Shifting Governance Structures in the Wheat Value Chain: Implications for Food Security in the Middle East and North Africa

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Duke University
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Outline

• Project overview
• Approach
• Wheat Industry GVC
• Wheat Trade and Chain Governance
• MENA’s wheat GVC & Country Cases
• Implications for MENA
• Conclusion
The Project

• GVC lens to unpack food security in MENA
• Focus on wheat
• Country-level case studies: Egypt, Iran, Saudi Arabia, Syria, United Arab Emirates, and Algeria
• Comparative analysis of wheat GVCs and food security strategies
• **GOAL:** Use GVC framework to analyze MENA vulnerabilities & design more resilient food security strategies at the regional level
Top down – the global economy with a focus on lead firms and inter-firm networks, using varied typologies of industrial “governance”

Bottom up – a focus on countries and regions, which are analyzed in terms of various trajectories of economic and social “upgrading” or “downgrading”
Impact of Food Price Increases on Trade Balance (2007-2008)

Large losers (trade balance worsening > 1% 2005 GDP)
Moderate losers (trade balance worsening < 1% 2005 GDP)
Moderate gainers (trade balance improving < 1% 2005 GDP)
Large gainers (trade balance improving > 1% 2005 GDP)
No data

SOURCE: The World Bank

Crop Prospects and Food Situation, April 2008 FAO.
Constraints in MENA

Inputs
- Land
- Water
- Labor
- Equipment
- Biotechnology

Production
- Farms
  - Soft wheat
  - Hard wheat
  - Durum wheat

Processing
- Elevators
  - Weighting
  - Grading
  - Blending
- Storage
- Mills
  - Milling
  - Packaging
- Feed Mills

Marketing
- Bakeries
- Retailers
- Food service
- Food manufacturers
- Livestock GVCs

Trade
- Commodity traders

Enabling Environment
- Public governance
- Infrastructure
- Financial networks
- Private governance
- Logistics networks
- Consulting services

Source: Ahmed et al., 2012
The ABCDs of the Grain Market

Source: CGGC based on company reports & literature review

70-90% of grains traded internationally are managed by the ABCDs

Input Suppliers
Grain Farms
Grain Traders
Grain Facilities, logistics & Terminals
Bulk Grain Buyers
Grain Millers
Processors

Financial Services
e.g. credit, futures, derivatives

ADM
Bunge
Cargill
Louis Dreyfus
Glencore
Key Variables in MENA’s Wheat VC Governance

Complexity
- Complex Network

Codifiability of Information
- Information & Technology Intensive

Capability
- Economies of Scale

TNCs

MENA Government Agencies

Global traders drive the flow of wheat & are involved in most of the VC

Governments influence segments of the chain through grain standards, subsidies, marketing and trade.
Key Events that Influenced Wheat Trade

- Higher tariffs on agricultural imports in the US
- Wheat Boards established in Canada (CWB) & Australia (AWB)

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<tbody>
<tr>
<td>• Trade liberalization</td>
<td>• Uruguay Round</td>
<td>• Financial crisis</td>
<td>• Agrim buys AWB for US$1.2 billion</td>
<td>• Deregulation and privatization of CWB in 2012</td>
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<td>• Extended trade negotiations to reduce agricultural subsidies</td>
<td>• Resuscitating Doha agreements</td>
<td>• Cargill buys Agrim trading, origination, Grain Flow storage &amp; handling in 2011</td>
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<tr>
<td></td>
<td>• IMF Structural Adjustment Programms</td>
<td>• Food prices crisis</td>
<td>• Deregulation and privatization of CWB in 2012</td>
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</tbody>
</table>

Source: CGGC based on literature review
Transformation in the VC Growth in TNCs

Deregulation
State monopolies control trade

Trade liberalization, deregulation & privatization of wheat boards

Consolidation
Started in agrochemicals around 1960s to improve output

Accelerated by mid-2000s
TNCs acquire input suppliers, small and large players in grain infrastructure

Globalization
TNCs opened overseas offices & invested in mills and elevators

TNCs invest in overseas assets, export facilities, partnerships, technology and data analytics

Financialization
TNCs use forward future contracts & hedging to manage risk

TNCs finance investments through public offerings, expand risk management & financial operations

From an Old Model to a New Model
Saudi Arabia’s Wheat Policy Timeline

**Self-Sufficiency Strategy**
- Targeting self-sufficiency
  - Achieved self-sufficiency
  - Increased tariffs on wheat & flour imports (100%)
  - Subsidies peaked to $3 billion

**Import-Based Strategy**
- Started phasing wheat production & incentives
- Water stress became a policy priority
- Ministry of Water created

**1970s**
- Targeting self-sufficiency

**1980s**
- Reduced wheat subsidies
- Introduced wheat production quotas
- Reduced import wheat tariffs

**1990s**
- Increasing wheat imports
- Investment in offshore agriculture
- Expand wheat infrastructure
- Introduced price controls & increased social spending

Egypt’s Wheat Policy Timeline

- 1970s and prior
  - Increase in government control
  - Creation of PBDAC to help supply farmers with inputs

- 1980s
  - Gradual easing of government control in land use & sales
  - 1989 - Last increase in the cost of subsidized bread

- 1990s
  - Wheat price increases and stagnate cotton prices
  - Bread, food, and social justice protests
  - Overthrow of Mubarak government
  - Elimination of subsidized fino flour
  - Easing of import restrictions for fino
  - 1996 - Producers of fino flour and bread required to use imported wheat & shami flour
  - Subsidy eliminated

- 2000s
  - Policies target expansion of storage
  - Increase domestic production
  - Reduction in imports
  - Wheat Shortages
  - Overthrowing of Morsi government

- 2012 onwards

Source: CGGC based on Kherallha et al 2000, Goldman 2013, MacFarland 2013
**2013 Saudi Arabia Wheat Value Chain Vulnerabilities**

**Production**
- Small & Medium Farms
  - 2012: 6,000 farmers
  - 1993: 34,000 farmers

**Processing**
- **Storage**
  - Inland Silos moved to Ports
- **Mills**

**Consumption**
- **Bakeries**
  - Price fixing $0.27/loaf
  - Food subsidy 0.24% of GDP
  - Increase labor and flour costs
  - About 25% of bakeries will go out of business
  - Up to 100% increase in bread prices

**Currency Reserves**
- Source: Oil

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**2013 Egyptian Wheat Value Chain Vulnerabilities**

**Production**
- Small & Medium Farms
  - 9.5 million tons

**Processing**
- **Storage**
  - Need for Modern Silos
- **Mills**

**Consumption**
- **Bakeries**
  - Bread rationing at 3 loaves
  - Food subsidy 2% of GDP
  - Available bread $0.7/loaf

**Currency Reserves**
- Source: Suez Canal & Tourism

Red: Acute disruption points in wheat GVC
Shifts in the Wheat GVC – From an Old Model to a New Model

Transformation in the VC
Potential Impacts on MENA’s Food Security

- **Deregulation** – State plays a key role
- **Consolidations** - Traders are an oligopoly interacting with state monopolies
- **Globalization** – High dependence on TNC
- **Financialization** – Increased food price volatility

- Government Failure Risk (strong)
- Market Failure Risk (strong)
- Market Failure Risk (strong)
- Market Failure Risk (strong)
Conclusion

- Five TNCs account for over 70 percent of global grain trade
- Globally, TNCS have seen an increase in power while national governments have a diminishing role in wheat trade
- MENA is a convergence region where state-dominated old world models and TNC-led new world models meet, creating unique challenges
- Need for collaboration, transparency, and private sector participation to meet food security needs
Thank You!

Questions?

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The Grain Price Hikes

Source: World Bank, 2011
Different regions within MENA rely on different countries as their leading source of imported wheat. Depending on the country, these relationships have persisted since 2007.

Morocco has imported 9.3% of MENA’s wheat since 2007.

Algeria has imported 16.6% of MENA’s wheat since 2007.

Morocco has imported 9.3% of MENA’s wheat since 2007.

Egypt has imported 25.9% of MENA’s wheat since 2007.

Mauritania

Libya

Morocco

Algeria

Egypt

Syria

Iraq

Iran

Saudi Arabia

France

Russia

No stickiness

Australia

SOURCE: FAO, total tonnage of wheat exported
Wheat Value Chain

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Trade
- Domestic
- International
- Commodity traders

Source: Ahmed et al., 2012
<table>
<thead>
<tr>
<th>Company</th>
<th>Revenues (Billion USD)</th>
<th>Assets (Billion USD)</th>
<th>Company Operations Segments</th>
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</thead>
<tbody>
<tr>
<td>Glencore Xstra</td>
<td>$232.69</td>
<td>$154.93</td>
<td>Metal and Minerals, Energy Products, Agriculture Products</td>
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<tr>
<td>Cargill*</td>
<td>$136.65</td>
<td>$59.88</td>
<td>Origination and Processing, Food ingredients and applications,</td>
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<td></td>
<td></td>
<td></td>
<td>Agriculture services, Risk management, Finance</td>
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<tr>
<td>Archer Daniels Midlands (ADM)</td>
<td>$89.80</td>
<td>$43.75</td>
<td>Oilseed Processing, Corn Processing, Agriculture Services, Finance</td>
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<tr>
<td>Louis Dreyfus Commodities*</td>
<td>$63.59</td>
<td>$19.17</td>
<td>Proteins, Tropicals, Other Products</td>
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<tr>
<td>Bunge Limited</td>
<td>$61.34</td>
<td>$26.78</td>
<td>Agribusiness, Sugar and Bioenergy, Food and Ingredients, Fertilizer</td>
</tr>
</tbody>
</table>

Source: CGGC based on company 2013 annual reports