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ABSTRACT: Around 1940 Schumpeter draws on an analysis of the U.S. footwear industry as an exemplar case to formulate his famous hypothesis about the positive relation between market concentration and innovative activity. Starting in the 1960s the value chain of U.S. footwear producers disintegrates which eventually separating the process of product innovation from manufacturing in this industry. Studies testing the Schumpeter hypothesis commonly do not account for the modularity and globalization of an industry’s value chain. We argue that the separation of product innovation and manufacturing in the U.S. footwear industry is influenced by functional satiation effects on the demand side. Functional satiation decreases the consumers’ willingness to pay for new product varieties. The ‘oversupply’ of new product varieties beyond functional satiation does not decrease the price competition between firms. We argue that this parallel price and innovation competition drives the separation of the processes of product innovation and manufacturing to gain economies in both of these processes simultaneously. Discussing the consumers’ motivations to buy products beyond their functional requirements offers a deeper qualitative understanding of the business practices revealed in the historical case of the U.S. footwear industry.

KEYWORDS: Industrial Organization, Innovation, Modularity, Global Value Chain, Consumer Behavior, Footwear Industry

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I. INTRODUCTION

Since the writing of *Capitalism, Socialism, and Democracy* (Schumpeter, 1942), economists have increasingly been willing to associate economic growth through innovation with monopoly power and large firm size. This so-called Schumpeterian hypothesis is posited on the view that in a capitalist system, economic growth occurs through a process of “creative destruction” whereby the “old” industrial structure – its products, its process, or its organization – is continually changed by the “new” innovative industrial activity. This “industrial mutation … that incessantly revolutionizes the economic structure from within … is the essential fact [of] capitalism” (Schumpeter, 1942, p.83, italics in original). Schumpeter (1939, ch. VI, VII, and XIV) founds his hypothesis on historical evidence from the U.S., the English, and the German economy. For his hypothesis Schumpeter (1939, pp. 391) explicitly draws on the case of the U.S. footwear industry that his research assistant Hoover (1933; 1937) has developed: The U.S. footwear industry is an exemplar case substantiating Schumpeter’s hypothesis till the 1940s. The global footwear production is extremely concentrated in the hand of the United Shoe Machinery Company, which attains and maintains its global monopoly position in the first half of the 20th century by being extremely innovative (cf. Kaysen, 1956; Thomson, 1989; Miranda, 2004).

The motivating force behind the process of creative destruction is the promise of economic profits achieved through innovative activity. According to Schumpeter, large firm size is essential to the success of such innovative activity. Larger firms can provide economies of scale in manufacturing and innovation processes which make available sufficient resources necessary for successful completion of this process. Several empirical studies have shed doubt on the generality of Schumpeter’s hypothesis (e.g. Kamien & Schwartz, 1982; Cohen & Levin, 1989). These and other studies usually investigate into the relationship between innovative activity and industry concentration or firm sizes, but not into the concrete organization of the production process or the sources of product innovation. Remarkably, since the 1980s, product innovation is effectively separated from manufacturing processes in several U.S. industries, like footwear, apparel, toys and consumer electronics (Gereffi & Korzeniewicz, 1994; Korzeniewicz, 1994; Gereffi, 1999; Sturgeon, 2002; Gereffi, Humphrey, & Sturgeon, 2005). The U.S. footwear industry having been Schumpeter’s exemplar case has been among the first industries to show this disintegration of the value chain (Donaghu & Barff, 1990; Korzeniewicz, 1992; Korzeniewicz, 1994; Schmitz & Knorringa, 2000; Frenkel, 2001). A value chain describes the full range of activities that are required to bring a product from its conception to its end use and beyond. This includes activities such as design, production, marketing, distribution and support to the final consumer. The activities that comprise a value chain can be contained within a single firm – like Schumpeter hypothesized – or divided among different firms – as the historical development in the 1970s and 1980s shows in these mentioned industries. The separation of product innovation and manufacturing raises several new questions about genuine argument of the Schumpeter hypothesis: How can the innovation process be separated from manufacturing? How can

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1 Cf. footnote 1 on p. 391 in Schumpeter (1939) for his personal acknowledgements to Hoover.
the developing firm appropriate its product technology against the manufacturing firm? Why do the actual producers not enter the market bypassing the product developers? It is this empirical caveat to the Schumpeter hypothesis and these resulting questions that motivate this paper.

The aim of the paper is to provide a theoretical framing for the outlined empirical caveat. Schumpeter having neglected the demand side in his arguments, the basis argument of this paper is that satiation effects occur as a market matures and that they affect the organization of the processes of product innovation and manufacturing. The correlation of the increase of product variety and the growth of consumption is a stylized fact of aggregate market dynamics (Bils & Klenow, 2001). This correlation between the growth of product variety and consumption holds regardless of the maturity of the industry or the market. Interestingly, functional satiation effects do not uphold the correlation at the macro level, even in mature markets. In contrast, at the micro level Lancaster (1971, pp.145; 1991, pp.59) in his seminal conceptualization of product innovations points to satiation effect with respect to product characteristics, i.e. the functional aspects of products. In their experiments Meyer and Johnson (1995) find that while consumers have a minimum threshold for acceptable product performance, there is no analogous boundary that specifies a maximum limit to the functional performance, that a consumer would be willing to accept. At the same time, consumers face decreasing marginal utility from increases in functionality beyond their requirements. From a series of case studies Christensen (1997, ch.8) develops the notion of “performance oversupply” that Adner and Levinthal (2001) formalize: They show that consumption growth beyond functional satiation relies on the oversupply of ever new product varieties. Once, consumers’ requirement for a specific functional attribute are met, evaluation shifts to place greater emphasis on attributes that were initially considered secondary or tertiary (Christensen, 1997, pp. 169). The nature of competition within a market that is driven by such ‘variety oversupply’ changes due to this satiation effect of market demand. In a time-series analysis Frenzel Baudisch (2006b) shows that aggregate U.S. footwear consumption changes its parameterization in 1970: Since the 1970s the U.S. shoe market expands to due to the oversupply of product varieties; it grows well beyond the functional requirements of consumers, the average U.S. consumer buys 7.4 pairs of shoes in 2004. Focusing at the U.S. footwear market and its industry, the theoretical question that this paper wants to answer is whether the functional satiation of this market affects its industrial organization. In other words, do firms organize differently in order for them to grow as the functional satiation of the market is setting in, because the incumbent firms have to oversupply the market with ever new product varieties that are decreasingly valued by the consumers?

This paper discusses this theoretical research question focusing on the empirical caveat of the U.S. footwear industry’s organization. Concretely, we ask whether the change in the demand character due to functional satiation effects in this market influences the observed separation of manufacturing and product innovation, because both phenomena occur in parallel in the U.S. footwear market. Drawing on Christensen’s (1997) notion of “performance oversupply” and its formalization of by Adner and Levinthal (2001), we argue that functional satiation effects change the nature of market demand. Thereby, the nature of competition in the market changes which in turn has implications for its industrial and corporate organization. This argument is complemented by a discussion of
the motivations of consumers to buy shoes beyond their functional requirements that draws on Frenzel Baudisch (2006b).

In order to empirically substantiating our argument, we conduct a case study analysis into the historical development of the U.S. footwear industry; we describe how this industry has developed to be ‘Schumpeter’s exemplar case’ in the first half of the 20th century and then how its value chain disintegrates in the 1970s and 1980s and how it is organized today. The organization of the paper is as follows. In section 2, the two complementary theoretical arguments are outlined. Section 3 provides the case study of the historical development of the U.S. footwear industry. The discussion of the case study’s findings follows in section 4. Section 5 offers some conclusions.

II. VARIETY OVERSUPPLY, MARKET COMPETITION, AND INDUSTRIAL ORGANIZATION

This section argues that a market’s functional satiation affects its industrial organization, i.e., in particular the separation of manufacturing and product innovation. We take two complementing approaches to make the argument. First, a phenomenological description of satiation effects as a change in the parameterization of demand lies the basis for our argument (cf. Adner & Levinthal, 2001). Nevertheless, this approach does not inquire into the actual changes of consumer behaviors. Second, an inquiry into the motivations of consumers to buy products beyond their functional requirements complements the first approach (cf. Frenzel Baudisch, 2006b). Discussing the consumers’ motivations to buy products beyond their functional requirements offers a deeper qualitative understanding of the business practices revealed in the historical case of the U.S. footwear industry.

In the first approach to our argument, the main question is how much do the decreasing marginal utility and the resulting higher price sensitivity, which consumers attribute to oversupplied product varieties after their functional satiation, affect the organization of production and innovation. In growth regime of variety oversupply, firms can less and less avoid price competition by differentiating their products, because the marginal utility of more product variety is decreasing. Firms compete more and more in terms of product innovation competition and cost competition at the same time. As the marginal utility for the functional improvements decreases, product innovations are not achieving premium prices anymore beyond functional satiation. Product innovation becomes mere necessity to consumption growth, but do not allow for monopoly rents anymore². Smaller and fast changing batch sizes must be made possible by flexible production processes, as well as constant cost reductions in production are necessary in order to compete in such markets, in which consumers buy beyond their functional requirements.

The second approach to our argument about the effect of market satiation on industrial organizations is founded on the analysis of consumer motivations to buy beyond functional satiation (cf. Frenzel Baudisch, 2006a; 2006b). Beyond functional satiation,

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² Functional complementarities between new products might postpone satiation effects (Christensen, 1997, pp.179), e.g., between computer soft- and hardware. For the sake of our argument we abstract from such complementarities. In the case of shoe consumption, such functional complementarities can be assumed to be of marginal importance.
motivations arising from social interactions between consumers become more important for the growth of consumption of oversupplied product varieties. Several motivational processes arise from social comparisons that affect market demand abstracting from functional advancements of products (Vermeir, van Kenhove, & Hendrickx, 2002; Karlsson, Dellgran, Klingander, & Gärling, 2004; Frenzel Baudisch, 2006a; 2006b). It is the increasing importance of social interactions between consumers for the growth of demand like status effects, herd behavior, and fashion cycles that continuously decrease predictability of demand in terms of product functionality. This increases the uncertainty of demand from the perspective of a producer who exclusively focuses on product functionalities.

Beyond functional satiation of a market, the oversupply of ever new product varieties increases the importance of social comparison processes among consumers. This in turn increases the uncertainty for the producers, as demand for certain functionalities becomes less and less foreseeable. In this sense, it is the increasing product differentiation beyond functional satiation that leads to more uncertainty for the supplier. Supplier must increase their ability to react to this uncertain demand by reducing lead times of production and increasing the flexibility of their production’s batch size.

In order to develop implications for industrial organization from this section’s argumentative sketches about satiation effects and market competition, we sketch out the what determines the governance structure of value chain analysis. Having done so, we relate the outlined arguments to these determinants and, thereby, develop implications for the industrial organization from the occurrence of functional satiation effects.

1. THE GOVERNANCE OF GLOBAL VALUE CHAIN

This section briefly reviews recent works of Gereffi, Humphrey, and Sturgeon (2005) on the determinants of the governance structures in global value chains. In its most basic form, a value-added chain is “the process by which technology is combined with material and labor inputs, and then processed inputs are assembled, marketed, and distributed. A single firm may consist of only one link in this process, or it may be extensively vertically integrated ...” (Kogut, 1985, p. 15). The key issues in this literature are which activities and technologies a firm keeps in-house and which should be outsourced to other firms, and where the various activities should be located. The vertical integration or de-integration of production, product design, and marketing is not reported in industry concentration indexes, firm sizes, or reports about market shares. Rather than analyzing the relationship between market concentration or firm size and innovative activity in a market, we want to analyze the degree of vertical integration of processes within the firms of an industry. Value chain analysis is able to analyze such structures; this is why we choose this method for our case study in order to go beyond the usual analyses that have been led by Schumpeter’s hypothesis.

Having laid out a taxonomy of governance structure of value chains, Gereffi et al. (2005, pp. 84) developed an operational theory of such structures. They theorize about why different global value chain governance structures arise under which conditions. They identify and discuss three key determinants of value chain governance patterns: complexity of transactions; codifiability of information; and capability of suppliers. In so
doing, they acknowledge the problem of asset specificity as identified by transaction cost economics, but also give emphasis to what has been termed ‘mundane’ transaction costs – the costs involved in coordinating activities along the chain. It has been argued that these coordination, or mundane, transaction costs rise when value chains are producing non-standard products, products with integral product architectures, and products whose output is time sensitive (Baldwin & Clark, 2000).

Gereffi (1999) identifies two different governance forms of value chains on the basis of rents that the lead firms reap. The distinction relies on main tasks, challenges, and competences of the lead firms, i.e., the most important and profitable nodes in value chain. Producer-driven value chains where producers reap technology rents, i.e., from their ability to introduce technological product or process innovations. Buyer-driven value chains where buyers, i.e., retailers and merchandisers, reap mostly organization rents, i.e. from their ability to organize the disintegrated production process in smooth and efficient ways, without owning production capacities. Separation of product innovation and manufacturing is essentially described by the distinction of value chains into those that are buyer- vs. those that are producer-driven.

In terms of the Gereffi et al. (2005) analysis of determinants of the governance structure of value chains, a producer-driven value chain is characterized by a high complexity of transaction. This is based in the high complexity of products and production processes that usually stems from the close relation of production technology and product technology. In such producer-driven value chains, this in turn results in high specificity of firms’ assets and a low codifiability of such complex transactions. In addition to the difficulties of codifying, the willingness to codify transactions for uses outside the firms is low, because firms want to appropriate their product and production technology that are the basis for their profits. The capabilities of outside suppliers are low as a result of this complexity of transactions and their low codifiability, and because producers have little incentive to develop their suppliers’ capabilities in this situation.

A buyer-driven value chain is characterized by the lead firms reaping rents from their capabilities to organize the modular value chain, not by producing themselves. The lead firms are developing and marketing new products and they usually distribute and sell them to the consumer, as well as they organize the value chain as demand is time sensitive. Production is outsourced to firms that are usually located in low-wage countries. The supplier base is well developed, transactions are more easily codifiable, but nevertheless complex, i.e., the organization of the transactions within the value chain is complex. In turn, the codifiability of transactions also depends on the capabilities of the supply base, i.e., the extent to which they can guarantee product quality and timing. The ability to organize transactions with respect to product quality and innovation timing is the basis for the profits of the lead firms. Due to shortening innovation cycles, the actual producers operate small batch size with flexible production processes. In several industries production becomes less mechanized and more ‘humanized’ to make production processes ever more flexible. The first modular and buyer-driven value chains emerged in industries where labor-intensive production was outsourced to low-wage countries.

Looking broadly at the evidence provided by global value chain research across a variety of industries and time periods, Gereffi et al. (2005, pp.96) are ‘tempted’ to make
generalizations about trends in the global economy. In all of the case studies they present, and many other industries as well, increasing capabilities in the supply-base have helped to push the architecture of global value chains away from more producer-driven toward more buyer-driven value chain types. Value chain modularity – the constituting characteristic of a buyer-driven chain – seems to be especially likely when suppliers offer buyers, i.e., the lead firms greater levels of value chain bundling (e.g., turn-key and full-package services), which has the advantages of internalizing tacit knowledge and pooling capacity utilization for greater economies of scale. However, organizational fragmentation will not lead to value chain modularity if codification is extremely difficult. For example, a strong shift toward fragmentation in the organization of the US motor vehicle industry beginning in the mid-1980s has resulted in value chains with strong relational elements. This can be partly explained by the difficulty of codifying complex mechanical systems, which has inhibited the rise of industry-wide standards and kept the complexity of the transactions between lead firms and suppliers high even as the capabilities of suppliers, driven in part by the consolidation of first tier suppliers, has increased dramatically (cf. Gereffi et al., 2005, pp.96).

2. FUNCTIONAL DEMAND SATIATION AND INDUSTRY DYNAMICS

In this section we argue that functional satiation effects in a market increase the trend towards a lesser degree of explicit coordination and power asymmetry in its industry’s value chains that is driven by the increase of supplier capabilities.

The basic argument is that the simultaneous competition based on innovation and prices in a market beyond functional satiation privileges modular, buyer-driven value chains over other governance types. In a nutshell, more functionally complex products tend to lead to more vertical integration of production processes, i.e., a high degree of explicit coordination within the value chain. Price-quantity competition among producers of relatively homogeneous goods tends to be fought in a market setting with no or very little explicit coordination between producers and buyers in a value chain. If a market is both driven by innovation and price competition, the degree of explicit coordination has to be higher than for homogenous, less innovative products, but the price competition leads to an outsourcing of production processes in order to simultaneously attain production economies: A modular value chain emerges.

3. THE SOURCES OF INNOVATION AND THE SOURCES OF THE ‘PREFERENCE FOR VARIETY’

As the sources of the desire of product variety can be distinguished, there are different sources of innovations that relate to this differential in these motivations. In a nutshell, to create functional product variety one has to develop functionally different products, while functional innovation is not necessarily the way to quench the desire for different products that is motivated by social comparison processes. Hence, in markets that are driven by fashion based on the socially-conditioned desire for product variety the competitive advantage of firms is generated differently: Functional product development is less important, but the social development of products becomes more important, i.e. targeting market niches, delivering, and communicating the new products to consumers.
The desire for product variety aiming at social distinction has been introduced by Becker and Murphy (2000). The last chapters developed theoretical accounts about social comparison processes between consumers as the cause for social distinction motivations. It has been argued that socially-distinguishing innovations do not have to be technologically ingenious; in fact, the last chapter tested for a functional substitutability between socially-distinguishing goods. If the preference for variety is socially-conditioned, the innovations driving consumption growth do not have to be technologically ingenious. Substitution effects between product technologies directly imply the unimportance of product technology for socially-conditioned demand. Under such conditions innovation is defined by the newness of a product to the social environment of the consumers, not by the technological ingenuity, i.e. the newness of product to the world. Product development processes are, hence, no more a part of the production process, rather a process of market analysis. The source of innovation as the source of the competitive advantage is therefore not to be seen in the production process, as functional innovation is relatively unimportant in such markets. The contact between the firm and the consumers is the source of social innovation rather than technological research and development. In extremis, production can be outsourced as the competitive advantage of a firm is not dependent on it; on the other hand, market research, marketing, and retailing become core elements of the competitive advantage of firms that socially constructed innovations.

As price sensitivity decreases with increasing consumer heterogeneity, economies of scale loose importance for market competition. As firms derive their competitive advantage from the contact to the consumer and the social construction of products by marketing and distribution, economies of scope related to product branding, retailing systems, marketing organizations, as well as product development processes are establishing under a socially-conditioned preference for variety. In addition the firms knowledge about outsource contracting with the actual producers of the consumer goods are also adding to these economies of scope. In markets driven by the socially-conditioned desire for product variety the barrier for firm entry are created by economies of scope in the relation of firm and consumer rather than by economies of scale and capital investments.

When functional variety is the driver of market growth, product development in R&D departments as well as the manufacturing process is the main sources of innovation. When the demand for product variety is socially conditioned, advances in product technology are not a necessary to match this demand; new products can developed in the marketing and distribution department of firms, but the manufacturing is no more an essential source of innovation. Hence, when market growth is driven by a socially-conditioned desire for variety, manufacturing is separated from product innovation and can be sourced out of firms.

**Proposition:** If the preference for variety is socially conditioned, the production process is no longer the predominant source of the competitive advantage of firms and can be systematically outsourced. The sources of process and product innovation are separated. The contact between the firm and its consumers becomes the core of its competitive advantage.
Social innovations are created by innovative product design, marketing, and distribution, not necessarily by technological advancement of products. Outsourced production should concentrate due to economies of scale. Regional agglomerations can occur due to labor pooling or other economies of space. The following section develops a method to scrutinize the validity of these propositions.

III. METHOD: VALUE CHAIN ANALYSIS

This section introduces the method of global commodity or value chain analysis (Gereffi and Korzeniewicz 1994; Gereffi 1999). Now, the choice of the method is justified and introduced with respect to the propositions, then the propositions are summarized in the analytic terminology of this method.

1. Definitions

In its most basic form, a value-added chain is ‘the process by which technology is combined with material and labor inputs, and then processed inputs are assembled, marketed, and distributed. A single firm may consist of only one link in this process, or it may be extensively vertically integrated ...’ (Kogut 1985, p. 15). The key issues in this literature are which activities and technologies a firm keeps in-house and which should be outsourced to other firms, and where the various activities should be located.

Specific process or segments within a commodity chain can be represented as boxes or nodes, linked together in networks. Each successive node within a value / commodity chain involves the acquisition and/or organization of inputs (e.g. raw materials or semifinished products), labor power (and its provisioning), transportation, distribution (via markets or transfer), and consumption. The analysis of a commodity chain shows how production, distribution, and consumption are shaped by the social relations (including organizations) that characterize the sequential stages of input acquisition, manufacturing, distribution, and consumption.

Focusing at any single box, one can pose a series of questions about the organization of its constituent units. The first and in some ways the most important question is the degree to which the box is relatively monopolized by a small number of units of production, which is the same as asking the degree to which it is core-like and therefore, a locus of high rate of profit (often misleadingly called the “value-added”). One of the most important observable economic processes is the trend toward de-monopolization of any highly profitable box, which is then often countered by technological changes and/or redefinitions of the organizational boundaries of the box by production units seeking to restore a high level of profit. Alternatively, investors may shift their focus to other boxes (or of course to other chains) in search of increased profit.

A second question one can ask about a given box is the degree of geographic spread of the units of production filling that box. A core-like box is likely to have its units located in a very few countries. A peripheral box will tend to have units in a large number of countries (unless there are ecological reasons that limit the location of the production

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3 The concepts of commodity and value chains are used interchangeably, because for our purposes a differentiation between these concepts is not useful.
activities). It follows that as boxes are historically shifted from being core-like (relatively monopolized and highly profitable) to being peripheral (competitive and yielding a low rate of profit), their units tend to become located in more and more countries (Gereffi 1999).

A third question one can ask about any box is the kind of property-like arrangements associated with the units of production in that box. There are many different possible arrangements. In one, the producers are all petty owners. In a second, they are part of a larger entity (whether this entity is private or para-statел), sometimes merely one of its component parts, but sometimes a (quasi-) autonomous division. In a third, the units are managed by non-owners who have a concession or a lease or some other equivalent arrangement that give them administrative control and usufruct against certain fees or other transfer of money (or produce). And there are others. It is not at all necessary that all units of a given box have the same property arrangements. (This fact is sometimes used as the basis of a comparison of efficiencies on the doubtful assumption that property-like arrangements are alone causally relevant).

And fourth, one can ask what modes of labor control are to be found in the box. These can range from many forms of wage employment to various forms of tenancy and other kinds of non-wage arrangements to varieties of coerced labor. Generally speaking, coerced labor tends to be found only in peripheral boxes. Sometimes, the units of a given box may exhibit different forms of labor control, and quite regularly different boxes in a commodity chain have different characteristic modes of labor control.

Finally, we can look at the linkages joining the boxes. The sale of outputs and the purchase of inputs is only one form. To the extent that (the units in) two or more boxes are part of the same firm, we talk about vertical integration. Vertical integration by definition removes commodity-chain linkages from the sphere of market-like transactions (particularly significant when such linkages cross national boundaries), whereas the return of boxes to separate ownership normally reintroduces sale-purchase relations, which may of course be characterized by different modes of pricing (completely formed, negotiated, administered, and so forth).

2. Choice of the Method

The value chain framework allows us to pose questions about contemporary development issues that are not easily handled by previous paradigms, and permits us to more adequately forge the macro-micro links between processes that are generally assumed to be discretely contained in global, national, and local units of analysis. The paradigm of global value chains embody is a network-centered and historical approach that probes above and below the level of the nation-state to better analyze structure and change in the world-economy.

Typical economic variables characterizing the organization of an industry do not capture the depth of a globally-organized production process that is and where the main parts of the business are abroad. The vertical integration or de-integration of production, product design, and marketing is not reported in concentration indexes or reports about market shares. As the theoretical proposition in the last section make inference about the degree of vertical integration of processes within the firm and, implicitly, about geographic
localization of outsourced processes. Value chain analysis is able to analyze such structures; this is why we choose this method for our case study.

3. **Governance Structures**

Having laid out a taxonomy of governance structure of value chains, Gereffi, Humphrey, and Sturgeon (2005, pp. 84) developed an operational theory of such structures. They theorize about why different global value chain governance structures arise under which conditions? They identify and discuss three key determinants of value chain governance patterns: complexity of transactions; codifiability of information; and capability of suppliers. In so doing, they acknowledge the problem of asset specificity as identified by transaction cost economics, but also give emphasis to what has been termed ‘mundane’ transaction costs – the costs involved in coordinating activities along the chain. It has been argued that these coordination, or mundane, transaction costs rise when value chains are producing non-standard products, products with integral product architectures, and products whose output is time sensitive (Baldwin and Clark 2000).

Gereffi et al. (ibid.) hold that lead firms, i.e. those firms controlling but not owning suppliers, increase complexity when they place new demands on the value chain, such as when they seek just-in-time supply and when they increase product differentiation. However, lead firms also adopt strategies to reduce the complexity of these transactions. One important way of doing this is through the development of technical and process standards. The complexity of information transmitted between firms can be reduced through the adoption of technical standards that codify information and allow clean hand-offs between trading partners. Where in the flow of activities these standards apply goes a long way toward determining the organizational break points in the value chain. When standards for the hand-off of codified specifications are widely known, the value chain gains many of the advantages that have been identified in the realm of modular product design, especially the conservation of human effort through the re-use of system elements – or modules – as new products are brought on-stream (Langlois and Robertson 1995; Schilling and Steensma 2001; Sturgeon 2002). In the realm of value chain modularity, suppliers and customers can be easily linked and de-linked, resulting in a very fluid and flexible network structure. While the dynamics are market-like, the system remains qualitatively different because of the large volumes of non-price information flowing across the inter-firm boundary, albeit in codified form. Furthermore, a high-level of product differentiation can be accommodated with limited information exchange as long as differentiation is defined by a set of unambiguous and widely accepted parameters. Institutions, both public and private, can both define grades and standards and (in some cases) certify that products comply with them. The development of process standards and certification in relation to quality, labor and environmental outcomes perform similar functions.

At the same time, the integration of new suppliers into global value chains also increases coordination challenges. Producers in developing countries are expected to meet requirements that frequently do not (yet) apply to their domestic markets. This creates a gap between the capabilities required for the domestic market and those required for the export market, which raises the degree of monitoring and control required by buyers.
These considerations lead Gereffi et al. (2005, pp. 85) to construct a theory of value chain governance based on three factors:

A. The *complexity* of information and knowledge transfer required to sustain a particular transaction, particularly with respect to product and process specifications;

B. the extent to which this information and knowledge can be *codified* and, therefore, transmitted efficiently and without transaction-specific investment between the parties to the transaction; and

C. the *capabilities* of actual and potential suppliers in relation to the requirements of the transaction.

If these three factors are allowed only two values – high or low – then there are eight possible combinations, of which five are actually found.

1. **Markets.** When transactions are easily codified, product specifications are relatively simple, and suppliers have the capability to make the products in question with little input from buyers, asset specificity will fail to accumulate and market governance can be expected. In market exchange buyers respond to specifications and prices set by sellers. Because the complexity of information exchanged is relatively low, transactions can be governed with little explicit coordination.

2. **Modular value chains.** When the ability to codify specifications extends to complex products, value chain modularity can arise. This can come about when product architecture is modular and technical standards simplify interactions by reducing component variation and by unifying component, product, and process specifications, and also when suppliers have the competence to supply full packages and modules, which internalizes hard to codify (tacit) information, reduces asset specificity and therefore a buyer’s need for direct monitoring and control. Linkages based on codified knowledge provide many of the benefits of arms-length market linkages – speed, flexibility, and access to low-cost inputs – but are not the same as classic market exchanges based on price. When a computerized design file is transferred from a lead firm to a supplier, for example, there is much more flowing across the inter-firm link than information about prices. Because of codification, complex information can be exchanged with little explicit coordination, and so, like simple market exchange, the cost of switching to new partners remains low.

3. **Relational value chains.** When product specifications cannot be codified, transactions are complex, and supplier capabilities are high, relational value chain governance can be expected. This is because tacit knowledge must be exchanged between buyers and sellers, and because highly competent suppliers provide a strong motivation for lead firms to outsource to gain access to complementary competencies. The mutual dependence that then arises may be regulated through reputation, social and spatial proximity, family and ethnic ties, and the like. It can also be handled through mechanisms that impose costs on the party that breaks a contract. The exchange of complex tacit information is most often accomplished by frequent face-to-face interaction and governed by high levels of explicit coordination, which makes the costs of switching to new partners high.
4. **Captive value chains.** When the ability to codify – in the form of detailed instructions – and the complexity of product specifications are both high but supplier capabilities are low, then value chain governance will tend toward the captive type. This is because low supplier competence in the face of complex products and specifications requires a great deal of intervention and control on the part of the lead firm, encouraging the build-up of transactional dependence as lead firms seek to lock-in suppliers in order to exclude others from reaping the benefits of their efforts. Therefore, the suppliers face significant switching costs and are ‘captive’. Captive suppliers are frequently confined to a narrow range of tasks – for example, mainly engaged in simple assembly – and are dependent on the lead firm for complementary activities such as design, logistics, component purchasing, and process technology upgrading. Captive inter-firm linkages control opportunism through the dominance of lead firms, while at the same time providing enough resources and market access to the subordinate firms to make exit an unattractive option.

5. **Hierarchy.** When product specifications cannot be codified, products are complex, and highly competent suppliers cannot be found, then lead firms will be forced to develop and manufacture products in-house. This governance form is usually driven by the need to exchange tacit knowledge between value chain activities as well as the need to effectively manage complex webs of inputs and outputs and to control resources, especially intellectual property.

The five global value chain governance types, along with the values of the three variables that determine them, are listed in Table 1. These five types of global value chain governance arise from ascribing different values to the three key variables: (1) complexity of inter-firm transactions; (2) the degree to which this complexity can be mitigated through codification; and (3) the extent to which suppliers have the necessary capabilities to meet the buyers’ requirements. Each governance type provides a different trade-off between the benefits and risks of outsourcing. As shown in the last column of Table 1, the governance types comprise a spectrum running from low levels of explicit coordination and power asymmetry between buyers and suppliers, in the case of markets, to high levels of explicit coordination and power asymmetry between buyers and suppliers, in the case of hierarchy. The fact that the governance types developed here can be used to illuminate how power operates in global value chains merits elaboration. In captive global value chains, power is exerted directly by lead firms on suppliers, which is analogous to the direct administrative control that top management at headquarters might exert over subordinates in an offshore subsidiary or affiliate of a vertically integrated firm (or ‘hierarchy’ in our framework). Such direct control suggests a high degree of explicit coordination and a large measure of power asymmetry with the lead firm (or top management) being the dominant party. In relational global value chains, the power balance between the firms is more symmetrical, given that both contribute key competences. There is a great deal of explicit coordination in relational global value chains, but it is achieved through a close dialogue between more or less equal partners, as opposed to the more unidirectional flow of information and control between unequal partners as in captive global value chains and within hierarchies. In modular global value chains, as in markets, switching customers and suppliers is relatively easy. Power
asymmetries remain relatively low because both suppliers and buyers work with multiple partners.

Table 1: Key determinants of global value chain governance (Gereffi et al., 2005, p. 87)

<table>
<thead>
<tr>
<th>Governance type</th>
<th>Complexity of transactions</th>
<th>Ability to codify transactions</th>
<th>Capabilities in the supply-base</th>
<th>Degree of explicit coordination and power asymmetry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Modular</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Relational</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Captive</td>
<td>High</td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Hierarchy</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

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.

4. Proposition Revised

Drawing on Gereffi et al.’s (2005) theory about the governance of value chains, we revise the proposition about effects on industrial organization in a market that is characterized by the consumers’ ‘preference for variety’. We reflect the difference between a technologically-conditioned and a socially-conditioned preference for variety on the demand side. Then, the difference between a market that is driven by the demand for homogeneous product and one driven by the preference for variety are laid out.

In both cases of the motivational origin of the preference for variety, the complexity of transactions must be classified as high. Technologically complex product imply complex transactions. Although products for a market that driven by a socially-conditioned desire for variety can be rather simple in terms of product technology, the transaction here must be classified as complex due to the strong time constraints of shortening fashion cycles and innovation cycles. Nevertheless, fashion product innovation can be easily codified as opposed to technologically complex products. Furthermore, producers learn capabilities relatively faster, because production of fashion items is not excessively complex due to their relative technological simplicity. The opposite refers to the technology-driven markets. Hence, technologically complex products should be manufactured in hierarchical value chains. This categorization of a market, that is driven by a socially-conditioned preference for variety, leads to the conclusion, that fashion production should be executed in a value chain with a lower degree of explicit coordination than that for technologically complex products: This can even lead to a modular governance structure in a global value chain. In other words, this argument based on Gereffi et al.’s (2005) theory separates manufacturing from product innovation in fashion markets.

If homogeneous product are dealt in a market, this implies a low complexity of market transactions as they are repeatedly the same. Also, the ability to codify such transaction is rather high, due to their repetition and similarity. As scale effects are the most important effects in such market, the learning ability of suppliers must classified as high. This
classification of the three identified determinant of the governance structure of value chains indicates that the production of homogeneous products has the lowest degree of explicit coordination. Using Gereffi et al.’s (2005) framework in table 1, such homogenous product should be dealt in markets and no explicit vertical integration of the production should be observable.

IV. THE DYNAMICS OF THE U.S. FOOTWEAR INDUSTRY

The historical development is divided into phases, during which the value chain was relatively homogeneous and stable. There are transition phases between these phases of stability.

The case study is structured in several time periods. These time periods are delimited by the time during which a particular organizational form is dominating in the U.S. footwear industry, for example before the invention of machine tool for footwear production shoes were by small craftsmen’s workshops all over the USA. Using the global commodity chain analysis a period of one dominant industrial organization is determined by the description of one node as being the core of the commodity chain. The criterion that indicates a change in the industrial and corporate organization is a shift of the core of the commodity chain from one node to another – for example from the provision of production technology to actual organization of production in the 1970s. The core of a value chain is the most profitable node that is usually characterized by a high degree of monopoly power within this node. The monopoly power of the firms in the core node stretches up- and downward in the commodity chain.

According to the theoretical propositions about the influence of consumer motivations on the nature of competition in the U.S. footwear industry, as the market become predominantly driven by a socially-conditioned desire for variety in the 1970s (cf. Frenzel Baudisch 2006), the core node of the global footwear chain should shift to marketing, product design, and distribution. In opposition, at the start of the industry the provision of production technology should be the core node as shoes were a rather homogenous good. The next section discusses the findings of the case study with respect to the theoretical propositions.

1. Before 1850: Handcraft shoemaking in local shops

The history of footwear goes back many thousands of years. Early footwear undoubtedly grew out of the necessity to provide protection when moving over rough terrain in varying weather conditions. Initially, footwear was probably made of plaited grass or rawhide held to the foot with thongs. Soon the rich and influential began distinguishing themselves by the craftsmanship and decoration, which characterized their shoes.

In the colonial days, if a U.S. family lived in a rural area, as most did, they were visited about once a year by itinerant shoemakers who traveled on horseback or with a little wagon. The shoemaker would stay tow or more days making shoes for the family. There were no ready made shoes. Individual cobbler working either alone or with one or two apprentices or journeymen produced practically all shoes. The goal of every apprentice cobbler was to learn how to make an entire shoe as soon as possible. Cobbler craftsmen were mostly male. In the shoemaking shops in the cities you haggled about price by the inch (Rossi 1988, pp. 1).
Nothing much changed until 1750 when the first “assembly line” shoemaking in Lynn, Massachusetts was established. All shoes were still made entirely by hand, but each shoemaker specialized in one task in production process. With the ready-made shoes there was not the vaguest semblance of shoe sizes. The shoes came in two lengths, long and short, and two widths, fat and slim. The U.S. shoe market experienced enormous growth in the late 1850s with the world’s first machine-made shoes. Sewing machines for uppers and soles were the catalysts of this growth. For footwear, this was the industrial revolution. By 1870s, shoe manufacturing was America’s largest industry and largest employer. (Mulligan Jr. 1981; Hazard 1913)

There were other important parts of the industrial revolution during this period. The first left and right shoes were introduced for soldiers, a great aid for their long marches during the civil war. Up to then, almost all footwear was mad on “straight” lasts for the economic reason that they could be worn on either foot and thus required only one last instead of a pair to make them. Nevertheless, after the civil war the shoes went back to straight lasts. It was not until the end of the 19th century that lifts and rights would be available on a mass basis. The first sneakers with rubber soles and cloth uppers were introduced in 1868, but they were expensive and worn only by the rich.

New shoemaking was advancing at a rapid rate. Between 1865 and 1900 hundreds of new shoemaking machines, methods, and components were invented and applied. It was the glory era of American shoemaking: In 1870, there were 7,570 tanneries in the U.S. (compared to 100 in 1988). The combined shoe and leather manufacturing industry was the country’s largest, and by 1910 two of the ten largest corporations were tanners (Rossi 1988, p. 5)

2. 1900-1953: The United Shoe Machinery Company

In 1899, the United Shoe Machinery Corporation (U.S.M.C.) merged the interests of five shoe-machinery manufacturers, of whom three were the dominant companies in the principal shoe-machinery groups at the time. At the time of the merge the U.S.M.C. controlled the major share of its market, say 70% or greater. Subsequent additions by purchase and its own natural growth raised it to the level of about 85% of the market, at which figure it stabilized (Kaysen 1956; Clark 1957; Roe 1914).

From 1900 onwards, shoe machinery over the world has been dominated by or largely based upon the work and the development of the U.S.M.C. This is a tribute to the force of the idea created by the men who in 1899 set up the U.S.M.C merger. The system of control over the shoe industry, which they set up to give them the power to work out their ideas was the so-called “tied lease” system. The U.S.M.C did not sell its machines to the shoe manufacturer, it leased them to him. In the tied-lease system the shoe manufacturer, to the machines at all, had to use all of them and no others. The stringency of this system was relaxed in America around 1920s, that is to say the tying clauses were removed. One of the results of the leasing system was that the shoe industry has been serviced with machines in better order, better maintained than is the case in similar industries where outright purchase is the rule. (Kaysen 1956)
One use of the U.S.M.C has made of its power has been to set up a first-class research organization. It appears that the use of this research organization to improve the machines, on which the dominance of the U.S.M.C. is based is one of the factors in the retaining its position through the last sixty years. The application of the efforts of R&D to the shoe industry has naturally been controlled by the commercial policy of the U.S.M.C. There are indications that the smallness of size and the lack of growth in the shoe-manufacturing industry has restrained somewhat the U.S.M.C.’s research organization from working out and applying revolutionary concepts.

Under the various anti-trust laws the United States has fought three cases against the U.S.M.C. First, in 1911 on general monopoly grounds; the United States lost this case. Second, in 1915 to break the tied-lease system outlined above; in this case the United States won. Then third, United States won allowing shoe manufacturers to buy their shoe machines as an alternatives to leasing, and to release shoe manufacturers from the obligation to employ U.S.M.C. operatives for maintaining their leased machines (Clark 1957).

The International Dominance of the U.S.M.C.

Miranda (2004) analyses the so-called ‘American invasion of Europe’ and its effects on the footwear industry. Special attention is paid to the influence of technological change on international. He shows that the American exporting success story was directly linked to the technological gap that opened up between the American and European industries; the modernization of the European footwear industry, and the subsequent improvement in its competitiveness, was mainly a result of the technology transfer from the US; this technology transfer was carried out mainly by one American multinational company, the United Shoe Machinery Company, whose actions were a key factor in speeding up the diffusion of innovations within the European industry; and the adoption of the new technologies and the speed and scope of this adoption were not due as much to the ‘technological capabilities’ of each country as to the profitability that the companies managed to gain from these innovations.

Roe (1914, pp. 48) lists countries whose shoe industries were dominated by the U.S.M.C. by 1910: In the United States more than 90% of all machinery operated in shoemaking was built and maintained by the United Shoe Machinery Company. In the United Kingdom, 80% of the machinery came from the U.S.M.C., over 75% in France and 90% in Italy. In Scandinavia and Austria-Hungary over 60% of the shoemakers were using American machines. Only in Germany, the national machine tool makers were still dominant, and the U.S.M.C. held only 30% of the market. These German were however mainly imitating U.S. patents.

The U.S.M.C. is Schumpeter’s Exemplar Firm

The U.S.M.C. was the dominant machine tool maker for the global footwear market. Its dominance of the U.S. market lead to scale effects that the U.S.M.C. transformed into technological advances by consequent research and development. It was this technological advantage that allowed the U.S.M.C to dominate the global market. As such, the U.S.M.C. is the Schumpeterian exemplar firm: the monopoly in the USA, the
biggest national market, made it more innovative than any other firm in its global market (cf. Miranda 2004).

The leasing arrangements that the U.S.M.C. held with its clients installed a severe competition in the subsequent production processes. Labor costs were competitive, the production technology was easily accessible and were leased with little risk for the producers, which made entry into the market easy. The U.S.M.C did not offer any scale promotion, i.e. cheaper prices for bigger clients, which further promoted competition among shoemakers.

Fashion before World War II

The steadily increasing importance of fashion changes in shoes brought many problems to the shoe industry. Hoover (1933) emphasizes the most significant effects for the location of production sites: speed and easy contact in marketing. The railroad had eliminated the nearness to market and low freight rates as the decisive competitive advantage. With the increasing importance of fashion, speed became necessary, the factor of access to areas of consumption regained importance for the location of factories.

“More elaborate styles and quicker change in them meant that the merchandising of shoes, wholesale as well as retail, must be done in a much less offhand way than before.” Except in the steadily less numerous staple lines, holding of stocks became impossible. “The manufacturer on the spot, who could keep his ear to the ground and give quick and almost personal service, served a territory better than some far-away establishment whose shipments might arrive too late to catch the Saturday rush.” (Hoover Jr. 1933, p. 270)

Since New England, the best industrialized footwear production area, was farthest away from the markets that were growing fastest, namely California and Mid-West, she was the chief sufferer by this new importance of the factor of nearness to market. Her water transport lines were now of practically no use at all for the carrying of shoes, speed rather than low freights being the essential. Furthermore, the high degree of specialization, which had been the outcome of the concentration of the industry in eastern Massachusetts, in particular, began to work adversely. The rural and small-town markets of the interior wanted a general line of shoes, whereas most Massachusetts manufacturers had small factories each wholly devoted to a single speciality. Then too, they were harder hit by the seasonal fluctuations in sales which became more and more pronounced.

New England, having lost one of her special advantages by the coming of the railroads and another by the improvement of machinery, now was subject to a positive disadvantage in reaching the growing section of the market.

Massachusetts manufacturers began, probably as a result of the reverse suffered in the domestic market, to shoe interest in export trade (Hoover Jr. 1933)270 It was too late to build a large export business on the basis of the advantage in machinery they once possessed, because the U.S.M.C. had been pushing their products abroad just as zealously as at home (Miranda 2004; Roe 1914).

The time between the world wars was characterized by unstable economic development and fluctuating incomes in the USA. Mack (Mack 1956) analyzes shoe consumption in these times and shows that income is the dominant determinant of shoe consumption during her observation period. The footwear market was not growing, rather oscillating
till the end of World War II. On the production side the dominance of the U.S.M.C was unbroken till the filing of monopoly law suit in 1953.

3. 1953-1981: Retailing and the Internationalization of Production

With the occurrence of mass fashion in the 1920s shoe retailers become more and more important for this market. Some degree of vertical integration was achieved between the manufacturer and retailer, and these gave rise to the brand-name shoe store. The effects of this three-tiered market structure – monopoly by the machine producer, competition in manufacturing, and high concentration in retailing – was to set the stage for two major antitrust suits which upset the arrangements at both ends (Peterman 1975; Kaysen 1956).

The Concentration Processes in the Retailing Sector

In order to gain a better understanding of the dynamics of the governance structure in the footwear value chain, we need to take a closer look at the U.S. retail sector, whose big buyers have fueled much of the growth in consumer goods exports in the world economy. Changes in America’s consumption patterns are one of the main factors that have given rise to flexible specialization in global manufacturing.

In the 1980s and 1990s, a “retail revolution” has been under way in the United States that is changing the face of the American marketplace. A comprehensive study of U.S. department stores showed that the structure of the industry became more oligopolistic during the 1960s and 1970s as giant department stores swallowed up many once-prominent independent retailers (Bluestone et al. 1981). The growth of large firms at the expense of small retail outlets was encouraged by several forces, including economies of scale, the advances in technology, mainly information technology, and mass advertising available to retail giants, government regulation, and the financial backing of large corporate parent firms. Ironically, despite the department store industry’s transformation into an oligopoly, the price competition between giant retailers became more intense, not less (Bluestone et al. 1981, p. 2)

In the 1980s, the department store in turn came under siege. In their heyday, department stores were quintessential middle-class American institutions. These retailers offered a broad selection of general merchandise for “family shopping,” with “the mother as ‘generalist’ buying for other family members” (Legomsky 1986, p. R62). While this format typically met the needs of the suburban married couple with tow children an one

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4 Enhanced price competition is compatible with oligopoly because the economies of scale and scope of large-volume discount chains lead to high concentration levels in the retail sector, at the same time as the discounters stimulate considerable price competition because of their low-income consumer base.

5 Many department stores carry familiar household names: Macy’s, Bloomingdale’s, Jordan Marsh, Mervyn’s, Nordstrom, Dillard, Filene’s, Kaufmann’s, Saks Fifth Avenue. Numerous American retail chains today are owned by holding companies, such as the May Department Store Company, Federated Department Stores, and Dayton Hudson. In Europe, where consumers were more inclined to shuttle from store to store for their individual apparel and footwear needs, these department stores never developed into the prominent retailing institution that it has in the mass market of the United States.

6 General merchandise retailers provide a broad selection of “soft goods” (including apparel, footwear, and home furniture) and “hard goods” (appliances, hardware, auto, and garden supplies, etc.).
income, 1990 less than 10 percent of American households fitted that description. In the 1990s, the generalist strategy no longer worked. The one shopper of yesterday has become many different shoppers, with each member of the family constituting a separate buying unit (Sack 1989).

The breakup of the American mass market into distinct, if overlapping, retail constituencies has created a competitive squeeze on the traditional department stores and mass merchandisers, who are caught between a wide variety of specialty stores, on the one hand, and large-volume discount chains, on the other. The former, who tailor themselves to the upscale shopper, offer customers an engaging ambience, strong fashion statements, and good service; the latter who aim for the lower income buyer, emphasize low prices, convenience, and no-frills merchandise.

Department stores have tried to simulate a specialty store through the creation of “store-within-a-store” boutiques, each accommodating a particular company (like Liz Claiborne, Calvin Klein, Tony Hilfinger, or Hugo Boss) or a distinct set of fashion tastes. Similarly, Woolworth Corporation has shed its mass merchandising image by incorporating dozens of specialty formats in its portfolio of 6,500 stores, including Foot Locker, Champs Sports, Afterthoughts accessories, and The San Francisco Music Box Co. In 1993, specialty stores accounted for about half of Woolworth’s annual revenue, up from 29% in 1983 (Miller 1993).

Gereffi (1999), Korzeniewicz (1994;1992), and Schmitz and Knorringa (2000) provide excellent qualitative and quantitative overviews about the retailing sector for the apparel and footwear industry in the 1990s. Unlike the earlier “retail revolution” when department oligopolies, the surge of specialty and discount formats is less a function of the evolution of retail institutions than of overriding demographic and lifestyle changes in American society. “The fragmentation of the American marketplace … reflects the expanding ranks of single-person households, the greater proportion of two-income families, and the sharp rise in the number of working women (Legomsky 1986, p. R62). Furthermore, there has been a widening of the gap between the rich and the poor in the United States. The retail sector has mirrored this dichotomy – stores have either gone upscale or low-price, with middle-income consumers pulled in both directions.

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7 The best-known mass merchandising chains are Sears Roebuck & Co., Montgomery Ward, and Woolworth Corporation. These stores are a notch below the department stores in the quality of their merchandise and their prices, but they offer more service and brand-name variety than the large-volume discount retailers. In terms of their overall position in American retailing, though, department stores and mass merchandisers face similar competitive environments.

8 The three most prominent discount chains today are Wal-Mart, Kmart, and Target. Discount chains may focus on a specific product, such as shoes, Payless ShoeSource, Pic’n’Pay, and the 550-store Fayva Shoes retail chain owned by Morse Shoe. Historically, discount retail chains differed from department stores because the former carried broader assortments of hard goods (auto accessories, gardening equipment, housewares) and they relied heavily on self-service.

9 At the end of 1985, nearly 60% of mothers with children under eighteen were working, according to Labor Department figures, up nearly 5% from one year earlier.

10 Between 1977 and 1987, the richest 1% of American families reaped 60% of the growth in after-tax income of all families and an even heftier three-fourths of the gain in pre-tax income, while the pre-tax
The segmentation of the American market creates numerous opportunities for specialized retail formats. Just as the era of mass production is giving way to flexible manufacturing in the productive sphere in the 1990s, the renowned American mass market is becoming more customized and personalized.

Department stores and other merchandisers in the U.S. have tried to develop effective counterstrategies to these trends. Some retailers like J.C. Penney have sought to upgrade their status form mass merchandisers to department stores by adding higher-priced products, and to increase profitability by emphasizing higher-margin merchandise that has a faster turn-around time (Sack 1989, p. R80). Other firms have begun to diversify their appeal by establishing their own specialty retail outlets (like the Foot Locker stores, which are owned by the Woolworth Corporation). On the international front, retailers and manufacturers, alike are acquiring large importers to shore up their position in global sourcing networks. For example, Payless ShoeSource International, the largest U.S. footwear importer, is owned by May Department Stores; and Meldiso, a division of Melville Corporation, handles international purchasing of shoes for Kmart. Pagoda Trading C., the second-biggest U.S. shoe importer in 1990, was acquired by Brown Shoe C., the largest U.S. footwear manufacturer. Unique organizational forms such as member-owned retail buying groups are being used in overseas procurements.

In summary, the transformation of the retail sector in the United States has remained fast-paced through-out the 1980s and 1990s. This reflects not only the changing demography and purchasing power of American society but as we will see, it also proves to be a significant determinant of production patterns within the global economy.

Production and Retailing

The footwear industry is labor intensive and as a result is subject to pressure from imports. The U.S. footwear industry has been severely affected over the past decade; imports account for about 90 percent of shoes sold in the country.

Since 1976, imports have grown at an average rate of 5.6 percent a year. Exports have been declining over the last three years but this trend may soon level off. Only in a few other industries such as apparel, autos and consumer electronics is the U.S. trade deficit higher than in footwear. And more than half of the footwear deficit is with one country -- China. China accounts for about 68.3 percent of all footwear imports into the U.S. Brazil is second with 8.3 percent of the market. The low cost of labor in China makes it a very attractive place for foreign shoe manufacturers to build factories. Since 1986, U.S. imports from China have increased by a staggering 2,700 percent.

The U.S. industry, hard-pressed to compete with low-priced imports, probably will shrink again this year, analysts are predicting. Last year, domestic output fell by 9 percent to less than 100 million pairs, the lowest level on record, according to the U.S. International Trade Commission.

income of the bottom 40% of American families declined (Nasar 1992). Similarly, a detailed study of family income prepared by the House Ways and Means Committee of the U.S. Congress found that form 1979 to 1987 the standard of living for the poorest fifth of American population fell by 9%, while the living standard of the top fifth rose by 19% (Harrison and Bluestone 1990, p. xi).
It is extremely difficult for the U.S. footwear industry to compete with low-priced imports. In 1960, shoe imports averaged 2.2 million pairs a month. In 1976, shoe imports totaled 29.2 million pairs in one month. And by 1980, they rose to a monthly average of 30.5 million pairs. That number shot up to 74.8 million in 1990 and to 90 million in 1995. More significant, in 1960 foreign shoe manufacturers held just 4 percent of the U.S. market. In 1976, imports accounted for 47 percent of the market. By 1995, they controlled 89 percent. Last year, domestic output fell by 9 percent to less than 100 million pairs, the lowest level on record, according to the U.S. International Trade Commission. In the past four years, production has dropped by nearly one-third, as more and more plants shut down. Last year alone, reports Footwear Industries of America, eight factories closed, reducing the number operating to fewer than 300, compared with more than 1,000 in 1968. Nevertheless, U.S. Commerce Department analysts believe there is hope for the industry. Productivity has been climbing, particularly in men's footwear. Further gains could lead to increased investment, improve competitiveness and return the production of some types of footwear to the U.S. Additionally, virtually every domestic footwear producer now imports finished shoes and/or components, in order to offer a balanced product mix.

The intense competition faced by the United States footwear industry reflects the ongoing global shift in comparative advantage. Labor remains the most important cost factor in footwear production. Wage rates in the Asian developing nations are as low as 5 percent of those in the United States. There are many manual steps involved in the assembly process of shoes and no amount of technological innovations of the manufacturing process can narrow the gap in labor costs between the United States and the developing countries.

Another issue that concerns the footwear industry is the increasing trade imbalance between the U.S. and China. In 1999, Footwear was one of the top five U.S. imports from China. More than half of the footwear deficit is with one country -- China. Only in a few other industries such as apparel, autos and consumer electronics is the U.S. trade deficit higher than in footwear. Another concern is the working conditions in these Chinese factories. Critics charge that China uses child labor in shoe factories.

One of the most notable features of buyer-driven chains is the creation since the mid-1970s of prominent marketers whose brands are extremely well known, but that carry out no production whatsoever. These ‘manufacturers without factories’ include companies like Liz Claiborne, Nike, and Reebok, who literally were ‘born global’ since their sourcing has always been done overseas. As pioneers in global sourcing, branded marketers were instrumental in providing overseas suppliers with knowledge that later allowed them to upgrade their position in the apparel chain. The cumulative and diffused aspect of this learning is reflected in the remarks of Jerome Chazen, one of the founders of Liz Claiborne, who comments on his company’s early years in Asian sourcing (Chazen 1996, p. 42):

Sourcing overseas seems commonplace nowadays. When we started our company in 1976, nobody in our price category did any sourcing overseas ... But the [overseas] manufacturers with whom we dealt back then had little or no experience servicing the United States market. Thus, we had to train and develop them by supplying...
technical help, trim, findings, and virtually all components. While we counted on them for their labor, we had to tell them exactly how to use the basic skills of their people and we had to watch them carefully, every step of the way. Our manufacturers learned quickly, however. We tested some products with the first company we used in Taiwan, and we found we could deliver better products and better fabric at a better price than the competition and make a respectable margin. Everybody was happy ... We were very much the leaders as importers of high end merchandise. We sailed in uncharted waters, made our share of mistakes, and attained an enormous competitive advantage.

The competition (both retail and wholesale) that followed us started from a different plateau. They demanded and received more from their manufacturers who, by this time, were much improved. It is as if many of Liz Claiborne’s competitors ‘leapfrogged’ us.

In order to deal with the influx of new competition, branded marketers like Liz Claiborne are adopting several strategic responses that will alter the content and scope of their global sourcing networks: they are discontinuing certain support functions (such as pattern grading, marker making, and sample making), and reassigning them to contractors; they are instructing the contractors where to obtain needed components, thus reducing their own purchase and redistribution activities; they are shrinking their supply chains, using fewer but more capable manufacturers; they are adopting more stringent vendor certification systems to improve performance; and they are shifting the geography of their sourcing configuration from Asia to the Western Hemisphere (cf. Chazen, 1996). In essence, marketers now recognize that overseas contractors have the capability to manage all aspects of the production process, which restricts the competitive edge of marketers to design and brands.

Weisskoff (1994) analyzes the rise of shoe imports and technological change in U.S. production. Freeman and Kleiner (1998) describe organizational changes of the few U.S. footwear producers under the competitive pressure of imports. Hufbauer et al. (1986) analyze the effect of quantitative import regulation for the U.S. footwear market between 1977 and 1981, which limited import quantities to protect domestic production. Several other authors focus on the globalization of footwear production with a special focus on athletic footwear production since the late 1970s (Donaghu and Barff 1990; cf. Hadjimichael 1990; Frenkel 2001). All studies about the supply side of the U.S. footwear market emphasis the increasing competitive pressure of imported shoes in the late 1970s and 1980s. The effect of imports with a special focus on the effect of the trade protection in 1977 to 1981 will be analyzed in further detail.

Before 1960 the U.S. footwear demand was almost completed satisfied by domestic production. Till the late 1960s, U.S. footwear production was stable and the imported shoes increased the footwear market without driving out U.S. production. Imports till 1970 were mostly high-price shoes from Italy (Cheng 1996). Beginning in the late 1960s, imports from low-wage countries, especially Taiwan and South Korea, gained importance and by 1977 more than 50% of all imports came from Taiwan and South Korea. Comparing figure 1, 2 and 3, the increased growth of the U.S. footwear market since the mid1970s coincides with the decline of relative prices. These cheaper imports were driving the U.S. production out of the market, cf. figure 3 (Weisskoff 1994; Freeman and
The increasing importance of relatively cheap footwear imports to the USA falls together with the real decrease of the purchasing power of the average U.S. consumer in the mid-1970s due to the first oil crisis.

In 1967 imports accounted for about 17% of footwear consumption, by 1977, imports gained more than 47% of the U.S. market. U.S. footwear producers called the government for protection. In 1977, a trade barrier was erected that limited that import quantities of the main 'cheap' producing countries, Taiwan and South Korea (Hufbauer et al. 1986). The importing countries were now motivated to scale up their product quality and prices to circumvent the quantity restriction. In this sense the trade barrier fostered innovation in footwear imports at a large scale. Increasing imports values and quantities during the trade protection resulted in its cancellation in 1981 (Hufbauer et al. 1986).

The U.S. footwear market becomes a luxury market some when in the 1970s, because consumers buy increasing quantities of shoes overcompensating decline of prices. Imports dominate the market and they drop the price level for footwear. The footwear supply becomes increasingly innovative/creative in the 1970s.

Paradoxically, in order to survive competitive price pressure from imports, U.S. footwear producers had to change to less cost-efficient, but more flexible and innovation-friendly production organizations and compensation systems (Freeman and Kleiner 1998). Concretely, all surviving U.S. footwear producers in the year 1994 had changed from piece-rate compensation systems for employees to time-rate compensation systems, which are less cost-efficient per product. Nevertheless, time-rate compensation is better suited for producing small batch sizes as product series change rapidly due to continuous product innovation. Piece-rate compensation actually creates diseconomies of learning when patch sizes are small because of the unproductive early learning phases of the workers. Continued product innovations make price-rate compensation less cost-efficient. In other words, production based on piece-rate compensation of workers is more cost efficient with large batch sizes, but less suited for innovative products. Time-rate compensation implies a more flexible, but less cost-efficient production organization, but allowed producers to introduce innovations at a high rate.

In the year 1986 more than three quarters of the U.S. footwear producers were still compensating their workers based on innovation-unfriendly piece-rate systems (U.S. Bureau of Labor Statistics 1987). This fact indicates that these 75% of U.S. footwear producers were following the strategy to predominantly reduce their costs to compete in the market. The few surviving U.S. footwear producers in 1994 analyzed by Freeman and Kleiner (1998) had deliberately chosen to have the cost disadvantage of time-rate compensation systems in order to have more flexible production systems that are better suited for innovations. The strategy to lower production costs by using piece-rate compensation systems reduced the ability of U.S. producers to innovate. In addition, it is clear that production of labor-intensive goods based in the USA could not compete with production in low wage countries. Chinese footwear production, accounting for over 85% of the U.S. consumption in 2001, has been organized with innovation-friendly time-rate compensation ever since because in this way plant owners can easily employ unskilled labor (Frenkel 2001).
In the 1950s and 1960s, the U.S. footwear market was only marginally innovative, growing at a lower rate than the whole economy although relative prices were rising. Since the mid-1970s, the growth of U.S. footwear market, that characterizes shoes as luxury goods, is driven by continuous marketing innovation accompanied by a falling relative price level. The case study closes with a comparative analysis of the corporate organization of footwear production in the 1960s and 1990s.

Freeman and Kleiner (1998, p. 27) conclude that U.S. footwear manufacturers could only survive the competitive pressure from imports by concentrating "on high-quality niche production, producing many new styles" of shoes. They underline that economic success in the U.S. footwear market is immediately linked to a firm's ability to produce innovative footwear, which in turn they link to its internal organization and payment system. In this sense, the described influence of product innovation on consumption growth in the U.S. footwear market since the mid-1970s translated into the organizational structure of producers.

Given that foreign production can often provide similar quantity, quality, and service as domestic producers, but at lower prices, footwear manufacturers in developed countries have been caught in a squeeze. They are responding in several different ways. In the United States and Europe, an ‘If you can’t beat them, join them’ attitude has evolved among many smaller and mid-sized apparel firms, who feel they can not compete with the low cost of foreign-made goods and thus they are defecting to the ranks of importers. The decision of many larger manufacturers in developed countries, however, is no longer whether to engage in foreign production, but how to organize and manage it. These firms supply intermediate inputs (cut leather, soles, thread, buttons, etc.) to extensive networks of offshore suppliers, typically located in neighboring countries with reciprocal trade agreements that allow goods assembled offshore to be re-imported with a tariff charged only on the value added by foreign labor. This kind of international subcontracting system exists in every region of the world. (Cheng 1996; Cheng 2001)

A significant counter trend is emerging among established footwear manufacturers, however, who are de-emphasizing their production activities in favor of building up the marketing side of their operations by capitalizing on both brand names and retail outlets. The strengthening of brand names has led to a new focus on ‘concept stores’ that typically feature all the products offered by manufacturers and marketers, such as Levi Strauss, Nike, Disney, and Warner Bros. These stores provide a direct link between manufacturers and consumers, bypassing the traditional role of retailers. Thus, a de-verticalization of production co-exists with a re-verticalization of brands and stores.

Today, the innovative pressure in footwear demand has lead to important transformations in terms of productive processes alongside permanent (and increasingly accelerated) product innovation (Barff and Austen 1993; Donaghu and Barff 1990; Hadjimichael 1990; Frenkel 2001). Moreover, this innovative pressure affected the industrial organization of the footwear sector throughout the entire sectoral chain of production. Several authors have analyzed the complex and globalized value chains of the footwear industry (Barff and Austen 1993; Donaghu and Barff 1990; Frenkel 2001). In a recent paper Vale and Caldeira (2004) analyze shoe production in the framework of a sectoral
innovation system'. Their analysis subdivides the value chain in the footwear industry into three subsystems: the fashion, the production, and the retailing subsystem. Fashion is concentrating in Paris and Milan. The biggest Italian industrial cluster for footwear production has specialized in prototyping, using their skilled labor for the technical work of creating prototypes and production blueprints that are, then, shipped to low-wage production sites in China or Romania (Sammarra and Beluzzi 2005).

Socially-Conditioned Demand and Market Growth

These case studies show that in the 1980s and 1990s product innovation has been one of the main drivers not only for consumption growth in the U.S. footwear market, but also for the transformation of production organization. U.S. shoemakers were dying out as U.S.-based production could not compete simultaneously in terms of prices and innovations with imported footwear. The U.S. footwear market transformed from a necessity market with moderate growth, little innovation and little price competition into a luxury market with high growth rates, high innovativeness and severe price competition. Hence, the U.S. footwear market has not always been driven by fashion cycles like today.

In 1998, the footwear industry manufactures a wide range of footwear ranging from leather, rubber and other synthetic materials, and styles ranging from casual, formal, work, and athletic shoes. On average, every man, woman, and child in the United States purchases more than four pairs of shoes each year, a level of consumption that establishes the U.S. as the world's largest importer of footwear. The U.S. accounts for about 40 percent of footwear imports. In 1998, Americans spent approximately $38 billion to purchase more than 1.1 billion pairs of shoes.

Figure 1 depicts the expenditure pattern of U.S. consumers for footwear between 1929 and 2002. Given the income-induced fluctuation till the end of World War II as Mack (Mack 1956) identified, footwear consumption was relatively stable till 1970. Focusing on the time after 1945 when income growth stabilized, the development of ratio between footwear consumption and income per capita shows that shoes were an income normal good: Total expenditure slightly increased over time, but the share of total income spent on shoes continuously decreased till the 1970s. In the 1980s till today shoes are a luxury good as their expenditure share of total income increases, i.e. the income elasticity for shoes is larger than unity since the 1970s.

Using time-series analysis of U.S. footwear consumption, income, and prices, as well as trademark registrations Frenzel Baudisch (Frenzel Baudisch 2006) showed that this increase in the income elasticity can be attributed to the social motivations of consumers: His analysis can statistically account for this increase in income elasticity by modeling fashion cycles, operationalized as increasing product variety and falling prices. The socially-motivated U.S. consumers buy more shoes and overcompensate the decline in prices leading to continued market growth.
Figure 1: Income and expenditure pattern, USA, 1929-2002 (Bureau of Economic Analysis 2004)

Figure 2: Consumer Price Indexes, USA, 1929-2002 (Bureau of Economic Analysis 2004)
4. **1981-today: A Buyer-Driven Global Commodity Chain**

The U.S. footwear market was characterized by homogeneous product quality at the beginning of the 20th century as the USMC dominated it. Once the machinery monopoly was broken by court rulings in 1953, other nations began to copy the relatively simple production mechanisms. And once the retailing-manufacturing link was opened, retailers began to search the country – and the globe – for cheap manufactures. While many conflicting explanations have been offered for the developments, which occurred in the succeeding decades, the record is strikingly clear. Imported shoes trickled in during the 1950s and by 1961 accounted for only 6% of the number and 2.6% of the value of the U.S. market. But the trend by the late 1960s was so steep that by 1971 imports made up one third of all shoe sales in the USA, and by 1981, imports accounted more than 51% of all sales, in 1991 more than 85%. By 2001, more than 98% of all sold shoes are imported. During these years of decline of the U.S. footwear industry, the market was expanding fast. Retailing margins were increasing, and the big U.S. branded marketers emerged.

Today, economic activity in the footwear industry is not only international in scope, it is also global in organization (Barff and Austen 1993; Cheng 1996; Cheng 2001; Donaghu and Barff 1990; Frenkel 2001; Korzeniewicz 1994; Korzeniewicz 1992; Rebellotti 1995; Schmél 2002; Vale and Caldeira 2004; Weisskoff 1994). ‘Internationalization’ refers to the geographic spread of economic activities across national boundaries. As such, it is not a new phenomenon; indeed, it has been a prominent feature of the world economy since at least the 17th Century when colonial empires began to carve up the globe in search of raw materials and new markets for their manufactured exports. ‘Globalization’ is much more recent than internationalization because it implies the functional integration and coordination of internationally dispersed activities. Industrial and commercial capital
have promoted globalization by establishing two distinct types of international economic networks: ‘producer-driven’ and ‘buyer-driven’ commodity chains. Producer-driven commodity chains are those in which large, usually transnational, manufacturers play the central roles in coordinating production networks (including their backward and forward linkages). This is characteristic of capital- and technology-intensive industries such as automobiles, aircraft, computers, semiconductors and heavy machinery. The automobile industry offers a classic illustration of a producer-driven chain, with multilayered production systems that involve thousands of firms (including parents, subsidiaries and subcontractors).

Buyer-driven commodity chains refer to those industries in which large retailers, branded marketers, and branded manufacturers play the pivotal roles in setting up decentralized production networks in a variety of exporting countries, typically located in the Third World. This pattern of trade-led industrialization has become common in labor-intensive, consumer goods industries such as garments, footwear, toys, housewares, consumer electronics, and a variety of handicrafts. Production is generally carried out by tiered networks of Third World contractors that make finished goods to the specifications of foreign buyers. Profitability is greatest in the relatively concentrated segments of global commodity chains characterized by high barriers to the entry of new firms. In producer-driven chains, manufacturers making advanced products like aircraft, automobiles and computers are the key economic agents not only in terms of their earnings, but also in their ability to exert control over backward linkages with raw material and component suppliers, and forward linkages into distribution and retailing. The transnationals in producer-driven chains usually belong to global oligopolies. Buyer-driven commodity chains, by contrast, are characterized by highly competitive, locally owned, and globally dispersed production systems.

Profits in buyer-driven chains derive not from scale, volume, and technological advances as in producer-driven chains, but rather from unique combinations of high-value research, design, sales, marketing and financial services that allow the retailers, branded marketers and branded manufacturers to act as strategic brokers in linking overseas factories with evolving product niches in the main consumer markets. Thus, whereas producer-driven commodity chains are controlled by industrial firms at the point of production, the main leverage in buyer-driven chains is exercised by retailers, marketers, and manufacturers through their ability to shape mass consumption via strong brand names and their reliance on global sourcing strategies to meet this demand. The leading firms in producer-driven and buyer-driven commodity chains use barriers to entry to generate different kinds of ‘rents’ (broadly defined as returns from scarce assets) in global industries. These assets may be tangible (as with machinery), intangible (brands) or intermediate (as in marketing skills). Adapting and extending the typology of rents in Kaplinsky (1998), producer-driven chains rely primarily on technology rents, which arise from asymmetrical access to key product and process technologies; and organizational rents, which refer to a form of intra-organizational process know-how that originated in Japan, and is particularly significant in the transition from mass production to mass customization (or flexible production), involving a cluster of new organizational techniques such as just-in-time production, total quality control, modular production, preventive maintenance, and continuous improvement. Buyer-driven chains are most closely tied to relational rents, which refer to several families of inter-firm relationships, including the techniques of
supply chain management that link large assemblers with small- and medium-size enterprises, the construction of strategic alliances, and small firms clustering together in a particular locality and manifesting elements of collective efficiency\textsuperscript{11} associated with OEM production; trade-policy rents, understood as the scarcity value created by protectionist trade policies like apparel quotas; and brand name rents, which refer to the returns from the product differentiation techniques used to establish brand-name prominence in major world markets.

In the footwear commodity chain, entry barriers are low for most tanning factories, although progressively higher as one moves upstream to shoes; brand names and stores are alternative competitive assets firms can use to generate significant economic rents. The lavish advertising budgets and promotional campaigns required to create and sustain global brands, and the sophisticated and costly information technologies employed by today’s mega-retailers to develop ‘quick response’ programs that increase revenues and lower risks by getting suppliers to manage inventory, illustrate recent techniques that have allowed retailers and marketers to displace traditional manufacturers as the leaders in many consumer goods industries.

**Athletic Footwear Production**

Athletic footwear makes up about 35 percent of the U.S. footwear market. The exercise boom (and the related boom in people who want to look like they work out) sent athletic shoemakers NIKE (#1), Reebok, and Adidas-Salomon to the front of the pack. Athletic footwear includes aerobic dance, baseball/softball, basketball, cross training, hiking, running, sports sandals, tennis, walking, "athleisure" (athletically styled casual shoes, canvas, suede and alternative sports) and "other," such as golf, football and volleyball. The wholesale value of athletic shoes for the U.S. market totaled $8.7 billion in 1998 down 8.5 percent from the year before. According to the Sporting Goods Manufacturers Association, athletic footwear accounts for almost 35 percent of all footwear purchases. In general, consumers are spending less worldwide for athletic footwear. The current domestic industry focus is on casual and comfortable shoes. Although athletic footwear sales appear to be recovering, demand is still leaning toward the "brown shoe" casual footwear with a comfortable and rugged design. This switch is due to the increasing number of workplaces adopting casual dress codes.

**5. Separation of Manufacturing and Product Innovation**

The increasing importance of fashion consumption is driving market growth at a higher rate than income growth since the 1970s. Fashion consumption decreases the optimal asset specificity of shoe-making machinery. The breaking of the monopoly of the U.S.M.C. in 1953 leads to world-wide search for new ways of production. Since the 1980s footwear production is organized in a buyer-driven global value chain. Retailers,

\textsuperscript{11} Although organizational and relational rents are closely related, they differ in that the former is intra-organizational, and the latter is inter-plant, inter-firm, and inter-institutional (e.g., research institutes or training programs with public-private sector support). The rent element arises from the fact that all these organizational features are tacit, cumulative and systemic. Adoption is a matter of degree. Some economies and firms are better at utilizing these techniques than others, giving rise to uneven diffusion and consequently to scarcity and rent (Kaplinsky, 1998).
like Payless ShoeSource, Foot Locker, Wal-Mart, and brand-named companies, like Nike, Adidas-Reebok play the pivotal role in setting up decentralized production networks in a variety of exporting countries, typically in the Third World. International contract manufacturing is prevalent, but production is generally carried out by independent Third World factories that make finished goods (rather than components or parts) under original equipment manufacturer arrangements. The specifications are supplied by the buyers and branded companies that design the goods. In general, these buyers do not own any production facilities, these companies are not “manufacturers”, they are “merchandisers” that design and/or market, but do not make the branded shoes they sell. These firms rely on complex tiered networks of contractors that perform almost all their specialized tasks. Branded merchandisers may farm out part or all of their production development activities, manufacturers, packaging, shipping, and even accounts receivables to different agents around the world.

The main job of the core company in such a buyer-driven value chain is to manage these production and trade networks and make sure all the pieces of the business come together as an integrated whole. Profits in buyer-driven value chain thus derive not from scale economies and technological advances, as earlier the U.S.M.C did, but rather from the unique combinations of high-value research, design, sales, marketing, and financial services, that allow the buyers and branded merchandisers to act as strategic brokers in linking overseas factories and traders with evolving product niches in their main consumer markets.

Sutthisphisal (2003) studied the location of production and invention in three different industries during the Second Industrial Revolution, namely textile, shoe, and the electric industry. He finds that in general the locus of invention did not shift with the locus of production as the latter moved to other locations. Moreover, he finds that the link between location of production and invention is weaker in the more “science-based” electric industry. Nonetheless, the lower cost of labor and the ability to work around the clock are important offsetting features.

Production sites are agglomerating in third world countries for the reasons known from the economic geography: labor pooling and technological spill-over (Gereffi and Korzeniewicz 1994, part III; Chen 1994). Especially in China such agglomeration processes are very strong. As producers are concentrating in such local clusters, but also on a global scale, to become what Sturgeon (2002) calls “turn-key suppliers”, the separability of manufacturing and product innovation becomes a problem: The developed technology of the product innovation can almost not be appropriated by the lead firm, the designer, because production is done in very small proximity to that of the competitors or even by the same turn-key supplier. In extremis, when Nike and Adidas contract the same Chinese or Taiwanese firm to produce their shoes, their product technology is not appropriable any more. Sturgeon, Gereffi and Humphrey (2005;2002) provide several examples like this one. Nevertheless, such central producers, that have access to the product technology of several competitors in an end-consumer market, do not enter the market themselves, although they have the production capacity and the product technology. The access to the consumers seems to the necessary condition for market entry, because the actual producers already have all other capabilities to make the end product. In markets that are characterized by modular, buyer-driven value chains, the
marketing, in particular branding, and distribution of products seem to be much more important than the product technology and quality.

V. CONCLUDING DISCUSSION

The historical case study about the development of the U.S. footwear industry shows how the production process evolved over time. Till the 1950s, the United Shoe Machinery Company was dominating the global footwear industry: almost the complete world-wide footwear industry was integrated into the leasing systems of the U.S.M.C., which reaped its profits the leasing fees for the machinery, which the shoemakers used to produce the world’s footwear. Hence, they were virtually vertically integrated into the U.S.M.C. The U.S.M.C achieved this dominant position through its technological superiority, which resulted from monopoly rents from the large U.S. market, that were reinvested into research and development. As such, we have titled the U.S.M.C.’s technologically-justified monopoly an exemplar case of a Schumpeterian firm. U.S. consumption was growing at a rate significantly smaller than personal income in this production regime.

During its history, the U.S. footwear industry evolves from a producer-driven global value chain dominated by the U.S.M.C towards being buyer-driven. Gereffi (1994) used the term ‘buyer-driven’ global value chains to denote how global buyers and retailers use explicit coordination – i.e. non-market forms of coordination of economic activity – to help create a highly competent supply-base, upon which global-scale production and distribution systems could be built without direct ownership. By highlighting explicit coordination in disintegrated chains and contrasting them to the relationships contained within vertically integrated, or ‘producer driven’ chains, the difference between the high degree of vertical integration under the U.S.M.C and today’s importance of networks driving the co-evolution of cross-border industrial organization.

The buyer-driven footwear value chain separates manufacturing from product innovation and, thereby, implies a low, virtually no appropriability of product technology. As the actual producers already possess all manufacturing skills, they now have access to the product technology (sometimes those of several competitors) as well, but they do not enter the end consumer market. This is a strong indication that the access to the consumer is the crucial component for any market entry strategy: Marketing, especially branding, and distribution are key capabilities, that constitute the dominant role of retailers and brand-named firms in the footwear value chain.

Gereffi et al. (2005, p. 98) emphasis the role of consumer in their conclusion: “Consumer culture, whether it emerges from the home, street, school, or park, can subvert the original intention of producers by altering and ascribing meaning to products in ways that designers and marketers never intended.” It is this central influence of the consumer that is important for the dominance of the global buyers and brand-named firms. This is because they, who have direct access to the consumers, are able to respond to this unpredictable social construction of meaning and use by the consumer population.

1. Review of the Theoretical Proposition

Relating our case study about the U.S. footwear industry to the analysis of footwear consumption by Frenzel Baudisch (2006) substantiates our theoretical proposition. Before 1970s, footwear consumption was focused on homogeneous products, the market volume
was stable, as product technology was stable. The homogeneity of products implied a severe competition in the producer base. The supply of production technology is the most profitable node in the value chain: The U.S.M.C. gained control of the global footwear production due to its technological superiority.

Since the 1970s, U.S. footwear consumption is predominantly driven by social motivations, fashion and product innovation are becoming increasingly important; shoes become luxury goods due to their significant increase in income elasticity. Domestic U.S. footwear production declines in this growing market, a buyer-driven value chain establishes in the 1970s and 1980s, separating product innovation and manufacturing. The parallel development of the socially-conditioned desire for variety on the demand side and that of the buyer-driven value chain in the U.S. footwear market substantiates our theoretical proposition.

The emphasis of the social motivations of consumers is a plausible explanation for the separation of product innovation and manufacturing, as, now, consumers value branding and distribution higher than product technology. Our argument can explain why global buyers dominate the value chain, although they cannot appropriate their product technology, nor do they have any manufacturing skills.

2. Generalize Findings

The theoretical proposition about social motivations of consumers and their effect on industrial dynamics can be extended to the U.S. apparel market in a straightforward way. The apparel value chain is very similar to that of global footwear production: China’s dominance in production, similar retailers and distribution channels, as well as many of the branded-name companies sell clothes and shoes, extracting the value of their brand. The apparel market is driven by social motivations of consumers and fashion cycles.

The theoretical argument is not easily extendable to the other industries with buyer-driven modular value chains, like toys and consumer electronics. Nevertheless, the social/status motivations of consumers in the cellular phone market are evident. The toy market also shows very short product life cycles that resemble fashion cycles. Further discussion and research has to show whether our argument can provide any insight into the industrial dynamics of these industries.

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