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Bioenergy Ownership and Investment Models for Rural America

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Background

In 2006, the U.S. Department of Agriculture commissioned Informa Economics Inc., a consulting firm headquartered in Memphis, Tennessee, to study business models in use in the renewable transportation fuels industry. In addition to providing a full description of the basic business models used in biofuels production, the objectives of the study were to:

- Articulate the advantages and disadvantages of each model and the conditions of the marketplace products and raw materials, sources of capital and regulatory and tax environment that most favor use of each particular model; and
- Assess public policy and USDA Rural Development programs to align particular models to conditions best suited to promote renewable energy development.

In this paper the Informa Economics findings are summarized and business organization and investment systems from the perspective of farmers and rural community development are discussed (Informa Economics, Inc., 2007a and 2007b). The enormous variety and flexibility of business firms as found in specific circumstances lets us only summarize general models. Important characteristics of each type can be significantly modified and adapted to individual circumstances.

Business Firms

Business firms are organized to address several processes inherent in any business (Hansmann, 1996; Klein and Coffee, 1990). Businesses in the bioenergy industry are no exception. Some business characteristics take on added importance when the focus of the inquiry is on the position of the farmer and the role of rural communities. The processes of most interest for our purposes include:

- Investment for capital acquisition;
- Obtaining adequate financial resources;
- Expertise in:
  - Operations and management;
  - Technical design and operation;
  - Purchase of commodity;
  - Marketing of product and byproducts;
- Obtaining sources of supply;
- Identifying and developing markets;
- Risk management;
- Distributing profits, benefits, or losses;
- Satisfying legal requirements, establishing appropriate rights and obligations; and
- Implementing entry and exit strategies.

Each business type will tend to have advantages and disadvantages in each of the identified areas.

During the current decade, ethanol industry growth accelerated as petroleum prices increased and oxygenate methyl tertiary butyl ether (MTBE) was banned. Farmer-owned facilities participated in this growth to an even greater extent than in the previous decade. In November 2006, farmers and other rural investors owned 50 out of the 107 operating ethanol facilities, or 37 percent of production capacity, and they participated significantly in industry's high profit margins. At that time half of industry capacity was in the hands of firms structured as either limited liability companies or partnerships (LLC and LLP), or as cooperatives. The other half of the industry was controlled by investor-owned corporations such as Archer Daniels Midland, which owns 20 percent of the industry's production capacity, and by privately held corporations such as Cargill and Abengoa Bioenergy that owned the remaining 30 percent.

A number of diverse business structures developed in the ethanol industry in the past 15 years. A cross-section of the industry, with respect to producer and capacity, reveals four main business model types:

Corporate Model

An ethanol producer may be a corporation (typically a C corporation) or a subsidiary of a corporation. Internal staff

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manages the plant(s) and the functions of grain procurement, biofuels marketing and coproduct marketing. The corporation does not own or manage farmland but purchases grain from others. If the corporation produces biodiesel, it is very likely to own integrated oilseed-crushing operations. Some corporations also provide third-party grain supply and biofuel and coproduct marketing services to other producers. Profits, losses, and risks are shared by the corporation's investor-owners. Farmers supplying the commodity to be processed only receive payment for the commodity delivered to the corporation. Rural communities benefit from employment opportunities and share the burden of infrastructure use if the facility is located in a rural area but do not necessarily share in returns to investment.

Archer Daniels Midland (ADM) is a prime example of this model of ownership. It is a vertically integrated agribusiness conglomerate and is also the largest biofuel producer in both the United States and the world, with more than 1 billion gallons of annual production capacity. The corporation owns an extensive network of grain elevators and is one of the world's largest agricultural processors of soybeans, corn, wheat and cocoa.

ADM is a Delaware corporation and its stock is listed on the New York Stock Exchange. With net sales and other operating income of $36.6 billion in fiscal 2006, ADM is the largest example of the corporate business model for biofuels. It operates seven ethanol production facilities: Decatur and Peoria, Ill.; Cedar Rapids and Clinton, Iowa; Columbus, Nebraska; Marshall, Minnesota; and Wallhalla, North Dakota. It is building two new 275-million-gallon plants at its Cedar Rapids and Columbus sites.

ADM has an experienced internal sales force to market its ethanol. It began offering ethanol-marketing services to independent ethanol producers last year. The corporation controls substantial transportation assets, including 20,000 railcars, 2,000 barges and 1,500 tractor trailers. It has coproduct merchandising capability through its ADM Alliance Nutrition subsidiary.

"ADM is uniquely positioned at the intersection of the world's increasing demands for both food and fuel," says ADM Chief Executive Officer Patricia Woertz.

The Farmer-Owned Model

The farmer owned businesses are generally structured legally as either cooperatives or LLCs or similar organizations. Farmers have a majority ownership in the facility. In a coop, or a coop within an LLC or which owns an LLC, members have contractual delivery obligations (grain and/or oilseeds) to the facility under terms established for efficient plant operation. They have access to storage, including on-farm bins and limited storage at the facility. In the case of cooperative ownership, the business may also have separate grain-elevator operations.

The Chippewa Valley Agrafuels Cooperative (CVAC) is an example of the farmer-owned business model. It was formed in the early 1990s with the intent of establishing an ethanol facility in Benson, Minnesota. CVAC was formed with more than 650 shareholders, which included producers, elevators and local investors. Planning for the ethanol plant began in 1993. CVAC teamed up with the designer/builder Delta-T Corporation to form Chippewa Valley Ethanol Co. LLC (CVEC). Delta-T chose to become an equity investor when local producers faced a significant shortfall in their original equity drive.

CVEC's original capacity was 15 million gallons, later expanded to 20 million gallons. As the size of new ethanol plants increased, to stay competitive CVEC expanded, to 45 million gallons in 2003. In late 2006, CVEC signed a letter of intent with Fagen Inc. to build a new 40-million gallon facility next to the existing facility.

To improve its market position and diversify its revenue stream, CVEC and a group of other ethanol producers founded Renewable Products Marketing Group. RPMG was established to collectively and cost-effectively market ethanol by aggregating sales in volumes demanded by buyers. RPMG members also used their combined buying power to reduce costs on enzymes and other raw materials.

CVEC teamed up with Pete's Wicked Ale in 2003 to produce Shakers Original American Vodka, a premium brand. CVEC has proven that the farmer-owned business model can be adaptive, progressive and offer business strengths that go well beyond an assured grain supply.

Farmers participate in farmer-owned organizations both through their supply of commodity and by sharing in the benefits of any profits generated by the producer, either as direct distribution of profit or enhancement of the value of their investment. In a cooperative, margins are distributed in proportion to the amount of commodity delivered rather than on the basis of investment only. Investment coming from rural communities also means that ownership benefits are returned to the community in some fashion. The unique roles of cooperatives as business forms amenable to rural development have been noted in numerous studies focusing on general development issues (Coon and Leistritz, 2005; Martin, 2006; Merret and Walzer, 2001; Holmes, Walzer, and Merrett, 2001; Zeuli and Deller, 2007; and Zeuli et al., 2003). Examples of studies of cooperatives' specific contributions to communities as unique business types include Bhuyan and Leistritz, 1996; Folsom, 2003; Zeuli and Deller, 2007; and Zeuli et al., 2003.

The "Engineer/Builder-Owned" Model

The Engineer Model or Builder-Owned model separates out and remixes several functions of a business type. These firms either own facilities outright or maintain a significant ownership interest, along other investors, in individual plants. In either case, the design/build firms maintain a controlling interest in management. Because of their ownership in multiple facilities, these firms have the scale to support an internal staff that conducts grain procurement and biofuels/coproduct product marketing. They may also provide these services to unaffiliated plants.

From the Broin family's small-scale entry into the ethanol industry in the 1980s, it would have been difficult to predict the extensive role that the Broin Companies now plays across the ethanol-supply chain today. The family built a small plant on its farm in Kenyon, Minnesota, in 1983. The Broins then purchased and refurbished a foreclosed ethanol plant in Scotland, South Dakota in 1987.

From such small beginnings, Broin & Associates began providing ethanol facility engineering and construction services for other organizations. By the end of the 1990s, Broin Companies provided a range of services to ethanol producers and became the prototype engineer-owned business model.

Renamed POET in May 2007, this group of companies provides a comprehensive array of services for ethanol producers. In 1991, it began operating a center for plant design, engineering, construction and research. A management company was formed in 1994 to provide management services for Broin-designed plants. Dakota Gold Marketing was established in 1995 to market Dakota Gold Enhanced Nutrition Distillers Products. In 1999, Ethanol Products was formed to market ethanol and carbon dioxide.

Twenty-three operating ethanol plants with a combined production capacity of over 1.1 billion gallons have been designed and built by POET. An additional five plants totaling 375 million gallons were under construction or development in December 2007.

POET retains an equity interest of 20-25 percent in its partners' plants. With its engineering and construction capabilities, ownership and management of partner plants, as well as its ethanol and distillers grains marketing services, POET has pioneered the "engineer/builder-owned" business model.

The "Franchise" Model

The Franchis Model also separates out and remixes several functions of a business type. This is not a vertically integrated model, but rather is characterized by a dependence on third-party service providers to link the firm to its supply chain. The plant is a "cookie-cutter" facility designed and built by one of the major engineering firms (consortiums), and its production process is monitored remotely by the builder.

Third-party service providers are depended upon to procure feedstock (grain or oil) and to market biofuels and coproducts. New operations under this model are generally required by their financial institution(s) to enter into long-term agreements with these service providers. In turn, the service providers might invest a modest amount of capital in the facility.

ASAlliances Biofuels LLC (ASA) was formed in 2004 by Americas Strategic Alliances LLC, a firm specializing in merchant banking and investments. ASA's business plan combines top-tier service providers with sophisticated financial partners. Each facility is to be built by Fagen Inc. and located adjacent to an existing Cargill Inc. grain elevator.

In 2006, ASA began construction on two planned ethanol facilities located in Albion, Nebraska, and Bloomingburg, Ohio. Each of these plants have an annual capacity of 110 million gallons. Construction began on a third facility in Linden, Indiana in 2007.

Cargill Inc. is contracted to provide corn and natural gas procurement services and ethanol and distillers grains marketing and transportation services. United Bio Energy Management LLC will provide operational and maintenance support.

In addition to negotiating contracts with the construction, grain supply, product off-take and facilities management firms, ASA put together the group of equity backers for the three facilities and obtained the required debt financing. A group of private equity firms comprised of American Capital Strategies Ltd., Laminar Direct Capital, L.P. (a member of the D.E. Shaw group), U.S. Renewables Group LLC and Midwest First Financial Inc., provided a significant portion of the equity and all of the subordinated debt to ASAlliances Biofuels. Challenger Capital Group Ltd., a Dallas-based, full-service investment bank, secured $148 million in equity and subordinate debt.

In September 2007, VeraSun Energy Corp. announced plans to acquire the three ethanol plants from ASAlliances Biofuels LLC for $725 million. The acquisition is expected to increase VeraSun's total production capacity to approximately 1 billion gallons by the end of 2008.

In a sense, the "farmer-owned" and "engineer/builder-owned" business models can be viewed as variations of the "franchise" model. However, they also have elements of vertical integration that differentiate them from the pure "franchise" model. Farmer-owned operations are linked to the farmer segment of the supply chain, and in some cases there is integration with a grain elevator. This arrangement

can reduce, but not eliminate, the need for a feedstock supply agreement for ethanol operations.

Third-Party Marketing Organizations

The advent of third-party marketing organizations is an important development in the industry and has become a key component of certain business models, especially the "franchise" model. As of December 2007, 120 companies owned 134 ethanol facilities in operation with 66 facilities under construction.

Third-party marketing organizations alleviate a particularly inefficient system where fuel blenders to have to purchase ethanol from 100 or so different firms. It is costly for each of these facilities to have internal sales staff for ethanol and distillers grains (the main coproduct product of dry-mill ethanol production). Moreover, rail carriers favor unit train shipments of about 100 cars and a limited number of origin and destination points (preferably one of each). These preferences are reflected in their rate structures.

Until recently, it was necessary for a company to have a minimum of 100 million gallons of annual production to justify having an internal sales staff. However, given the proliferation of individual plants of that size, the minimum size has increased. Although there is no set rule, operations producing an aggregated 300 million gallons annually are more likely to use an internal sales staff. However, virtually all new entrants into the industry are encouraged by their lenders and debt holders to use a third-party marketing company, at least until they've gained sufficient industry experience.

Energy Corp. owns eight plants with 560 million gallons of annual production, and has an additional 330 million gallons of capacity under construction.

On March 31st, VeraSun announced its merger with US BioEnergy Corp. of Inver Heights, Minnesota, after the transaction was approved by a majority vote of shareholders of both companies. The merger combined the nation's No. 3 and No. 4 ethanol producers into one company. VeraSun owns and operates 10 ethanol production facilities with an annual capacity of 980 million gallons per year (MMGY). With its seven other facilities currently under construction or development the company expects to have a capacity of approximately 1.64 billion gallons, making VeraSun the largest ethanol producer in the United States.

CHS Inc., the nation's leading farmer-owned energy and grain-based foods company, which owned about 20 percent of U.S. BioEnergy, and voted in favor of the VeraSun merger, now owns about 8 percent of VeraSun. CHS has marketed ethanol-blended fuels for more than 25 years and currently is one of the nation's largest suppliers of blended fuel products, which it distributes through 64 terminals.

Cellulosic Ethanol Applications

In the future, as the cellulosic ethanol industry matures, the issues of cost, legal structures and management are expected to become even more acute. Capital expenditures per gallon of capacity for cellulosic plants are estimated to be at least three times those for a corn-based plant of equivalent capacity. Between the total cost of a facility and obtaining the rights to use cellulosic ethanol technology, it is possible that only large corporations and private equity funds have the financial resources to provide the equity for such ventures, especially given the associated risk.

Given the importance of intellectual property in cellulosic ethanol and the fact that some of the main engineering companies serving the corn-based ethanol industry are also devoting resources to cellulosic ethanol, the engineer/builder-owned business model are likely to rise in prominence.

Collection and storage systems have yet to be established for crop-based feedstocks, although central milling locations exist for some forest and paper products. Given the scale of the investments and the role of intellectual property in cellulosic ethanol, it is possible that the farmer-owned business model will struggle to be relevant in the new industry, at least under circumstances where complete farmer ownership is required. However, farmers will still be the main source of cellulosic feedstock. It is possible that farmers will be able to participate beyond mere supply where hybrid business models are developed to bring feedstock producers into the ownership structure. Examples of such arrangements may include:

- Direct outside ownership interests in a cooperative such as with preferred stock, ownership using new LLC cooperative statutes, direct LLC formation with farmer control, or the use of corporate statutes with desirable structuring, financing, and operating provisions;
- Co-ownership between farmer-owned organizations and others in which each entity contributes an efficient element of the overall business process as noted at the beginning of this paper. Jointly-owned subsidiaries would be such examples, and
- Farmers' contributions could be recognized absent full ownership through contractual arrangements. This method may require less investment but compensate farmers for their unique role in the enterprise through production of a product with limited alternative use.

The Broin/POET system of partnering with farmers and other rural investors seems to be adaptable for this purpose of tying together capital, intellectual property and feedstock. But the feedstock supply linkage will need to be enhanced. Given the legal and management issues discussed above, it

seems imperative to ensure that any necessary adaptations to more "traditional" legal structures and management systems be put in place during the next few years if farmers and other rural investors are to participate fully in the cellulosic ethanol industry of the future.

Business models are likely to become even more complex with the advent of cellulosic ethanol. While corn is the predominant feedstock for today's ethanol industry, a variety of feedstocks – corn, agricultural wastes, dedicated energy crops such as switchgrass and miscanthus, forestry products and others – are expected to be used by the cellulosic ethanol industry of tomorrow. The feedstock producers of tomorrow are therefore likely to be much more than row crop farmers. The "farmer-owned" business model will have to expand to embrace these new commodities to the extent such farmers wish to participate more fully in the emerging industry. The touchstone of success for new developments will depend on how well new or traditional business structures address the eight characteristics of business outlined previously, in particular what position farmers have in the system and the economic and social impacts on rural communities.

With the advent of new biorefineries and new technologies, the number and specialization of coproducts should multiply and require a more diverse and complicated mix of third party marketing firms. In the case of some products with highly technical applications, the use of specialized marketing firms or long-term off-take agreements will be necessary because of the extraordinary expense of a facility having internal staff to perform such a highly specialized and technical sales function.

It is quite likely that more business models will be created by the advent of cellulosic ethanol. And we can expect them to be even more complex than today's business models. From farmers' and rural communities' perspective, business models effectively meeting their needs may require imagination and creativity that challenges current capabilities and capacities. However, experience has shown throughout the country's history that such challenges are precisely what fuel innovation upon which growth and development depend.

New Investment Models to Reverse Decline of Local Ownership

A little more than one-third of ethanol-industry capacity is owned by farmers and other local investors, according to the Renewable Fuels Association. However, only 15 percent of new or expanding biofuel plant construction is owned by such investors. A key reason for this shift is that the larger plants being built today require larger amounts of equity.

Equity investment at this scale can be difficult to obtain from farmers and other rural investors living in close proximity to a proposed facility. But if local investment wanes, so does the flow of returns from biofuel to the communities were it is produced.

Based on the analysis conducted by Informa and interviews carried out during the course of this project, Informa formulated several investment models that may be used to facilitate investment by farmers and other rural residents in the renewable energy sector. This article briefly describes each of these models.

In a "closed-ended renewable energy fund" investment would be limited to farmers and other rural residents seeking to invest in energy projects. The funds would be managed by a professional or an institution. These funds would need to be large enough to invest across multiple facilities. For example, a $300-million-capitalization fund could own almost all the equity in three 100-million-gallon-per-year ethanol facilities. While it is uncertain how much money farmers and other rural investors would be willing to invest in such a fund, some parameters can be placed around potential contributions. Per-person investments by farmers and other rural investors tend to be small, in relative terms, generally around $10,000 to $50,000. Farmers with gross sales of more than $100,000, a mean net worth of at least $1 million and a debt-coverage of at least $50,000 are seen as the most likely candidates for participations in a renewable energy fund. Nearly 300,000 farms would be embraced by these characteristics. A $10,000 investment from each could attract $3 billion into the fund; sufficient to provide equity for more than 625 million gallons of cellulosic-ethanol at $8 per gallon of capacity using 60 percent equity and 40 percent debt financing, or 3.5 billion gallons of corn-ethanol, at $2.00 per gallon using 40 percent equity and 60 percent debt.

Under a program similar to Rural Business Investment Program (RBIP) administered by the Small Business Administration, Rural Business Investment Companies (RBICs) could be established and allowed to issue "debenture guarantees." Debentures issued by an RBIC could be pooled with other issues and sold to outside investors. Backed by the federal government, the debentures would carry lower premiums. The modifications of the RBIP program for an RBIC biofuel investment projects program would be straightforward:

- Relax the maximum, $6 million-net-worth restrictions of the existing program, to avail the fund to biorefinery financing;
- Relax dividend pre-payment requirements, to generate more cash flow to equity holders; and
- Lower leverage fees for debentures would have to be significantly to be competitive against market interest rates.

In recent years, ethanol producers enjoyed relatively high margins and short debt-payback periods. Thus the debt market does not demand a high-risk premium from ethanol producers. Furthermore, ethanol plants with a high probability of financial success are able to secure adequate debt financing in the market.

The "new markets tax credit" (NMTC) program is funded and managed by the U.S. Treasury Department's Community Development Financial Institutions (CDFI). The Models for Funneling Local Investment Capital into Biofuel Production program permits taxpayers to receive a credit against federal income taxes for making qualified equity investments in designated Community Development Entities (CDEs). These CDEs could invest in biofuel facilities to supplement farmers' equity, thereby leveraging the initial investment. Some modifications would be needed for the biofuel sector:

- The CDE would pledge to invest in a portfolio of qualified biofuel projects.
- Create a new tax credit model to mirror the investment mechanism of the NMTC, but targeted specifically for biofuels and renewable industry investment.

Farmer groups and rural residents have demonstrated an ability to raise $5 million to $20 million from a limited number of investors in a short period of time. However, moving beyond the $20 million level has proven difficult. A way to expand the size of this group would be to offer a "production tax credit" for projects with minimal rural involvement to outside investors to help farmers finance biofuel facilities. The program would requite an outside investor to match the farmers' investment in exchange for the project's tax credit. This is similar to the program for wind generated electricity.

Substantial amounts of equity are already flowing into (and out of) renewable fuel projects. And farmer-investors can easily become shareholders in a number of publicly traded ethanol companies. But a farmer's investment into the biofuel-corporation goes outside the community. There is no rural ownership of that investment. Nor is there any rural area multiplier effect from those corporate returns. The returns from a locally owned biofuels facility recirculate within the rural community and stimulate additional economic growth. Studies cited previously on cooperatives' impacts on rural economic development as well as others explore this characteristic in varying detail.

Tapping Farm Equity Key to Greater Local Ownership

For local investment in rural opportunities such as renewable energy to succeed, enough equity must be available to pursue these investment opportunities. One part of the investment-model study included an examination of the amount of equity available in the rural communities that could be available for rural investment. This section reviews basic findings.

U.S. farm business assets in 2006 were $1.98 trillion and are forecast to increase 27 percent to $2.51 trillion in 2008. Farmland value in the United States generally follows farm income and return to assets. However, since 2004, net farm income declined while rural real estate increased substantially. This pattern followed the same pattern of real estate values throughout the rest of the country. Farm real estate which accounted for 85 percent of farm sector assets in 2006 is projected to increased 30 percent to $2.2 trillion in 2008 and represents 87 percent of total farm sector assets.

Clearly there is significant value in land held by farmers. But what portion of these assets is already leveraged? Total farm business debt is projected to climbed 10 percent in 2008, to $228 billion. Real estate debt for farm businesses accounts for more than half of total farm debt outstanding and has increased steadily from $67.6 billion in 1990 to an estimated $121 billion in 2007. Farm business equity is expected to continue rising in 2008 as the increase in farm asset values exceeds the rise in farm debt. Farm sector equity should be about $2.29 trillion in 2008, up from $2.00 trillion in 2007. The increase in assets relative to debt lifted farmers' net wealth; debt-to-equity fell from 17.4 percent in 2002 to an estimated 10.0 percent in 2008.

This growing stock of equity capital can be used to finance investments in rural communities. But while U.S. farmers hold a significant amount of assets and equity relative to debt, the ability to take on more debt is largely dependent on the ability to generate enough income to service their debt obligations. One way to measure the amount of additional mortgage available is to look at the unused debt repayment capacity. The debt-repayment capacity is based on the maximum debt service that operators would be able to pay given total income and farm and non-farm expenses. Figure 1 illustrates these two values from 1970 to 2006. During this time period, there was only one year when the debt level was more than the repayment capacity. In 1981, the aggregate debt payments exceeded the ability to repay these loans, which resulted in many farm foreclosures. Farmers could boost their debt load by nearly $1 trillion.

Changing circumstances could affect the income available for debt coverage -- falling commodity prices, input price increases, or crop failure. However, the risk associated with commodity price fluctuations for the farm operator may also be partially offset by their investment in a biofuel facility.

If it is true that more than one out of every four farmers, and about half of agricultural landlords, are 65 or older and this group controls more than one-third of all farm assets,

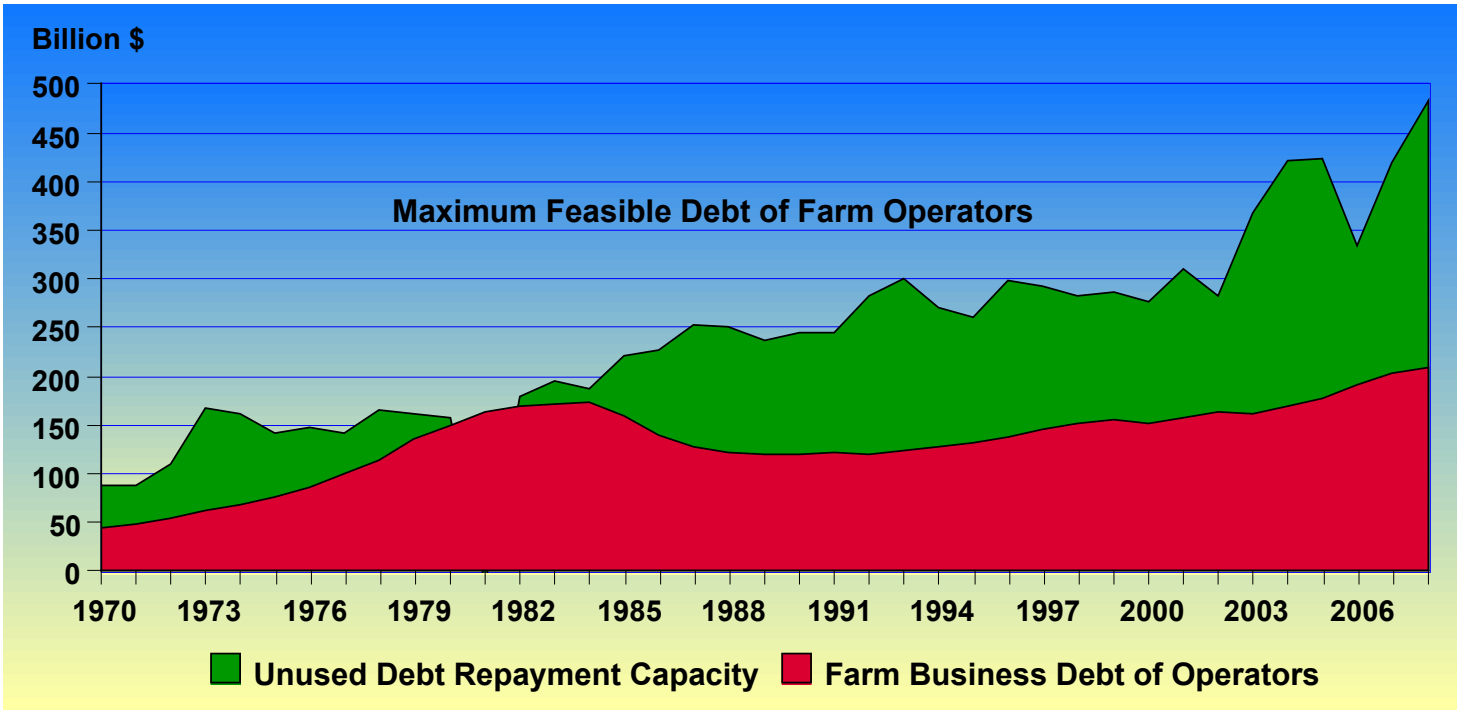

Figure 1. Debt Repayment Capacity

how might this affect the attitude of farmers with respect to mortgaging the farm for investment purposes? In addition to working longer past traditional retirement age, farm-operator households tend to have several income sources and different forms of wealth, compared with the general population. Moreover, fewer farm operators are covered by employer-sponsored pensions than are non-farmers. But, a majority of farm operators save from current income on a regular basis and have accumulated diversified financial portfolios, including individual retirement savings.

Theoretical availability of funds for investment in biofuel businesses does not indicate that increasing farm-level debt to make off-farm investments in biofuels is an appropriate financial strategy. An analysis of such investment would include:

- Risks of loss inherent in a new and volatile industry, especially where the firm is new and of relatively small size in the industry;
- Risks that markets and technologies will change significantly rendering the business and its technology obsolete;
- A balance of the cost of debt with its established repayment and servicing obligations again unknown and non-guaranteed return on funds invested in biofuels firms;
- Portfolio investment issues where investment is being made in associated but non-countercyclical equity; and
- The free rider problem in which the increase in price received for grain delivered may not be appropriately attributable to investment because the increase in price inures to all producers, not just the investing producer.

Numerous other factors may determine the desirability of direct farmer investment in biofuels businesses generally (Serra, Goodwin, and Featherstone, 2004) and specifically related to a biofuels firm (Jensen, English, Menard, and Zhang, 2004).

Conclusions

The substantial changes to farming and rural communities brought about by the growth of the biofuels industry continue to have an enormous impact on farming and rural communities. How the benefits of such events are distributed will depend largely on the structure of business organizations that participate in the industry. For those focusing on the welfare of farmers and rural communities, current issues of industry structure are critical. Such issues are in a state of change. Flexibility of response to the evolving industry, including creative designs for business arrangements, may be the greatest challenge to farmers and rural communities that may benefit from the phenomenal growth of the biofuels industry.

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