

The Southern Model of Broiler Production

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Abstract: This paper introduces the concept of the Southern Model of broiler production as the preferred organizational form in the global agrifood system. A synthesis of existing works on the broiler industry combined with new information documenting its global diffusion is employed to develop the concept of the Southern Model. The analysis of the events presented in the case support flexible accumulation over flexible specialization interpretations of the globalization of the Southern Model. The investigation of the historical development and diffusion of the Southern Model warrants special attention from researchers concerned with socio-economic implications of the restructuring of agrifood system as part of the globalization of economy and society.

Key words: broilers, contract production, vertical integration, globalization

Introduction

The broiler industry was the first livestock commodity sector to adopt an industrial organizational model. This model emerged in the US South in the 1950s under a specific set of circumstances. This model is characterized by vertical integration of the various factors of production under the control of agribusiness corporations and the increasing economic concentration through mergers and acquisitions leading to market power. Scholars of the broiler industry have noted the asymmetrical power relationships between the contractors and contractees in the production arena based, as well as the reliance on informal labor patterns in the processing arena (see Boyd and Watts 1997; Griffith 1995; Heffernan 1984; Striffler 2005).

The organizational structure of the broiler industry in the US has been cited as the future model of agriculture (Boyd and Watts 1997; Breimyer 1965; Heffernan 1984; Marion 1986; Morrison 1998; Vogeler 1981). The broiler production model created in the US South in the 1950s is now being exported to other countries (see Burch 2005; Constance and Heffernan 1991; Little and Watts 1994; Vocke 1991). The purpose of this paper is to investigate the specific historical circumstances that contributed to the development of this particular form of the broiler industry, labeled the Southern Model of broiler production, and document its diffusion beyond the boundaries of the US. The investigation of the Southern Model warrants special attention from agrifood researchers concerned with the socio-economic implications of the restructuring of the agrifood system as part of the globalization of economy and society.

The paper begins with an overview of the development, industrialization and globalization of the modern broiler industry. This section is divided into four parts. First

an overview of the origins of broiler production is provided to illustrate the conditions that supported the growth of a system of independent firms. The second part focuses on the creation of the “Southern Model” of vertically-integrated poultry production. It presents the particular set of circumstances in the southern US that supported the development of this model and how the model works today. Here the concept of the Southern Model is generated from a synthesis of existing research plus new data on the global diffusion of the model. The third part traces the changing structure of the industry as vertical integration became the norm and economic concentration increased through mergers and acquisitions. The fourth part documents the global diffusion of the Southern Model in the 1980s and 1990s as agrifood TNCs expanded their operations beyond national borders. The final section of the paper provides discussion and conclusions grounded in competing views of globalization regarding the socio-economic implications of the Southern Model and the global agrifood system.

An Overview of the Broiler Industry: From the Barnyard to the Factory

The use of the term “broiler” can be traced back the early 1900s in Delaware (Brown 1989; Gordy 1974). Broiler production was originally a residual activity associated with egg production. Broilers were the young male chickens, called “cockerels,” that were by-products of the spring hatch for egg production. The females were kept as laying hens while the males were fed corn and foraged for bugs in the barnyard before they were eaten. On most farms both eggs and broilers were part of a household-based subsistence strategy controlled by women (Fink 1986; Sachs 1983).

History gives credit to Cecile Steele of Ocean View, Delaware for raising and selling the first commercial flock of broilers. Though usually an egg producer, in 1923 by mistake she received 500 chicks instead of her usual order of 50 chicks. She decided to keep them and when they reached 2 pounds, she sold them to a local buyer for 62 cents a pound. The next year she ordered one thousand chicks, her husband quit his job, and by 1926 they were raising ten thousand birds per year (Gordon 1996; Williams 1998). By 1925 some 50,000 broilers were raised in the area (Gordy 1974). Today, broilers refer to male or female chickens raised for meat products.

Broiler processing also started in the area of the DelMarVa Peninsula (Delaware, Maryland, and Virginia). The decline of the local fishing industry combined with the risky nature of fresh table vegetable production for Northeastern markets prompted both farmers and processors to look for a more reliable business venture. In 1937 Hendrich Poultry (a subsidiary of Swift and Co.) converted an old tomato cannery into the first broiler processing plant; other canneries were converted and local growers built more chicken houses. By the mid-1940s about a dozen plants were processing “almost 300,000 birds per day” (Gordy 1974:418; Williams 1998). In 1930, C. S. Platt of the New Jersey Experiment Station commented that the broiler industry “lends itself rather easily to factory methods of production” (Gordy 1974:384). In 1935 the DelMarVA area accounted for two-thirds of total US broiler production (PSA 1967).

This early broiler production system was made up of a system of independent breeders, hatcheries, farmers, feed dealers and manufacturers, slaughterhouses, truckers, live and “New York dressed”¹ retail markets, and merchants or commission agents who controlled the distribution networks to larger metropolitan markets in the Northeast.

Broilers were raised by independent growers who paid cash for the chicks and feed, and then sold them on the open market. For consumers, broilers were considered a seasonal delicacy – a by-product of the spring hatch (Gordon 1996).

Several factors facilitated the development of the modern industry. In 1926 the synthesis of vitamin D (previously derived from exposure to sunlight) allowed for indoor confinement of broilers (Gordon 1996). In 1933 the USDA launched the National Poultry Improvement Plan, which was critical for the development of meat strains, disease control, and poultry husbandry (Strausberg 1995). During World War II government actions furthered the development of the broiler industry. While beef was rationed during the war, chicken was not. Furthermore, the government set a ceiling price well above the cost of production, which in combination with growing consumer demand created commercial opportunities (Tobin and Arthur 1964). Then in 1942 the War Food Administration placed the entire production of the DelMarVa region under contract for federal food programs. This created a vacuum on the supply side of growing demand that was filled quickly by the emerging broiler growing areas in the US South (Bugos 1992; Frazier 1995; Williams 1998).

Toward the end of the war improvements in primary breeding for meat production facilitated the industrial model. In 1944 the A&P grocery chain launched a series of national breeding contests that established the hybrid chicken as the new industry standard. By the 1950s the major broiler breeders were developing linkages with other firms in the industry, including those in the South (Bugos 1992; Strausberg 1995).

During this period research on nutrition, disease control, and confinement housing conducted at the land grant universities contributed to broiler industrialization

(Strausberg 1995). Additionally, rural electrification supported improvements in environmental control and labor productivity in confinement operations (PSA 1967). Together, these technological innovations and government programs provided the basis for a continued increase in production capacity.

In 1950 the broiler industry was still characterized by an independent system of farmers growing broilers and small firms providing upstream (chicks and feed) and downstream (slaughtering and marketing) services. By 1960 the broiler industry was under the control of vertically-integrated firms and had adopted an industrial agriculture model (Heffernan 1984). This shift to a new organization model, a tightly coordinated and institutionally dense commodity system (see Friedland 1984), was accompanied by a spatial concentration in the South. The modern broiler system “possessed a distinctive southern accent from its inception” (Boyd and Watts 1997:184)

The Southern Model

The common feature of future poultry-producing regions in the South was poverty, enduring poverty (Striffler 2005:36).

Until after World War II, the DelMarVA region was the major broiler production area in the US. After the war both the location and structure of the broiler industry shifted dramatically (Martin and Zering 1997). The region that benefited most was the South (Reimund et al. 1981). Through the late 1940s the South experienced chronically depressed farming conditions due to boll weevil outbreaks and cotton crop failures. Many Southern farmers saw contract production as similar to sharecropping and readily accepted broiler production as a profitable and dependable addition to their traditional

operations (Griffith 1995; Martin and Zering 1997; Skully 1998). Underemployed farm labor, a favorable climate, lower wages and less unionization, and the stabilization of feed prices all contributed to the increasing advantage of the South (Aho 1986; Breimyer 1965; Easterling et al. 1985; Reimund et al. 1981). “What drew the poultry industry south was primarily a resident African American population and poorly educated ‘hillbillies’ from the Appalachians and Ozarks” (Griffith 1995:130). By the early 1970s the South accounted for about 90 percent of total broiler output (Lasley 1983; Reimund et al. 1981). The South still accounts for about 75% of broiler production (USDA/NASS 2002).

At the center of the vertically-integrated system was the contract grow-out arrangement that emerged in the South in the 1940s and 1950s. As the flocks became larger, the local feed dealer became the major source of credit for inputs and had “first call” on the profits (Gordy 1974). By the 1950s these informal contractual agreements were formalized as the growers became more dependent on the feed dealers for inputs. The contract arrangement developed as a way for local feed dealers and feed companies to protect their markets; broilers were value-added feed. The integrating firms used government grain subsidy programs to decrease the cost and increase the supply of feed, and thereby fuel the growth of the broiler industry (Griffith 1995).

As increased production led to price crises, feed dealers started signing contracts with growers to ensure a minimum return for the grower while retaining ownership of the birds. The formalized contracts allowed the feed dealers to use genetically-improved chicks, superior feed rations, better disease control, and more standardized management practices in the grow-out facilities (Southern Cooperative Series 1954). This shift from

informal to formal contracts “marked the evolution from a simple credit arrangement to a tightly interlinked credit, input, and labour contract” (Boyd and Watts 1997:200).

Just as the formal contract evolved to protect economic interests in times of over production and low prices, vertical integration developed to defend against similar economic vulnerabilities. As the independent firms continually found themselves in cost-price squeezes due to volatile boom and bust commodity markets, some feed dealers and companies began to integrate into other aspects of the industry. This process began with incorporating hatcheries and feed mills into the company, and later included processing plants. By the end of the 1950s the integrated firm had become the industry norm. Integrated firms accounted for 90 percent of total production by the early 1960s (Tobin and Arthur 1964).

During this time several independent firms were forced out of the industry as the dominant integrators took over. Firms such as Pillsbury and Ralston Purina occupied leading positions in the industry by the mid-1960s (Strausberg 1995; Striffler 2005). While their feed milling capacity and business experience provided these companies an early comparative advantage, the bust and boom broiler commodity cycles of the late 1960s and early 1970s prompted many to divest their poultry operations (Marion and Arthur 1973). Regional integrators such as Tyson, Holly Farms, and Perdue stepped in to fill the void, often buying up portions of the larger companies vertically-integrated systems.

Due to several technological advancements, organizational changes accompanied the geographic shift. Production advancements included confinement housing design, automated feed and water handling, improved feed rations utilizing growth hormones,

selective breeding, and disease controls using sub-therapeutic antibiotics. In the post-World War II period the average broiler live weight increased from 2.89 to 4.63 pounds and the maturation period dropped from seventy to fifty days (Watts and Kennett 1995). The efficiencies derived from vertical integration reduced the cost of chicken from more than a lobster or steak at the turn of the century to possibly less than the potatoes that are served with it (Gordon 1996; Striffler 2005). This process of vertical integration moved broiler production from a farm sideline to a highly developed agribusiness (Lasley 1983).

These developments made it possible to grow larger numbers of uniform broilers in less time. As a result, the number of farms growing more than 100,000 birds rose rapidly from zero in 1954 to about 30 percent in 1974 (Reimund et al. 1981). By the mid-1990s nearly 100 percent of production came from farms growing more than 100,000 birds per year (Welsh 1996) with about 90 percent of production organized on formal contracts with integrators and the remaining 10 percent coming from company-owned facilities (Welsh 1997). Similarly, the development of mechanized killing and processing lines followed models established by industrial factories (Reimund et al. 1981).

Boyd and Watts note the “centrality of the southern postwar political economy which provided the social and institutional context for the contract-based model of integration that has subsequently become the standard in the industry” (1997:194). The US South in the 1940s and 1950s exhibited three critical economic features that supported the emergence of the modern broiler industry. First, there existed an abundance of marginal farmers on the periphery of the cotton belt who could not compete with the capital-intensive agriculture that emerged after World War II. They needed alternative livelihood strategies and saw contract broiler production as an attractive way to

supplement their incomes. Second, the history of merchants and feed dealers extending credit to small farmers provided the cultural background for the evolution of formal contract relations, which were crucial to vertical integration. For these farmers, broiler contracts were similar to sharecropping arrangements that had dominated the agricultural landscape for generations. The third factor is the ample availability of surplus labor to work in the processing plants. The dissolution of the southern farm tenancy system by the federal government, what Daniels (1981; 1985) calls the “southern enclosure,” enhanced the supply of cheap labor.

During the 1950s and 1960s the integrators adopted more efficient assembly line techniques in the slaughter plants that took advantage of the labor surplus. Two key aspects of the assembly line designed to increase efficiency and profits were automation and increasing line speed (Griffith 1995). The different aspects of slaughtering broilers were broken down into specific tasks that could be performed by unskilled and low wage labor, most often African American and female. “Families used to tenant farming, sharecropping, and other low-income and seasonal economic activities provided abundant reliable labor for the plants” (Griffith 1995:130). The broiler industry employed the redundant labor of women and older children who were needed at peak times for farm activities but were available in the off-season for work both in the processing plants and on the grow out farms (Fite 1984; Schwartz 1945). Just as eggs and chickens had been the province of women on the family farm, the processing industry formalized this “typically female task” of processing food by staffing these farm women along the disassembly line (Griffith 1995).

The same families often sent labor to the processing plants, as well as grew the broilers on contract. “Ideologies of dominance” such as Evangelical Christianity, racism, white supremacy, and anti-union attitudes kept the workers “relatively docile” and “loyal to the plants” (Griffith 1995:130). The poultry processing plant “magnified in factory settings the traditional authority of men over women, whites over blacks, and primary over supplementary wage earners” (Griffith 1995:138). The poultry industry has actively resisted unionization in its processing plants (Striffler 2005) and most processing plants are not unionized. By the 1990s processing line speeds averaged 80 birds per minute and was as high as 92 birds per minute (Boyd and Watts 1997; Griffith 1995). The high turnover rates that often exceed 100 percent highlight the importance of “maintaining the ‘flexible’ labour pools” (Boyd and Watts 1997:214; Griffith 1995). Between 1980 and 2000 the real wages of the poultry workers “remained largely stagnant” (Striffler 2005:8). “In short, poultry processing workers confront a Taylorist work regime of unimaginable time-discipline combined with a high degree of microbiological and stress related hazards and little recourse to collective bargaining” (Boyd and Watts 1997:214).

Another factor in the structure of the modern broiler industry is related to the particular biological aspects of broilers that necessitated a particular spatial pattern to the integration system (Boyd and Watts 1997). The transport of live broilers (in chick form to the grow out barns and the adults to the slaughter plants) and the different types of feed rations required at different stages of the growth cycle demanded that the grow-out operations be centrally located, generally within a 25 mile radius of the feed mill and processing facilities (Griffith 1995; Kim and Curry 1993). These kinds of spatial requirements combined with biological risks associated with confinement production

(disease risks due to monoculture) combined with the preference for contracts (as opposed to tying up capital in company-owned grow out facilities) required a special kind of farm structure to make the vertically-integrated system work. That farm structure existed in the US South in the form of small, marginal farms in close proximity (Boyd and Watts 1997).

In the 1980s the labor supply shifted rapidly toward Hispanic, and some Asian, immigrants as many local workers left their processing industry jobs for better opportunities (Griffith 1995; Striffler 2005). Griffith attributes this trend to three factors. First, the success of the civil rights movement started to provide alternative economic opportunities for African Americans, as well as lowered their tolerance for authoritarian work regimes grounded in sexism and racism. Second, chambers of commerce in the South launched business recruitment drives in the 1970s and 1980s that attracted new industries, often Northern industries, to the Sun Belt's anti-union economic climate. Third, the Vietnam War siphoned off many potential workers from poor and minority households. These factors, combined with a general economic boom in the South fueled by retirees and tourists, reduced the labor pool for poultry processing. At this same time the consumer demand for poultry meat exploded due to changing health concerns and the expansion of exports. While in 1988 Latinos made up a "relatively small proportion" of the plant workforces, by 1993 the percentage had increased to about 25 percent (Griffith 1995:137, 140).

By 2005 Latinos made up about three-fourths of processing plant workers, with most of the remainder from Southeast Asia and Micronesia (Striffler 2005). Many of these people started their immigrant worker careers in the vegetable fields of California

and migrated to the US South as news spread of more stable work in the poultry processing plants. With the year-round employment possibilities, the mostly male workers who migrated first often sent for their families who also got jobs in the plants. Striffler (2005:126) notes that the globalization of the economy leads not only to the internationalization of capital but also to the “internationalization of workers in gathering places such as poultry plants.” Through the commonality of processing plant work, these new workers form a class bond that transcends their racial and ethnic difference.

In what Griffith refers to as “ever more comprehensive patterns of labor control” (1995:133), the continuous flow of new immigrants acts both to reduce actual labor costs and serve as a constant reminder to native workers that their jobs can be filled by workers who work harder and complain less. Plant managers frequently employ kinship and friendship networks within the Hispanic community to generate a continuous supply of new workers who rotate between agricultural field-work, broiler processing work, and return migration to Mexico. Similar to the field work sector, some integrators build trailer parks near the processing plants to house the immigrant workers. For many Hispanic immigrants who work in poultry processing, agricultural work in the fields was the “doorway” into the US economy. It is in fieldwork that the immigrants “develop their first expectations about wages, working conditions, supervisory methods, task assignments, and other attributes of finding and keeping a job” (Griffith 1995:141).

Griffith (1993; 1995) found a split labor market made up of a core of local workers who have the better paying and less dangerous jobs surrounded by a fluid expansion and contraction of immigrants who staffed the lower-paying and more dangerous jobs. In recent years this circular pattern based on temporary migration “has

given way to permanent and semi-permanent settlement” as Hispanic processing plant workers buy houses and settle down in their processing plant towns (Striffler 2005:107). This development of more permanent residency has generated increased tensions between locals and the new immigrants and portends long term changes in the demography of Southern communities (Striffler 2005; Stull and Broadway 2004; Stull, Broadway, and Griffith 1995)

This southern system of labor use based on low wages, high occupational-injury rates, high turnover, and absenteeism “laid the social and cultural foundation on which new recruitment strategies, new labor-management relations, and other practices used with the growing immigrants have been erected” (Griffith 1995:145). The workforces were then and are now extremely fluid with workers coming and going as they are needed or as they are injured and seek relief from their injuries.

Although the South emerged as the new center for broiler production in the US, it was not the whole South. According to Boyd and Watts, “[f]rom the beginning, moreover, broiler production has been concentrated in a few dynamic agro-industrial districts or sub-regions – most notably, northwest Arkansas, north Georgia, and north Alabama” (1997:203). As the broiler companies built or bought the components of vertically-integrated system, they created a “flexible, just in time” system of industrial organization for the broiler industry (Roenigk 1991 cited in Boyd and Watts 1997). Boyd and Watts see the vertical integration system developed in the US South around “agro-industrial districts” as the model for the low cost production systems that are the “social basis of competitiveness in a now global industry” (1997:207).

From Vertical Integration to Economic Concentration

The most important factor in broiler industry industrialization was the organizational innovation of vertical integration (Reimund et al. 1981). Vertical integration rationalized the broiler industry as it brought all aspects of the production chain (e.g., breeding, hatching, growing, feed mills, transportation, and processing plants) under the control of the integrating firm. Central to this system was the adoption of the production contract as the formal link between the broiler grower and the processing firm. Under the contract system, the integrating firm (contractor) provided the farmer (contractee) with day-old chicks, feed, medication, and technical support. The farmer provided the build-to-specifications grow-out buildings, labor, utilities, and was responsible for disposal of the dead chickens and manure. In most cases, the farmer mortgages his/her land to build the grow-out buildings. In this system, the farmer received a guaranteed payment based on the feed conversion ratio (how much weight the birds gained on a certain amount of feed) and the number of birds that survive to slaughter. Without contracts “and the opportunities they afforded for coordinating the several stages of the sub-sector, it is doubtful the new entrants, primarily feed manufacturers and dealers, would have considered broiler production very attractive” (Reimund et al. 1981:8).

While the contract offered a guaranteed income and took much of the risk out of raising chickens, the major vulnerability to the grower is that the company did not have to renew the growers’ contract (Heffernan 1984; Striffler 2005; Stull and Broadway 2004). The contracts are typically batch to batch with no guarantee beyond the current batch. Similarly, under the contract system the grower also assumes all responsibility regarding

manure disposal (Molnar, Hoban, and Brant 2001) leading to both community conflicts with neighbors due to nuisance issues (Constance 2001; Constance and Tuinstra 2005), as well as regulatory conflicts with state and federal environmental agencies regarding water and air quality (Burmeister 2001). In effect, the contract system allows the integrating firm to control the methods of production but avoid the responsibility and liability related to environmental protection and community disruption.

Mooney (1983) sees the contract model of broiler production as an excellent example of how industrial relations can penetrate agriculture by “detouring” around “obstacles” such as the control of production practices without formal ownership. Mooney agrees with Davis (1980) that in many instances the contract producer is a “propertied laborer” that compromises autonomy for security. The contract broiler grower becomes a “semi-autonomous employee” who still holds title to his land but has otherwise lost control over decision-making and the labor process (Mooney 1983:573). Heffernan (1984) adds that due to the high costs and single purpose characteristics of the poultry barns, the security of the poultry producer is less than other contract producers such as vegetable growers. Similarly, because of the limited alternative uses of the grow-out barns, the integrators can use the threat of termination of contracts to force the growers to adopt new technological improvements (Wilson 1986). In his study of contract growers, Roy (1972) concluded that while there were advantages and disadvantages to the arrangements, the contract farmers are in a position similar to a sharecropper. Vogeler (1991) argues that the contract grower is a transitional status between family farmer and agricultural worker. Breimyer (1965) refers to broiler growers as serfs on the land. Some growers commented that they were the only slaves left in the

country (Wellford 1972). “Growers have little recourse in disputes with integrators, and stories of abuse and intimidation are commonplace” (Stull and Broadway 2004:50).

Other researchers have also discussed the asymmetrical market power that integrators hold over contract producers (see Brandow 1969; Morrison 1998; Striffler 2005; Wellford 1972).

Additionally, most broiler grower households rely on off-farm employment to stabilize family income (Clouse 1995; PSA 1967; Stull and Broadway 2004; US Congress 1972). The grower both loses control of their labor via the production contract and also must seek off-farm employment to maintain the rural household. The contract system of broiler production “allows the integrator to take advantage of the chief assets of the family farm – cheap, ‘docile’, and flexible labour – without the burdens of equity or the costs of wage labour...” (Boyd and Watts 1997:211).

Mirroring the vertical integration trend, economic concentration in the broiler industry increased steadily through mergers and acquisitions. Heffernan (1984) found that by the early 1980s about 95 percent of broilers grown in the US were under contract with less than forty companies. From the largest 19 broiler processing firms accounting for about 30 percent of production in 1960 and the top eight firms controlling 30 percent in 1975, economic concentration increased to the largest four firms accounting for about half of total broiler production in 1998 (Heffernan 2000; Heffernan and Constance 1994; Reimund et al. 1981). Several other researchers have also documented the increasingly oligopolistic market structure of the broiler industry (Breimyer 1965; Constance and Heffernan 1991; Marion and Arthur 1973; Rogers 1963; Striffler 2005; Tobin and Arthur 1964; Wellford 1972). As industry consolidation progressed, integrating firms developed

regional monopolies resulting in decreased venues for growers to sell their birds. In 2003 the largest four broiler firms accounted for 58 percent of production (Tyson Foods, Inc. 2004-2005).

While the “flexible, just in time” production system facilitated the growth of the modern broiler industry, it did not resolve the problem of overproduction. Though broiler firms embraced further-processing and value-added chicken products to reduce the vulnerability of overproduction, it remains an endemic problem for an industry that operates on very low margins (Bjerklie 1995; USDA/FSIS 1988). Because the profit margins are low, the main strategies to generate profits are to increase volume through increasing market share (horizontal integration), increase productivity through technological innovations (mechanization and line speed) and lower labor costs (immigrants), and disposing of surplus production (exports). The drive to increase market share generated the rash of mergers and acquisitions that characterized the 1980s and 1990s in the broiler industry. During this period the broiler industry engaged in an explosion of product diversification (best known are the “nuggets”). “No other agricultural commodity or agro-industry can match the capacity of the firms in the broiler industry who adjust production and develop new products with astonishing speed and flexibility...” (Boyd and Watts 1997:215).

In the 1980s exports became the relief valve for the Southern integrators. By the mid-1990s, and continuing to today, exports accounted for about 15 percent of total US production (USDA/ERS 2006). US exporters sold the white meat to the fast food outlets in the US for chicken sandwiches and sold the dark meat to Mexico, Russia, China, and other parts of Asia. The success of US exports is being threatened by the rise of new low-

cost producers in Brazil, China, and Thailand, which calls into question the long term viability of exports as the relief valve for overproduction (Boyd and Watts 1997). Indeed, projections for US broiler exports for 2007 were 100M lbs. less than for 2006 (Haley 2006). Boyd and Watts (1997) conclude that chicken meat will continue to play a major role in meeting the increasing global demand for animal protein. “The only question is whose chicken the newly enfranchised Asians, Russians, and Latin Americans will be eating in the new millennium” (Boyd and Watts 1997:217).

The US Poultry Industry Goes Global

As economic concentration increased at the national level, US-based poultry firms were expanding operations globally (Constance and Heffernan 1991; Heffernan 1990; Heffernan and Constance 1994). For example, in 1989 Tyson Foods formed a joint venture called “Citra” with C. Itoh of Japan and Empresas Provenex of Mexico to grow, process, and market deboned poultry products in Japan and Asia (Smith 1992; Tuten and Amey 1989). Empresas Provenex sold its chicken under the brand name “Trasgo” and was Mexico’s fourth largest poultry producer. Based in Trasgo’s headquarters in Gomez Palacio near Torreon in north-central Mexico, Citra processed and marketed broilers grown in Mexico for the expanding Mexican market and further-processed broiler meat imported from Tyson’s facilities in the US and destined for Asian markets at a maquiladora plant under Tyson’s name. In 1990 Tyson had a “dominant position in Japan” and was also active in Hong Kong, Taiwan, other countries in the Far East, the Commonwealth of Independent States, and the Mideast (Smith 1992:26). Citra “adds

value to Tyson-produced poultry, which requires more production capacity than is available in the U.S. plants” (Tuten and Amey 1989:28).

As part of this arrangement, Tyson removed the breast meat in Arkansas for the fast food industry and shipped the leg quarters to Mexico to be deboned by hand at much lower labor costs. The marinated meat was shipped to Japan and Asia as “Yakatori Sticks”, a fast food item. Technology based in the US can efficiently process the broiler carcasses but workers are required to further prepare the meat for value-added products. Mexican processing workers, mainly nimble-fingered women, place leg-bone meat on skewers for the yakatori market. Rafael Villegas, President of Trasgo de Mexico, explained his company’s position in the transnational joint-venture. “We are in a global economy. We index our costs to the international markets (and we) have an advantage of less expensive labor. That allows us to compete against American producers in the deboned market” (Tuten and Amey 1989:32).

A partnership with a major broiler company like Trasgo presented Tyson with a low-cost, low-risk means of learning the Mexican marketplace. Food industry analysts reported that “the partnership represents a major maneuver for Tyson Foods, which can now tap the expanding Mexican poultry sector to grow its own poultry business easier and faster than in the domestic U.S. market... (T)he joint venture offers Tyson both immediate and long-term opportunities” (Smith 1992:3). John McMillan, an analyst at Prudential Bache Securities, commented that in light of the very competitive and slowing broiler market in the US, “this situation makes a country like Mexico especially attractive, not only because of the expanding demand for chicken there, but because of

Mexico's status as a link to Latin America, South America, and the Pacific Rim" (Smith 1992:26).

Similarly, in 1989 Cargill, Inc. entered a joint venture with Nippon Meat Packers to establish Sun Valley Thailand (Feedstuffs 1989; Tuten and Amey 1989). The joint venture included the construction of a breeding farm, hatchery, grow-out facilities, a feed mill, and processing plant in Lopburi and Saraburi, Thailand. Cargill's responsibilities were to grow and process the birds and Nippon sold processed and further processed chicken products in Japan and other non-US markets. This operation sourced broiler technologies from the US, including the vertical integration form of organization, conducive production factors in Thailand, such as feed, water, and low cost labor, and profitable consumer markets in Japan and East Asia. In the late 1980s Cargill also had poultry operations in the US, Argentina, and China.

Many of the major broiler operations are subsidiaries of agribusiness TNCs sourcing the most advantageous factors of production at the global level (Constance and Heffernan 1991; Heffernan 2000; Heffernan and Constance 1994). These agribusiness TNCs integrated their feed operations with poultry businesses. For example, in the early 1990s US-based firms such as Tyson had operations in Mexico and Canada; ConAgra was in Puerto Rico, Portugal, Spain, and the then Soviet Union; and Cargill was in Argentina, England, Brazil, and Thailand. Japanese-based firms such as Mitsui and Co., C. Itoh, Mitsubishi, Ajinomoto, and Nippon Meat Packers had operations in Malaysia, Mexico, Brazil, and Thailand. The Italian-based TNC Ferruzzi had feed operations in support of poultry and hog businesses in France, The Netherlands, Taiwan, Portugal, Puerto Rico, Thailand, Yugoslavia, the USSR, Hungary, Poland and China. In the late

1980s Ferruzzi bought the major US feed business, Central Soya, and thereby gained direct access to the US in terms of both production and marketing. By the early 1990s the dominant agribusiness TNCs had created a global poultry agrifood complex that linked the most favorable areas of production to profitable consumer markets (Constance and Heffernan 1991).

During the 1990s Tyson increased in ownership of Trasgo and changed the company name to Tyson de Mexico. In 2001 it bought out 95% of the remaining interest in Trasgo (Young-Huguenin 1996) and purchased the poultry assets of Nochistongo.S.P.R. de R.L., a fully integrated boiler production operation with a capacity of about 555K/birds/wk. With the purchase of Nochistongo, Tyson de Mexico had the capacity to process approximately 2.3M/birds/wk (Tyson Foods, Inc. 2005a; 2005b). In 2003 Tyson de Mexico was the largest producer of value-added chicken for both retail and foodservice in Mexico and was expanding into other areas of Latin America and Asia. In 2001 Tyson expanded its operations with Alimentos Procesados Melo, S.A. in Panama City, Panama to provide a wide range of chicken products for the foodservice and retail markets in Central and South America. It also entered into a joint-venture with Chinese partner Zhucheng Da Long Enterprises, Co. Ltd. to own and operate a chicken further processing plant in Shangdong Province, China to produce chicken leg meat products for Japanese, Pacific Rim, and Middle Eastern markets (Tyson Foods, Inc. 2005a; 2005b).

In 2001 Tyson bought IBP, the world's largest beef and pork processor for \$3.2B and became the largest meat processing company in the world (Hoovers 2006). IBP had more than 60 production sites in North America and joint venture operations in China,

Russia, and Ireland. IBP employed about 52,000 people globally and had annual sales exceeding \$16.9B in 2000 (Reuters 2001). In 2001 Tyson processed 42M/broilers/wk, 203K/cattle/wk, and 337K/hogs/wk in 145 processing plants. Its poultry division included 17 feed mills, 7,000 contract poultry growers, and 41 company-owned chicken growing operations. The pork division owned 110,000 sows and marketed one million feeder pigs and one million market hogs annually (Tyson Foods, Inc. 2003). Upon the announcement of the IBP acquisition, CEO John Tyson stated, “By combining the No.1 poultry company with the leader in beef and pork, we are creating a unique company that has a major global presence” (Reuters 2001:1). Food industry analysts noted that the merger of IBP and Tyson would create a company with 30% of the beef market, 33% of the chicken market, and 18% of the pork market (Meat Industry 2001). With the addition of IBP, Tyson accounted for about 30% of the 400,000 workers in the meat and poultry processing industry (MigrationInt 2003).

By 2003 Tyson had joint-venture poultry operations in Argentina, Brazil, China, Denmark, Indonesia, Japan, Korea, Malaysia, Panama, Philippines, Spain, United Kingdom, and Venezuela. (Tyson Foods, Inc. 2005a; 2005b). According to Greg Huett, president of Tyson International, “These efforts move us quickly forward along our strategy of producing quality products for our worldwide customers from cost effective global locations” (Tyson Foods, Inc. 2005b:2). While Mexico is the prototype for overseas expansion, “Tyson’s real future overseas lies in the companies it is quietly building in emerging nations like China. Next frontiers of expansion: rebounding Brazil, and Eastern Europe” (Morais 2004:6).

In addition to Tyson, Pilgrim's Pride, Inc. has also been very active in Mexico and Puerto Rico. Pilgrim's Pride, Inc., now the largest broiler producer in the US and the world with its acquisition of Goldkist in 2007 (Pilgrim's Pride 2007), entered the Mexican market in 1995 with the purchase of five Mexican broiler companies in the State of Queretaro (Pilgrim's Pride 2005b). The plants in Mexico are strategically located to serve 75% of all Mexican consumers. The company exports commodity chicken and turkey products to more than 70 countries including Japan, China, and Russia and supplies significant product to US chain restaurants overseas (Pilgrim's Pride 2005a). Pilgrim's Pride is the second largest broiler company in Mexico and the largest in Puerto Rico (Pilgrim's Pride 2005a; 2005c).

Discussion and Conclusions

The Southern Model developed in the US South in the 1950s was created by broiler integrators who built agro-industrial districts based on vertical integration and flexible labor relations (see also Constance 2003). These districts took advantage of cheap labor costs in both the production and processing sectors, as well as government subsidized grain and university-sponsored research to rationalize the industry. Initially, mostly African American women staffed the processing plants and marginal farmers grew the broilers on contract. Today, mostly Hispanics (sometimes undocumented) staff the plants and broiler growers still have a precarious existence due to their asymmetrical power relationship with the integrators. This "agro-industrial district" model is now being exported to other commodities (see Thu and Durrenberger 1998) and other countries as the low cost production system that is the "social basis of competitiveness in a now

global industry” (Boyd and Watts 1997:207). While the examples of Tyson and Pilgrim’s Pride moving rapidly into dominant positions in Mexico illustrate this point, commentators note that the Mexican prototype is now targeted to new frontiers in emerging markets (Morais 2004). For example, the Thai firm Charoen Pokphand Group, the world’s largest animal feed company and fourth largest poultry firm, adopted the vertically-integrated model in the 1970s and is now pursuing a similar strategy in poultry and swine in China, Southeast Asia, and the United Kingdom (Burch 2005).

The case of the development and globalization of the broiler industry presented above provides some valuable insights into the mechanisms of the globalization project. Boyd and Watts note that the organizational form based on flexible production that underpins the Southern Model provides the social basis for competitiveness in the global agrifood system. This social basis is grounded in flexible labor processes that source immigrant labor as workers and marginal farmers as growers within an economic environment characterized by vertical and horizontal integration. Griffith’s and Striffler’s descriptions of the structural inequalities of racism and sexism embedded in the Southern Model provide further concern regarding the diffusion of this innovation. Tyson’s global joint venture to link production in the US, low cost labor in Mexico, and consumers in Japan illustrates well the concept of global sourcing and highlights the flexible character of global broiler commodity chains.

The literature on the globalization of economy and society can be generally divided into two contrasting views of the socio-economic implications of globalization of economy and society². The first view represented best by Piore and Sabel (1984) employs the concept of flexible specialization to advance a more normative position that regional-

industrial districts can take advantage of flexible regional synergies to develop new products and new work arrangements that can out-compete the old rigid industrial models, as well as provide a reskilling of labor based on computer-assisted jobs. The successes of Silicon Valley and the Third Italy have been offered as proof that flexible specialization can work. This optimistic view sees the possibility of more virtuous outcomes of the globalization of economy and society.

The second view represented by Harvey (1989) is based on the concept of flexible accumulation and the hyper-mobility of capital. From this perspective the domestic industrial arrangements between capital, labor, and government in the 1960s and 1970s were too rigid and did not allow the flexibility needed to accommodate changing consumer demands and growing global competition. The accumulation crisis of capital of the 1970s was resolved via the globalization project (see McMichael 1996) whereby transnational finance capital escaped the boundaries and regulations of nation-states. Flexible accumulation strategies such as the decentralization of production, the informalization of labor, and global sourcing enhanced capital accumulation as TNCs created global value chains that linked disparate producers and consumers (see Bonanno and Constance 2006; McMichael 2005). As the president of Tyson International noted, Tyson's expansion in poultry, beef, and pork around the world "move us quickly forward along our strategy of producing quality products for our worldwide customers from cost effective global locations" (Tyson Foods, Inc. 2005b:2). While flexible accumulation strategies have substantial benefits for the broiler TNCs regarding efficient production and profit generation, from a more pessimistic viewpoint it can be characterized as a

vicious system that capitalizes on the informal labor of marginalized subordinate groups such as contract growers and processing plant workers.

The regional-industrial districts based that emerged in the 1980s as a hopeful variant of globalization have precedents in the agro-industrial districts in the US South in the 1950s. The southern integrators created a flexible capital accumulation system that minimized the processing and production costs and externalized much of the risk and responsibility. Processing workers were non-union, mostly minority women, and now are mostly recent documented and undocumented Hispanic and Asian immigrants. The production contract allowed for control of the labor process without the formal responsibilities of the company/worker relationship such as wages and benefits. Furthermore, the contract system avoided the high fixed cost of company-owned production facilities, as well as externalized environmental liability onto the contractee. Characterized as “serfs on the land” or the “only slaves in left in the country,” the growers have “little recourse” in their relationships with integrators because they are dependent. Through mergers and acquisitions, integrating firms decentralized their production centers across several locales thereby adding another dimension of flexibility. This process of horizontal integration increased market share and created regional monopolies. The combination of regional monopolies, the “batch to batch” nature of broiler contract, and growers having to mortgage their land and homes to build the grow-out buildings, created a form of debt slavery that many contract growers never escape.

While flexible specialization accounts of globalization focus on more virtuous arrangements between capital and workers, the more vicious arrangements characteristic of flexible accumulation better explain the dynamics of the Southern Model. We should

remember that the Southern Model is a remnant of slavery in the US South. Sharecropping replaced slavery as the dominant agriculture model; contract broiler production is but a formalized form of sharecropping. Historically, African American women made up the marginalized labor force, now Hispanics and Asians perform that function in the Southern Model. The Southern Model based on decentralized production, informalized labor, and global sourcing is the organizational archetype for the global food system. Documenting and researching the impacts of the adoption and diffusion of the Southern Model warrants special attention by researchers concerned with socio-economic implications of the restructuring of agrifood system as part of the globalization of economy and society.

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Endnotes:

¹ "New York dressed" refers to chickens that have been killed and the feathers removed but the head, feed, and entrails remain intact.

² The literature on the globalization of economy and society is more complex than the dualistic representation presented here. The employment of flexible specialization and flexible accumulation as opposing interpretations of the socio-economic implications of globalization is provided as a heuristic device. For a thorough treatment of the theories of globalization see Bonanno and Constance (2008).