India Seeds Sector

Low penetration offers ample opportunity

- **Significant scope for growth.** The India seeds sector is currently estimated to be a US$2 bn market or 4% of the global seed market, as per International Seed Federation (ISF) despite it having 11% of the global arable area. Increasing hybrid seed penetration driven by the food demand-supply mismatch may correct this anomaly somewhat. The India seeds industry is currently growing at 12% while the global seed industry growth is 5%.

- **Key hybrid/GM seeds in India.** Penetration is high in cotton (>90%) but very low in paddy (<5%). Corn, paddy and vegetables should drive the next leg of growth. Despite high penetration, high-density planting should be a driver for cottonseeds.

- **Key factors for a seed company.** A new successful hybrid takes eight to ten years and hence products introduced in the previous year or two determine growth for the next two to three years. R&D capability determines longer-term growth though this is very difficult to evaluate. Other success factors include distribution, branding and working capital management.

- **Initiating coverage on Kaveri Seeds with OUTPERFORM and a target price of Rs1,100, ~40% upside potential.** The India seeds sector is highly fragmented with 200 players. However, some ten players control over 50% of the market. Kaveri is the largest listed pure play and has reported strong growth and financials. We expect Kaveri to register 20%/29% revenue/net income CAGRs over FY14-17. It had net cash of Rs3 bn (as at Mar-14) with strong operating cash generation, high EBITDA margins (~25%) and high returns (RoE and ROCE of 45%+). Our target price is based on 0.75x 2Y PEG or 17x FY17E earnings. **Key risks** are poor cottonseed demand in FY16 and the inability to replicate their current success with new seeds.

<table>
<thead>
<tr>
<th>Figure 1: Major seed companies in India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Bayer</td>
</tr>
<tr>
<td>Kaveri Seed*</td>
</tr>
<tr>
<td>Monsanto In</td>
</tr>
<tr>
<td>Rallis India</td>
</tr>
<tr>
<td>Advanta In</td>
</tr>
<tr>
<td>JK Agri Gen.</td>
</tr>
</tbody>
</table>

^Data for FY14 / CY13; na: not available; Source: Company data, Thomson Reuters, *Credit Suisse estimates
Focus charts and table

Figure 2: India accounts for just 4% of the global seeds industry, despite accounting for 11% of global arable land

Source: International Seed Federation (Jun’13), World Bank (2012)

Figure 3: Cotton—the largest category; paddy—with most potential for growth

Source: Nuziveedu Seeds, Industry, Credit Suisse research

Figure 4: Cottonseed growth driven by a sharp rise in cotton acreage as well as Bt adoption

Source: ISAAA; Flemish Institute for Biotechnology

Figure 5: Paddy hybridisation at mere 5% in India provides huge potential for growth

Source: Nuziveedu Seeds

Figure 6: Key success factors for a seed company

Source: Company data, Credit Suisse research

FY13 data for Nuziveedu; 2013 data for Advanta; Source: Company data, Credit Suisse research

Figure 7: KVRI’s strong growth momentum to continue...

Source: Company data, Credit Suisse estimates

Figure 8: …attractive financial metrics; likely to sustain

Source: Company data, Credit Suisse estimates
Indian seeds: Low penetration still

Significant scope for growth

The India seeds sector is currently estimated to be a US$2 bn market or 4% of the global seed market, as per ISF, despite it having 11% of the global arable area. We believe this mismatch will be corrected somewhat with an increase in hybrid seed penetration in multiple crops to address the rising food demand-supply mismatch. The India seeds industry is currently growing at 12% while the global seed industry growth is c5%. High-density planting in cotton, demand for corn, and higher seed penetration in paddy should be key growth drivers of the industry.

Key hybrid/GM seeds in India

In India, hybrid seed penetration is high in cotton (>90%), corn (60%), few cereals such as sorghum, pearl millet, and oil seeds such as sunflower (hybridisation >80%). However, penetration is very low in main cereals such as paddy and wheat (<5%). With cotton hybridisation almost reaching saturation (Bt cotton is sown over 90% of the cotton area in the country), corn, paddy and vegetables should drive the next leg of growth in the seed industry in India.

Key factors for a seed company

Given that the process to develop a new seed takes eight to ten years and the success of a new seed is gradual after being introduced in the market, near-term growth (two to three years) is more likely driven by the products that have been introduced in the previous one to three years and which are showing signs of success. A seed company needs to have a continuous and high-quality pipeline of hybrids—a company's germplasm bank and its R&D capability is an important source of differentiation. Unfortunately, we find it difficult to judge this capability. The presence of a strong distribution network not only helps the company in making its product available widely but also helps in incremental sales as end-retailers sometimes act as financiers to the farmers. Advertising and promotional activities are essential to distinguish a particular company’s seed from those of its competitors, to educate farmers on best practices to ensure better productivity and to induce the farmers to buy particular seeds. The ability to accurately assess demand is critical to avoid losses of sale or significant inventory write-offs.

Initiating coverage on Kaveri Seeds

The India seeds industry is highly fragmented with the presence of over 200 players. However, some ten companies control over 50% of the market. Some of the other key players in India are Bayer, Monsanto, Pioneer, Syngenta among MNCs, and Ajeet, Ankur, JK Agri Tech, Metahelix, Nuziveedu and Rasi among domestic players.

We initiate coverage on Kaveri Seeds with an OUTPERFORM rating and a target price of Rs1,100, implying 40% upside potential. Our TP is based on 2Y PEG of 0.75x and implies FY17E P/E multiple of 17x. Kaveri Seeds has a turnover of over Rs10 bn, a strong distribution network of 15,000+ dealers and a significant market share in cotton, corn, millet and paddy seeds. We expect Kaveri to register 20%/29% revenue/net income CAGRs over FY14-17. Kaveri had net cash of Rs3 bn (as at Mar-14) with strong operating cash generation, high EBITDA margins (~25%) and high returns (RoE and ROCE of 45%+). Given the likely strong earnings growth and low capex requirements (~Rs400-500 mn annual capex), we believe the company's strong financial metrics would sustain.

Key risks are poor cottonseed demand in FY16 due to falling prices and the company's inability to replicate the current success with new seeds. The founders are also looking to sell down their equity to fund another venture which could create a stock overhang.
Significant scope for growth

11% of global arable land but just 4% of the seeds industry

The International Seed Federation (ISF) estimates the global seeds market size at US$45 bn with the US and China accounting for about 50%. This is despite these two countries having only about 20% of the total arable land in the world. On the other hand, the India seeds industry is estimated to be a US$2 bn market or 4% of the global market as per ISF despite it having 11% of the global arable area. We believe this mismatch will be corrected somewhat with the increase in hybrid seed penetration in multiple crops to address the rising food demand-supply mismatch. The India seeds industry is currently growing at 12% while the global seed industry growth is c5%.

Figure 9: India accounts for just 4% of the global seed industry...

![Market size US$45bn](#)

- USA: 27%
- China: 22%
- France: 6%
- Brazil: 6%
- Canada: 5%
- India: 4%
- Japan: 3%
- Argentina: 2%
- Italy: 2%
- Others: 20%

Data as of Jun-13, Source: International Seed Federation, Credit Suisse research

Multiple levers for growth

Agriculture plays a very important role in India, contributing to 14% of India’s GDP (global average of 3%) and accounting for about 50% of employment. Due to a stagnant arable land and a constantly increasing population, the per capita arable land has been declining. This, coupled with poor crop productivity, should lead to pressure on food supply, in our view. Crop productivity should improve due to a gradual improvement in the seed replacement rate, usage of better quality seeds resulting in higher yields, saving crop loss because of weeds, pests and insects, and improvement in irrigation. Thus, hybrid seeds should play an important role.

The adoption of Bt cotton is currently driving most of the sector growth. Going forward, the higher adoption of cotton through techniques such as high-density planting, higher demand for corn, and greater hybrid seed penetration in crops such as paddy would be the key growth drivers for the industry, in our view.

Figure 10: ...despite having 11% of global arable land

![Market share by country](#)

- United States: 11%
- China: 8%
- France: 3%
- Brazil: 5%
- Canada: 3%
- India: 11%
- Japan: 1%
- Argentina: 3%
- Italy: 2%
- Others: 56%

Source: World Bank (2012), Credit Suisse research

Increasing hybrid seed penetration driven by food demand-supply mismatch may correct this somewhat

High-density planting in cotton, demand for corn and higher seed penetration in paddy are key drivers
Figure 11: **Per capita arable land in India lags the world average**

![Graph showing arable land per capita in different regions.](image)

Source: World bank (2011), Credit Suisse research

Figure 12: **Significant scope for yield improvement in India**

![Graph showing cereal yield in different regions.](image)

Source: World bank (2012), Credit Suisse research

Figure 13: **The India seeds industry has been witnessing a 15% CAGR over the past three years**

![Graph showing growth in the Indian seed industry.](image)

Source: National Seeds Association of India, Nuziveedu Seeds, Credit Suisse research

Figure 14: **Cotton seed is the largest category in India and paddy should see the most growth potential**

![Pie chart showing cropwise split in the Indian seed industry.](image)

Source: Nuziveedu Seeds, Industry data, Credit Suisse research
Key hybrid/GM seeds in India

Globally, hybrid/GM seed penetration is high in corn, soy, cotton and canola while crops such as vegetables and paddy (rice) should drive the next leg of growth. Hybrid seed penetration in crops such as wheat is very low.

In India, hybrid seed penetration is high in cotton (>90%), corn (c60%), few cereals such as sorghum, pearl millet, and oil seeds such as sunflower (hybridisation >80%). However, penetration is very low in major cereals such as paddy and wheat (<5%). With cotton hybridisation almost reaching saturation (Bt cotton is sown over 90% of the cotton area in the country), corn, paddy and vegetables should drive the next leg of sector growth.

Cotton has been the key driver for the sector

India is the second-largest producer of cotton in the world, accounting for more than one-third of the global cotton crop area in 2012. Cotton productivity has increased by over 40% over the past ten years, driven mostly by the adoption of Bt cotton (over 90% penetration). The Bt cotton adoption has helped the industry improve yields and reduce the usage of insecticides significantly, by 70-80% as per a report by ISAAA (International Service for the Acquisition of Agri-biotech Applications). Cottonseed accounts for over 30% of the total Indian hybrid seed market.

Cottonseed pricing

Cottonseed pricing in India is regulated with a 450 gm packet of BG-II priced at Rs930-1,000, varying from state to state. Until 2005, Mahyco-Monsanto Biotech (MMB), the entity that introduced Bt cotton in India in 2002, dominated the market either through direct sales of hybrid seeds or through sub-licensing to private companies. In 2006, the price of a Bt cotton seed packet was Rs1,600 (4x the price of non-BT hybrid), of which Rs1,250 was MMB’s charge. The state of Andhra Pradesh imposed a ceiling of Rs750 on Bt cotton in 2006 which was subject to change every year based on factors such as production cost of seeds and trait value; gradually, other states imposed a similar ceiling. Currently MMB charges a royalty of about Rs185 per packet, i.e., about 20%.

Farmer-level economics

The rapid adoption of Bt cotton in India (90% in ten years) has been mainly attributed to the significant benefits achieved by the farmers due to seeds. A farmer, as per 12 studies conducted by public institutes over 1998-2010, is estimated to enjoy an incremental benefit of about US$75-250 per ha, effectively increasing profits per hectare by 70-135%, mainly due to higher yields and a significant reduction in the cost of insecticides.

Growth drivers

As penetration is already 90%, there is little room for increasing hybridisation to drive incremental growth for cottonseeds. Nonetheless, the cottonseed industry should continue to see growth due to the following drivers:

- New developments such as high-density cotton plantation under which the number of cottonseeds sown per acre should be doubled resulting in higher output per acre. Significant farmer education is required to achieve this.

- The under-approval BGII RRF cottonseed (this is the third generation Bt seed from cotton) should help solve the issue of weeds which in turn will help reduce the cost of labour as weeding is primarily done manually in India.
Major players

While the industry is highly fragmented, Indian companies dominate the cottonseed market. Nuziveedu and Kaveri Seeds are the two largest cottonseed companies in India with a ~20% market share each on a pan-India basis and Ajeet and Ankur Seeds are other large players with a ~10% market share each. However, MMB owns the Bt cotton trait and all other seed companies source it from the company.

Coarse cereals: Corn is driving growth

Coarse cereals comprise crops such as maize (or corn), millets, bajra, and ragi. While the area under coverage of these crops has been constantly falling, productivity has been increasing over the past few years across almost most coarse cereals. The most popular of the coarse cereals is maize, accounting for more than 50% of the segment volumes. India is the sixth-largest producer and the fifth-largest consumer of maize in the world. The area under cultivation, production and productivity of maize has seen 3%, 6% and 3% CAGRs, respectively, over the past ten years.

Farmer level economics

As per Monsanto, farmers in states such as Maharashtra, J&K, Orissa and UP have enjoyed an incremental benefit of Rs5,000-7,000/acre or 40-60%, due to the adoption of hybrid corn with benefits mainly accruing on account of higher yields.

Growth drivers

- Maize in India is primarily used as a feed for poultry and cattle (accounting for 60% of total corn demand) and in production of substances such as starch and ethanol. With chicken as one of the primary sources of protein in India, demand for poultry is likely to continue increasing. Poultry feed's share in maize demand has remained at ~40-50% over the past four to five years. Maize starch is considered as a versatile raw material with applications across multiple industries such as textiles, food, pharmaceuticals and paper. Maize has 60-65% starch content and hence cannot be easily substituted by other commodities. Demand for starch is likely another driver for maize demand.

- India is the fourth-largest exporter of maize after the US, Brazil and Ukraine, with exports doubling over the past five years. While China accounts for 22% of the world maize production, it is also one of the largest importers of maize. Indian exports have varied from 12-20% of corn production over the past five years and the export

Maize forms 50% of this segment

Both, increasing maize demand and production, and increasing hybridisation should help accelerate growth
opportunity is likely to remain sizeable. Indonesia, Malaysia and Vietnam are the largest export destinations for India accounting for 80% of exports. Exports to other major corn importers such as Japan, Korea and China should drive maize volumes going forward.

- The government has been encouraging maize production in place of paddy due to the significantly lower water consumption during production. The MSP (Minimum Support Price) for maize was fixed at the same level as that for paddy for the first time in FY14 at Rs1,310/quintal as against the usual 5-15% discount over the past seven years. For FY15, the government has set the paddy MSP at Rs1,360/quintal and maize at Rs1,310/quintal, with a difference of about 4%.

- Besides growth in maize demand and production, an increase in hybridisation is likely to be another driver for the industry. India’s maize hybridisation stands at 60% as against nearly 100% in other large countries or regions such as the US, EU, China and Brazil.

- The adoption of single cross corn (used mostly in the rabi season when the crop is dependent on irrigation), which has a ~50% higher yield versus other variants, is expected to increase (currently, about 50% of hybrid corn seeds in volume terms are single cross) with rising rabi corn crop and seed companies focused on developing more robust kharif variants of such seeds.

- The approval of GM corn, while only a longer-term possibility, should result in significant growth for the corn seed industry, similar to what was seen in Bt cotton.

**Major players**

International players dominate the India maize industry with Pioneer (a subsidiary of DuPont) and Monsanto being market leaders with over 15-20% market share each and Syngenta having about a 12-13% market share. Among the Indian companies, Kaveri Seeds is a large player with about 12% market share.
Paddy should be the next big opportunity

India is the second-largest producer and consumer of rice in the world accounting for ~20% of global production. Rice would be the next big opportunity for the India seeds sector, in our view, mainly due to low yields vis-à-vis the global average, and significantly low hybridisation levels (5% vs. c65% in China).

Figure 17: Paddy—India contributes to 20% of global production but has significant scope to improve yields

![Graph showing paddy production and yield comparison across nations](image)

Source: ISAAA

Farmer economics

As per a report by the Directorate of Rice Research, hybrid seeds should result in a yield advantage of 1-1.5 t/ha, which could translate into an incremental income of Rs8,000-12,000/ha or 70-90%. As per Nuziveedu Seeds and Bayer CropScience, farmers will gain up to Rs10,000/acre.

Growth drivers

- Higher hybrid seed penetration: Current penetration is very low (5% of total seeds used) mainly due to issues with the crop quality (issues such as difference in taste and soggy rice). The hybrid seed adoption is higher in Bihar, Jharkhand, Chhattisgarh and Uttar Pradesh and the seeds have reportedly resulted in average yields of 4.8 t/ha vs. the national average of 3.6 t/ha. As per Bayer CropScience, hybrid rice has a 15-35% higher yield versus conventional inbred varieties.

- The adoption of alternate techniques such as Direct Seeded Rice (DSR) is increasing in India to reduce water consumption. For paddy, initial seeds are germinated in a nursery for up to four weeks and then the saplings are transplanted to the fields that have standing water. With a gradual reduction in ground water availability and rising costs of labour (transplanting is a labour-intensive process), the industry is adopting DSR. While the methodology is likely to reduce water usage and labour requirement, DSR results in a problem of increased weeds. However, the benefits outweigh the cost of weedicides.

Major players

Globally, Syngenta and Bayer are the large players in hybrid seeds. Bayer is a major player in the India rice hybrid seeds industry but almost all major seed companies such as Kaveri, Nuziveedu and Rallis have a presence in this category.
Other crops

Vegetables

The global vegetable seeds market, estimated at about US$5 bn, as per Bayer CropScience, is expected to witness a 7-8% CAGR over the next ten years, driven by increased usage of hybrid seeds. As per Bayer CropScience, of the estimated increase in the vegetable market size over 2011-25, China will account for 40% and India 7%. The increase in acreage and higher hybridisation with increasing urbanisation are likely to be key demand drivers in China and India.

Higher growth in the usage of fruits and vegetables is associated with improvement in income. Besides higher yields, desirable characteristics from hybrid vegetable seeds include resistance to pests and diseases, uniformity of the product in terms of colour, size, shape, and taste, improved shelf life, and higher nutritional.

Figure 19: The global vegetable seeds market should witness a 7-8% CAGR over 2011-25E

Figure 20: China will account for 40% of this growth and India 7% (US$500 mn)

Wheat

As in the case of rice, India is the second-largest producer of wheat accounting for 14% of global production. Wheat accounted for 10% of land sown in India in FY13. Yields of wheat have improved at a 3.3% CAGR over FY08-12 despite the low hybrid seed adoption. Improvement in irrigation facilities, seed treatment and management of optimum time of sowing have resulted in the increase in production and better yields. The government acknowledges the need to focus on areas such as improvement in seed replacement rates and varietal replacement for sustaining production and productivity.

However, hybrid wheat in India is yet to prove commercial viability. Even globally, hybrid seed penetration in wheat is low. Strong incremental growth from hybrid seed penetration is unlikely in the near term, in our view.
**Figure 21: Farmer level economics per acre of land**

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Cotton</th>
<th>Paddy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield (quintals/acre)</td>
<td>30</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Price (Rs/quintal)</td>
<td>1,400</td>
<td>4,000</td>
<td>1,500</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td>42,000</td>
<td>40,000</td>
<td>45,000</td>
</tr>
<tr>
<td>Total seed costs</td>
<td>2,000</td>
<td>1,860</td>
<td>1,000</td>
</tr>
<tr>
<td>Fertilisers, pesticides</td>
<td>9,450</td>
<td>7,200</td>
<td>12,000</td>
</tr>
<tr>
<td>Labour, tractor, others</td>
<td>19,000</td>
<td>19,500</td>
<td>19,500</td>
</tr>
<tr>
<td>Total costs</td>
<td>30,450</td>
<td>28,560</td>
<td>32,500</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>11,550</td>
<td>11,440</td>
<td>12,500</td>
</tr>
</tbody>
</table>

*Source: Industry, Credit Suisse estimates*

Hybrid seeds should improve farmers’ incomes by 40-90%, making the incremental seed cost worthwhile.
Key factors for a seed company

The India seeds industry is highly fragmented with over 200 players. Some of the key characteristics that differentiate the companies are as follows.

Success of existing products

Given that the process to develop a new seed takes eight to ten years and the success of a new seed is gradual after being introduced in the market, near-term growth (two to three years) is more likely driven by the products that have been introduced in the previous one to three years and showing signs of success. Given the importance of seeds to a farmer (source of livelihood for the entire year), the quality of seeds (in terms of yields and consistency) is of importance. The cost of seeds is less than 10% of total costs for the farmer and therefore the farmer would be willing to pay a premium for the right product. While most seed companies have several hybrids—a handful of them contribute to a large proportion of total revenue—these are the blockbuster seeds for the company.

R&D capability

A seed company needs to have a continuous and high-quality pipeline of hybrids. Seed R&D is a time-consuming process and a company’s germplasm bank and its R&D capability is an important source of differentiation. This is extremely important from a medium- to long-term perspective. Unfortunately, we find it difficult to judge this capability given that there is no information available on the hybrids in the pipeline, the time left for it to come to market and the possibility of success with farmers that the product may have. In addition, there does not appear to be any other avenues through which the progress of a hybrid can be judged. In a way, some leap of faith would need to be taken based on the companies’ past delivery of blockbuster seeds.

Given that the patenting process in India is not very robust, other companies replicate blockbuster seeds in the marketplace quickly. However, the replication takes at least two to three years (one to two years for discovery and then a year for replication) by which time the incumbent gains significant a market share. In addition, the brand plays an important role—given the relatively low proportion of seed costs in the total for a farmer, comfort with the brand would play a very important role.

Figure 22: Seed development R&D process

Source: DuPont
Distribution network

The initial selling process is mainly through demonstrating the superiority of the product versus non-hybrid seeds and hybrid seeds of competitors. However, the presence of a strong distribution network not only helps the company in making its product available widely but also helps in incremental sales as end-retailers sometimes act as financers to the farmers and therefore influence the seed selection process.

Branding and promotional activity

Advertising and promotional activities are essential to distinguish a particular company’s seed from those of its competitors, to educate farmers on best practices to ensure better productivity and induce the farmers to buy particular seeds. As per an ISAAA report, the majority of farmers surveyed for Bt cotton seeds did not know the name of the company making those seeds but were aware of the brand names. These farmers often paid higher prices for popular hybrids due to heavy demand during the kharif season. Therefore, investment in advertising and branding is a way to maintain some product differentiation.

Effective working capital management

Depending on the crop variety, seed companies need to assess likely crop demand almost an year in advance to start producing seeds. So the ability to accurately assess demand is critical to avoid losses of sale or significant inventory write-offs.

Large and dedicated network of seed growers/land bank

After the discovery of a successful hybrid, seed multiplication requires many rounds of sowing. Therefore, the availability of a large land bank or access to a large dedicated network of seed growers acts as a major entry barrier for smaller seed companies as a lack of such a network will delay the process of market expansion for them. Alternatively, it also protects a large incumbent to garner a significant market share before someone else introduces such a hybrid.
Some major players in India

Internationally, the major seed companies—Monsanto, DuPont and Syngenta—control over 50% of the seeds market. This strong industry concentration is a result of high penetration of GM seeds (a 45% market share). While globally we expect the overall seeds industry to witness a 5-8% CAGR, the biotech seeds market is likely to see a 6-10% CAGR. The reason for concentration in biotech is the high R&D costs (up to US$150 mn) and the long process for development and regulatory clearances, sometimes over ten years. However, the hybrid seeds market is fragmented with multiple small regional players.

The India seeds industry, too, is highly fragmented with the presence of over 200 players. However, some ten companies control over 50% of the market. Some of the key players in India are Bayer, Monsanto, Pioneer, Syngenta among MNCs, and Ajeet, Ankur, JK Agri Tech, Kaveri, Meta Helix, Nuzivedu and Rasi among domestic players.

Figure 23: Some major players in India (table 1/2)

<table>
<thead>
<tr>
<th>Company</th>
<th>Local Mkt cap (INR mn)</th>
<th>ADTO Price Perf. (%)</th>
<th>Sales (US$ mn) FY14</th>
<th>EBITDA margin (%) FY14</th>
<th>Sales mix Seeds (%)</th>
<th>Ag. Chem. (%)</th>
<th>Oth. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>2,082</td>
<td>1.2</td>
<td>521</td>
<td>11%</td>
<td>1%</td>
<td>95%</td>
<td>4%</td>
</tr>
<tr>
<td>Kaveri Seeds</td>
<td>863</td>
<td>2.5</td>
<td>167</td>
<td>22%</td>
<td>96%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Monsanto In</td>
<td>881</td>
<td>3.9</td>
<td>95</td>
<td>25%</td>
<td>60%</td>
<td>39%</td>
<td>1%</td>
</tr>
<tr>
<td>Rallis India</td>
<td>664</td>
<td>1.4</td>
<td>286</td>
<td>15%</td>
<td>15%</td>
<td>89%</td>
<td>1%</td>
</tr>
<tr>
<td>Advanta In</td>
<td>479</td>
<td>0.4</td>
<td>206</td>
<td>14%</td>
<td>na</td>
<td>94%</td>
<td>0%</td>
</tr>
<tr>
<td>JK Agri Gen.</td>
<td>25</td>
<td>0.0</td>
<td>31</td>
<td>14%</td>
<td>na</td>
<td>97%</td>
<td>0%</td>
</tr>
<tr>
<td>E.I. du Pont</td>
<td>68,578</td>
<td>353</td>
<td>33,575</td>
<td>19%</td>
<td>23%</td>
<td>10%</td>
<td>67%</td>
</tr>
<tr>
<td>Monsanto</td>
<td>56,820</td>
<td>471</td>
<td>15,438</td>
<td>29%</td>
<td>31%</td>
<td>70%</td>
<td>30%</td>
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<tr>
<td>Syngenta</td>
<td>30,993</td>
<td>93</td>
<td>14,787</td>
<td>20%</td>
<td>19%</td>
<td>22%</td>
<td>74%</td>
</tr>
<tr>
<td>Longpin</td>
<td>3,288</td>
<td>60</td>
<td>316</td>
<td>19%</td>
<td>23%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Denghai</td>
<td>1,984</td>
<td>19</td>
<td>251</td>
<td>41%</td>
<td>36%</td>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>

na = not available; Source: Company data, Thomson Reuters, the BLOOMBERG PROFESSIONAL™ service

Figure 24: Some major players in India (table 2/2)

<table>
<thead>
<tr>
<th>Company</th>
<th>EPS growth (%)</th>
<th>PE (x) FY14</th>
<th>PE (x) FY15</th>
<th>PE (x) FY16</th>
<th>PB (x) FY14</th>
<th>PB (x) FY15</th>
<th>PB (x) FY16</th>
<th>RoE (%) FY14</th>
<th>Div. yield (%) FY14</th>
<th>Div. yield (%) FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>nm</td>
<td>47</td>
<td>34</td>
<td>28</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>16</td>
<td>19</td>
<td>0.2%</td>
</tr>
<tr>
<td>Kaveri Seed</td>
<td>65%</td>
<td>25</td>
<td>18</td>
<td>14</td>
<td>10</td>
<td>7</td>
<td>5</td>
<td>49</td>
<td>47</td>
<td>0.6%</td>
</tr>
<tr>
<td>Monsanto In</td>
<td>93%</td>
<td>42</td>
<td>37</td>
<td>29</td>
<td>16</td>
<td>13</td>
<td>11</td>
<td>35</td>
<td>39</td>
<td>2.8%</td>
</tr>
<tr>
<td>Rallis India</td>
<td>28%</td>
<td>28</td>
<td>24</td>
<td>19</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>23</td>
<td>23</td>
<td>1.1%</td>
</tr>
<tr>
<td>Advanta In</td>
<td>-16%</td>
<td>57</td>
<td>na</td>
<td>na</td>
<td>5</td>
<td>na</td>
<td>na</td>
<td>9</td>
<td>na</td>
<td>-</td>
</tr>
<tr>
<td>JK Agri Gen.</td>
<td>32%</td>
<td>13</td>
<td>na</td>
<td>na</td>
<td>3</td>
<td>na</td>
<td>na</td>
<td>29</td>
<td>na</td>
<td>0.6%</td>
</tr>
<tr>
<td>E.I. du Pont</td>
<td>3%</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>27</td>
<td>23</td>
<td>2.5%</td>
</tr>
<tr>
<td>Monsanto</td>
<td>18%</td>
<td>24</td>
<td>21</td>
<td>18</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>24</td>
<td>32</td>
<td>1.4%</td>
</tr>
<tr>
<td>Syngenta</td>
<td>-10%</td>
<td>16</td>
<td>16</td>
<td>14</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>19</td>
<td>18</td>
<td>3.5%</td>
</tr>
<tr>
<td>Longpin</td>
<td>21%</td>
<td>81</td>
<td>56</td>
<td>44</td>
<td>11</td>
<td>7</td>
<td>6</td>
<td>15</td>
<td>15</td>
<td>0.3%</td>
</tr>
<tr>
<td>Denghai</td>
<td>26%</td>
<td>35</td>
<td>31</td>
<td>25</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>22</td>
<td>20</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

nm = not meaningful; na = not available; Source: Company data, Thomson Reuters, the BLOOMBERG PROFESSIONAL™ service
Figure 25: Key success factors for a seed company

<table>
<thead>
<tr>
<th></th>
<th>Kaveri</th>
<th>Nuziveedu</th>
<th>Monsanto</th>
<th>Advanta</th>
<th>Metahelix</th>
<th>JK Agri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key crops</td>
<td>Cotton, Corn</td>
<td>Cotton</td>
<td>Corn</td>
<td>Cereal, Oilseeds</td>
<td>Corn, Paddy</td>
<td>Cotton, Vegetable</td>
</tr>
<tr>
<td>Popular brand</td>
<td>Jadoo (Cotton)</td>
<td>Mallika (Cotton)</td>
<td>Dekalb (Corn)</td>
<td>RIL - 019 (Corn)</td>
<td>JKCH - 1947 (Cotton)</td>
<td></td>
</tr>
<tr>
<td>Number of seed varieties</td>
<td>90+</td>
<td>350+</td>
<td>20</td>
<td>300+</td>
<td>30+</td>
<td></td>
</tr>
<tr>
<td>R&amp;D spend (Rs mn)</td>
<td>143</td>
<td>72</td>
<td>288</td>
<td>1,095</td>
<td>103</td>
<td>110</td>
</tr>
<tr>
<td>R&amp;D as a % of sales</td>
<td>1.4%</td>
<td>0.7%</td>
<td>5.0%</td>
<td>8.7%</td>
<td>4.6%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Number of dealers</td>
<td>15000+</td>
<td>55000+</td>
<td>NA</td>
<td>NA</td>
<td>30000+ retailers</td>
<td>30000 dealers</td>
</tr>
<tr>
<td>A&amp;P spend (Rs mn)</td>
<td>345</td>
<td>NA</td>
<td>382</td>
<td>583</td>
<td>266</td>
<td>148</td>
</tr>
<tr>
<td>A&amp;P as a % of sales</td>
<td>3.4%</td>
<td>NA</td>
<td>6.6%</td>
<td>4.6%</td>
<td>11.8%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Advances (Rs mn)</td>
<td>2,460</td>
<td>4,745</td>
<td>286</td>
<td>311</td>
<td>386</td>
<td>465</td>
</tr>
<tr>
<td>Advances as a % of sales</td>
<td>24.3%</td>
<td>47.3%</td>
<td>4.9%</td>
<td>2.5%</td>
<td>17.2%</td>
<td>24.7%</td>
</tr>
<tr>
<td>Net working capital days</td>
<td>29</td>
<td>(2)</td>
<td>13</td>
<td>113</td>
<td>21</td>
<td>77</td>
</tr>
</tbody>
</table>

FY13 data for Nuziveedu; 2013 data for Advanta; Source: Company data, Credit Suisse
Kaveri Seeds

(KVRL.BO / KSCL IN)

INITIATION

Largest Indian pureplay seeds company

- Initiating with OUTPERFORM. We initiate coverage on Kaveri Seeds with an OUTPERFORM rating and a Rs1,100 target price, implying 42.6% upside potential. Kaveri Seeds is the largest listed pure-play seed company in India. The company has a turnover of over Rs10 bn, a strong distribution network of 15,000+ dealers and a significant market share in cotton, corn, millet and paddy seeds. It is the No. 2 player in cotton, No. 4 player in corn and among Top 3-5 players in millets, paddy, sorghum and sunflower.

- Attractive growth momentum to continue. We expect key drivers to be a higher market share in cottonseeds in Maharashtra and Gujarat and strong performance across other seeds such as corn, paddy and vegetables. While corn and cotton are likely to drive the company's growth in the next three to five years, any breakthrough in paddy and vegetables should drive strong growth in the longer term. We expect Kaveri to register 20%/29% revenue/net income CAGRs over FY14-17E.

- Attractive financial metrics, likely to sustain. Kaveri had net cash of Rs3 bn (as at Mar-14) with strong operating cash generation, low working capital requirement (30 days of working capital at end-FY14), high EBITDA margins (~25%) and high return ratios (RoE and ROCE of 45%+). Given the likely strong earnings growth and low capex requirements, (~Rs400-500 mn annual capex), we believe strong financial metrics are likely to sustain.

- Valuation. Our target price is based on two-year PEG of 0.75x, which implies 17x FY17E EPS. While valuations have re-rated over the past year, we do not view them as excessive and that current valuations should sustain given its strong financial metrics, likely strong earnings growth over the next few years and a large market opportunity. Key risks are poor cottonseed demand in FY16 and its inability to come up with new blockbuster seeds. The founders are also looking to sell down their equity to fund another venture.
Kaveri Seeds

**Price (21 Jan 15):** Rs771.20, **Rating:** OUTPERFORM, **Target Price:** Rs1,100.00, **Analyst:** Anantha Narayan

### Key earnings drivers

- **Revenue growth (%)**
  - 42.0
  - 18.7
  - 19.9
  - 19.9
- **Cotton seed revenue growth (%)**
  - 58.5
  - 24.8
  - 15.0
  - 15.0
- **Corn seed revenue growth (%)**
  - 34.0
  - (4.0)
  - 20.0
  - 20.0
- **EBITDA margins (%)**
  - 21.9
  - 25.0
  - 25.1
  - 25.2

### Per share data

- **Shares (wtd avg.) (mn)**
  - 68.7
  - 68.7
  - 68.7
  - 68.7
- **EPS (Credit Suisse) (Rs)**
  - 30.4
  - 43.6
  - 53.5
  - 65.4
- **BVPS (Rs)**
  - 4.0
  - 7.4
  - 10.5
  - 15.0
- **Operating CFPS (Rs)**
  - 75.0
  - 110.0
  - 151.0
  - 199.0

### Key ratios and valuation

- **Growth (%)**
  - Sales revenue
  - 42.0
  - 18.7
  - 19.9
  - 19.9
  - EBIT
  - 61.2
  - 41.9
  - 20.6
  - 20.6
  - Net profit
  - 64.9
  - 43.4
  - 22.6
  - 22.3
  - EPS
  - 64.3
  - 43.4
  - 22.6
  - 22.3
- **Margins (%)**
  - EBITDA
  - 21.9
  - 25.0
  - 25.1
  - 25.2
  - EBIT
  - 20.3
  - 24.2
  - 24.3
  - 24.5
  - Pre-tax profit
  - 21.2
  - 25.6
  - 26.2
  - 26.7
  - Net profit
  - 20.7
  - 25.0
  - 25.5
  - 26.0
- **Valuation metrics (x)**
  - P/E
  - 25.4
  - 17.7
  - 14.4
  - 11.8
  - P/B
  - 10.3
  - 7.0
  - 5.1
  - 3.9
  - Dividend yield (%)
  - 0.62
  - 0.97
  - 1.36
  - 1.95
  - P/CF
  - 26.1
  - 18.4
  - 15.4
  - 12.7
  - EV/sales
  - 4.97
  - 4.02
  - 3.18
  - 2.48
  - EV/EBITDA
  - 22.7
  - 16.1
  - 12.7
  - 9.9
  - EV/EBIT
  - 24.6
  - 16.6
  - 13.1
  - 10.1
- **ROE (%)**
  - 48.6
  - 47.2
  - 41.0
  - 37.4
  - Asset turnover
  - 0.98
  - 0.88
  - 0.81
  - 0.76
  - Interest burden
  - 1.05
  - 1.06
  - 1.08
  - 1.09
  - Tax burden
  - 0.98
  - 0.97
  - 0.97
  - 0.97
  - Financial leverage
  - 1.99
  - 1.81
  - 1.71
  - 1.65
- **Credit ratios**
  - Net debt/equity (%)
  - (55.0)
  - (64.6)
  - (70.8)
  - (75.5)
  - Net debt/EBITDA (x)
  - (1.28)
  - (1.63)
  - (2.04)
  - (2.37)
  - Interest cover (x)
  - (21.5)
  - (17.0)
  - (13.0)
  - (10.9)

**Source:** Company data, Thomson Reuters, Credit Suisse estimates

### India Seeds Sector

- **2015-16**
  - 12m forw PE
  - 20.0
  - 15.0
  - 12.5
  - 10.0

- **2015-16**
  - 12m fwd PB
  - 15.0
  - 15.0
  - 15.0
  - 15.0

---

**Source:** IBES
Largest listed pure-play seed company in India

Kaveri Seeds is one of the largest seed companies in India with a turnover of over Rs10 bn in FY14 and a network of 15,000 distributors and dealers across 15 states. It is the No. 2 player in the cottonseeds market (an 18-19% market share, and cotton is the largest seed category in India), the No. 4 player in the corn market (a 13% market share) and is among the Top 3-5 players in other seeds such as millets, paddy, sorghum and sunflower.

Figure 26: Kaveri’s presence in different crop categories

<table>
<thead>
<tr>
<th>Crop</th>
<th>Market size (Rs bn)</th>
<th>Market share (%)</th>
<th>Rank</th>
<th>% of FY15E revenue</th>
<th>Key competitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>40</td>
<td>18-19%</td>
<td>2</td>
<td>66%</td>
<td>Nuziveedu, Ajeet, Ankur</td>
</tr>
<tr>
<td>Corn</td>
<td>12</td>
<td>13%</td>
<td>4</td>
<td>14%</td>
<td>Monsanto, Pioneer</td>
</tr>
<tr>
<td>Paddy</td>
<td>12</td>
<td>6%</td>
<td>Top 5</td>
<td>6%</td>
<td>Bayer, Syngenta</td>
</tr>
<tr>
<td>Vegetables</td>
<td>17</td>
<td>&lt;1%</td>
<td>na</td>
<td>&lt;1%</td>
<td>Monsanto, JK Agri</td>
</tr>
</tbody>
</table>

Source: Company data, Credit Suisse estimates

The company boasts of a strong focus on R&D and claims to have one of the largest germplasm pools in India. Kaveri has 600+ acres of owned and leased research farms covering different agro climatic conditions. It has close to 100 different varieties of hybrid seeds in the market although a large proportion of revenue is driven only by a handful of seeds. It has consistently incurred R&D spends of ~Rs100 mn p.a. since FY07 (~15% of sales on R&D in FY07) and over time has developed a R&D infrastructure. KVRI has incurred an R&D expense of Rs140 mn in FY14 (1.4% of sales), but management has indicated that it is likely to step up its R&D spending, mainly due to its foray into biotechnology-based research (molecular marking technology). It expects R&D spending to up to 3-4% of sales (~Rs400 mn).

The company also claims to have one of the largest distribution networks among Indian seed companies with 15,000+ dealers and 40,000-50,000 retail touch points. Its distribution network is well spread out, mainly due to its presence across multiple crops such as cotton, maize, millets, sorghum and paddy, which are grown in different parts of India. While the efficacy of the hybrid is the single most important factor that determines the success of a seed, a strong distribution network is extremely important as well for the timely supply to the market.

Figure 27: Comparison of R&D and distribution spending

<table>
<thead>
<tr>
<th></th>
<th>Kaveri</th>
<th>Nuziveedu</th>
<th>Monsanto</th>
<th>Advanta</th>
<th>Metahelix</th>
<th>JK Agri Genetics</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D spend (Rs mn)</td>
<td>143</td>
<td>72</td>
<td>288</td>
<td>1,095</td>
<td>103</td>
<td>110</td>
</tr>
<tr>
<td>R&amp;D as a % of sales</td>
<td>1.4%</td>
<td>0.7%</td>
<td>5.0%</td>
<td>8.7%</td>
<td>4.6%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Distribution network</td>
<td>15,000+</td>
<td>55,000+</td>
<td>NA</td>
<td>NA</td>
<td>30,000+ retailers</td>
<td>30,000 dealers</td>
</tr>
<tr>
<td>A&amp;P spend</td>
<td>345</td>
<td>NA</td>
<td>382</td>
<td>583</td>
<td>266</td>
<td>148</td>
</tr>
<tr>
<td>A&amp;P as a % of sales</td>
<td>3%</td>
<td>NA</td>
<td>7%</td>
<td>5%</td>
<td>12%</td>
<td>8%</td>
</tr>
<tr>
<td>Advances (Rs mn)</td>
<td>2,460</td>
<td>4,745</td>
<td>286</td>
<td>311</td>
<td>386</td>
<td>465</td>
</tr>
<tr>
<td>Advances as a % of sales</td>
<td>24%</td>
<td>47%</td>
<td>5%</td>
<td>3%</td>
<td>17%</td>
<td>25%</td>
</tr>
</tbody>
</table>

FY13 data for Nuziveedu; 2013 data for Advanta; Source: Company data, Credit Suisse research
Attractive growth momentum to continue

We estimate a 20% revenue CAGR over FY14-17

Kaveri has delivered a 52% revenue CAGR over the past five years, driven by the success of its blockbuster seed Jadoo, a hybrid cotton variant popular in the Andhra Pradesh market (accounts for 22% of cotton production in India). Started in 2009 with a production of 15,000 packets, Jadoo's sales rose to about 5 mn packets in FY15. The seed has helped the company scale up its market share from less than 1% in 2007 to 18-19% in FY15.

Due to the long lead time for developing and marketing a new hybrid, revenue for a seed company over the immediate two to three years is mainly dominated by the portfolio of existing hybrid seeds in the market. Consequently, we expect Kaveri to deliver a 20% revenue CAGR over FY14-17 on the back of:

- Stable-to-marginal improvement in the market share in its core AP cotton market,
- strong improvement in the market share in Maharashtra on account of the launch of its new hybrid, ATM (currently having an 8-9% market share in this market),
- growth in corn seed revenue due to overall growth in the market (estimated to see a 15%+ CAGR over next few years), and
- higher penetration of single cross maize hybrid and gradual improvement in the market share, especially in Bihar and Maharashtra.

Paddy should theoretically be the next big growth opportunity in India due to the high acreage for this crop and very low hybrid seed penetration. However, we have not built in any significant upside from hybrid rice in our numbers given the uncertainties around a new successful hybrid launch by any seed company.

From a medium- to long-term perspective, growth for seed companies is driven by not just existing hybrids in the market but also by the pipeline of hybrids likely to be launched in the next three to four years. In addition, in cotton Kaveri expects high growth in the medium term stemming from (1) the adoption of new hybrids suitable for close density planting aiding mechanised harvest; (2) likely approval of BG2RRF by 2016 (another GM technology in cotton with which plants become immune to a herbicide Roundup thereby reducing labour cost for manual weeding); and (3) the launch of new hybrids in the Gujarat and North Indian markets. Kaveri targets a 25% market share in cotton in the next three years (from the current 18-19% market share). In corn and paddy, the company hopes to increase its market share to 17% and 10%, respectively, over the next five years from the current 13% and 6%. Revenue has seen a 52% CAGR over the past five years

Based on the current visibility, we expect Kaveri to deliver a 20% revenue CAGR over FY14-17

Paddy should be a very significant growth opportunity but there is uncertainty around it
**High margins likely to sustain**

We expect Kaveri’s EBITDA margins to sustain at current 25% levels, with some potential for positive surprises, mainly on the back of a change in the revenue mix away from lower margin cottonseeds, and higher operating leverage. EBITDA margins for cottonseeds are 20-21% while those in other seeds vary between 25% and 28%. Cotton margins are lower despite higher gross margins due to the royalty that needs to be paid to the Monsanto arm in India (the royalty amounts to about 20% of cottonseed revenue). Management expects EBITDA margins to expand, at best, by 100-150 bp.

Consequently, we expect a 29% earnings CAGR over FY14-17E on the back of revenue growth and some slight margin improvement. The company claims its revenue as agricultural income and therefore does not pay any taxes. Management does not see any significant risk to this tax status.
Attractive financial metrics, likely to sustain

Return ratios are likely to remain high

Due to high fixed asset turns (~5x in FY14), low net working capital requirements and high profitability (~25% EBITDA margins), Kaveri has very strong return ratios (49% RoE and 46% ROCE in FY14). The success of its cotton hybrid seed, Jadoo, has resulted in reductions in working capital and asset turnover. The popularity of Jadoo has resulted in reductions in company's debtors and higher advances from customers and, given low capital-intensive nature of the business, a significant boost to asset turnover.

We expect the company's return ratios to remain high over the next three years on the back of strong 29% earnings growth and planned capex of just ~Rs400 mn p.a. However, returns are likely to come off their peak levels over the next few years, mainly due to high cash accumulation—we have not assumed a significant increase in payouts.

Company to remain net cash positive

Kaveri had net cash of ~Rs2 bn as at September 2014, due to the low capital-intensive nature of the business, low working capital and high operating cash generation.

Working capital management is crucial in the seeds business as companies need to plan for likely demand almost a year in advance. This typically results in high inventory on the books of the seed companies. Kaveri maintains 1-1.2 years of peak inventory. However, given the popularity of the company's product, Kaveri receives advances from dealers until January for seeds to be provided during April-June. Over the past three years, the company has received advances of about Rs2-2.5 bn (90-180 days of sales). The fall in advances last year as a proportion of sales was due to the 25% fall in advances in Andhra Pradesh owing to the high level of cotton inventory in the system. Over the past three years, the company has maintained 20-30 days of net working capital at the end of March. We expect the company to maintain 30 days of working capital investment.

We expect the company to remain in a net cash position as it is likely to generate OCF of Rs10 bn over FY15-17 while incurring a capex of ~Rs1 bn during the same period. Its current dividend payout ratio is 16-18%.
Source: Company data, Credit Suisse estimates

Quarterly financials

The company’s annual financials are largely skewed towards the first half. The kharif crop accounts for 75-85% of the company's revenue and about 80-90% of profitability. With maize being the only rabi crop currently for the company and given the company’s focus on increasing penetration of single-cross kharif corn, the company’s financials will likely remain skewed towards the first half.

Figure 36: Seasonally skewed towards 1Q; 1H accounts for over 80% of company's revenue and PAT

<table>
<thead>
<tr>
<th>Rs mn</th>
<th>1Q FY13</th>
<th>2Q FY13</th>
<th>3Q FY13</th>
<th>4Q FY13</th>
<th>1Q FY14</th>
<th>2Q FY14</th>
<th>3Q FY14</th>
<th>4Q FY14</th>
<th>1Q FY15</th>
<th>2Q FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Income</td>
<td>4,796</td>
<td>637</td>
<td>1,032</td>
<td>746</td>
<td>7,361</td>
<td>1,032</td>
<td>1,326</td>
<td>392</td>
<td>8,269</td>
<td>2,037</td>
</tr>
<tr>
<td>Revenue growth YoY</td>
<td>99%</td>
<td>31%</td>
<td>149%</td>
<td>79%</td>
<td>53%</td>
<td>62%</td>
<td>28%</td>
<td>-47%</td>
<td>12%</td>
<td>97%</td>
</tr>
<tr>
<td>EBITDA</td>
<td>1,042</td>
<td>97</td>
<td>126</td>
<td>128</td>
<td>1,643</td>
<td>126</td>
<td>382</td>
<td>61</td>
<td>2,324</td>
<td>328</td>
</tr>
<tr>
<td>EBITDA growth YoY</td>
<td>85%</td>
<td>12%</td>
<td>80%</td>
<td>150%</td>
<td>58%</td>
<td>30%</td>
<td>203%</td>
<td>-53%</td>
<td>41%</td>
<td>160%</td>
</tr>
<tr>
<td>EBITDA margins</td>
<td>22%</td>
<td>15%</td>
<td>12%</td>
<td>17%</td>
<td>22%</td>
<td>12%</td>
<td>29%</td>
<td>15%</td>
<td>28%</td>
<td>16%</td>
</tr>
<tr>
<td>Depreciation &amp; amort.</td>
<td>28</td>
<td>29</td>
<td>39</td>
<td>35</td>
<td>35</td>
<td>39</td>
<td>43</td>
<td>45</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Net interest</td>
<td>-7</td>
<td>-6</td>
<td>-12</td>
<td>-9</td>
<td>-37</td>
<td>-12</td>
<td>-32</td>
<td>-14</td>
<td>-37</td>
<td>-46</td>
</tr>
<tr>
<td>PBT</td>
<td>1,021</td>
<td>74</td>
<td>99</td>
<td>115</td>
<td>1,645</td>
<td>99</td>
<td>371</td>
<td>30</td>
<td>2,339</td>
<td>352</td>
</tr>
<tr>
<td>Effective tax rate</td>
<td>1.5%</td>
<td>17.6%</td>
<td>8.4%</td>
<td>6.8%</td>
<td>1.5%</td>
<td>8.4%</td>
<td>1.5%</td>
<td>42.4%</td>
<td>1.4%</td>
<td>4.3%</td>
</tr>
<tr>
<td>PAT</td>
<td>1,006</td>
<td>61</td>
<td>89</td>
<td>94</td>
<td>1,620</td>
<td>89</td>
<td>365</td>
<td>18</td>
<td>2,304</td>
<td>337</td>
</tr>
<tr>
<td>PAT growth YoY</td>
<td>91%</td>
<td>17%</td>
<td>207%</td>
<td>225%</td>
<td>61%</td>
<td>46%</td>
<td>312%</td>
<td>-81%</td>
<td>42%</td>
<td>281%</td>
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</tbody>
</table>

Contribution by quarter:

<table>
<thead>
<tr>
<th></th>
<th>Revenue</th>
<th></th>
<th>EBITDA</th>
<th></th>
<th>Net profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>67%</td>
<td>9%</td>
<td>14%</td>
<td>10%</td>
<td>81%</td>
</tr>
<tr>
<td>EBITDA</td>
<td>75%</td>
<td>7%</td>
<td>9%</td>
<td>9%</td>
<td>81%</td>
</tr>
<tr>
<td>Net profit</td>
<td>81%</td>
<td>5%</td>
<td>7%</td>
<td>8%</td>
<td>81%</td>
</tr>
</tbody>
</table>

Source: Company data, Credit Suisse estimates
Initiating with OUTPERFORM

40%+ upside potential over the next 12 months

We initiate coverage on the stock with an OUTPERFORM rating and a target price of Rs1,100 based on two-year PEG of 0.75x—this implies 17x FY17E EPS. While our target multiple is at the higher band of the company's historical multiples, owing to the its larger scale and demonstration of its ability to introduce successful products into the market, its strong balance sheet strength, high return ratios and likely strong earnings growth, we believe that historical multiples may not be relevant. While the Indian seed companies cannot be compared to their US peers such as Monsanto due to the higher proportion of income from GM seeds and strong R&D capabilities, Chinese seed companies trade at much higher multiples—for example, companies such as Longpin and Denghai are trading at multiples of 20-40x with 15-20% return ratios and 20-35% earnings growth. We expect the company to generate earnings growth of 22% over FY16-17.

![Figure 37: While the valuation is high compared to the historical average, it has come off from its peak](image)

![Figure 38: Kaveri is trading at a significant discount to peers adjusting for growth](image)

<table>
<thead>
<tr>
<th>Company</th>
<th>Ticker</th>
<th>Local currency</th>
<th>Mkt cap (US$ mn)</th>
<th>ADTO (US$ mn)</th>
<th>P/E (x) FY15E</th>
<th>P/E (x) FY16E</th>
<th>P/B (x) FY15E</th>
<th>P/B (x) FY16E</th>
<th>RoE (%) FY14</th>
<th>RoE (%) FY15E</th>
<th>2y EPS CAGR (%)</th>
<th>RoE (%) FY15E</th>
<th>PEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaveri</td>
<td>KVRI.BO</td>
<td>INR</td>
<td>863</td>
<td>2.5</td>
<td>18</td>
<td>14</td>
<td>7</td>
<td>5</td>
<td>49</td>
<td>46</td>
<td>35</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>UPL</td>
<td>UPLL.BO</td>
<td>INR</td>
<td>2,533</td>
<td>9.7</td>
<td>13</td>
<td>11</td>
<td>2</td>
<td>2</td>
<td>21</td>
<td>20</td>
<td>17</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Bayer</td>
<td>BAYE.BO</td>
<td>INR</td>
<td>2,082</td>
<td>1.2</td>
<td>34</td>
<td>28</td>
<td>6</td>
<td>5</td>
<td>16</td>
<td>19</td>
<td>29</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Monsanto Ind.</td>
<td>MNSN.BO</td>
<td>INR</td>
<td>881</td>
<td>3.9</td>
<td>37</td>
<td>29</td>
<td>13</td>
<td>11</td>
<td>35</td>
<td>39</td>
<td>21</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Rallis</td>
<td>RALL.BO</td>
<td>INR</td>
<td>684</td>
<td>1.4</td>
<td>24</td>
<td>19</td>
<td>5</td>
<td>4</td>
<td>23</td>
<td>22</td>
<td>22</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Dupont</td>
<td>DD.N</td>
<td>USD</td>
<td>68,578</td>
<td>353</td>
<td>18</td>
<td>16</td>
<td>4</td>
<td>4</td>
<td>27</td>
<td>23</td>
<td>9</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Monsanto</td>
<td>MON.N</td>
<td>USD</td>
<td>56,820</td>
<td>471</td>
<td>21</td>
<td>18</td>
<td>7</td>
<td>7</td>
<td>24</td>
<td>32</td>
<td>14</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Syngenta</td>
<td>SYNN.VX</td>
<td>CHF</td>
<td>30,993</td>
<td>93</td>
<td>15</td>
<td>14</td>
<td>3</td>
<td>2</td>
<td>19</td>
<td>18</td>
<td>5</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Longpin</td>
<td>000998.SZ</td>
<td>CNY</td>
<td>3,288</td>
<td>60</td>
<td>56</td>
<td>44</td>
<td>7</td>
<td>6</td>
<td>15</td>
<td>15</td>
<td>35</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Denghai</td>
<td>002041.SZ</td>
<td>CNY</td>
<td>1,984</td>
<td>19</td>
<td>31</td>
<td>25</td>
<td>6</td>
<td>5</td>
<td>22</td>
<td>20</td>
<td>20</td>
<td>1.2</td>
<td></td>
</tr>
</tbody>
</table>

Source: Thomson Reuters, the BLOOMBERG PROFESSIONAL™ service, Credit Suisse estimates
Founders may sell down a bit

The company’s founders plan to venture into the food processing business, a capex-intensive business, which could result in an investment of ~Rs15 bn. On possible shareholder concerns about moving Kaveri’s business model from an asset-light, high cash flow generation model to a capital-intensive one, the founders are taking up the project in their individual capacity. To fund this venture, the founders plan to reduce their stake in the firm over the next few years from the current 58% stake. They do intend to keep their stake in Kaveri to at least 40%.

About 20% dividend payout

The company pays out dividend of only about 16-18% despite high cash generation. Management has indicated that it would be comfortable with about Rs3-4 bn of cash (it had net cash of ~Rs3 bn as of Mar-14 and ~Rs2 bn as of Sep-14) for R&D purposes. The company has guided for annual capex of about Rs400 mn over the next few years with the majority being used for strengthening biotechnological research. In our view, given the founders’ foray into the food processing business, there is a possibility that the company may step up its dividend payout.

Figure 39: Founders’ holdings have come down and likely to continue to slide

![Figure 39](image_url)

Source: BSE, Credit Suisse research

Figure 40: We have assumed a gradual pick-up in the dividend payout ratio

![Figure 40](image_url)

Source: Company data, Credit Suisse estimates

Key risks

- **Founders’ sale of shares.** The founders are looking to sell down their stake to fund another venture in food processing. This should potentially create a stock overhang in the near term. The stock has corrected in recent months after a strong performance through most of 2014 and we believe that this overhang could be a reason. There has been no progress on the founders’ attempts to raise money through this route so far.

- **High reliance on cottonseeds.** Cotton accounts for about 60% of Kaveri’s revenue. Any adverse movement in cotton prices could result in farmers moving to other crops and that could have a significant impact on the company’s performance. In the near term, cotton will be need to be a key revenue driver for the company, both in Andhra Pradesh and Maharashtra. Any change in the growth expectations should hurt earnings and sentiment adversely.

- **Lack of medium-term visibility.** While the company has done very well with its current hybrid cottonseed portfolio, given a lack of sufficient information about the company’s germplasm and pipeline, it is difficult to get comfort on the medium-
long-term sustainability of growth. Thus, to some extent, a leap of faith needs to be taken based on the company's past track record.

- **Tax rate.** Kaveri does not pay any taxes as its revenue is classified as agricultural income. While the company has been following this policy for several years and does not see any significant possibility of this changing, any changes in taxation policy in the future could impact its reported earnings.

- **Dependence on external factors.** Factors such as monsoon, especially its timing, impact the farmer's crop selection and the ultimate success of the crop. Therefore, the timing and quantum of monsoons could result in fluctuations in the company's business performance. News flows around such factors could create volatility in the share price as well.

### Company background

Established in 1986, Kaveri Seeds is a leading seed producer in India with presence across multiple crops such as cotton, corn, rice, millet, and vegetables. The company's founder, GV Bhaskar Rao, is a first-generation entrepreneur, ventured into the seeds business in 1976 and later established Kaveri Seeds. The company has a network of over 15,000 distributors and dealers across the country. While Kaveri has little presence outside India, it has plans to expand its presence in markets such as Africa.

### Shareholding pattern

![Shareholding](image)

*Source: BSE*
## Key management personnel

**Figure 42: Key management personnel**

<table>
<thead>
<tr>
<th>Director</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. GV Bhaskar Rao</td>
<td>Chairman &amp; Managing Director</td>
<td>Founder and chief strategist of the company. Spearheads various strategic initiatives and overseas R&amp;D, production and business development</td>
</tr>
<tr>
<td>Mrs G Vanaja Devi</td>
<td>Director</td>
<td>Associated with the company since inception. Oversees the CSR activities and assists the CMD in overall functioning of the company</td>
</tr>
<tr>
<td>Mr R Venu Manohar Rao</td>
<td>Executive Director</td>
<td>Associated with the company since inception. Manages relationship with farmers, dealers, and distributors and is instrumental in establishing pan-India marketing and sales network</td>
</tr>
<tr>
<td>Mr. C Vamsheedhar</td>
<td>Marketing Director</td>
<td>Associated with Kaveri for close to 15 years. Responsible for marketing, sales and distribution and spearheads the Agritech operations</td>
</tr>
<tr>
<td>Mr C Mithun Chand</td>
<td>Director</td>
<td>Associated with the company for close to ten years. Overseas finance function and manages investor relations; also manages the Microtek division and was the initiator of KexVeg.</td>
</tr>
</tbody>
</table>

*Source: Company data*
Monsanto India

(MNSN.BO)

Play on corn and herbicide growth

- **Play on corn and herbicide growth in India.** Monsanto India (MIL), the only publicly listed Monsanto entity outside the US, was established in India in 1949 and has transformed itself from being a chemical company to a pure-play agri-based company. The listed entity has just two products—maize seeds (sold under the brand name Dekalb) and a herbicide, Glyphosate (sold under the brand name *Roundup*)—these two products together account for about 70% of Monsanto International's revenue. Other businesses of Monsanto such as cottonseeds and vegetable seeds are either directly controlled by the parent or are part of other subsidiaries in India.

- **Corn—among the largest seed companies globally and in India.** Monsanto is among the largest corn seed producer and globally competes with other seed majors such as Syngenta and Pioneer in different regions. In the US, as per Credit Suisse US research team, Monsanto has a ~35% market share. Even in India, Monsanto appears to have a market share of 15-20% in corn seeds, next only to Pioneer. This segment's revenue growth saw a 17% CAGR over FY12-14. MIL has a portfolio of 17 hybrid maize varieties, sold under the brand name Dekalb, to address farmer requirements in various parts of the country. The company has a presence across 18 states in India.

- **Roundup—play on rising herbicide penetration in India.** Glyphosate, first commercialised in 1974, went off-patent in 2000. While globally, penetration of Glyphosate is very high, use of herbicides in India is relatively low mainly due to manual weeding. However, with rising cost of labour especially during the peak season, management expects the usage of glyphosate to increase in India. Another key driver for increase in Roundup usage, as per management, is the approval of Bollgard II Roundup Ready Flex (BG2RRF) cottonseed, which is expected in the next few years.

- **Stock trades at 29x consensus FY16E EPS.** The company has delivered a 63% earnings CAGR over the past two years and is expected to deliver a 21% EPS CAGR over FY14-16 (consensus).

### Financial and valuation metrics

<table>
<thead>
<tr>
<th>RU</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>4,102</td>
<td>3,634</td>
<td>3,738</td>
<td>4,424</td>
<td>5,818</td>
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<tr>
<td>EBITDA</td>
<td>577</td>
<td>530</td>
<td>550</td>
<td>697</td>
<td>1,382</td>
</tr>
<tr>
<td>EBITDA margin %</td>
<td>14.1%</td>
<td>14.6%</td>
<td>14.7%</td>
<td>15.7%</td>
<td>23.8%</td>
</tr>
<tr>
<td>PBT</td>
<td>578</td>
<td>503</td>
<td>601</td>
<td>750</td>
<td>1,387</td>
</tr>
<tr>
<td>PBT margin %</td>
<td>14.1%</td>
<td>13.8%</td>
<td>16.1%</td>
<td>16.9%</td>
<td>23.8%</td>
</tr>
<tr>
<td>PAT</td>
<td>541</td>
<td>540</td>
<td>483</td>
<td>678</td>
<td>1,291</td>
</tr>
<tr>
<td>RoE</td>
<td>16%</td>
<td>15%</td>
<td>12%</td>
<td>17%</td>
<td>33%</td>
</tr>
<tr>
<td>Working capital days</td>
<td>106</td>
<td>94</td>
<td>65</td>
<td>34</td>
<td>13</td>
</tr>
<tr>
<td>Net debt to equity</td>
<td>Net cash</td>
<td>Net cash</td>
<td>Net cash</td>
<td>Net cash</td>
<td>Net cash</td>
</tr>
</tbody>
</table>

Source: Company data, Thomson Reuters
Rallis India

(RALL.BO)

Diversified agri input company

- **A diversified agri input company.** The company’s business is broadly divided into two categories—crop protection (69% of revenue) and non-pesticide portfolio (NPP). In crop protection, besides branded product sales, the company is also present in the institutional business. Its NPP comprises seeds (13% revenue contribution), plant growth nutrients and contract manufacturing. Management is targeting 40% revenue contribution from NPP over the next few years.

- **Metahelix—management expects it to be the growth driver for the company.** The company acquired a 53.5% stake in Metahelix, a seed company established in 2000, in 2010 and over time has increased the stake to 82% (it is likely to acquire 100% over the next two to three years). Over the past three years, Metahelix has reported a revenue CAGR of 53%. The majority of seed revenue is driven by maize and paddy. The company also has strong positioning in millets but has very little market share in cotton and vegetables. Management is confident of achieving 30%+ revenue growth in seeds over the next few years driven not only by maize and paddy but also increasing market shares in cotton and vegetables. While the company’s current margins are sub 10%, management is hopeful to improve them to 18-20% in the next few years on the back of operating leverage.

- **Margins likely to inch up.** The company expects 15%+ revenue growth in the overall business on the back of strong growth from both crop protection and NPP divisions and higher margins on account of a shift in the revenue mix towards the higher margin NPP segment.

- **Stock trades at 19x consensus FY16E EPS.** The company has delivered an 18% earnings CAGR over the past two years and is expected to deliver a 22% EPS CAGR over FY14-16E (consensus).

### Financial and valuation metrics

<table>
<thead>
<tr>
<th>Rs mn</th>
<th>FY10A</th>
<th>FY11A</th>
<th>FY12A</th>
<th>FY13A</th>
<th>FY14A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>8,787</td>
<td>10,863</td>
<td>12,749</td>
<td>14,570</td>
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<tr>
<td>EBITDA</td>
<td>1,486</td>
<td>1,947</td>
<td>1,884</td>
<td>2,128</td>
<td>2,636</td>
</tr>
<tr>
<td>EBITDA margin %</td>
<td>16.9%</td>
<td>17.9%</td>
<td>14.8%</td>
<td>14.6%</td>
<td>15.1%</td>
</tr>
<tr>
<td>PBT</td>
<td>1,530</td>
<td>1,843</td>
<td>1,594</td>
<td>1,676</td>
<td>2,148</td>
</tr>
<tr>
<td>PBT margin %</td>
<td>17.4%</td>
<td>17.0%</td>
<td>12.5%</td>
<td>11.5%</td>
<td>12.3%</td>
</tr>
<tr>
<td>PAT</td>
<td>1,018</td>
<td>1,259</td>
<td>1,092</td>
<td>1,143</td>
<td>1,522</td>
</tr>
<tr>
<td>RoE</td>
<td>26.3%</td>
<td>27.1%</td>
<td>20.6%</td>
<td>19.5%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Working capital days</td>
<td>(15)</td>
<td>2</td>
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<td>25</td>
<td>24</td>
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<tr>
<td>Net debt to equity</td>
<td>(0.1)</td>
<td>0.2</td>
<td>0.3</td>
<td>0.2</td>
<td>0.1</td>
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</tbody>
</table>

Source: Company data, Thomson Reuters

---

**Share price performance**

- **Price (LHS)**
- **Rebased Rel (RHS)**

The price relative chart measures performance against the S&P BSE SENSEX IDX which closed at 28888.86 on 21/01/15. On 21/01/15 the spot exchange rate was Rs61.6/US$1

<table>
<thead>
<tr>
<th>Performance over</th>
<th>1M</th>
<th>3M</th>
<th>12M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute (%)</td>
<td>-0.3</td>
<td>-6.1</td>
<td>23.1</td>
</tr>
<tr>
<td>Relative (%)</td>
<td>-4.6</td>
<td>-13.7</td>
<td>-12.9</td>
</tr>
</tbody>
</table>
Advanta In

(ADVI.BO / ADV IN)

**Indian MNC seed company**

- **An Indian MNC seed company.** Advanta, established in 1996 through a combination of Royal Vanderhave Group of the Netherlands and Zeneca Seeds of the UK, has been present in the seed industry since the 19th century. In 2006, the company's Asia Pacific and LatAm businesses were acquired by UPL and the company was listed on Indian bourses in 2007. It has operations across 25 countries with APAC, LatAm and NAFTA accounting for 64%, 18% and 17% of revenue, respectively. In 2012, the company entered into an agreement with UPL under which UPL produces and markets Advanta's seed products in India and pays a royalty of 7% of net sales of the licensed products subject to a minimum royalty of Rs70 mn p.a. Advanta received a royalty of Rs93 mn from UPL in 2013. In addition, the company received Rs71 mn from UPL for R&D activities carried out for the licensed products.

- **Portfolio of multiple seeds.** The company has a portfolio of multiple seeds including sorghum, corn, sunflower, canola, vegetables, rice, wheat, mustard and cotton. Cereals, oilseeds, forages and vegetables account for 49%, 25%, 15% and 9% of the company's revenue respectively. Advanta is the largest sorghum seed supplier in the world. Of the total revenue, GM accounts for only 7%; however, multiple traits are under development.

- **Acquisitions and investment in R&D—growth strategy.** Since being acquired by UPL, the company has delivered a 13% revenue CAGR. Growth has been driven by its entry into new markets, increasing product portfolio, multiple alliances, licences, and stepping up of R&D spend. During this period, Advanta has acquired six companies for a total consideration of ~US$80 mn. The company spends 10-12% of revenue in R&D and management plans to continue high R&D spends to improve its crop portfolio and focus on developing markets.

- **The stock trades at 57x CY13A EPS** and the company has reported a 17% earnings CAGR over the past four years.

### Financial and valuation metrics

<table>
<thead>
<tr>
<th>Rs mn</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>6,984</td>
<td>7,092</td>
<td>9,486</td>
<td>10,642</td>
<td>12,551</td>
</tr>
<tr>
<td>EBITDA</td>
<td>527</td>
<td>74</td>
<td>1,293</td>
<td>1,594</td>
<td>1,703</td>
</tr>
<tr>
<td>EBITDA margin %</td>
<td>7.5%</td>
<td>1.0%</td>
<td>13.6%</td>
<td>15.0%</td>
<td>13.6%</td>
</tr>
<tr>
<td>PBT</td>
<td>166</td>
<td>(316)</td>
<td>238</td>
<td>678</td>
<td>480</td>
</tr>
<tr>
<td>PBT margin %</td>
<td>2.4%</td>
<td>-4.5%</td>
<td>2.5%</td>
<td>6.4%</td>
<td>3.8%</td>
</tr>
<tr>
<td>PAT</td>
<td>283</td>
<td>(163)</td>
<td>133</td>
<td>617</td>
<td>521</td>
</tr>
<tr>
<td>RoE</td>
<td>6%</td>
<td>-3%</td>
<td>3%</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>Working capital days</td>
<td>109</td>
<td>133</td>
<td>92</td>
<td>60</td>
<td>113</td>
</tr>
<tr>
<td>Net debt to equity</td>
<td>0.9</td>
<td>1.1</td>
<td>1.0</td>
<td>0.8</td>
<td>1.1</td>
</tr>
</tbody>
</table>

**Source:** Company data, Thomson Reuters

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**Share price performance**

- The price relative chart measures performance against the S&P BSE SENSEX IDX which closed at 28888.86 on 21/01/15
- On 21/01/15 the spot exchange rate was Rs61.6/US$1

- **Performance over** 1M 3M 12M
  - Absolute (%) -1.0 210.7 —
  - Relative (%) -5.3 23174.7 —
Appendix

Seeds classification

Seeds are broadly classified into three categories: open-pollinated, hybrid and genetically modified.

- **Open-pollinated seeds** are those bred from naturally pollinated plants. These seeds typically breed true to type, which means that the next generation seeds will have characteristics similar to those of the parent plant.

- **Hybrid seeds** are developed through controlled pollination of selected parents to develop desired characteristics such as higher yield, faster growth, water efficiency, and pest protection. Development of seeds with a particular characteristic requires extensive germplasm and significant R&D. However, one issue of hybrid seeds for the farmer is that the next generation of seeds do not possess the same characteristics as the parent and therefore the farmer is forced to go back to the seed company for seed purchase.

- **Genetically modified (transgenic) seeds:** In this case, biotechnology is used to alter the plant’s genetic sequence to obtain the desired trait such as resistance to pests, and chemicals. Instead of selective breeding of plants, specific traits can be sourced from different species. One example is the most popular biotech seed in India – Bt cotton. In this case, Bt is *Bacillus thuringiensis*, a bacteria which when incorporated in the seed protects the plants from specific pests such as American Bollworm. Bt cotton is the only GM seed allowed in India.

Globally popular GM seeds, too, focus mainly on insect and chemical resistance across various crops such as corn, soy, and cotton. However, companies are also investing in new technologies to boost other characteristics such as yield and growth efficiency. GM seeds claim to have beneficial impact on environment due to a reduction in the usage of pesticides, which in turn leads to cost benefits for the farmer.

![Figure 43: Comparison of open pollinated vs hybrid vs GM seeds](image)

<table>
<thead>
<tr>
<th></th>
<th>OP seed</th>
<th>Hybrid seed</th>
<th>GM Seed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield vs OP</td>
<td>3 - 4x</td>
<td>3 - 4x</td>
<td></td>
</tr>
<tr>
<td>Seed replacement ratio</td>
<td>3 - 4 years</td>
<td>1 year</td>
<td>1 year</td>
</tr>
<tr>
<td>Seed cost vs OP</td>
<td>3 - 4x</td>
<td>3 - 4x</td>
<td></td>
</tr>
<tr>
<td>Cost of pesticides</td>
<td>No change</td>
<td>No change</td>
<td>Lower</td>
</tr>
</tbody>
</table>

*Note: Beneficial traits are shaded; Source: Industry, Credit Suisse research*

![Figure 44: Seed business value chain](image)

*Source: ASSOCHAM, Credit Suisse research*
Companies Mentioned (Price as of 21-Jan-2015)

Advanta In (ADVI.BO, Rs349.5)
Bayer (BAYE.BO, Rs3501.85)
E.I. du Pont de Nemours and Company (DD.N, $74.36)
Kaveri Seeds (KVRI.BO, Rs771.2, OUTPERFORM[V], TP Rs1100.0)
LPHT (000998.SZ, Rmb20.51)
Monsanto Company (MON.N, $117.57)
Monsanto India (MNSN.BO, Rs3144.9)
Rallis India (RALL.BO, Rs216.7)
SDDSC (002041.SZ, Rmb35.05)
Syngenta (SYNN.VX, SFr291.2)
UPL (UPLL.BO, Rs363.95)

Disclosure Appendix

Important Global Disclosures

I, Anantha Narayan, certify that (1) the views expressed in this report accurately reflect my personal views about all of the subject companies and securities and (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this report.

3-Year Price and Rating History for E.I. du Pont de Nemours and Company (DD.N)

<table>
<thead>
<tr>
<th>Date</th>
<th>Closing Price (US$)</th>
<th>Target Price (US$)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-Jan-12</td>
<td>49.41</td>
<td>50.00</td>
<td>N</td>
</tr>
<tr>
<td>19-Apr-12</td>
<td>52.61</td>
<td>57.00</td>
<td></td>
</tr>
<tr>
<td>24-Jul-12</td>
<td>47.74</td>
<td>54.00</td>
<td></td>
</tr>
<tr>
<td>30-Aug-12</td>
<td>49.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01-Apr-13</td>
<td>49.01</td>
<td>53.00</td>
<td>N</td>
</tr>
<tr>
<td>23-Apr-13</td>
<td>52.49</td>
<td>55.00</td>
<td></td>
</tr>
<tr>
<td>23-Jul-13</td>
<td>57.12</td>
<td>59.00</td>
<td></td>
</tr>
<tr>
<td>22-Oct-13</td>
<td>60.17</td>
<td>62.00</td>
<td></td>
</tr>
<tr>
<td>06-Jan-14</td>
<td>62.96</td>
<td>70.00</td>
<td></td>
</tr>
<tr>
<td>06-Jan-15</td>
<td>70.89</td>
<td>77.00</td>
<td></td>
</tr>
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* Asterisk signifies initiation or assumption of coverage.

3-Year Price and Rating History for Monsanto Company (MON.N)

<table>
<thead>
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<th>Date</th>
<th>Closing Price (US$)</th>
<th>Target Price (US$)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>04-Apr-12</td>
<td>80.58</td>
<td>82.00</td>
<td>N</td>
</tr>
<tr>
<td>25-Apr-12</td>
<td>77.51</td>
<td></td>
<td>NR</td>
</tr>
<tr>
<td>16-Jan-13</td>
<td>101.90</td>
<td>120.00</td>
<td>O *</td>
</tr>
<tr>
<td>26-Jun-13</td>
<td>100.84</td>
<td>121.00</td>
<td></td>
</tr>
<tr>
<td>09-Jan-14</td>
<td>111.89</td>
<td>134.00</td>
<td></td>
</tr>
<tr>
<td>25-Jun-14</td>
<td>126.73</td>
<td>148.00</td>
<td></td>
</tr>
<tr>
<td>25-Aug-14</td>
<td>117.51</td>
<td>141.00</td>
<td></td>
</tr>
</tbody>
</table>

* Asterisk signifies initiation or assumption of coverage.
3-Year Price and Rating History for Syngenta (SYNN.VX)

<table>
<thead>
<tr>
<th>Date</th>
<th>Closing Price (SFr)</th>
<th>Target Price (SFr)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-Feb-12</td>
<td>291.80</td>
<td>322.00</td>
<td>N</td>
</tr>
<tr>
<td>27-Jul-12</td>
<td>338.40</td>
<td>340.00</td>
<td></td>
</tr>
<tr>
<td>21-Sep-12</td>
<td>343.90</td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>17-Jan-13</td>
<td>399.20</td>
<td>450.00</td>
<td>O</td>
</tr>
<tr>
<td>24-Jul-13</td>
<td>371.00</td>
<td>420.00</td>
<td></td>
</tr>
<tr>
<td>17-Oct-13</td>
<td>360.90</td>
<td>400.00</td>
<td></td>
</tr>
<tr>
<td>05-Feb-14</td>
<td>306.20</td>
<td>335.00</td>
<td>N</td>
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<tr>
<td>08-Jul-14</td>
<td>331.30</td>
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<td></td>
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<td>16-Jul-14</td>
<td>328.70</td>
<td>365.00</td>
<td>O</td>
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<tr>
<td>08-Oct-14</td>
<td>290.70</td>
<td>350.00</td>
<td></td>
</tr>
<tr>
<td>17-Oct-14</td>
<td>289.00</td>
<td>340.00</td>
<td></td>
</tr>
<tr>
<td>21-Jan-15</td>
<td>291.20</td>
<td>330.00</td>
<td></td>
</tr>
<tr>
<td>02-Oct-14</td>
<td>289.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-Oct-14</td>
<td>289.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-Jan-15</td>
<td>291.20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Asterisk signifies initiation or assumption of coverage.

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*Relevant benchmark by region: As of 10th December 2012, Japanese ratings are based on a stock’s total return relative to the analyst’s coverage universe which consists of all companies covered by the analyst within the relevant sector, with Outperforms representing the most attractive, Neutrals the less attractive, and Underperforms the least attractive investment opportunities. As of 2nd October 2012, U.S. and Canadian as well as European ratings are based on a stock’s total return relative to the analyst’s coverage universe which consists of all companies covered by the analyst within the relevant sector, with Outperforms representing the most attractive, Neutrals the less attractive, and Underperforms the least attractive investment opportunities. For Latin American and non-Japan Asia stocks, ratings are based on a stock’s total return relative to the average total return of the relevant country or regional benchmark; prior to 2nd October 2012 U.S. and Canadian ratings were based on (1) a stock’s absolute total return potential to its current share price and (2) the relative attractiveness of a stock’s total return potential within an analyst’s coverage universe. For Australian and New Zealand stocks, 12-month rolling yield is incorporated in the absolute total return calculation and a 15% and a 7.5% threshold replace the 10-15% level in the Outperform and Underperform stock rating definitions, respectively. The 15% and 7.5% thresholds replace the +10-15% and -10-15% levels in the Neutral stock rating definition, respectively. Prior to 10th December 2012, Japanese ratings were based on a stock’s total return relative to the average total return of the relevant country or regional benchmark.

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Market Weight : The analyst’s expectation for the sector’s fundamentals and/or valuation is neutral over the next 12 months.
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*An analyst’s coverage sector consists of all companies covered by the analyst within the relevant sector. An analyst may cover multiple sectors.

Credit Suisse’s distribution of stock ratings (and banking clients) is:

<table>
<thead>
<tr>
<th>Global Ratings Distribution</th>
<th>Rating</th>
<th>Versus universe (%)</th>
<th>Of which banking clients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Outperform/Buy*</td>
<td>46%</td>
<td>(53% banking clients)</td>
</tr>
<tr>
<td></td>
<td>Neutral/Hold*</td>
<td>38%</td>
<td>(50% banking clients)</td>
</tr>
<tr>
<td></td>
<td>Underperform/Sell*</td>
<td>14%</td>
<td>(43% banking clients)</td>
</tr>
<tr>
<td></td>
<td>Restricted</td>
<td>2%</td>
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</table>

*For purposes of the NYSE and NASD ratings distribution disclosure requirements, our stock ratings of Outperform, Neutral, and Underperform most closely correspond to Buy, Hold, and Sell, respectively; however, the meanings are not the same, as our stock ratings are determined on a relative basis. (Please refer to definitions above.) An investor’s decision to buy or sell a security should be based on investment objectives, current holdings, and other individual factors.
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Price Target: (12 months) for Kaveri Seeds (KVRI.BO)

**Method:** Our target price of Rs1,100/share for Kaveri Seeds is based on 2y PEG (P/E growth) of 0.75x, which implies 17xFY17 P/E (price-to-earnings).

**Risk:** Risks that could impede achievement of our Rs1,100 target price for Kaveri Seeds include: Significant crop rotation away from cotton; the company’s failure to improve market share in cotton and corn seeds; founders’ sale of shares; lack of medium-term visibility; tax rates; and dependence on external factors (eg, monsoon).

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See the Companies Mentioned section for full company names

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