Land Governance and land speculation: A comparison between Livestock and Agricultural production in Mato Grosso do Sul state - Brazil.

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Aims

¥ Give some general information on Brazilian agricultural performance;
¥ Present main features of lack of land governance in the country and its impacts on livestock and grain production;
¥ how land speculation process can be described through the traditional succession of these two activities;
¥ Importance of land appreciation in livestock and soybean investments at Dourados region (MS);
¥ Determine how appreciation of land, affect the economic aspects and investment.
Birth rate: 18.45 births/1,000 population

Infant mortality rate: 36.96 deaths/1,000 live births

Life expectancy at birth: 72.5 years

Brazilian Population: 203 millions

Area
- total: 8,511,965 sq km
- land: 8,456,510 sq km
- water: 55,455 sq km

26 States
227,95 X The Netherlands
13,46 X France
<table>
<thead>
<tr>
<th>AREA/MAIN CROPS</th>
<th>MM HA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- FLOODED RICE</td>
<td>0.95</td>
</tr>
<tr>
<td>2- SOYBEAN</td>
<td>3.30</td>
</tr>
<tr>
<td>CORN</td>
<td>1.30</td>
</tr>
<tr>
<td>WHEAT</td>
<td>0.60</td>
</tr>
<tr>
<td>3- SOYBEAN</td>
<td>3.20</td>
</tr>
<tr>
<td>CORN</td>
<td>2.40</td>
</tr>
<tr>
<td>WHEAT</td>
<td>0.90</td>
</tr>
<tr>
<td>4- SOYBEAN</td>
<td>1.20</td>
</tr>
<tr>
<td>PASTURE</td>
<td>11.00</td>
</tr>
<tr>
<td>5- SUGARCANE</td>
<td>2.30</td>
</tr>
<tr>
<td>COFFEE</td>
<td>0.30</td>
</tr>
<tr>
<td>CITRUS</td>
<td>0.70</td>
</tr>
<tr>
<td>6- COFFEE</td>
<td>1.00</td>
</tr>
<tr>
<td>7- SOYBEAN</td>
<td>1.80</td>
</tr>
<tr>
<td>CORN</td>
<td>0.80</td>
</tr>
<tr>
<td>COTTON</td>
<td>0.10</td>
</tr>
<tr>
<td>DRYBEANS</td>
<td>0.20</td>
</tr>
<tr>
<td>PASTURE</td>
<td>9.00</td>
</tr>
<tr>
<td>8- SOYBEAN</td>
<td>3.30</td>
</tr>
<tr>
<td>COTTON</td>
<td>0.50</td>
</tr>
<tr>
<td>CORN</td>
<td>0.40</td>
</tr>
<tr>
<td>PASTURE</td>
<td>12.00</td>
</tr>
<tr>
<td>9- PASTURE</td>
<td>10.00</td>
</tr>
<tr>
<td>10- TROPICAL FRUITS</td>
<td>0.07</td>
</tr>
<tr>
<td>11- SUGARCANE</td>
<td>0.90</td>
</tr>
<tr>
<td>12- COFFEE</td>
<td>0.60</td>
</tr>
<tr>
<td>13- DRYBEANS</td>
<td>0.70</td>
</tr>
<tr>
<td>SOYBEAN</td>
<td>0.90</td>
</tr>
</tbody>
</table>
Key facts about Agribusiness in Brazil

Agriculture GDP (2007): US$ 318,6 bi
Total Exports in Agribusiness (2006): US$ 49,4 bi

Total Cultivated Area:
2007: 57,8 Mi ha
2008: 59,7 Mi ha
(Var.: 3,4%)

Brazil’s position in agricultural exports (2007 - % of the world exports)

The No. 1 exporter:
• Coffee: 28,9%;
• Beef: 30,0%;
• Poultry: 37,8%;
• Sugar: 41,5%;
• Orange Juice: 83,5%;

The No. 2 exporter:
• Soybean: 34,2%;

The No. 3 exporter:
• Corn: 8,6%.

Source: Ministry of Agriculture / IPEA / WFP / US Grains Council
Global Land Administration Perspective
(Williamson e.a. 2010)
What is land governance?

- Policies, legislations, regulations, programs, organizational roles and relationships, implementation capacity and resourcing as well as information systems related to land use and land ownership.
Evidences of lack of governance in Brazil

- Recall of 3,065 farms in 1999 with more than 10,000 hectares at INCRA’s Cadaster – cancelation of 1438 properties occupying 93.6 millions of hectares (about 11% of Brazilian farming land;

- Amazonian Justice Intervention in 17 notaries (only at the state of Amazon) and cancelled property titles of 48.5 millions hectares (2001).

- CNJ – has cancelled between 2008 and 2015 - about 494 millions of ha registered at the notaries of Pará; 3 times state area.
¥ Context
  ¥ An agriculture based economy with lack of control over its own territory

¥ Historical Background
  ¥ From royal concessions, through a violent past to dynamic occupation;

¥ Landscape changes and associated gains;
Brazil Land Administration institutional set up

**Presidency of the Republic** with Congress approval establishes: Conservation areas and Aboriginal Lands

**State Governors with Congress approval establishes:** State conservation areas

**Properties Notaries:** registers properties based on contracts of purchase and selling (consulting preview registers)

**Notes Notary:** registers of deeds

**LAW 10,267** - any change in property at the notaries needs georefered plant for register

**SPU:** Navy land and other public land

**JUDICIARY COURTS** - it homologates or creates titles in decisions of any type of conflict

**INCOME TAX Office:** charging of rural property tax (ITR)

**MUNICIPALITY:** decisions about use of rural and urban land, charging of urban land tax

**INCRA:** grants unique initial registration, registers properties at a cadastre, concedes concession of use to resettled, discriminates public land;

**State Land Institutes:** responsible for all state public land

**Resettlements of landless**

**Colonization** - public land destination to land divisions

Source: legislation and Reydon (2014)
Methodology

The data gathering methodology were organized by CEPEA, to define a regionally representative agricultural farms, a methodology also used by (USDA)

In Dourados region it would be - 300 hectares of productive land.

With crops of soybeans and corn as a successive crop

Projections made to 2026, considering operational costs average growth and input prices (since 2010), to determine future scenarios

To analyze it, the financial indicators of the Net Present Value (NPV), and the Internal Rate of Return (IRR) were calculated.
Methodology

To verify the impact of land appreciation in the agricultural investment we specified two scenarios:

- one that considers land acquisition, appreciation and selling at the end of 12 years, and
- one scenario where we excluded the land factor from the analysis, and evaluated only the revenue from the activity.

Results

Financial Indicators Results for Agriculture and Livestock Farms in Dourados (MS)

<table>
<thead>
<tr>
<th>Production System</th>
<th>NPV without land</th>
<th>NPV with land</th>
<th>IRR without land</th>
<th>IRR with land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture production Soybean+Corn</td>
<td>R$ 9.614.581,49</td>
<td>R$ 11.508.540,52</td>
<td>27%</td>
<td>8%</td>
</tr>
<tr>
<td>Livestock &quot;Cria&quot; production system (Santos, 2015)</td>
<td>-R$ 1.261.325</td>
<td>R$ 522.389</td>
<td>13,56%</td>
<td>4,34%</td>
</tr>
<tr>
<td>Livestock &quot;Recria-Engorda&quot; production system (Santos, 2015)</td>
<td>-R$ 3.209.552</td>
<td>-R$ 1.789.410</td>
<td>-</td>
<td>1,38%</td>
</tr>
</tbody>
</table>

Source: Santos, 2015; Elaborated by the authors.
### Land Prices for the Dourados (MS) Region. - FNP Agriannual report

<table>
<thead>
<tr>
<th>Land Classification</th>
<th>Annual Average (R$/hectare)</th>
<th>Variation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerrado Natural Land</td>
<td>1.923</td>
<td>9.467</td>
</tr>
<tr>
<td>High Support Pastureland (Dourados)</td>
<td>4.671</td>
<td>13.667</td>
</tr>
<tr>
<td>High Support Pastureland (Ponta Porã)</td>
<td>4.281</td>
<td>13.667</td>
</tr>
<tr>
<td>Low Support Pastureland (Dourados)</td>
<td>3.726</td>
<td>10.500</td>
</tr>
<tr>
<td>Low Support Pastureland (Ponta Porã)</td>
<td>3.712</td>
<td>10.467</td>
</tr>
<tr>
<td>High Productivity Agricultural Land (Dourados)</td>
<td>5.446</td>
<td>20.333</td>
</tr>
<tr>
<td>High Productivity Agricultural Land (Ponta Porã)</td>
<td>5.174</td>
<td>19.833</td>
</tr>
<tr>
<td>Low Productivity Agricultural Land (Dourados)</td>
<td>4.221</td>
<td>17.683</td>
</tr>
<tr>
<td>Low Productivity Agricultural Land (Ponta Porã)</td>
<td>3.812</td>
<td>17.367</td>
</tr>
</tbody>
</table>
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Gabriel; 07-11-2016
Results

¥ The agricultural activity in the region is feasible in both scenarios, although when considered the land appreciation, the indicators has showed a much more attractive scenario.

¥ Compared with livestock activity, land appreciation takes a secondary part in the feasibility of the agricultural farm.
Discussion

Considering the acquisition of a high productive agricultural land in 2014 (R$ 20,333/hectare), if the future selling price is not promoted, the activity becomes unfeasible.

Investors that decide to apply their capital in agricultural production through the acquisition of land, the analysis shows that in 12 years the investment, it would still not be feasible.

Therefore, the transformation of the landscape from undervaluated area (natural cerrado or pasture) into a productive farm, is essential for its economic viability.
Conclusions

- The traditional livestock activity, with lower initial investment and lower profitability, relies more in the appreciation of land than in the gains of productivity to generate revenue;

- Cycle of land transformation (natural/forest land - to pasture land - to agricultural land) is deeply related with the historical land occupation process;

- Livestock is actually the initial activity of the cycle. In a second moment, after the land consolidation, the investment in agriculture can be realized, with significant revenues from the first cycle.
Conclusions

¥ The maintenance of the current agrarian structure is possible by keeping the majority of available land in the hands of the traditional landowners, where:

¥ high values on land prices puts pressure on the agricultural producers to be more productive, due to a higher opportunity cost of land;

¥ higher land prices discourages new investors to develop agricultural activities through the acquisition of agricultural land.
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Gabriel; 07-11-2016
Conclusions

The issue with land speculation resides in the weak land governance mechanisms that economically benefits the opening of new areas and the consolidation of (sometimes irregular) possessions.

Ultimately, this will foster land concentration and a general permanent state of low productivity livestock production.
Contacts

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