only for inventions that genuinely deserve protection, that the claims in a patent are not overly broad, and that applicants disclose sufficient information on how their inventions work, are all goals of public policy.[3] Patents are exceptionally strong instruments, in that they provide actors with private rights of exclusion and convert public goods (knowledge) into monopolised private goods (property). On account of the distortions introduced by such strong instruments, the exclusive rights conferred by patents are limited – and one important limitation is that the claimed inventions need to satisfy a set of criteria prior to the knowledge being converted into private property. To put it simply, high (low) quality in patent grants protects (threatens) the public domain and knowledge commons. The importance of patent quality is universally recognised: the U.S. Federal Trade Commission emphasises that patent offices "must protect the public against the issuance of invalid patents that add unnecessary costs and may confer market power" (Federal Trade Commission 2003: 14); in the same vein, the former Chief Executive of the UK Patent Office writes, "[p]atent offices recognise that bad patents have an adverse and unjustifiable effect on competition and hence the public good" (Marchant 2012: 63).

An important qualification here would be for a country that uses patent grants as a signal to attract DFI. In such an instance the definition of 'quality' would change, in that quality might become equated with quantity. Yet even then, the country might have concerns about overly broad claims; or at some point, once the investment arrives and the effects of low-quality patents are felt, it will develop such concerns. In a sense, using patent grants as a signaling device does not eliminate the concern with patent quality so much as postpone it.

To be sure, low-quality patents, once granted, can be challenged and later invalidated, and the availability of this recourse may reduce the imperative of assuring quality at the point of patent examination. Yet invalidating patents is costly and time-consuming. Moreover, eliminating low-quality patents introduces collective action challenges, as the

costs are borne by the challengers alone but the benefits are shared by all (since successful challenge of a patent puts the knowledge in the public domain). The ex post elimination of low-quality patents through challenges thus relies on the existence and operation of complex institutional arrangements. Though such arrangements are known to be effective in some countries and some sectors, such as the pharmaceutical sector in the USA (Hemphill/Sampat 2012), the lessons are not widely generalisable. In fact, while Hemphill and Sampat (2012) demonstrate the effectiveness of the ex post system for dealing with pharmaceutical patents in the US, the mechanism they analyse operates only in the case of pharmaceuticals. Meanwhile, a number of studies point to the problems posed by poor quality patents in other sectors and lament the absence of such mechanisms to deal with them, even in the USA (Bessen/Meurer 2008; Jaffe/Lerner 2006).

Few if any developing countries benefit from ex post mechanisms to deal with low-quality patents. This is an area where the similarities between developing countries are greater than the differences. It is not just smaller and poorer countries that cannot rely on ex post measures; even the largest developing countries will struggle to put such arrangements into place. Indeed, precisely because ex post mechanisms for eliminating low-quality patents are difficult to construct and implement in resource-poor settings, and even where in place may be less effective (Sampat et al. 2012), the objective of assuring patent quality takes on amplified significance in developing countries. Nor is it sufficient to rely on compulsory licenses to deal with poor-quality patents, as such measures only provide temporary relief; the patents remain in effect, excluding all actors, other than the recipient of the compulsory license, from using the protected knowledge.

The direct and binary trade-offs between the speed of patent prosecution and quality of patent grants are straightforward. Countries can reduce backlogs of patent applications by granting patents with cursory examination (or even no examination, such as is the case with registration systems). Doing so reduces quality, however, since many patents that, with more rigorous examination would have been denied or had their claims narrowed, will be granted. Conversely, countries can take steps to assure the quality of all patents granted, both rigorously checking for novelty

and inventiveness along with assuring that applicants have made sufficient disclosure, but that entails more time spent on each individual application and thus comes at the expense of speed.

The 'solutions' to the speed-quality trade-offs would appear to be as straightforward as the dilemmas themselves: increase productivity and hire more examiners. That is, with training of personnel, the introduction of technologies, and improved infrastructure facilities, countries may increase productivity by helping individual examiners increase their output without reducing quality (e.g. technology that simplifies search for prior art can allow examiners to complete more steps in the same amount of time). And more examiners can be hired with increased resource allocation. With more examiners working with better technology, more patent applications can be examined in the same amount of time. In Brazil, for example, increased resource allocations, along with managerial and administrative reforms, have yielded reductions in examination times. By investing to modernise patent office infrastructure, introducing automation procedures for routine tasks, reorganising technical sectors to improve the division of labor,[4] removing abandoned applications from the work backlog, and recruiting more examiners, examination time has been reduced from an average of 11.6 years in 2006 to 5.4 years in 2011; and Brazil aims to reduce the average time to four years by 2015 (MDIC 2012).

While such steps can allow countries to increase speed without affecting quality, doing so only generates a trade-off with a third national policy objective, namely the preservation and optimal deployment of resources. To understand the importance and relevance of this third objective, it is essential to keep in mind that, while patents are not new in developing countries, until recently many developing countries excluded many important technological classes from patentability. For example, until required to do so by TRIPS, few developing countries granted patents in areas such as pharmaceuticals, chemicals, food and agricultural products. And even where patents were formally available, the rights of exclusion tended to be weak and of short duration. With the introduction of new patent regimes that include both broader scope of patentable subject matter and stronger rights of exclusion, the number of patent applications received by patent offices in most developing countries has increased astronomically (WIPO 2011a).

The surge in applications – often in new and highly technical areas – raises significant challenges. Examining patent applications is complex work, not something that can be done by the layman. Good patent examiners are highly skilled and well-trained professionals with technical knowledge, normally with engineering and science backgrounds. Given that such skills are, almost by definition, in relatively short supply in developing countries, an obvious question regards the opportunity costs of deploying 'the best and brightest' as patent examiners. Does it make sense for developing countries' engineers and scientists to work as patent examiners rather than being engaged in the generation and production of knowledge and knowledge-intensive products? While I emphasise the human resource dimension here, to the extent that responses to the large number of applications include the introduction of new technologies and infrastructure, the challenges discussed regard resources more generally.

Again, the case of Brazil illustrates the dilemma: the country's objective of continuously increasing examination speed cannot be met without significant staff increases; administrative, managerial, technological, and infrastructure fixes can only increase productivity to a certain extent. To be sure, increasing the number of examiners is explicitly indicated as a goal in the national development strategy: the government intends to increase the number of examiners by 139% by 2015 (MDIC 2012). Yet Brazil's national development strategy also prioritises increasing the level of innovative activity that takes place within industrial firms, and every engineer and scientist that is working for INPI as a patent examiner is one less engineer and scientist available to local industry.

I am hardly the first to make this observation. The World Bank (2001) questions this allocation of scarce human resources in developing countries. Most trenchantly, Peter Drahos (2010), in his book on patent offices, expresses similar concerns. In noting the highly qualified examiners employed by the patent office in South Korea, for example, Drahos (2010: 238) writes that "[w]hether having so much highly qualified scientific talent locked up in patent examination work is a good innovation strategy is a question worth asking". Drahos answers his own question, concluding that "deploying scarce scientific resources into the rent-seeking machinery of the patent system cannot be part of a productive economic growth strategy, especially not one that takes seriously the idea that produc-

tive human capital is at the core of economic growth" (ibid.: 262). Indeed, Drahos quotes a New Zealand examiner's observation that staffing the patent offices "sucks scientific expertise out of the system" (ibid.).

Note that the focus is on optimal deployment of resources, and not on resource expenditure per se. That is, we are concerned with *opportunity* costs, rather than costs per se. The distinction is important because application, examination, and renewal fees charged by patent offices can make patent systems self-financing. The infrastructure, technologies, equipment, and salaries of the examiners and managers can be covered by the fees charged to users of the system. The concern, however, is with human resources not being used in more developmentally propitious ways. What if, instead of vetting applications for others' proposed technological developments, these talented engineers and scientists were engaged in designing, developing, and adapting new technologies?

Before proceeding, it is worth considering if the opportunity costs might present themselves differently in poorer rather than less poor developing countries. In countries with larger pools of well-qualified, scientific labour, for example, might the costs of diverting some of these people's resources toward patent examination be less acute? That is, it may be that Brazil and India can afford this allocation of human resources more than Honduras and Malawi can. Yet countries such as Brazil and India also have significant innovation gaps, and they also have more innovation potential. We do not, generally, expect innovation to take off in ultra poor countries, but we do expect (or hope) to witness more innovation in middle-income developing countries, i.e. those with more scientific talent. In fact, on account of innovation imperatives and innovation potentials, the opportunity costs of deploying human resources in patent examination may be *greater* in middle-income countries.[5]

Introducing a concern with how resources are deployed allows us to think of patent policy in terms of a trilemma. Figure 1 illustrates the trade-offs, with each combination indicated by an angle of the triangle. The two lines that meet at each angle constitute the objectives emphasised, with the opposite side of the triangle indicating the less emphasised objective. Combination (A), rapid examination with preservation of resources, jeopardises quality, as examiners will end up approving applications of dubious merit. Combination (B), high-quality examination and preserva-

tion of resources, mitigates against the objective of increasing speed, as the length of time in examination of each application will tend to be increased. Combination (C), rapid examination of high quality, necessitates significant consumption of resources (human and otherwise).

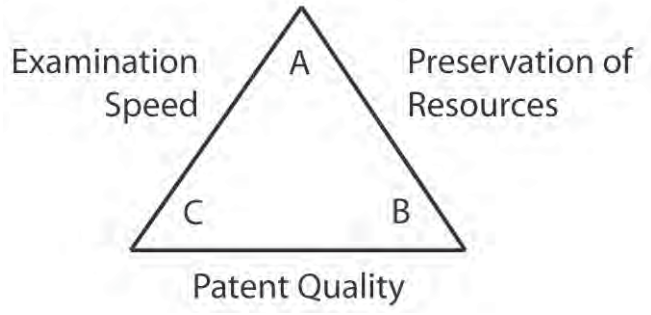

Figure 1: Speed, Quality, and Resources
Source: own elaboration

Many creative options exist for countries to attempt to overcome the trilemma. For example, a country may allow applicants with multiple applications to prioritise – and change the examination order – of their own applications. The result of such a measure is to reduce backlogs and thus increase the effective speed of examination by moving 'important' applications further up the queue, with importance being designated by the applicants themselves. In Argentina, for example, the patent office has allowed this on multiple occasions in specifically designated time periods. When I discussed the trilemma with the Director of Patents at Argentina's patent office (September 2011), he repeatedly emphasised re-prioritisation as the measure that his office most relies upon. And the response has been positive: though the USTR's annual Special 301 reports consistently criticise Argentina's overall IP policies, the USTR also praises this particular practice. Re-prioritisation, thus, constitutes a low-cost way to increase the speed of patent examination (and perhaps quality as well, to the extent that applicants' assessment of importance might be correlated with the quality of these applications), and it does so in a resource-preserving way by assuring that resources are not exhausted on less important patents. Yet while such administrative measures are feasible, alone they are likely to be inadequate; revising the order of examination does not overcome the trade-offs, it just

postpones them. After all, applications jumped over in the queue are not abandoned, but will need to be examined eventually; and in the meantime more applications are received.

Another solution is to allow for robust pre-grant opposition. Virtually all countries allow some sort of opposition, by which 'third parties' (i.e. neither the applicant nor the state) can provide input. Opposition systems vary according to multiple dimensions, including who has the right to provide input, and the timing of procedures relative to the publication of application for or granting of the patent (Amin et al. 2009). A robust pre-grant opposition system, as India has now (and as Japan had in the 1960s–1980s), may allow a wide range of actors from civil society to provide information that becomes part of the legal examination process. Such arrangements can improve the quality of granted patents without necessarily affecting speed or imposing new costs on the state. Yet even pre-grant opposition systems present opportunity costs: talented human resources are being deployed in patent examination, albeit indirectly, rather than engaging in their own innovative and productive activities (similar points can be made about 'crowd-sourcing' and peer-to-peer examination strategies).

Most 'solutions' to the trilemma simply reinforce the trade-offs: there is no getting around the fundamental inability to simultaneously maximise examination speed, patent quality, and resource preservation. Indeed, the only way to avoid the trilemma is to avoid the patent system altogether, and that is not an option for any country that is a participant in the global economy and is or seeks to be a member of the WTO. Countries must choose how to respond to the trilemma and decide which objectives to prioritise. The following section considers some responses at the national and collective levels.

2. International responses to the trilemma

A simple response to the trilemma is to rely on the work done by other countries' patent offices. For example, a country may preserve resources by deferring to the examinations made elsewhere. Prominent steps in this regard consist of cooperation agreements and 'patent prosecution highways'

(PPH). The former refer to agreements (often informal) to exchange information and experiences, the latter refer to formal bilateral accords whereby pairs of countries agree to expedite examination of applications already reviewed by the other. Mexico, for example, has a PPH with the USA and another with Japan (Brazil and the USA initiated, but did not conclude, negotiations for a PPH). These sorts of arrangements can contribute to speed without further expenditure of resources (after all, what the country is doing is attempting to benefit from other countries' resource deployment), but the likelihood of importing inappropriate examination procedures and thus sacrificing quality is high. Consider the Mexico-US PPH, which states explicitly that the objectives are to increase the speed by which Mexico grants patents (IMPI 2011). The agreement essentially conflates speed and quality, as if the way to increase the quality of Mexico's patent examination system is to increase the speed of granting patents.

Developing countries also may obtain technical assistance, which allows them to increase the speed of patent examination without further resource expenditure. Indeed, the 'trilateral' patent offices (USPTO, EPO, JPO) have extensive technical assistance and outreach programs that aim to train examiners and to help developing countries' patent offices deal with the large number of applications they receive. Yet technical assistance is not neutral (May 2004; Matthews/Munoz-Tellez 2006; Drahos 2010); trilateral offices transfer technology, skills, and practices geared to increase examination speed in countries with different conditions and needs than the receiving country. Technical assistance programmes tend to equip and train examiners in developing countries to view, evaluate and assess patents through the same lenses and according to the same criteria as done in developed countries, even though substantive patent laws in combination with national needs and capabilities might suggest that the same patent applications should be viewed and assessed differently. As Drahos (2010) puts it, technical assistance is not geared toward helping recipient countries best develop and implement patent systems to correspond to their own distinct needs but rather to achieve 'invisible harmonization' among national patent systems.

The principal problem with these bilateral cooperation mechanisms (e.g. PPH, technical assistance) is that they export examination practices from countries where patent quality is of less concern to countries where patent quality is of greater concern. In the USA, for example, where elab-

orate ex post arrangements to eliminate low quality patents are in place and function (at least in pharmaceuticals, if not in all sectors, as discussed above), the concern with patent quality may be less acute. However, in developing countries, which generally lack such arrangements, assuring patent quality is that much more imperative. To put it simply, the prevailing North-South cooperative approaches coordinate examination practices and effective definitions of quality between countries where ex post invalidation of granted patents works (or can be expected to work) and countries where ex post invalidation of granted patents does not work.[6]

An alternative form of international cooperation, one that might suffer less from the problems of relying on developed countries' guidance, practices, and technical assistance, is more 'south-south cooperation' on patents. Such cooperation among countries that share a concern with patent quality could, potentially, militate against the problems discussed in the previous paragraphs. That is, countries can work together to assure that patents granted are of high quality, without incurring such high opportunity costs of each country using its own human resources. For all the benefits of examination sovereignty as a policy instrument, there is, after all, a great deal of redundancy in having the same applications assessed by different examiners in each country.

The key for such cooperation to be different from the form of international cooperation discussed above, is that the emphasis must be, explicitly, on patent quality. They must constitute alternative regulatory networks that examine patent applications in accordance with local needs and standards. Latin America offers *potential* instances of this that merit consideration. Brazil's patent office, for example, has an Academy of Intellectual Property and Innovation that holds training courses throughout the region for examiners of various South American and Central American countries. The extent to which these courses are spreading practices to raise quality as opposed to exporting developed-country style standards is unclear and worthy of additional research. After all, Brazil's INPI's own examination practices are changing and, in many dimensions, becoming more harmonised with those of the USPTO and EPO (Shadlen 2011).

Another incipient development from the same region regards the establishment of Prosur, a cooperative agreement between nine South American countries (Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru,

Suriname and Uruguay). Prosur, which was agreed and launched as a pilot project in 2011, aims "to develop a common platform that allows the integration, exchange of information and system compatibility for the nine participating countries" (WIPO 2011b; Barroso 2011). This technological platform was developed collaboratively by the Brazilian and Argentinean patent offices, and the programme has been launched. Again, the key question of Prosur will regard the sorts of patent examination practices that the programme advances. One can imagine a scenario where Prosur participants, all sharing a concern with quality and thus with minimising the granting of patents on minor innovations that do not entail significant advances to the state of knowledge, may pool resources and share the results of their examiners' searches for prior art, their evaluation and scrutiny of inventive step, and the technical reports. In doing so they might converge in establishing de facto standards that raise quality above the levels they could achieve on their own. Alternatively, one can also imagine a scenario where Prosur members share information to simply speed the granting of patents; in such a scenario south-south cooperation could operate much like north-south (and north-north) cooperation. Thus, more research is required to discern what this incipient form of collaboration consists of and in what (if any) ways collaboration affects national examination practices.

More ambitiously, another approach might be technical assistance from India (and other 'non-traditional donors') to counter the sort of EPO/USPTO socialisation that observers have criticised. This would entail not just sharing information and training locals, but actual provision of resources (i.e. funding examiners) to improve the quality and speed of patent examination. Such technical assistance would have the most relevance in the area of pharmaceuticals, where the Indian examination system has been geared to emphasise quality – and in particular to minimise the granting on patents on incremental pharmaceutical innovations (Kapczynski 2009; Sampat et al. 2012). The ability of Indian pharmaceutical firms to take advantage of such outputs outside of India depends on the patents that are not granted in India not being granted in potential export markets either. Thus, the Indian pharmaceutical industry may have an interest in improving patent quality abroad and harmonising India's arguably 'pro-competitive' standards. Of course, the Indian system itself does not appear to work as well in practice as it does on paper (Sampat et

al. 2012; Sampat/Amin 2013), so the first priority of the Indian government (and local pharmaceutical firms) may be to invest in improving local practices. But as a next step, given the importance of the sector to the national economy, it is not unreasonable to imagine that the Indian government could be prompted to engage in technical assistance of this sort.

3. Conclusion: protecting the public domain

The only way to avoid the patent policy trilemma is to stay out of the patent system. Doing so preserves resources and allows scientists and engineers to discover and invent and build, it eliminates concerns about speed, and it also reduces the number of low-quality patents granted. Yet even that may be misleading, in that the absence of a patent system might undermine quality in another sense – not a problem of too many poor-quality patents, but rather one of too few high-quality patents. Is that a problem? Those who argue against the patent system in its entirety (Palombi 2012) would say no; those who see a role for properly-gauged patent systems in developing countries, and regard the challenge as achieving balance between the relative rights and obligations of owners and users, would maintain that this way of avoiding the trilemma has its drawbacks too. Though this debate cannot be resolved here, even if we were to conclude that 'too few high-quality patents' is not a problem to be worried about and subsequently advocate withdrawal from the patent systems, it is simply not feasible on account of TRIPS; the costs of withdrawal would be too high. The international political economy requires developing countries to join the global patent system if they want to be part of the international trade system, and participation in the global patent system imposes the unavoidable trilemma.

So how to proceed? I suggest that the key issue should be assuring patent quality, and that policy in this area should be informed by a concern with minimising the granting of patents that should be blocked. In regulatory terminology, this amounts to minimising 'false negatives'. False negatives refer to instances where an instrument designed to combat a certain activity is not invoked because the activity is regarded as not possessing the relevant attributes to make it subject to the policy instrument. To minimise false negatives in patent policy means to ensure that examina-

tion criteria that could be deployed to prevent the granting of low quality patents are not inappropriately suspended. Of course, making sure that non-deserving applications are rejected and that deserving applications are granted with appropriate claims (i.e. assuring quality) requires resources. Perhaps the problem in developing countries is not that governments allocate too many resources to the patent system, but that they do not allocate enough. Identifying the 'optimal' level of resource allocation is impossible, but depending on the goal to be achieved the optimal amount may not be the least amount either.

Ultimately, the issue comes down not simply to the level of resource allocation but rather the ends to which the allocated resources are put. If patent offices are more concerned about examination speed than quality, then allocating more resources toward examiners and infrastructure simply leads to more patents (some of dubious quality) being issued more quickly. However, if patent offices serve not as enablers of poor-quality patents but rather barriers against poor-quality patents, then allocating more resources in this way may contribute to preserving the public domain and the knowledge commons. In the latter scenario, increased resource allocation to patent offices may constitute a developmentally beneficial use of resources. As Boyle (2008) suggests, we must take seriously the contributions to economic and social activity that are derived from the public domain, as difficult as it is to measure.

Here an analogy to the military can be made. There are opportunity costs to spending resources on armaments and having bright and well-trained engineers and managers running the military rather than building things and managing companies. Most countries justify such resource allocations on the ground that national defence is a public good; deploying resources for national defence is regarded as a proper use of resources. Debates centre on how resources are deployed: where armies do not protect national defense but rather serve as instruments of repression, the public goods rationale for increased expenditures is much weaker. Can we perhaps then look at the public domain and patent offices through a similar lens, and thus justify the deployment of scarce, skilled human resources in this way too?

If we come to regard preserving the public domain as genuinely worthwhile and valuable, then we may accept the sacrifice of resource preserva-

tion as the appropriate aspect to select. Given the impossibility of achieving all three objectives and the importance of patent quality, not just in a negative sense of avoiding the detrimental effects of low quality patents but also in a positive sense of exploiting the benefits of a rich public domain, it may be advisable to dedicate more resources to patent offices (i.e. subordinate resource preservation) in order to increase speed and quality. Once we come to appreciate the value of the public domain and knowledge commons, then this use of resources seems less problematic. If significant resources are exhausted to reject low-quality applications, this might be good for development. To put it most directly, and again drawing inspiration from Boyle (2008), the engineers and scientists that examine patents can be contributing to – not detracting from – the public interest by protecting the public domain and expanding the knowledge commons. Again, some will maintain that this remains less developmentally-beneficial than staying out of the patent system altogether; this can be debated. However, given the overriding constraint imposed by the international political economy, this may be the least worst response to the patent policy trilemma.

In the final regard, these are not just philosophical but empirical questions: are the resources allocated toward patent examination improving speed *and quality*? Does diverting resources (human, and also financial) from potentially productive activities contribute to *preserving* (rather than eroding) the public domain and *extending* (rather than diminishing) the knowledge commons? There is a case to be made for allocating scarce resources to generate public goods, but the question is whether this happens or not. These are exceptionally difficult things to measure, and it is worth thinking about how to do so.

1 I am grateful to the participants at the authors' workshop, the editors of the special issue, and two anonymous reviewers, for comments and suggestions.

2 This is a multi-objective optimisation problem. Given the lack of data available I am treating this conceptually rather than empirically, focusing on the logics of each objective and the trade-offs between them, and providing some illustrations. I draw inspiration from two prominent conceptual applications of the 'trilemma' along these lines: Cohen (1993) on monetary policy, and Rodrik (2000) on international economic integration.

3 The 'claims' refer to the specific aspects of the invention that are protected in a patent (Merges/Nelson 1990). Ordover (1991) discusses the role of narrowing claims in Japan's post-war technology policy and economic development.

4 The Brazilian patent office had six divisions in 2005, but under Jorge Avila's reorganization this number increased to 20. The intent is to rely on specialisation to increase speed.
5 Middle-income countries also typically receive a larger number of applications, which means more people need to be employed as examiners.
6 The implication throughout this article is that developed countries care less about the quality of granted patents because they have more effective ex post systems for dealing with the ensuing problems that low quality patents create, or at least they have greater abilities to construct such systems. That may be overly generous. Developed countries may also exhibit less concern about quality, de facto, because their patent policies may be captured by powerful actors that benefit from the granting of low-quality patents.

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Abstracts

Patents affect the terms on which knowledge is owned and used, and how knowledge is owned and used is crucially important for development. In this article I analyse the trade offs that countries face in pursuing three objectives in governing the ownership and use of knowledge: the desires to (1) examine patent applications quickly, (2) assure high quality in patents granted, and (3) preserve resources. I present the three objectives as a 'trilemma', whereby only two of three can be maximised simultaneously. I examine diverse national and international responses to the trilemma, and I make the case for emphasising high quality of patent examination as the most important objective. The article thus advances a case for developing countries to invest resources – individually and collectively – in improving patent quality.

Patente bestimmen die Eigentums- und Nutzungsmodalitäten von Wissen und nehmen damit entscheidend Einfluss auf die Entwicklung von Ländern. In diesem Artikel wird argumentiert, dass Länder bei der Regulierung dieser Eigentums- und Nutzungsmodalitäten zwischen drei antagonistischen Zielen abwägen müssen: Erstens einem zeitsparenden Patentprüfverfahren, zweitens einer hohen Qualität der gewährten Patente und drittens einem ressourcensparenden Patentprüfverfahren. Die Trade-offs werden in Form eines „Trilemmas" präsentiert, bei dem höchstens zwei der drei Ziele gleichzeitig erreicht werden können. Der Artikel untersucht unterschiedliche nationale und internationale Antworten auf das Trilemma und hebt die Patentqualität als wichtigstes Ziel hervor.

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Johannes Jäger, Elisabeth Springler: Ökonomie der internationalen Entwicklung. Eine kritische Einführung in die Volkswirtschaftslehre.
Wien: Mandelbaum 2012 (= Gesellschaft Entwicklung Politik – GEP, Bd. 14), 384 Seiten, 19,80 Euro.

Hat die neoklassische Volkswirtschaftslehre vor dem Hintergrund der aktuellen Wirtschaftskrise die richtigen Antworten parat? Oder hat die Fixierung auf diesen ökonomischen Mainstream den Blick auf die zahlreichen Ungleichgewichte, die letztendlich zur Krise führten, verstellt? Wenn es nach den AutorInnen Johannes Jäger und Elisabeth Springler geht, sind diese Fragen eindeutig zu beantworten: In der institutionalisierten Volkswirtschaftslehre wurden in den letzten Jahrzehnten alternative bzw. kritische Zugänge zunehmend ausgeblendet und deren Erklärungspotenzial für ökonomische Zusammenhänge, abseits von Gleichgewichtstheorie und methodischem Individualismus, der breiteren Öffentlichkeit vorenthalten. Weil Krisenzeiten allerdings auch immer Chancen auf Erneuerung bieten, liefern die beiden mit ihrer Kritischen Einführung in die Volkswirtschaftslehre ein längst fälliges Lehrbuch, das den Anspruch erhebt, den interessierten Lesenden eine multiparadigmatische Darstellung ökonomischer Fragestellungen näherzubringen. Neben der Neoklassik werden hier nämlich sowohl die (post-)keynesianische Schule als auch die Politische Ökonomie aufgearbeitet und einander gegenübergestellt.

Nach einer kurzen Einleitung zur Genese der ökonomischen Disziplin und ihren unterschiedlichen erkenntnistheoretischen Grundlagen wird der Wert dieser Herangehensweise schnell deutlich. Mit jeweils unterschiedlichen Schwerpunktsetzungen wird zu den Themenfeldern Staat, Wachstum und Krise, Verteilung, Geld und Finanzsystem sowie zu den geographischen Aspekten von Ökonomie eine detailreiche, aber dennoch zugängliche Einführung jeweils aus der Sicht der drei ökonomischen Paradigmen gegeben. Dabei finden die aus zahlreichen Einführungslehrbüchern bekannten Grundlagen der Neoklassik, wie etwa mikro-

ökonomische Angebots- und Nachfragefunktionen, ebenso ihren Platz wie die auf die Bedeutung von Institutionen bezugnehmenden Modelle des (Post-)Keynesianismus. Anhand der Ausführungen zur Politischen Ökonomie wird zusätzlich der Wert eines Ansatzes deutlich, der gesellschaftliche Kräfteverhältnisse und Fragen von Ungleichheit und Verteilung ins Zentrum seiner Analyse rückt. Vor allem der oft mit Kritik bedachten Neoklassik wird hiermit eine Sichtweise entgegengestellt, die es anhand konkreter Problemstellungen ermöglicht, Lösungsansätze ohne Anspruch auf universelle Gültigkeit zu erarbeiten, und die die Volkswirtschaftslehre mit ihrer transdisziplinären Ausrichtung wieder verstärkt in soziale Kontexte einbettet.

Diese Themenfelder bieten genug Raum, um die Grundlagen der drei Paradigmen zu erläutern. Darüber hinaus haben Jäger und Springler zudem noch eine Reihe weiterer AutorInnen versammelt, um jeweils einzelne Aspekte aus diesen unterschiedlichen Sichtweisen zu beleuchten. In kurzen Exkursen verweisen diese darauf, welche Antworten Neoklassik, Keynesianismus und Politische Ökonomie unter anderem auf Fragen der aktuellen Wirtschaftskrise, der Ökologie oder zu feministischen Gesichtspunkten geben.

Nicht zuletzt aufgrund dieser Mischung aus systematischer Einführung und zielgerichteten Vertiefungen ist es den beiden gelungen, einen innovativen und zugänglichen Band sowohl für EinsteigerInnen als auch für Fortgeschrittene in der ökonomischen Disziplin zu präsentieren. Durch die oftmals hohe Informationsdichte bleibt es den Lesenden aber nicht erspart, sich mit manchen Kapiteln intensiver zu beschäftigen, um die zugrundeliegenden Zusammenhänge erfassen zu können. Wer sich dennoch auf den zuweilen unorthodoxen Aufbau dieser Einführung einlässt, wird mit einer Sicht auf die Volkswirtschaftslehre belohnt, die bisher nicht in einer solch systematischen Art und Weise aufgearbeitet wurde. Zudem ist das Anliegen der AutorInnen, den Menschen mehr kritisches Verständnis für die sie betreffenden ökonomischen Zusammenhänge aufzuzeigen, deutlich erkennbar, was gerade in Krisenzeiten als besonders wichtig erscheint.

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gefördert durch die
Österreichische
Entwicklungszusammenarbeit

Journal für Entwicklungspolitik (JEP)
ISSN 0258-2384, Erscheinungsweise: vierteljährlich
Heft XXIX, 2-2013, ISBN 978-3-85476-417-5
Preis des Einzelhefts: Euro 11,90
Preis des Jahresabonnements: Euro 42,00
Abonnementbezug über die Redaktion:
Journal für Entwicklungspolitik, Sensengasse 3, A-1090 Wien,
office@mattersburgerkreis.at, www.mattersburgerkreis.at/jep
Das Abonnement kann unter Einhaltung einer dreimonatigen Kündigungsfrist zum Jahresende gekündigt werden.

1. Auflage 2013

Satz: Weiderand Kommunikationsdesign, www.weiderand.net, Wien
Druck: Interpress, Budapest

Offenlegung nach § 25 Mediengesetz
Medieninhaber: Mattersburger Kreis für Entwicklungspolitik an den österreichischen Hochschulen, Sensengasse 3, A-1090 Wien
Grundlegende Richtung des JEP: Wissenschaftliche Analysen und Diskussionen von entwicklungspolitischen Fragestellungen und Berichte über die entwicklungspolitische Praxis. Verantwortlich für Inhalt und Korrekturen sind die AutorInnen bzw. die Redaktion.

Reihe GEP: Gesellschaft - Entwicklung - Politik

Hg.: Mattersburger Kreis für Entwicklungspolitik. www.mattersburgerkreis.at/gep

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Eine kritische Einführung in die Volkswirtschaftslehre
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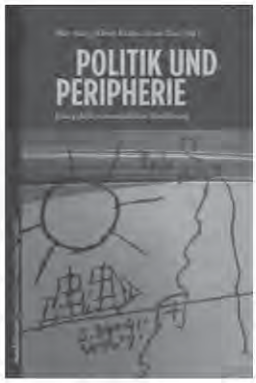

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