Globalization and Standards:
The liberalization of trade and the potential for a regulatory race to the top

by

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Submitted to the Engineering Systems Division in
Partial Fulfillment of the Requirements for the Degree of

Master of Science in Technology and Policy
at the
Massachusetts Institute of Technology

September 2007

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ABSTRACT
Globalization is changing the way in which the world is organized. The world trade regime is increasingly the dominant mode of organizing international relations. Within this context of globalization and liberalization of trade, empirical examples of a *race to the bottom* co-exist with examples of a *race to the top* and examples of stable heterogeneity of international standards. The puzzle, then, is to determine the structural conditions, sources of power, and policy instruments that determine whether international standards will diverge or converge, upward or downward. This research seeks to reveal the potential for (and limitations of) a race to the top in international standards. System dynamics modeling and theories of globalization and regulatory competition are applied to three case studies to explore the causes of a race to the top: the Montreal Protocol on Ozone Depleting Substances, dolphin-safe tuna, and fair trade coffee.

Many of the concerns of a race to the bottom pertain to process and production methods (PPMs) in global supply chains. One of the themes in this research is the distinction between standards based on the characteristics of a *product* and standards based on the *process and production methods* (PPMs) used to produce the product. Whereas product standards can be monitored and enforced at the point of market access, PPM standards must be monitored and enforced at the site of production, which can be problematic in global supply chains. This research seeks to elucidate the sources of power and policy levers available to promote higher PPM standards within the context of globalization and the liberalization of trade.

A set of theories from international law and political economy is selected to create a theoretical framework for analyzing the effects of globalization on international standards. In particular, theories of corporate power, corporate social responsibility, norm change and consumer power elucidate the potential and limitations of voluntary standards. Theories of regulatory capture and competition inform the question of how voluntary standards translate into public policy. The goal is to understand how social and environmental objectives can be promoted within the context of liberalized trade.

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Acknowledgements

It is with pleasure that I acknowledge the many individuals who contributed to this thesis and made it possible for me to follow my dream.

First and foremost, I would like to thank Professor John Sterman. I had the pleasure to work for Professor Sterman as a teaching assistant for his system dynamics class in the fall of 2006. I quickly came to respect his extraordinary capacity for creativity, enthusiasm for systems thinking, dedication to students, and commitment to excellence. I am thankful to John for always being available to discuss ideas with, for funding the fair trade coffee research in the spring and summer of 2007, and for his professional and personal support throughout the fair trade coffee case study.

I am indebted to Dean Ike Colbert for his support and for helping me navigate the complex MIT research community and funding systems. I am grateful to Dean Colbert for encouraging me to continue chasing my dreams and for his offer of independent fellowship funding.

I thank Professor Dava Newman for believing in me and for supporting my research proposal. I am grateful for her decision to make independent fellowship funding available to me in the fall of 2006. The independent funding allowed me to pursue a thesis topic I am deeply committed to. The freedom to follow my passion without the constraints of a sponsored research project was a privilege and an honor.

I am grateful to Professor Richard Locke for believing in my vision of how the different pieces of this research fit together and for his willingness to see the project through to the end.

I thank Professor Kenneth Oye for introducing me to the literature on regulatory competition, for sharing ideas about the case study on Montreal Protocol, for feedback on the dolphin-safe tuna case study, and for our discussions about the legal status of PPM trade laws under the WTO.

I am thankful to Professor David Kennedy at Harvard Law School for his infectious enthusiasm for international law, and for meeting with me to discuss my ideas about corporate power and regulatory capture.

I thank Jonathan Rosenthal for graciously meeting with me to discuss his personal and professional experiences in the fair trade movement. I also thank Diego Brenes and Professor Robert Gibbons for their participation in the fair trade coffee case study.

I am grateful to Dr. Frank Field for his unwavering support and willingness to discuss the scope, methodologies, and logistics of my thesis research.

I would like to express my sincerest appreciation to Sydney Miller for being my sounding board throughout the entire Master's degree, for keeping me sane, and without whose encouragement I would never have finished.

Last, but certainly not least, I thank Joanna Upton, John Pendray, and Kathy Donnelly for their friendship, support, and countless conversations about the meaning of it all.

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List of Acronyms

AFSC	American Friends Service Committee
ATO	Alternative Trade Organization
CEO	Chief Executive Officer
CFC	Chlorofluorocarbon
COCLA	Association of Agrarian Cooperatives of Cusco
CSR	Corporate Social Responsibility
CTE	(WTO) Committee on Trade and Environment
DPCI	Dolphin Protection Consumer Information
EEC	European Economic Community
ETP	Eastern Tropical Pacific
EU	European Union
FLO	Fairtrade Labeling Organization
FT	Fair Trade
GATT	General Agreement on Tariffs and Trade
HCD	Higher Common Denominator
HET	(Stable) Heterogeneity
IATTC	Inter-America Tropical Tuna Commission
ICA	International Coffee Agreement
ICO	International Coffee Organization
IDCP	International Dolphin Conservation Program
IFAT	International Fair Trade Association
IISD	International Institute for Sustainable Development
IMF	International Monetary Fund
LCD	Lower Common Denominator
LDC	Less Developed Country
MMPA	Marine Mammal Protection Act
MNC	Multinational Corporation
MP	Montreal Protocol (on Ozone Depleting Substances)
NGO	Non Governmental Organization
ODS	Ozone Depleting Substances
PPM	Process and Production Method
TBT	(WTO) Technical Barriers to Trade (Agreement)
TNC	Transnational Corporation
UN	United Nations
UNCTAD	United Nations Committee on Trade and Development
UNEP	United Nations Environmental Programme
UR	Uruguay Round
US	United States (of America)
WB	World Bank
WTO	World Trade Organization

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1 Introduction

The forces of globalization and liberalization of international trade are causing the integration of international markets for capital, goods, and services. These global trends are the subject of fierce debates around the world.

Advocates of globalization believe trade liberalization increases economic efficiency and encourages economic growth (Jackson, 1998). Martin Wolf contends that a global market economy promotes democracy, individual freedoms, and higher standards of living (Wolf, 2004).

Opponents of globalization often fear that trade liberalization will cause a *race to the bottom* in international standards. Opponents argue that globalization, which enables the flow of capital, goods and services across international borders, reduces the ability of sovereign nations to set and maintain high social and environmental standards, because transnational corporations can threaten to relocate their economic activities. Joel Bakan quotes Clive Allen, a vice president of Nortel Networks, a communications company servicing customers in over 150 countries (Nortel, 2007), who stated that transnational corporations "owe no allegiance (Bakan, 2004)" to national governments.

> "Just because we [Nortel Networks] were born there [Canada] doesn't mean we'll remain there... The place has to remain attractive for us to be interested in staying there. (Bakan, 2004)"

Labor unions in industrialized countries fear that transnational corporations will relocate sites of production (and jobs) to developing countries where labor costs are lower. Environmentalists fear that countries will lower environmental protection regulations to attract businesses to locate within their borders.

Empirical evidence exists to suggest a race to the bottom is possible. Shipping flags of convenience are one example (Murphy, 2004). Incentives exist for international ocean shipping companies to choose to operate under a flag with lower regulatory costs of compliance, and incentives exist for nations to lower regulatory standards to attract shipping companies. This dynamic creates a danger of marine accidents and has been blamed for several infamous shipping disasters, including the 1989 Exxon Valdez oil spill (Piniella, Rasero et al., 2005). Similarly, globalization opened the market for offshore finance. Some question whether Enron could have

"fooled stock analysts, accountants, and investors (Murphy, 2004, p. 110)" without its offshore companies.

Interestingly, examples of a *race to the top* and examples of divergent standards also exist. California automobile emission standards are a prominent example of a race to the top (Vogel, 1995; Holzinger and Knill, 2004; Janicke and Jacob, 2005). When California raised its automobile emission standards, most other US states followed suit, and when California applied its higher standards to foreign car producers, many countries also followed suit. The cost of complying with divergent emission standards in different markets was sufficiently high, that car producers preferred upward harmonization of standards. A race to the top resulted, because car producers faced a "harmonization advantage (Holzinger and Knill, 2004, p. 32)". The Montreal Protocol on Ozone Depleting Substances is another commonly cited example of a race to the top, which is presented in greater detail in Section 3. Moreover, examples exist of stable heterogeneity of standards. Railroad tracks and rolling stock exist in different gauges. Automotive parts and machinery exist in metric and non-metric units. Once divergent standards are in place, often having developed for historic reasons, network effects and switchover costs can create incentives to maintain the heterogeneous standards (Barrett and Yang, 2001).

Indeed, examples of downward harmonization of international standards (i.e. a race to the bottom) co-exist with examples of upward convergence (i.e. a race to the top) and examples of stable heterogeneity of international standards. All three dynamics are observed within the context of globalization. The puzzle, then, is to determine the structural conditions, sources of power, and policy instruments that determine whether international standards will diverge or converge, upward or downward. Against the backdrop of globalization and the liberalization of trade, this research seeks to reveal the potential for (and limitations of) a race to the top in international standards. The objectives are to understand how social and environmental goals can be promoted in particular when those goals are perceived to be at odds with economic efficiency, and to determine whether trade liberalization can be made to work in favor of public interests. What are the causes of a *race to the top*, and can they be strengthened? What are the causes of a *race to the bottom*, and can they be moderated?

Many of the concerns of a race to the bottom pertain to process and production methods (PPMs) in global supply chains. Liberalized trade allows capital, goods and services to move freely across international borders. Technological advances, in particular information systems and international transportation infrastructures, facilitate the operations of global supply chains. Businesses can choose to locate (and relocate) different steps in the production chain across international boundaries.

Faced with threats (real or perceived) to relocate production facilities in developing countries, labor unions fear that industrialized countries will be unable to maintain high labor standards. Similarly, environmentalists fear that businesses will choose to locate sites of production in countries with lax environmental regulations, which will create pressures to relax environmental standards in industrialized countries. One of the themes in this research is the distinction between standards based on the characteristics of a *product* and standards based on the *process and production methods* (PPMs) used to produce the product. This issue, also known as the *process-product distinction*, is especially important in the context of globalization. This distinction is important because PPM regulations must be enforced at the site of production, which can be problematic in global supply chains.

Whereas PPM standards must be monitored and enforced at the site of production, product standards can be monitored and enforced at the point of market access. PPM standards lend themselves to an information asymmetry between consumers and producers, which causes adverse selection and facilitates a race to the bottom. In the absence of accurate and verifiable labels, products with high PPM standards and products with low PPM standards are indistinguishable at the point of consumption. Products with high PPM standards and products with low PPM standards will trade at a common price. Even in the presence of demand for products with high PPM standards, a race to the bottom can occur. Products with low PPM standards will displace products with high PPM standards in the market, if the products are indistinguishable at the point of consumption. The information asymmetry between consumers and producers is especially large when products are produced with global supply chains that span several international boundaries.

Following are the PPM related research questions addressed in this thesis:

- *How do voluntary standards based on PPMs affect the interests of the various stakeholders?*
- *How do voluntary standards based on PPMs affect the structure, the governance, the distribution of economic and political power, and the distribution of value captured along global value chains?*
- *How do voluntary standards based on PPMs translate into public policy?*
- *How do mandatory standards based on PPMs affect the interests of the various stakeholders?*

The purpose of these research questions is to elucidate the sources of power and policy levers available to promote higher PPM standards within the context of globalization and the liberalization of trade.

In this thesis, system dynamics modeling and theories of globalization and regulatory competition are applied to three case studies to explore the causes of upward harmonization of international standards.

The first case study is the Montreal Protocol on Ozone Depleting Substances. It was selected because it is widely lauded as the best example of an international agreement on environmental standards. The Montreal Protocol regulates ozone depleting substances, which are responsible for a hole in the stratospheric ozone layer. An international policy was required, because the ozone layer is part of the global commons. Analysis of the Montreal Protocol examines the role of corporate power and consumer demand in the success of this international initiative to restore the ozone layer.

The second case study is dolphin-safe tuna. This is an example of the tragedy of the commons. Environmental goals were initially perceived to be at odds with liberalized trade. PPM standards were initially introduced on a voluntary basis, then successfully transformed into mandatory standards with bi- and multi-lateral agreements. Cases were brought under the WTO and its GATT predecessor, which debated the legality of PPM based regulations. Policy resistance to unilateral actions created a race to the bottom; however, the race to the bottom was

later transformed into a race to the top. This case study explores the role of norm change, corporate social responsibility, and consumer demand in the race to the top. It also explores the role of corporate power and regulatory capture.

The final case study is fair trade coffee. This case was selected because the principals (and even the name) of fair trade stand in stark contrast to the idea of liberalized trade. This is an important case study for understanding the extent to which social standards can be promoted within the framework of the world trade regime, to correct market failures of unfettered liberalized trade. Coffee is an important global commodity (second only to oil). Issue coffees, including fair trade and organic, are the fastest growing segments of the international coffee market. This case expounds upon the role of norm change campaigns, corporate social responsibility, and market demand for voluntary standards. Currently, fair trade coffee, based on voluntary standards and PPM labels, is successful in a niche market. Debates abound regarding the potential for fair trade coffee to scale up, and displace commodity coffee products by penetrating non-specialty market segments. Lessons learned from the Montreal Protocol and dolphin-safe tuna are applied to the case of fair trade coffee.

Together, these three heuristic case studies form the basis for conjecture and theories about the sources of power and policy levers available to affect a race to the top within the context of globalization and the liberalization of trade.

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2 Theoretical Frameworks and Methodologies

The question of how globalization affects international standards spans disciplines. It can be studied from a variety of perspectives; including, legal, political, economic, and technological. Furthermore, the literature on globalization and international standards includes a variety of approaches. Some use norms and institutions to explain the effects of globalization[1]. Other economistic views focus on bargaining and market structure as the principal factors that determine outcomes[2]. This research takes a systems view of the issue, and seeks to integrate the important arguments from the different fields, including both macro and micro level theories.

In this thesis, taking a systems approach means developing an appreciation for the interdependencies and interactions between all aspects of the system; including, technological, scientific, economic, political, and legal. It means taking a multi-disciplinary approach, to understand the full scope of issues affecting international standards. System dynamics modeling is applied throughout to explore the system feedbacks and non-linear behaviors. International law and organizations are considered to establish the context and boundaries within which the system functions. Theories from political economy compose a framework for understanding the causes of regulatory movement and the effects of globalization on international standards.

2.1 Systems Thinking and System Dynamics Modeling

System dynamics, a branch of systems theory, "is a method for studying the world around us (MIT SDEP, 2000)".

> "Unlike other scientists, who study the world by breaking it up into smaller and smaller pieces, system dynamicists look at things as a whole. The central concept to system dynamics is understanding how all the objects in a system interact with one another. (MIT SDEP, 2000)"

It is a modeling approach that integrates causal relationships, feedback dynamics, and stocks and flows of physical and information variables[3].

[1] For examples, see Stiglitz (2003, 2006) and Jackson (1989, 1998).
[2] For examples, see Murphy (2002a, 2004), and Oye and Maxwell (1994).
[3] For an explanation of the system dynamics modeling notation used in this thesis, refer to "Appendix: System Dynamics Modeling" on page 129.

System dynamics modeling informs the study of social systems and organizational behavior, as well as the study of technological systems. The goal is to "look at the organization as a *system* made up of interacting parts (Kirkwood, 1998, p. 1)".

> "System dynamics helps the decision maker untangle the complexity of these *connections* by providing a new *language* and set of *tools* to describe - and even model - the cause-and-effect relationships among various policy variables (Taylor, 1997)."

Feedback dynamics create non-linear relationships between system variables, and system dynamics modeling can expose the root causes of unexpected outcomes and side effects. It is "a method to enhance learning in complex systems", which is "grounded in the theory of nonlinear dynamics and feedback control (Sterman, 2000)."

One of the goals of this thesis is to create system dynamics representations of arguments from international law and political economy theories. Another is to create models of specific debates and issues in the case studies. Translating claims from the literature and from the field into system dynamics models serves the following purposes:

- *To challenge conceptions of the system boundaries, by identifying which variables are assumed exogenous that should be endogenous, for a more accurate understanding of the system,*
- *To facilitate the process of identifying complementary theories and mutually exclusive arguments,*
- *To create a visually simple, information rich representation of the structure of the system, and*
- *To create a foundation for future research to build computer simulations to enable further investigation into these complex issues.*

System dynamics modeling is applied to integrate macro and micro level theories and to explore the linkages between system variables. In turn, these linkages indicate potential points of intervention to affect outcomes.

2.2 *International Law*

People understand international law and organizations in different ways; depending in part on the substantive projects they wish to pursue. Some modes of organization are best understood as tools for advancing specific project goals, while others represent attempts to constitute the international community. Some examples of the former include (but are not limited to): private ordering, shared consciousness, networks, and non-governmental organizations (NGOs). Corporate social responsibility is a private ordering tool that has been effective for promoting social and environmental goals in certain niche markets, such as dolphin-safe tuna and fair-trade coffee, which are discussed in this thesis. The human rights movement has been successful with a global norm change campaign to create and maintain a shared consciousness about universal human rights[4]. Witness networks and human shields, organized by networks and NGOs are often credited with saving lives in Mexico, Colombia, and elsewhere[5]. Countless other examples exist of ways in which people have used international law and organizations to work on substantive projects.

Still, some modes of organization transcend the goals of any specific project and can be conceptualized as ways in which the world is actually constituted. In 1945, the United Nations (UN) replaced the League of Nations, which was founded in 1919 (UN, 2000). Both organizations represented attempts to establish an overarching constitution for the international community. The International Monetary Fund (IMF) and the World Bank (formerly the International Bank for Reconstruction and Development) were formed at the conclusion of the Bretton Woods Conference in 1944 (WB, 2004). The IMF was created to oversee and stabilize the global financial system, and the World Bank was charged with the task of reconstruction and development after the Second World War. The relationships between the IMF, the World Bank, and the UN were formalized in 1947 (WB, 2004). Together, the UN, the IMF, and the World Bank composed an intergovernmental system intended to constitute the international community and promote peaceful international relations.

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[4] See (Finnemore and Sikkink, 1998) for in depth analysis of the role of norm change in the human rights movement, as well as women's suffrage and decolonization.

[5] For an example of this type of international organization, see www.WitnessForPeace.org

Five decades later, the World Trade Organization (WTO) was created to manage world trade policies (WTO, 2006h). The new addition to the system of international governance reflected the increasingly important role of trade in international relations. The WTO was a response to growing interest in international economic law[6], which also facilitated the further expansion of the international trade regime.

The World Trade Organization (WTO), established in 1995 (WTO, 2006h), is the modern institution for coordinating international trade and economic law. The WTO defines its role as follows:

> "The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. ... The goal is to help producers of goods and services, exporters, and importers conduct their business. (WTO, 2006h)"

However, in an increasingly interconnected global economy, the WTO has ceased to be merely a means for managing trade agreements. It has transcended its original substantive definition, and the potential exists for the WTO to become the predominant intergovernmental organization that constitutes the international community.

2.2.1 Bargaining and the World Trade Regime as Modes of International Organization

One of the challenges of international law is designing significant and credible compliance incentives. International public law and diplomacy often rely on a dynamic that is referred to as a *repeated game* in game theory. In a repeated game, cooperation and compliance with international agreements can be sustained if the discount rate is sufficiently low. In contrast, the threat of economic sanctions under the WTO framework is effective for encouraging compliance even in the presence of high discount rates.

[6] In this thesis, the term "international economic law" is used to refer to international law that enables or constrains international economic transactions.

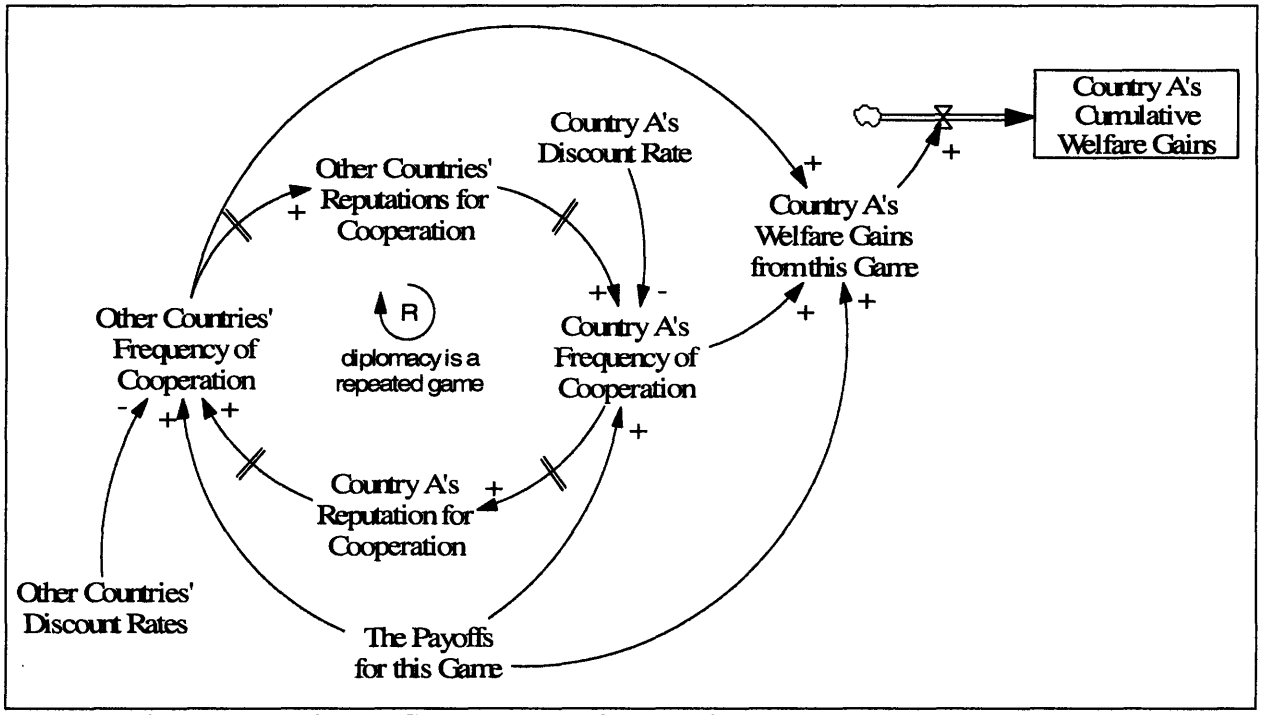

Figure 2-1. System Dynamics and Game Theory: Diplomacy is a repeated game

Joseph Stiglitz, former World Bank Senior Vice President and Chief Economist and Nobel Prize Winner for Economics, writes about globalization and argues that,

> "[t]oday, in the absence of alternatives, trade sanctions are one of the few ways that the international community can enforce its will (Stiglitz and Charlton, 2005, p. 154)".

Stiglitz promulgates trade negotiations and sanctions as tools for pursuing substantive goals. However, he does not limit this approach to economic goals. He argues that non-economic goals can and *should* also be promoted with sanctions. Stiglitz (Stiglitz, 2003; Stiglitz and Charlton, 2005) treats the notion of globalization, and the idea that the WTO is the prevailing mode for organizing international relations as *facts*. It is interesting to consider the effects of this approach. By virtue of his various appointments and distinctions, at the World Bank, with the Clinton administration, with the Nobel Laureates, and now with Jeffrey Sachs (and Bono) at the Earth Institute of Columbia University, Stiglitz' is a very influential voice. His statements do not simply *describe* reality; they *create* reality. His assertions, echoed by others, that the WTO does, *in fact*, represent the modern organization of international relations strengthens a shared perception around the world that this is how the world is *actually* organized and how it *ought* to be organized. In this way, the shared perception becomes reality.

Similarly, John Jackson, in his 1998 book *The World Trading System*, presents his perception that the WTO and its predecessor the General Agreement on Tariffs and Trade (GATT) compose the modern constitution for international economic relations (Jackson, 1998). Jackson cites Thomas Friedman, who states that "[t]his is the age of the finance minister" and "[t]he game of nations is now geo-monopoly (Jackson, 1998, p. 4)". In his review of the first edition of Jackson's book, which was published in 1989, David Kennedy comments that "the driving image is not a public order of sovereigns, but a market of economic actors (Kennedy, 1995, p. 681)." Kennedy writes:

> "An imaginary trade constitution, liberal trade ideas, national and international political judgments, a decentralized regime of bargained reciprocity: Jackson presents all these as *facts* rather than commitments. (Kennedy, 1995, p. 714)"

Jackson lauds the WTO as an institutional success, and names it "the third leg of the Bretton Woods stool (Jackson, 1998, p. 4)" and the "previously 'missing link' from international economic institutions (Jackson, 1998, p. 4)". Jackson is simultaneously describing his perception of reality and reinforcing the authority of the WTO. The act of promulgating the creation of the WTO as a pivotal moment in the history of international law also serves to kindle a shared belief that international economic law is displacing public international law as the predominant mode of organizing relations between nations. The more widely shared the perception that the WTO *is* the most potent mode of organizing, the stronger the foothold of the WTO on international relations; and *vice versa*. The notion that perception affects reality, and in turn, reality shapes perception in a reinforcing cycle is illustrated in Figure 2-2.

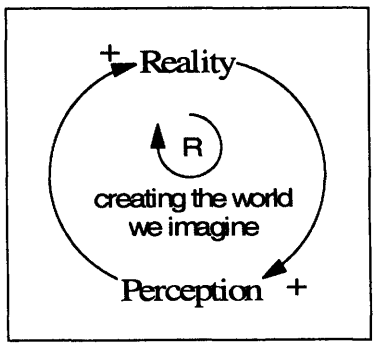

Figure 2-2. System Dynamics: Perception shapes reality and vice versa

The idea that a shared vision of social organization reinforces the structure of social organization has its origins in structuration theory. "[S]ocial structure is represented and sustained by the cognitive systems of individual actors" and "internalized representations of social structure shape social processes (Howard, 1994, p. 210)". Judith Howard refers to Anthony Giddens (Giddens, 1976; Giddens, 1984), who suggests "structure is a process, not a steady state (Howard, 1994, p. 217)".

> "Human social activities, like some self-reproducing items in nature, are recursive. That is to say, they are not brought into being by social actors but continually recreated by them via the very means whereby they express themselves as actors... It is the specifically reflexive form of the knowledgeability of human agents that is most deeply involved in the recursive ordering of social practices. (Giddens, 1984, p. 3)"

The shared cognition of the political and economic elites influences the way in which the world is actually organized. Nevertheless, there are limits to the power of perception alone to create reality. Other factors, such as the credibility of compliance incentives, also affect the potency and longevity of a mode of organizing the international community.

In her 1996 article "Less Is More", Judith Hippler Bello identifies John Jackson as one of many supporters of trade liberalization, and echoes Jackson's praise for the WTO as an institutional success. Bello defends the new organization against the "claim that faceless, unelected, unaccountable bureaucrats in Geneva have usurped U.S. sovereignty (Bello, 1996, p. 416)". She also defends the WTO against the corresponding accusation that the ability of nations to pursue non-economic goals is undermined by membership in the WTO. She argues that the structure of the WTO dispute settlement procedures protects the sovereignty of all nations.

Bello characterizes the WTO as "essentially a confederation of sovereign national governments (Bello, 1996, p. 417)" that "relies upon voluntary compliance (Bello, 1996, p. 417)". She asserts that the WTO "accommodates the national exercise of sovereignty, yet promotes compliance with its trade rules through incentives (Bello, 1996, p. 417)." Bello maintains that:

> "...any WTO member may exercise its sovereignty and take action inconsistent with the WTO Agreement, provided only that it compensates adversely affected trading partners or suffers offsetting retaliation (Bello, 1996, p. 417)."

In this paradigm, bargaining and negotiation are the foundational elements of the new constitutional order. Sovereigns maintain *de jure* power, and can choose freely whether to

comply with trade agreements. However, contrary to Bello's assertions that nations have not suffered a loss of sovereignty, a shift has occurred in the allocation of *de facto* power.

Bello attempts to conclude that "less is more":

> "The less binding the individual rules of the WTO Agreement, the more the WTO accommodates the demands of national sovereignty. The less the WTO requires any real transfer of power from national governments to the Geneva secretariat, the more effectively it encourages international economic cooperation while preserving democratic accountability. With respect to WTO dispute settlement, less is generally more. (Bello, 1996, p. 418)"

She insists that tradeoffs do not exist between globalization and sovereignty, or between the liberalization of trade and democratic decision-making. However, the notion that any form of international governance can exist without tradeoffs is false. Bello acknowledges that countries may choose not to comply with specific trade agreements, "but not necessarily for free (Bello, 1996, p. 418)." Bello notes that the WTO "has no jailhouse, no bail bondsmen, no blue helmets, no truncheons or tear gas (Bello, 1996, p. 417)". Instead, the consequence of non-compliance is the threat of economic sanctions. Bello's argument that "less is more" is blatantly inconsistent. On the one hand, she contends that the threat of sanctions is severe enough to effectively encourage compliance. On the other hand, she suggests that the threat of sanctions has an insignificant effect on sovereignty. The reality is that *de jure* power has been preserved, but a reallocation of *de facto* power has lessened the effective sovereignty of nation states.

Bello also contests the allegation that GATT and WTO rules "subordinate or diminish non-trade-policy objectives (Bello, 1996, p. 416)." She reasons that since GATT and WTO economic rules "are simply not 'binding' in the traditional sense (Bello, 1996, p. 416)", that the institutions cannot actually suppress non-economic goals. Again, her reasoning is wrongheaded. Firstly, the question of whether WTO rules undermine the ability of nations to pursue social and environmental policy objectives is only relevant in cases when a nation's non-economic objectives are at odds with WTO economic rules. If the goals are not mutually exclusive, then there is no dispute. However, when the goals are mutually exclusive then non-compliance with the economic goal carries with it the threat of sanctions under WTO rules. Therefore, it is clear that WTO rules can (and do) subordinate social and environmental goals, when those goals are at odds. Unfortunately, less is not more.

International economic law and the world trade regime may have been created in response to the substantive projects of some to manage increasingly interconnected economies. Nevertheless, the World Trade Organization (WTO) has transcended the original substantive project goals. The idea that international economic law is increasingly displacing public international law as the dominant mode of organizing international relations has been formed. As the idea spreads and is increasingly adopted and shared by the political and economic elites around the world, it becomes a collective vision of how the world is actually organized and how it ought to be organized. In turn, the shared vision shapes reality.

Jackson and Stiglitz present the shift away from public international law towards international economic law as both *fact* and *irreversible*. Against this backdrop, they each propose ways to deal with the shortcomings of the new constitutional order. For Jackson, the challenge is to simply manage the increasingly interconnected economies of the world. Unfortunately, contrary to Bello's claims, tensions do exist between the globalization and liberalization of international trade and the sovereignty of nations. Also, tradeoffs exist between economic efficiency goals and other social and environmental objectives. Stiglitz proposes a more fundamental change to the nature of the world trade regime.

> "*The most fundamental change that is required to make globalization work in the way that it should is a change in governance.* This entails, at the IMF and the World Bank, a change in voting rights, and in all of the international economic institutions changes to ensure that it is not just the voices of trade ministers that are heard in the WTO or the voices of the finance ministers and treasuries that are heard at the IMF and World Bank. (Stiglitz, 2003, p. 226)"

For Stiglitz, the challenge is to infuse greater democratic capacity into the international trade regime, to ensure that this does not remain "the age of the finance minister" as Jackson and Friedman have proclaimed.

The dominance of the world trade regime in international relations may be a shared conception; however, the idea itself is a powerful force that will continue to shape reality for the foreseeable future. The challenge, then, is to understand the effects of globalization on the distribution of power and wealth world-wide, and to identify the policy levers available to promote social and environmental objectives within the new international constitutional order.

2.2.2 Globalization and the Potential for Trade to Alleviate Poverty

Why are some countries poor, while others are not? What is the potential for globalization and free trade to alleviate poverty? What is the role of international law in the context of the globalization of markets? Is the Uruguay Round (UR) trade agreement, which expanded the General Agreement on Tariffs and Trade (GATT) to create the WTO, a good example of international economic law? Did the UR serve to increase global welfare, and how were the gains distributed?

According to the theory of competitive advantage, developed by Ricardo and summarized by John Jackson (Jackson, 1998), the globalization of markets and associated "liberal trade" should increase the wealth of *all* nations. If the Uruguay Round (UR) trade agreement is to be evaluated in the context of poverty alleviation, then we must ask who the winners and losers have been. The UR has been criticized as asymmetric, resulting in *increasing* disparities between rich and poor. According to Joseph Stiglitz, the developed world reaped seventy percent of the benefits. Despite representing eighty-five percent of the world's population, the developing world only received thirty percent of the gains (Stiglitz, 2006). Also,

> "The focus [of the Uruguay Round trade agreement] was on liberalization of capital flows (which developed countries wanted) and investment rather than on liberalization of labor flows (which would have benefited the developing countries), even though the latter would have led to a far greater increase in global output (Stiglitz, 2006, p. 78)."

The UR has failed to deliver on the expectation that globalization and supporting international economic law would increase the wealth of *all* nations. The poorest countries, many in sub-Saharan Africa, were actually worse off after the UR (Stiglitz, 2006).

Furthermore, if a "level playing field" is an important goal for international economic policy, as Jackson implies (Jackson, 1998), then the UR has failed on this front too. On average, the tariffs imposed by developed countries against other developed countries are four times lower than those imposed by developed countries against developing countries (Stiglitz, 2006). Moreover, "rich countries have cost poor countries three times more in trade restrictions than they give in total development aid (Stiglitz, 2006, p. 78)."

Whereas Stiglitz evaluates the success of the UR based on its *outcomes*, in particular with regards to poverty alleviation, Jackson praises the UR as an *institutional* success. The UR concluded in 1995 with the creation of the World Trade Organization (WTO). For Jackson, the WTO represents the modern organization of international trade. It is the institution that allows increasingly interdependent governments to manage world trade policies.

Jackson presents the WTO as an institution that enables governments to manage the globalization of markets (Jackson, 1998). However, the findings in Stiglitz about the divergence of wealth world-wide since the UR (Stiglitz, 2006) raise questions about the potential for the WTO to change the course of globalization and protect the poor. Are there limits to the types of policy goals that can be achieved through the WTO framework? Does the formulation of the WTO lend itself to Stigler's notion of regulatory capture by wealthy states and concentrated private interests[7]? Can globalization deliver on the promise of increased wealth for *all* nations? What are the policy levers available in the new constitutional framework for promoting social and environmental goals, such as poverty alleviation and sustainability?

2.3 Political Economy

A set of theories from political economy has been selected to create a framework for understanding the sources of power and policy levers available to promote social and environmental objectives within the context of globalization and the liberalization of trade. In particular, theories of corporate power, corporate social responsibility, norm change and consumer power elucidate the potential and limitations of voluntary standards. Theories of regulatory capture and regulatory competition address the question of how voluntary standards translate into public policy. As a set, these theories from political economy establish a structured approach to studying the effects of globalization on international standards.

[7] For an explanation of regulatory capture as a form of political failure, refer to (Stigler, 1971).

2.3.1 Corporate Power and Social Responsibility

As international economic law and the world trade regime become increasingly important for organizing international relations, the role of corporate power becomes increasingly significant. An understanding of the structure, potential and limits, of corporate power is essential.

Interestingly, as Dan Danielsen observes, corporate policies effect global outcomes in ways that are often indistinguishable from the effects of public policies (Danielsen, 2006). He reasons:

> "...that national corporate governance policies produce global governance effects and that a better understanding of those effects could provide new avenues for academics and policy-makers to shape transnational regulatory policy and global social welfare (Danielsen, 2006, p. 4)."

Against the backdrop of international economic law, the challenge, then, is to recognize the sources of power and the policy levers –private and public – available to promote non-economic objectives.

Correspondingly, the idea of corporate social responsibility has become increasingly popular in recent years[8]. David Vogel argues that corporate policies, also called *civil regulations*, based on voluntary standards, can successfully promote social and environmental goals and increase social welfare (Vogel, 2005). However, civil regulations face structural limits in the market. Corporate social responsibility initiatives depend on market demand for higher standards. Moreover, consumers must be willing to pay a price premium that exceeds the costs of the voluntary standards. The market for voluntary ethical standards is best understood as a niche (Vogel, 2005).

In the absence of government regulations or enforcement, civil regulations are better than nothing. However, government regulations are required when the limits of civil regulations are exceeded (Vogel, 2005). To that end, one of the objectives of corporate social responsibility should be to work with governments (and pressure governments) to implement and enforce public regulations.

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[8] One example of the increasing interest in the idea of corporate social responsibility is the launch of the "Corporate Social Responsibility Initiative" at the Harvard Kennedy School of Government in 2004. For more information about this initiative, refer to http://www.ksg.harvard.edu/m-rcbg/.

2.3.2 Stiglerian and Olsonian Regulatory Conditions

To understand the full scope of corporate influence in shaping global outcomes, it is necessary to consider how private standards translate into public regulations.

Ken Oye and James Maxwell refer to Mancur Olson's *Logic of Collective Action* (Olson, 1965) and George Stigler's theory of *Regulatory Capture and Political Failure* (Stigler, 1971) and propose a theory of regulatory change. Oye and Maxwell accept Olson's theory that free-rider incentives undermine collective action to protect non-excludable and non-rival public goods, whereas selective incentives enable collective action to protect private goods. They also accept Stigler's theory that regulatory outcomes are disproportionately influenced by concentrated private interests. However, they refute the notion that regulatory capture by concentrated private interests necessarily constitutes a political failure. If concentrated private interests are aligned with diffuse public interests, then it is not accurate to describe the regulatory capture as political failure, since the regulatory outcomes can be legitimized in terms of public interests (Oye and Maxwell, 1994).

Further, when concentrated (or short term) private interests are aligned with diffuse public (or long term) interests, the result is a stable regulatory environment. Regulatory movement is possible, and under these conditions, regulations are less likely to be weakened or rolled back later. Oye and Maxwell refer to these circumstances as *Stiglerian* regulatory conditions (Oye and Maxwell, 1994).

In contrast, when concentrated (or short term) private interests are not aligned with diffuse public (or long term) interests, the regulatory environment is inherently unstable. Concentrated private interests may still cause regulatory movement. However, under these conditions, regulations are more likely to be weakened or rolled back later. Oye and Maxwell refer to these circumstances as *Olsonian* regulatory conditions (Oye and Maxwell, 1994).

When the limits of voluntary standards have been reached, corporate social responsibility should focus on the logical next step: transforming voluntary standards into government regulations. An understanding of the structural differences between Stiglerian and Olsonian regulatory conditions is imperative.

2.3.3 Regulatory Competition

Debates and speculation abound regarding the question of whether the forces of globalization will necessarily cause a race to the bottom. Dale Murphy observes that examples of a race to the bottom co-exist with examples of a race to the top and examples of stable heterogeneity (Murphy, 2004). Murphy develops a theory of regulatory competition to explain the causal forces that lead to downward convergence, upward convergence, and divergence of international standards.

2.3.3.1 Three Categories of Dynamics

Murphy identifies three categories of dynamics that describe the behaviors of international standards; namely, lower common denominator (LCD), higher common denominator (HCD), and heterogeneity (HET) (Murphy, 2004). These categories are described below.

Lower Common Denominator (LCD)

This dynamic is also called a '**race to the bottom**', '**competition-in-laxity**', '**downward harmonization**', or '**downward convergence**'.

Competition-in-laxity occurs when nations compete to attract businesses to locate within their jurisdiction by establishing standards with lower costs of compliance. This dynamic can manifest itself in four ways (Murphy, 2004):

1. ***De jure* competition-in-laxity** refers to the dynamic that occurs when nations lower legal standards.

2. ***De facto* relocation competition-in-laxity** refers to the dynamic that occurs when corporations relocate sites of production to nations with lower legal standards.

3. ***De facto* market share competition-in-laxity** refers to the dynamic that occurs when corporations redistribute production from pre-existing production sites in nations with higher legal standards to pre-existing production sites in nations with lower legal standards.

4. **Regulatory chill** refers to the dynamic that occurs when nations fail to raise legal standards, despite new scientific evidence or rising standards in other nations.

Murphy cites shipping flags of convenience as an example of competition-in-laxity (Murphy, 2004). A ship's flag determines many of the regulations the ship must adhere to while moving through international waters. In this way, incentives are created for ship owners to choose flags of convenience, to associate their ships with flags subject to regulations with lower costs of compliance. Since countries derive benefits from ships that choose their flag, incentives exist for countries to lower their standards to attract more ships. These conditions create a race to the bottom leading to progressively lower safety and environmental standards (Murphy, 2004).

Interestingly, regulatory competition can result in a vicious race to the bottom or a virtuous race to the top. The idea that competition between different standards can be virtuous or vicious is represented in Figure 2-3. The dynamic of upward harmonization is discussed in the following section.

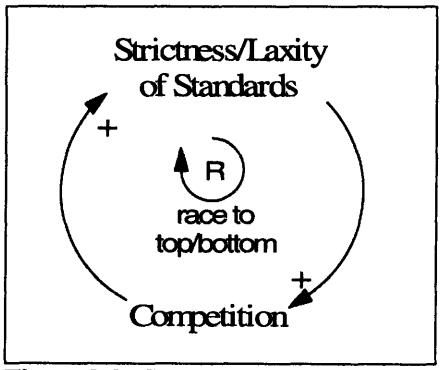

Figure 2-3. System Dynamics: Virtuous race to the top, vicious race to the bottom

Higher Common Denominator (HCD)

This dynamic is also called a **'race to the top'**, **'upward harmonization'**, or **'upward convergence'**.

David Vogel coined the phrase *California effect* to describe this dynamic (Vogel, 1995). The California effect occurs when nations establish higher regulatory standards that disadvantage importers. This type of market protectionism (if it can be sustained) creates incentives for other nations to raise their standards; however, it creates a conflict between regulatory policies and liberalized trade. When successful, socio-protectionism and eco-protectionism create a race to the top in standards.

Correspondingly, the Porter Hypothesis, developed by Michael Porter (Porter, 1990; Porter and Linde, 1995), suggests that stricter regulations can promote innovations that lead to improved competitiveness. Porter argues that competitive advantage is best understood as a dynamic within a changing context.

> "Competitive advantage, then, rests not on static efficiency nor on optimizing within fixed constraints, but on the capacity for innovation and improvement that shift the constraints (Porter and Linde, 1995, p. 98)."

Firms that would derive competitive advantage from stricter standards will lobby for changes in the regulatory environment.

The Montreal Protocol on Ozone Depleting Substances is an example of upward harmonization of international standards. The Montreal Protocol is discussed in greater detail in Section 3.

Heterogeneity (HET)

This dynamic is also called '**stable heterogeneity**' or '**stable divergence**'.

While some international standards are controlled by dynamics that lead to convergence (upward or downward), others remain heterogeneous across international boundaries.

> "International product standardization enables traditional, price-based competition. But the existence of redesign costs or network effects creates market frictions that diminish the incentive to standardize if there already exists a different technology in an established market. (Barrett and Yang, 2001, p. 171)"

Divergent standards that may be the result of path dependence remain heterogeneous to satisfy local preferences. Local preferences, in turn, may change over time as private entities relocate to jurisdictions with standards best suited to their needs. This process of self-selection, which adjusts local preferences to match the divergent standards, contributes to a stable state in which standards remain heterogeneous and do not tend to converge over time. These dynamics are portrayed in Figure 2-4.

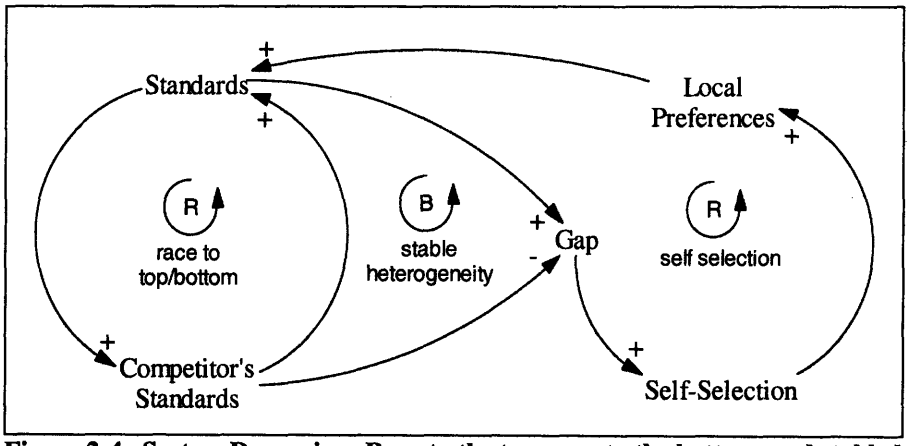

Figure 2-4. System Dynamics: Race to the top, race to the bottom, and stable heterogeneity

The proliferation of international standards for electrical power plugs and sockets is an example of stable heterogeneity. For historic reasons, disparate standards emerged in different countries. Over time, domestic markets adapted to the standards. The resulting situation is a

condition of stable heterogeneity of electrical standards. Pressures to converge are outweighed by local preferences to remain unchanged.

2.3.3.2 Explanation of Differences

Murphy proposes three causal factors to explain why some international standards converge while others diverge: the process versus market-access distinction, industrial structure, and asset specificity (Murphy, 2004).

Process Regulations versus Market-Access Regulations

Murphy distinguishes between regulations that restrict manufacturing or service-industry *processes* and regulations that restrict *market-access* of particular products or services. Regulations based on the characteristics of a *product* are easily enforced at the point of *market-access*. Conversely, regulations based on *process and production methods* (PPMs) must be monitored and enforced at the site of production, and can be more difficult to enforce for imports.

In the absence of accurate and verifiable PPM-based labels, products with high PPM standards are indistinguishable from products with low PPM standards at the point of market-access. However, labels can be applied to embed products with PPM information. In this way, *process* regulations can be transformed into *product* regulations, which can be enforced at the point of *market-access*.

Murphy argues that heterogeneous *process* regulations may lead to competition-in-laxity (Murphy, 2004). Faced with heterogeneous international regulations on process and production methods, businesses will choose sites of production subject to standards with lower costs of compliance (Murphy, 2004). Consequently, nations will compete to attract businesses by lowering standards. In this way, heterogeneous process regulations create an incentive structure that leads to a vicious cycle of increasingly lax standards.

Also, heterogeneous *market-access* regulations may be perceived as protectionism (Murphy, 2004), whether they are based on product characteristics or PPM-based labeling.

> "A major corollary of this first proposition is the importance of a state's market size and access to it. States with large internal markets may use market-access regulations not only to protect domestic industry against imports but also as a club to influence regulations in foreign states. (Murphy, 2004, p. 13)"

Within the context of globalization and increasingly liberalized trade, issues of market-access restrictions and protectionism are garnering greater attention. Debates about PPM-based market-access regulations are discussed in greater detail in the case study of dolphin-safe tuna in Section 4.

The dynamics of process versus market-access regulations are illustrated in Figure 2-5.

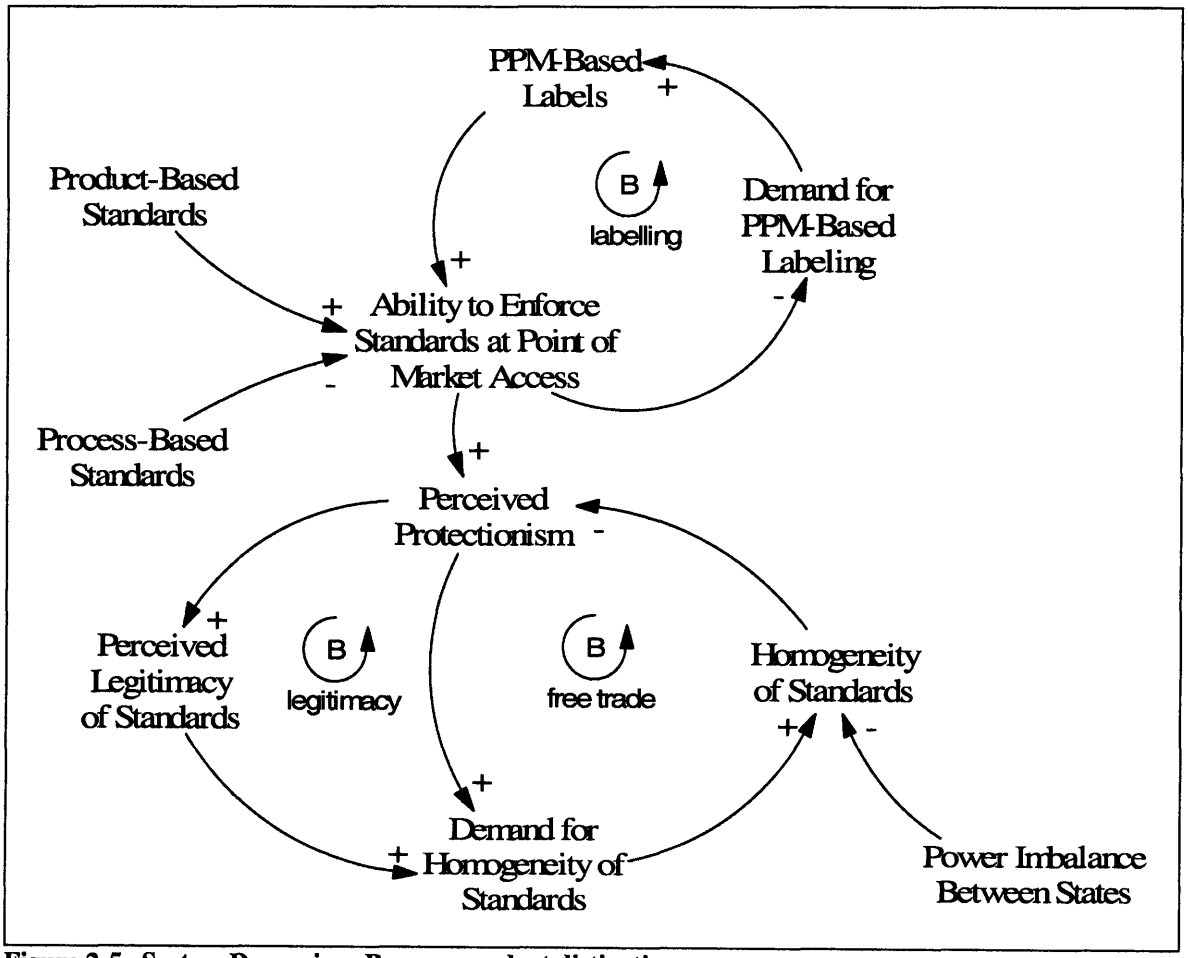

Figure 2-5. System Dynamics: Process-product distinction

Industrial Structure

The second causal factor Murphy identifies to explain regulatory dynamics is industrial structure. Murphy builds on George Stigler's theory that concentrated private interests tend to be overrepresented, while diffuse public interests tend to be underrepresented in regulatory outcomes (Stigler, 1971), and Mansur Olson's theory of collective action (Olson, 1965). Murphy contends that:

> "[o]rganized firms with concentrated interests are more likely to affect outcomes than inchoate consumers or small firms with diffuse benefits or costs. (Murphy, 2004, p. 14)"

Furthermore, concentrated markets are more conducive to regulatory movement, in particular when "the benefits are concentrated among a few powerful firms and the costs are spread diffusely (Murphy, 2004, p. 14)". However, regulatory capture by powerful concentrated private interests does not always indicate political failure. If private interests are aligned with public interests, then regulatory movement which was influenced by private interests also serves the public good.

These ideas are represented in Figure 2-6.

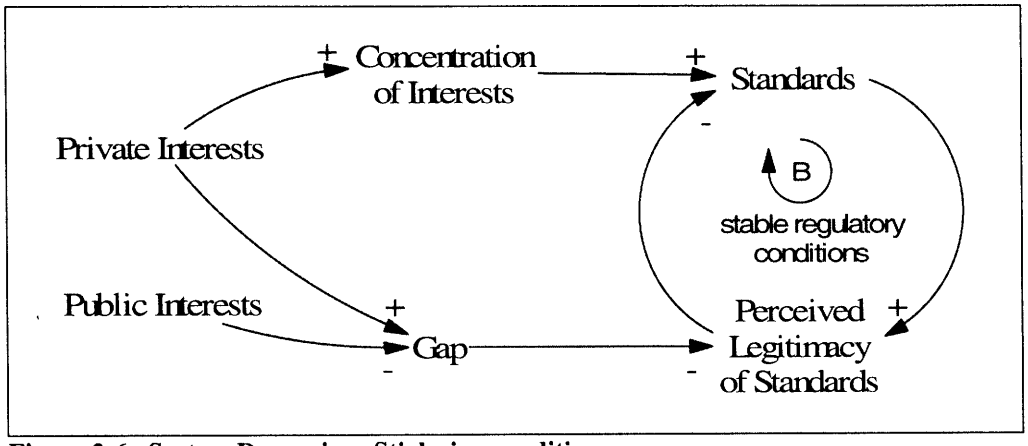

Figure 2-6. System Dynamics: Stiglerian conditions

Murphy also notes that the effects of industrial structure can strengthen or weaken the effects of the process versus market-access dynamic (Murphy, 2004).

Asset Specificity

The final causal factor Murphy identifies to explain why some international standards converge while others diverge is asset specificity. Murphy cites Oliver Williamson (Williamson, 1985) and Paul Joskow (Joskow, 1985) and provides the following definition of asset specificity:

> "...durable investments that are undertaken in support of particular transactions, and that would lose considerable value if the transaction were prematurely terminated (Murphy, 2004, p. 16)."

Murphy distinguishes between *low* asset specificity and *high* asset specificity. When asset specificity is *low*, assets can easily be redeployed. Conversely, when asset specificity is *high*, assets either cannot be redeployed or they can be redeployed at a loss. Murphy also distinguishes between *multinational* and *domestic* asset specificity. *Multinational* asset specificity refers to durable investments made to support specific cross-border transactions. *Domestic* asset specificity refers to durable investments made to support transactions within a single country.

Murphy reasons that low asset specificity facilitates competition-in-laxity (Murphy, 2004). When assets can be redeployed easily, businesses can relocate operations to sites where regulations have low costs of compliance. This creates incentives for nations to maintain low standards and leads to a race to the bottom.

Moreover, high *multinational* asset specificity leads firms to push for regulatory convergence across borders, while *domestic* asset specificity leads firms to fight against regulatory convergence across borders, and leads firms to push for regulatory divergence that protects their durable investments (Murphy, 2004).

The effects of asset specificity on the homogeneity of international standards are depicted in Figure 2-7.

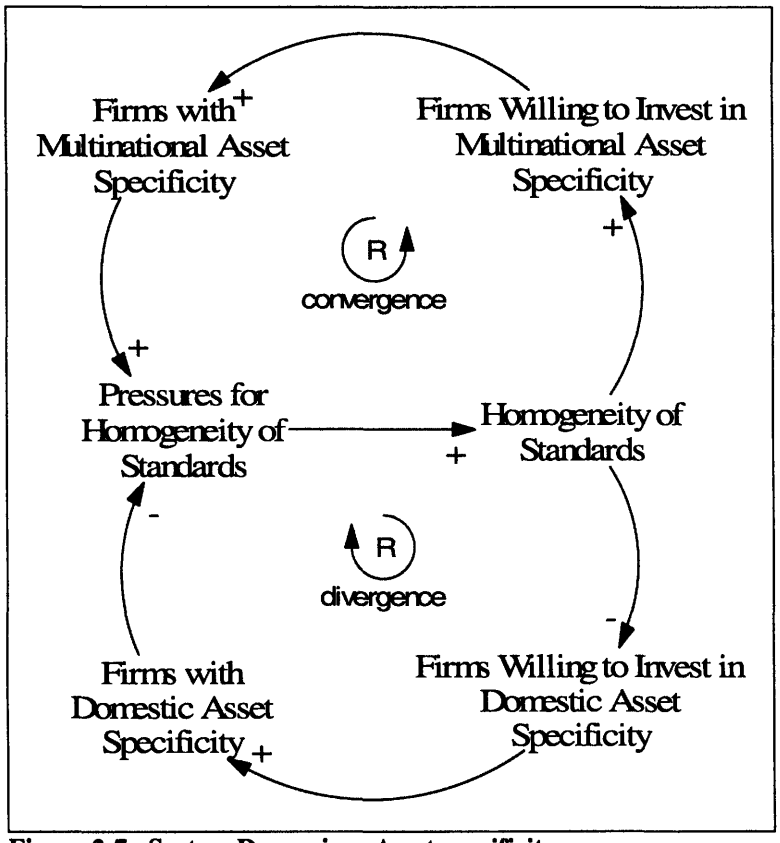

Figure 2-7. System Dynamics: Asset specificity

3 Case Study: Montreal Protocol on Ozone Depleting Substances

3.1 Introduction

The Montreal Protocol (MP) is widely regarded as one of the most successful examples of international cooperation on an environmental problem in the global commons[9]. This case study explores the causes of this historic success.

3.2 Chronology of the Montreal Protocol Case Study

Ozone is a trace chemical found in the earth's atmosphere. The stratospheric ozone layer protects the planet from the sun's harmful ultraviolet rays and is vital for life on earth (Pellerin, 2006). A hole in the ozone layer was discovered in 1985 (UNEP, 2004), which was caused by human activities that released ozone depleting substances (ODS) such as chlorofluorocarbons (CFCs) into the atmosphere[10]. In the mid-1980's, a variety of industries depended on the use of CFCs, which had applications as refrigerants, aerosol propellants, foam blowing agents, and solvents (CFC StarTec, 1998).

The issue of ozone layer depletion was first presented to the United Nations Environmental Programme (UNEP) in 1976 (UNEP, 2004). The first meetings of experts were coordinated by UNEP in 1977 (UNEP, 2004). In 1981, an intergovernmental panel for an international agreement to phase out ozone depleting substances was formed, and in 1985, the Vienna Convention to encourage intergovernmental cooperation for scientific research on stratospheric ozone was established (UNEP, 2004).

The Montreal Protocol (MP) was adopted in 1987 and went into effect in 1989 (UNEP, 2004). In 1989, twenty-nine countries had ratified the MP, including the United States, the European Economic Community (EEC), and the Russian Federation (UNEP, 2004). China ratified the MP in 1991, followed by India in 1992. By 2004, one hundred and eighty-nine

[9] This viewpoint is widely represented in the literature. For examples, refer to (Oberthur, 2001) and (Pellerin, 2006).
[10] The link between ODS/CFCs and the depletion of the ozone layer is well established in the literature. For an example, see (NASA, 2002).

countries (UNEP, 2004), including no less than one hundred and forty developing countries (Brack, 2003) had ratified the MP.

Chlorofluorocarbons (CFCs) were the first ozone depleting substances to be regulated by the MP. Between 1986 and 1999, world production of CFCs fell by 86% (Brack, 2003). By 1996, nearly all production and consumption of CFCs had been phased out of the industrialized world (Brack, 2003). By 2003, there were no significant producers or consumers who had not ratified the MP (Brack, 2003).

As a result of international efforts to eliminate the use of ozone depleting substances, the stratospheric ozone layer is expected to recover by the year 2060 or 2065 (Pellerin, 2006). This remarkably fast timeline of scientific discovery, international cooperation, technological innovation, substitution in the market, and environmental remediation suggests that the MP was a successful policy implementation that enabled humanity to avert a global commons catastrophe. Analysis of the MP reveals several lessons learned that may serve as guiding principals for international agreements in general; namely, regarding the role of science, information flows, technical innovation, funding and transfer payments, and incentives for compliance.

3.3 Analysis and Lessons Learned

Negotiations for an international agreement to protect the ozone layer began when the science of ozone depletion was still burdened with significant uncertainties. The uncertainties in the science did not hinder the diplomatic processes or prevent the development of an international agreement. On the contrary, to deal with the scientific unknowns, the MP was designed to be a "dynamic process of narrowing the ranges of uncertainties, rather than a static solution based on the status quo (Benedick, 1999)."

In recognition of the importance of scientific knowledge, an international research effort was initiated to develop an accepted common body of information, and panels of international experts were created to:

> "...periodically assess scientific, technological, economic, and environmental knowledge and thereby guide the negotiators in the further evolution of the treaty (Benedick, 1999)."

Moreover, the MP would not have been as successful if scientists had merely published their findings in academic journals.

> "In order for the theories to be taken seriously and lead to concrete countermeasures, scientists had to interact with diplomatic negotiators and government policy makers (Benedick, 1999)."

Spurred by the availability of new technical knowledge, the MP was revised five times since 1989 to accelerate the schedule for the reduction of CFCs (Pellerin, 2006). The periodic treaty reviews, based on new scientific knowledge, are built into the MP, and have been lauded as "perhaps the greatest innovation in the Montreal Protocol (Litfin, 1994, p. 117)". The reviews formalize the role of scientific discovery in the policymaking process, and create an interactive and interdisciplinary framework for diplomatic negotiations. One of the most significant lessons learned from this case study is the need for a structured process to routinely incorporate emerging scientific knowledge into environmental policy. In this way, environmental policies can remain current and effective. More generally, all international policies must deal with uncertainty, and should be designed with formal mechanisms for revisions based on new developments and the availability of new information.

Another important lesson learned is that public education is a powerful tool for influencing consumer choices, and, in turn, consumer power can be harnessed to promote policy goals, such as protecting the global commons. As Gunningham and Grabosky argue in their 1999 book *Smart Regulation,*

> "Most regulation is already in the hands not of government officials but the myriad individuals employed in the private sector and that, often, more can be achieved by harnessing the enlightened self-interest of the private sector than through command and control regulation (Gunningham and Grabosky, 1999, p. 12)."

In the case of ozone layer depletion, public education was an ongoing process of deciphering the emerging scientific theories and newly available data, then elucidating and translating the technical information into terms that were accessible to the public and media. This strategy of persuasion was very successful, as evidenced in the market for CFCs.

> "US media interest, promoted and nurtured by some scientists, legislators, and environmental organizations, stimulated decisions by millions of individual consumers that led to the collapse of the domestic market for CFC aerosol sprays even before there was any government regulation (Benedick, 1999)."

Of course, this strategy of persuading consumers to choose environmentally friendlier products requires the market to offer choices. Consumer power can only be harnessed to promote social and environmental goals if there are alternatives available in the market, or if consumers can be convinced to do without the product altogether. In general, the viability of this strategy rests on the potential for innovation to produce alternatives.

Ultimately, the success of the initiative to eliminate ozone depleting substances (ODS) and restore the stratospheric ozone layer depended on the potential for technological innovation to produce effective and economical alternatives. Fortunately,

> "Once initial resistance was overcome, companies rushed to compete in the markets for non-ozone depleting substances and technologies, developing alternatives (which often proved cheaper and more effective than the originals) at a speed that no one initially anticipated (Brack, 2003, p. 212)."

The innovation of alternative technologies enabled diplomatic negotiators to amend the MP five times since 1989 to accelerate the schedule for eliminating ODS. Even though the treaty created market incentives for innovation, if the innovators had failed to discover alternatives, it is unlikely that the MP could have succeeded in protecting and restoring the ozone layer. In the end, the schedule for elimination of ODS was determined by the rate of progress of the innovators.

The success of the MP is attributed in large part to the roles of science and innovation. Scientists were called upon to determine which chemicals were responsible for the hole in the ozone layer and explain the processes by which the ozone layer was depleted. Similarly, innovation was required to provide alternatives to the harmful ozone depleting substances. One of the related lessons learned from the success of the MP is the importance of adequate funding "for all levels of science, from curiosity-driven basic research to applied engineering solutions (Benedick, 1999)." The Multilateral Fund of the MP is one of the mechanisms for providing funding. Industrialized parties to the MP contribute to the fund according to "the standard UN assessment scale (Brack, 2003, p. 221)", and as of 2003, approximately 90% of the promised funds had been received (Brack, 2003). Monies are transferred to developing countries to finance the incremental costs of compliance (Brack, 2003). The Multilateral Fund is one of the measures adopted by the MP to ensure adequate funding for the success of the program.

The importance of the participation of developing countries was understood, and supported through two measures: the Multilateral Fund and slower schedules for the elimination of ozone depleting substances. Brack identifies the following as one of the factor that contributed to the protocol's success:

> "the recognition – now commonplace, but in 1987 an innovation – of 'common but differentiated responsibilities', recognizing the special needs of developing countries through slower phase-out schedules (Brack, 2003, p. 212)."

This is an approach that is important for the success of any international agreement.

Finally, the incentive structures for compliance were also essential for success. Compliance by developing countries was encouraged by the support available through the Multilateral Fund. Moreover, compliance by all parties was encouraged with trade measures, and non-compliance was discouraged by sanctions. The treaty allowed compliant parties to apply sanctions against non-compliant parties as well as non-signatories.

> "The key weapon in the protocol's non-compliance armoury is the threat of restrictions on trade in products controlled by the agreements (Brack, 2003, p. 220)."

The non-compliance clause enabled signatories to deny supplies of ozone depleting substances (ODS) to both non-signatories and non-compliant parties. These sanctions were a credible threat, since all major producers of ODS were signatories (Brack, 2003).

The case of stratospheric ozone layer depletion and recovery is a shining example of international cooperation to protect the global commons. The fact that the ozone layer is expected to make a full recovery by the middle of the century (Pellerin, 2006) suggests that the MP is a valuable example upon which to model other international environmental agreements. This viewpoint is widely represented in the literature[11]; however, there are some valuable counterarguments that should be considered. First, it has already been noted that the market for CFC aerosol sprays collapsed prior to any regulation (Brack, 2003). Consumer pressures fueled reductions in ODS ahead of the MP schedule.

> "This finding suggests that the initial provisions of the Montreal Protocol are largely consistent with voluntary subscription cutbacks in CFC emissions (Murdoch and Sandler, 1997, p. 347)."

Murdoch and Sandler argue that this observation supports the conclusion that the MP is a poor model for other global agreements. They refer to Scott Barrett, who finds that:

[11] For examples, see (Oberthur, 2001) and (Pellerin, 2006).

> "The Montreal Protocol may not have increased global net benefits substantially compared with the noncooperative outcome (Barrett, 1994, p. 17)."

This line of reasoning suggests that consumer education and market dynamics are responsible for the recovery of the ozone layer, not the MP. If this is true, then the MP has been, at best, an exercise in international diplomacy and relationship building. Murdoch and Sandler also conclude that every global commons problem has its "own pattern of payoffs based on publicness (Murdoch and Sandler, 1997, p. 347)", and that every international agreement must be tailored to the specific market payoffs associated with the particular problem at hand. Unfortunately, it is not possible to measure the effects of consumer pressure separately from the effects of the MP. Whereas consumer pressure in industrialized countries preceded an international agreement, it does not follow that the developing world would have (or could have) succeeded in reducing ODS as quickly or to the same extent without the MP or the Multilateral Fund. It seems much more reasonable to argue that public awareness in the industrialized world served two purposes: to create market incentives and to foster support for an international agreement.

Despite the fact that Murdoch and Sandler have undervalued the contribution of the MP to the global reduction of ozone depleting substances (ODS), there is at least one way in which the MP *is* a poor model for other international agreements. The non-compliance clause of the MP was effective because the threat of sanctions against non-signatories and non-compliant parties was credible. The threat was credible only because all major producers of ODS were signatories (Brack, 2003). It is important to note that all supplies of ODS "originated from a relatively small number of countries (Brack, 2003, p. 220)". This fact made it easier to negotiate the agreement. Had the diplomatic negotiators been unable to reach an agreement that all major producers of ODS would sign, the threat of sanctions would not have been credible, and the non-compliance clause would have been impotent to discourage free-riders. The MP would not have been the success that it was, and the remediation of the ozone layer would have been slowed.

The success of the MP also depended on technical innovation. The accelerated schedule for eliminating ozone depleting substances (ODS) was determined by the availability of economical alternatives. When the MP was adopted in 1987, the science of ozone depletion was still fraught with uncertainties, and the potential of future innovation to produce alternatives to ODS was

unknown. Without technological innovation to produce alternatives to ODS, the MP would have surely failed to protect and restore the stratospheric ozone layer. Any policy that presupposes the potential of future innovation to solve a scientific problem, especially one riddled with uncertainties, assumes the risk of failure. There are no guarantees on the potential of future innovation to produce timely and economical solutions to every environmental problem. It is worth questioning whether this is an acceptable risk in the management of an exhaustible resource in the global commons, in particular when that resource has no substitute and is vital for life on earth.

Several lessons were learned from the experience of the Montreal Protocol; including, the importance of science and innovation, public education and consumer pressures, adequate funding, differentiated roles and responsibilities for developed and developing countries, and trade measures to encourage compliance. Under the Montreal Protocol, the threat of sanctions was credible because all major suppliers of the controlled substances were signatories.

3.4 Understanding the Role of Corporate Power and Stiglerian Conditions

Dan Danielsen addresses the question, "How do corporations govern globally?" He refutes the notion that the actions of sovereign states should be labeled as "governance" while those of corporations are deemed "private" (Danielsen, 2005). Danielsen suggests that both corporate and public policies affect social welfare, and their effects are often indistinguishable. In this section, Danielsen's framework is applied to the case of the Montreal Protocol (MP). The objective is to understand the role of corporations in the international effort to restore the ozone layer.

The MP, signed in 1987, is "generally considered to be one of the most successful cases of international co-operation on environmental issues (Oberthur, 2001, p. 358)." Many analyses of the success of the MP have focused on the structure of the agreement, and have tried to extract "best practices" upon which to model future international agreements[12]. Applying Danielsen's

[12] For examples, see (Brack, 2003), (Benedick, 1999), (Litfin, 1994), and (Pellerin, 2006).

ideas about corporate governance leads a new question, "What was the role of corporate power in the success of the international efforts to restore the ozone layer?"

Oye and Maxwell describe a class of situations, which they refer to as *Stiglerian* (Oye and Maxwell, 1994). In these situations, concentrated private interests align with diffuse public interests to create stable regulatory conditions. The MP is a good example of a Stiglerian situation, in which corporate power played an instrumental role in global governance. A few powerful corporations, including DuPont and ICI, derived competitive advantages from the regulations banning ozone depleting substances (ODS) (Oye and Maxwell, 1994). These companies were leaders in the innovation of substitutes for ODS, which were much more expensive and more profitable than ODS. The regulatory ban on ODS created a market for the profitable substitutes, and Dupont and ICI were well positioned for first-mover advantage (Oye and Maxwell, 1994). Furthermore, all major suppliers of ODS were located in a small number of countries (Brack, 2003). This facilitated the negotiations for the MP, and led to the implementation of a credible non-compliance clause. The threat of sanctions was only credible because all major suppliers of the controlled substances were represented by signatory states (Brack, 2003). Corporate power was instrumental in the creation of credible sanctions, without which it is doubtful that the MP would have been successful.

Oye and Maxwell contrast the notion of Stiglerian situations with a second class of international regulatory cases, which they refer to as *Olsonian* (Oye and Maxwell, 1994). These are examples of the tragedy of the commons, and are plagued by classic collective action problems. Since concentrated private interests tend to be over-represented, while diffuse public interests tend to be under-represented, Olsonian regulatory situations are inherently unstable (Oye and Maxwell, 1994). Many examples of Olsonian regulatory cases exist, including global climate change.

A failure to appreciate the structural differences between Stiglerian cases like the Montreal Protocol and Olsonian cases like climate change can result in policy instruments that are inappropriate and impotent to affect change. As Danielsen contends, corporate power is influential in global governance (Danielsen, 2005); however, to exercise this power effectively requires an understanding of its potential and limitations.

3.5 Conclusions and Recommendations

The Montreal Protocol (MP) was conceived prior to the establishment of the WTO. Nonetheless, the formation of the MP was consistent with changing international priorities and foreshadowed the rising role of international economic law and the world trade regime. The MP was negotiated as a multilateral agreement within the framework of *international public law*; however, its structure, and in particular its potent non-compliance clause, which threatened economic sanctions against non-compliant nations and non-signatories, closely resembled *international economic law* and it leveraged the power of international trade to boost its authority. Likewise, the non-compliance clause of the MP was effective because the threat of economic sanctions was both substantial and credible.

The dynamics in this case support the Porter Hypothesis (Porter, 1990), which asserts that competitive advantage is not a static condition. It is both a capacity for innovation within a changing environment, and a capacity for innovation that changes the regulatory environment. Corporations that would derive competitive advantages from higher mandatory standards will push for corresponding regulations. In this case, the major suppliers of ozone depleting substances (ODS) faced a changing market environment. Public awareness campaigns had kindled market demand in industrialized countries for alternatives to ODS. The major corporations, namely DuPont and ICI, responded with innovation to produce alternatives, and lobbied for international regulations to bolster their competitive advantage.

As Oye and Maxwell have argued, the alignment of concentrated private interests and diffuse public (or environmental) interests created a Stiglerian regulatory environment (Oye and Maxwell, 1994). However, the Montreal Protocol does not constitute a political failure, despite the fact that it benefits specific concentrated private interests, because it also serves the public good and protects the global commons. Also, as Murphy's theory of regulatory competition predicts, regulatory movement was facilitated by a concentrated industrial structure.

Efforts to promote social and environmental goals must remain rooted in a realistic understanding of the current state of the international regulatory environment and must recognize

the sources of power and policy levers available. Private interests and public interests are not always aligned; but when they are, corporate power can and should be leveraged to promote social and environmental objectives. Moreover, activists and NGOs should be actively working with corporations to identify ways in which to derive competitive advantage from higher standards. Corporate social responsibility initiatives should be lobbying for regulations that boost competitive advantage while simultaneously raising social and environmental standards.

4 Case Study: Dolphin-Safe Tuna

4.1 Introduction

One of the foundational ideas in this case study of dolphin-safe tuna is the distinction between regulations that are based on the characteristics of a *product* versus regulations that are based on the *process and production methods* (PPMs) used to create the product. This classification of regulations has come to be known as the process-product distinction.

This case study is composed of three sections. The first provides background information and outlines the chronology of the case. The history of tuna fishing practices, resulting dolphin mortalities, and associated policy actions are discussed. The second section presents analysis of the market failures, political failures, and trade-offs observed in the dolphin-tuna case study. The case concludes with policy recommendations pertaining to international standards and the process-product distinction.

4.2 Chronology of the Dolphin-Tuna Case Study

In the 1950s, fishers in the Eastern Tropical Pacific (ETP) Ocean discovered that dolphins tend to associate with yellowfin tuna (NOAA, 2006a). This discovery led to the adoption of a new tuna fishing practice, using purse seines[13] to encircle schools of dolphins. By encircling the schools of dolphins, fishers were able to capture large numbers of high quality yellowfin tuna more easily. Unfortunately, the dolphins were also captured in the purse seines, and many dolphins were killed by this fishing practice. Regardless, this practice has been the predominant fishing method in the ETP, since the discovery in the 1950s (NOAA, 2006a).

Estimates of dolphin deaths in the ETP due to the tuna fishing practice of encircling dolphins with purse seines vary. Teisl, Roe, and Hicks (Teisl, Roe *et al.*, 2002) refer to the National Research Council's estimate that more than 100,000 dolphins were killed each year by the U.S. tuna fleet between 1960 and 1972. Other estimates, which include foreign tuna fleets in the ETP, are as high as 500,000 dolphin deaths per year in the 1960s (Murphy, 2002).

[13] For a description and illustration of purse seines, refer to "Appendix: Purse Seine for Tuna Fishing" on page 133.

In response to growing concern about the high number of dolphin deaths, the U.S. passed the Marine Mammal Protection Act (MMPA) in 1972.

> "The MMPA prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. (NOAA, 2006b)."

The MMPA applies to all marine mammals; however, its implications for dolphins have received special attention. With respect to dolphins in the ETP, the World Trade Organization (WTO) interprets the MMPA as follows:

> "The US Marine Mammal Protection Act sets dolphin protection standards for the domestic American fishing fleet and for countries whose fishing boats catch yellowfin tuna in that part of the Pacific Ocean [the ETP]. If a country exporting tuna to the United States cannot prove to US authorities that it meets the dolphin protection standards set out in US law, the US government must embargo all imports of the fish from that country. (WTO, 2006f)"

This is the WTO's interpretation of the MMPA. It is not an endorsement of the U.S. law, nor does it indicate whether the MMPA is consistent with or contrary to international trade law. Dolphin-tuna trade disputes addressed by the General Agreement on Tariffs and Trade (GATT) and the WTO are discussed later in this paper.

Once the MMPA was in place, the U.S. tuna fleet began adopting measures to protect dolphins in the ETP (Teisl, Roe *et al.*, 2002). The number of dolphin killed by the U.S. tuna fleet fell to approximately 15,000 in 1980 (U.S. Senate, 1997). The decline in dolphin deaths attributed to the U.S. fleet was only partially accounted for by the adoption of new dolphin-safe fishing methods. The size of the U.S. tuna fleet was also dwindling (NOAA, 2006a). Conversely, foreign tuna fleets in the ETP were growing (NOAA, 2006a). Notwithstanding the improvements made by the U.S. tuna fleet in the ETP, overall dolphin deaths *increased* in the 1980's. The overall increase in dolphin deaths in the 1980's has been attributed to the foreign tuna fleets, and the continued use of dolphin encircling and purse seine fishing methods (U.S. Senate, 1997).

In the 1980s, the dolphin-tuna issue was increasingly garnering media attention. Heightened consumer awareness eventually led to a variety of consumer boycotts (Teisl, Roe *et al.*, 2002). Additionally, in accordance with the MMPA, Mexican yellowfish tuna was unilaterally banned from U.S. markets from 1980 to 1986 (Murphy, 2002). In all, the U.S. embargoed tuna imports twenty-three times between 1975 and 1990 (Murphy, 2002).

Responding to consumer pressures, the largest U.S. tuna canning company, Heinz (Starkist) with 36% market share, announced a "dolphin-safe" labeling policy in 1990 (Murphy, 2002). Murphy quotes J.W. Connolly, then president of Heinz-USA,

> "I am interested in the possibility of seizing the environmental high ground by offering the only tuna guaranteed not caught off dolphins. . . I know about the potential cost impact on the procurement of raw tuna . . . However. . . If I am right in this, and we can solve the procurement problems, we could have a very substantial volume opportunity. (Murphy, 2002)"

The second and third largest U.S. tuna canning companies, Van Camp (Chicken of the Sea) and Unicord (Bumble Bee) with 21% and 14% market shares respectively (Murphy, 2002), followed suit and announced their "dolphin-safe" labeling policies in 1990 (Teisl, Roe *et al.*, 2002).

A few months later, the U.S. government passed the Dolphin Protection Consumer Information (DPCI) Act of 1990, which mandated that canned tuna could not be labeled as "dolphin-safe" unless "dolphins were not used to capture tuna for the entire fishing trip, as verified by a sanctioned observer aboard the boat (Teisl, Roe *et al.*, 2002, p. 342)." Following the DPCI, the ban on Mexican yellowfin tuna that had previously been lifted in 1986 was reinstated in 1990.

By 1991, dolphin deaths had fallen to 25,000 per year in the ETP. One of the unintended consequences of the changes in tuna fishing practices was a decline in the quality of canned tuna on the American market in the 1980's (Teisl, Roe *et al.*, 2002). Since "dolphin-safe" tuna fishers were no longer permitted to encircle dolphins, they could not longer easily target yellowfin tuna in the ETP, which is considered to be of the highest quality and ideally suited for canning (Teisl, Roe *et al.*, 2002).

In response to the 1990 embargo, Mexico brought a case against the U.S. under the GATT in 1991. Two issues were central to the dispute between the U.S. and Mexico. The first was the sovereignty of nation states, and the ability of nations to set their own environmental standards. Trade-offs exist between sovereignty and the globalization and liberalization of trade. The GATT was challenged to answer the question: "Can one country tell another what its environmental regulations should be (WTO, 2006f)?" Mexico argued that the U.S. was engaging in protectionism, using environmental standards to create barriers to trade. The second issue pertained to the notion of regulation based on *process* vs. *product*. "Do trade rules permit action

to be taken against the *method* used to produce goods (rather than the quality of the goods themselves) (WTO, 2006f)?" The GATT panel concluded:

> "...that the US could not embargo imports of tuna products from Mexico simply because Mexican regulations on *the way tuna was produced* did not satisfy US regulations. (But the US could apply its regulations on *the quality or content* of the tuna imported.) This has become known as a "product" versus "process" issue. (WTO, 2006f)"

The GATT panel report was circulated, but it was not adopted. Since it was not adopted, it does not have the status of a "legal interpretation of GATT law (WTO, 2006f)." The US and Mexico settled the disagreement bilaterally, "out of court" (WTO, 2006f).

In 1994, a second case was brought against the U.S. under the GATT by the European Union (E.U.). In the first case, Mexico was the "primary" exporting country. In accordance with the MMPA, the U.S. embargos and trade restrictions also apply to "intermediary" countries. Any country that handles the tuna after it has left the primary country, before it arrives on the U.S. market, is categorized as an intermediary. Tuna is often processed or canned in intermediary countries (WTO, 2006f). In the second case, the E.U. complained that embargos against primary and intermediate countries were illegal under the GATT. Again, the GATT panel concluded that the U.S. could not embargo tuna imports based on the process and production methods (PPMs) used to capture the tuna (WTO, 2006d). As with the first case, the GATT panel report was circulated, but it was not adopted (WTO, 2006d).

The WTO dispute settlement procedure replaced its GATT predecessor in 1995. No dolphin-tuna disputes have been brought before the WTO (WTO, 2006c). However, several issues central to the dolphin-tuna case have been addressed by the WTO. In 1996, the WTO Committee on Trade and Environment (CTE) presented its conclusions on:

> "The relationship between the provisions of the multilateral trading system and: (a) charges and taxes for environmental purposes, and (b) requirements for environmental purposes relating to products, such as standards and technical regulations, and packaging, labeling and recycling requirements (WTO, 2006a)."

The CTE determined that the issue of eco-labeling, defined as the labeling of products according to environmental standards, should be treated under the Technical Barriers to Trade (TBT) Agreement, administered by the Committee on Technical Barriers to Trade (WTO, 2006a). The CTE also concluded that further discussions were needed to determine how the TBT Agreement

should be interpreted and applied to eco-labeling, when the environmental standard is based on PPMs instead of the characteristics of the product itself (WTO, 2006a).

The TBT Agreement states that:

> "...countries have the right to establish protection, at levels they consider appropriate, for example for human, animal or plant life or health or the environment, and should not be prevented from taking measures necessary to ensure those levels of protection are met. (WTO, 2006b)"

However, the TBT also maintains that technical standards can not be used to create "unnecessary obstacles to trade (WTO, 2006b)."

In 1998, India, Malaysia, Pakistan, and Thailand brought the shrimp-turtle case against the U.S. under the WTO. The question in this case was whether the U.S. had acted illegally under WTO law when it banned certain shrimp products that were harvested with methods harmful to endangered sea turtles (WTO, 2006e). Although this case did not involve tuna or dolphins, it was a PPM case that was expected to bear on the dolphin-tuna issue. The WTO Appellate Body ruled against the U.S. The WTO concluded that the U.S. was arbitrarily and unjustifiably discriminating between trade partners (WTO, 2006e). In this case, the WTO did not conclude that PPMs could not be used as the basis for trade restrictions. Unfortunately, the WTO ruling did not to mention the issue of PPMs at all (WTO, 2006e). By comparison, the WTO did choose to make the following statement on environmental protection:

> "We have not decided that the sovereign nations that are Members of the WTO cannot adopt effective measures to protect endangered species, such as sea turtles. Clearly, they can and should. (WTO, 2006e)"

Since the ruling explicitly recognized the right of nations to protect endangered species, and did not specifically address the general issue of PPMs, the ruling, which was adopted in 1998, did not clarify the legal status of regulations based on PPMs.

The legal status of regulations based on PPMs remains open to debate. In 2001, the WTO published the following recommendation for solving PPM disagreements.

> "Internationally agreed PPM-based standards could be a potential solution to the PPM debate. WTO Agreements themselves promote the use of international standards (WTO, 2006g)."

With this statement, the WTO is encouraging nations to negotiate and harmonize international environmental standards; including those based on PPMs. The WTO recommendation for

internationally agreed PPM-based standards is logical and could reduce the frequency and veracity of disputes. However, it does not clarify the legal status of PPM-based regulations.

In addition to GATT and WTO agreements, international trade of tuna falls under the authority of Inter-America Tropical Tuna Commission (IATTC). In 1992, the La Jolla Agreement was signed. The agreement established voluntary limits on dolphin mortality for fleets fishing tuna in the ETP. The goal was to decrease the limits each year, for seven years, until dolphin mortality had been eliminated (NOAA, 2006a).

In 1999, the International Dolphin Conservation Program (IDCP) was established with a secretariat in the IATTC (IATTC, 2006). The IDCP replaced the voluntary La Jolla Agreement with a legally-binding multilateral agreement. The objectives of the IDCP include reductions in dolphin mortality to levels approaching zero and the long-term sustainability of tuna stocks in the ETP. Thirteen nations have ratified the IDCP; including the U.S. and Mexico.

The result of nearly half a century of trade negotiations, unilateral policies, multilateral agreements, and various corporate responsibility initiatives is the dramatic lowering of dolphin mortality in the tuna fishing industry in the ETP. Estimates of dolphin mortality in the 1960's are as high as 500,000 dolphins per year (Murphy, 2002). Estimates have dropped below 5,000 dolphins per year in the year 2002 (Teisl, Roe *et al.*, 2002). A timeline depicting the policy events and rates of dolphin mortality is illustrated in Figure 4-1.

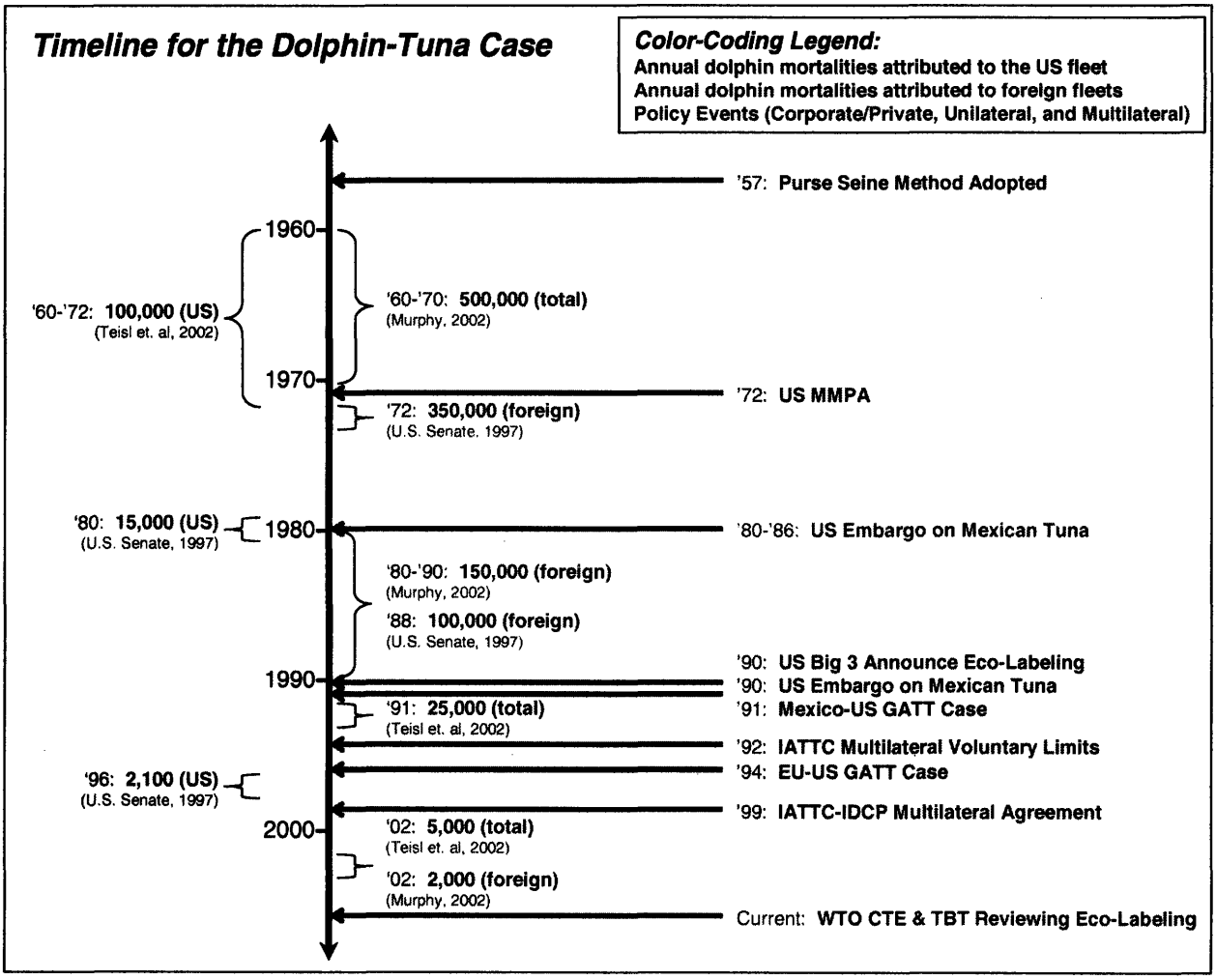

Figure 4-1: Timeline for the dolphin-tuna case study.

4.3 Analysis of the Dolphin-Tuna Case Study

4.3.1 Market Failures

The market failures in the dolphin-tuna case are described in this section. Three types of market failures are significant in the dolphin-tuna case: externalities, information asymmetries, and adverse selection.

Dolphin mortality is an externality in the market for ETP tuna. Similarly, turtle mortality is an externality in the shrimp industry. Joseph Stiglitz cites the WTO appellate decision in the 1998 shrimp-turtle case and states that the "international community has a right to take actions to address global public goods and externalities (Stiglitz and Charlton, 2005, p. 153)." He argues

that correcting for externalities, especially in the global commons, is a legitimate justification for economic regulation. Stiglitz also offers an interesting interpretation of this type of market failure. He argues that:

> "...not forcing firms to pay the true social costs of their environmental damage is a form of subsidy which countries should have the right to take action against (Stiglitz and Charlton, 2005, p. 153)."

In this way, an externality in the global commons that is typically understood to be a *market* failure can also be understood as a *political* failure. Failing to take action to internalize the true environmental costs is a political failure, because the market externality is equivalent to a trade subsidy paid to those who are exploiting the global commons.

Moreover, the dolphin-tuna case is an example of the tragedy of the commons. The phrase "the tragedy of the commons" was popularized in 1968 by Garrett Hardin. His research was specifically about the problems of overpopulation; however, his ideas apply to any shared resource. The tragedy of the commons refers to the market failure of private incentives to protect public resources, which can occur when costs are shared and benefits are private. For each individual with free access to a shared resource, the negative utility of the costs amounts to only a fraction of the positive utility of the benefits. This discrepancy creates incentives for continual extraction from shared resources. Hardin summarizes this dynamic as follows:

> "Therein is the tragedy. Each man [sic] is locked into a system that compels him to increase his [extraction from the commons] without limit – in a world that is limited. Ruin is the destination toward which all men [sic] rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruins to all. (Hardin, 1968, p. 1244)"

Policy solutions are required to avoid the type of ruin that results from the tragedy of the commons. Since tuna fishing takes place in international waters, which do not fall under the jurisdiction of any individual nation, regulations cannot be enforced at the site of extraction. Regulations must be applied at the point of trade or site of consumption.

The market dynamics in the dolphin-tuna case are also subject to failure from information asymmetry and adverse selection. In the absence of accurate and verifiable labels, consumers cannot distinguish between tuna that is dolphin-safe and tuna that is not dolphin-safe. Beaulieu and Gaisford explain how this information asymmetry creates adverse selection:

> "Since conforming goods are typically indistinguishable from non-conforming goods at the point of consumption, there is a hidden quality problem similar to the *lemons problem* in the used car market described by Akerlof (1970). The empirical evidence then suggests that it is useful to

> think of conforming goods as 'higher quality' than non-conforming goods even though this 'quality' characteristic is based on the production process rather than a detectable attribute of the finished products. (Beaulieu and Gaisford, 2002, p. 60)"

Teisl, Roe, and Hicks have found that consumers are willing to pay more for dolphin-safe tuna than for tuna that is not dolphin-safe (Teisl, Roe *et al.*, 2002). However, in the absence of eco-labels, dolphin-safe tuna and tuna that is not dolphin safe are indistinguishable and they trade at a common price. Under these circumstances, tuna that is not dolphin-safe will tend to displace dolphin-safe tuna in the market (Beaulieu and Gaisford, 2002).

Policy solutions are required to correct for the externalities in the tuna market, protect the global commons, resolve the information asymmetries and prevent adverse selection.

4.3.2 Political Failures

Various policy measures were adopted in efforts to reduce dolphin mortalities and correct the market failures described in the preceding section. However, many of the policy solutions attempted resulted in political failures.

One of the first regulatory measures adopted to address the issue of dolphin mortality was the Marine Mammal Protection Act (MMPA), passed in the U.S. in 1972. The MMPA restricted the actions of the U.S. tuna fleet, reducing dolphin mortality attributed to the U.S. fleet; however, it was not successful in reducing *overall* dolphin mortality. The MMPA started a race to the bottom. The size of the U.S. fleet decreased, the size of foreign fleets increased, and overall dolphin mortality increased. These dynamics are represented in Figure 4-2. In the absence of additional policy solutions, the MMPA would have remained a political failure.

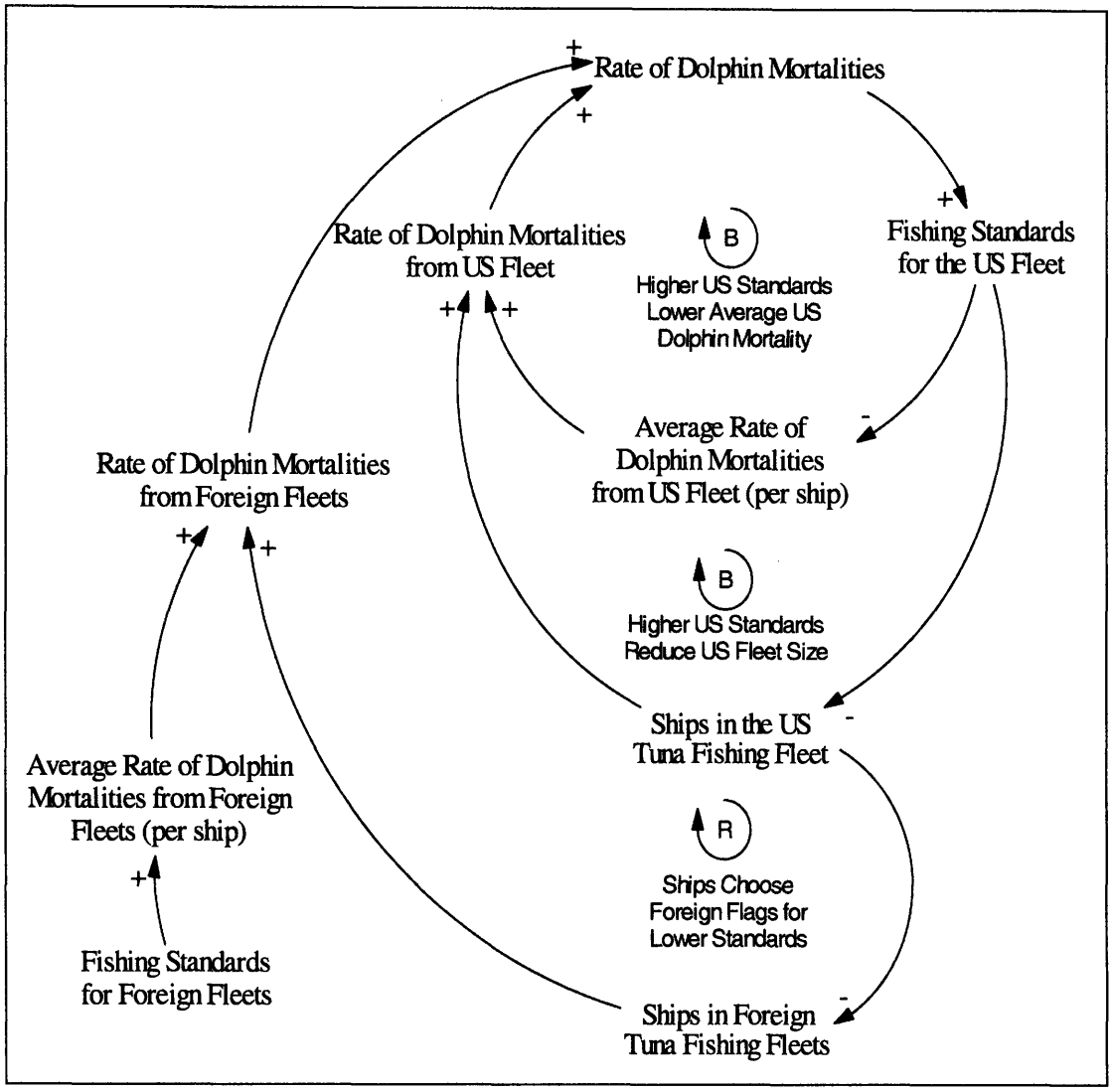

Figure 4-2. System Dynamics: MMPA policy resistance and flags of convenience

The introduction of eco-labeling in the U.S. tuna market was designed to increase the competitiveness of dolphin-safe tuna, reduce information asymmetries and protect dolphin-safe tuna companies from adverse selection market failures. Moreover, eco-labeling served as a complementary measure to the MMPA. Eco-labeling raised consumer awareness and bolstered support for the U.S. to act unilaterally, embargoing foreign tuna under the MMPA. These combined policy measures served to reduce overall dolphin mortality.

Three large U.S. tuna companies – Heinz (Starkist), Van Camp (Chicken of the Sea), and Unicord (Bumble Bee) – benefited disproportionately from the MMPA and the U.S. embargoes. In this case, the concentrated interests of these private firms were aligned with the diffuse public interests in protecting the global commons. It is tempting to characterize this situation as Stiglerian regulatory capture[14]. However, it is important to note that important environmental benefits were achieved by these regulatory measures. Therefore, it would not be wholly accurate to label this an example of Stiglerian political failure.

However, several countries did contend that the eco-labeling standards constituted a serious political failure. Multiple cases were brought against the U.S. under the GATT by countries that argued the unilateral environmental standards created unjustifiable and arbitrary barriers to trade. Moreover, the dolphin-tuna disputes under the GATT, the subsequent shrimp-turtle dispute under the WTO, and the PPM discussions under the WTO exemplify one of the most complex trade-offs in the modern world between sovereignty and globalization.

On the one hand, there is the issue of the sovereignty and ability of nations to create and enforce regulations to promote their domestic social and environmental interests. When the sovereignty of nations is given too much weight, however, the consequence is a political failure on the international scale. This is especially true in the case of the global commons. Empowering individual nations to act according their own rational interests can lead to the tragedy of the commons.

On the other hand, there is the issue of the globalization and liberalization of international trade. The process of globalization requires a certain transfer of power from sovereign nation states to the international sphere, which represents a trade-off and, in some views, a type of political failure.

The dolphin-tuna cases brought against the U.S. under the GATT are generally understood to be debates over the process-product distinction and the role of environmental standards in

[14] For an explanation of the notion of "Stiglerian" regulatory capture, refer to (Stigler, 1971)

barriers to trade. However, a second important idea was included in the GATT panel report in 1991. The report concluded:

> "...that the measure in question was aimed at protecting environmental resources (in this case dolphins) lying outside the United States' jurisdiction, that extra-jurisdictional action of that kind could not be accommodated under GATT (WTO, 2006b)."

If the U.S. and Mexico had not resolved the dispute bilaterally, and if the GATT panel report had been adopted into law, this ruling would have created a significant political failure. Not only did the GATT fail to protect the global commons, the GATT ruling would have reinforced the payoffs in the system and amplified the tragedy of the commons.

The need for policy solutions to correct the market failures in the dolphin-tuna case is clear. However, trade-offs exist between market failures and political failures. Trade-offs between different types of political failures have also been discussed. In the following section, a few policy recommendations are presented.

4.4 Conclusions and Recommendations

Market failures in the dolphin-tuna case include externalities and the tragedy of the commons, information asymmetry and adverse selection. Coordination problems and heterogeneous environmental standards create inefficiencies in international trade. Political complexities in the dolphin-tuna case include the process-product distinction, trade-offs between sovereignty and globalization, the risk of Stiglerian regulatory capture, protectionism and barriers to trade.

International trade laws, under the GATT and WTO, trade sanctions, and embargoes have been important policy instruments in the dolphin-tuna case. However, it is important to question whether the WTO is the best international organization to address growing concerns about environmental protection and the harmonization of environmental standards. The WTO has stated its position on this question as follows:

> "...the WTO should not be abused as a powerful tool for multilateral policy enforcement in areas outside its specific competence. The environment is not the only area of international affairs where this question arises and trade sanctions are not the only, nor necessarily the best, enforcement tool available. (WTO, 2006b)"

In contrast, Joseph Stiglitz states:

> "...some argue that since these are not matters of trade... it is preferable to address these problems through other channels. Without prejudging the validity of this argument, the fact of the matter is that there are few other channels. Today, in the absence of alternatives, trade sanctions are one of the few ways that the international community can enforce its will, and though resort to such measures should be carefully circumscribed, the instances enumerated [including trade-distorting subsidies] are among those in which sanctions may arguably be justified (Stiglitz and Charlton, 2005, p. 154)."

Additionally, Stiglitz argues that failing to require private companies to internalize the costs of environmental externalities is a form of subsidy. In this way, environmental externalities, such as dolphin mortality in the tuna market, are trade-distorting subsidies. For these reasons, the WTO is an appropriate forum for pursuing policy solutions in cases like dolphin-safe tuna. It is strongly recommended that PPM-based standards should not be exempt from WTO rules. Trade sanctions based on social and environmental standards can be appropriate policy measures for protecting the public good and global commons.

Protecting the global commons is an important policy goal. However, promoting efficiency in global markets is also an important policy goal. The harmonization of international standards can increase efficiencies in international trade. Negotiated multilateral agreements on international standards, including PPM-based standards, are recommended policy solutions for overcoming coordination problems. Multilateral standards are preferred over unilateral standards, because trade restrictions based on unilateral standards can easily be construed as protectionism.

Corporate social responsibility can be a powerful policy lever to influence global governance outcomes and achieve social and environmental goals. Eco-labeling and green marketing are examples of corporate social responsibility, which were very successful in the creation of market demand for dolphin-safe tuna. However, as David Vogel explains, "CSR is best understood as a niche rather than a generic strategy (Vogel, 2005, p. 3)" and "there are important limits to the market for virtue (Vogel, 2005, p. 3)." Consumers must be willing to pay a price premium for higher standards that exceeds the costs of the CSR initiative. In those cases for which CSR is successful, it represents a policy strategy that allows for the simultaneous pursuit of the goal of protecting the global commons and the goal of promoting market efficiency. In the right niche market, such as dolphin-safe tuna, CSR can reduce the trade-off between market failures and political failures.

Corporate social responsibility and voluntary standards can increase social welfare and improve global governance outcomes to an extent that is bounded by structural limits in the market. Public regulations and mandatory standards are the logical next step. In the context of globalization and the expanding role of the world trade regime, trade restrictions based on mandatory social and environmental standards are one of the most powerful policy levers available to promote social agendas in the international community and protect the global commons.

The legal status of PPM-based regulations under the WTO is currently unspecified. The two dolphin-tuna cases and the shrimp-turtle case presented to the WTO and its GATT predecessor were resolved out of court and did not form international law. The next PPM case to be brought under the WTO may clarify the legality of trade restrictions based on PPM standards. This case and the resulting PPM legal status will have far reaching implications and will bear on several critical global issues, including climate change policy and international labor standards. If PPM-based regulations are found to be illegal, a race to the bottom is the most likely outcome. Conversely, if PPM-based regulations are permitted, a race to the top is possible.

PPM-based labels embed products with information about production methods, and transform *process* regulations into *market-access* regulations. Trade laws based on PPM standards and labels empower the international community to influence production standards inside the national boundaries of exporting countries. This is a critically important policy lever that has the potential to humanize globalization, make globalization work for the poor, and protect the global commons from tragedy.

5 Case Study: Fair Trade Coffee

5.1 Introduction

Within the context of globalization and increasingly liberalized trade, fair trade coffee is a counter-cultural phenomenon. Even so, issue coffees, such as fair trade and organic, are the fastest growing segments of the international coffee market. Coffee is the most significant agricultural global commodity, and its trade affects millions of families around the world. Value chain analysis reveals that most of the value from the commodity coffee market is captured in consuming countries, while producers continue to struggle with poverty. Fair trade coffee is a response to the inequitable distribution of value captured and an attempt to help producers improve their livelihoods and alleviate poverty.

This case study explores the potential for norm change campaigns, corporate social responsibility, and consumer power to promote voluntary standards. To date, fair trade coffee, based on voluntary standards, has been successful, but only as a niche market.

Now, the fair trade movement is at a crossroads. Pressures are mounting inside and outside the activist community, and stakeholders are divided on the best strategy for the future of fair trade coffee. The debates center around the following questions: Can fair trade be scaled up without compromising standards? Will the involvement of transnational corporations, like Starbucks and Nestle, undermine the integrity of the fair trade movement? Will fair trade coffee ever be more than a successful niche market? The case of fair trade coffee presents an opportunity to learn about the potential and limitations of PPM standards to promote social justice within the context of globalization.

This case study is structured as follows. Sections 5.2, 5.3, and 5.4 present background information about coffee, fair trade, and value chain analysis. Sections 5.5 and 5.6 apply value chain analysis to commodity coffee and fair trade coffee value chains. Sections 5.7 and 5.8 summarize the major debates in the fair trade coffee literature and decision points facing the future of fair trade coffee. Section 5.9 contains system dynamics models of key issues in fair trade coffee. Conclusions and recommendations are presented in Section 5.10.

5.2 Background Information: Coffee

Two types of coffee beans account for the majority of all coffee: *Arabica* and *Robusta*. *Arabica* originates from Ethiopia and is known for its superior taste. *Robusta* originates from West Africa and is used as a low-grade filler in coffee blends (Linton, 2005). *Arabica* accounts for 75-80% of world coffee production (CoffeeResearch.org, 2007).

5.2.1 The Recent History of the Coffee Market

Coffee is the world's second most valuable traded commodity, second only to oil (Moskin, 2004). The size of the retail market for coffee is over US$70 billion in sales per year (ICO, 2007b). An estimated 20-25 million families in more than 50 developing countries produce and sell coffee (Lewin, Giovannucci *et al.*, 2004). In many of the coffee producing countries, coffee accounts for over 75% of total export revenues (ICO, 2007b).

Arabica and *Robusta* commodity prices are determined in the New York Commodity Market and London Commodity Market respectively. *Arabica* prices have declined by an average of 3% per year and *Robusta* prices have declined by an average of 5% per year since 1970. As of 2004, coffee prices had fallen to their lowest levels in 30 years and their lowest levels in 100 years in real terms (Lewin, Giovannucci *et al.*, 2004).

The consequences of the falling coffee prices have been especially serious for the poor in developing countries that depend on coffee exports. For example, between 1998 and 2001 in Nicaragua, poverty rates increased by 2% among coffee farmers, while poverty rates fell by 6% in the overall rural population. School enrollment fell by 5% among coffee farming families, while school enrollment rose by 10% in the overall rural population. (Lewin, Giovannucci *et al.*, 2004)

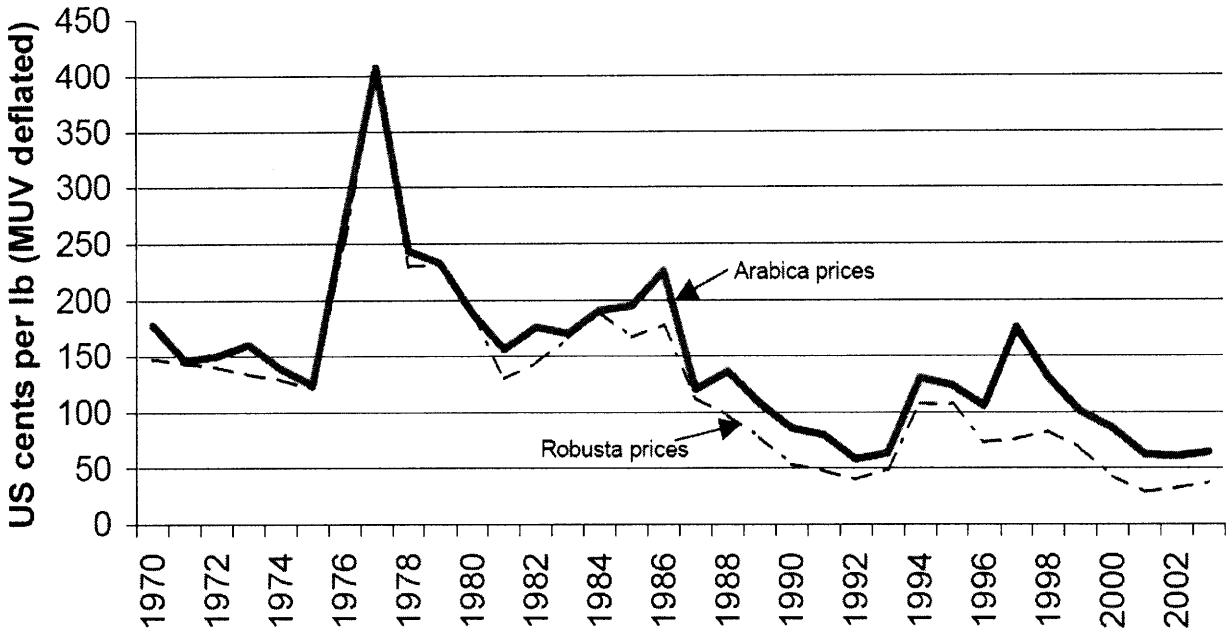

Figure 5-1: Arabica and robusta prices between 1970 and 2002 (Lewin, Giovannucci *et al.*, 2004).

Coffee prices are volatile in two ways (Lewin, Giovannucci et al., 2004):

1. ***Short term fluctuations often have greater magnitudes than long term trends, and***
2. ***It is difficult to predict future coffee prices.***

The coffee market has also been characterized by large supply surpluses and deficits, illustrated in Figure 5-2.

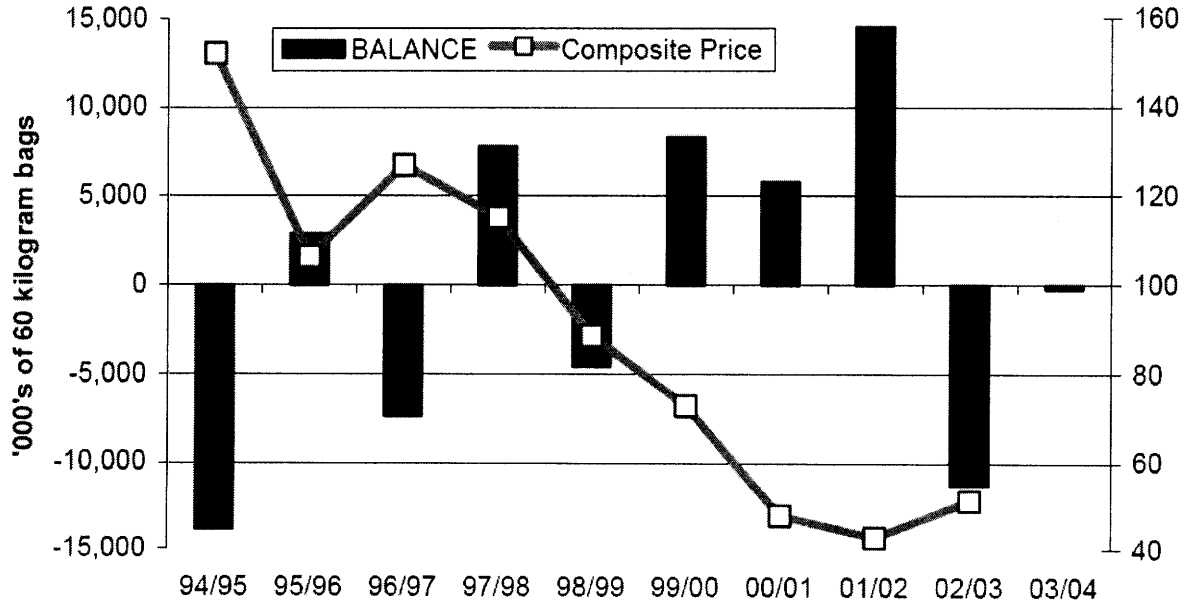

Figure 5-2: Balance of supply and demand in coffee from 1992 to 2004 (Lewin, Giovannucci *et al.*, 2004)

One of the factors that contribute to price volatilities and gaps between supply and demand is the use of stocks in the coffee market. In the case of coffee, it is not possible to borrow against future production; therefore, stocks represent the limit of additional supply to meet current demand. In some markets, consumers are willing to tolerate delays, to wait purchase the product when it becomes available. However, in the case of coffee, the stock-out price is much higher and the value of stocks rises with market prices. (Lewin, Giovannucci *et al.*, 2004)

By some accounts, price volatilities is the most significant problem in the coffee commodity market.

> "[T]he Commodity Risk Management Group of the World Bank confirms some other studies indicating that *farmers are willing to accept lower incomes in return for reduced volatility [emphasis added]* (Lewin, Giovannucci *et al.*, 2004, p. 22)."

Certainly, any market intervention which seeks to improve the lives of coffee farmers in LDCs, must, at a minimum, address the issue of price volatility.

A 2006 World Bank report promotes the use of derivative markets to address price volatility in the coffee commodity spot market (Ronchi, 2006). Unfortunately, volatilities have persisted, despite the growth of derivative markets. Barriers to access exist that prevent small coffee producers in LDCs from using derivative markets to limit their exposure to risk (Lewin, Giovannucci *et al.*, 2004). These barriers to entry include insufficient access to and understanding of the futures and options markets.

In an earlier World Bank report, it is suggested that the time lags in the coffee market are sufficiently long that they undermine derivative markets.

> "A basic conclusion has been that the commodity price shocks in a number of commodities – including coffee – are so long-lasting that they make stabilization schemes of the [futures and options markets] unviable. (Lewin, Giovannucci *et al.*, 2004)"

In this report, the World Bank recommends against trying to manage volatilities directly through market interventions. Instead, the World Bank recommends managing the effects of volatilities by developing compensatory financing systems to lessen the impact of price shocks (Lewin, Giovannucci *et al.*, 2004).

In both reports, the World Bank stresses the importance of understanding the underlying market failures in the coffee commodity market, and argues that interventions will only succeed if they are based on an accurate understanding of the failures.

It is widely agreed in the literature that oligopsonistic roasters and transnational corporations (TNCs) have market power to influence the price of coffee beans from small producers in LDCs (for an example, see Raynolds, 2000). The 2006 World Bank report cites Milgrom and Roberts (1992), who identify the following market failures in the coffee commodity market: "market power, increasing returns to scale, externalities, missing markets and matching and coordination problems (Ronchi, 2006, p. 13)". The report further cites Stiglitz (1989), who argues that the foremost cause of market failures in the coffee commodity markets is imperfect information.

Commodity market interventions, including fair trade initiatives, are all designed to correct perceived market failures. Debates regarding the most salient causes of the market failures are at least partly responsible for the disagreements about the best strategies for the future of the coffee market.

5.2.2 The Coffee Crisis

The term "coffee crisis" is widely used to refer to the low commodity prices and high price volatilities that have existed in the coffee market for the past 15-25 years. The literature on fair trade coffee presents a reasonably consistent view of the history of the coffee commodity markets and the causes of the "coffee crisis". In the 1990's, the commodity price for Arabica coffee dropped from a high of US$2.71/lb to a low of US$0.48/lb (Linton, 2005). The low prices are well below a sustainable living wage for coffee farmers (Linton, 2005). There is widespread agreement that prices have dropped substantially (often below the costs of production) while volatilities have increased. Some uncertainty also exists regarding the factors that led to the collapse of the International Coffee Organization (ICO) quotas and controls in 1989. However, it is widely acknowledged that coffee commodity prices fell immediately following the collapse of the ICO controls in 1989, to around half of their previous levels (ICO,

2007b). Even so, debates persist regarding the sustainability of the International Commodity Agreements (ICAs) under the ICO as long term solutions to correct and manage the commodity market failures. Widespread disagreements also exist regarding whether ICAs with quotas and price controls should be re-introduced to address the "coffee crisis".

5.2.3 Coffee Production Chains

A thorough understanding of the "coffee crisis" and market failures in the coffee commodity market requires both macro and micro scale analysis. Value chain analysis reveals important micro scale dynamics, and the first step in value chain analysis is to map out the structure of the underlying production chain.

The *value chains* of different types of coffee (e.g. commodity, organization-based fair trade, standards-based fair trade) are structured differently. Moreover, the *supply chains* of different brands of coffee operate differently. However, underlying the various value chain and supply chain structures is a common *production chain* structure. The typical coffee production chain is illustrated in Figure 5-3

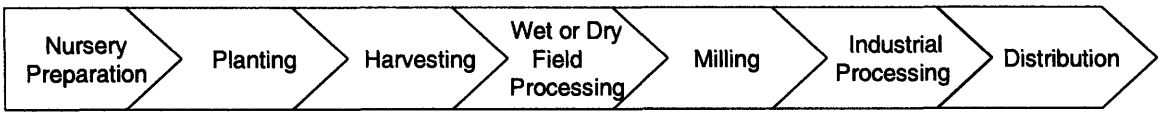

Figure 5-3. Simplified coffee production chain

Coffee plants begin to flower 3-4 years after planting. After the first flowering, crops can be harvested annually; however, new coffee cherries only grow on new growth (CoffeeResearch.org, 2007). Coffee plants reach full yields in 5-6 years, and have productive seasons for approximately 15-20 years (Campher, 2006). Afterwards, coffee plants continue to produce, however, older than 20 years have significantly reduced yields (Rosenthal, 2007).

Seeds can be harvested and re-planted fresh, or can be dried and planted later (CoffeeResearch.org, 2007).

Harvesting can be performed by hand or it can be mechanized. Picking coffee cherries by hand allows for more selective harvesting and reduces the percentage of cherries that are picked too soon or too late (CoffeeResearch.org, 2007). However, if the price does not depend on quality, incentives for selective handpicking do not exist (Rosenthal, 2007). Once the coffee cherries are picked, the coffee cherries must be sorted and the green cherries and overripe cherries must be discarded. The ripe cherries are then dried and processed to extract the beans from the cherries. (CoffeeResearch.org, 2007) Coffee cherries can be processed using a wet process or a dry process. Both methods produce parchment coffee, and both methods are typically completed in the field. (Kaplinsky, 2004)

Parchment coffee is then milled to produce green coffee beans. The fact that parchment and green coffee can both be stored creates some flexibility in the location of the milling activity. However, green coffee is less bulky than parchment; therefore milling operations tend to be situated in the growing country. (Kaplinsky, 2004)

Industrial processing includes roasting the coffee beans, and may also include other processes to create soluble and decaffeinated products. The result is a product that is then packaged, marketed, and distributed to wholesale and retail customers. (CoffeeResearch.org, 2007) Even though soluble coffee (or "instant coffee") has a shelf life in excess of six months, the short shelf life of roasted ground coffee requires industrial processing sites to be near the final consuming market. Historically, industrial processing has been typically undertaken in the consuming countries (Kaplinsky, 2004). The availability of new technologies is allowing some industrial processing to be situated in producing countries. For example, the recent expiration of the patent on the Swiss Water® decaffeination process has enabled some producing countries to engage in decaffeination activities. In 2007, the Alternative Trade Organization Equal Exchange will purchase fair trade coffee from Mexico that has already been decaffeinated (North, 2007).

It is noteworthy that different stages of the coffee production chain have different potentials for economies of scale. The growing stage does not benefit from scale economies. Milling tends

to be more centralized and tends to benefit from some scale economies. Industrial processing and distribution have the greatest potential to benefit from scale economies. (Kaplinsky, 2004)

A more detailed depiction of the coffee production chain is presented in Figure 5-4. The activities above the horizontal line typically occur in the producing countries, whereas the activities below the horizontal line typically occur in the consuming countries. The placement of the horizontal line in the diagram indicates that coffee tends to be traded on the global market in the green bean stage of the production chain. (Kaplinsky, 2004)

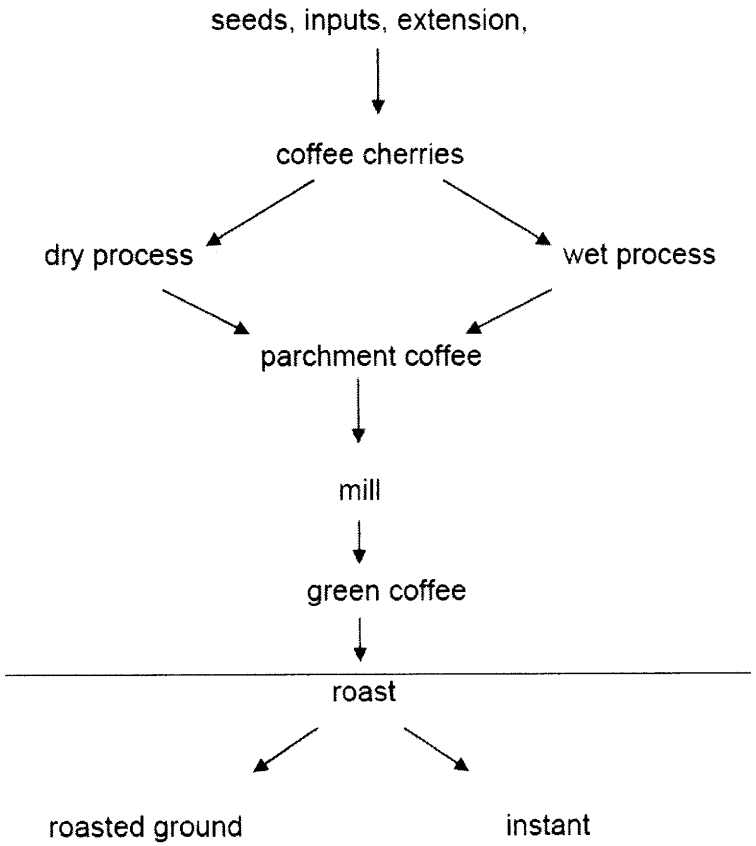

Figure 5-4. Coffee production chain (Kaplinsky, 2004).

5.3 Background Information: Fair Trade

5.3.1 The History of Fair Trade

Fair trade began as a response to poverty and disaster after World War II. In the late 1940s, churches and religious groups in the United States organized to sell handicrafts made by refugees from Europe (Oxfam America, 2007a). The first fair trade initiatives, SERRV International and Ten Thousand Villages (formerly Self Help Crafts), formed in the 1940s, focused on selling handicrafts through Alternative Trade Organizations (ATOs) (IFAT, 2007). Similarly, in the 1950s, Oxfam UK sold handicrafts made by Chinese refugees (IFAT, 2007).

By the 1960s, a variety of fair trade organizations, including SERRV, Ten Thousand Villages, and Oxfam, were selling handicrafts throughout Europe and North America. Non-governmental organizations (NGOs), recognizing the importance of consumer awareness in the North, began fair trade marketing and norm change campaigns in the 1960s and 1970s (IFAT, 2007).

The slogan "Trade Not Aid" was coined at the United Nations Conference on Trade and Development (UNCTAD) conference in Delhi in 1968, where developing countries emphasized the importance of addressing the inequities of international trade. Developing countries expressed their frustration that the gains from international trade were disproportionately benefiting the North, and the North was sending only small portions of the gains back to the South in aid (IFAT, 2007).

Fair trade, which started handicrafts, expanded to coffee in 1973, and later to other foods, such as tea, cocoa, and sugar. In the 1970s, fairly traded foods, including coffee, were distributed exclusively through ATOs (IFAT, 2007). The idea of standards-based certification and labeling of foods, such as coffee, did not emerge until the 1980s (IFAT, 2007).

The first standards-based certification, *Max Havelaar*, was established in the Netherlands in 1988 (IFAT, 2007). The TransFair label for coffee was established soon after in Germany (Oxfam America, 2007a). Additional standards-based certifications were developed in the 1990s in Europe and North America. In 1997, the Fairtrade Labeling Initiative (now the Fairtrade

Labeling Organization, FLO) was created as an umbrella organization to coordinate between the various standards-based certification organizations around the globe (IFAT, 2007). By 2006, nineteen countries had labeling initiatives with shared criteria under the FLO umbrella (Oxfam America, 2007a). In 2004, the International Fair Trade Association (IFAT) established the Fair trade Organization Mark, an organization-based certification.

5.3.2 Fair Trade Definitions

Many versions of definitions of fair trade exist[15]; however, a few themes are common to most definitions: a fair price, stable and direct trade relationships, democratic and transparent organizations with access to financing, minimum working conditions, and sustainability.

Nearly all definitions of fair trade include the idea of a fair price, which includes a price guarantee and a price premium. Typically the fair trade price will exceed the commodity price by a social premium. The social premium may be distributed to the coffee farmers, or invested into the community by a farming cooperative.

Fair trade definitions also tend to incorporate the idea of shortening the supply chain. This is often referred to as *direct* trade, and implies fewer intermediaries in the supply chain between producers and consumers. The motivation for this criterion is to increase the value captured by producers in LDCs. Direct trade can also increase trust and transparency in the network. Definitions often also suggest that fair trade relationships are longer term relationships than trade relationships in a spot market.

Some definitions stress the importance of democratic producer cooperatives and the access of producers to credit and financing. Finally, minimum working conditions and environmental sustainability are mentioned in a few definitions.

[15] A selection of specific definitions from a variety of sources, including Oxfam America and IFAT, is presented in Appendix: Definitions of Fair Trade.

Regardless of the definition, certifying whether the product is in fact "fair trade" raises important issues.

5.3.3 Two Models of Certification

Two models of certification exist in fair trade: product-based (or standards-based) certification and organization-based certification.

Under standards-based certification, products are labeled with information about the process and production methods (PPMs). The certification is provided by third party organizations which operate independently from the distribution channels and fair trade interests. Since 1997, standards-based certification is managed through the Fairtrade Labeling Organization (FLO).

Under organization-based certification, fair trade products are sold exclusively through ATO channels. The guarantee of fair trade standards is associated with the ATO, not the product. In addition, ATOs often "promote cultural connections and understanding through the creation of a 'Third World' ambiance, including music and décor, and the telling of producer stories, through producer store visits, photo and video images, and written narratives on the lives of individual producers (Raynolds, 2002)". Since 2004, organization-based certification is provided by the International Fair Trade Association (IFAT).

5.3.4 Fair Trade Coffee Market Shares

Since 1973, when coffee was introduced into the fair trade movement, fair trade coffee market shares have grown rapidly. However, market shares remain small. To date, fair trade coffee remains a niche market, capturing less than 4% of the market in Europe in 2003 and less than 2% of the US market in 2004.

Year	Fair Trade Green Imports (in Million lbs.)	Est. Retail Value of Fair Trade Sales (in $Millions)	Est. Retail Value of All Coffee Sold (in $Millions)	Fair Trade Market Share	
				Specialty	All Coffee
2000	4.25	$47.81	$19,758.99	0.6%	0.2%
2001	6.67	$75.03	$18,547.74	0.9%	0.4%
2002	9.75	$109.69	$18,750.35	1.3%	0.6%
2003	18.66	$208.13	$19,849.37	2.3%	1.0%
2004	32.80	$369.02	$20,351.37	3.8%	1.8%

Table 1. Estimated US Fair Trade Coffee Market Share from 2000 to 2004 (TransFair USA, 2005a).

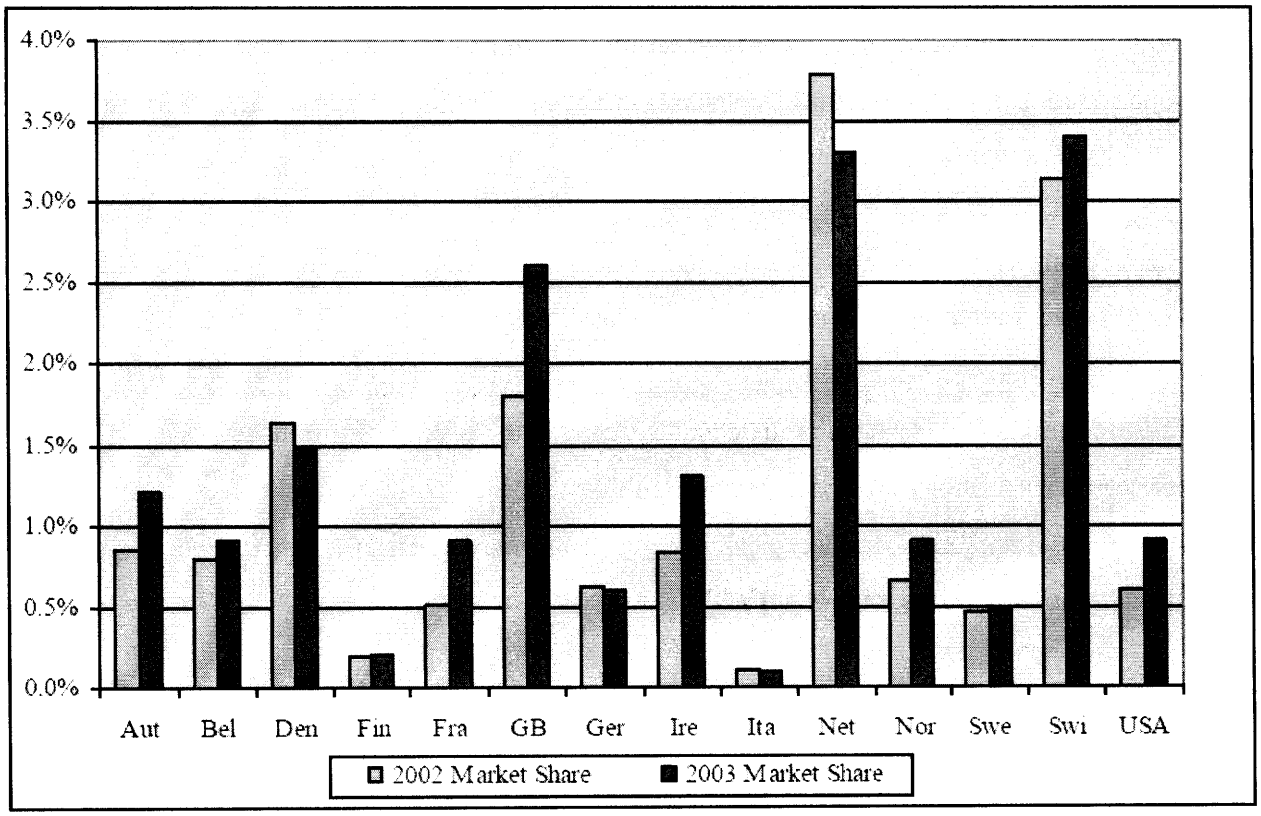

Figure 5-5. Estimated fair trade coffee market share in Europe and the US in 2002 and 2003 (TransFair USA, 2005a).

5.4 Background Information: Global Value Chains

5.4.1 Distribution of Value Captured

Value chain analysis is a commonly applied methodology in the fair trade literature. For example, Oxfam and the New Internationalist have published the following breakdowns of revenues from coffee supply chains.

The New Internationalist (Ransom, 2006) states that the price paid by consumers maps to the supply chain in the following way:

- *10% paid to growers*
- *10% paid to exporters*
- *55% paid to shippers and roasters*
- *25% paid to retailers*

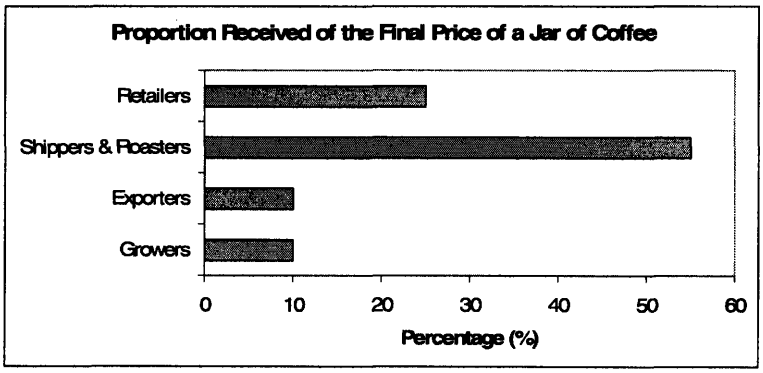

Figure 5-6: Proportion received of the final price of a jar of coffee (Ransom 2006)

Oxfam (Oxfam, 2006) cites the following prices in the coffee market chain:

- *Farmer sells kiboko to middleman (equivalent price 1kg of green beans):* *US$0.14/kg*
- *Price of green coffee (Fair Average Quality) arriving at exporter's in Kampala:* *US$0.26/kg*
- *FOB price for Standard Grade Robusta:* *US$0.45/kg*
- *CIF price:* *US$0.52/kg*
- *Price delivered to factory (adjusted for weight loss for soluble: x2.6):* *US$1.64/kg*
- *Retail price for average 1kg of soluble in the UK:* *US$26.40/kg*

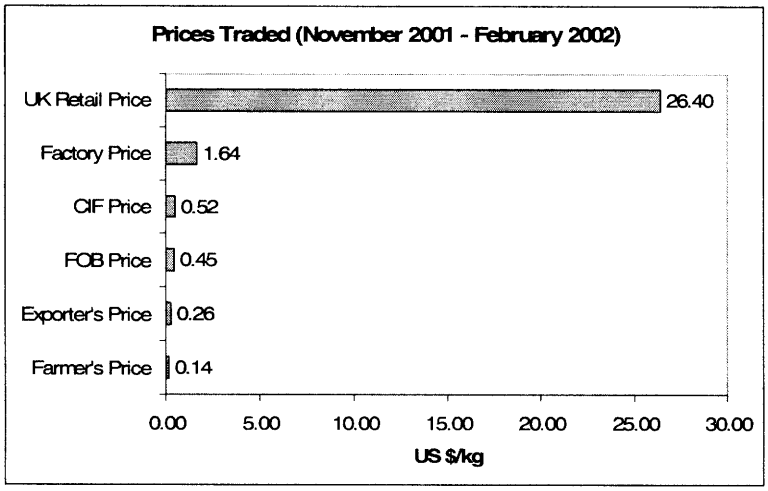

Figure 5-7: Prices traded (November 2001 - February 2002) (Oxfam 2006)

Since cost data are often difficult to obtain, most value chain studies analyze prices, not profits. The World Bank identifies this as a methodological flaw that undermines the credibility of policy recommendations derived from value chain analyses based on *incomes* (Ronchi, 2006).

Whereas it is true that value chain analysis based on prices may not yield precisely the same results as value chain analysis based on profits, there can be little doubt about the existence of inequities in the distribution of welfare gains from the coffee industry.

5.4.2 Value Chain Analysis

A structured methodology for value chain analysis is required to understand the causes of distributional inequities in global supply chains. This section presents a brief overview of a theoretical framework for understanding the governance of global value chains. Early versions of the framework for value chain analysis (Gereffi, 1993; Gereffi and Korzeniewicz, 1994) supplement supply chain analysis by introducing the idea of a chain governor. Gereffi also introduces the notion that there are buyer-driven value chains and producer-driven value chains. An understanding of the operations and dynamics of a supply chain requires an appreciation for the distribution of economic power within the

chain. Later versions of the framework, developed by Gereffi, Humphrey, and Sturgeon (GHS henceforth) (Gereffi, Humphrey et al., 2005) explore chain dynamics. GHS propose a framework for understanding how and why value chains change over time.

GHS identify the following three exogenous causal factors that determine the structure of global value chains:

1. ***The complexity of information required for transactions***
2. ***The ability to codify the transactions, without transaction-specific investments***
3. ***The capabilities of the suppliers to meet the transaction requirements***

Different combinations of the three factors result in the following five types of global value chain structures, which differ in levels of explicit coordination and extent of power asymmetry: Market, Modular, Relational, Captive, and Hierarchy. The five types of global value chain structures are expounded upon in Table 2 and illustrated in Figure 5-8.

Governance type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base	Degree of explicit coordination and power asymmetry
Market	Low	High	High	Low
Modular	High	High	High	↑
Relational	High	Low	High	|
Captive	High	High	Low	|
Hierarchy	High	Low	Low	↓ High

There are eight possible combinations of the three variables. Five of them generate global value chain types. The combination of low complexity of transactions and low ability to codify is unlikely to occur. This excludes two combinations. Further, if the complexity of the transaction is low and the ability to codify is high, then low supplier capability would lead to exclusion from the value chain. While this is an important outcome, it does not generate a governance type *per se*.

Table 2. Key determinants of global value chain governance (Gereffi, Humphrey *et al.*, 2005).

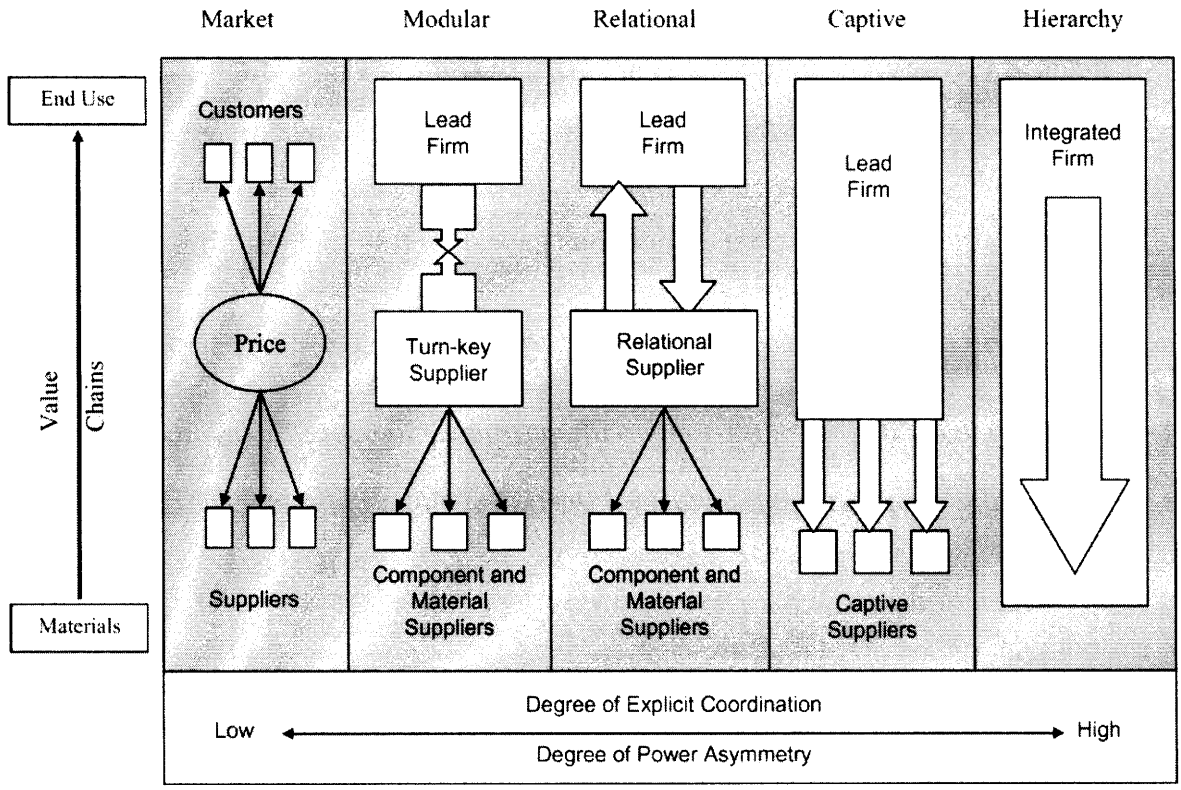

Figure 5-8. Five governance structures for global value chains (Gereffi, Humphrey *et al.*, 2005).

GHS identify six categories of dynamics that can cause a value chain's structure to change over time. The six categories of dynamics are listed in Table 3. They refute the idea that the process of globalization will necessarily lead to convergence in governance structures of global value chains. The degree of explicit coordination and power asymmetry in global value chains may increase or decrease, despite the liberalization of trade and the globalization of markets.

Governance type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base
Market	Low	High	High
Modular	① High ②	③ High ④	High
Relational	High	Low	⑤ High ⑥
Captive	High	High	Low
Hierarchy	High	Low	Low

Dynamics of changes in governance:
① Increasing complexity of transactions also reduces supplier competence in relation to new demands.
② Decreasing complexity of transactions and greater ease of codification.
③ Better codification of transactions.
④ De-codification of transactions.
⑤ Increasing supplier competence.
⑥ Decreasing supplier competence.

Table 3. Some dynamics of global value chain governance (Gereffi, Humphrey *et al.*, 2005).

5.5 Commodity Coffee Value Chains

During the 1980s and 1990s, many commodity markets, including coffee, underwent a process of trade liberalization and deregulation. Structural Adjustment Programs, advanced by the IMF and the World Bank, transformed the commodity coffee markets and fundamentally changed the structure of coffee value chains.

International Coffee Agreements (ICAs) between producing and consuming countries have been managed by the International Coffee Organization (ICO) since its inception in 1963 (ICO, 2007b). However, a critical modification to the structure of the ICAs took place in 1989, which is widely recognized as the event that marked the beginning of the modern day coffee crisis. In 1989, the quota and supply control provisions of the 1983 ICA were suspended. The 1983 ICA was extended without the quota and supply controls, while negotiations took place for a new agreement (ICO, 2007b). In a move that was consistent with the Structural Adjustment Programs of the time, the US withdrew from the International Coffee Agreements in 1993 (Kaplinsky, 2004). In 2005, the US rejoined the ICO and acceded to the 1993 ICA (ICO, 2007b).

The Structural Adjustment Programs and the elimination of the ICO quota and supply controls led to the dissolution of coffee marketing boards in producing countries, and the

lessening of aggregated producer power. Simultaneously, the concentration of economic power within transnational firms on the consumer side increased. The result was a growing asymmetry of power within commodity coffee chains, characterized by fragmentation on the producer side and a concentration of economic power on the consumer side.

The structures of commodity coffee value chains, before and after the Structural Adjustment Programs are considered in more detail in the following two sections.

5.5.1 Pre-Structural Adjustment

Prior to 1992, commodity coffee value chains were typically composed of four major parties: farmers, marketing boards, global traders, and roasters (Kaplinsky, 2004). This basic structure is illustrated in Figure 5-9.

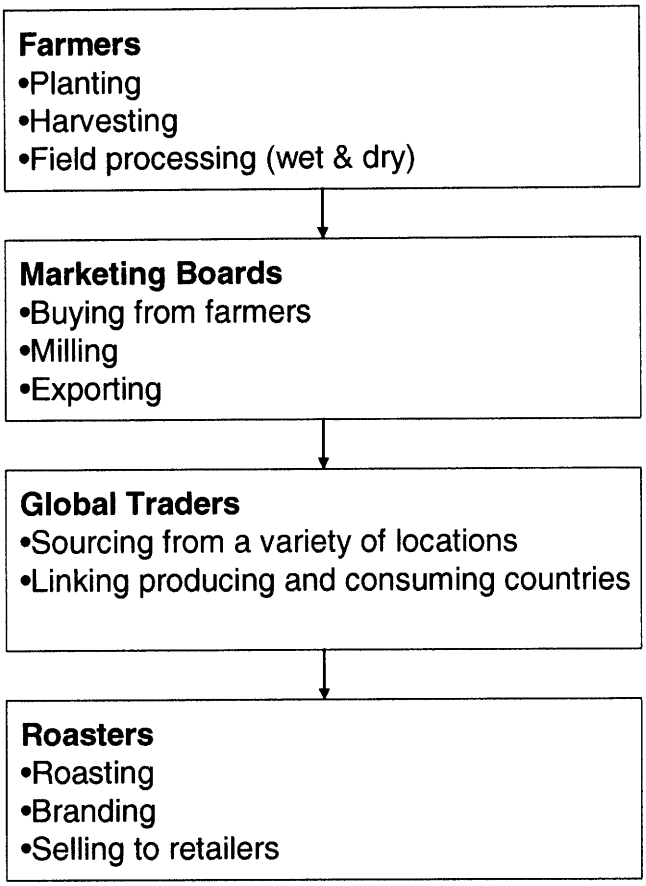

Figure 5-9. Four major parties in the commodity coffee production chain pre-Structural Adjustment.

Kaplinsky (2004) applies a framework for value chain analysis which was first developed by Gereffi (Gereffi, 1993; Gereffi and Korzeniewicz, 1994). Kaplinsky suggests that it is the notion of a *chain governor* that distinguishes Gereffi's framework for value chain analysis from "the supply chain literature and Porter's idea of the value stream (Porter, 1990) (Kaplinsky, 2004, p. 4)".

The structure of coffee value chains varies by country; however, many similarities are observed. Kaplinsky argues that, prior to the Structural Adjustments of the 1990s, the coffee marketing boards and producer associations in producing countries were the chain governors of global commodity coffee chains. The marketing boards coordinated heavily regulated production systems, and acted as intermediaries between producers and global traders.

(Kaplinsky, 2004) Marketing boards were especially strong chain governors in Africa and Colombia, and less strong in Peru (Rosenthal, 2007).

In contrast, global traders and roasters tended to operate at an arms-length from the rest of the value chain (Kaplinsky, 2004). Kaplinsky also notes that "sticky" relationships did evolve between global traders and roasters; however, these "sticky" relationships tended to promote mutual gains and did not result from dominance in the chain.

The results of Kaplinksy's value chain analysis are illustrated in Figure 5-10.

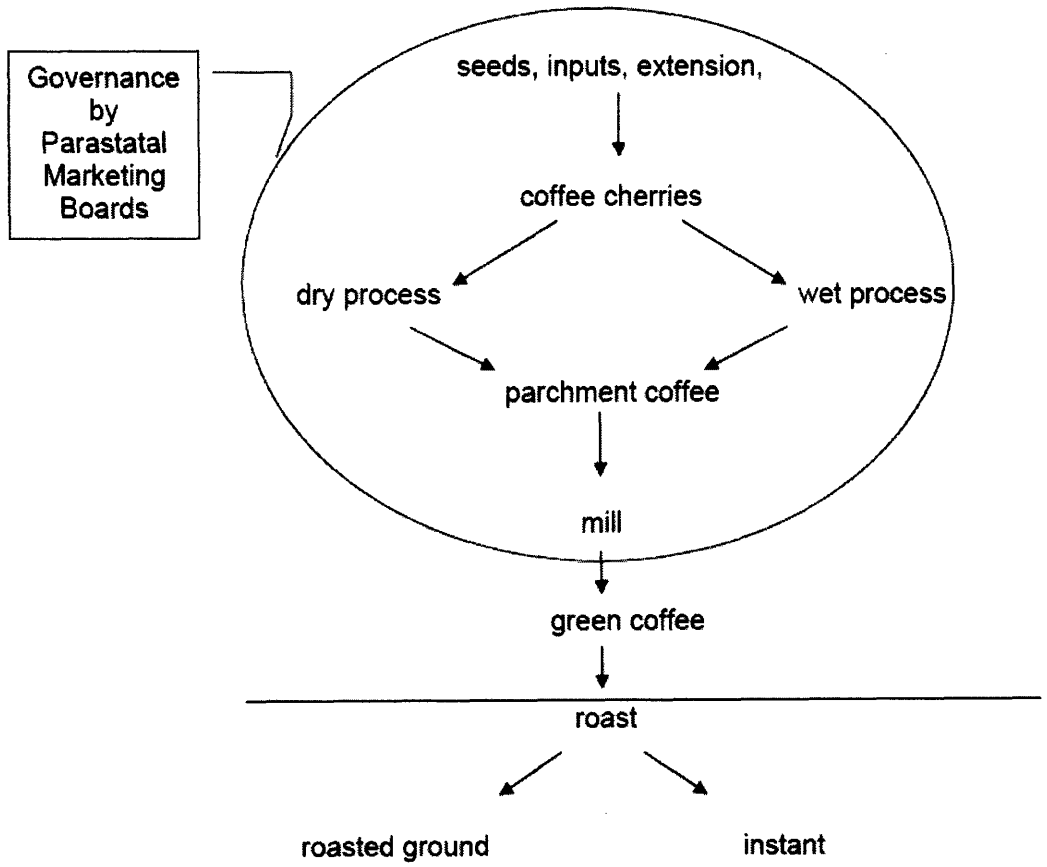

Figure 5-10. Governance in the coffee value chain pre-Structural Adjustment (<1992) (Kaplinsky, 2004).

5.5.2 Post-Structural Adjustment

The Structural Adjustments and deregulation of the global coffee commodity markets caused the dissolution of the marketing boards in producing countries; a change which fragmented the previously aggregated producer powers. One result of this fragmentation was that producer organizations were no longer chain governors. (Kaplinsky, 2004)

The deregulation of the global coffee commodity markets was also accompanied by an increase in the concentration of the trading and roasting links in the coffee value chain.

In the 1990s, five global traders controlled the majority of coffee imports to consuming countries (Kaplinsky, 2004):

1. *Neumann Gruppe*
2. *Volcafe*
3. *ED&F Man*
4. *Cargill*
5. *Goldman Sachs*

In the following fifteen years, the concentration of the trading link continued to increase. In 2000, Econ Agroindustrial purchased the coffee division of Cargill. By 2004, three global traders controlled the majority of coffee imports to consuming countries (Kaplinsky, 2004):

1. *Neumann Kaffee Gruppe*
2. *Volcafe*
3. *Econ Agroindustrial*

In 2004, Econ Agroindustrial alone handled 9 Million 60-Kg bags of coffee, which represented 12% of the globally traded coffee (Kaplinsky, 2004).

The derivatives markets played a role in the concentration of the trader link in the coffee chain. It was widely understood that deregulation might increase commodity price volatilities. One of the strategies promoted by the World Bank for managing commodity price volatilities was the use of derivatives markets (e.g. futures and options markets) (Ronchi, 2006). However, since time lags in the coffee production cycle are longer than most futures contracts, this strategy is unviable and does not tend to stabilize prices (Lewin, Giovannucci *et al.*, 2004). Instead, increased use of the derivatives markets enabled further concentration of the trading link in the

production chain. The derivatives markets were widely used by speculators. In 1992, 621 Million 60-Kg bags of coffee were traded on the New York Exchange; however, only 55 Million 60-Kg bags of coffee were actually exported. There were 621 Million bags worth of paper trades, and only 55 Million bags worth of physical trades. The physical trades represented a mere 8.8% of the total trades. Kaplinsky cites the CEO of Nestle, who stated that "speculation determines to a large degree the international coffee price, and in consequence the price paid to the producer (Kaplinsky, 2004, p. 15)".

The development of a new technology for steam cleaning coffee also played a role in the concentration of the trader link in the coffee chain. The new steam cleaning technology allowed lower quality *Robusta* to be used as a substitute for higher quality *Arabica* in certain blends. Since most producing countries only produce one type of coffee, *Robusta* or *Arabica*, the new steam cleaning technology created a scale advantage for global traders who could now source coffee from more countries. (Kaplinsky, 2004)

In addition to a concentration in the trading link of the coffee chain, a concentration in the roasting link is also observed. The four largest roasters are (Kaplinsky, 2004; Oxfam, 2006):

1. *Nestle (Nescafe)*
2. *Kraft (Maxwell House, Starbucks[16])*
3. *Procter & Gamble (Folgers, Millstone)*
4. *Sara Lee (Hills Bros, Douwe Egberts)*

In 2000, Nestle alone captured 22% of global coffee sales for home consumption. In 2000, Kraft, which is part of the Altria Group (formerly Philip Morris), captured 14% of global coffee sales for home consumption, selling its coffee products in more than 90 countries. (Kaplinsky, 2004)

One of the unintended consequences of the deregulation of the coffee commodity market was a decrease in coffee quality and an increase in quality variance. Quality had previously been controlled by the chain governors, the marketing boards in producing countries. The decrease in quality and increase in quality variance forced traders and some roasters to assume more of the

[16] Kraft Foods Global Inc. and Starbucks Coffee Company are separate companies and brands; however, the two companies have a coffee distribution agreement that permits Kraft to market Starbucks coffee (Kraft, 2004)(Kraft, 2004).

governance responsibilities in the coffee chain. (Kaplinsky, 2004) Transnational buyers increasingly operate within producing countries, supplanting the traditional exporting agents. Furthermore, some of the larger roasters are also operating within the producing countries, buying coffee directly from producers. (Kaplinsky, 2004)

The new model for governance of commodity coffee value chains is illustrated in Figure 5-11.

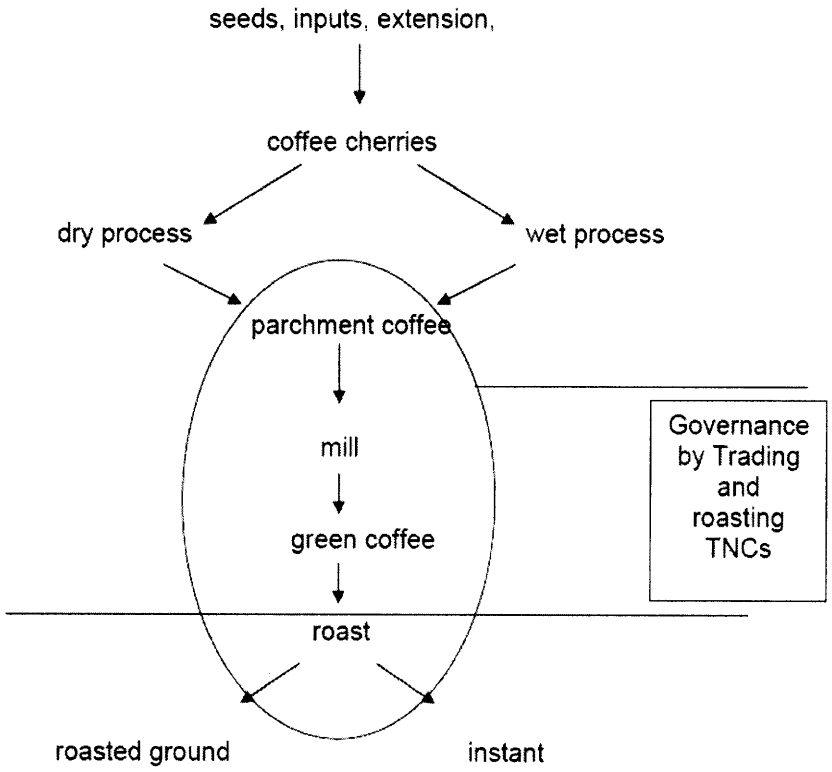

Figure 5-11. Governance in the coffee value chain post-Structural Adjustment (>2000) (Kaplinsky, 2004).

By some reports, a coffee bean can change hands as many as 150 times along the commodity chain between the producer and the consumer (Milford, 2004). A simplified schematic, representing only the major parties in the coffee commodity chain is presented in Figure 5-12. In the simplified chain, producers sell unprocessed coffee to private intermediaries, who transport the product to processing plants in the producing country. Local exporters purchase green beans

from the processing plants and sell green beans on the international markets. International traders link consuming countries with producing countries and sell green beans to roasters in consuming countries. Roasting companies are responsible for roasting and other industrial processes to produce decaffeinated and soluble coffee products, which are sold to retailers such as supermarkets and restaurants. Consumers purchase coffee products from retailers.

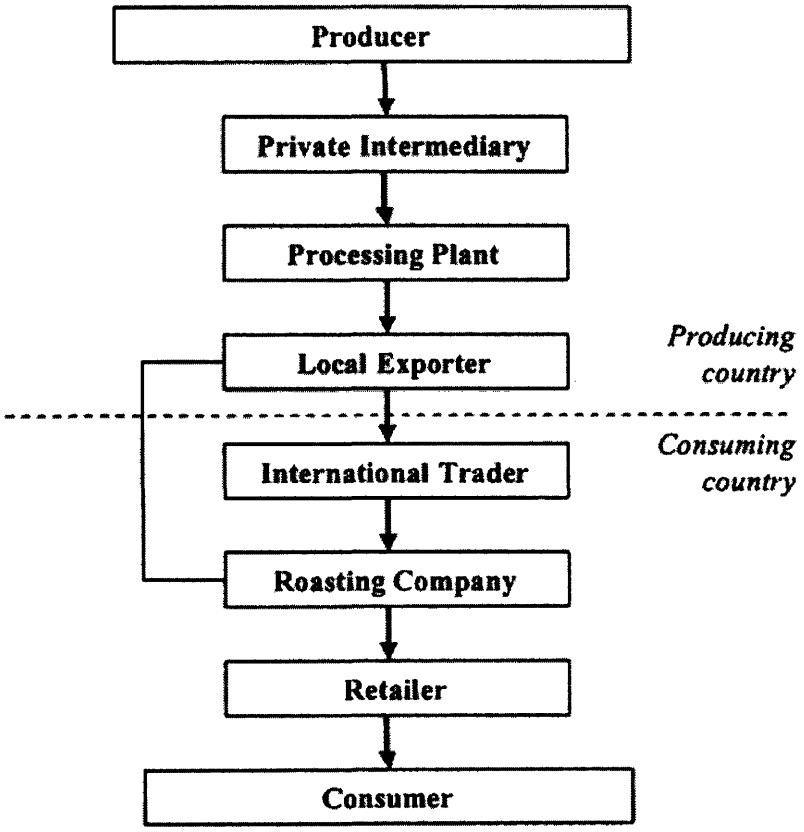

Figure 5-12. Commodity coffee chain (Milford, 2004).

The concentration observed in the trading and roasting links, along with the fragmentation observed in the producer links in the commodity chain create a buyer driven value chain. A buyer's market exists at each point of exchange in the coffee commodity market, and local exporters are price takers when selling on the international market (Milford, 2004).

Two types of information asymmetry are observed in the coffee commodity chain. Commodity prices are determined in the New York Commodity Market and London Commodity Market. These prices are known to traders and roasters; however, small producers in LDCs have limited knowledge of the prices on the international markets. Additionally, since quality is determined by purchasers after processing, farmers who sell unprocessed coffee also lack information about the quality of the product they are selling. Information asymmetries and asymmetric concentration of economic power in the value chain are associated with widespread oligopsony and cartelization in the coffee commodity market (Milford, 2004).

5.6 Fair Trade Coffee Value Chains

In the fair trade coffee movement, three distinct structures of value chains emerged in response to the asymmetries and concentration of economic power observed in the commodity market. The three types of fair trade coffee value chains are: organization-based, standards-based specialty brands, and standards-based non-specialty brands.

The three types of value chains correspond to an evolution in the fair trade movement. When fair trade coffee was introduced, it was only available through Alternative Trade Organizations (ATOs), with organization-based certification. Later, standards-based labels were introduced, and standards-based fair trade coffee became available from specialty brands. The first phase of mainstreaming occurred when fair trade specialty brands were introduced into conventional supermarkets. The second phase of mainstreaming, currently under debate, refers to the introduction of standards-based certification into non-specialty brands.

An important distinction exists between organization-based certification and mainstream standards-based certification. In the former, Alternative Trade Organizations (ATOs) seek to empower producers by changing value chain concentrations and governance (Smith and Barrientos, 2005). In the latter, labels based on process and production methods (PPMs) are used to intervene in existing coffee value chains. Fair trade labeling initiatives increase the value captured by producers. However, unlike ATOs, PPM-based labeling initiatives in the mainstream do not change the underlying value chain structure (Smith and Barrientos, 2005).

5.6.1 Alternative Trade Organizations

In organization-based fair trade value chains, Alternative Trade Organizations (ATOs) operate the whole chain, thereby reducing the number of intermediary parties in the chain. ATOs establish long-standing relationships with the democratic producer cooperatives from which they purchase coffee. ATOs link producers directly with consumers and typically sell products in specialty shops.

Figure 5-13 is a stylized diagram created by the American Friends Service Committee (AFSC) to illustrate the differences between conventional coffee chains and fair trade coffee chains. In the AFSC model, fair trade coffee from the ATO Equal Exchange is sold to consumers in Quaker Friends meetings.

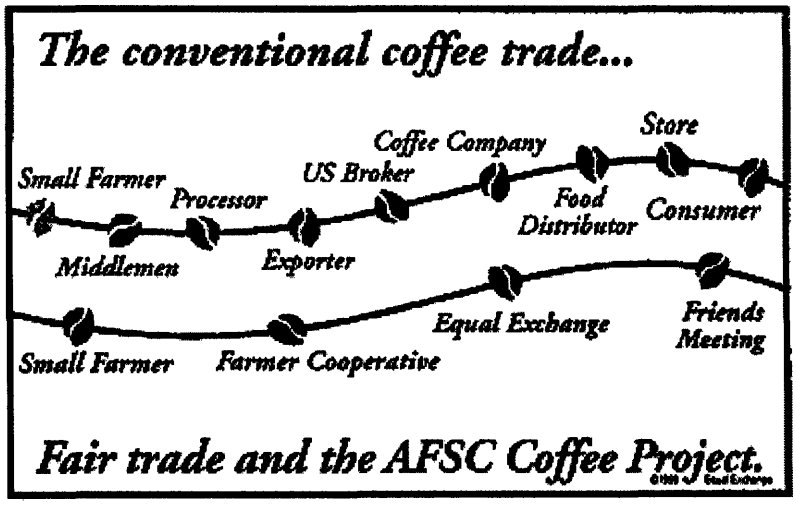

Figure 5-13. The American Friends Service Committee fair trade coffee chain (AFSC, 2007).

The ATO creates a new value chain structure by reducing the number of hand-offs in the chain. This allows higher value functions to be aggregated with lower value functions, and is designed to increase the value captured by producers. The ATOs also facilitate information flows in both directions along the chain. ATO campaigns inform consumers about the

production and trade conditions. ATOs also transfer knowledge about world prices, market conditions, and consumer preferences to producers. (Rosenthal, 2007)

A more generic ATO-based fair trade value chain is illustrated in Figure 5-14.

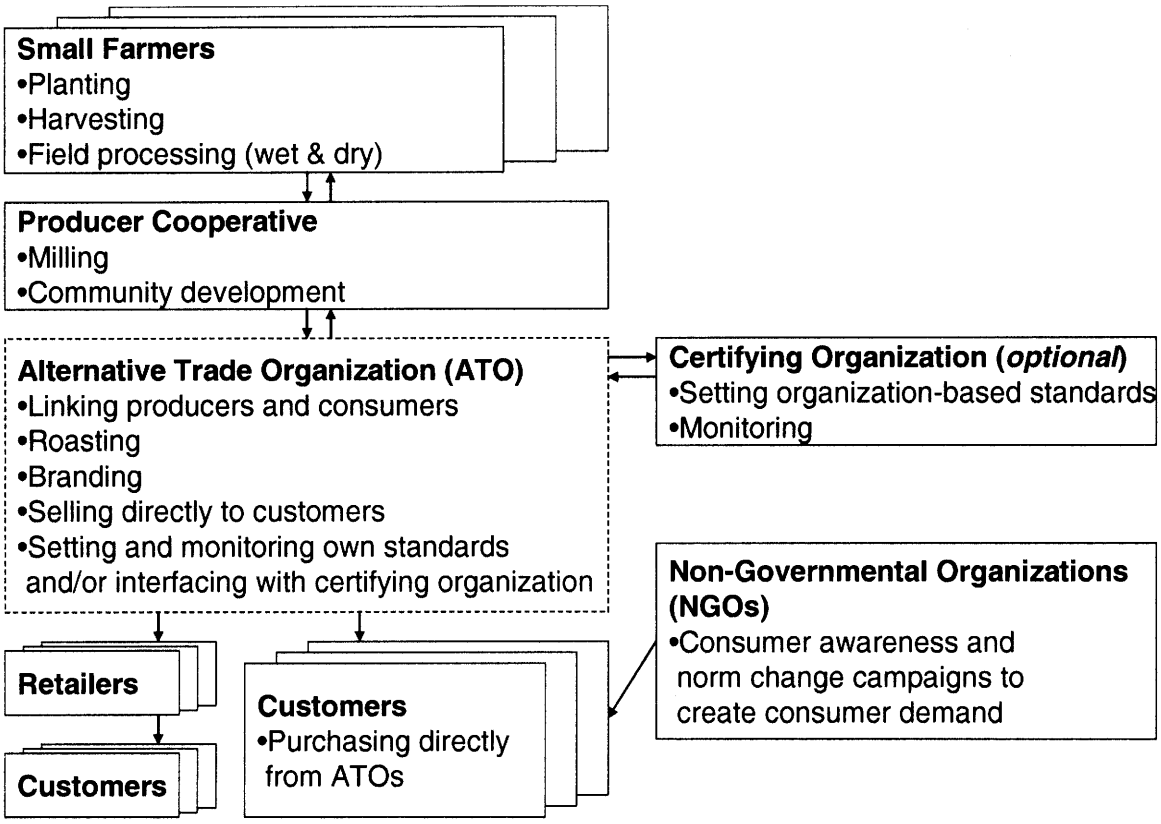

Figure 5-14. Organization-based fair trade value chain.

The ATO model of fair trade is based on tightly linked producer-consumer networks (Raynolds, 2000; Raynolds, 2002). The ATO model creates shorter *social* distances between consumers and producers, by creating tighter networks based on trust and fairness. Raynolds contrasts the notion of *social* distance with *geographic* distance, and argues that it is possible to reduce *social* distances by reducing the number of intermediaries and by building trust in the ATO network. Building trust requires transparency, multi-directional flows of information, and long-term relationships.

Many ATOs operate without independent certification of their fair trade standards. Instead, they set and monitor their own standards. In 2004, the International Fair Trade Association (IFAT) established the Fair Trade Organization Mark, the first organization-based certification (IFAT, 2007). It is expected that some ATOs will begin to apply the independent IFAT certification in addition to, or instead of, their own standards.

NGOs also play an important role in the success of fair trade, even though they are not integrated in the value chain. Ultimately, fair trade depends on the success of international norm change campaign by NGOs, in which the preferences of consumers are changed in favor of ethical coffees (Linton, 2005).

The ATO model of fair trade was first conceived in the 1940s after WWII, when the fair trade movement began with handicrafts. Organization-based certification remained the dominant structure for fair trade for many decades. When the fair trade movement expanded to coffee in the 1970s, fair trade coffee was distributed exclusively through ATOs (IFAT, 2007). Today, ATOs continue to market fair trade handicrafts; however, standards-based certification has largely replaced organization-based certification in fair trade coffee.

5.6.2 Standards-Based Labeling

In the standards based labeling model, the certification organization operates independently from the distribution channels and fair trade interests. The certification organization establishes standards based on process and production methods (PPMs). Fair trade labels are applied to embed the final products with information about the PPMs used to produce the coffee. In principle, PPM-based certification makes it possible for any coffee company to purchase fair trade coffee from producing countries, and sell it in consuming countries with a fair trade label recognized by consumers.

Within the category of standards-based certification, it is important to consider the potential differences between specialty brands in a niche market and non-specialty brands in a mainstream

market. Two important potential differences are the existence of producer cooperatives and the direct access of producers to international markets in the case of specialty brands in a niche market.

The value chain structure of a specialty brand in a niche market is illustrated in Figure 5-16.

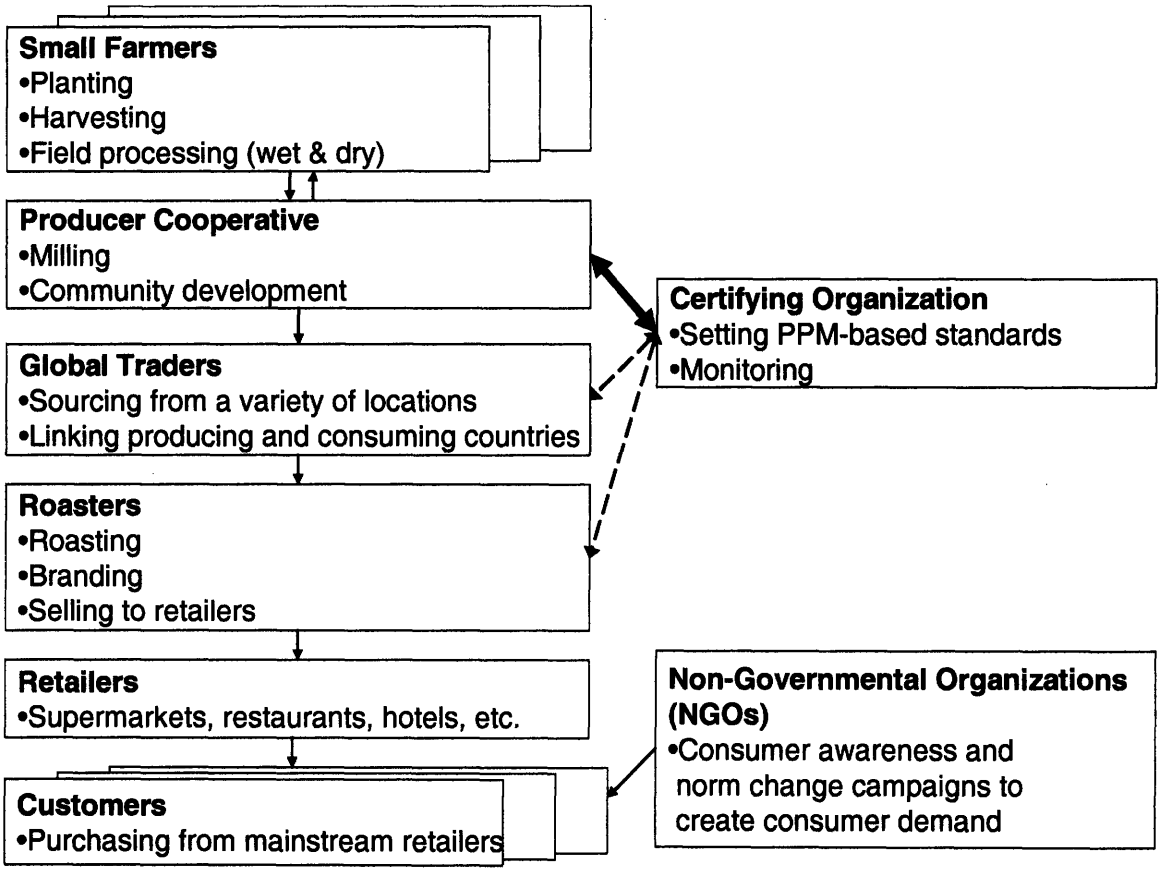

Figure 5-15. Standards-based fair trade value chain.

The value chain structure differs from a commodity coffee value chain in the following ways:

- ***farmers participate in a democratic producer cooperative,***
- ***price premiums paid for fair trade coffee may be distributed back to farmers, or may be invested by the cooperative into community development projects, and***
- ***producers have direct access to the international market.***

Village level producer cooperatives often deal with private export companies. Alternatively, in some cases, the value chain includes primary and secondary cooperatives; primary cooperatives operating at the village level and secondary cooperatives operating the export level. Secondary cooperatives may be owned by the primary cooperatives (Rosenthal, 2007). Moreover, cooperatives vary greatly in size. For example, the COCLA cooperative in Peru is composed of 7500 producers (TransFair USA, 2005b).

The independent certifying organization sets PPM-based standards and monitors compliance.

Separately, NGOs play an important role by creating and maintaining consumer demand for fair trade products through consumer awareness and norm change campaigns.

The most widely recognized certifying organization involved in fair trade coffee is the Fairtrade Labelling Organization (FLO)[17]. In producing countries, the certifying organization is responsible for certifying the process and production methods (PPMs) used to produce fair trade coffee. This relationship is represented by a **bold** arrow in Figure 5-15, because it is an intensive relationship in which producers are subject to a high degree of scrutiny. The purpose of the fair trade label is to embed the final product with information about the process and production methods in producing countries. In contrast, the certifying organization does not monitor or scrutinize the process and production methods of roasters or retailers in consuming countries. Once the fair trade certified product has been sold on the global market, the certifying organization is no longer concerned with the process and production methods of the companies that handle the product. From that point onwards, the certifying organization is only concerned with monitoring and maintaining the integrity of the labeled product, activities which are represented by *dotted* arrows in Figure 5-15.

Some tensions exist in the fair trade movement regarding the unequal treatment of companies in producing and consuming countries by the certifying organizations. Anecdotal evidence suggests that failing to require companies in consuming countries to comply with the same PPM standards as companies in producing countries undermines trust in the fair trade network

[17] For more information about fair trade certification organizations and initiatives, refer to "Appendix: Fair Trade Certification Organizations" on page 135.

(Rosenthal, 2007). This dynamic create a sort of paradox. On the one hand, fair trade is motivated by a desire to help the poor in producing countries. On the other hand, fair trade standards are conceived and monitored by consuming country organizations. Even though this model of fair trade is better for the poor than the commodity model, it still perpetuates some elements of neocolonialism in the economic relationships between the producing and consuming countries (Rosenthal, 2007).

Efforts to introduce standards-based certification to non-specialty brands in mainstream markets are new and debates over mainstreaming abound. It is not yet clear how these value chains will ultimately be structured. Two possibilities are illustrated in Figure 5-16.

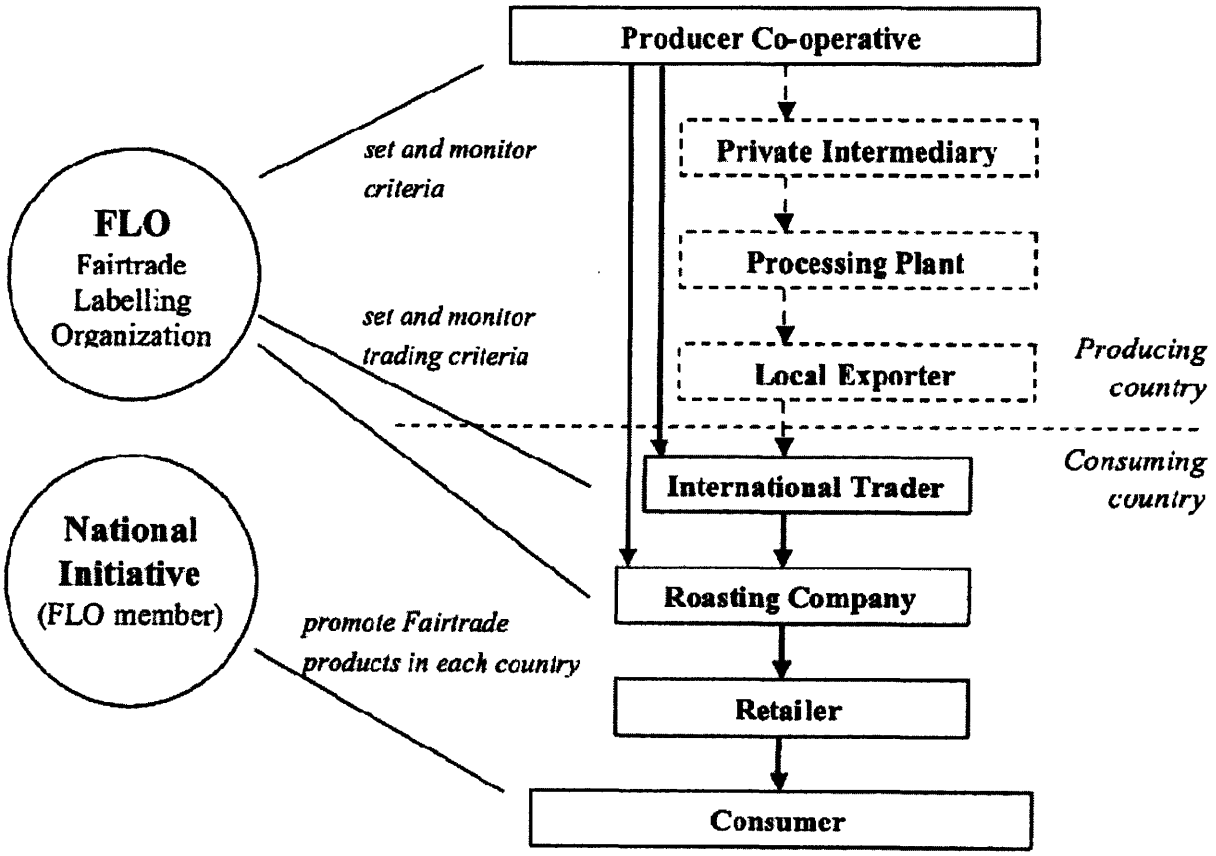

Figure 5-16. Fair trade coffee chain (Milford, 2004).

Two parallel value chains are represented in Figure 5-16. One path links producers directly to international markets, while another path includes many of the intermediaries found in commodity value chains. In general, it is believed that reducing the number of intermediaries in the chain increases the value captured by producers (Milford, 2004). Also, it is believed that value chains involving fewer parties are better suited to long term, stable relationships (Raynolds, 2000; Raynolds, 2002; Milford, 2004).

However, it has yet to be determined whether shorter chains that link producer cooperatives directly to the international market are scalable into the mainstream. The appeal of mainstreaming fair trade to non-specialty brands remains the promise of scale economies and larger markets.

5.7 Current Debates in Fair Trade

In general, the fair trade movement is motivated by a desire to alleviate poverty, and is committed to the equitable distribution of profits, at least insofar as to guarantee a living wage to producers in LDCs. The fair trade movement is also concerned with efficiency, in particular, when improved efficiency can increase the value captured by producers in LDCs. However, not surprisingly, diverse constituents promote different prioritizations of policy goals. It is noteworthy that the goals (and name) of "fair trade" represent a challenge to the concepts of "free trade" and the capitalist system (Moore, 2004). Moreover, trade-offs often exist between the goals of economic efficiency and the equitable distribution of welfare gains.

Still, the most controversial debates exist within the like-minded community working to improve the welfare of impoverished coffee farmers in LDCs. Even among those who share the common goal of a living wage for producers in LDCs, there is little agreement on strategies for the future success of fair trade. The controversies within the community and divergent views on the strategies for the future of fair trade are the focus of this section. The most controversial proposal under debate is mainstreaming. This refers to the penetration of fair trade products into non-specialty markets. On the one hand, mainstreaming promises growth through access to larger markets. On the other hand, mainstreaming introduces the risk that fair trade standards

will be diluted. Dilution of standards would undermine the potential for future growth, and could erode the welfare gains that have already been achieved by fair trade initiatives. Alternative proposals range from maintaining and protecting fair trade coffee in niche markets, to applying lessons learned from fair trade to correct the market failures in the larger coffee commodity markets.

5.7.1 Mainstreaming

The debate over mainstreaming is the most controversial in the literature. The term *mainstreaming* refers to the penetration of fair trade coffee into non-specialty markets. The first phase of mainstreaming occurred when fair trade coffee products were introduced into conventional supermarkets. Beforehand, fair trade coffee could only be purchased directly from alternative trade organizations (ATOs).

The debate over mainstreaming in the literature pertains to the proposal to continue the process by expanding to non-specialty coffee brands. This process would require adoption of fair trade standards by the large coffee roasters; such as the four largest roasters, Kraft (Maxwell House), Nestle (Nescafe), Proctor & Gamble (Folgers), and Sara Lee (Douwe Egberts) (Oxfam, 2006).

5.7.1.1 Support for Mainstreaming

In its current form, fair trade has been successful as a niche market (Giovannucci and Koekoek, 2003; Levi and Linton, 2003; Linton, 2005). Some believe fair trade has already hit a glass ceiling in its niche market (Giovannucci and Koekoek, 2003), and that mainstreaming is the most important strategy for the future of fair trade and promises the greatest welfare gains possible (Levi and Linton, 2003). In addition to growth through access to larger markets, mainstreaming has the potential to increase efficiencies with scale economies.

5.7.1.2 Opposition to Mainstreaming

A variety of concerns were raised at the 2005 Fair Trade Fair and Symposium in Hong Kong (Dillon, 2005). Arun Raste from International Resources for Fairer Trade raised the fundamental issue that it is simply not the role of big business to eradicate poverty. Safia Minney, Founder and CEO of People Tree, raised the concern that corporate social responsibility (CSR) initiatives might be merely marketing strategies, which are difficult for with legitimate fair trade standards to compete with. A further concern was raised that mainstreaming efforts would be impeded by a lack of understanding of international trade conditions by mainstream consumers. This concern sparked a discussion about whether fair trade could be marketed to mainstream consumers without a lesson on international trade theory. There was agreement about the idea that "one cannot sell the solution before people are aware of the problem (Dillon, 2005)".

Laura Raynolds, one of the most commonly cited academics on fair trade, argues that value chains in fair trade are structured very differently from value chains in commodities. Raynolds contends that the key to the success of fair trade is the shortening of the *social* distances between consumers and producers. She lauds tighter links between producers and consumers, and networks based on trust and fairness as the fundamental structural elements of fair trade. She contrasts the notion of *social* distance with *geographic* distance, and argues that it is possible to reduce *social* distances even in global networks. It is crucial that products reach consumers embedded with information about the process and production methods (PPMs). Furthermore, information flows must be multi-directional in the network. Producers must have access to critical data. She argues that it is the trust model and structure of fair trade value chains that are important for success, not the idea of standard-based certification. She opposes mainstreaming proposals that would simply allow multinational corporations (MNCs) to add standard-based labels to their products, without changing the structure of their value chains. Finally, she argues that the challenge of poverty eradication should not depend solely on consumer preferences. Collective action and government regulations are required.

5.7.1.3 Certification and the Risk of Dilution

Mainstreaming requires certification methods to be formalized and codified. There is widespread concern that mainstreaming will lead to the dilution of fair trade standards. Moreover, the idea of certification itself is the subject of some criticism.

Laura Raynolds argues that standards-based models of certification destabilize trust. Raynolds is especially concerned with trust, because she contends that trust in tightly linked producer-consumer networks may be the most important factor for the success of fair trade. She argues that trust may be more important to the success of fair trade initiatives than standard-based certification (Raynolds, 2002).

April Linton cites Gary Gereffi *et al.* (Gereffi, Garcia-Johnson *et al.*, 2001) who write:

> "Some observers even fear that certification driven by activists and corporations will pre-empt or supplant altogether the role of states and international organizations in addressing corporate accountability as free trade expands around the globe. (Linton, 2005, p. 611)"

This concern over certification challenges the premise of fair trade altogether.

Geoff Moore cites John (2001) who distinguishes between standards and rights. John is concerned about "the exogenous determination of standards from outside of the developing countries to which they are applied – sometimes with the threat of trade sanctions to enforce them (Moore, 2004, p. 80)". This concern is greater with standards-based certification than it is with organization-based certification, because the relationships between North and South are stronger in organization-based certification systems.

Furthermore, mainstreaming increases the risk of dilution of fair trade standards. There is a concern that large corporations will engage in image-laundering and will introduce fair trade rhetoric into their marketing campaigns without actually adopting fair trade practices. Dilution may result from lobbying to lower standards, or from a proliferation and subsequent competition-in-laxity of standards. There is a risk that standards will actually be eroded; however, there is also a risk that consumers will lose confidence in standards, even if they have not actually been eroded. One of the threats to consumer confidence in standards is the introduction of own label

products, by companies certifying their own products instead of submitting to third party certification. Moore cites Renard (2003), who notes that:

> "[i]n spite of their campaigns, the heads of European ATOs are aware that if the coffee roaster giants deployed all of their economic weight to promote their own label, they would win over the consumers. (Moore, 2004, p. 83)"

Since standards are a foundational element of fair trade, an erosion of those standards could cause the collapse of fair trade altogether.

In contrast, the International Institute for Sustainable Development (IISD) reasons that it is unlikely that corporations will allow standards to become diluted, because:

> "...it is unlikely that any company today would want to face public accusations of greenwashing or inadequate measures of corporate social responsibility. Too many major brands have been bruised by such battles. (Giovannucci and Koekoek, 2003, p.36)"

5.7.1.4 Challenges to Implementation

Ideas about whether mainstreaming ought to be attempted and whether it can succeed are debated in the academic literature. However, it is worth noting that there seems to exist a shared perception (especially in the non-academic communities) that mainstreaming is going to be attempted. The idea of mainstreaming is discussed in all major forums; including (but not limited to) reports by Oxfam and the World Bank, and symposiums by the World Trade Organization (WTO) and United Nations (UN). In some ways, the reality that mainstreaming initiatives are forthcoming diminishes the relevance of questions about the morality and workability of product-based certification and labeling. Questions about how to mitigate the risks associated with mainstreaming, and questions about how to obtain the best results possible become increasingly important.

Several challenges facing the implementation of mainstreaming are discussed in the literature.

- ***Increase consistency in the quality of coffee from small producers (Giovannucci and Koekoek, 2003; Linton, 2005).***
- ***Manage supply (Oxfam, 2006). Close the gap between oversupply and demand (Levi and Linton, 2003).***

- ***Maintain "the purity of the concept" and "minimize the potential subversion, dilution or redefinition" of fair trade ideals (Moore, 2004).***
- ***Promote fair trade brand recognition. Consumer confusion about certification would dampen the market (Giovannucci and Koekoek, 2003).***
- ***Calculate an appropriate social premium for the fair trade price (Giovannucci and Koekoek, 2003).***

5.7.2 Embedded Trade and Trust

While some debates over mainstreaming pertain to the challenges of implementation and operational logistics, other debates are more fundamental in nature. For Raynolds, the significance of the fair trade movement transcends the substantive goals of any individual project. Fair trade is not merely a venture to redistribute value captured to impoverished coffee farmers. It represents a proposal to reorganize international trade. Raynolds critiques the conventional trade model, claiming that its structure dis-embeds commodities and trade from their true origins and social contexts (Raynolds, 2000; Raynolds, 2002). She argues that conventional trade makes the social and environmental attributes of a product subordinate to price. Raynolds commends fair trade movements for challenging the norms of conventional trade and for re-embedding coffee trade into social and environmental systems.

> These initiatives challenge assumptions that conventional prices represent a legitimate instrument for valuing commodities and organizing international exchange, questioning what convention approaches refer to as commercial quality norms – in which price is seen as fully encapsulating value – and commercial modes of economic coordination – in which impersonal market relations and institutions dominate. (Raynolds, 2002, p. 409)

Interestingly, there exists considerable support for the idea that the price premium is not the most important feature of fair trade. Moore finds that "[a]ccess to markets is clearly *the* key element for Southern producers and the one that they value above all else (Moore, 2004, p. 78)." Moore also notes that a price guarantee can have the undesirable effect of fostering dependency.

Raynolds (2000) argues that trust, respect, and tightly linked producer-consumer networks are the most important features of fair trade.

The World Bank suggests that the following structural elements of fair trade supply chains are more important than the price premium (Ronchi, 2006):

- ***Organizational support for producers***
- ***Support for diversification of crops for farmers who cannot compete***
- ***Technology transfer and support for cost reduction measures***
- ***Organizational development, risk management, and information transparency***
- ***Improved market access***

It should also be noted that the process for deciding on an appropriate social premium is itself problematic. Instead of determining prices based on market forces (i.e. supply and demand), fair trade negotiates prices in a way that is vulnerable to political and social pressures.

5.7.3 The Role of Public Policy

David Vogel, who writes about corporate social responsibility, reasons that civil regulations, based on voluntary standards, can successfully promote social goals and increase social welfare. However, civil regulations face structural limits in the market. Corporate social responsibility is successful only when consumers are willing to pay premiums that are sufficient to cover the costs of the CSR initiatives. The market for virtue is best understood as a niche (Vogel, 2005).

In the absence of government regulations or enforcement, civil regulations are better than nothing. However, government regulations are required when the limits of civil regulations are exceeded. Finally, one of the objectives of corporate social responsibility initiatives should be to work with governments (and pressure governments) to implement and enforce public regulations (Vogel, 2005).

David Vogel's views are echoed in the fair trade coffee literature. Many of the supporters of fair trade, including (but not limited to) Laura T. Raynolds, Oxfam, and the World Bank

encourage the idea that labeling based on voluntary standards should be understood as merely the first phase in a longer term plan. The longer term vision should include lobbying for government regulations and international norm changes.

The World Bank steadfastly promotes the idea that mainstreaming fair trade is not enough. The lessons learned from the structural changes in fair trade should be applied to design appropriate regulations to correct the market failures in the global commodity markets.

5.8 Decision Points Facing the Future of Fair Trade Coffee

The fair trade coffee movement is a response to inefficiencies and failures in the commodity market for coffee. Still, different fair trade strategies involve different forms of market interventions, and market interventions are not limited to fair trade. A variety of types of responses to the commodity market problems are possible; including, private and public market interventions.

Both private and public market interventions are designed to correct market inefficiencies and failures. Private market interventions refer to the activities of private entities, such as corporations, non-government organizations, and individuals. Examples include norm change campaigns, PPM-based labeling, corporate social responsibility initiatives, and the use of derivative markets to influence spot market outcomes. Public market interventions refer to policies introduced by governments to regulate domestic and international economies. Examples include supply controls managed by international organizations, compensatory financing systems by governments in producing countries, and trade laws based on PPM-based standards.

The set of possible market interventions establishes a number of decision points for the future of fair trade coffee. Following is a summary of the key decision points.

5.8.1 Private Market Interventions

Norm Change Campaigns

- *To what extent should NGOs invest in norm change campaigns and how should the campaigns be financed?*
- *To whom should norm change campaigns be targeted?*
- *Can fair trade norm change campaigns be as successful as human rights campaigns?*
- *Should norm change campaigns focus solely on the task of creating a market for fair trade products, or should norm change campaigns attempt to create support for regulatory action?*

Certification and Labeling

- *Can fair trade with organization-based standards be scaled up? How?*
- *Can high standards be maintained under fair trade with product-based standards? How?*
- *Does the Fairtrade Labeling Organization (FLO) three-fold mandate – to set and monitor fair trade standards, to connect fair trade buyers with suppliers, and to promote fair trade market share – create a conflict of interests? How can FLO increase accountability? Should FLO be responsible for growing fair trade market share? Should the FLO mandate be changed?*
- *Should transnational corporations be certified by FLO? What measures should be put in place to protect against the dilution of standards? Should measures be put in place to protect small fair trade companies and organizations from oligopsonistic tactics by TNCs?*

Social Distance and Value Chain Structure

- *Should social distance and value chain structure be specified under fair trade standards?*
- *What can be done to build trust and stability in value chains?*
- *What should be done to increase information flows in TNC value chains?*

Derivative Markets

- ***What is the potential for derivative markets to reduce volatility in the commodity spot market?***
- ***What can be done to increase access to markets and access to information in producing countries?***

5.8.2 Public Market Interventions

Supply Controls

- ***Should the International Coffee Organization reinstate quota controls?***

Compensatory Financing Systems

- ***Should compensatory financing systems be established to buffer price fluctuations and insulate small producers from market volatilities and risks?***

Trade Laws

- ***Should trade laws be established based on fair trade standards?***

5.9 System Dynamics

Presented in this section are system dynamics models of some of the key behaviors and arguments from the fair trade coffee movement. The models portray the causal relationships linking important policy variables; including, price, supply, demand, consumer confidence, trust, strictness and homogeneity of standards, and market size.

5.9.1 Price

The issue of price is central to fair trade. The commodity price for coffee is determined by supply and demand on the spot and derivative markets. In contrast, the fair trade price is determined through political processes. Unlike the commodity price which tends to be volatile, the fair trade price is guaranteed in futures contracts and includes a social premium. The price guarantee is intended to create stability, while the price premium is intended to alleviate poverty and is often invested in community development projects, such as health care and education.

The core dynamics of the spot and derivative markets for commodity coffee are depicted in Figure 5-17 and Figure 5-18 respectively. In the spot market, delays in supply adjustments create oscillations and volatility in the commodity price. In the derivative markets, speculative market activities, information gaps between producers and consumers, and lack of access to markets by producers are responsible for market inefficiencies.

Arguments against the idea of a social premium include the notion that the premium distorts the market signals and leads to an oversupply in the market. Further, since market forces do not determine the fair trade price, it is not clear how the social premium is determined, or how it ought to be determined.

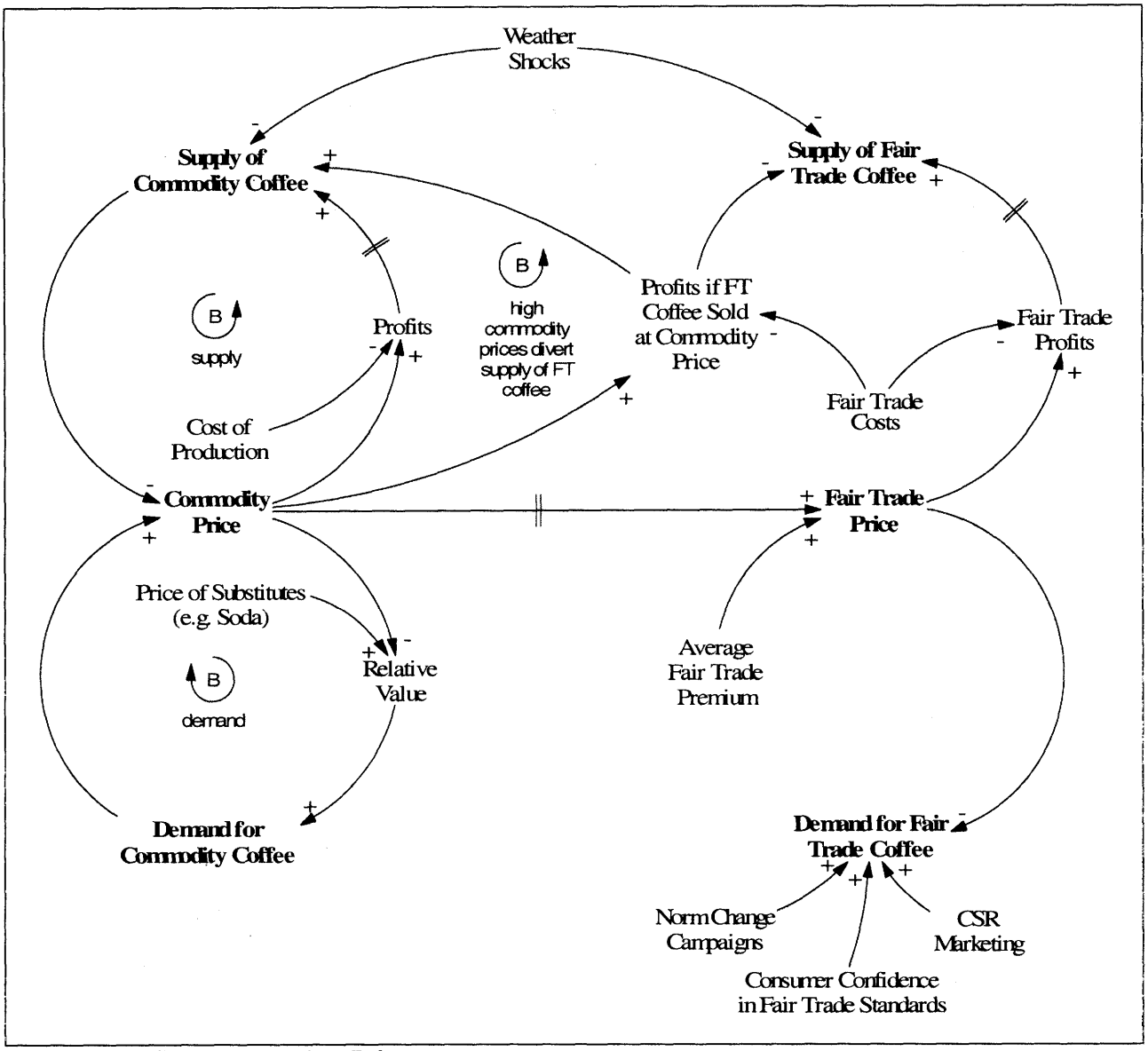

Figure 5-17. System Dynamics: Price

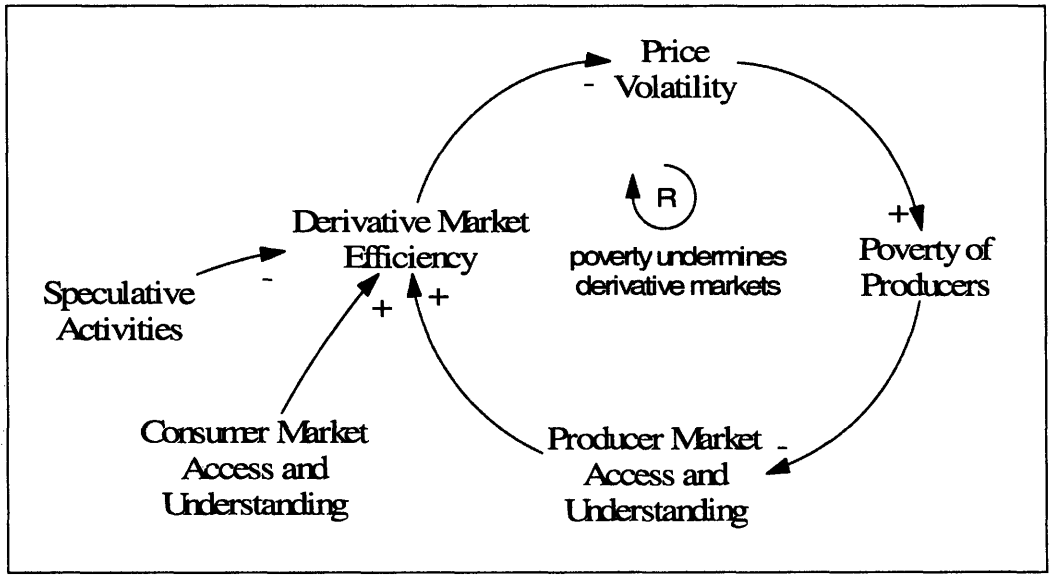

Figure 5-18. System Dynamics: Derivative markets

5.9.2 Supply

Over and above the price dynamics presented in the preceding section, a variety of dynamics contribute to chronic oversupply in the coffee market.

The supply-side of the *invisible hand* of the market is depicted in Figure 5-19. The invisible hand acts as a balancing loop to control supply. If supply exceeds demand, price and profits will drop, which will encourage farmers to exit the market by switching to different crops, thereby lowering supply to match demand. If supply is less than demand, price and profits will rise, which will encourage farmers to increase their coffee crops, thereby increasing supply to match demand.

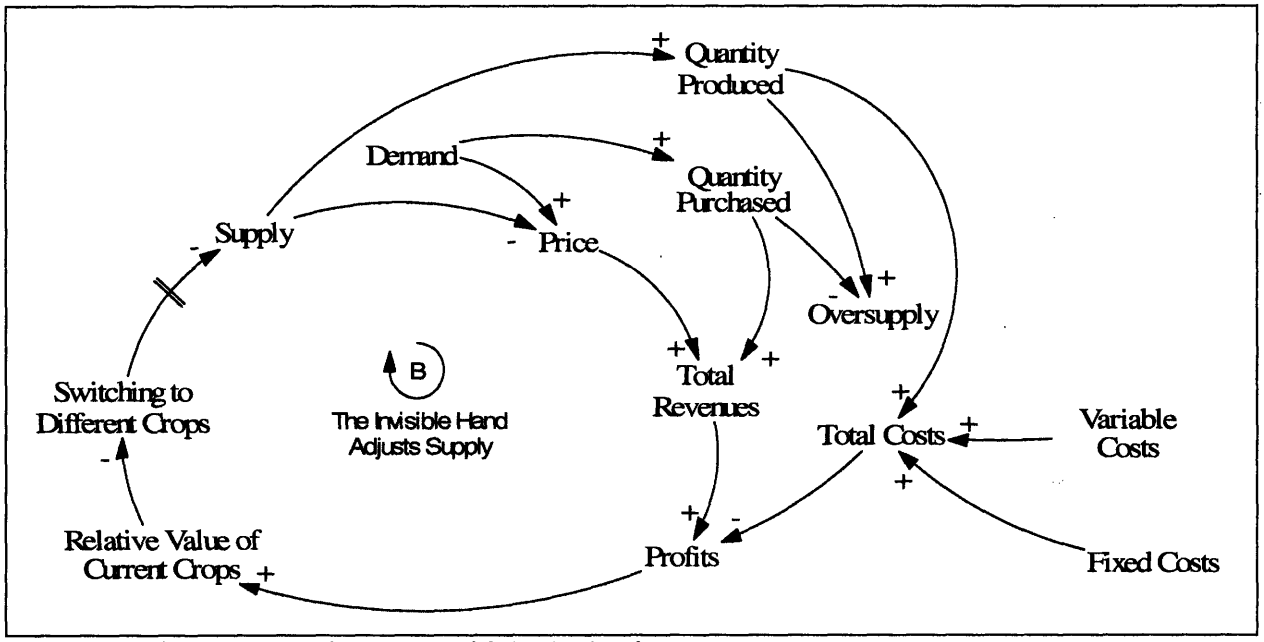

Figure 5-19. System Dynamics: The Invisible Hand adjust supply

However, the invisible hand is not the only feedback loop affecting supply. Delays in the system create oscillations in the supply. Moreover, additional feedback loops exist that distort the price signal and interfere with the invisible hand. Two of these loops are drawn in Figure 5-20.

Poverty may affect perceptions of risk and may reduce willingness to switch crops, even when profits are worsening. In addition, pre-existing investments in infrastructure and investments in human capital reduce the appeal of switching, because those investments may need to be duplicated for different crops. Poverty may also reduce access to information necessary to retrain farmers for different crops.

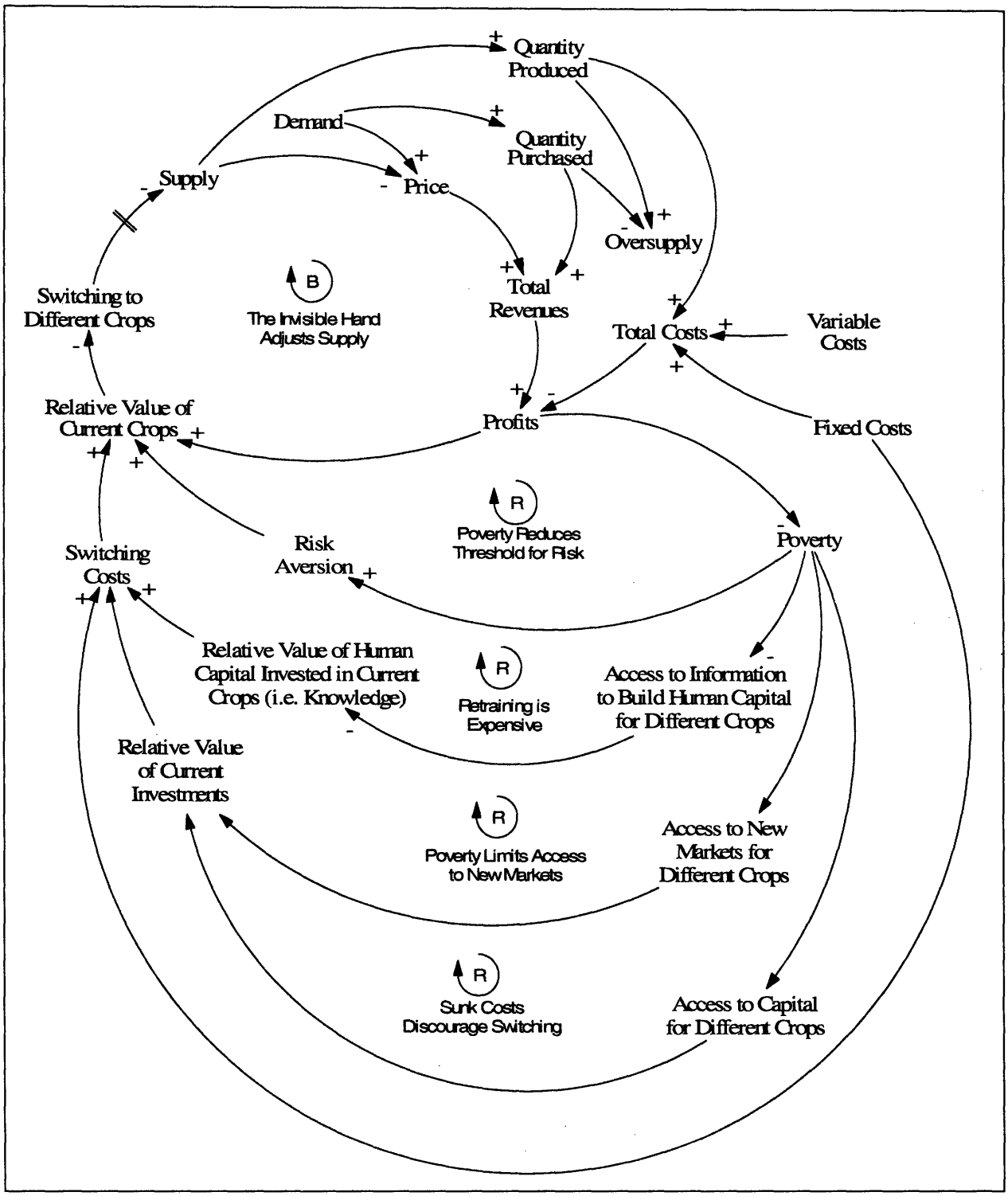

Figure 5-20. System Dynamics: The dynamics of oversupply

5.9.3 Demand and Consumer Confidence

Fair trade relies on consumer demand for products with higher ethical standards and consumer confidence that products on the market have actually been produced with higher ethical standards.

Illustrated in Figure 5-21 are positive and negative feedback dynamics that can grow or limit consumer confidence in standards. As consumer confidence in standards increases, consumer willingness to pay a premium for higher standards increases, and profits increase. Higher profits can be used for additional marketing, which, in turn, increases consumer confidence, in a virtuous reinforcing loop. However, higher profits also promote entry into the market. If new entrants into the market cause a proliferation of standards, then competing standards may create confusion among consumers and erode consumer confidence and willingness to pay. Ethical initiatives, such as fair trade coffee, require consumers to be willing to pay a premium that exceeds the costs of the initiative. If consumer confidence erodes sufficiently, the ethical initiative will become unprofitable and the market for fair trade coffee will cease to function.

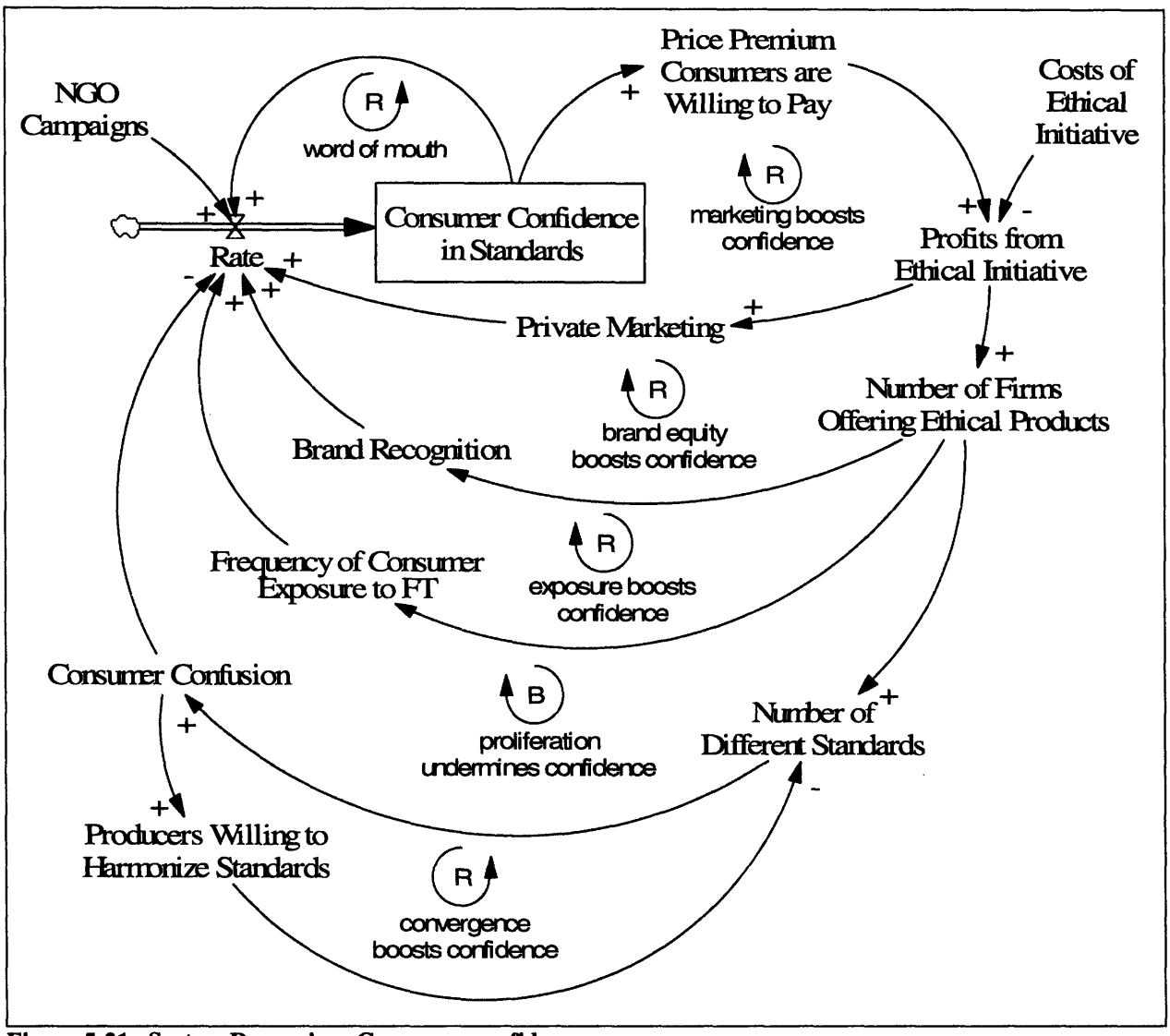

Figure 5-21. System Dynamics: Consumer confidence

Labels based on fair trade standards embed the final product with information about the process and production methods (PPMs) used to produce the coffee. In the absence of accurate and verifiable labels, information asymmetries between producers and consumers create adverse selection market failures. Without labels, consumers cannot distinguish between coffee produced with high ethical standards and coffee produced with low ethical standards. Under these circumstances, ethical coffee and unethical coffee will trade at a common price and unethical coffee will displace ethical coffee in the market. This dynamic is represented in Figure 5-22.

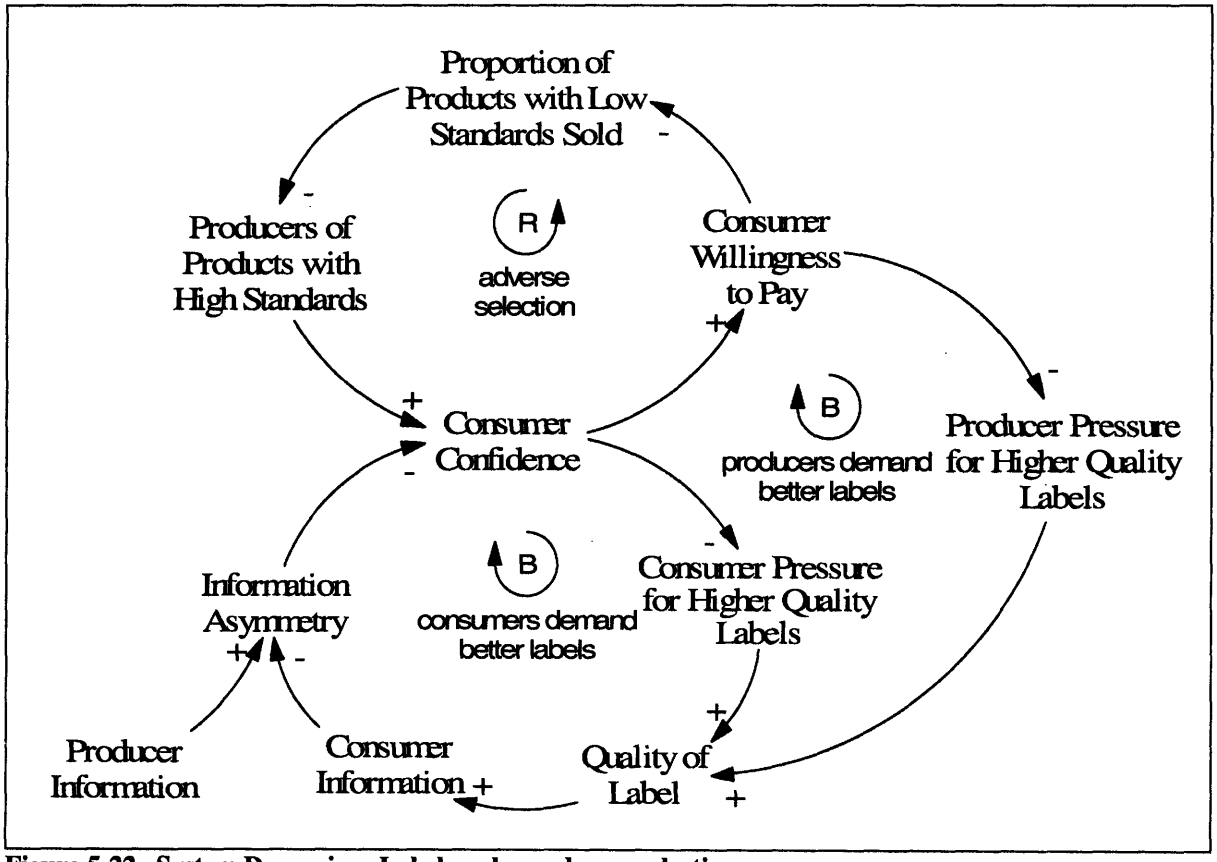

Figure 5-22. System Dynamics: Labels reduce adverse selection

5.9.4 Trust in the Value Chain

One of the central debates in the fair trade movement pertains to the role of trust in the success of fair trade and the differences between organization-based standards and product-based standards.

Arguments in favor of product-based standards emphasize the scalability of the model. Labels based on third party certification embed products with information about the process and production methods and trade conditions in the global supply chain. Labels allow consumers to distinguish between products with high standards and products with low standards at the point of consumption. Additionally, labels make it possible for fair trade products to be sold in mainstream markets, and allow mainstream brands to present fair trade product lines.

On the other side of the debate, arguments are made in favor Alternative Trade Organizations (ATOs) and organization-based standards. Under this paradigm, producer-consumer networks are tightly linked, there exist fewer intermediaries in the supply chain, and social distances are reduced. Trust is critical to the success of the value chain and grows as information is shared and long term relationships are forged. The standard of fairness is established and maintained by the ATO itself. This conception of the role of trust is represented in Figure 5-23.

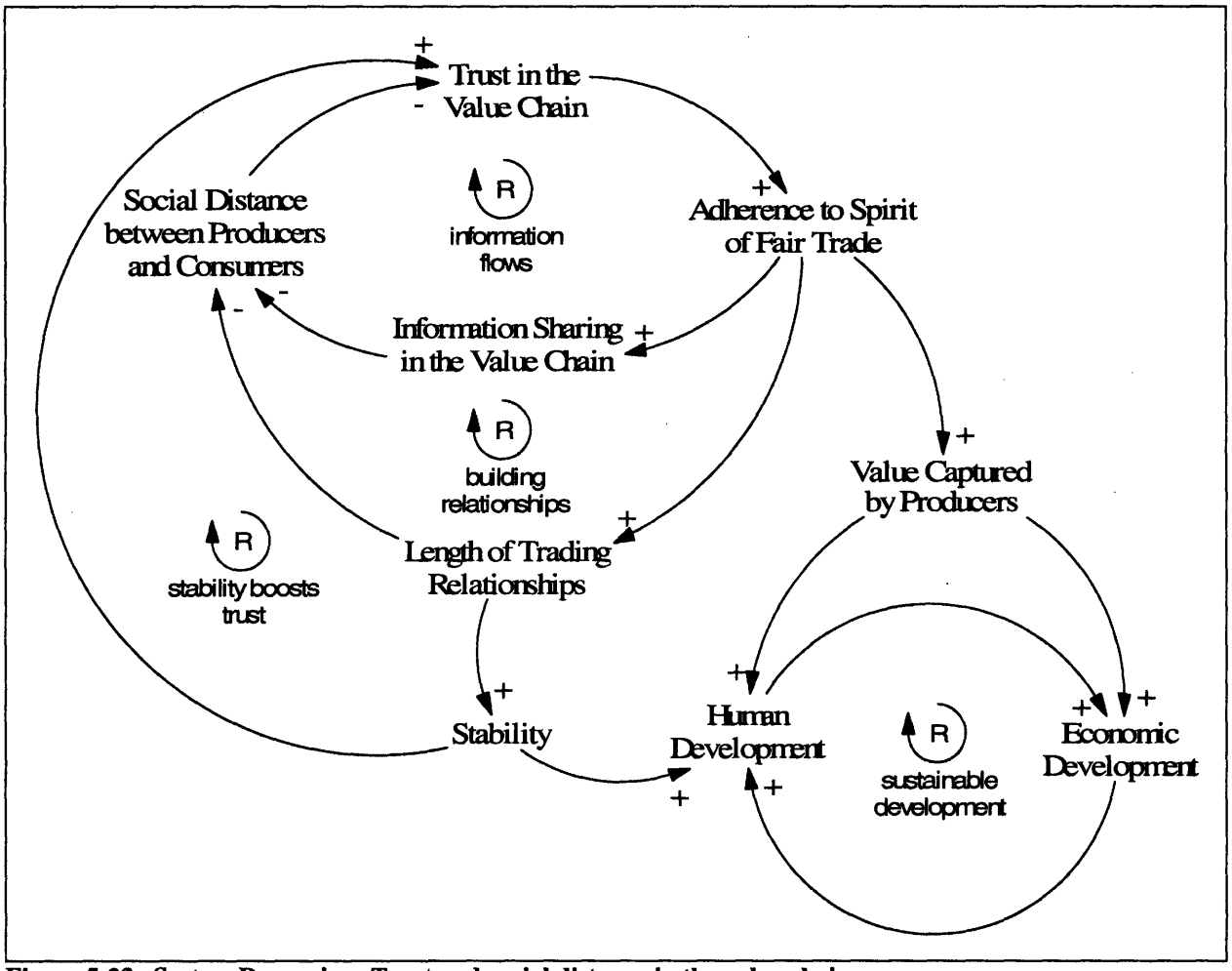

Figure 5-23. System Dynamics: Trust and social distance in the value chain

The product-based certification model of fair trade works within the pre-existing structure of international trade, by embedding consumer products with information about conditions in producing countries and relying on consumer demand for higher standards. In contrast, the organization-based model of fair trade calls for ATOs to create fundamentally different types of trading relationships between producers and consumers. Alternative Trade Organizations promote *direct* trading relationships (with fewer intermediaries between producers and consumers), based on trust and respect. When trade is managed by ATOs, it remains embedded in social networks; it is not abstracted into a pure market context. The ATO model is based on the notion that trust and respect naturally motivate adherence to higher standards, and that the presence of a third party certifying organization destabilizes trust and undermines actual standards.

5.9.5 Potential Trade-Offs Between Standards and Market Size

One of the greatest fears in the fair trade movement is the possible existence of a systemic and unavoidable trade-off between standards and market size. Mainstreaming promises access to larger markets by including transnational corporations, such as Nestle (Nescafe), Kraft (Maxwell House, Starbucks), Procter & Gamble (Folgers, Millstone), and Sara Lee (Hills Bros, Douwe Egberts), in fair trade. The fear is that the participation of transnational corporations in the fair trade market will change the underlying structure of the market and cause the dilution of standards.

The dilution of standards can be understood with game theory modeling and system dynamics modeling. A simplified game theory representation of the dilution of standards is presented in the following sequence of figures (Figure 5-24, Figure 5-25, Figure 5-26).

For illustrative purposes, the starting point, depicted in Figure 5-24, is a state of high fair trade standards adhered to by the entire fair trade industry, including the TNCs. In this example, it is assumed that fair trade coffee is more profitable than non-fair trade coffee.

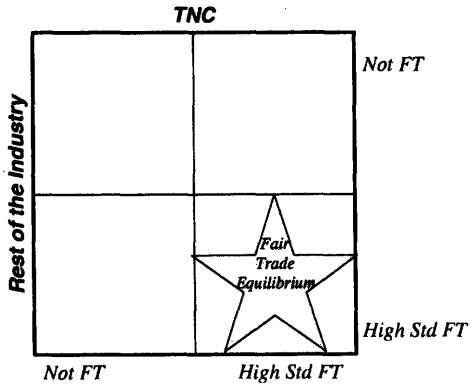

Figure 5-24. Game Theory: Fair trade standards start high

However, incentives exist for any individual TNC to reduce costs spent on fair trade initiatives, especially if all fair trade coffees continue to sell at a common price. In other words, incentives exist for a TNC to introduce a new, lower-cost, slightly lower fair trade standard, as

long as the rest of the industry continues to promote consumer confidence in fair trade. Unfortunately, the proliferation of standards creates competition that dilutes fair trade. These steps are portrayed in Figure 5-25.

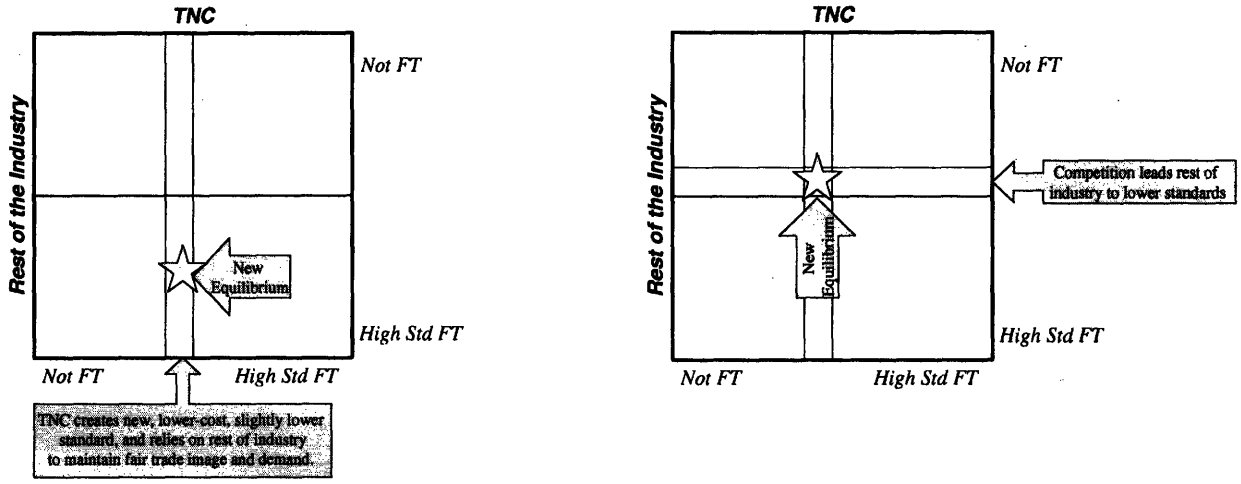

Figure 5-25. Game Theory: TNC creates competition to lower fair trade standards

Under these conditions, the Nash equilibrium, represented in Figure 5-26, is a state of low standards across the industry.

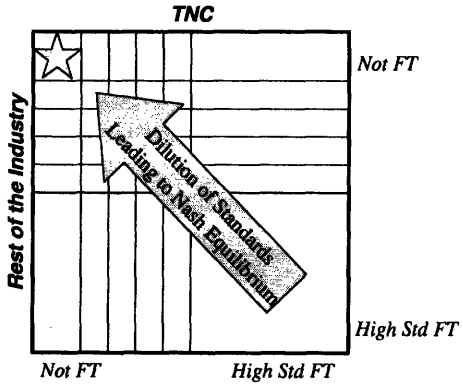

Figure 5-26. Game Theory: The Nash equilibrium is diluted standards

The system dynamics of TNCs in fair trade are presented in Figure 5-27 and Figure 5-28.

TNCs provide access to a larger market and necessitate the involvement of large scale plantations to supply the larger market demand. However, the involvement of TNCs in fair trade may lead to the dilution of standards. As standards erode, consumer confidence and demand lessen, which reduces the size of the market. These opposing dynamics are depicted in Figure 5-27.

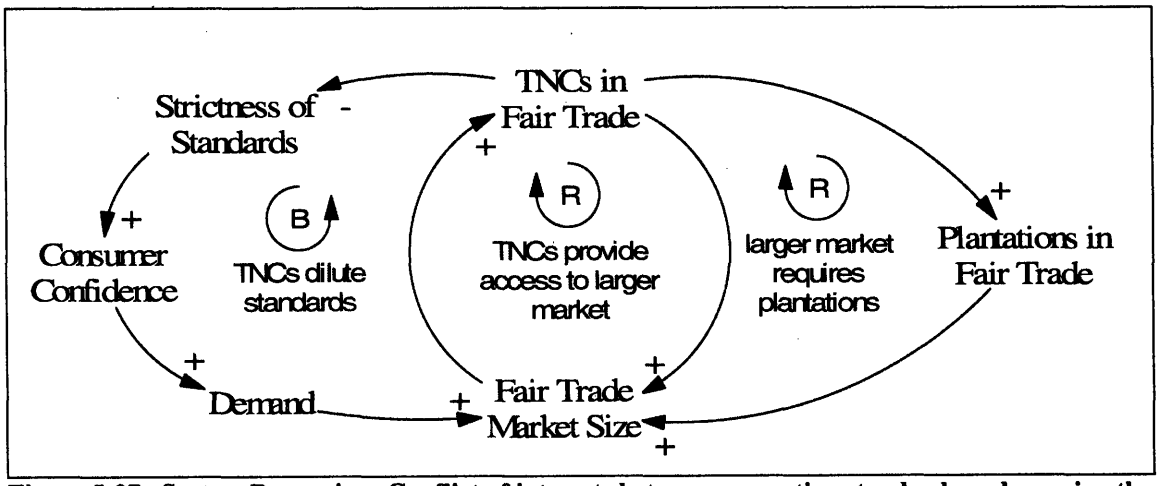

Figure 5-27. System Dynamics: Conflict of interests between promoting standards and growing the market

A related fear is that in addition to causing the dilution of standards, the involvement of TNCs in fair trade could force small retailers out of the market. Figure 5-28 illustrates the feedback loops that would allow TNCs to capture the market.

This fear is based on the idea that TNCs are more *reactive* than *proactive*. Small retailers, often non-profit organizations, are campaigners. They are *proactive*. They *make* the market for fair trade coffee. In comparison, TNCs are *reactive*. They respond to market demand (created by the campaigners) and capture market share. Moreover, TNCs tend to operate with a bottom line logic, and may not be willing to sacrifice margins. In addition, the small retailers have higher costs, due in part to smaller scales and higher campaigning costs. The concern is that

small retailers will exit the market, resulting in fewer campaigners remaining to promote and protect higher standards.

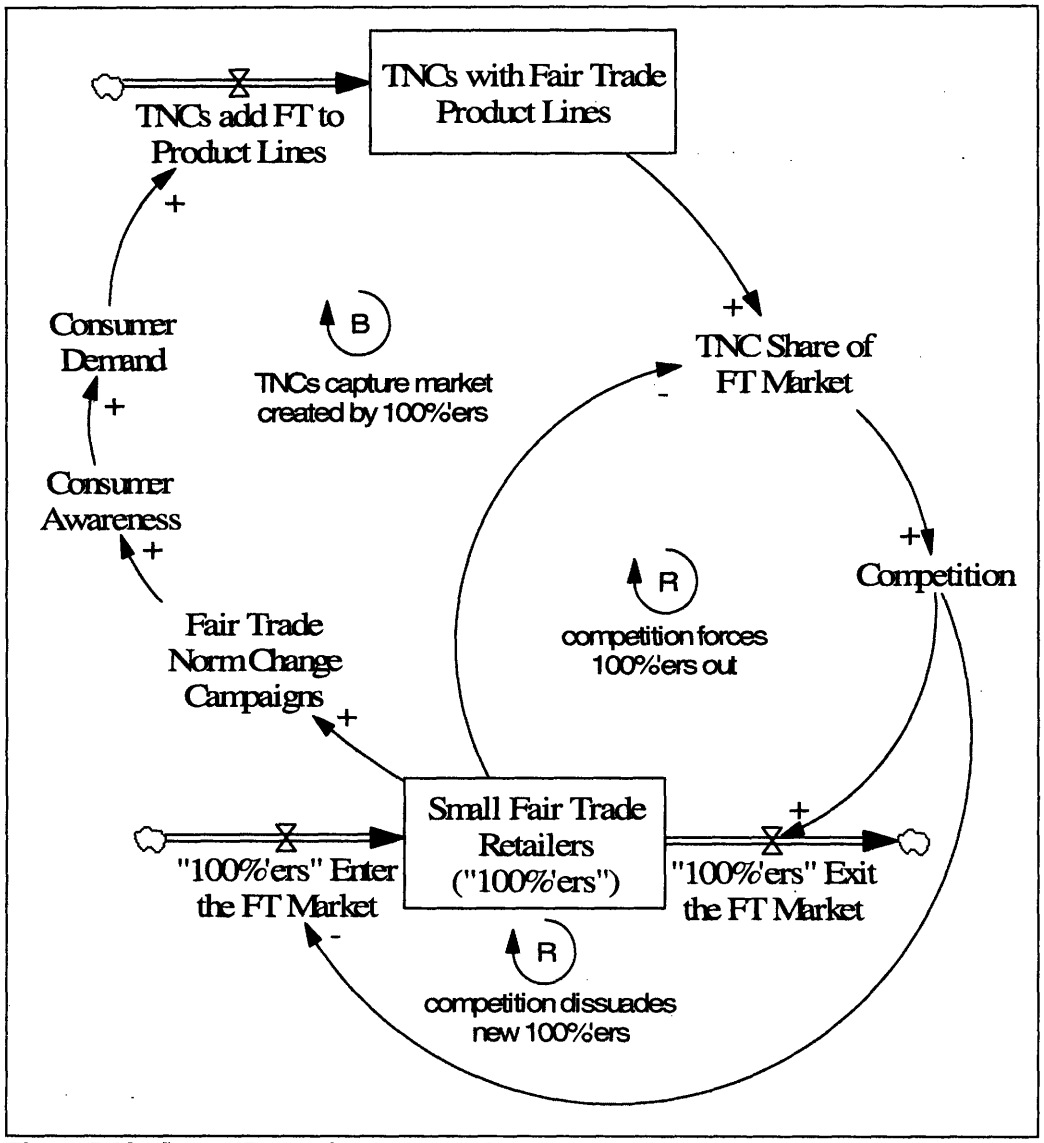

Figure 5-28. System Dynamics: Transnational corporations capture the fair trade market

5.10 Conclusions and Recommendations

Fair trade coffee began as an alternative to commodity coffee and grew into a successful niche market. As a civil regulation, based on voluntary standards, fair trade is limited to a niche in the coffee market. Voluntary standards require market demand and consumer willingness to pay a price premium that exceeds the costs of the higher standards. Growing the market for fair trade coffee as a voluntary standard beyond its niche would require a widespread normative change in consuming societies. Norm change campaigns have been successful for other causes, including women's suffrage and universal human rights (Finnemore and Sikkink, 1998); however, norm change campaigns are best understood as the starting point of a movement to create conditions that are conducive to regulatory change. Public awareness and norm change campaigns are important for the future success of fair trade. Nevertheless, public policy and mandatory standards should be considered the logical next step to grow fair trade.

In addition to increased market demand, growing the market for fair trade coffee will require increased supply. Mainstreaming of the fair trade concept is inevitable. The transnational corporations that produce the mainstream labels and supply the majority of the market will respond to market demand for fair trade. Furthermore, if the goal is to displace the majority of (or the entire) coffee market with fair trade, then the inclusion of transnational corporations and large plantations represents a necessary measure to supply the market. Mainstreaming is both inevitable and necessary. The challenge, then, is to manage the process of mainstreaming to mitigate the risk of dilution of standards.

Organization-based fair trade without independent third party certification of standards is not scalable. The model of fair trade that hinges on the idea of trust and depends on alternative trade organizations (ATOs) to define and monitor own-label standards is inherently unstable. As transnational corporations introduce fair trade coffee into their product lines, the need for credible independent organizations to certify standards becomes critical. If transnational corporations are permitted to introduce own-label standards of fair trade that are defined and monitored in-house, consumer confidence in fair trade labels will erode. Third party certification of standards is necessary to reduce the risk of proliferation of standards and maintain consumer confidence in fair trade. In addition to reducing consumer confusion, convergence of

international standards is important because it allows standards-based trade restrictions to be introduced without the appearance of protectionism.

Likewise, the structure of certifying organizations affects credibility and consumer confidence. Currently, the Fairtrade Labeling Organization (FLO) is the leading certification organization for fair trade coffee around the world. FLO's mandate is three-fold: to set and monitor PPM-based fair trade standards; to connect fair trade buyers with suppliers; and to promote fair trade market share. This mandate creates a conflict of interests, which risks undermining the organization's efficacy, accountability, and credibility. In particular, the combination of the objective to increase fair trade market share and the mandate to set and monitor standards is problematic. In a market that depends on consumer confidence and market demand, accountability is paramount. Consumers must believe that labels are accurate and that standards are high. The perception of impropriety itself is sufficient to undermine the market for fair trade coffee.

The International Fair Trade Association (IFAT) is a second major certifying organization. Unlike FLO, which certifies PPM-based standards, IFAT certifies organization-based standards. One of the major debates in the fair trade movement is between supporters of PPM-based fair trade and organization-based fair trade. One of the key advantages of PPM-based standards is scalability. Labels embed products with information about process and production methods, which transform process regulations into product regulations that can be enforced at the point of market access. Once labeled, products can be traded and distributed through pre-existing channels. PPM-based standards and labels define a framework for fair trade that is accessible to transnational coffee companies. In contrast, organization-based standards require a fundamental restructuring of the supply chain, not just a redistribution of value captured along the chain. This paradigm is less accessible to transnational corporations, and therefore, less scalable.

In addition to the issue of scalability, efficacy is a key concern in the debate between PPM-based standards and organization-based standards. The concerns over PPM-based standards reduce to the essential question of whether PPM-based standards can embed the product with enough information about the production and trade conditions to maintain the integrity of fair trade. Organization-based standards may capture more of the spirit of fair trade, and may be

more effective for actually improving the livelihoods of coffee farmers in LDCs. Still, a successful model of fair trade must be both efficacious and scalable.

PPM-based standards represent a substantive project, which is designed to work within the framework of liberalized trade and the world trade regime, to promote social justice. Organization-based standards are much more counter-cultural, and represent a proposal that transcends the substantive goals of any particular coffee project. It suggests a fundamental change to the structure of international trade, and a new way of constituting international relations. The latter may (or may not) be more desirable, but the former is certainly more achievable.

The vision of the fair trade coffee movement ought to be to displace the commodity market by transforming voluntary standards into mandatory standards. Since failure to force companies to internalize the full social and environmental costs of coffee products is a trade distorting subsidy, the WTO is the right forum for promoting this agenda. The goal should be trade restrictions based on multilaterally negotiated PPM standards.

In the absence of multilateral agreement on the PPM standard for fair trade coffee, trade restrictions based on unilateral PPM standards can be attempted. If the unilateral action restricts access to important consumer markets, such as the U.S., the act might trigger a race to the top. This dynamic of upward harmonization of standards was observed in the dolphin-tuna case study. Separately, David Vogel coined the phrase the *California effect* to refer to this dynamic (Vogel, 1995).

It is the final recommendation of this case study that the fair trade movement ought to realize the potential of corporate power, seek out ways to fulfill the Porter Hypothesis, and to leverage Stiglerian regulatory conditions to promote social justice. The objective should be to create an advantage from the industry concentration. To encourage the upward harmonization of standards, activists and NGOs should work with the transnational coffee giants – such as Nestle (Nescafe), Kraft (Maxwell House, Starbucks), Procter & Gamble (Folgers, Millstone), and Sara Lee (Hills Bros, Douwe Egberts) – to determine whether competitive advantage can be derived from higher standards, then to lobby for higher mandatory standards. This recommendation is

based in part on the success of the Montreal Protocol on Ozone Depleting Substances. In the case of the Montreal Protocol, public awareness campaigns created market demand for higher standards. The major corporations, DuPont and ICI, responded to consumer pressures by investing in innovation to produce alternatives, and lobbying for higher mandatory standards. DuPont and ICI were well positioned for first-mover advantage when the Montreal Protocol was signed. A race to the top is possible when concentrated private interests can create competitive advantage from higher social and environmental standards.

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6 Conclusions and Recommendations

Globalization and the liberalization of trade are changing the way in which the world is organized. International economic law and the world trade regime are displacing international public law and the multilateral framework as the central modes of organizing international relations. The World Trade Organization (WTO) was established in 1995 as the modern institution for coordinating international trade. Initially, the WTO may have been narrowly conceived as a means for managing international trade agreements. However, it has since transcended any original substantive project goals, and become the predominant intergovernmental organization. The WTO can be conceptualized as the way in which the international community is actually constituted.

The idea that the world trade regime is displacing international public law has been formed. As the idea is increasingly adopted by the political and economic elites around the world, it becomes a shared consciousness. The shared perception that this is how the world is actually organized (and how it *ought* to be organized), in turn, reinforces the world trade regime's foothold on international relations.

Also, the structure of the WTO lends itself to institutional success. The threat of economic sanctions under the WTO is a significant and credible incentive for cooperation and compliance with international trade agreements. It is a powerful framework for influencing the international community and it is well entrenched, at least, for the foreseeable future. The WTO may be an *institutional* success, but is it a success if it is evaluated in terms of its substantive *outcomes*?

The challenge is to find ways to navigate the new domain of international relations, to promote social justice and environmental sustainability with the policy levers available, to civilize and democratize the world trade regime, to make globalization work for the poor, to encourage a race to the top in social and environmental standards.

Within the new constitutional framework of international economic law and the world trade regime, corporate power and consumer power are important policy levers that affect global

governance outcomes. Similarly, corporate social responsibility and norm change campaigns are important sources of power to affect regulatory movement. An understanding of regulatory competition in the context of globalization is essential.

Civil regulations, based on voluntary standards, can successfully promote social and environmental goals. However, civil regulations face structural limits in the market. Civil regulations are stable only when consumers are willing to pay a premium that exceeds the costs of higher standards. This condition can be understood as a market for virtue, which is best understood as a niche. Non-governmental organization (NGO) norm change campaigns can play an important role in shaping consumer preferences and creating market demand for ethical goods and services. In this way, markets can be used to promote social and environmental goals.

In the absence of government regulations, based on mandatory standards, civil regulations are better than nothing. However, government regulations should be considered the necessary and logical next step to ensure widespread adoption of social and environmental standards.

Under Stiglerian regulatory conditions, concentrated private (or short term) interests align with diffuse public (or long term) interests to create stable regulatory conditions. Under these conditions, corporations should work with governments (and pressure governments) to implement (and enforce) public regulations that transform voluntary standards into mandatory standards. In particular, trade laws based on social and environmental standards can be powerful governance structures to promote social justice and environmental sustainability. Moreover, in these situations, regulations that serve concentrated private interests can be legitimized in terms of the public interests that are also served.

The legal status of trade laws based on process and production methods (PPMs) is currently undefined, and under debate in the World Trade Organization (WTO). The WTO is an appropriate forum for correcting market externalities, because failing to require private companies to internalize the costs of externalities is a form of trade distorting subsidy. Therefore, trade laws based on PPM standards should not be exempt from WTO rules. The legal status of trade laws based on PPM standards will have widespread implications, and will bear on a variety of important issues including climate change policy, international labor standards, and

management of the global commons. If the WTO rules that PPM-based regulations are illegal, the outcomes will be devastating. This ruling would guarantee a race to the bottom and prevent a race to the top.

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7 Appendix: System Dynamics Modeling

The purpose of this appendix is to present a few introductory concepts and provide enough information so that readers who are not familiar with system dynamics are able to understand the logic underlying the various models included in the thesis.

For a thorough explanation of system dynamics, refer to John Sterman's *Business Dynamics: Systems Thinking and Modeling for a Complex World* (Sterman, 2000).

7.1 The Basics of Causal Loop Diagrams

Most of the models in the thesis are drawn as *causal loop diagrams.* Causal loop diagrams are used to represent causal relationships in a system. Causal relationships are depicted with arrows from the causal variable to the effected variable. Every arrow is labeled with a "+" or "-" character.

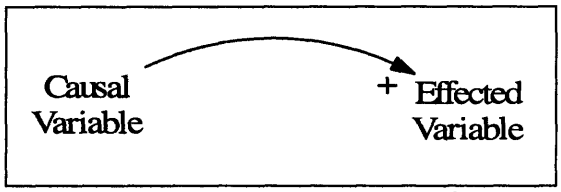

Figure 7-1. A *positive* causal relationship

A "+" character signifies the following dynamics:

- If the causal variable increases, then the effected variable will increase
- If the causal variable decreases, then the effected variable will decreas

In a *positive* causal relationship, the causal variable and effected variable change in the *same* direction.

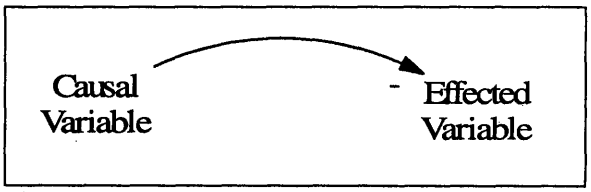

Figure 7-2. A *negative* causal relationship

A "-" character signifies the following dynamics:

- If the causal variable increases, then the effected variable will decrease
- If the causal variable decreases, then the effected variable will increase

In a *negative* causal relationship, the causal variable and effected variable change in *opposite* directions.

As shown in Figure 7-3, if a significant delay exists between the cause and effect, the delay is represented by a double hash mark across the causal arrow.

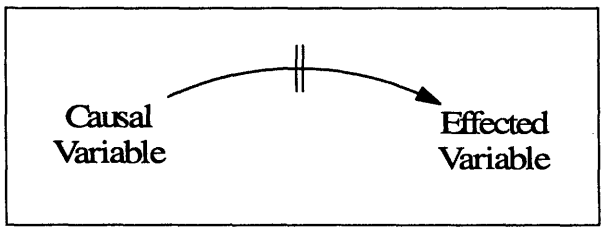

Figure 7-3. A delay in the causal relationship

One of the foundational ideas in system dynamics modeling is the importance of feedback loops. The effected variable in one relationship may be the causal variable in other relationships, and sets of causal relationships may create cyclic feedback loops. Two varieties of feedback loops exist: *reinforcing* and *balancing*.

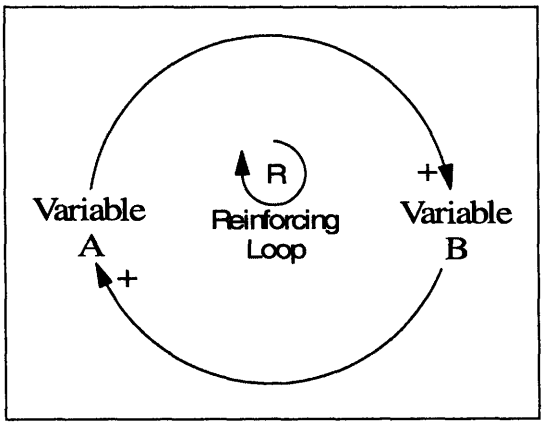

Figure 7-4. Reinforcing feedback loop

In reinforcing feedback loops, change in one variable is reinforced with even more change in the same variable. In Figure 7-4, an increase in variable A causes an increase in variable B, which causes a further increase in variable A. A decrease in variable A causes a decrease in variable B, which causes a further decrease in variable A. Reinforcing loops cause exponential growth.

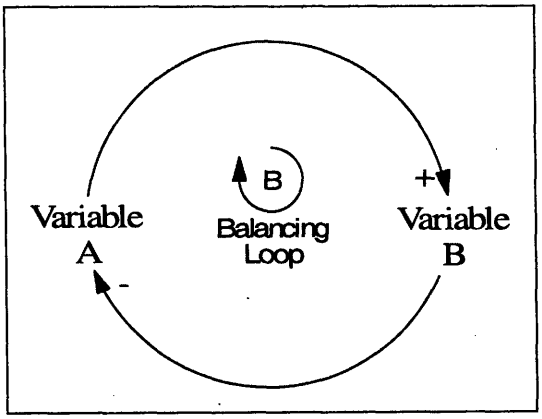

Figure 7-5. Balancing feedback loop

Balancing feedback loops are goal-seeking.

> "If the current level of the variable of interest is above the goal, then the loop structure pushes its value down, while if the current level is below the goal, the loop structure pushes its value up (Kirkwood, 1998)."

In Figure 7-5, an increase in variable A causes an increase in variable B, which causes a decrease in variable A. A decrease in variable A causes a decrease in variable B, which causes an increase in variable A.

A typical goal-seeking system is modeled in Figure 7-6.

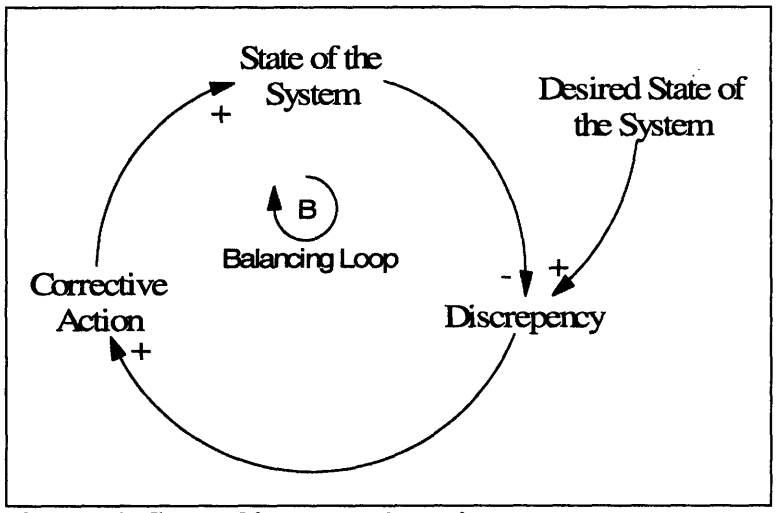

Figure 7-6. Goal seeking system dynamics

7.2 Simple Population Example

A simplified model of population, births and deaths is presented in this section.

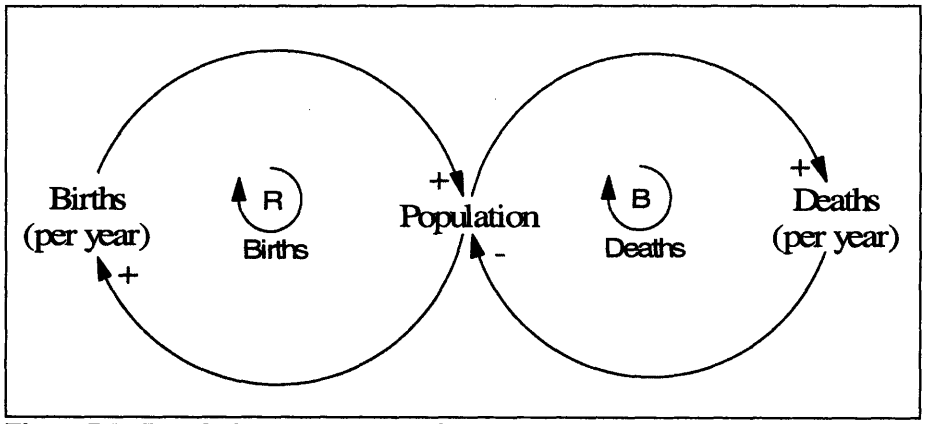

Figure 7-7. Population system dynamics

As population increases, the number of births per year increases. The increase in births causes a further increase to the population, in a reinforcing loop. However, as population increases, deaths also increase. The increase in deaths causes a decrease in the population, in a balancing loop.

The net effects on population depend on the relative strengths of the causal relationships in the system.

7.3 Characteristic Patterns of System Behavior

Even the most complicated systems are subject to a few simple rules:

- Reinforcing loops cause exponential growth (Figure 7-8a)
- Balancing loops cause goal-seeking (Figure 7-8b)
- The co-existence of reinforcing and balancing loops cause S-shaped growth (Figure 7-8c)
- Time delays in the system cause oscillations (Figure 7-8d)

These behaviors are illustrated in Figure 7-8.

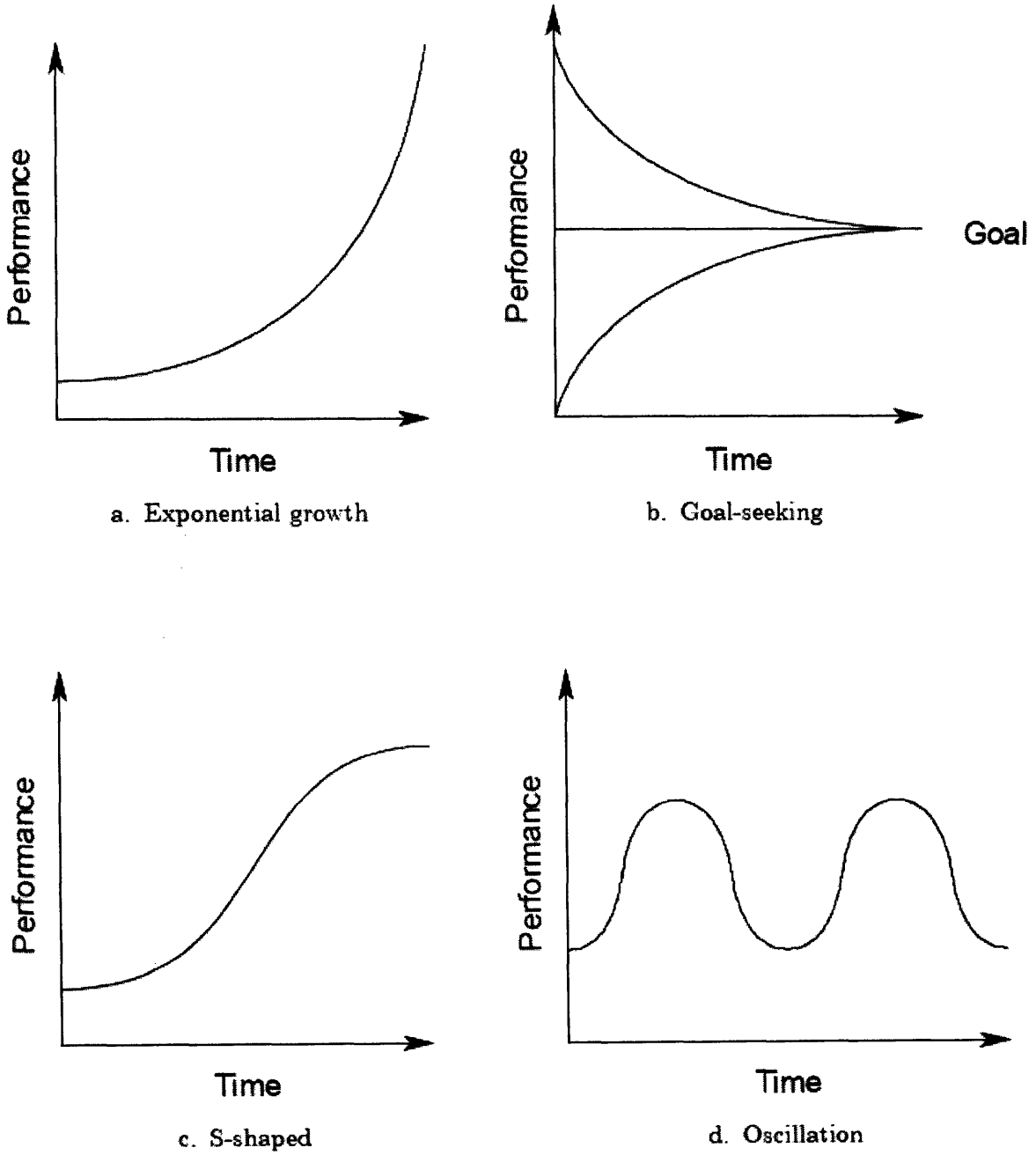

Figure 7-8. Characteristic patterns of system behavior (Kirkwood, 1998).

8 Appendix: Purse Seine for Tuna Fishing

The following figure illustrates how a purse seine fishing net is used to capture fish. The top of the net floats on the surface of the water, while the bottom of the net is pulled underwater by weights. A purse wire is threaded through the bottom of the net. When the purse wire is pulled tight, the fish are captured in the net. The entire net can then be lifted onto the fishing boat (AFMA, 2006).

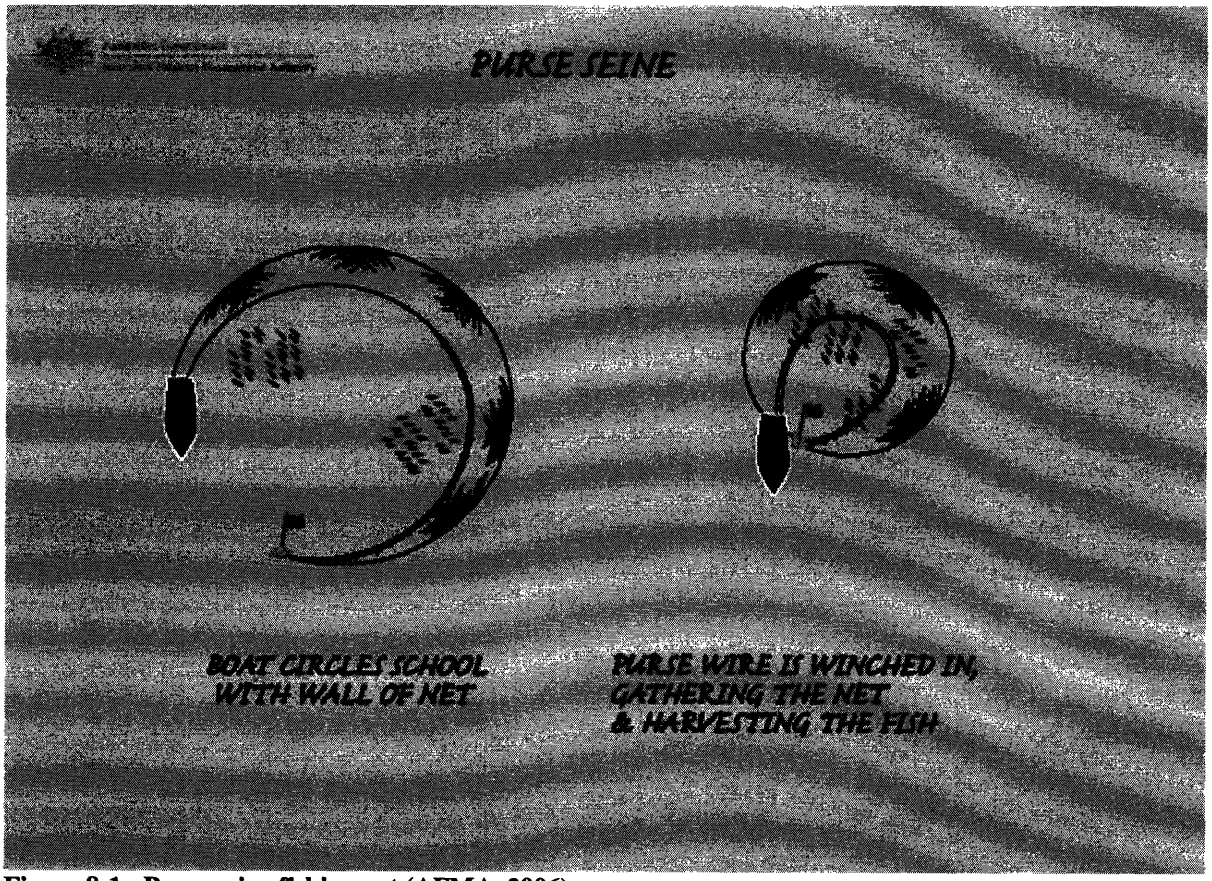

Figure 8-1: Purse seine fishing net (AFMA, 2006)

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9 Appendix: Fair Trade Certification Organizations

The Fairtrade Labelling Organization (FLO), formerly named the Fairtrade Labelling Initiative, was created in 1997 as an umbrella organization to coordinate between the various standards-based certification organizations around the globe (IFAT, 2007). By 2006, nineteen countries had labeling initiatives with shared criteria under the FLO umbrella (Oxfam America, 2007a).

The umbrella organization, FLO, is a non-profit organization, responsible for setting international standards for fair trade. Individual members of FLO, also called the Fair Trade Labelling Initiatives, operate and market fair trade products in their respective countries. FLO-CERT is a wholly owned private subsidiary of FLO. FLO-CERT is responsible for certifying products that meet the FLO standards.

9.1 Fairtrade Labelling Organizations International (FLO)

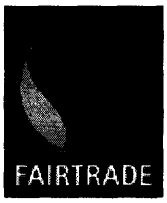

Figure 9-1. The Fairtrade Labelling Organizations International (FLO) logo (FLO, 2007).

The following text is an excerpt from the FLO International website (FLO, 2007):

> "Fairtrade Labelling Organizations International (FLO), established in 1997, is an association of 20 Labelling Initiatives that promote and market the Fairtrade Certification Mark in their countries. FLO members currently operate in 15 European countries as well as Australia and New Zealand, Canada, Japan, Mexico (associate member) and the United States.
>
> "FLO is the leading Fairtrade standard setting and certification body. It regularly inspects and certifies about 569 producer organizations in more than 50 countries in Africa, Asia and Latin America.
>
> "Fairtrade Labelling Organizations International is divided into the following two organizations:
> **FLO International e.V.** and
> **FLO-CERT GmbH**
>
> **"1. FLO International e.V.** is a publicly recognized non-profit multi-stakeholder association involving FLO's 20 member organizations (or Labelling Initiatives), producer organizations, traders and external experts. It develops and reviews standards and assists producers in capitalizing on market opportunities.
>
> **"2. FLO-CERT GmbH** is a limited company that coordinates all tasks and processes all information related to the inspection and certification of producers and trade. Operating independently from any other interests, it follows the international ISO standard for certification bodies (ISO 65)."

9.2 Fair Trade Labelling Initiatives

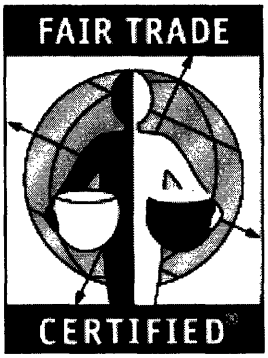

Figure 9-2. The TransFair USA Fair Trade Certified logo (TransFair USA, 2007).

The following text is an excerpt from the TransFair USA website (TransFair USA, 2007):

> "TransFair USA is one of 17 members of Fairtrade Labelling Organizations International (FLO), the world's most comprehensive social and environmental certification system.
>
> "FLO is the worldwide Fair Trade standard setting and certification organization. It permits more than 800,000 producers and their dependants in more than 40 countries to benefit from labeled Fair Trade. FLO guarantees that products sold anywhere in the world with a Fair Trade label marketed by a Labelling Initiative conforms to Fairtrade Standards and contributes to the development of disadvantaged producers. Below is a list of the Labelling Initiatives.
>
> "TransFair builds on the success of the Fair Trade market in Europe, while taking an innovative, entrepreneurial approach to the strategic challenge of mainstreaming Fair Trade products in the U.S. marketplace.
>
> "Fair Trade Labelling Initiatives around the globe:
> - TransFair Austria
> - Max Havelaar Belgium
> - Transfair Canada
> - Max Havelaar France
> - Max Havelaar Denmark
> - TransFair Germany
> - Fairtrade Foundation UK
> - TransFair Italy
> - Fair Trade Mark Ireland
> - TransFair Japan
> - TransFair Minka Luxemburg
> - Stichting Max Havelaar Netherlands
> - Max Havelaar Norge
> - Reilun kaupan edistämisyhdistys ry. Finland
> - Föreningen för Rättvisemärkt Sweden
> - Max Havelaar Stiftung Switzerland
> - TransFair USA
> - FLO Branch Office El Salvador"

10 Appendix: Definitions of Fair Trade

10.1 Product-Based Fair Trade

10.1.1 From Oxfam America

"The International Fair Trade Criteria for Fair Trade Certified™ Coffee:

"Fair Price: Farmer cooperatives are guaranteed a fair price. When the market price is low, farmers receive a minimum of $1.26 per pound for conventional coffee and $1.41 for certified organic coffee. When the market rises above the floor price, farmers receive five cents per pound above the prevailing market price for conventional coffee, and 15 cents above the market price for coffee that is certified organic.

"Direct Trade and Long-Term Relationships: Importers must purchase coffee directly from certified Fair Trade producers and agree to establish stable, long-term relationships.

"Democratic Organization: Farmers must belong to cooperatives or associations that are transparent and democratically controlled by their members.

"Access to Credit: When requested by producers, importers must provide pre-harvest financing or credit (up to 60 percent of each order)

"Environmental Protection: Producers must implement integrated crop management and environmental protection plans. Price incentives will encourage producers to work towards organic production.

(Oxfam America, 2007b)"

10.1.2 From The New Internationalist

The definition used by the New Internationalist includes the following ideas:

- producer control
- land ownership
- labor unions
- absence of child labor
- minimum working conditions
- environmental sustainability
- a price guarantee which includes a social premium
- long term relationships in the supply chain

(Ransom, 2006)

10.1.3 From the Academic Literature

"Fair trade is a trading partnership, based on dialogue, transparency and respect, which seeks greater equity in international trade (Moore, 2004, p. 73)."

"The internationally accepted criteria for Fair Trade coffee are as follows:

1. Purchase directly from small farmers organized into democratically managed cooperatives.
2. Guarantee a floor price when market prices are low.
3. Offer farmers credit (an obligation of the importer).
4. Develop long-term relationships between importers and farmer cooperatives ('a gradualist approach to environmental sustainability issues').

(Levi and Linton, 2003, p. 416)"

10.2 Organization-Based Fair Trade

10.2.1 From International Fair Trade Association (IFAT)

"The 10 Standards of Fair Trade

"IFAT prescribes 10 standards that Fair Trade organizations must follow in their day-to-day work and carries out continuous monitoring to ensure these standards are upheld:

- "Creating opportunities for economically disadvantaged producers
  Fair Trade is a strategy for poverty alleviation and sustainable development. Its purpose is to create opportunities for producers who have been economically disadvantaged or marginalized by the conventional trading system.
- "Transparency and accountability
  Fair Trade involves transparent management and commercial relations to deal fairly and respectfully with trading partners.
- "Capacity building
  Fair Trade is a means to develop producers' independence. Fair Trade relationships provide continuity, during which producers and their marketing organizations can improve their management skills and their access to new markets.
- "Promoting Fair Trade
  Fair Trade Organizations raise awareness of Fair Trade and the possibility of greater justice in world trade. They provide their customers with information about the organization, the products, and in what conditions they are made. They use honest advertising and marketing techniques and aim for the highest standards in product quality and packing.
- "Payment of a fair price
  A fair price in the regional or local context is one that has been agreed through dialogue and participation. It covers not only the costs of production but enables production which is socially just and environmentally sound. It provides fair pay to the producers and takes into account the principle of equal pay for equal work by women and men. Fair Traders ensure prompt payment to their partners and, whenever possible, help producers with access to pre-harvest or pre-production financing.
- "Gender Equity
  Fair Trade means that women's work is properly valued and rewarded. Women are always paid for their contribution to the production process and are empowered in their organizations.
- "Working conditions

Fair Trade means a safe and healthy working environment for producers. The participation of children (if any) does not adversely affect their well-being, security, educational requirements and need for play and conforms to the UN Convention on the Rights of the Child as well as the law and norms in the local context.

- "Child Labour

  Fair Trade Organizations respect the UN Convention on the Rights of the Child, as well as local laws and social norms in order to ensure that the participation of children in production processes of fairly traded articles (if any) does not adversely affect their well-being, security, educational requirements and need for play. Organizations working directly with informally organised producers disclose the involvement of children in production.
- "The environment

  Fair Trade actively encourages better environmental practices and the application of responsible methods of production.
- "Trade Relations

  Fair Trade Organizations trade with concern for the social, economic and environmental well-being of marginalized small producers and do not maximise profit at their expense. They maintain long-term relationships based on solidarity, trust and mutual respect that contribute to the promotion and growth of Fair Trade. Whenever possible producers are assisted with access to pre-harvest or pre-production advance payment.

(IFAT, 2007)"

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11 Appendix: Coffee Time Series Data

11.1 Graphs of Historical Commodity and Fair Trade Prices

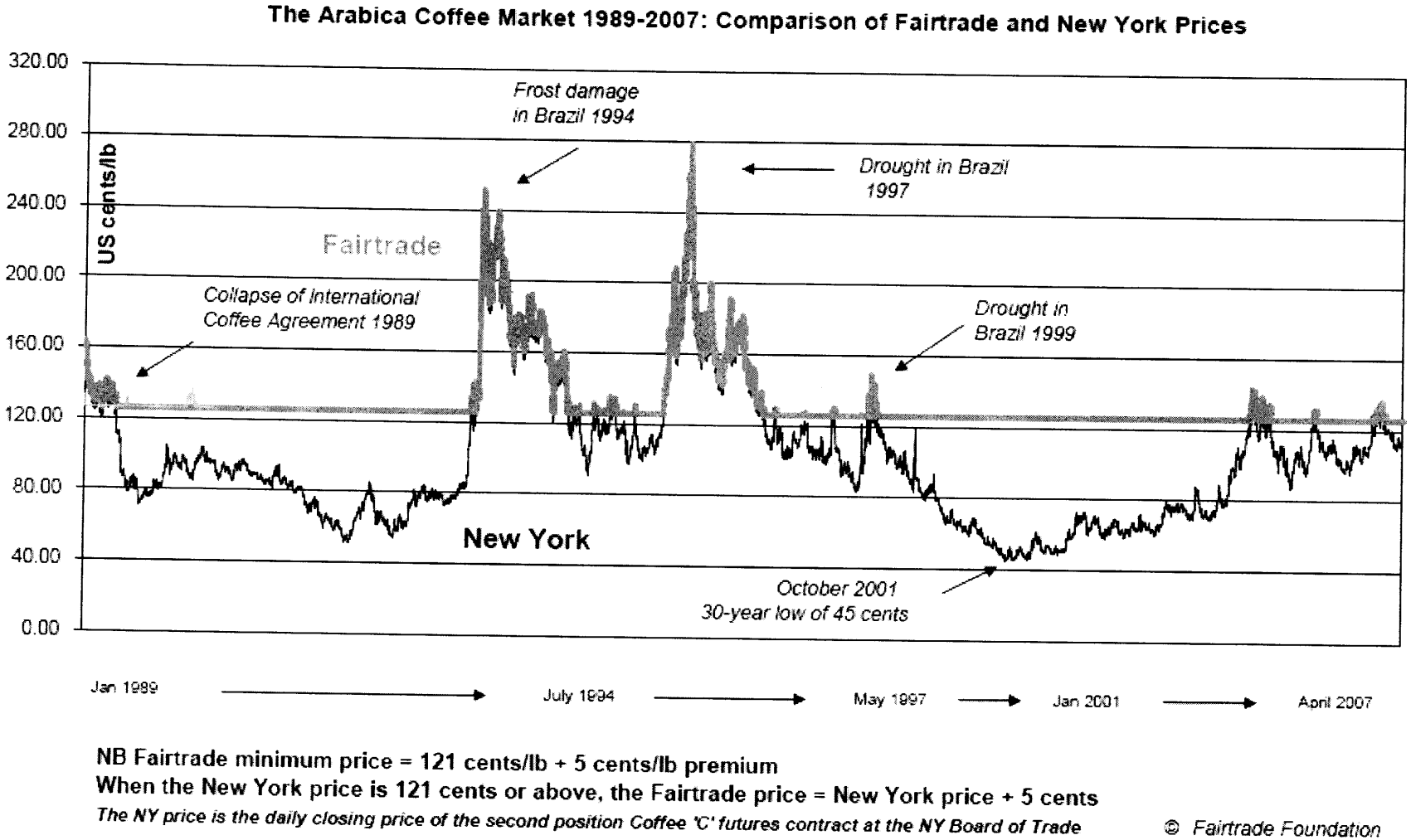

Figure 11-1. The arabica coffee market 1989-2007: Comparison of fairtrade and New York prices (FLO, 2007)

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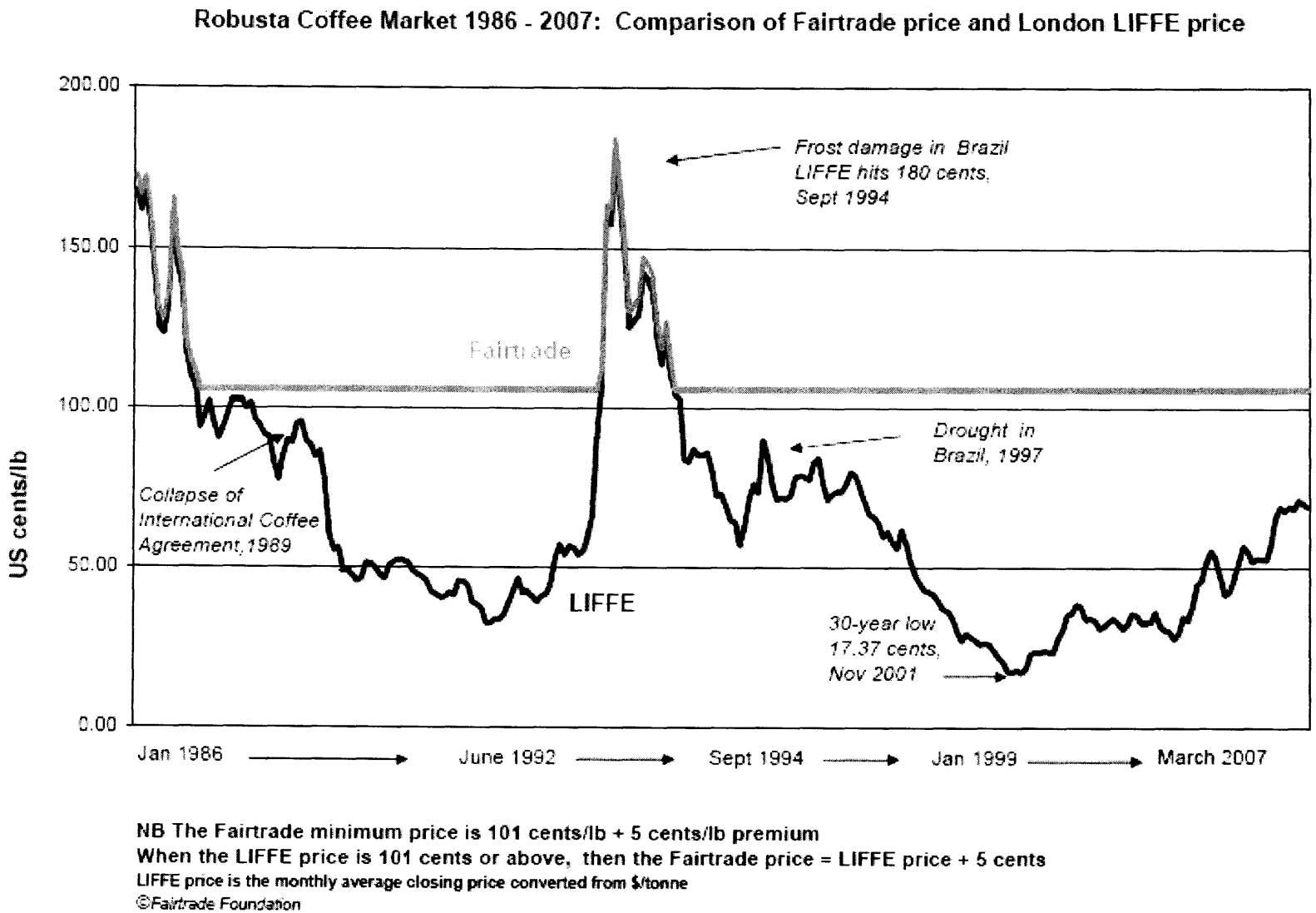

Figure 11-1. The robusta coffee market 1986-2007: Comparison of fairtrade price and London LIFFE price (FLO, 2007)

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11.2 Graph of Historical Prices and Quantities

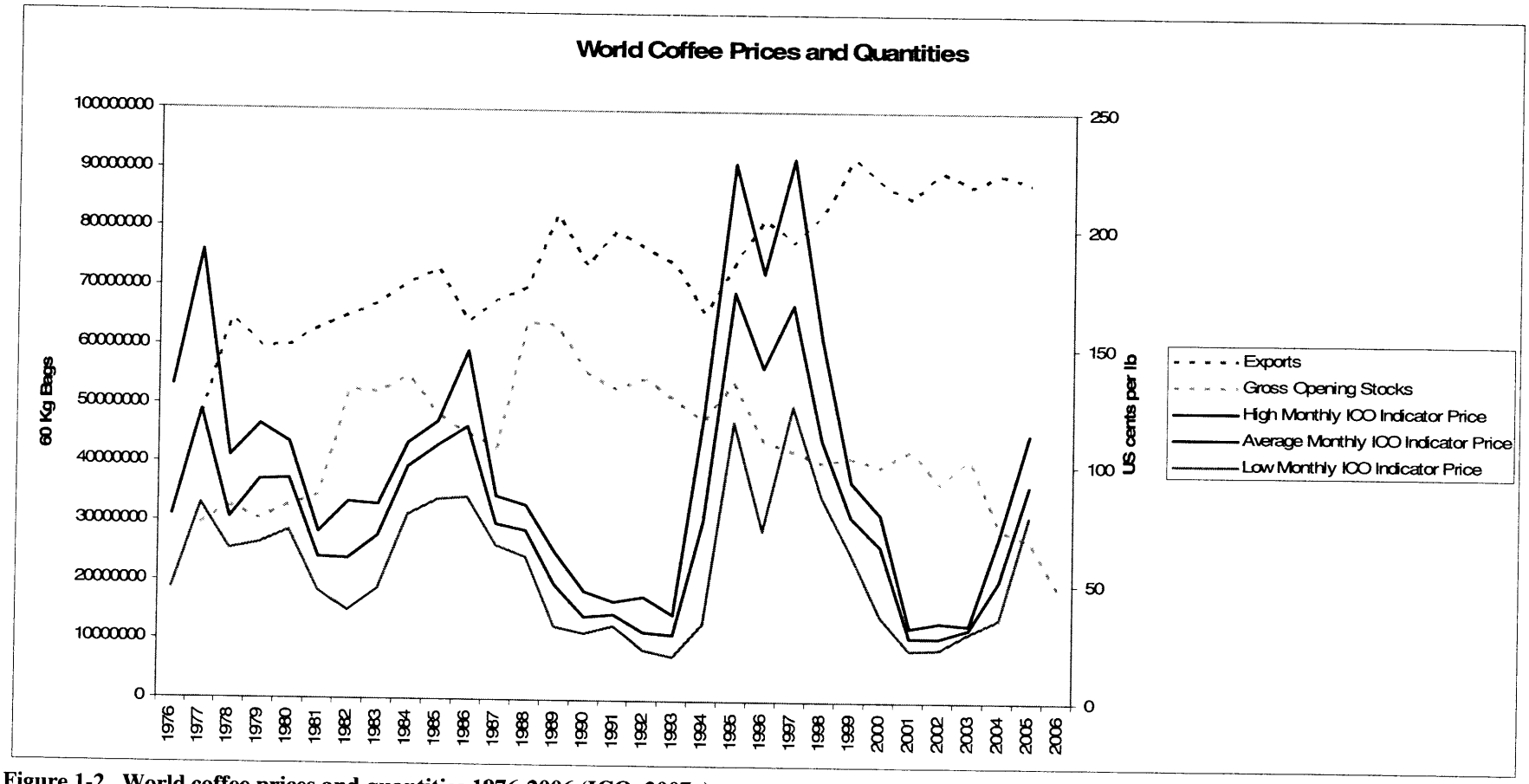

Figure 1-2. World coffee prices and quantities 1976-2006 (ICO, 2007a)

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11.3 Graphs of Historical Exports, Imports, and Re-Exports

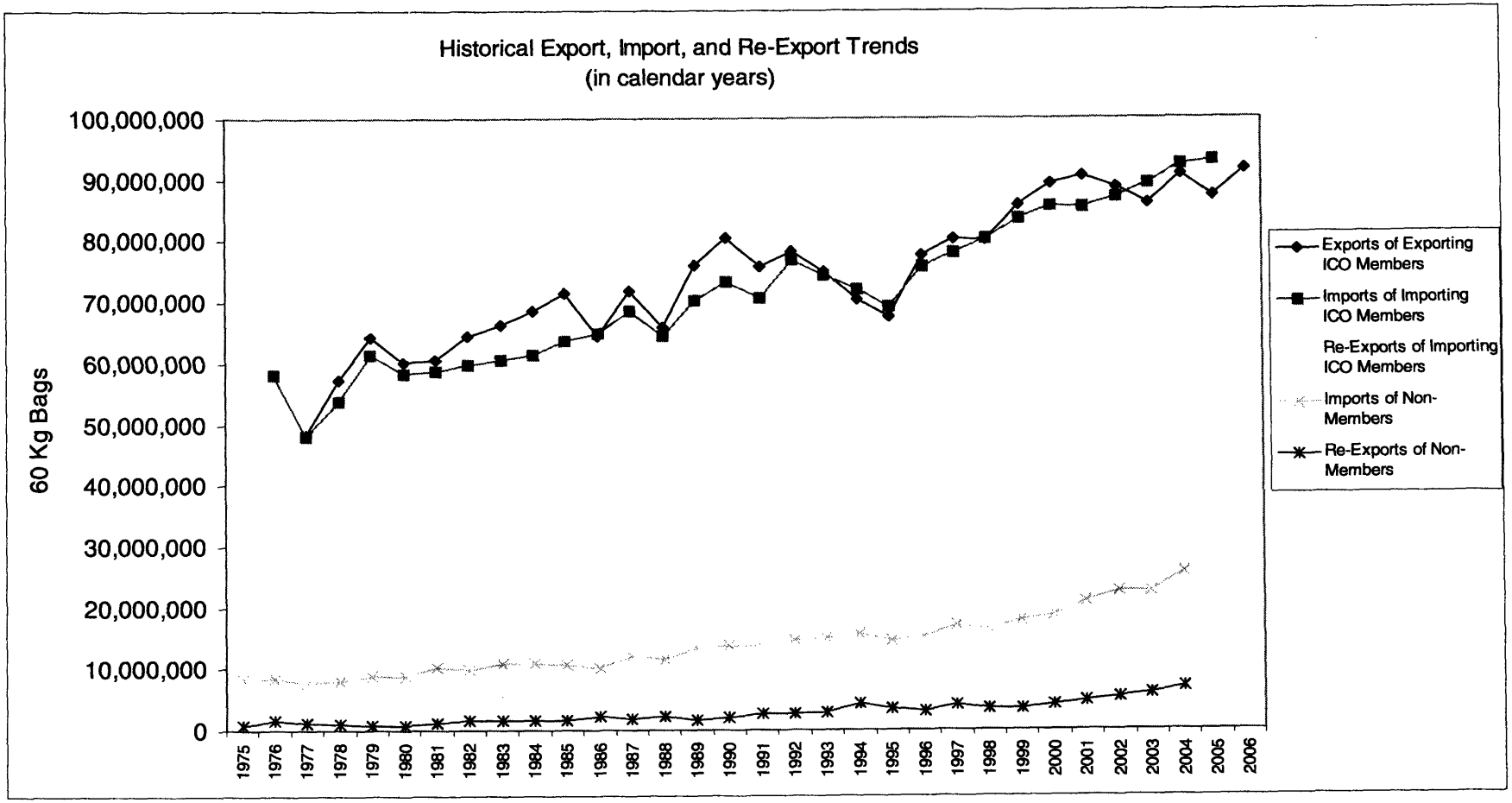

Figure 11-1. Historical export, import, and re-export trends (in calendar years) 1975-2006 (ICO, 2007a)

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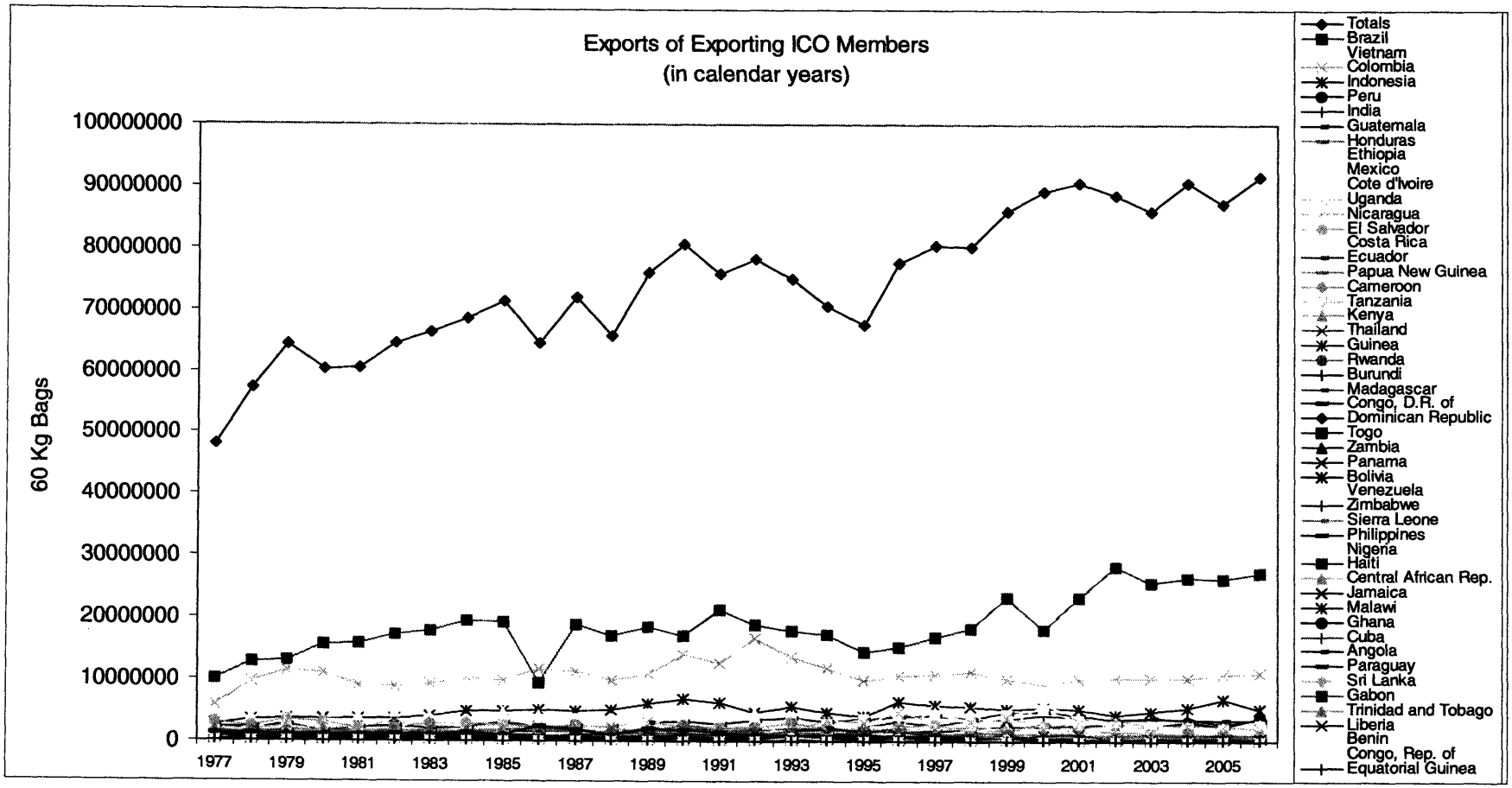

Figure 11-1. Exports of exporting ICO members (in calendar years) 1977-2006 (ICO, 2007a)

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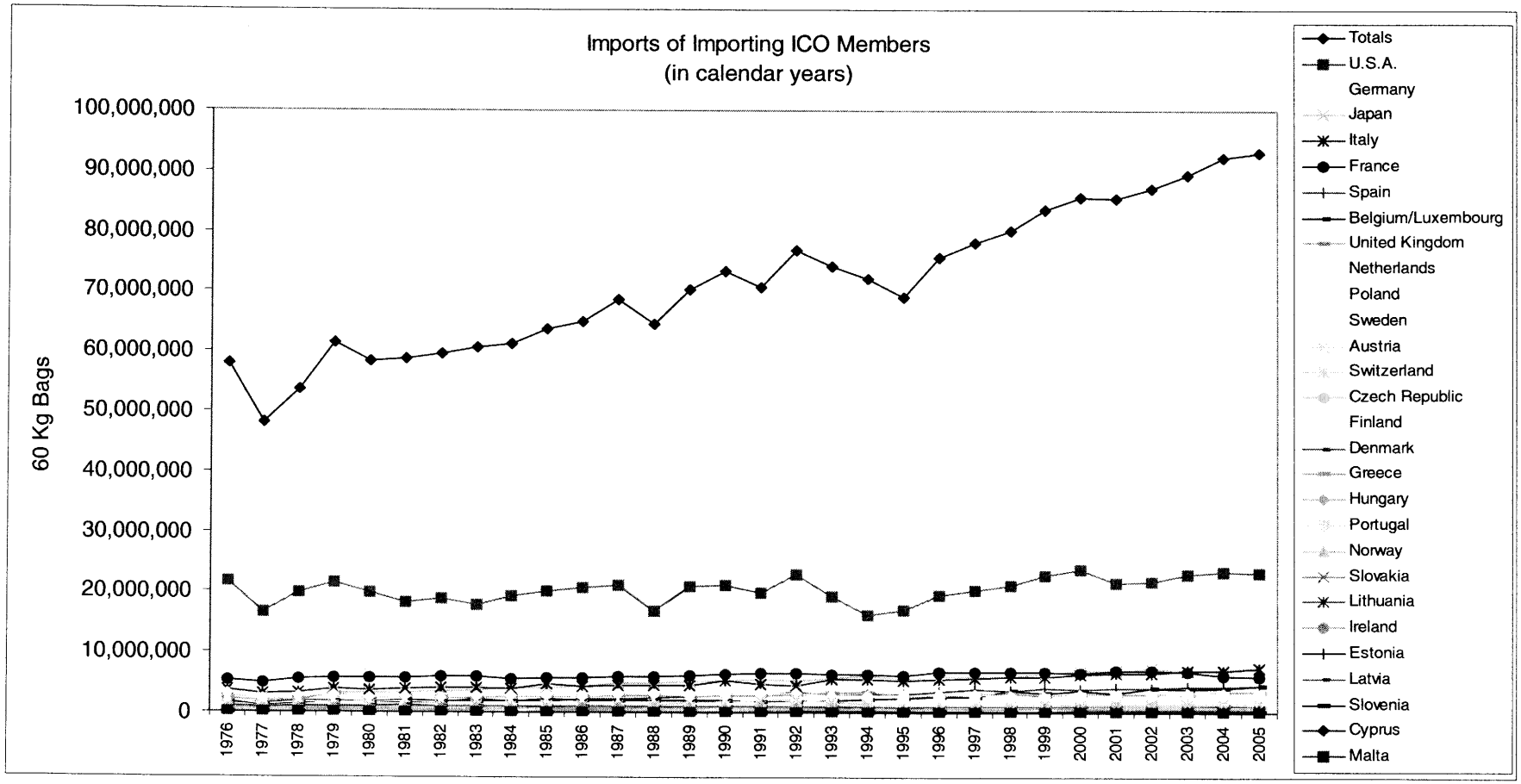

Figure 11-1. Imports of importing ICO members (in calendar years) 1976-2006 (ICO, 2007a)

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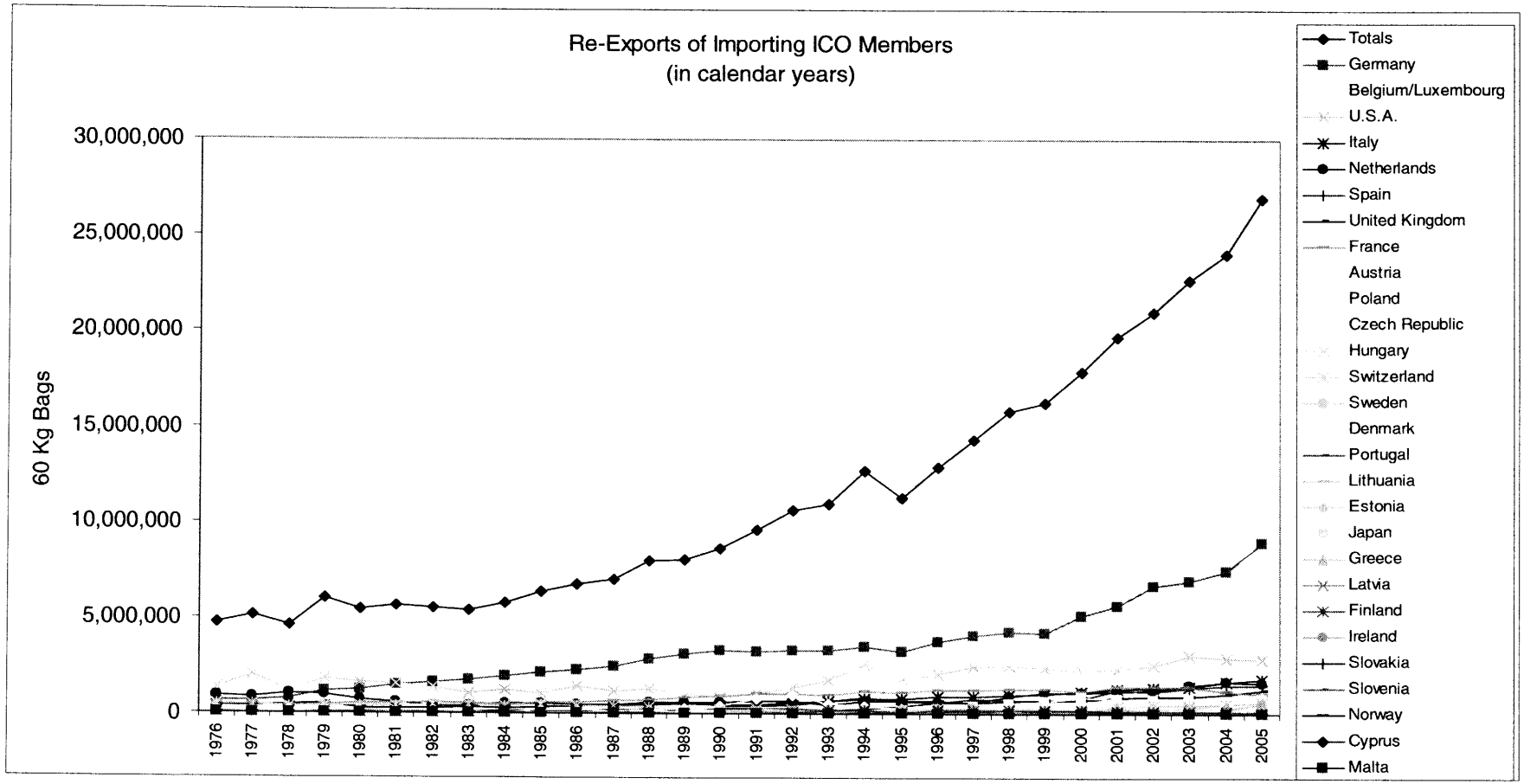

Figure 11-1. Re-exports of importing ICO members (in calendar years) 1976-2005 (ICO, 2007a)

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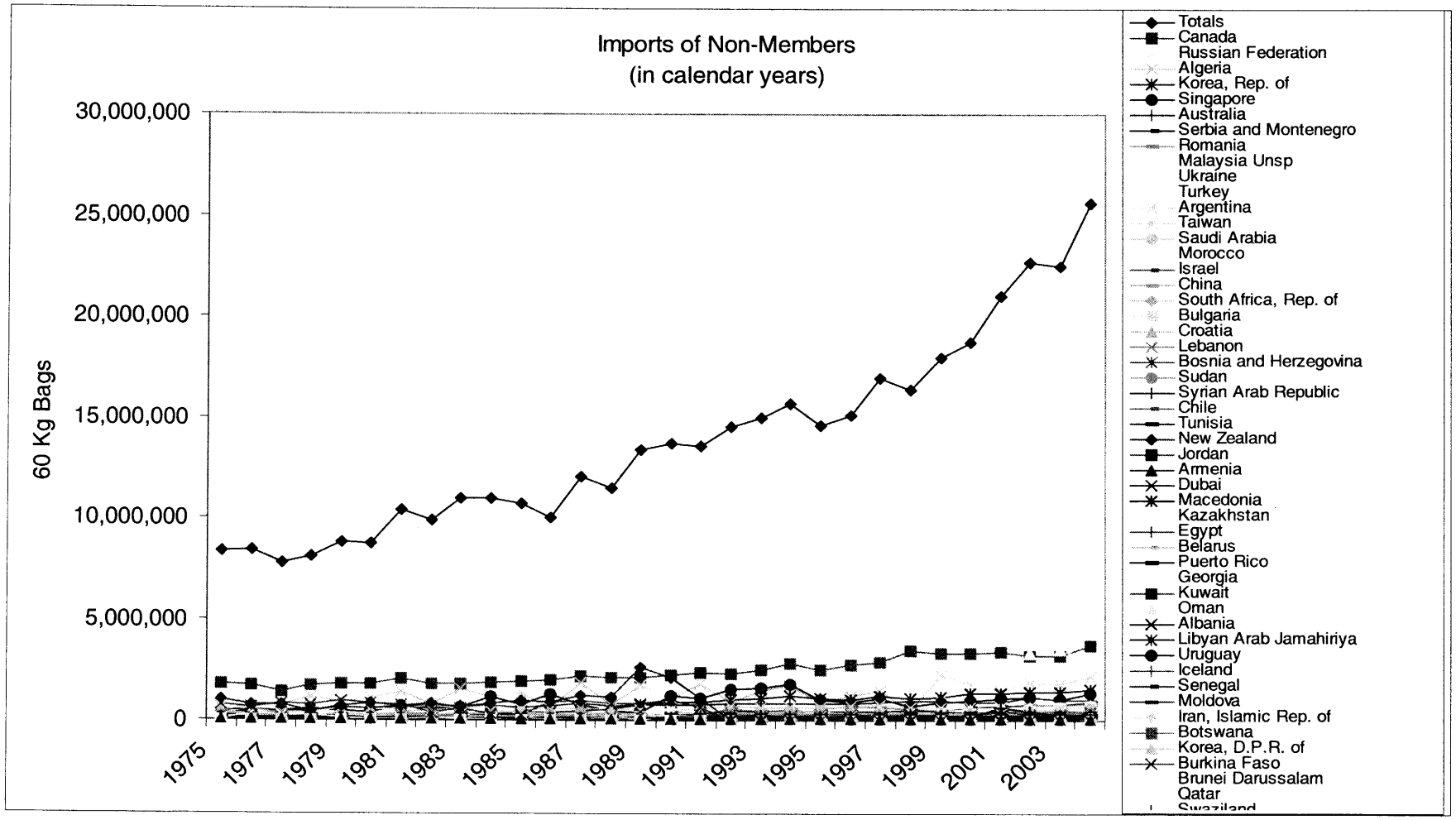

Figure 11-1. Imports of non-members (in calendar years) 1975-2005 (ICO, 2007a)

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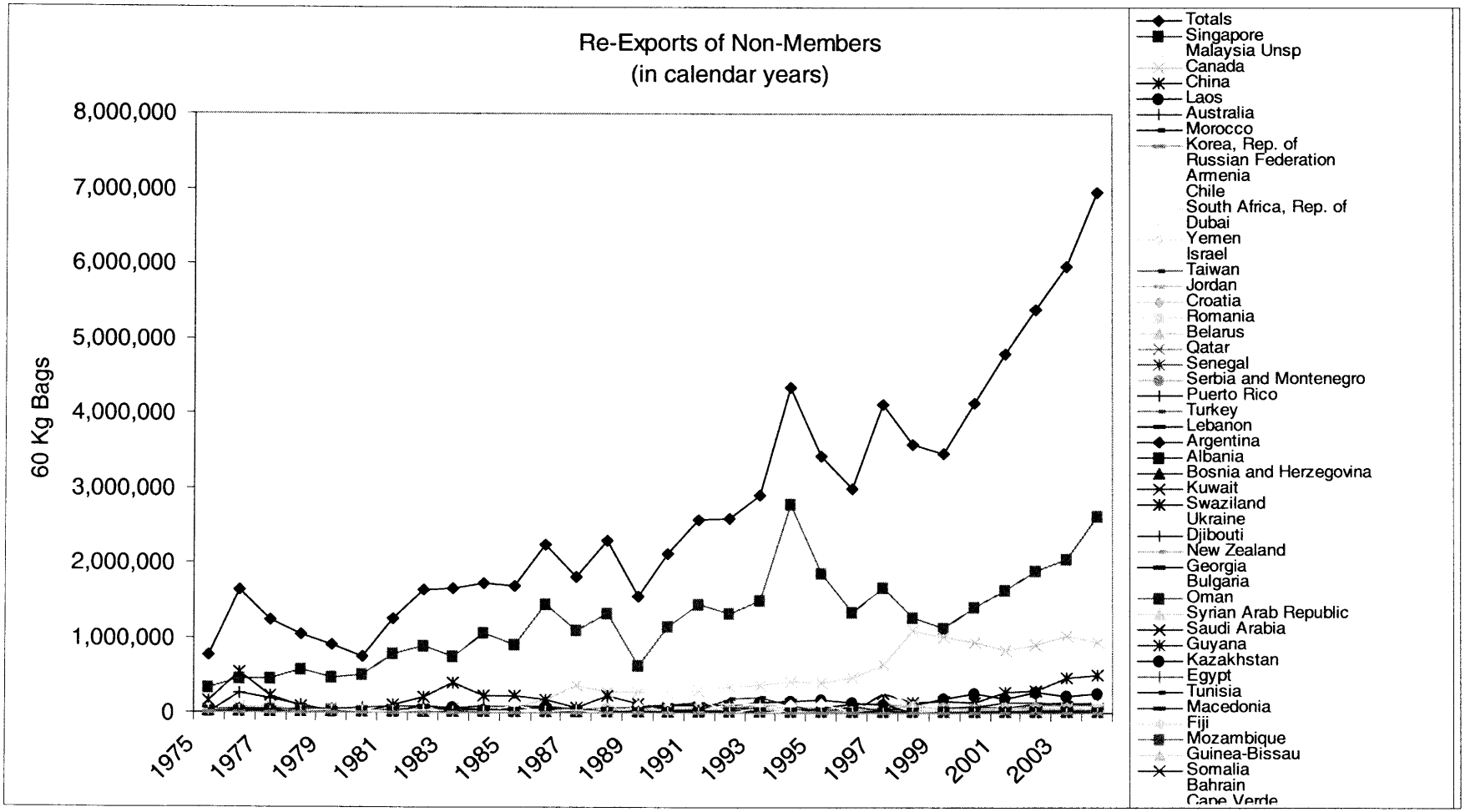

Figure 11-1. Re-exports of non-members (in calendar years) 1975-2005 (ICO, 2007a)

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11.4 Graphs of Historical Production, Exports, and Stocks

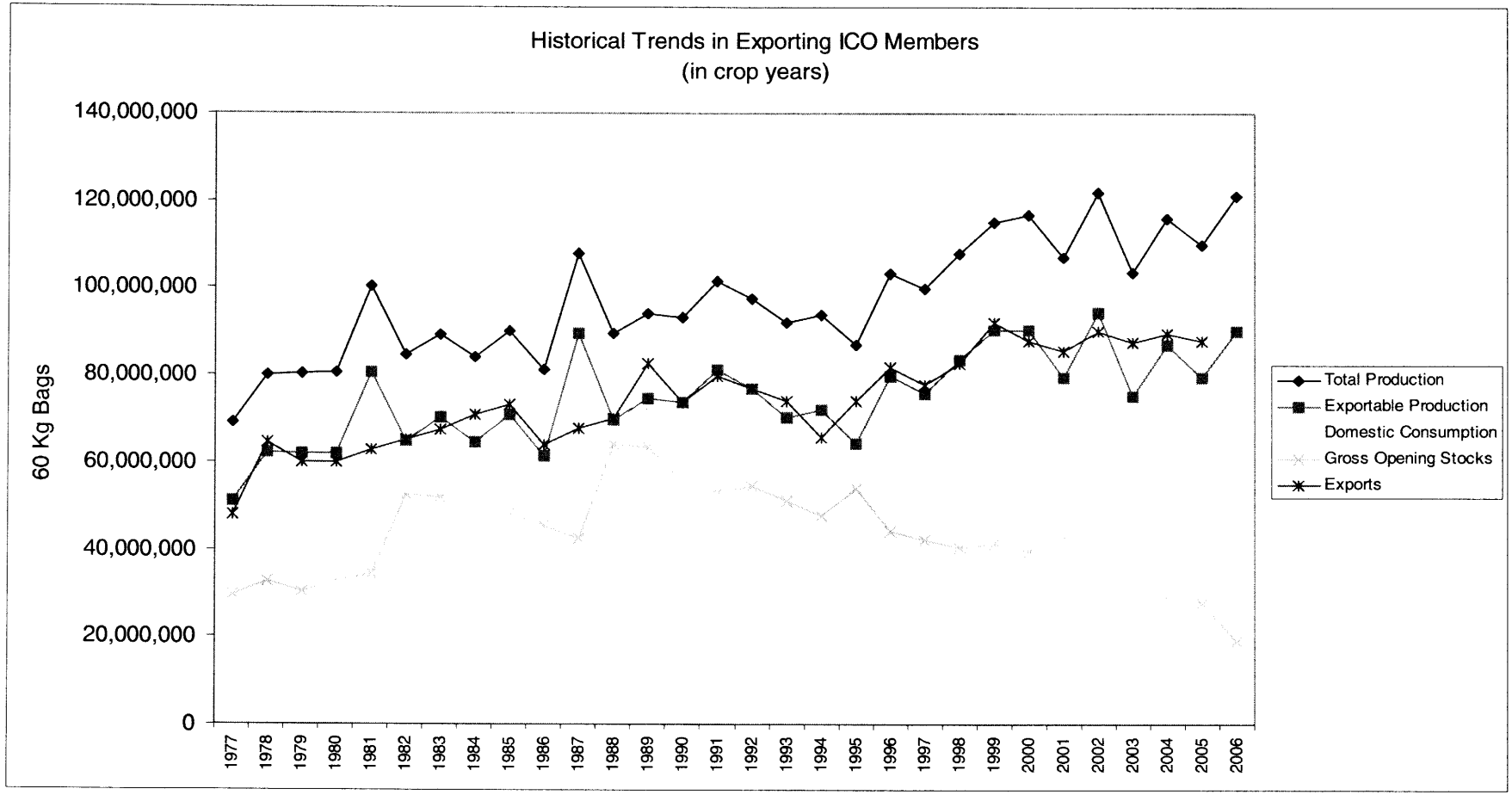

Figure 11-1. Historical trends in exporting ICO members (in crop years) 1977-2006 (ICO, 2007a)

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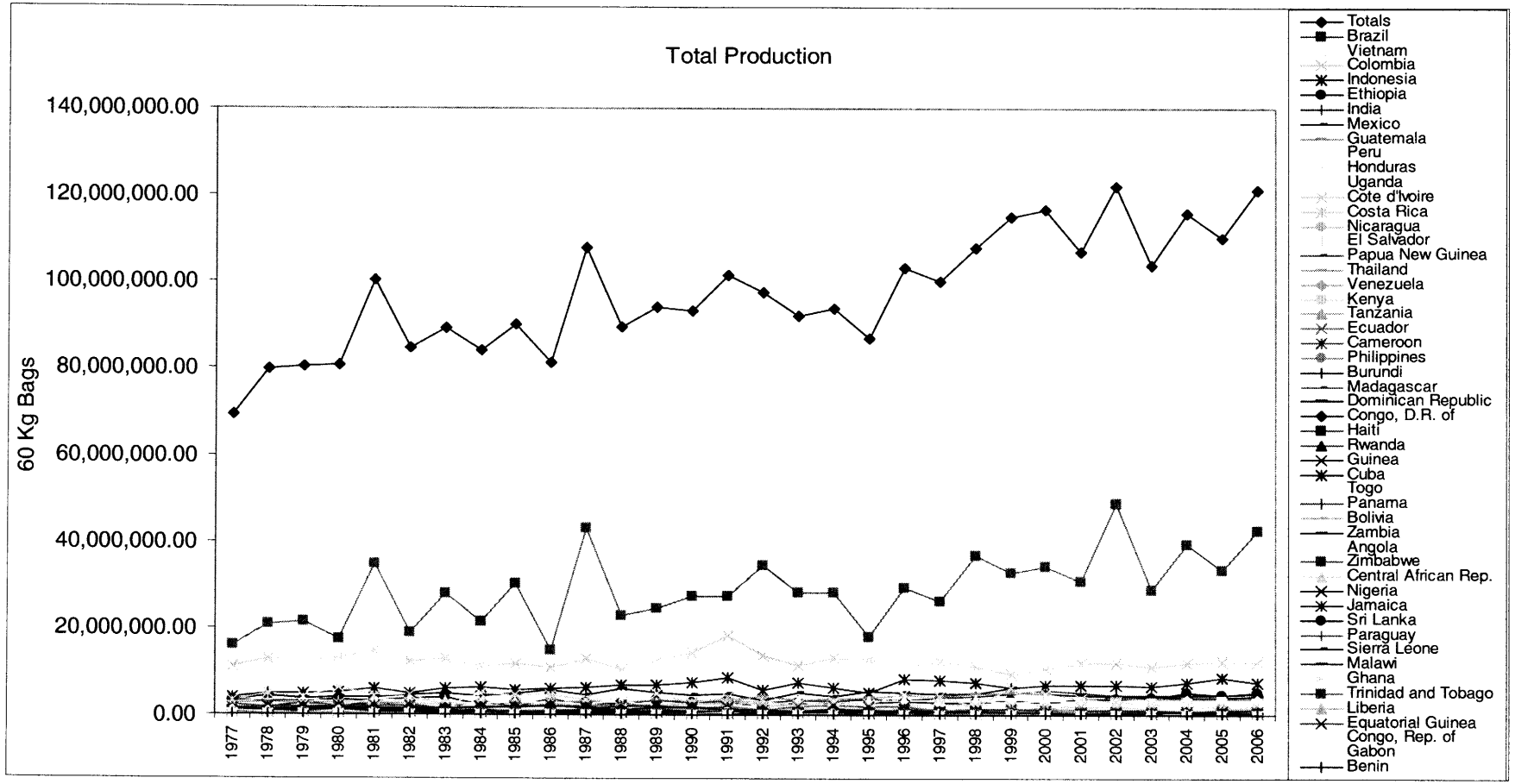

Figure 11-1. Total production 1977-2006 (ICO, 2007a)

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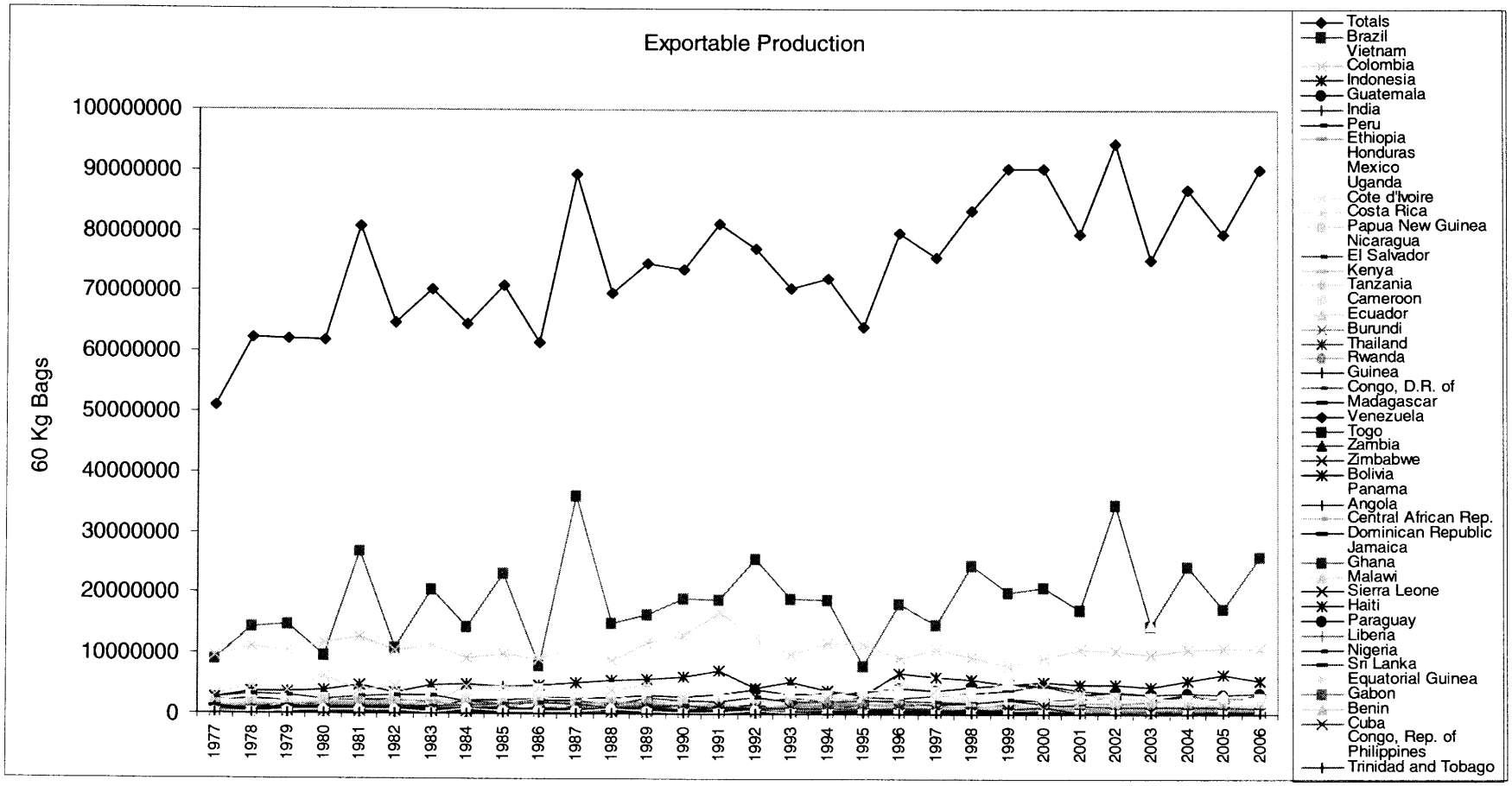

Figure 11-1. Exportable production 1977-2006 (ICO, 2007a)

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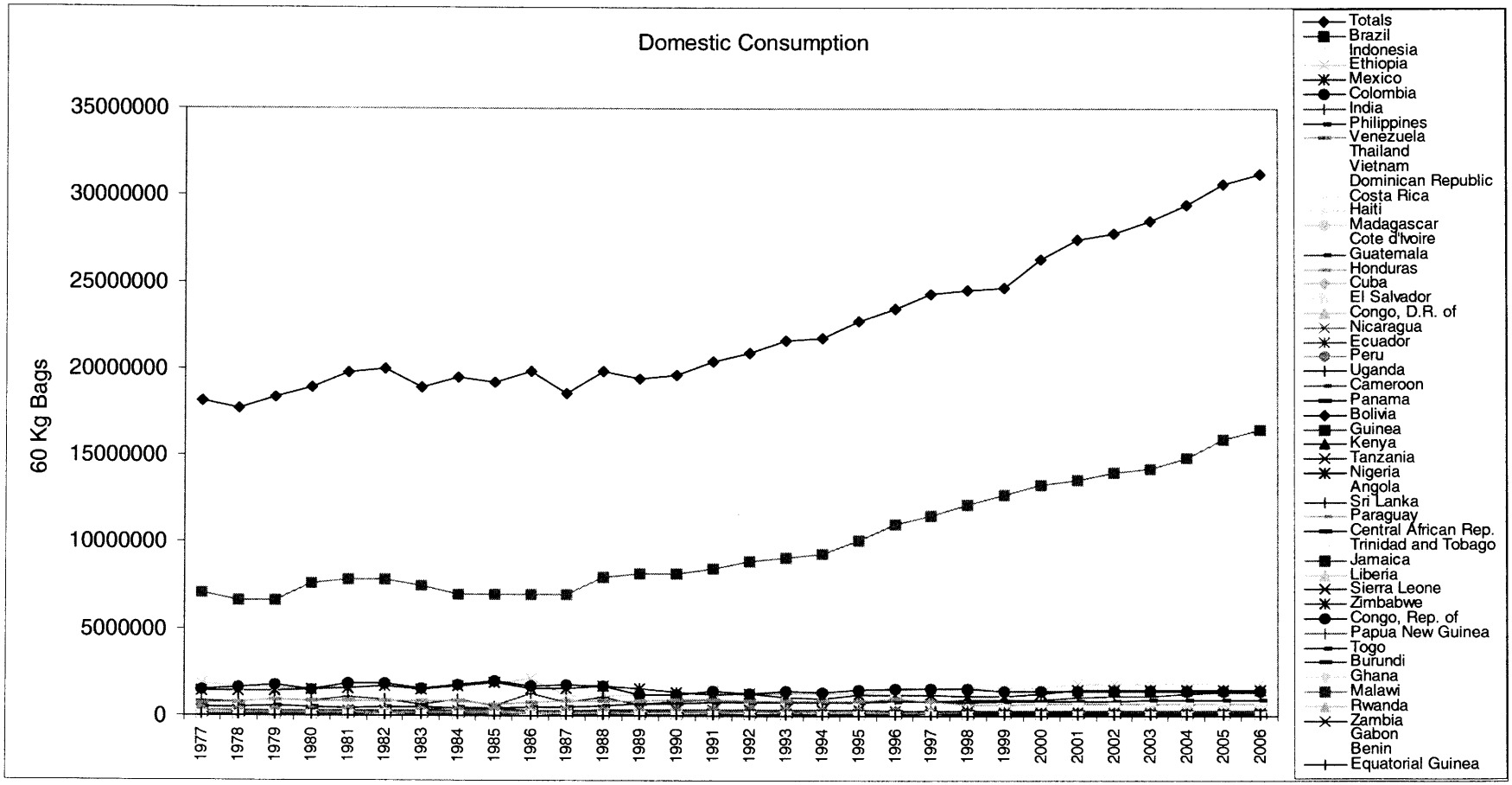

Figure 11-1. Domestic consumption 1977-2006 (ICO, 2007a)

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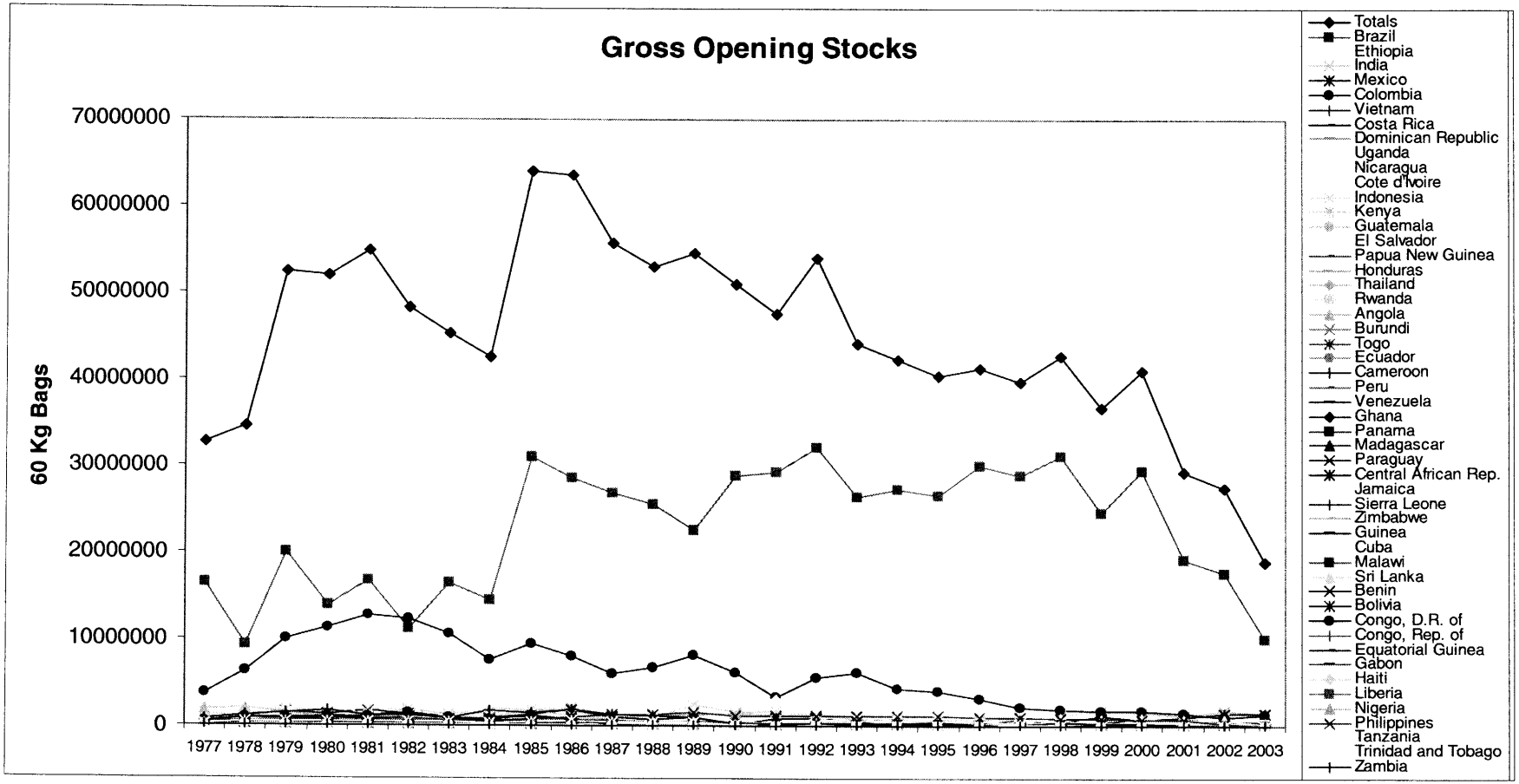

Figure 11-1. Gross opening stocks 1977-2003 (ICO, 2007a)

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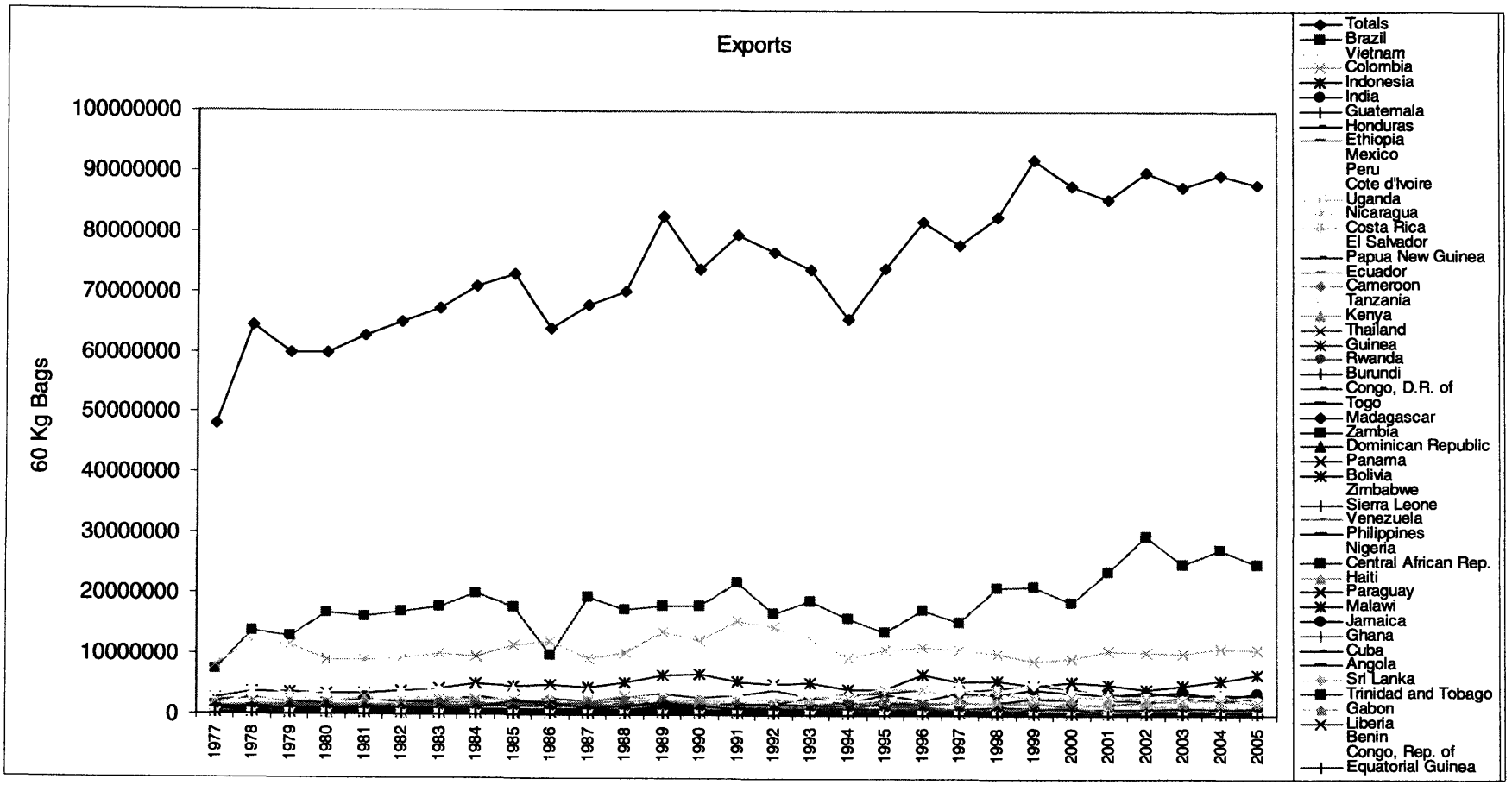

Figure 11-1. Exports 1977-2005 (ICO, 2007a)

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