

Alexander Stack



INTERNATIONAL PATENT LAW

Cooperation, Harmonization and
an Institutional Analysis of WIPO
and the WTO



International Patent Law

Cooperation, Harmonization and an
Institutional Analysis of WIPO and the WTO

Alexander Stack

Gilbert's LLP, Canada



Edward Elgar

Cheltenham, UK • Northampton, MA, USA

© Alexander Stack 2011

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical or photocopying, recording, or otherwise without the prior permission of the publisher.

Published by
Edward Elgar Publishing Limited
The Lypiatts
15 Lansdown Road
Cheltenham
Glos GL50 2JA
UK

Edward Elgar Publishing, Inc.
William Pratt House
9 Dewey Court
Northampton
Massachusetts 01060
USA

A catalogue record for this book
is available from the British Library

Library of Congress Control Number: 2011924193



ISBN 978 1 84980 258 1 (cased)

Typeset by Servis Filmsetting Ltd, Stockport, Cheshire
Printed and bound by MPG Books Group, UK

Foreword

While harmonization of various aspects of commercial law is a major contemporary concern in a globalized business environment, in fact harmonization of intellectual property laws has a much longer history dating back to the Paris Convention of 1883, establishing some basic international norms for the protection of patents and trademarks, and the Berne Convention of 1885, establishing some basic minimum international standards with respect to copyright. These were followed much later by the establishment of the World Intellectual Property Organization in 1967, and then later still by the adoption of the Trade-Related Intellectual Property Rights Agreement (TRIPs) established under the auspices of the World Trade Organization, which came into force in 1995 and commits all members (now 153 countries) of the World Trade Organization to enacting domestic intellectual property laws that conform to the detailed prescriptions of the TRIPs Agreement. The long experience with attempts at international harmonization of intellectual property laws yields many important insights in their own right and with respect to harmonization of laws in other cognate fields.

In this book, Alex Stack raises and explores critically important questions with respect to this body of experience: When is international patent law cooperation and harmonization welfare-enhancing? What is the role of international institutions – WIPO and the WTO – in furthering such harmonization? Stack explores these questions from a global welfarist, rationalist perspective. Using tools from new institutional economics, he explores design implications for international institutions, focusing on WIPO and the WTO, analyzing grounds for international cooperation as collective-action problems and applying historical, political and transaction cost analysis. International patent law is revealed as a fascinating blend of politics and cooperation structured by innovation economics, and raises important trade-offs with the value of diversity in national patent laws.

This book provides a subtle, insightful, and original analysis of the evolution of institutional arrangements for the international harmonization of patent laws and it will be of immense value to scholars and practitioners involved in international harmonization efforts in intellectual property and cognate areas of commercial law. It will surely quickly become

accepted as the seminal reference work in these fields. It is an enormous source of pride and satisfaction to me first to have supervised Alex Stack's SJD thesis at the University of Toronto Faculty of Law and thus to see it, in revised form, turned into an outstanding book.

Michael Trebilcock
University of Toronto Faculty of Law
November 2010

Acknowledgements

I would like to thank everyone who reviewed, discussed or assisted with parts of this book, including Ed Iacobucci, Ariel Katz, Andrew Green, Robert Howell, Abraham Drassinower, Norman Siebrasse, Leah Theriault, Stephen Stack, Rochelle Dreyfuss, Arnold Weinrib, Brian Gray, David Campbell, David Dyzenhaus, Kaye Joachim, and from Gilbert's LLP Steven Hoffman, Matthew Dugas, Jake Hirsh-Allen, and Aidan Butler (a generally useful person). I am particularly indebted to Michael Trebilcock who has been generous with his time and efforts.

Most importantly, I would like to deeply thank my wife Carolyn, as well as other members of my family, who have been patient and supportive while I have been researching and writing this book. This book is dedicated to them.

Abbreviations

AIPLA	American Intellectual Property Law Association
AIPPI	The International Association for the Protection of Intellectual Property (Association Internationale pour la Protection de la Propriété Intellectuelle)
ARIPO	African Regional Intellectual Property Organization
BIRPI	Bureaux Internationaux Réunis pour la Protection de la Propriété Intellectuelle
CIPO	Canadian Intellectual Property Office
CPC	Community Patent Convention
DSB	Dispute Settlement Body
DSU	Dispute Settlement Understanding
EPC	European Patent Convention
EPO	European Patent Office; also European Patent Organization
FICPI	The International Federation of Intellectual Property Attorneys (Fédération Internationale des Conseils en Propriété Industrielle)
GATT	General Agreement on Tariffs and Trade
IGO	International Governmental Organization
IIPA	International Intellectual Property Alliance
IPC	Intellectual Property Committee
IPEA	International Preliminary Examination Authority
IPER	International Preliminary Examination Report
ISA	International Searching Authority
ISR	International Search Report
ITO	International Trade Organization
JPO	Japanese Patent Office
NGO	Non-governmental Organization
OAPI	Organisation Africaine de la Propriété Intellectuelle (African Intellectual Property Organization)
PCT	Patent Cooperation Treaty
PLT	Patent Law Treaty
SPLT	Substantive Patent Law Treaty
TRIPs	Trade-Related Intellectual Property Rights
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development

UNESCO	United Nations Educational, Scientific and Cultural Organization
USPTO	United States Patent and Trademark Office
USTR	United States Trade Representative
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

Contents

<i>Foreword</i>	vi
<i>Acknowledgements</i>	viii
<i>List of abbreviations</i>	ix
Introduction	1
PART 1 WELFARE-ENHANCING HARMONIZATION	
1 Domestic patent law: autarkic analysis	13
2 The value of diversity: relaxed autarky	27
3 Bases for harmonization	39
PART 2 INTERNATIONAL PATENT LAW INSTITUTIONS	
4 History	65
5 International patent cooperation as collective action	96
6 Institutional analysis: WIPO and the WTO	115
Conclusions and implications	157
<i>Notes</i>	167
<i>References</i>	185
<i>Index</i>	197

Introduction

This book analyzes harmonization and cooperation in the international patent regime and the institutions which facilitate international cooperation.

Patent law harmonization – the convergence of national patent laws – has been a topic of tension and concern since the late 1800s. Once the signing of the TRIPs Agreement in 1996 crystallized the issue, international patent law issues gained a higher profile and a steady stream of debate has surrounded international developments.

On the one hand, calls for increased harmonization to high levels of patent protection are constant, with many patent owners, practitioners and government officials asserting that a unified global patent law is unquestionably beneficial, an obvious development and should and will inevitably occur. Unification of national patent laws was reportedly the original goal of US negotiators in the Uruguay Round negotiations that led to the WTO and TRIPs Agreements. Pressure for unification of patent laws is not new: the (US) President's Commission on the Patent System called for a global patent system in 1966.¹ This model of unified patent law aspires to a situation where an inventor may, as with copyright, obtain a patent at low cost that is effective in almost every country and, unlike copyright, have this patent enforced worldwide before a world patent court, where all patent disputes are necessarily taken and whose judgments are enforced worldwide.² Taking the desirability and inevitability of such a system as a given, these commentators usually focus on evaluating various national patent laws to sift for a desirable international model law, or discuss how a unification agreement might be most effectively reached. Until recently, the Standing Committee on the Law of Patents at WIPO was conducting negotiations for a Substantive Patent Law Treaty whose goal was “to pursue a ‘deep harmonization’ of both the law and practice” concerning not just the drafting, filing and examination of patent applications, but also “cornerstone requirements of patentability, such as novelty, nonobviousness, sufficiency of description, and drafting and interpretation of claims”.³ As noted by Duffy, “In the post-TRIPS world, harmonization continues to be a shibboleth in patent circles, and diversity a flaw to be remedied.”⁴

On the other hand, since the signing of the TRIPs Agreement, in which developing countries agreed to strengthen their patent laws to a world

minimum standard that reflects developed-country norms, a storm of controversy has arisen about the effect of this harmonization on economic progress as well as on more specific issues such as health, including the availability of HIV treatments and other essential medicines, and agriculture. While these writings come from diverse human rights and development perspectives and often focus on the political maneuvering and interest group lobbying that led to the TRIPs Agreement, one can abstract from these writings a deep skepticism about the wisdom of harmonizing patent laws internationally, at least between developed and developing countries.

Writings opposed to the TRIPs Agreement often focus on the fairness of the process by which the TRIPs Agreement came into being. Inevitably, questions are raised about the institutions where international patent law is made, primarily about the two parallel organizations responsible for international patent law – the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO). While some authors decry the governance of patents via the WTO system, United States officials are simultaneously and publicly questioning the future viability of WIPO.⁵ Less dramatic but related questions are also being asked. Why did norm-creation in international patent law move from WIPO to the world trading system? Is it appropriate for the WTO, primarily a trade-based organization, to deal with patent law and policy? Is there room for a continuing role for WIPO? Why does patent law have such a strange double international institution structure, and is this justified? How should international patent harmonization be organized going forward?

1 THE MAIN QUESTIONS

These questions abstract and generalize to this book's two main questions:

- When is patent harmonization well founded?
- What is the role of international institutions – WIPO and the WTO – in furthering such harmonization?

“International patent law” is approached as cooperative action by states to better provide an international public good – patent law – to their citizens.⁶ This cooperation is what is meant by harmonization in the broadest sense. To paraphrase Eric Posner, this book performs an analysis and identifies institutional and legal reforms that are compatible with empirical conditions that underlie the modern state system and reflect what we know of patent policy. Such conditions inevitably create collective-action problems that limit the ability of states to provide inter-

national public goods. International law and institutions can correct such problems and allow the better provision of international public goods.⁷ This book follows this approach in the specific context of the international patent regime.

2 HARMONIZATION, UNIFICATION AND COOPERATION

This book uses the word harmonization broadly to mean the reduction of international differences in economic policies and measures. For example, if states agree to a minimum patent term of 20 years, that is seen as a harmonization measure even if all states actually set their patent terms to varying lengths greater than 20 years. Similarly, actions by patent offices to increase reliance on work done in foreign patent offices is also seen as harmonization as it is a coordination of policy to reduce international differences in prosecution (the process through which an applicant obtains a patent). The strongest form of harmonization, the adoption of substantively identical regulations, is called unification.

This concept of harmonization thus blends with cooperative action by states to better provide patent law. As a strict matter, international cooperation and harmonization are not identical, since states could cooperate without harmonizing (for example they could agree to a measure that better provides patent law to their citizens but increases the difference between national laws). However, as a practical matter, international cooperation in patent law usually involves harmonization broadly defined and so the terms are used interchangeably.

3 BASIC METHODOLOGY AND ORGANIZATION

The argument developed in this study is centered around the following five propositions:⁸

1. International law should improve global welfare.
2. Citizens of states have heterogeneous preferences; in general, this is best served by diversity, or having each state set its own regimes.
3. Harmonization is well founded if and only to the extent that (a) the benefit of harmonization/cooperation outweighs the costs of a loss of heterogeneity;⁹ or (b) harmonization is in a state's self-interest regardless of other states' cooperation. Harmonization should be tailored to match the justification.

4. Each type or reason for harmonization will present collective-action problems, reflecting heterogeneity of preferences between citizens of domestic welfare-maximizing states, as well as problems arising from the specific type of harmonization.
5. International institutions should be designed to address these collective-action problems.

Normatively, this book takes an instrumental view that international law should maximize or at least improve global welfare, subject to three realistic constraints or positive assumptions: that governments are domestic-welfare maximizers; that the preferences of national populations are heterogeneous; and that international legal organization is constrained by collective-action problems.¹⁰

Governments being domestic-welfare maximizers means that governments try to maximize the welfare of their citizens (albeit imperfectly), and ignore the welfare of non-citizens. The assumption that states are domestic-welfare maximizers is a constant assumption throughout the book.

This book further assumes that the patent system, at least in developed countries, encourages a higher and more desirable rate of innovation and increases welfare over the long term. Proving that patent law increases long-term welfare is an intractable problem. However, the large industrialized countries, and many countries beyond, have made a legislative judgment that patent law is justifiable. Making this assumption allows the analysis to focus upon when harmonization is welfare-enhancing, and how this is affected by international institutions.

It is critical to integrate an analysis of international law and relations with innovation theory to create an analysis of international cooperation and institutions specifically tailored to patent law. Innovation theory includes a sophisticated understanding of how patents operate to affect innovation. This theory of how patent systems encourage and discourage innovation illuminates the costs and benefits of harmonization and is thus critical to an understanding of the welfare effects of harmonization itself. International cooperation is driven by the subject matter of the cooperation, and innovation theory provides the relevant patent-related content for the analysis of international law.

4 THE BOOK IN BRIEF

Part 1 of this book considers the topic of welfare-enhancing harmonization, and Part 2 considers international patent law institutions, while following the five propositions listed above.

Part 1: Welfare-enhancing Harmonization

Proposition 1: International law should improve global welfare

As noted above, this book applies innovation theory to ground the analysis of when and how international patent law cooperation is desirable.

Chapter 1 discusses the economic analysis of patent law, treating countries as autarkies. It utilizes this autarkic approach to provide a static analysis of the costs from a loss of policy diversity between states. In more detail, Chapter 1 provides a discussion of patent law and the costs from a lack of diversity from the perspective of autarky. It covers several key building blocks that are used to underpin the analysis in the rest of the book. Among the main points are: the placing of patent law in a context of innovation law and policy; that patent law involves the internalization of externalities to the patent holder to provide incentives to innovate; that patents necessarily involve a trade-off between effects that encourage innovation and effects that inhibit innovation; patent law as a private means for fulfilling a public function; the difficulty of textually defining the central legal concepts; that the welfare effects of patent law (including the effects of specific details or doctrines) are uncertain and may be expected to vary over time and between industries; and the importance of patent prosecution and the cost/speed/quality trade-off in patent examination.

Proposition 2: Citizens of states have heterogeneous preferences

Patent law is an area where there is high heterogeneity of preferences between states – not only between least developed countries, developing countries, and developed countries, but also between states at similar levels of development. This results in high costs for the loss of heterogeneity, in both a static and a dynamic sense, including the loss of the ability of a heterogeneous system to better meet preferences over time.

Chapter 1 continues by examining why states have different patent law preferences under the simplifying assumption of autarky – each state taken in isolation. Considered as a closed system, a country's preferred patent law will vary with the size of the economy, the relative strength in innovation versus imitation, the level of economic development, the industrial mix, and the content of complementary innovation policies. Furthermore, the preferred patent law will reflect a country's political, cultural and legal preferences, such as its choices in regard to the patenting of pharmaceuticals and the country's health care system, or its general legal system, such as the use of juries. Finally, the preferred patent laws will reflect the capabilities of a country to fund patent-law related institutions, including a patent office and competition law authority.

Chapter 2 extends the examination of the costs from a loss of policy diversity between states, relaxing the assumption of autarky or closed-system analysis from Chapter 1 by recognizing the cross-border incentive effects of foreign patent systems and allowing cross-border communication while holding other aspects of autarky constant – a restriction on strategic behaviour on the part of states. It further breaks the analysis into static and dynamic considerations.

Under a static analysis, there will be differences in patent law preferences between developing and developed countries. Developing countries themselves have a variety of preferred patent laws. Furthermore, while it is often assumed that the patent law preferences of developed countries are similar, the analysis suggests that there are significant differences between developed countries as well. In addition to the differences identified in Chapter 1, the relaxation of autarky highlights preferences connected to the size of the economy and relative strength in innovation versus imitation.

Under a dynamic analysis, diversity in patent law encourages the satisfaction of preferences over time primarily through experimentation, leading to the discovery of superior practices in the presence of underlying changes to technology and economics and changes to our understanding of the innovation process. A loss in diversity reduces adaptability in the patent system, making it more difficult to satisfy preferences over time.

Proposition 3: Reasons for harmonization – the benefits of cooperation

Chapter 3 provides theories needed to overcome the presumption that states should choose their patent laws to maximize domestic welfare. Balanced against the high value of heterogeneity between states are three strong reasons for harmonization: recognition of foreign patentees (which addresses imbalances in externalities and incentives to innovate and the skewed nature of patents by the reciprocal recognition of foreign patent applicants); reduction in prosecution costs (which reduces duplicative work in patent offices thus reducing public and private costs); and integration-driven harmonization (where a state is self-motivated to bring its patent practices in line with those of another state regardless of international cooperation). The assumption of autarky is fully relaxed to permit strategic reaction by countries to other countries' patent systems, and particularly the emergence of profit flows between nations based on patents.

The recognition of foreign patentees involves two related and sequential arguments for national treatment and minimum standards. Motivations for states to cooperate in allowing patents for foreign entities arise from differences in economic size and innovative capacity, as well as the differing and skewed values of inventions, leading to an imbalance of externalities and an imbalance of incentives to innovate. Countries providing

externalities to other countries have an interest in recapturing some of those externalities and may retaliate if their interests are not accommodated; while small-market countries have an interest in obtaining patent protection for their nationals in large-market countries to provide a sufficient domestic incentive to innovate and, in some cases, the possibility of large patent-based returns. The simplest solution to this collective-action problem that still respects national diversity is a system of national treatment, where foreign patent owners are treated as well as domestic patent owners. However, a system of national treatment will itself be unstable without some concept of minimum standards. Having secured access to foreign patent systems for their nationals, it is then in each country's self-interest to minimize the scope and length of their domestic patent laws to minimize their profit outflows. This can lead to a "race to the bottom", or at least a deterioration in the underlying national treatment regime. Minimum standards in patent law, whether informal or formal, are needed to stabilize cooperation on national treatment.

The second basis for harmonization of patent laws via international cooperation is the reduction of duplication in patent prosecution. Costs for patent prosecution are known to be high, and the various patent offices around the world are performing roughly similar work. To the extent that practices in the various countries are harmonized, these costs may be reduced by patent offices and applicants free-riding on prosecution before a foreign patent office. Importantly, it is not necessary to harmonize substantive patent laws to the same extent as prosecution practices to obtain significant reductions in duplication, since in practice both states and applicants are generally satisfied with imperfect or approximate examination. However, there is reason to be concerned with the effects of such harmonization on pendency as well as patent quality and putting control of the process in private applicants' hands, all of which may be socially inefficient.

The third basis for harmonization discussed in this book is integration-driven harmonization. In general, a state may move to make its patent laws more similar to those of another state for reasons of its own domestic preference satisfaction. This differs fundamentally from the two bases for harmonization discussed above as it does not depend on international cooperation. This book highlights one such reason: the integration of national economies across borders, particularly between countries of disparate size.

Part 2: International Patent Law Institutions

Chapter 4 describes and analyzes the history of international patent cooperation, with two goals: to reconcile the theoretical analysis of Chapters

1 to 3 with historical events, and to introduce the topic of Part 2: international institutions.

Proposition 4: Each reason for harmonization presents collective-action problems

Chapter 5 discusses the two motivations for international cooperation from Chapter 3, the recognition of foreign patentees and the reduction of duplication in patent prosecution, as collective-action problems. The reduction of duplication in prosecution provides public goods with structures that suggest a good prognosis for cooperation. Cooperation to reduce duplication in patent prosecution is largely in each country's self-interest, and dispute resolution is largely unnecessary as there is no strong reason to defect and it is easy to detect defection, but cooperation can involve difficult upfront negotiations.

The recognition of foreign patentees is more complex, with four international public goods being provided by such cooperation. This is a case of joint products – one activity producing multiple international public goods – and the prognosis for cooperation in such situations depends on the ratio of excludable benefits to total benefits. Three of the public goods, reduction in global discord, higher domestic incentives to invent, and reducing the risk of the skewed, highly valuable patent, are excludable, while one, increased inventiveness in other countries, is not, suggesting that prognosis for cooperation on this basis is also favourable. However, a more detailed discussion suggests that cooperation may well be difficult, consistent with the history discussed in Chapter 4. Cooperation in respect of the recognition of foreign patentees involves difficult upfront negotiations, the need to compensate countries for entry into an international ordering that is not in their self-interest, and ongoing disputes.

A difficult question is whether reduction of duplication in patent prosecution or the recognition of foreign patentees are best viewed as regional public goods (RPGs) or global public goods (GPGs). An international ordering treating the reduction of duplication in patent prosecution as a regional public good has already emerged. While not so strongly entrenched as in patent prosecution, there are signs that regional systems may also emerge in the minimum standards required in the recognition of foreign patentees.

Proposition 5: International institutions should address the relevant collective-action problems

Chapter 6 considers the institutional features of WIPO and the WTO, which this book regards as one joint institution ordering international patent law. International institutions may be analyzed from a normative or