LA MANERA: STRATEGIC FARM MANAGEMENT UNDER UNCERTAINTY IN URUGUAY

Daniel Conforte
Institute of Food Nutrition and Human Health,
Massey University, New Zealand
Email: D.Conforte@massey.ac.nz

Donald Cameron
School of Natural and Rural Systems Management,
University of Queensland Gatton, Australia,
Email: dcameron@uqg.uq.edu.au

Nicola Shadbolt
Institute and Food Nutrition and Human Health,
Massey University, New Zealand
Email: N.M.Shadbolt@massey.ac.nz

Abstract

La Manera case study is one of several developed for an international education programme named Improving Agriculture Students' Understanding of Global Production Systems through Distance Learning involving cooperation between academics at four universities on different continents: Kansas State University, Moscow University, Queensland University and ORT University-Uruguay. A set of multimedia resources (written case studies and related audiovisuals) was developed aimed at helping agricultural students better understand the managerial environment faced by producers in different parts of the world. The concept, funded through a United States Department of Agriculture (USDA) Challenge Grant, was to develop two farm cases in each of four continents (North America, South America, Europe and Australia), giving eight cases in all that could be used as the basis for a semester-long graduate or undergraduate course in applied farm management. This paper presents one of the developed cases: 'La Manera 2000 and 2005' which outlines the farm management challenges and responses by a farmer in Uruguay. Part one of this paper describes the teaching objectives of the educational materials developed under the international education programme. Part two presents a summary of La Manera's case studies. Part three presents a brief teaching note. Part four describes how the case study has been used teaching undergraduate classes in University of Queensland, Australia, and some of the results obtained.

Keywords: strategic farm management, uncertainty, international education, global understanding

Introduction

La Manera case study is one of several developed for an international education programme named *Improving Agriculture Students' Understanding of Global Production Systems through Distance Learning* involving cooperation between academics at four universities on different continents: Kansas State University, Moscow University, Queensland University and ORT University-Uruguay. A set of multimedia resources (written case studies and related audiovisuals) was developed aimed at helping agricultural students better understand the managerial environment faced by producers in different parts of the world. The concept, funded through a United States Department of Agriculture (USDA) Challenge Grant, was to develop two farm cases in each of four continents (North America, South America, Europe and Australia), giving eight cases in all that could be used as the basis for a semester-long graduate or undergraduate course in applied farm management. This paper presents one of the developed cases: 'La

Manera 2000 and 2005' which outlines the farm management challenges and responses by a farmer in Uruguay.

Part one of this paper describes the teaching objectives of the educational materials developed under the international education programme. Part two presents a summary of La Manera's case studies. Part three presents a brief teaching note. Part four describes how the case study has been used teaching undergraduate classes in University of Queensland, Australia, and some of the results obtained.

Teaching objectives

There are two levels at which the international case material can be used. The first is the specific level of the farm business and its owners, within the local and national context, and the second level is the global one at which students may gain a deeper appreciation of international issues and trends. The detailed biophysical and financial case material, presented not only in written form but also in 'virtual farm visit' audio-visual form, provides a vehicle for the student to engage with the decision making environment in which the manager operates. Review questions are posed with the dual aims of (i) increasing students' understanding of at least some of the specific complexities confronting the farm manager, and (ii) providing a realistic backdrop for the development of traditional farm management analytical, budgeting and planning skills. The availability of a suite of cases from different parts of the world allows for an awakening of students to the variety of types of production in selected countries and also to the environmental, economic and policy contexts within which they operate. The individual cases, supported by selected background reading, provide the rubric in which to pose review questions of the 'compare and contrast' type, with great flexibility in focus, whether on a specific product or crop, or on trends in production systems, or on trends in policy settings, or on likely impacts of global climate change, as a few examples.

The teaching objectives at the local level include:

- Develop awareness of key features of the farm's business environment in Uruguay
- Understand the economics of production systems for this type of farms and existing biological, technological and economical restrictions.
- Provide information about best production and management practices.
- Understand risks and possible strategies to manage risks.
- Practice how to prepare budgets and cash flows in uncertain environments.

The teaching objectives at the global level can be adjusted according to the aims of the course in which it is offered, and also in accord with the academic background of the students (e.g. in farm management, economics or agricultural policy), but could include:

- Enhance students' ability to address decision problems in production environments in which they are unfamiliar (i.e. in countries other than their own).
- Enhance students' ability to view agriculture within their own country or region within a global context
- Enhance students' abilities to incorporate understanding of global issues in strategic farm business analysis and planning.
- Allow students to draw comparisons of how global issues translate into different decision making environments in different countries.

Summary of La Manera case study (see Appendix)

The case is presented in two parts or sub cases. The first one, 'La Manera 2000', describes the farm's resources and financial performance, and the country's business environment before year 2000.

International grain and oilseed prices were at all time low levels. In 1998, Uruguay was declared free of Foot and Mouth Disease (FMD) and prices of cattle were rising as a result of improved market access. Mr. Carbajal, the farm's owner, was considering reducing grain crops area and shifting towards a business model based on cattle finishing.

The second part, 'La Manera 2005', describes changes in Uruguay's farming environment between 2000 and 2005 and the situation in year 2005. In year 2001 Uruguay was hit by an outbreak of Foot and Mouth Disease and consequently banned from several high value markets. Prices of cattle plummeted 40%. In 2002 neighbour Argentina suffered severe economic and financial crisis, and the Argentinean peso was devalued 300%. Bank deposits were frozen, and deposits and debts in dollars were converted to pesos. Argentinean grain producers planted with the exchange rate at 1:1 and harvested at 4:1. Coincidentally international grain prices recovered and farmers' free cash flow tripled in a matter of months. As a result of the unstable environment in their country, Argentinean farmers crossed the River Plate and started buying land in Uruguay. Prices of land doubled in Uruguay. 'La Manera 2005' case study explains the changing environment and Mr Carbajal's strategic responses.

Teaching Notes

There have been ongoing discussions about the usefulness of teaching by the case method. On one end are those who, defending the Socratic approach, believe that to achieve educational goals relevant to management, the instructor must ask challenging questions and leave students to take responsibility for class discussion. On the other end those who see no value at all in this method, believing the instructor must play a central role. Between these two extremes lies a range of teaching approaches, which vary in terms of how much the instructor guides discussions and analysis, and how much discussions refer to scientific knowledge. This case study was prepared based on the notion that, to be useful for class discussion, and to avoid being little more than a compilation of circumstantial anecdotes, case studies must be built, and taught, around a theoretical framework. This case study was prepared to mimic a managerial research exercise. Therefore information is scattered, sometimes hidden or camouflaged. The teaching note was prepared to guide discussion using an intermediate approach in terms of instructor leadership and class control. It also follows the view that students will likely extract more value from the exercise if they are familiar with relevant theories and analytical tools (Shugan, 2006).

Teaching note for La Manera 2000

The following study questions were given to students in Uruguay for class discussion.

1. What are Miguel's most pressing issues?
2. Please assess La Manera's resources, farming system and business strategy.
3. Compare gross margins per hectare between La Manera's various enterprises and between years. At what conclusions do you arrive?
4. What are La Manera's (and Miguel's) strengths and weaknesses?
5. Assess and compare risks between current enterprises
6. Assess La Manera's business environment. What future scenarios can you foresee?
7. What are Miguel's strategic alternatives? What are the pros and cons of each one?
8. Which strategy would you suggest and why?
9. Prepare a cash flow estimate, based on your suggested strategy, for the period 2001-2005.

Internal Analysis: resources, production system and current strategy

To start discussion it proved useful to prompt student's attention to Miguel's concerns and interests, and to consider the human dimension of farm management (Shadbolt & Baywater, 2005) If farmers' worries

are not addressed from the start, the class may wander in different directions searching for useless answers, or worst, asking irrelevant questions. Miguel's most pressing worries were:

1. Debt increase
2. Cash flow insufficient to reduce debt
3. Grain prices down
4. Perception of high risk in crop agriculture
5. Very much worried about the likelihood and impact of yet another bad harvest coincident with low prices.

The instructor may ask volunteers to make a summary description of the farm and the farmer's history, resources, activities, and enterprises. Students will, most likely, repeat obvious features described in the case such as total land area, description of natural resources, rainfall, and the focus on crop agriculture rather than in livestock. It is expected for students to use a whole-farm system approach (Kelly & Bywater, 2005) and to pay attention to natural resources, sustainability issues, the farmer characteristics and managerial capabilities, the family, human relationships and other relevant social issues. Untrained students may find it difficult to look at the farm as a system and to consider non-tangible resources. The instructor may help direct attention to less evident farm resources and issues, like the farmer's background, managerial capabilities and skills. Several passages of the case stress the point that Miguel has always had a pro-active approach to learning (Grey, 2005), exemplified by his early adoption of no till practices and soybean production, and his being at the forefront of innovation; he has also accepted leadership responsibilities in various farm organizations. The fact that input companies run research trials at La Manera is a sign of Miguel's business approach and the recognition by others of that attribute.

Performance issues

While doing internal analysis, most students find it easier to pay attention to qualitative than to quantitative data. The instructor may have to direct students' attention to tables and exhibits presenting evolution of assets, use of land, and mix of enterprises. La Manera's past and present business strategy can be deduced from these data.

It proved useful to prompt students to address success issues asking questions like: 'How successful do you think Miguel has been so far?' Students will use diverse factors and parameters as measures of performance. Interesting discussions are expected to occur if someone happens to ask about how success should be defined. It is likely issues about family goals and values will enter discussion. The instructor may consider promoting debate between students defending a human/family values approach and students defending a more financial type of approach.

After allowing some useful philosophical debate, the instructor may consider moving the class forward by asking to focus on quantitative criteria like productivity, gross margins, economic and financial ratios and evolution of farmer's wealth. A table in the case shows that La Manera's yields per hectare ranked very high against those achieved by the top 20% of farmers in Uruguay. In contrast, there are no productivity data available for livestock enterprises, which could be taken as a sign of how little attention Miguel was paying to livestock as compared to agriculture.

Class should turn attention to economic and financial indicators. A first look at gross margins per enterprise, both per hectare and in total, helps students understand the relative contribution of each enterprise to the system. The case presents historical data regarding evolution of direct costs for agriculture, evolution of incomes, and gross margins. A graph helps understand how results varied between years.

After comparing enterprises in terms of income and gross margins, analysis could move on to farm's net results through inclusion of information about fixed costs provided. Data is purposely presented in a somewhat confusing manner in order to challenge students to work figures out and decide which figures

should be considered to run which type of analysis. This was also dome to raise students' awareness to the fact that usually, in real life situations, data does not come in a ready to use sort of packaging. Some figures are presented in US$ currency and some in Uruguayan currency; some per year, some per animal and some per hectare.

Usually some students fail to incorporate farm value analysis or changes in farmers' wealth (Gardner & Shadbolt, 2005). Attention must be given to make sure students understand different levels of performance analysis and how each one must be used for specific purposes. Tables and exhibits present evolution of land value and of the debt/assets ratios with and without considering land value. While analysing this table the instructor may consider asking students' opinion about La Manera's financial situation, assets structure, and about how these figures relate to Miguel's concerns regarding recent debt increase.

Risk analysis

With regard to risk analysis, students are expected to identify the most important sources of risk and assess the likely impact of unwelcome events (Martin, 2005). The most important sources of risk impacting on gross margins are weather and commodity prices, and on net financial performance those same two plus exchange and interest rates.

Since Miguel started to expand grain production area, prices for grain have decreased consistently three years in a row. A serious drought happened in 1998/99. Debt has been increasing, and he is very much worried about the potential impact of yet another bad year – low yields combined with low prices. He believes grain agriculture is riskier than cattle finishing.

At this stage students must be directed to think about the environment, recent changes, trends and likely future events. The case provides information to compare scenarios in terms of gross margins variability for each enterprise. Furthermore, using fixed costs and gross margins given in the case, students can prepare simple budgets and compare mix of enterprises in terms of risk and return for alternative scenarios. Students are expected to discover key environmental issues that should be taken into consideration for risk analysis. The most evident one is rainfall. Regarding rainfall, attention must be paid not just to annual total but also to variability. Some students may notice variation but may fail to realize its impact in production and economic results. Although the average annual rainfall is around 1,200 millimetres, monthly variance is of outmost relevance. Average monthly rainfall and variability and evolution of yields per hectare are presented in the case. Climatic uncertainty is at the centre of Miguel's concern about the future of agriculture in Uruguay, and this together with low commodity prices are the main two reasons why he is considering shifting to a business model with less grain agriculture and more cattle. The second, and to some extent evident feature of the external environment is the evolution of grain prices, livestock prices, and the variability of both evident in the information provided. Grain prices were at low levels, showing higher variability than livestock prices, and trending downwards. Since Uruguay was recently declared FMD free without vaccination, farmers were expecting cattle prices to increase due to improved market access.

Strategic Analysis

Once enough time has been spent to understand the many aspects of the farm's operations and situation, discussion can move to address strategic issues, future challenges, threats and opportunities, and strategic alternatives. Useful ideas to teach farm business management with a strategic approach can be found in Nell and Napier (2005). Some instructors prefer to leave the class alone to work out issues and analysis. Others believe the instructor must play a central role. Different teaching strategies work better depending on the type of case study, the issues at hand, and the nature of the class. In general and for undergraduate

students, in class strategic analysis may become quite confusing without the instructor's structuring guidance. The following is one possible analytical path:

- Review of the external environment: opportunities and threats
- Review of the firm internal environment: objectives, values, strengths, weaknesses
- Strategic Alternatives: key criteria?
- Assessing Strategic Alternatives: assessment criteria?
- Selecting one strategy: selection criteria
- Implementation: building or acquiring capabilities, sequence and speed of actions, action plan.

While performing in-class strategic analysis using this case study, as well as using several other case studies, it has been evident that most students fail to consider the dynamics of business environments. As stated in the case *"Most progressive farmers around Mercedes were cutting back on grain crops areas and increasing pastures areas for finishing cattle"*. Other farmers were looking at the same graphs and trends as Miguel. Most farmers were preparing to follow the same path Miguel was thinking about. Bringing other farmers' behaviour into the equation proved very useful to make students aware that some key input and output prices depend on how other farmers respond to public information. Public information shapes individual motives and hence determines mass behaviour. In this case mass behaviour in turn impacts on prices of land, calves, and finished cattle.

Teaching note for La Manera 2005

The main goal of La Manera 2005 case study was to raise student awareness regarding the importance of doing environment analysis. Changes in the economic environment of the region after year 2000 were of such magnitude that the case makes for a perfect example to perform risk and strategic analysis based on different scenarios. Students are invited to look back at their analysis and strategies suggested for La Manera 2000 and to answer the following questions.

1. What, if anything, did you overlook?
2. Knowing what you know now in 2005, how would you change your analysis back in 2000 if you had to do it again?

In this case a much looser approach to conduct class discussion could be considered. Students may be invited to present their ideas while the instructor lists them in two columns; each column related to a question.

Australian application of La Manera case materials

Context: Course and program

The international suite of cases of which *La Manera* is part is included in a 3rd year course offered at University of Queensland to students in two programs, the four year Bachelor of Agricultural Science (Rural Management specialization) and the three year Bachelor of Applied Science (Rural and Regional Business Management specialization). The course is entitled Comparative International Farm Case Studies. The USDA Challenge Grant case materials contribute around 50% of the teaching effort and assessment of the course. The remaining 50% is comprised of two components (1) Context for and principles of rural business strategic planning, and (2) development of a comprehensive strategic plan for a selected local farm business case study.

First and third components

The semester is structured around these three components. The first 4-5 weeks are spent first in revising farm business management and strategy principles, and then in using these in developing a conceptual basis for writing a farm business strategic plan, which forms the third component. This period concludes with a visit to, and subsequent debriefing on, a local farm business whose owners have agreed to provide the case study for the year. This case becomes the third main component, and provides a major focus for assessment, in that each student is required to develop a comprehensive strategic plan for the business. A major agribusiness lender provides a significant bursary for the best plan submitted, and the plans are reviewed by a senior representative of the bank and the business owners as well as the academic in charge of the course.

International case component

Following this first segment of the course, the students are presented with each of the international cases available. In 2006 there were five in all, with two from Australia and one each from Uruguay, USA and Russia. In 2007, an additional case from Brazil was also available. In this course, the availability of international cases is used to achieve the following aims:

- Enhance students' ability to address decision problems in production environments in which they are unfamiliar (i.e. in countries other than their own).
- Enhance students' ability to view agriculture within their own country or region within a global context
- Enhance students' abilities to incorporate understanding of global issues in strategic farm business analysis and planning.
- Allow students to draw comparisons of how global issues translate into different decision making environments in different countries.

In addressing these aims, cases are presented at the rate of one per week over 5-6 weeks, and students are required to respond with written assignments to the questions set for each case. This follows reading of the farm case materials, and viewing the 'virtual' farm visit, and participation in focused and structured class discussion. These provide a powerful visual focus that can be played in class, and also provided to students for reviewing later in their own time to complement the written case materials.

Evaluation

After each case is presented, a short evaluation survey is completed by the students to provide feedback on the nature and presentation of the information. There is also an overall course evaluation at the end of semester that is designed to gauge responses to the entire course.

La Manera farm, Uruguay

This case provides a cultural eye-opener for Australian students who typically have not travelled internationally except perhaps to New Zealand, and who, for various reasons, probably have very little knowledge of South America at all. It comes as somewhat of a surprise to be presented with a well documented case that reveals a large, complex, sophisticated and successful family farm business.

The video component

The video component is a powerful adjunct to the written materials. Complete with English sub-titles to translate the Spanish dialogue, it immediately transports the student into another, unknown world, whose substance has previously been at best only guessed at. However, it soon reveals itself as a world that is in many ways very familiar – we travel through a country township showing evidence of disrepair and along

well-used roadways skirted by battered fences as the peri-urban landscape gives way to familiar-looking farmland.

Soon we are observers of a conversation with the owner, who thanks to concise and effective sub-titles, is quickly revealed as a man of foresight and acumen who has developed a small farm business into a much larger operation. These impressions are complemented by impressive visual evidence of a highly mechanized, efficiently managed concern, as late model imported tractors and implements are seen at work, and excellent command of technical and financial aspects of the business is demonstrated through the sub-titled dialogue.

The video lasts for over 40 minutes, with many facets of the farm business highlighted. The concentration required for reading subtitles and absorbing visual information for this time is demanding. However, there are several chapters, so the video is readily parsed into stand-alone segments that can each be the subject of class discussion, once completed. A two-hour class time allows plenty of time for such activity, especially if the students are well prepared through having read the case materials and supporting readings beforehand. The questions provided with the case are used as the basis for class discussion. As shorter list is provided for the written assignment.

The written case documents

The most immediate impressions from the written materials are the depth and quality of recorded information regarding farm performance, and the obvious value placed on this in the way it is used to inform decision making. As a teaching tool, this dataset provides adequate detail to set students applied analytical and budgeting tasks that require engagement with biophysical and financial data, as a way of reinforcing conceptual principles. At the broader level, the same dataset also effectively illustrates key elements of risk in decision making. The importance of policy changes, the dependence on exchange rates for export-oriented producers, the capacity for volatility in the socio-economic operating environment to provide not only threats but also opportunities, and the exposure of potential competitors to these influences, are all more cogently apparent when encountered in a less familiar setting. With 10 years of records broken into two periods, there is great scope and adequate detail for a budgeting task for the future based on performance up till 2000, followed by a comparison of what actually happened with what was planned, up to 2005. This provides the basis for focused class discussion about risk associated with factors such as the vagaries of climate, changes in government policy settings, fluctuations in currency exchange rates, and disease outbreaks affecting markets.

Assignment related to the case

The case questions listed earlier require the students to engage in detail with the physical and financial performance data provided, and provide a robust vehicle not only for developing a good appreciation of the particular case, but also for extension to comparison with cases from other countries. The assignment questions were as follows:

1. What are the main sources of risk for La Manera farm?
2. In what ways are these risks similar to and different from those confronting Australian grain/beef farmers?
3. What lessons for its owners can be learned from La Manera's history over the last 10 years?
4. Which of the options being considered by Miguel Carbajal would you recommend, and why?
5. In reference to the other cases already studied, and your general understanding of Australian and world agriculture, what are your main impressions from studying this case?
6. Compare the financial data for this case with those of the other cases. What similarities and differences do you see, in factors such as land prices, crop prices, labour costs, and cattle prices?

After class discussion of these questions and the issues that could be relevant to answering them, students were required to submit their responses the following week. The typical response involved 2000-3000

words, and showed evidence that the materials and questions provided a platform for considerable learning and analytical thought. Students clearly learned a lot about this farm, became more familiar with agriculture in Uruguay, and found this a valuable stimulant to gaining new insights into Australian and international agriculture.

Evaluation

The immediate benefits to students of exposure to *La Manera* case are seen in favourable responses to evaluation such as:

> *I was initially impressed after watching the video of La Manera and studying the information provided. This was mainly a result of having little understanding of Agriculture in South America and the previous belief that countries such as Uruguay were far behind in terms of production practices and technological advances and applications.*
>
> *The records kept and analysis done on such records as crop yields and rainfall is, in places, of a higher standard than many Australian farmers would produce – particularly small producers.*
>
> *Farming practices are also quite technologically advanced, with activities such as soil testing, no-till, crop rotation, new herbicides and RR soybean varieties.*
>
> *The owner of La Manera has a very good relationship with his employees……. This kind of relationship is generally not seen with Australian producers but is quite impressive and has the potential to solve some skilled labour problems and increase the labour retention rate.*

Further evidence of the positive impression this case made on the class is that two students subsequently attempted to arrange their 16-week industry placement, a program requirement for their sixth semester, on farms in Uruguay. This illustrates the interest of Australian students in learning more about South America first hand, as the growing agricultural production and export capacities of the region become increasingly evident.

Academic's impressions

As the lecturer making use of the material I found the La Manera case extremely valuable. It has high standards of production in all aspects, so provides a benchmark against which to gauge other cases. It has great depth and quality of data provided, together with sufficient contextual material to explain the impacts of volatility of the operating environment on management. It is a valuable teaching resource, and it has capacity to stretch the thinking and learning of students of all levels of capability.

Conclusion

The la manera case study provides a high quality window into south american and uruguayan agriculture for student observation of and learning about farm management in a different and probably unknown context. It is well documented and the accompanying questions provide an excellent vehicle for discussion and student learning at various levels from specific crop budgets to general strategic thinking. For australian students it provides a tangible, apprehensible presentation of the capabalities and relative advantages and disadvantages of one of our potential competitors in world markets. It therefore truly serves to improve students' understanding of global production systems.

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Appendix

La Manera 2000 (brief version of case study)

La Manera is a farm southwest of Uruguay, a few hours away from the border with Argentina, and located on the best soils for grain and oilseeds agriculture. Total farm area is 2100 hectares dedicated to grain crops - wheat, barley corn, soybean - and cattle finishing. Miguel Carbajal is an entrepreneurial farmer. He is a well respected community leader, former director of a local grain marketing co-op, and founder and former president of the Uruguayan No Till Farmers Association. Besides being an active member of various farmer organizations, Miguel had research agreements with various input companies like Bayer Crop Science and with Reylan, a firm representing Monsanto and Dekalb seeds in Uruguay. In year 2000 Miguel was managing 2176 hectares – 1092 owned, 569 leased and 515 under share farming arrangements. The following tables describe the use of land, mix of crops and herd structure.

Table 1. Use of land 1999-2000

	La Manera	**San Juan (leased)**	**Share farming**	**Total**
Agriculture				
Wheat	320		78	398
Barley		132	270	402
Oats	103	104		207
Ryegrass		31		31
Total winter crops	**423**	**267**	**348**	**1038**
Maize	215	59	60	334
Soy 1st		70	60	130
Soy 2nd	110		83	193
Sunflower 2nd	152			152
Total summer crops	**477**	**129**	**203**	**809**
Pastures				
Annual: oats, ryegrass	235			235
Seeded pastures	225			225
Native pastures	180	162		342
Total Pastures	**640**	**162**		**802**

Table 2. Cattle herd structure, 1999

Category	**Head**	**Stocking units**
Total own cattle	428	380
Steers 2-3 years	139	139
Steers 1-2 years	123	99
Heifers 2+ years	46	46
Heifers 1-2 years	120	96
Shared calves	241	145
Others' cattle	112	112
Total	**781**	**637**

Miguel had been increasing the area under crop agriculture since 1995 and investing to expand machinery capacity. Although he and his son Gabriel were always pondering about the best crop rotation to apply, crop sequences were flexible. Key criteria to decide crops areas and mix were prices of commodities in futures markets like Chicago and Rosario, climate forecasts and soil conservation and improvement. Recently, adoption of no till agriculture, new herbicides and RR soybean varieties had improved the economics of soybean production.

Grain prices had been decreasing for three consecutive years. On the other hand, prices for cattle were improving and the future was looking good since Uruguay had recently gained the status of free of Foot and Mouth Disease without vaccination. Miguel was starting to pay more attention to the livestock finishing enterprise

Human Resources

Most of the staff had been 20 years with Miguel. They had in total seven permanent employees; three at the tractors and combines, two taking care of cattle, one cook and the foreman. They all live at the farm but had their families in Mercedes. Miguel had helped them either to buy or to improve their houses. The foreman had a salary of US$ 500 per month plus 1% on sales. Those who worked with the cattle were allowed to have cattle on the farm. Some raised pigs and took advantage of non-harvested corn.

Financial Results

Back in 1995/96 agricultural economists and marketing experts, based on promising results of negotiations at the Uruguayan Round of WTO (World Trade Organization), predicted improved markets access and forecasted higher prices for most agriculture commodities. Coincidentally, results from grain agriculture during the season 95/96 were very good. Encouraged by high yields and bullish about the future of commodity prices, Miguel invested in new equipment. Unfortunately millennium ended with historic low commodity prices and a sequence of bad harvests, impacting on La Manera's balance sheet.

Table 3. La Manera: evolution of assets and liabilities (in thousands of US dollars)

	Nov 93	Jan 94	May 95	Jun 96	Aug 97	Jan 98
Assets						
Machinery	197	197	347	382	545	614
Livestock	211	266	225	249	107	44
Land	1206	1134	1118	1344	1419	1853
Total	1.614	1.597	1.690	1.975	2.071	2.511
Liabilities						
Debt	162	149	204	176	206	469
Equity	1.452	1.448	1.486	1.799	1.864	2.041
(Equity–land value)	580	575	507	669	650	911
Debt /assets %	10	9	12	9	10	19
Debt/assets–land %	22	21	29	21	24	34
Grain agriculture (hect.)	*295*	*532*	*1325*	*2032*	*2212*	*2159*

Note: part of the increase in the amount of debt was due to increased working capital needs

Table 4. La Manera; balance sheet (US dollars), November 2000			
ASSETS			**3:152.291**
Current assets	Cash Receivables Livestock Crops Inventories	25.200 4.400 120.000 447.000 73.241	669.841
Fixed assets	Land Machinery Urban properties	1:419.600 712.850 350.000	2:482.450
LIABILITIES AND EQUITY			**3:152.291**
Total liabilities			**847.000**
Current liabilities	BROU Other banks	323.000 32.020	355.020
Long term debt	BROU Other banks	391.980 100.000	491.980
Equity			**2:305.291**

(Note) Current liabilities refer to short term loans for working capital - seeds, fertilizers, spraying, diesel- and applied to winter and summer crops. The figure for current liabilities in table 4 corresponds to the aggregate of both winter and summer crops.

All debt was in dollars and interest rates were in the range of 12% per annum. Long term loan was to be paid in equal annual instalments over five years. Exchange rate was 12 pesos per US dollar.

Crop yields obtained at La Manera were among the best in Uruguay

Table 5. Benchmarking La Manera vs Top 20% Farmers			
	La Manera farm only	La Manera plus share farming areas	Top 20% farmers benchmark
Wheat	4.030	3700	3.700
Maize	6,300		6.300
Soybean	2.300	2100	1.800

Although there where no available records to assess the livestock enterprise performance, Miguel thought they still had much to learn to close the gap with state of the art producers.

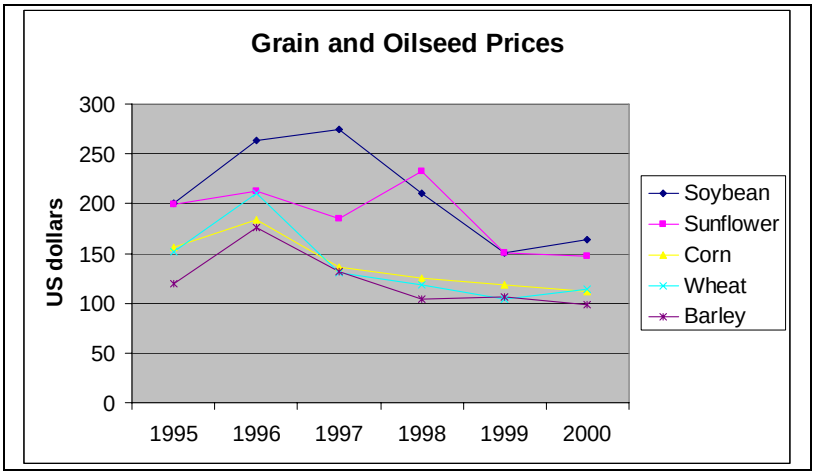
The following table shows income, costs, gross margins and net results

	1996	1997	1998	1999	2000
Fixed costs					
Living expenses	-92000	-92000	-92000	-92000	-92000
land taxes	-7644	-7644	-7644	-7644	-7644
labour	-46000	-46000	-46000	-46000	-46000
land lease	-28000	-28000	-28000	-28000	-28000
Long Term Loan	-98396	-98396	-98396	-98396	-98396
Interests short term	-21300	-21300	-21300	-21300	-21300
Interests long term	-59038	-47230	-35423	-23615	-11808
Total fixed costs	-352378	-340570	-328763	-316955	-305148
Gross Margin					
Agriculture	688718	381423	574370	60297	317626
Livestock	80000	80000	80000	80000	80000
Total gross margin	768718	461423	654370	140297	397626
Net Result	**416340**	**120853**	**325607**	**-176658**	**92478**

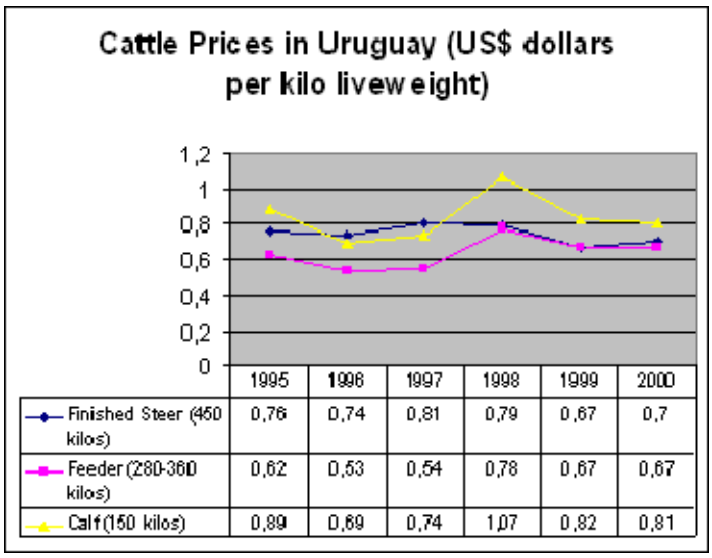
Farmers in Uruguay had been complaining since 1998 of a slow but steady overvaluation of the local currency. Since Uruguayan agribusiness was export dependent, the overvalued peso was hurting farmers' cash flows. Land, equipment, most commodities and inputs were quoted in US dollars. Yet, most indirect costs were denominated in Uruguayan Pesos ($U), like labour, management expenses, living expenses, education and public services.

Alternative business models

Miguel believed there was not much room for productivity and cost efficiency gains in crop agriculture. Share crop farming was making no contribution to earnings lately. Prices of grains and oilseeds had been falling for four years in a row.



On the other hand Uruguay had been recently declared free of Foot and Mouth Disease. Better cattle prices due to improved international markets access were expected.



Also, there seemed to be plenty of room for productivity and efficiency improvements on the livestock finishing enterprise of La Manera. Miguel believed they could increase per hectare yields at least 50%. Some producers were obtaining 400 to 500 kilos of beef per hectare on cultivated pastures, using intensive grazing practices and strategic use of grain feed (corn, sorghum and silage of whet corn). Others were taking advantage of their grain agriculture knowledge and equipment to produce maize for silage. Some farmers were also starting to experience with feedlot production systems, confining animals during 100 days and bring them from 350 kilos to 450 kilos live weight. Miguel thought he should pay serious attention to cattle finishing as a means of diversifying risks and improving financial results. Performance of producers at GIPROCAR[1] could be considered as benchmarks as presented in the following table

Stratification of the group of farmers based on Gross Margin: 20% of high performer and 20% low performers,

	GIPROCAR - PRODUCTION PERFORMANCE		
	unit	**20% high performers**	**20% low performers**
Pasture Area (PA)	hectares	402	1340
Beef production	Kg/hect of PA	327	162
Stocking rate	AU/hect. Of PA	1,33	0,81
Weight gain	Grams/head/day	498	438
Cultivated pastures	% of PA	59	38
Feed supplement	Kg of grain feed/hect	142	41
Hay supplement	Kg of hay /ha	507	42
	GIPROCAR – ECONOMIC PERFORMANCE		
	unit	**20% high performers**	**20% low performers**
Gross Income (cattle)	US$/hect of PA	265	113
Direct inputs (cattle)	US$/hect of PA	78	42
Gross margin (cattle)	US$/hect of PA	187	72
Implicit price	US$/kg	0,81	0,7
Buying weight	kg	196	215
Selling weight	kg	445	405

Source: Alvaro Simeone, FUCREA and GIPROCAR

[1] GIPROCAR is a Spanish acronym for Group of Intensive Beef Producers

Miguel was becoming increasingly worried about the risks involved in agriculture, low prices of commodities and his debt exposure.

> "The season 99/00 was the worst I can remember. Agriculture is becoming more and more risky", said Miguel

He wondered about the best business model for La Manera in terms of risks and returns.

La Manera 2005 (summary of case study)

Back in year 2000, as a result of decreasing grain prices and better prospects for cattle prices, Miguel decided to reduce areas under crop agriculture and dedicate more attention and area to the livestock enterprise. He stopped crop share farming (planting on others people's land) and decided to do agriculture only on the best soils available at La Manera farm. Low lands at La Manera and most of San Juan farm were to be planted with pastures or improved with fertilization and seeds. He started to implement an intensive finishing operation, with strategic use of grain feeding during the winter. Miguel was planning to finance the increased need of livestock through share cattle farming. The live weight gained by the animals was to be shared 40% for the owner of the cattle and 60% for Miguel.

<u>The changing environment 2001-2005</u>

Unfortunately, while Miguel was implementing his livestock focused strategy, during year 2001 Uruguay suffered an outbreak of Foot and Mouth Disease and was immediately banned from several markets. Prices of cattle plummeted from US$ 0,9 to US$ 0,65 per kilo.. **Exhibit 1 presents the evolution of livestock prices**.

During years 2001 and 2002 the Uruguayan administration had to manage the most severe economic and financial crisis in recent history. This crisis, although triggered mostly by external factors, was rooted in several years of currency overvaluation in Mercosur countries. Uruguayan exports had historically been very dependent on Brazil and Argentina. During the 90's, since Brazil and Argentina had their currencies pegged to the dollar, Uruguayan export dependency from its neighbours increased even more.
In 1999 Brazil devalued the Real and in 2001 Argentina devalued too. The exchange rate in both countries jumped from 1 Real or Peso to the dollar to 3,5. Hence when Argentinean farmers seeded corn and soybean, they did it at one peso to the dollar and harvested at 3,5 pesos to the dollar, ending up with a pile of free cash flow.

To avoid a bank run the Argentinean government freezed bank deposits and imposed what was called asymmetric pesification of deposits and bank loans. Dollar deposits were converted to pesos at an official rate of 1,4 pesos to the dollar and loans at 1 peso to the dollar. People could not withdraw their deposits from the banks. Those who had cash, like farmers after harvest, would not dare take it to the banks. At harvest time, Argentinean farmer were faced with a predicament. ¿Where to put such windfall returns from harvest sales?. Looking for a safe heaven for their capital, some farmers cross the River Plate and went over to buy land in Uruguay. As a result of increased demand, prices of land and rent of land almost doubled in one year. Good agriculture land, like the one at La Manera would sale for US$ 2500 in year 2005. Prices of land for lease or share farming went also up from US$ 50 per hectare to US$ 100 per hectare.

Devaluation in Argentina further undermined Uruguay's economy, with exports to Argentina and tourist revenues falling dramatically. Uruguay had no other option than to devalue too, which occurred in July 2002. The financial and bank crisis in Argentina impacted the Uruguayan banking sector and started a bank run. The run was stopped and default was avoided through massive borrowing from international financial institutions. The crisis had taken a toll of 20% of GDP in dollar terms on the Uruguayan economy.

Once the worst was over.

Uruguay's economy resumed growth in 2003, with a 2.5% rise in GDP. A successful debt swap helped restore confidence and significantly reduced country risk. GDP grew about 11% in 2004. A 5.0% growth was expected for 2005.

Years 2002 and 2003 were good for farmers. Good weather and higher international grain prices. For exporting industries, like agribusiness in Uruguay, devaluation was good news. **See exhibit 1 for evolution of grain prices and of yields at La Manera.**

In 2003 Uruguay achieved again the sanitary status of Free of FMD, this time with vaccination. Cattle prices recovered. **See Exhibit 2 the evolution of cattle prices and of beef exports in Uruguay.**

Miguel's response

Miguel took advantage of the banking crisis and managed to get rid of most of his debt. In need to improve its cash flow, the Bank BROU offered substantive discounts to their clients for advanced cancellation of outstanding debts. Miguel saw an opportunity to significantly reduce his debt. He sold all his cattle, borrowed money from the family and cancelled his debt with BROU.
In 2005 Miguel and his family were managing a total of 2703 hectares of land. All grain agriculture was done in partnership with an Argentinean, who bought a neighbour farm. Both, Miguel and his new neighbour, entered on a strategic alliance. They pooled their land together, just for planting purpose, but without loosing ownership of their respective farms. Miguel contributed management and all farm machinery services (spraying, seeding, harvesting). The Argentinean partner financed all inputs. Each partner then received 20% of the harvest per hectare as rent for their land. Miguel received and extra 5% as retribution for his management work. Gross margins were shared in proportion to the contributions that each partner had done.

The following table shows the land Miguel was managing in 2005.

LAND MANAGED BY MIGUEL CARBAJAL IN 2005						
	Name of Farm					
	La Manera	**La Frontera**	**San Juan**	**Albisu**	**San Andres**	**TOTAL**
Area for Pastures						
owned by Miguel	185					185
leased		90	335		110	535
Total area for pastures						**720**
Area for Agriculture						
Miguel's land	884					884
Argentinean partner's land		354				354
Share farming				245		245
Leased land			220		280	500
Total area for agriculture						**1983**

Miguel also set up an agriculture service company. He had three John Deere harvester combines – one 9650 STS and two 9610 Maximizer; two John Deere direct seeding machines and one sprayer CASE IH 3150 27 meters wide. Each combine harvested 6 hectares of wheat or 5 of corn per hour; seeders yielded 10 hectares per hour and sprayer 250 hectares per day. Per year, and without considering the area planted in partnership with his neighbour, Miguel was providing harvesting services to 3,800 hectares, spraying 10,000 hectares and seeding 2500 hectares. He was charging the following prices per hectare for these services: harvesting US$ 37, seeding US$ 25 and spraying US$ 5. The machinery inventory was valued in the range of US$ 900,000.

In total there were 17 persons working with Miguel; 12 directly in agriculture and two taking care of livestock operations.

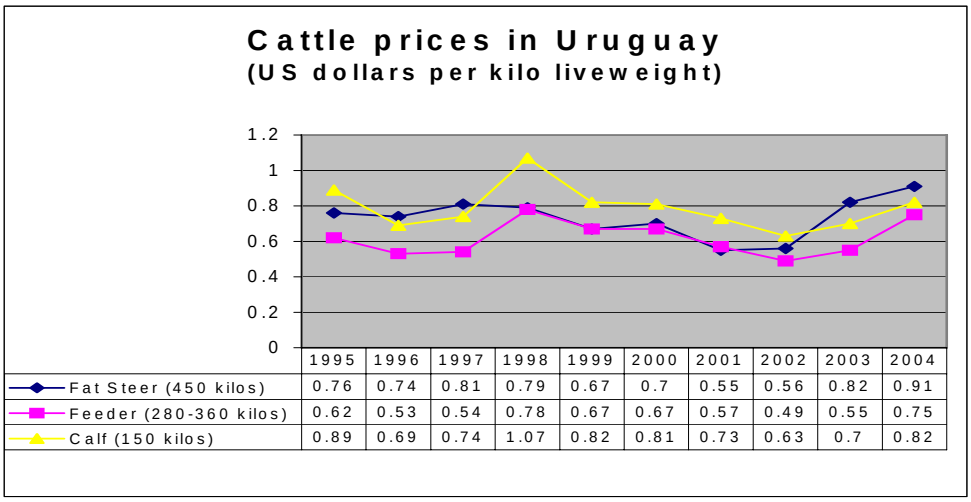
The following were La Manera's most significant structure or fixed costs:

- Taxes :$U 300.000 per year ($U stands for Uruguayan Pesos; see Exhibit 6 evolution of the peso/dollar exchange rate)
- Labor $U 950.000 per year
- Management costs $U 1:250.000 per year.
- Taxes over grain sales were 0,6%. When buying cattle tax was 3% over purchase value and when selling 2,8%
- Other fixed taxes US$ 7 per hectare
- Rent of San Juan farm US$ 28,000
- Rent of San Andrés farm: US$ 40,000

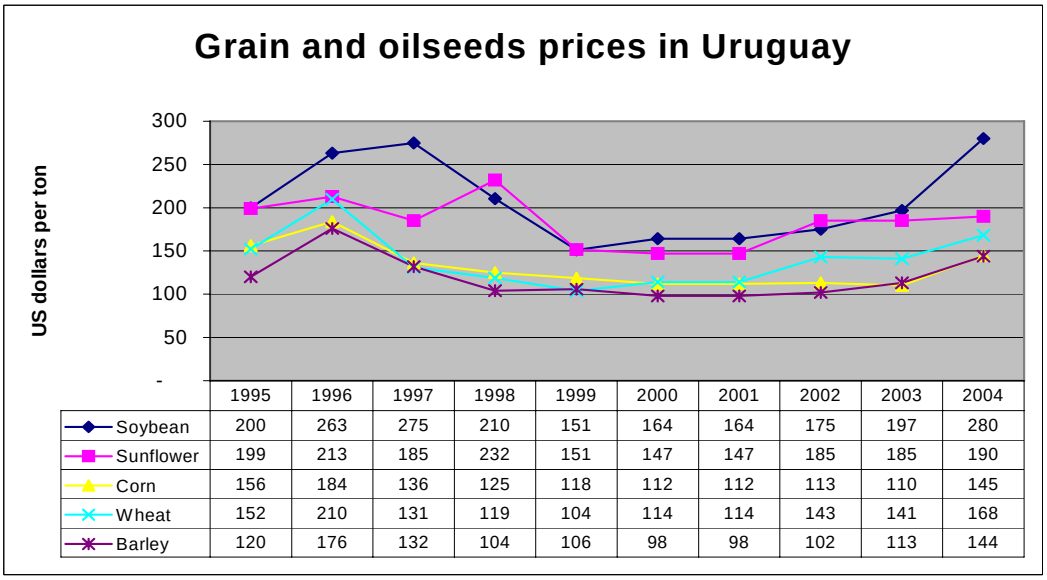
Future prospects

Miguel was considering three different options. He had US$ 200,000 available to invest and was now in a position to finance all agriculture inputs by himself. So, although Miguel was very pleased with his partnership, one possible option was to end the partnership with his neighbor and plant all the area alone. A second option was to lease yet one more farm. Miguel was offered the opportunity to lease a 900 hectares farm just two kilometers away from La Manera. Half was good land for crop agriculture and the rest for cattle finishing. The lease price was US$ 70 per hectare per year on a ten years contract, and had to be paid a year in advance. Leasing the farm would need extra working capital, not just to pay the lease in advance but also to seed pastures, buy cattle and plant the extra crop area. A third option was to implement a more intensive cattle finishing operation on his current pastures area. Following GIPROCAR's[2] producer experience, La Manera could aim to increase beef production at least by 100 kilos per hectare. **Exhibit 7 shows production and economic performance of GIPROCAR beef producers** In case of implementing this option the stocking rate of his current cattle operation had to be increased by 50%. Back in year 2000 Miguel was lacking the needed time and attention to take care of such an intensive cattle enterprise. Recently, Miguel's daughter, Cecilia, had been taking charge of managing the cattle business and she could very well implement the livestock intensification project.

[2] GIPROCAR is a Spanish acronym for Group of Intensive Beef Producers



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Fat Steer (450 kilos)	0.76	0.74	0.81	0.79	0.67	0.7	0.55	0.56	0.82	0.91
Feeder (280-360 kilos)	0.62	0.53	0.54	0.78	0.67	0.67	0.57	0.49	0.55	0.75
Calf (150 kilos)	0.89	0.69	0.74	1.07	0.82	0.81	0.73	0.63	0.7	0.82



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Soybean	200	263	275	210	151	164	164	175	197	280
Sunflower	199	213	185	232	151	147	147	185	185	190
Corn	156	184	136	125	118	112	112	113	110	145
Wheat	152	210	131	119	104	114	114	143	141	168
Barley	120	176	132	104	106	98	98	102	113	144