

# UC Berkeley

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# UPDATE

## Agricultural and Resource Economics

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### Lessons from a Failed Cooperative: The Rice Growers Association Experience

by

*Jennifer Keeling*

*A survey of former affiliates of the California Rice Growers Association was employed to identify causes for their cooperative's closure and to collect viewpoints on difficulties other Californian cooperatives might face.*

Recently several large California cooperatives including Tri-Valley Growers (TVG) and the Rice Grower's Association (RGA) have closed, while others are experiencing financial difficulties. These developments suggest that California cooperatives may be finding it increasingly difficult to compete in today's agribusiness climate. Given the size and national importance of California's agriculture industry, a decline in the role of the state's cooperatives may be indicative of a larger, countrywide trend.

The United States Department of Agriculture (USDA) and the Department of Agricultural and Resource Economics (ARE) at the University of California at Davis are currently conducting a study to investigate causes behind the RGA failure. The goals of this case study are to determine the origins of RGA's problems and identify lessons that may be useful to other cooperatives. A survey of former RGA affiliates was conducted in order to document factors that the grower members and management believe were responsible for RGA's demise.

RGA closed in August 2000 after nearly 80 years of operation. The cooperative's dramatic swing in fortunes, from a dominant cooperative that

handled upwards of 70 percent of the total California rice crop in the early 1980s, to one that handled approximately five percent at the time of its closure in 2000, makes it a particularly interesting research subject.

#### **Analytical Framework**

Affiliate responses were collected primarily through a confidential mail survey and interviews with former RGA affiliates. The survey was designed to capture the attitudes and perceptions of former RGA management and members with regard to factors leading to the closure of RGA and the future of California agricultural cooperatives. Information on the background of survey respondents was also collected, including age, income, education and employment status. Individuals who were involved in rice cultivation at the time of the survey were also asked to describe the characteristics of their farming operations and family history.

#### **Survey Sample**

Only incomplete membership records were available for RGA. Hence surveys were sent to a non-random sample of known former affiliates of RGA and a systematic random sample of rice growers from the eight largest rice-growing

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*by Philip Martin and Dale Heien*

**Table 1. Sample Size by County**

County	Sample	Percent of Sample
Glenn	64	15.5
Placer	12	2.9
Yuba	104	25.2
San Joaquin	24	5.8
Stanislaus	24	5.8
Yolo	47	11.4
Sutter	66	16.0
Colusa	71	17.2
Total	412	100.0

counties of Central California. Former members of RGA who could be identified were excluded from the random portion of the sample. Table 1 summarizes response rates by county. In total, 412 surveys were completed.

## Results and Discussion

Nearly all survey respondents have a family history of farming and involvement in cooperatives. However, only one quarter of those surveyed are currently members of an agricultural cooperative.

### Cooperative Attitudes and Issues

Former RGA affiliates were asked to describe their attitudes regarding cooperatives, RGA and their outlook for the future of agricultural cooperatives. Answers to many of these questions are summarized in Table 2. Most notably, fully one-half of former RGA affiliates said they had extremely dissatisfying experiences with cooperatives. Somewhat fewer (33 percent) had extremely disappointing experiences with RGA. Although a percentage of affiliates had positive experiences with cooperatives and RGA, the majority of respondents had negative experiences.

Negative experiences with cooperatives were common, yet the vast majority (72 percent) of affiliates expressed agreement or strong agreement that agricultural cooperatives are a necessary part of the agricultural sector. An

even greater percentage (77 percent) believed that agricultural cooperatives have a future in California. In spite of a positive outlook for the future of cooperatives, a large majority of former affiliates (70 percent) felt that cooperative businesses were not managed as well as other types of agribusiness. In addition, a slight majority (54 percent) felt that cooperatives were generally less successful than other forms of agribusiness, and only 41 percent felt that cooperatives were equally successful.

### Reasons for Joining, Causes of Failure

Former affiliates were asked to identify their main reasons for joining RGA and rank them as being very important to very unimportant. Five reasons stand out as being the most important to perspective cooperative members. In order of importance they are: increased agricultural income, benefits from price pooling, reduced marketing risk, appealing differentiated product strategy and increased voice in agricultural issues. Few respondents cited prestige or investment opportunity as incentives for joining RGA.

Respondents were asked to identify what factors contributed to the failure of RGA. Interestingly, several of the main reasons cited for joining RGA are directly related to what affiliates perceived to be the causes of RGA's failure. This indicates a fundamental gap between what members expected through cooperative membership and what was borne out in reality. For instance, some growers responded that RGA



*The Valerie F. (later renamed the California Rice Transport) docked at the Port of Sacramento during RGA's heyday.*

*Photo courtesy of Butte County Rice Growers Association, 1976*

**Table 2. Cooperative Attitudes and Issues**

	Responses	Number of Valid Responses	All Counties	
			Number	Percentage
Overall satisfaction with cooperatives	Extremely Disappointed	412	206	50.0
	Somewhat Disappointed		32	7.7
	Neutral		95	23.1
	Somewhat Positive		63	15.4
	Extremely Positive		16	3.9
Overall RGA experience	Extremely Disappointed	412	137	33.3
	Somewhat Disappointed		103	25.0
	Neutral		103	25.0
	Somewhat Positive		52	12.5
	Extremely Positive		17	4.2
Is there a future for agricultural cooperatives in CA?	Strongly Disagree	412	32	7.7
	Disagree		0	0.0
	Neutral		63	15.4
	Agree		254	61.5
	Strongly Agree		63	15.4
What is happening to the volume of commodities handled by CA cooperatives?	Increasing	412	33	8.0
	No Change		82	20.0
	Decreasing		297	72.0
Are agricultural cooperatives managed as well as other agribusinesses?	Yes	408	119	29.2
	No		289	70.8
Are cooperatives _____ successful than other business types?	More	400	17	4.2
	Equally		167	41.7
	Less		217	54.2

had an appealing differentiated product strategy, yet affiliates cited poor decision-making by management, including the decision to pursue a differentiated product strategy, as a chief contributor to RGA's failure.

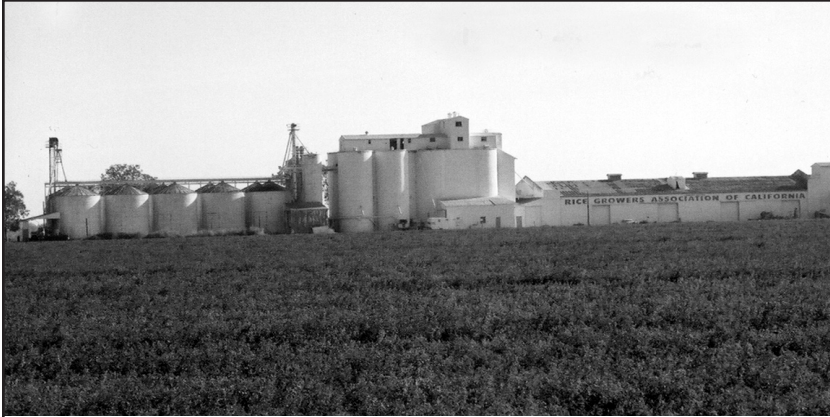
Former affiliates identified the high cost of maintaining both the cooperative's assets and contract with the California Rice Transport (CRT) shipping vessel, as important factors in RGA's failure. Expenses from maintaining numerous assets and the problematic CRT no doubt diminished the higher-than-industry-average returns that initially attracted members to RGA. Consequently, members may have left RGA after realizing higher profits could be earned by marketing through competitors.

Lack of attention by the board of directors was reported as another important contributor to RGA's decline. In interviews, this survey finding was supported by former managers who frequently stated that the board of directors was passive and ill-equipped to

scrutinize the business decisions it was charged with overseeing. The survey results also indicate that lay affiliates perceived the board to be lacking adequate cooperative governance and control abilities.

Numerous factors can be identified as having contributed to RGA's decline. However, many positives aided in the cooperative's survival through years of financial struggle. Former affiliates identified relative strengths from a series of possibilities. Many of the respondents (more than 90 percent) agreed that RGA's brand name, the large volume of rice it handled, and RGA's access to markets were all important relative strengths.

In contrast, the majority of members did not identify the skill of RGA's management team nor their attention to member needs to be a relative strength. Few of the responding affiliates participated in leadership positions at RGA, thus the perception that member needs were not met does not appear to



*RGA's once modern, now derelict Woodland facility along Highway 113.*

*Photo by Jennifer Keeling*

have inspired increased grower involvement in the cooperative. This survey finding gives some support to the hypothesis that both membership and the board suffered from a “free-rider” belief that they did not have to contribute much effort to running RGA in order to benefit from the cooperative’s strengths. Many members may have believed that others were paying attention to the administrative details of running RGA and thus there was no need to exert much time and energy in oversight.

### **Recommendations**

The joint USDA/ARE study hopes to provide answers as to why California cooperatives have been struggling in recent years and identify areas in which cooperatives may improve. Based on the research to date, the following courses of action are suggested for improving cooperative performance:

- The board of directors should be both engaged and sufficiently informed to make critical decisions about the direction of the cooperative. The board should realize that it is vested with the power to direct management. To help in discharging this obligation, it is recommended that the board regularly receive instruction in strategic management and business finance.

- To strengthen the board’s business skills, it is recommended that one or more public members be elected or appointed to the board. These members should be impartial industry experts, who are well-versed in areas of business management and operations that the board identifies as critical to the well-being of the cooperative. The individual or individuals should be appointed by the board of directors or by

the membership at large.

- In establishing goals for the cooperative, the board and management should keep membership needs at the forefront. To avoid free-rider problems resulting from ill-posed goals, it is recommended that the board and management regularly solicit feedback from the membership, perhaps in the form of an annual survey.

- Managers are charged with making difficult business decisions. When critical junctures are met, managers and the board should consider conducting an analysis of the cooperative’s strengths, weaknesses, opportunities and threats. This will give decision-makers a clearer perspective of the cooperative’s internal and external environment and aid in strategic planning.

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## Promoting Productivity

by

**Enrico Moretti and Jeffrey Perloff**

*Farmers want their employees to work hard. By constantly monitoring workers, a manager prevents shirking. However, extensively supervising workers personally is very time consuming. Consequently, farmers often hire managers or use pay incentives.*

Most farmers do not directly supervise workers. According to one study, nearly two-thirds of field workers are supervised by foremen and supervisors, 29 percent by farm labor contractors (FLCs), and only four percent by growers.

Farm labor contractors provide growers with labor and, if desired, supervision and other services. According to one study, 53 percent of FLCs are responsible for setting performance standards of workers, 14 percent share this decision with growers and the remaining third are not involved because the grower takes responsibility. One in nine hired agricultural workers nationally (and nearly one in three in the west) is employed by a farm labor contractor (FLC).

Only a little is known about which agricultural employers extensively supervise and which do not. Employers who can speak Spanish are more likely to supervise Spanish-speaking workers directly than those who do not, presumably because their monitoring and supervising costs are lower. Farmers who speak Spanish well are twice as likely to hire directly as to use FLCs, whereas those who do not speak Spanish at all are twice as likely to use (Spanish-speaking) FLCs as to hire directly. Thus, employers who do not speak Spanish are more likely to hire managers or to use pay incentives.

### Pay Incentives

Farmers use three types of pay incentives to encourage employees to work hard: piece rates and other direct productivity incentives, unusually high wages, and deferred bonuses and benefits.

### Piece Rates

Many farmers prevent loss of productivity from workers shirking by paying by the piece, a practice that is relatively uncommon in other labor markets. One in eight hired agricultural workers nationally (and one in four in the west, northeast and southeast) is paid by the piece rather than by the time worked. Compared to time-rate workers, piece-rate employees work much faster. Gregorio Billikopf, UC Cooperative Extension Specialist, reports that employees paid by the piece prune a vineyard in only 19 hours of work per acre compared to 26 hours for employees paid by the hour.

Monitoring problems differ across piece-rate and time-rate (hourly pay) jobs. Typically, the primary concern of a supervisor is increasing speed on time-

rate jobs and maintaining quality—especially when harvesting delicate crops—on piece-rate jobs.

### Efficiency Wages

By paying an unusually high wage (which economists call an *efficiency wage*), a farmer raises the cost to a worker of being fired. Even if there is only a small chance of being caught, a worker who is paid a high enough wage will not shirk because shirking is not worth the risk of losing such a good job. Thus, the higher the wage paid, the less monitoring needed to deter shirking. Moreover, workers may be grateful to employers who pay unusually high wages and hence work harder.

### Deferred Payments

Deferred payments work much like efficiency wages to discourage workers from shirking by raising

*“...farmers can prevent shirking by monitoring themselves, employing managers such as FLCs or providing financial incentives.”*

the cost of being fired. If the wage is low for some initial period of employment and then rises, workers who are caught shirking are forfeiting relatively high future wages. Similarly, if the firm provides bonuses or pensions to only those workers who remain with the firm for a substantial period of time, a worker who shirks risks losing these future benefits. Both these types of deferred payments serve the same function: By raising the cost of being fired, the firm needs less monitoring to deter shirking.

### Farmers' Choices

Thus, farmers can prevent shirking by monitoring themselves, employing managers such as FLCs or providing financial incentives. Farmers choose the approach or combination of approaches that maximize their profits.

Because FLCs frequently provide monitoring services, employers who use FLCs may be less likely to use deferred wages and other indirect approaches. It is unknown whether FLCs supervise better or worse than direct-hire growers. If the FLC's contract provides no incentive to increase the productivity of workers, the FLC may provide minimal supervision. On the other hand, with appropriate incentives, a FLC speaking the language of workers may be a better supervisor than a direct-hire grower who speaks only English. Thus, one cannot predict whether or not efficiency wages or

deferred payments will be used more frequently for FLC employees than for direct-hire employees.

To determine which approaches farmers use, we turn to the National Agricultural Worker Survey (NAWS), which is a random sample of hired seasonal agricultural workers from across the United States. The Department of Labor commissioned the NAWS starting in 1988 in response to the Immigration Reform and Control Act of 1986, which required the Secretaries of Agriculture and Labor to annually assess the quantity and quality of agricultural workers in the United States.

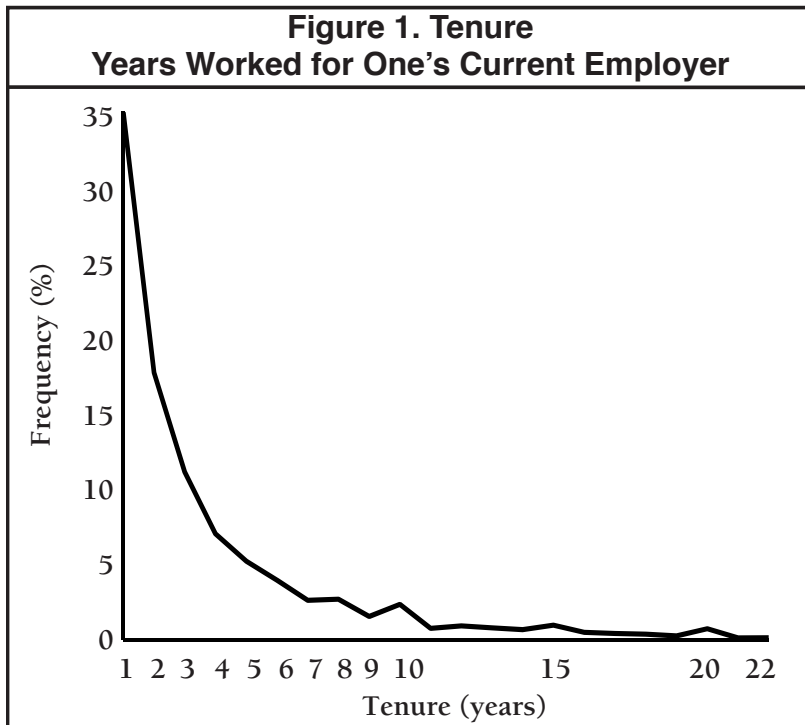
### Use of Efficiency Wages and Deferred Payments

The NAWS data is used in this study to determine whether FLCs or direct-hire farmers are more likely to provide pay incentives. Presumably, farmers that use piece rates or efficiency wages are less likely to also use deferred payments. Similarly, farmers may be less likely to provide financial incentives if FLCs provide good supervision.

If wage earnings are deferred, wages should increase with tenure or the number of years of employment. As Figure 1 shows, most farm workers have been employed in their current job for relatively brief periods. Over a third of all workers are employed for only a year or less. Over half are employed for no more than two years, and two-thirds are employed for no more than three years.

A statistical model is used to examine how wages vary with tenure controlling for experience, gender and other factors that might affect wages. Figure 2 shows the estimated relationship between tenure and wage for four cases: direct-hire farmers who pay by the piece, direct-hire farmers who pay by the hour, FLCs who pay piece-rates and FLCs who pay by the hour. In all four cases, the wage rises with tenure.

If FLCs provide less supervision of workers than do direct-hire farmers, one would expect wages to rise more rapidly with tenure for FLC employers. However, Figure 2 shows that hourly wages rise virtually at the same rate for both types of employers. Thus, apparently both employers use deferred payments similarly to encourage workers.



The wage for hourly employees of direct-hire farmers is above that of hourly FLC employees for any given tenure: FLCs pay 7.5 percent less than do direct-hire growers. One interpretation of this differential is that direct-hire growers pay an efficiency wage that is higher than the wage paid by FLCs, the employer of last resort.

As expected, piece-rate compensation provides an incentive for employees to work harder. Controlling for other factors that affect wages, piece-rate workers earn 26 percent more than time-rate employees.

The steepest of the four wage-tenure lines in Figure 2 is that of the piece-rate, FLC workers. Apparently FLCs are more likely to defer (large) payments for piece-rate rather than for time-rate employees. The piece-rate, FLC wage-tenure line crosses the piece-rate, farmer wage-tenure curve at about five years. As the mean tenure is 2.9 years and the median is two years for this group (and very few of them have more than four or five years of tenure), most piece-rate FLC employees earn less than comparable workers employed directly by farmers.

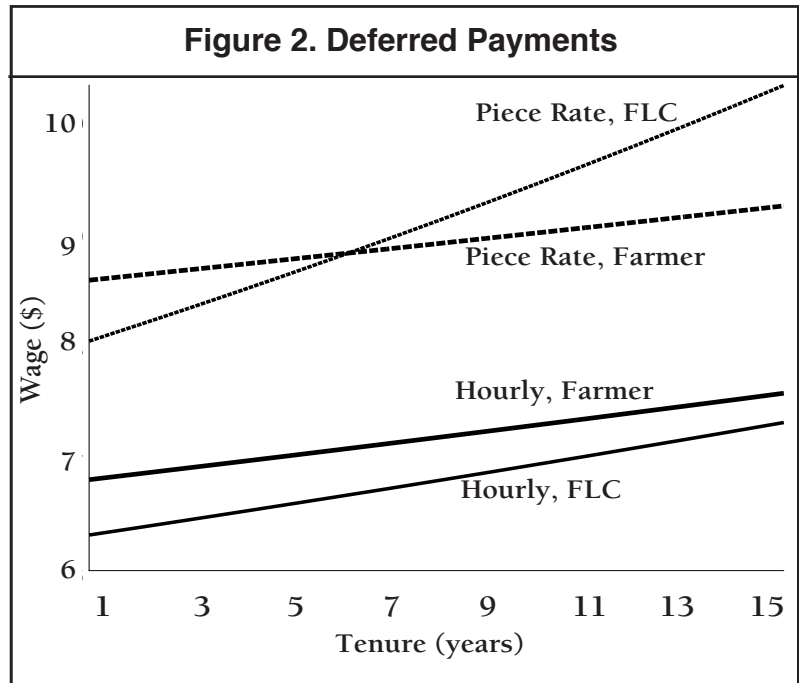
This study also examines how farmers defer fringe benefits. The greater a worker's tenure, the more likely is that worker to receive deferred fringe benefits of paid holidays and end-of-season bonuses. FLCs are more likely to provide paid holidays than are direct-hire growers.

However, the effects of greater tenure on receiving these bonuses are small. For example, as tenure increases by 10 percent, the probability that a time-rate paying farmer provides paid holidays increases by only a 0.1 percentage point.

### Summary

Farmers use a variety of methods to encourage employees to work hard. In addition to using FLCs and others to supervise employees, farmers use pay incentives. Some of the main findings in this study are as follows:

- Direct-hire farmers pay 7.5 percent higher wages than FLCs for comparable workers. This higher wage may be an efficiency wage that is offered so that the direct-hire farmer can get the same work from employees with less supervision.
- Paying by the piece induces employees to work



quickly. Piece-rate workers earn more than hourly workers for any given number of years of tenure on the job.

- All groups of employers use deferred payments and benefits. FLCs who pay by the piece are particularly likely to defer payments.
- Workers with more tenure have a higher chance of getting deferred bonuses and holiday benefits, but extra tenure does not raise this likelihood by much.

For additional information,  
the author suggests the following reading:

Enrico Moretti and Jeffrey M. Perloff, "Efficiency Wages and Deferred Payments in Agriculture," *American Journal of Agricultural Economics*, 84(4), November 2002:1144-55.

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## ARE Faculty Profile

Rachael Goodhue is an assistant professor in the Department of Agricultural and Resource Economics at UC Davis. Rachael received her Ph.D. from UC Berkeley in 1997.

Much of Rachael's recent research focused on issues in marketing agricultural products. One important issue she has studied is the relationship between product quality attributes and the terms of agricultural contracts. She has examined growers' responses to quality incentives in processing tomato contracts in research conducted with Gordon Rausser of UC Berkeley and Corinne Alexander of Purdue University. In research with Dale Heien, Hyunok Lee and Dan Sumner of UC Davis, she has examined the role of quality incentives and production requirements in California winegrape contracts. Using a survey of California winegrape growers, this research found that roughly 90 percent of growers used oral and/or written contracts. Many written contracts included financial bonuses and/or penalties based on grape quality attributes, such as sugar and acid content. Such provisions were more commonly used by growers in the Central Valley than by those in coastal production areas. In contrast, provisions specifying specific production practices, such as trellising, were more common in coastal areas. (See *ARE Update* Vol. 3, No. 3 for more information.)

Rachael has also conducted research regarding marketing in the California strawberry industry with Colin Carter and James Chalfant of UC Davis. Within the growing season, prices are higher and more volatile in the spring than in the summer. (See *ARE Update* Vol. 2, No. 3.) Grocery retailers follow a variety of strategies for obtaining fresh strawberries. Retailers also consider a number of factors when deciding whether or not to promote strawberries in a given week. These differences in marketing channels and promotion considerations may affect the returns to strawberry growers and shippers. (See *ARE Update* Vol. 6, No. 3.)

Rachael's second primary research area is agricultural policy and regulation. Currently, her work in this area focuses on agri-environmental policy and pesticide regulation. With Karen Klonsky and Guillaume Gruere of UC Davis, she has analyzed how to design green payment programs to align growers' interests with the public interest. They have also studied Californians' views regarding



Rachael Goodhue  
Assistant Professor  
UC Davis

the relationships among open space, farmland and wilderness. Californians are divided on this issue across regions, and across their relationships to agriculture. Farmers and Central Valley inhabitants are more likely to consider farmland open space than urban residents and coastal inhabitants are. (See *ARE Update* Vol. 6, No. 5.)

Professor Goodhue's pesticide regulation research currently includes two projects. In cooperation with the California Department of Pesticide Regulation (CDPR), she and Karen Klonsky are examining the determinants of organophosphate use by California almond growers. One important finding from this research is that the Biologically Integrated Orchard Systems program reduced organophosphate use in every county where it was conducted. The second project, in collaboration with Colin Carter and James Chalfant, examines the effects of pesticide regulation on the California strawberry industry. Specific topics include the effects of the 2005 methyl bromide ban included in the international Montreal Protocol, and the effects of the 2001 CDPR methyl bromide use regulations. (See *ARE Update* Vol. 5, No. 4.) She is also involved in multidisciplinary research regarding the economics of methyl bromide alternatives in strawberry production. This research has been used in international negotiations among the parties of the Montreal Protocol, and she has testified at CDPR and U.S. EPA hearings regarding pesticide regulation.

Rachael is working hard on improving her skiing this year, and enjoys trips to the slopes with her colleagues.

# China, Cars and Carbon

by

**Maximilian Auffhammer**

*The number of privately owned cars in the Peoples' Republic of China grew at a rate of 69 percent during the first three quarters of 2003. Fast growth of the transportation sector provides cause for optimism on behalf of U.S. and Chinese car producers, yet reason for concern regarding rapidly increasing emissions of climate-changing greenhouse gases.*

China's aggregate Gross Domestic Product has grown at a staggering rate of 8.0 percent a year since the beginning of economic reforms in 1979. Accompanied by a rapidly growing population, this translates to an average growth rate of per capita income of 6.6 percent. And there are no signs of a slowdown, with an anticipated year-end growth rate of 8.6 percent for 2003. Large deposits of high sulfur coal in the central and northern provinces provided fuel for the initial vast expansion of heavy industry. A rapid expansion of the manufacturing sector is often accompanied by deterioration of environmental quality. Ambient levels of particulates, SO<sub>2</sub> and NO<sub>x</sub> in some cities are an order of magnitude above World Health Organization safety margins (e.g. Taiyuan and Lanzhou).

In addition to emissions of pollutants posing a direct health hazard to the urban population, emissions of greenhouse gases (GHGs) have skyrocketed over the past decade and China is anticipated to surpass the United States as the main emitter of CO<sub>2</sub> by the year 2020. China has signed and ratified the Kyoto Protocol, which regulates the emissions of greenhouse gases, as a developing country, exempting it from binding reductions in emissions. Any potential restrictions on greenhouse gas emissions from developing countries are closely tied to the argument that cutbacks should be specified from predicted emissions at a level of income similar to that of a developed country. This moves uncertainty over the path of future emissions into the spotlight.

Emissions of climate-changing GHGs in developed countries come from three major sources: Roughly 30 percent of U.S. emissions stem from transportation, 46 percent from industrial production and commercial uses, 19 percent from residential uses and the remainder from agriculture.

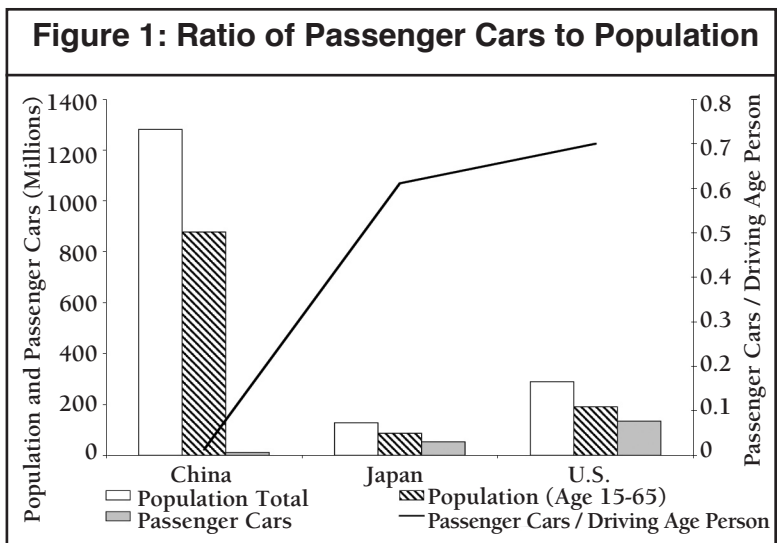
Estimates of GHG emissions from the Chinese transport sector currently range somewhere between eight and ten percent.

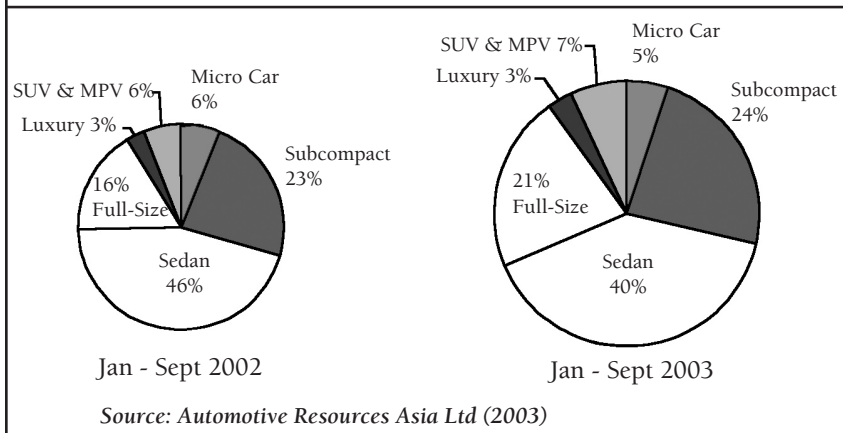
This number is expected to grow quite rapidly with the rapid onset of motorization of China's population. Figure 1 shows the number of passenger cars relative to the total and driving age population for the U.S., China and Japan. Due to size and resource constraints it is unlikely that car ownership rates will reach European or U.S. levels. However, ownership rates at an order of magnitude lower would still have drastic consequences on the emissions of GHGs.

## China's Market For Cars

China has a very short history of private car ownership. Until five years ago, the majority of cars were owned by the state or companies. Over the past ten years, private car ownership has increased eightfold to roughly 11 million cars at the end of August of this year. This development is consistent with a classical threshold model, whereas if per capita income rises above a certain level, individuals start purchasing high-price durable goods such as cars.

The average income of several coastal cities has reached the rule of thumb level of \$4000, which is thought to be the threshold. The number of privately owned cars sold in China has grown by 69 percent over the first three quarters of 2003, which is up from an average growth rate of 26 percent for the



**Figure 2: Market Share of Cars by Type**

years 1996-2000. This acceleration in the adoption of privately owned cars has sparked a “gold-rush mentality” which manifests itself in tremendous investments on behalf of European and American car makers in on-the-ground production capacity through joint ventures with local manufacturers. These joint ventures are currently supplying roughly 90 percent of the new cars bought—largely due to import restrictions. Automotive trade publications in Europe and the U.S. expect China to be the world’s largest market for cars in years to come. Volkswagen for the first time sold more cars in China than in Germany this past year. In times of excessive growth, expectations of future growth are often inflated resulting in over-investments in capital stock and an overheating of the economy. In the case of China, there are several other forces driving the recent acceleration in car sales, which may lead to dangerously optimistic predictions for the future market size using a simple threshold model. Producers adopting a dual strategy, targeting the Chinese market as well as using China as a production platform for supplying the world market, are most likely to be successful in the long term.

### Price Stability

Before ascension to WTO membership, China’s market was protected by large import tariffs. In 2002 tariff rates for cars with engines over 3.0 liters were cut from 80 percent to 50.7 percent. The tariff for smaller vehicles dropped from 70 percent to 43.8 percent. If China keeps its commitment to WTO, it will drop the import tariff to 25 percent by 2006. The recent drop in tariffs has sparked a price war in China, with compact car prices dropping rapidly. FIAT has cut the price of its most popular compact models by roughly ten

percent to keep up with competition. Price competition is especially heated in the low-cost compact car market. Honda is just one of the entrants in this market, pushing its compact FIT.

The effect of dropping sticker prices may be amplified by future promotions of zero-percent interest loans, further reducing the opportunity cost of owning a car. Assuming stable prices for gasoline, the real price of owning a car is likely to decrease until China meets its WTO commitment. Since China has limited domestic oil reserves, any growth in technology

using oil as its input will have to rely on imports or locally refined product. The nine percent increase in oil imports this year compared to 2002 may be a sign of things to come. Unless refinery capacity matches the growth in demand, gasoline prices are likely to rise in the medium term. Decreasing sticker prices seem to have a two-fold effect, as Figure 2 demonstrates. Subcompacts have maintained their market share, yet the share of full-size sedans getting fewer miles to the gallon has increased by six percent at the cost of regular sedans. It is noteworthy that this substitution is taking place in the higher-end market but not at the low end.

### Developed Credit Markets

Only 15 to 20 percent of all cars currently sold in China by General Motors are financed through car loans, with 15 percent being the national average. The remainder of the cars is paid in full at the time of purchase. This compares to a financing rate of roughly 85 percent for all GM cars sold in the U.S., 70-80 percent in Germany and the UK, and an average of 70 percent in the entire developing world. This low borrowing rate is simply due to the historical lack of a borrowing culture in China, both on the supply and demand side. Several insurers guaranteeing car loans to bank lenders have recently suspended these policies, due to the large share of non-performing loans.

In an effort to provide more liquidity, the central state government has just announced the official rules for entrants into the private car-financing business. Under these rules, non-bank companies must maintain registered capital of 300 million Yuan (U.S. \$35 million), minimum assets of 4 billion Yuan (U.S. \$480 million) and show an annual income of at least 2

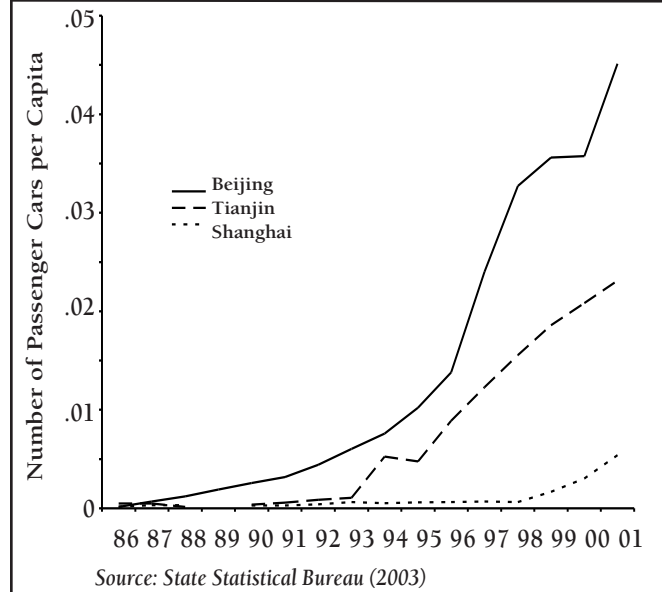
billion Yuan (U.S. \$235 million). These requirements restrict the market to big players for now. Ford and General Motors have already submitted applications to set up financing branches. The profitability of these operations will largely depend on loan volume, the ratio of non-performing loans (NPLs) and the interest rate charged. The latter two aspects provide some reason for concern. Interest rates are not allowed to float under current regulations and the ratio of NPLs for individuals with no existing credit history adds to uncertainty about the potentially large number of NPLs. More liquid credit markets will certainly increase car purchases, yet the impact may be smaller than expected in the short run since borrowing has a somewhat negative connotation in Chinese culture.

### Government Policy Intervention

There are signs that the government will take measures to prevent overheating of the automotive industry. The National Development and Reform Commission has signaled concerns about fluctuating demand due to “energy supply, environment and transportation problems.” They further expressed concerns about “blind investment generating excessive vehicle capacity.” Early drafts of legislation indicate that the state will attempt controls of vehicle manufacturing capacity by treating completely “knocked down” components as imports, subject to tariffs. Foreign producers have not yet voiced opposition to these measures, but if implemented, they would grant a large advantage to purely Chinese-manufactured automobiles. A draft of the legislation shown to Reuters implies that this measure “would ensure locally developed cars command half the market by 2010 and discourage the use of imported parts.” Whether these regulations will be legal under existing WTO regulations is questionable.

Signs that the central government is moving to dampen the excessive growth are increasing. *The New York Times* reports that China has announced legislation imposing more stringent fuel efficiency standards than are currently in place in the U.S. This legislation will further the adoption of subcompact and compact cars, which are mainly produced in China, since most imports are SUVs and luxury cars. These regulations are not empty threats. As Figure 3 shows, the provincial government in Shanghai has successfully kept down the number of vehicles—reflected in a much lower rate of per capita ownership compared to Tianjin and Beijing (which have similar levels of income). Increasing urban air pollution may

**Figure 3: Private Car Ownership Rates in Three Coastal Provinces**



increase government efforts to limit the number of cars as well as increase fuel efficiency of existing cars.

### Conclusion

The number of passenger cars in China will certainly increase in the near future, but it is questionable whether current growth trends can be sustained for more than a few years. The central government favors all-Chinese-produced, compact, low-emissions vehicles. In the short run, these vehicles will be produced by joint ventures between the U.S., European, Japanese and Korean carmakers, and local joint venture partners. In the long run, growth of the market for passenger cars is likely to slow down, with most industry watchers such as KPMG warning of a plateau and excess capacity as soon as 2005. For the joint venture car manufacturers with on-the-ground production capacity, this poses a strategic challenge. In order to ensure success in the long run, a strategic reorientation to use China as a production platform for global markets – much as VW and Audi are doing – is likely to be a successful hedge against a potential slowdown and further deterioration of car prices in China.

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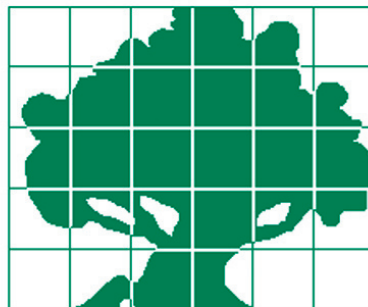
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