

## [Background Information]

### The market power of agrobusiness

#### Facts and figures on seeds, pesticides, fertilizers and agricultural machinery

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### Lack of transparency

Publicly available data on the extent of concentration in the agricultural sector are available primarily at the international level, thanks to research by IPES-Food and the ETC Group. The information situation is considerably worse for the product markets relevant under competition law, which are used to assess a dominant position of a corporation. This is true for industrialized countries, but is even more so for countries of the Global South, as an OECD study on market concentration in the seed sector shows.<sup>1</sup> Due to the lack of market transparency, the extent of market concentration or the market power of individual corporations may be underestimated and may make it more difficult to have the very much needed public debate. Political measures could be taken too late. In the following, publicly available data are presented for the following markets: seeds, pesticides, fertilizers and agricultural machinery.

### Seeds

In December 2018, i.e. after the Bayer/Monsanto merger, the OECD published a study on market concentration in the seed sector. According to the study, the global market for commercial seed has grown from US\$ 13.8 billion to US\$ 51.8 billion in the period 2001-2014. In 2018 it amounted to US\$ 59.7 billion.<sup>2</sup> After the mega-mergers of recent years, four corporations control more than 60 % of the commercial seed market.<sup>3</sup> Previously, Monsanto had a 26% share of the global market and Dupont had 21%.<sup>4</sup> Nevertheless, according to the FAO, farming seed systems in the Global South provide 80% of the seed for food production.<sup>5</sup> Small-scale producers in countries of the Global South are dependent on exchanging, trading and reusing seed from their farms. This has been repeatedly proven by studies. Licensed commercial seeds or patents increasingly restrict this important access to seed.

As OECD figures show, market concentration is high or very high in several countries in the Global North and Global South, particularly for corn and soybeans, but also for wheat and barley (table 1,2,3). The table shows the market concentration of the four largest companies ("Concentration Ratio", CR4). It should be noted that the figures were only available for a small number of countries: 32 countries for corn, seven for soybeans and 15 for wheat and barley. The countries cover 65%, 86% and 23% of the market respectively. The OECD does not list figures for rice seed. Beyond South Africa, the OECD does not have any data for African countries. Data for China and India are also missing.

<sup>1</sup> OECD (2018): Concentration in Seed Markets. Potential Effects and Policy Responses.

<sup>2</sup> RESEARCHANDMARKETS (2019): The "Global Seed Market - Growth, Trends, and Forecast (2019 - 2024). 22.5.2019.

<sup>3</sup> Howard, Philip H. (2018): Global Seed Industry Changes since 2013. December 31, 2018.

<sup>4</sup> <https://www.expansion.com/empresas/industria/2018/05/29/5b0d8480e5fdea286f8b4584.html>

<sup>5</sup> GIZ (2015): The UPOV Convention, Farmers' Rights and Human Rights - An integrated assessment of potentially conflicting legal frameworks.

Table 1: Market concentration in the corn seed market (2016, sales)

Country	CR4	Country	CR4
Denmark	98%	Indonesia	95%
Greece	97%	Mexco	81%
Italy	93%	Philippines	72%
Bulgaria	91%	South Africa	99%
Spain	89%	Russia	67%
Germany	66%	Thailand	94%
France	77%	Argentina	73%
US	82%	Brazil	97%

Source: OECD (2018)

Table 2: Market concentration in the soy seed market (2016, sales)

Country	CR4	Country	CR4
Argentina	89%	Uruguay	91%
Brazil	82%	South Africa	96%
Paraguay	96%	US	69%

Source: OECD (2018)

Table 3: Market concentration in the wheat and barley seed market (2016, sales)

Land	CR4	Land	CR4
Denmark	83%	Germany	44%
Bulgaria	71%	Mexico	98%
Romania	60%	Ukraine	53%
Hungary	58%	Russia	38%

Source: OECD (2018)

The leading seed companies generate most of their sales with corn and soybean seed. Corteva achieves 85 % and Bayer 75 %. A large proportion of corn and soybeans are used for animal feed. In 2018, animal feed accounted for 57 % of global corn consumption (606 million tons).<sup>6</sup> It is astonishing that wheat is not listed among the top-selling seed varieties, even though it is the most widely cultivated seed variety worldwide.<sup>7</sup> Bayer sells wheat seed in the United States but not in the EU.<sup>8</sup> It is probably less lucrative. Hybrid wheat is not yet marketable and there is no genetically modified wheat.<sup>9</sup> After the price explosion for wheat, Monsanto bought Westbred, a US company specializing in wheat, in 2009, which now belongs to Bayer.<sup>10</sup> Bayer had to sell the hybrid wheat programme to BASF as part of the merger.

Table 4: Seed portfolio of the four largest corporations

Product	Bayer	Corteva	Syngenta	BASF
Corn	50%	65%	55%	-----
Soy	25%	20%		20%
Vegetables	10%	-----	20%	35%
Other	15%	15%	25%	45%

Source: Corteva Agriscience (2019)<sup>11</sup>

<sup>6</sup> [https://stats.oecd.org/viewhtml.aspx?datasetcode=HIGH\\_AGLINK\\_2018&lang=en](https://stats.oecd.org/viewhtml.aspx?datasetcode=HIGH_AGLINK_2018&lang=en)

<sup>7</sup> KWS (2019): Annual Press and Analysts' Conference 2018/2019. October 2019.

<sup>8</sup> EU-Kommission (2018). [https://ec.europa.eu/competition/mergers/cases/decisions/m8084\\_13335\\_3.pdf](https://ec.europa.eu/competition/mergers/cases/decisions/m8084_13335_3.pdf)

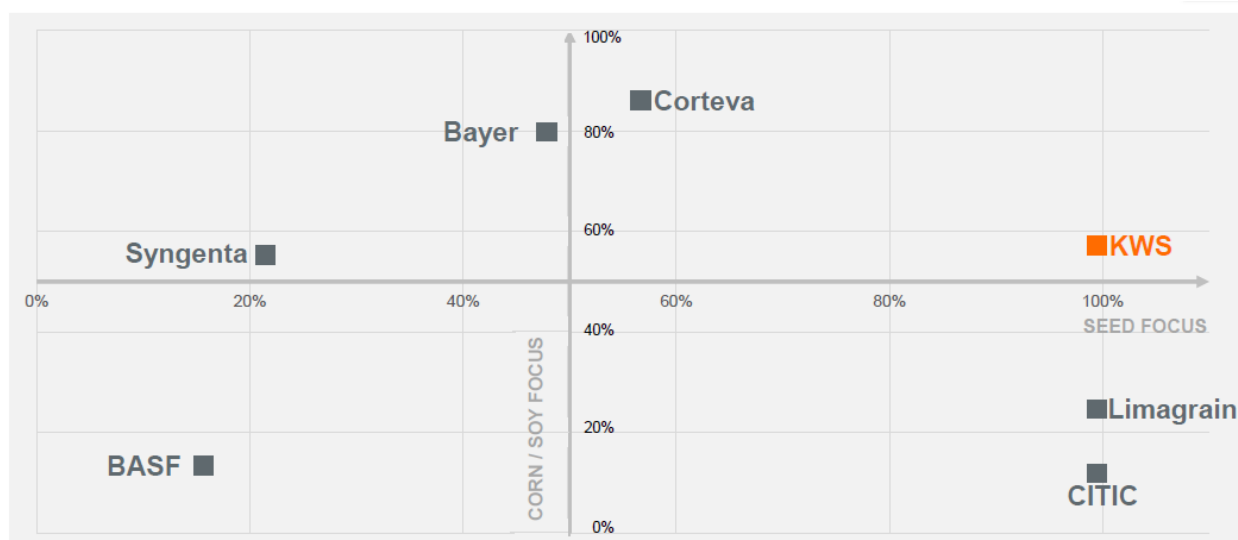
<sup>9</sup> See <https://www.cimmyt.org/faq/>.

<sup>10</sup> <http://news.agropages.com/News/NewsDetail---33672.htm>.

<sup>11</sup> Corteva Agriscience (2019): Analyst Day, February 21, 2019.

[https://s23.q4cdn.com/505718284/files/doc\\_presentations/Corteva-Analyst-Day-Presentation-Final\\_3-1.pdf](https://s23.q4cdn.com/505718284/files/doc_presentations/Corteva-Analyst-Day-Presentation-Final_3-1.pdf)

Graph 1: Focus on corn and soybean in individual seed companies



Data Source: Phillips McDougall, December 2018 and AgbioInvestor, October 2018 (% corn & soy sales of total seed sales; % seed sales of total ag sales)  
 6 KWS' Annual Press and Analysts' Conference 2018/2019 October 23, 2019

KWS (2019): Annual Press and Analysts' Conference 2018/2019. October 2019.

There are no publicly available global market share data for the **rice seed** market. Bayer-Monsanto claims to be one of the leading global supplier of hybrid rice seed.<sup>12</sup> According to the Indian Competition Commission of India ('CCI'), Bayer and Mahyco/Monsanto had a combined market share of 45-50 % in India before the merger (table 5). In Vietnam, Vinaseed and Southern Seed are among the most important companies, with market shares of 25% and 10% respectively. In the Philippines, SL Agritech Corporation is the market leader in hybrid rice, according to its own data, with a market share of 80% in 2018, and in China, the three largest rice seed companies had a market share of 38.7% in 2016. These include Long Ping High-Tech, which together with Syngenta is one of the top 10 seed companies in China.

Table 5: Market shares in hybrid rice seed in India (before the merger)

Corporation	Market share
Bayer	40-45%
DuPont	15-20%
Metahelix	5-10%
Syngenta	5-10%
<b>CR4</b>	<b>65-85%</b>

Source: CCI (2018)

Table 6: Market concentration in the seed market in Indonesia (2017)

Hybrid corn	Market share	Fruit & vegetables	Market share
BISI	49.5%	East West	41%
Pioneer (heute Corteva)	17%	BISI	33%
Syngenta	7%	Prima Seed	4%
Monsanto	5%	Tani Murni	4%
<b>CR4</b>		<b>CR4</b>	

Source: BISI (2018)

Long Ping High-Tech manages the Brazilian corn seed business (LP Sementes), which Citic Agri Fund bought from DowDuPont in 2017. It now has an 18.5 % share of the Brazilian corn seed market.<sup>13</sup> An increase to 30 % is planned.<sup>14</sup> Corteva Agriscience, the new agricultural division of DowDuPont, has a

<sup>12</sup> Bayer: Arize, Better Rice, Better Life. <https://www.bayer.in/magazine/arize-better-rice-better-life/>  
<sup>13</sup> ChinaAg (2017): CITIC and Longping High-Tech Agriculture Complete Acquisition of Dow's Brazilian Corn Seed Assets. December 5, 2017.  
<sup>14</sup> Reuters (2018): China's Longping High-Tech Agriculture invests in Brazilian corn to grab a third of its corn seed market. 30 May, 2018.

market share of 21 % for corn seed and 16 % for sunflower seed in the Ukraine, according to the Kleffmann Group.<sup>15</sup>

In Mozambique, SEMOC and DowDuPont (now Corteva) produce more than 90% of the corn seed.<sup>16</sup> In the EU, Corteva has the largest market share in corn seed with 24%, followed by KWS and Bayer (table 7). KWS has a market share of 5-6% in Argentina<sup>17</sup> and 7% in Brazil on the commercial corn seed market.<sup>18</sup> Asociados Don Mario has a 40% market share in Argentina for **wheat seed**.<sup>19</sup> Biotrigo dominates the market for wheat seed in Brazil with a 69 % share in 2017, while OR Sementes has a 4.5% market share.<sup>20</sup> Vilmorien & Cie has a 12% market share in Europe for wheat seed, with market shares exceeding 20% in some countries.<sup>21</sup>

Table 7: Market share in corn seed market in EU

Unternehmen	Marktanteil
Corteva (DowDuPont)	24%
KWS	18%
Bayer-Monsanto	16%
Vilmorin & Cie	13%
<b>CR4</b>	71%

Source: KWS (2018)

Table 8: Estimated market shares in Zambia

Corporation	Market share
Seed Co	38%
Syngenta/ MRI-China	31%
DowDuPont/Pannar	15%
Zamseed	9%
<b>CR4</b>	93%

Source: USAID, AfricaLead (2016)

In **Eastern and Southern Africa**, multinational companies such as DowDuPont, Bayer-Monsanto and Syngenta are already leading the commercial seed market. In South Africa, according to the “Access to Seed Foundation”, DowDuPont and (Bayer-)Monsanto have a market share of more than 85% in the top five crops. In Ethiopia, DowDuPont has a market share of 30%. In Tanzania, two seed companies control 54% of the market: Pannar Seed (South Africa) and SeedCo (Kenya).<sup>22</sup> Pannar Seed was acquired by DowDuPont in 2012 and Limagrain (now Vilmorin & Cie) acquired a minority stake from SeedCo in 2014 (2017: 30.2%). According to its own

information, SeedCo has a market share of up to 81% in Zimbabwe<sup>23</sup> and up to 15% in Kenya<sup>24</sup>. In Zambia, the four largest companies control 93% of the commercial seed market. In Kenya, a semi-state seed company has a quasi-monopoly in corn seed with a market share of 80%.<sup>25</sup> It has subsidiaries in Uganda (Simlaw Seeds), Kenya (Simlaw Seeds) and Tanzania (Kibo Seeds Company).<sup>26</sup>

Table 9: Market shares of the four largest companies in Kenya

Corn	Market share	Sorghum	Market share	Cow pea	Market share	Beans	Market share
Top 1	80%	Top 1	31%	Top 1	48%	Top 1	49%
Top 2	5%	Top 2	28%	Top 2	22%	Top 2	22%
Top 3	4%	Top 3	12%	Top 3	16%	Top 3	17%
Top 4	3%	Top 4	10%	Top 4	14%	Top 4	7%
<b>CR4</b>	92%	<b>CR4</b>	81%	<b>CR4</b>	100%	<b>CR4</b>	95%

Source: TASAI (2015)<sup>27</sup>

<sup>15</sup> Open4business.com (2019): US Corteva Agriscience has 21% of Ukrainian Corn Seed Market and 16% of Sunflower Market. 25 February 2019.

<sup>16</sup> Access to Seed Foundation (2018): Leading Seed Companies in Eastern and Southern Africa.

<sup>17</sup> eFarm (2019): KWS focus on doubling its corn seed market share in Argentina. Aug 28, 2019.

<sup>18</sup> [https://www.seedquest.com/news.php?type=news&id\\_article=101729&id\\_region=&id\\_category=&id\\_crop=](https://www.seedquest.com/news.php?type=news&id_article=101729&id_region=&id_category=&id_crop=)

<sup>19</sup> <https://efarmnewsar.com/2018-11-23/don-mario-already-accounts-40-of-wheat-seed-market-share-its-strategy.html>

<sup>20</sup> Biotrigo (2018): Desafios e atualidades no melhoramento genético para o cultivo de trigo no Brasil.

<sup>21</sup> Vilmorin & Cie (2018): Annual report 2017-2018.

<sup>22</sup> Weltbank (2012): Agribusiness Indicators: Tanzania.

<sup>23</sup> SeedCo (2017): Analyst briefing.

<sup>24</sup> SeedCo (2016): Analyst briefing.

<sup>25</sup> National Seed Association of India (2015): India: Seed Hub for Asia and Africa.

<sup>26</sup> <https://kenyaseed.com/about-us/subsidiaries/>

<sup>27</sup> TASAI (2015): Kenya Brief. March, 2015.

Multinational corporations are also showing increased interest in seed markets in **West and Central Africa**. They have branches in countries such as Nigeria, Senegal, Ghana and Burkina Faso. However, their market shares are still relatively small.<sup>28</sup>

For the **European Union**, there are only a few current data available in the seed sector. In sugar beet, the four largest groups have a market share of 86% and in corn 71% (table 7).<sup>29</sup> In the course of the Bayer-Monsanto merger proceedings, the European Commission analyzed the market shares of the four largest companies. In individual markets the market shares of the two groups are very high (table 10). Vilmorin & Cie, Syngenta, Bayer and BASF are the largest suppliers of commercial vegetable seeds. Bayer has divested its own vegetable seeds business, including research and development, to BASF in order to comply with the EU Commission's requirements. Now Bayer-Monsanto and BASF control the vegetable markets described above. According to the OECD, four companies control 59% of the seed potato market in Germany.<sup>30</sup>

Table 10: Combined market shares of Bayer and Monsanto in vegetable seeds before the merger

Vegetable	Country	Market share	Comment
Carrot (sliced & peeled)	Germany	60-70%	Market highly concentrated, > 4x larger than company Nr. 2.
Carrot (sliced & peeled)	Netherlands	90-100%	Market highly concentrated, > 15x larger than next competitor
Cucumber (Beith Alpha Parth, Greenhouse)	Germany	80-90%	Market highly concentrated, no significant competitor existing
Leeks (Hybrid, Autumn)	Germany	90-100%	Market highly concentrated, no significant competitor existing
Leeks (Hybrid, Autumn)	Netherlands	80-90%	Market highly concentrated, > 12x larger than company Nr.2
Iceberg Lettuce (open field)	Germany	30-40%	Concentrated, Leading, one competitor with comparable size
Iceberg Lettuce (open field)	Austria	70-80%	Highly concentrated, > 7x larger than company Nr. 2
Onions (red, „long day“)	Germany	90-100%	Highly concentrated, no competitor

Source: EU-Commission: M.8084 BAYER / MONSANTO, 21.3.2018<sup>31</sup>

Table 11: Market shares of the four largest companies in vegetable seeds in India

Cabbage	Market share	Cucumber	Market share	Pumpkin (bitter)	Market share
Monsanto/Mahyco	40-45%	Monsanto/Mahyco	15-20%	East West Seed	30-35%
Bayer	5-10%	Bayer	10-15%	Bayer	30-35%
		East West Seeds	10-15%	VNR	10-15%
CR3	65-70%	Rasi Seeds	5-10%	Monsanto/Mahyco	5-10%
CR4	70-75%	CR4	40-60%	CR4	80-85%*

Okra	Market share	Watermelon	Market share	Tomato	Market share
Bayer	30-35%	Syngenta	30-35%	Syngenta	20-25%
Monsanto/Mahyco	5-10%	Bayer	15-20%	Bayer	15-20%
JK Seeds	5-10%	Namdhari	15-20%	Monsanto	10-15%
Syngenta	0-5%	Monsanto/Mahyco	5-10%	Namdhari	5-10%
CR4	40-60%*	CR4	65-70%*	CR4	60-65%*

Remark: The figures market with \* are mentioned by the CCI. They deviate from the sum.

Source: CCI (2018)

<sup>28</sup> Access to Seed Foundation (2018): Leading Seed Companies in Western and Central Africa.

<sup>29</sup> KWS (2018): KWS' Annual Press and Analysts' Conference 2017/2018. 24.10.2018.

<sup>30</sup> OECD (2018): Concentration in Seed Sector. Potential Effects and Policy Responses. 2018.

<sup>31</sup> [https://ec.europa.eu/competition/mergers/cases/decisions/m8084\\_13335\\_3.pdf](https://ec.europa.eu/competition/mergers/cases/decisions/m8084_13335_3.pdf).

Bayer-Monsanto also had high market shares in **vegetable seeds** in India, so that Bayer had to divest its business to BASF in India as well, as a result of the merger with Monsanto.<sup>32</sup> In cabbage, pumpkin (bitter) and watermelon, the Indian Competition Commission (CCI) describes the seed market as "highly concentrated" and in okra, tomato, onion and pepperoni as "concentrated". In the latter, Bayer-Monsanto had a market share of 40-45 %. Syngenta is the market leader in individual vegetable seed markets such as sweet peppers (60-65%), radish (20-25%) and carrots (25-30%) as well as watermelon and tomato (Table 9). In Mexico, too, the market concentration is very high for vegetable crops such as carrots, tomatoes, onions and lettuce.<sup>33</sup>

As the above figures show, market concentration, and thus dependence on a few corporations in several countries, has already reached worrying levels. In many cases, the corporations with market power are also market leaders in countries of the Global South. The negative effects for agricultural producers increase with increasing market concentration. In its report, the OECD concludes that seed price increases will be higher if the combined market shares are higher in the case of mergers. Similarly, the highest price increases are expected when the original market share is smaller. These findings can be taken as a rule of thumb.

## Pesticides

In 2018, the global market for pesticides recorded sales of approximately US\$ 57.56 billion.<sup>34</sup> After the three mega-mergers, the four largest pesticide companies have a market share of about 80%. The analysis by the Indian pesticide company includes a calculation of market shares based on sales in 2016 after a notional completion of the mergers at that time. Current market share data, which take into account the three mega mergers, are currently not available. What is certain is that the market concentration in the pesticide market is higher than in the commercial seed market.

Table 12: Global market shares in pesticides (2016)

Corporation	Mergers being taken into account (2016)	Corporation	2016
ChemChina/Syngenta	26%	Syngenta	20%
Bayer/Monsanto	26%	Bayer	20%
Corteva (DowDuPont)	16%	BASF	13%
BASF	13%	Dow	10%
		Monsanto	8%
		Dupont	6%
<b>CR4</b>	<b>81%</b>	<b>CR4</b>	<b>71%</b>

Source: UPL (2018): 2016 Industry Sales<sup>35</sup>

Table 13: Pesticide portfolio of the four largest corporations

Product	Bayer	Corteva	Syngenta	BASF
Herbicide	50%	50%	40%	45%
Insekticide	15%	25%	30%	10%
Fungicide	25%	20%	20%	40%
Other	10%	5%	10%	5%

Source: Corteva Agriscience (2019)<sup>36</sup>

The pesticides business mainly comprises the sales of herbicides, insecticides and fungicides. The four largest pesticide corporations generate the majority of their sales with herbicides. In the case of Bayer and Corteva this share is as high as 50%. Herbicides comprise selective and non-selective herbicides. The former kill the weeds, the latter also kill the plants. The well-known non-selective

<sup>32</sup> Bayer Crop Science (2018): Investor Presentation. India. June 14, 2018.

<sup>33</sup> <https://www.cofece.mx/cfresoluciones/docs/concentraciones/v5898/7/4312994.pdf>.

<sup>34</sup> <http://news.agropages.com/News/NewsDetail---32698.htm>.

<sup>35</sup> UPL (2018): Investor Presentation. August 2018.

<sup>36</sup> Corteva Agriscience (2019): Analyst Day, February 21, 2019.

herbicides include glyphosate, glyphosate and paraquat. In the global herbicides business, the top five companies had a market share of more than 74% in 2016.<sup>37</sup>

Public Eye and Uearthed have analysed the importance of highly hazardous pesticides (HHP) to the largest corporations. The result: The five largest agrochemical companies are the leaders in the global HHP business. Public Eye and Uearthed thus refute the claims of the lobby organization CropLife, which plays down the role of its members in the sale of highly hazardous pesticides.<sup>38</sup> Phillips McDougall's data set includes pesticide sales of USD 13.4 billion from these five companies. Pesticides classified as "highly hazardous" account for \$4.8 billion, or 35% of this total (almost half of the top-selling products). At the top of the inglorious list are Bayer and Syngenta. It should be noted that these are extremely conservative estimates, as the available data cover only 40% of the world market. The most important markets for this were developing and emerging countries with weaker regulations and higher risks for the population.<sup>39</sup>

Table 14: Share of highly hazardous pesticides (HHP) of the top selling pesticides

Bayer	Corteva	Syngenta	BASF	FMC
36.7%	32.0%	39.2%	24.9%	51.5%

Source: Public Eye and Uearthed (2019)<sup>40</sup>

In 2019, Bayer Crop Science generated almost 70% of its overall sales in North and South America, 44% of which were in North America and 25% in South America. The Europe/Middle East/Africa region now accounts for only 21% and the Asia-Pacific region for 9%.<sup>41</sup> Bayer-Monsanto sees considerable potential in the expansion of its pesticides business in North and South America. According to the company's own figures, "only" 50% of its pesticides are sold in these regions, while its Footprint in seeds there is 90% (approximately 161 million hectares).<sup>42</sup> In Europe and the Asia-Pacific region, the situation is said to be exactly the opposite. In Argentina, Bayer and Monsanto have combined market shares in selective herbicides of 46.3% for soybeans, 32.1% for barley, 14.7% for corn and 13.2% for wheat (table 16). Bayer also has a market share of 35% in insecticides used on corn in Argentina.

Table 15: Market shares in pesticides in Argentina

Corporation	Market share
Bayer/Monsanto	18.4%
ChemChina	17.1%
DowDupont (Corteva)	11.9%
<b>CR3</b>	47.3%

Source: IPEN (2019)

<sup>37</sup> Transparency Market Research (2017): Herbicides Market Forecast. 2017-2025. November 2017.

<sup>38</sup> <https://croplife.org/crop-protection/regulatory/product-management/international-code-of-conduct/highly-hazardous-pesticides-hhps/>.

<sup>39</sup> <https://www.publiceye.ch/de/themen/pestizide/agrochemiekonzerne-machen-milliarden-mit-krebserregenden-pestiziden-oder-bienen-killern>.

<sup>40</sup> <https://unearthed.greenpeace.org/2020/02/20/pesticides-croplife-hazardous-bayer-syngenta-health-bees/>.

<sup>41</sup> By comparison, in 2017 - before the Monsanto acquisition - North America accounted for 29% of sales, Europe/Middle East/Africa for 35% and Asia Pacific for 16%.

<sup>42</sup> Bayer (2018): Bayer AG. Capital Markets Day. 5 December 2018. Transcript. Q & A.

<https://www.investor.bayer.com/en/nc/events/archive/2018/capital-markets-day-2018-london/>

Table 16: Market shares in selective herbicides in Argentina structured according to crops

Konzern	Soja	Mais	Weizen	Gerste
Bayer	36.8%	5.0%	12.4%	31.6%
Dow	16.2%	8.0%	14.2%	6.4%
Monsanto	9.5%	9.6%	0.7%	0.4%
Nufarm	5.0%	8.2%	5.9%	3.3%
Syngenta	7.9%	28.4%	17.0%	37.4%
Adama (ChemChina)	3.8%	3.7%	0.1%	0.1%
DuPont	3.4%	0.4%	5.2%	0.0%
Nidera (Cofco)	1.2%	3.3%	9.8%	4.9%
Atanor	0.0%	20.4%	23.1%	10.3%
<b>CR4</b>	<b>70.4%</b>	<b>66.6%</b>	<b>66.7%</b>	<b>85.7%</b>

Source: República Argentina (2/2019)<sup>43</sup>

Table 17: Market shares in non-selective herbicides in Argentina

Corporation	2013/14	2014/15	2015/16
Monsanto (Nr.1)	35.3%	35.9%	36.6%
Dow (Nr. 2)	15.9%	15.1%	15.2%
Syngenta (Nr.3)	13.8%	14.1%	9.0%
Atanor (Nr. 4)	8.8%	11.6%	7.9%
DuPont (Nr. 8)	2.2%	1.4%	2.1%
Nidera (Nr. 9)	2.8%	2.9%	2.1%
FMC (Nr. 10)	0.6%	0.7%	2.0%
BASF (Nr. 11)	1.4%	1.6%	1.9%
Bayer (Nr.12)	0.7%	0.4%	1.7%
<b>CR4</b>	<b>73.8%</b>	<b>76.7%</b>	<b>68.7%</b>

Source: República Argentina (2/2019)

Table 18: Import shares in non-selective herbicides in Costa Rica (2016)

Corporation	Market share
Rimac	29.5%
Inquisa	12.0%
Syngenta	10.5%
Monsanto	7.4%
Bioquim	7.3%
Bayer	6.4%
<b>CR4</b>	<b>59.4%</b>

Source: COMISIÓN PARA PROMOVER LA COMPETENCIA (2018)

According to the Indian Competition Commission, Monsanto had a market share in non-selective herbicides of 25-30% and Bayer less than 5% before the merger. The market share of the three largest suppliers, Monsanto, Excel (Sumitomo Chemical) and Syngenta, amounted to more than 50% in this area.<sup>44</sup> In Costa Rica the import share of the four largest companies is 59.4% (table 18).<sup>45</sup> According to the Chinese Ministry of Commerce, DowDuPont would control 40% of the herbicides business in China after the merger.<sup>46</sup>

<sup>43</sup> See <http://cndc.produccion.gob.ar/sites/default/files/cndcfiles/CONC%201438.pdf>.

<sup>44</sup> CCI (2018): Notice under sub-section (2) of Section 6 of Competition Act, 2002 given by Bayer AG. Dated: 14.06.2018.

<sup>45</sup> Comisión (2018): Notificación de concentración económica que involucra a las empresas: BASF SE, y BAYER AKTIENGESELLSCHAFT. Voto N° 14-2018. Sesión Ordinaria No. 08-2018.

<sup>46</sup> ChinaAg (2017): CITIC and Longping High-Tech Agriculture Complete Acquisition of Dow's Brazilian Corn Seed Assets. December 5, 2017.



Table 19: Market shares in pesticides in Indonesia (2017)

Unternehmen	Marktanteil
Syngenta	20.0%
Bayer	16.0%
BISI	9.5%
Nufarm	9.0%
Dupont	8.0%
BASF	7.0%
<b>CR4</b>	<b>54.5%</b>

Source: BISI (2018)

Table 20: Import shares in the Philippines (January-October 2019)

Unternehmen	Anteil
Syngenta	10.56%
Bayer	9.29%
FMC	3.68%
UPL	2.79%
BASF	2.13%
Dow Agrosiences	1.64%
<b>CR4</b>	<b>26.32%</b>

Source: Agropages (2019)

In Brazil, Syngenta, Bayer, BASF, Corteva and FMC have a combined market share of 80%. 72% of these sales are based on sales of highly hazardous pesticides (HHP).<sup>47</sup> According to the European Commission, the five largest pesticide groups in the EU had a combined market share of 70-80% before the Bayer/Monsanto merger (160).<sup>48</sup> The import share of pesticides in the Philippines is 10.56% for Syngenta and 9.29% for Bayer (table 20).<sup>49</sup> In India UPL, Bayer-Monsanto and Syngenta are among the leading pesticide companies (table 21). UPL estimates its own market share at 4% worldwide.

Table 21: Market shares in pesticides in India

Corporation	2013	2014	2015	2016
UPL	18.2%	19.2%	20.2%	20.9%
Bayer CropScience	11.6%	13.1%	12.3%	13.7%
Syngenta India	9.6%	9.1%	9.8%	10.4%
Rallis India	9.2%	8.9%	7.8%	7.0%
Insecticide India	5.6%	6.6%	6.2%	6.6%
PI	5.6%	5.5%	6.1%	6.5%
Dhanuka Agritech	5.9%	6.3%	6.0%	6.4%
BASF	9.4%	8.9%	6.9%	4.8%
<b>CR4</b>	<b>48.6%</b>	<b>50.3%</b>	<b>50.1%</b>	<b>52%</b>

Source: Religare (2017)<sup>50</sup>

BASF has a 15.5% share of the Ukrainian pesticide market, which it plans to expand to 17.5% in 2018.<sup>51</sup> Corteva Agriscience's market share there is 7%. In Russia, one international corporation alone accounted for half of all pesticide sales in 2015 and dominated the market for herbicides and fungicides.<sup>52</sup> In Vietnam, Viet Thang, Nicotex and the Loc Troi Group are the main importers in 2017 in terms of volume, with market shares of 4.3%, 3.4% and 2.7% respectively. Syngenta is by far the largest importer of fungicides.<sup>53</sup> In Argentina, Bayer's market share in 2016 for insecticides used on corn is 35%. Monsanto has a 53% market share in insecticide-treated corn.

According to the Indian pesticide corporation UPL, only 18% of active ingredients worldwide are protected by patents.<sup>54</sup> Significantly, Liam Condon at Capital Markets Day 2018 had evasively answered a corresponding question from JPMorgan by saying that he would not have any exact

<sup>47</sup> <https://news.mongabay.com/2020/03/brazil-sets-record-for-highly-hazardous-pesticide-consumption-report/>

<sup>48</sup> The number in brackets refers to the comments of the EU Commission in the Bayer/Monsanto merger proceedings. [http://ec.europa.eu/competition/mergers/cases/decisions/m8084\\_13335\\_3.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m8084_13335_3.pdf).

<sup>49</sup> <http://news.agropages.com/News/NewsDetail---33730-e.htm>.

<sup>50</sup> Religare (2017): India Agrochemicals. On fertile ground.

<sup>51</sup> Open4business.com (2019): BASF plans to increase its share in Ukrainian market of plant protection agents. 21 August 2018.

<sup>52</sup> Kleffmann Group (2016): Agri Experts around the world. Newsletter 2016. Edition No. 3.

<sup>53</sup> Stoxplus (2018): Vietnam Agrochemicals Market 2018.

<sup>54</sup> UPL (2018): Investor Presentation. August 2018.

statistics on patents for pesticides.<sup>55</sup> The development costs are very high, amounting to USD 286 million for a new pesticide compared to USD 136 million for a new GMO (Genetically Modified Organism) seed variety.<sup>56</sup>

Table 22: Market shares of agricultural traders in pesticide sales in Germany

Trader	Seeds	Pesticides	Market share
Beiselen GmbH	yes	yes	20-30%
BSL Kiel	yes	yes	10-20%
Agravis Raiffeisen GmbH	yes	yes	10-20%
BayWa	yes	yes	10-20%
RWZ Köln	yes	yes	5-10%
Agro Holdorf	yes	yes	0-5%
<b>Total</b>			<b>70-80%</b>

Source: EU-Commission: M.8084 BAYER / MONSANTO, 21.3.2018

## Fertilizers

It is expected that the global market for fertilizers will amount to US\$ 155.8 billion. The overall market concentration at global level is lower than for seeds and pesticides. The largest groups include Nutrien, Yara, Mosaic, OCP and EuroChem.<sup>57</sup> The most recent figures are from 2014, when the four largest corporations controlled 21% of the global fertilizer market.<sup>58</sup> If one looks at individual fertilizers - nitrogen (N), phosphate (P), potash (K) - the picture is different.

Market concentration is highest in the world potash market. Here the four largest groups dominate the world potash market with a market share of 72% (table 24).<sup>59</sup> In the period 2015-2018, the global market share of the three largest groups in potash has increased from 48%<sup>60</sup> to 63%. The largest global market share in potash is held by the Nutrien Group, which was created in 2018 from the merger of Agrium and Potash Corporation. According to the group's data, this was approximately 23% globally in 2017.<sup>61</sup> In 2015, the world market share of the three largest groups was 24% for phosphate and 15% for nitrogen in 2013.<sup>62</sup> Although the global market for nitrogen is less concentrated, there has been significant restructuring in the EU and the US over the past decade.<sup>63</sup> Publicly available data are not available here in each case. Yara says it is the world's largest supplier of NPK complex fertilizers. Its market share in the global trade in ammonia is 20%.<sup>64</sup>

Table 23: Approximate market shares of the corporation Nutrien (production capacity, 2017)

Fertilizer	North America	World Market
Potash	63%	23%
Phosphate	25%	4%
Ammonia	22%	3%

Source: Nutrien (2019)

<sup>55</sup> See footnote 43.

<sup>56</sup> <https://www.oxfam.de/blog/fusion-bayer-monsanto-big-player-digitalen-landwirtschaft>

<sup>57</sup> EuroChem (2019): 1H 2019 FRS Results. August 06, 2019.

<sup>58</sup> ETC Group, IPES Food, (2017): Too Big to Feed: The Short report.

<sup>59</sup> K+S-Gruppe (2019): Kompendium. August 2019.

<sup>60</sup> Yara (2017): Yara Fertilizer Industry Handbook. January 2017.

<sup>61</sup> Nutrien (2018): Factbook 2018.

<sup>62</sup> Yara (2017): Yara Fertilizer Industry Handbook. January 2017.

<sup>63</sup> Yara (2018): Yara Fertilizer Industry Handbook. October 2018.

<sup>64</sup> Ibid.

Table 24: World market shares in potash

Corporation	Market share (2018)	Market share (2017)
Canpotex (marketing company of Nutrien and Mosaic)	30%	28%
BPC (Belaruskali)	18%	17%
Uralkali	15%	16%
K+S	9%	8%
ICL (DSW, CPL, Iberpotash)	7%	8%
	<b>CR3</b>	63%
	<b>CR4</b>	72%
		61%
		69%

Source: K+S (March and September 2019)

Nutrien has a total market share of 20% in the USA and is currently pursuing the goal of increasing this to 30%.<sup>65</sup> The Borealis Group has a market share of 7% in fertilizers in the EU.<sup>66</sup> The Russian group PhosAgro dominates the market for NPK complex fertilizers in Russia with a market share of 70%. In monoammonium phosphate (MAP) and diammonium phosphate (DAP), which have a high content of phosphate and nitrogen, PhosAgro has a market share of 79% in Russia, 12% in the EU and 8% in Latin America.<sup>67</sup> In Brazil, Mosaic and Yara dominate the fertilizer market with a market share of 46%. In 2017, the four largest groups had a market share of 73% there.<sup>68</sup> In Chile, five companies dominate the import of fertilizers with a market share of 60%, with Mosaic Chile in fifth place.<sup>69</sup>

Table 25: Import shares in Peru

Corporation	Market share
Molinos & Cia	30%
Yara Péru	15%
Gavilon Péru	9%
Orica Mining Services Péru	8%
	<b>CR4</b>
	62%%

Source: ICEX (2019)

Table 26: Import shares in Chile

Corporation	Market share
Agrogestión Vitra	19.1%
Anagra	18.97%
CNA Chile Spa	17.3%
Soquimich Comercial	9.03%
	<b>CR4</b>
	64.4%

Source: ICEX (2018)

In Péru the import share of the four largest companies is 62%.<sup>70</sup> In Chile, three companies will dominate the import of fertilizers in 2017 with a market share of 55%. Yara has an import share of 1.15%.<sup>71</sup> In China, the fertiliser market is dominated by many companies, with multinationals having a market share of 8%.<sup>72</sup> In Vietnam, Vinachem and PVN dominate the fertilizer market in 2017 with a market share of 44%. Vinachem has a share of more than 40% in the NPK market and more than 50% for phosphates. PVN is the market leader in fertiliser urea with a volume share of up to 62%.<sup>73</sup> In Germany, SKW Stickstoffwerke Piesteritz, which belongs to the Czech company AGROFERT, is the largest producer of ammonia and urea according to its own information.<sup>74</sup>

In sub-Saharan Africa OCP has a market share of 30% in fertilizers, of which phosphates account for more than two thirds. After OPC comes Yara with a market share of more than 10% in the region, which is not focussing on phosphates, but on fertilizer urea and ammonia.<sup>75</sup> In West Africa, the Malian

<sup>65</sup> Nutrien (2019): Nutrien Investor Day 2019. May 28, 2019.

<sup>66</sup> Borealis (2019): Combined Annual report 2018.

<sup>67</sup> PhosAgro (2019): Presentation for 1-on-1 meetings. June 2019.

<sup>68</sup> Agrolink (2017): 4 empresas detêm 73% do mercado de Fertilizantes no Brasil. Publicado em 17/07/2017.

<sup>69</sup> ICEX (2018): El Mercado de Fertilizantes en Chile.

<sup>70</sup> ICEX (2019): Fertilizantes en Péru.

<sup>71</sup> ICEX (2018): El mercado de fertilizantes en Chile.

<sup>72</sup> ICEX (2018): Agroquímicos en China.

<sup>73</sup> Stoxplus (2018): Vietnam Agrochemicals Market 2018.

<sup>74</sup> Siehe SKWP: Unternehmensprofil.

<sup>75</sup> JeuneAfrique (2019): Engrais : OCP, quelle stratégie en Afrique? 17 avril 2018.

company Toguna Agroindustries, which cooperates with OCP, is the largest producer of NPK fertilizers with a market share of 60% in Mali, according to its own information.

Table 27: Market shares in Brazil

Corporation	Market share
Yara	25%
Mosaic	20%
Fertipar	15%
Heringer	13%
<b>CR4</b>	73%

Source: Agrolink (2017)

Table 28: Market shares in South Africa

Corporation	Market share
Omnia	45%
Kynoch	15%
Profert Holdings	15%
<b>CR3</b>	75%

Source: CompCom (2019)

In East Africa, the Saudi phosphate producer Ma'aden is one of the strongest competitors, while in South Africa PhosAgro is an important player.<sup>76</sup> In April 2019, Ma'aden acquired the Meridian Group based in Mauritius, which imports fertilisers from international companies and distributes them via the ports of Mozambique in East Africa.<sup>77</sup> In South Africa, the fertilizer market is highly concentrated: According to the South African Competition Commission, three companies control 75% of the market. Foskor is the only producer of phosphates and phosphoric acid, while Sasol is the largest producer of chemicals for fertilizers, but is no longer allowed to sell end products.<sup>78</sup> In 2008, the market share of the largest companies was 86%.<sup>79</sup>

## Agricultural machinery

In 2018, the international market for agricultural machinery amounts to more than 170 billion US\$, 31% of which will be for tractors. The global market for seed drills and fertilizer spreaders is estimated to grow to US\$15 billion by 2024.<sup>80</sup> The three largest corporations control almost half of the world market for agricultural machinery (table 29). In China, the domestic manufacturer Lovol has a 40% of the agricultural machinery market.<sup>81</sup>

Table 29: World market shares in agricultural machinery

Corporation	Sales	Market shares
John Deere	more than 37 bn. US\$	21.7%
CNH Industrial	just 30 bn. US\$	17.6%
Kubota	just 17 bn. US\$	10.0%
AGCO	just 10 bn. US\$	5.9%
Claas	just 4 bn. US\$	2.3%
<b>CR4</b>		53.6%

Source: agrarheute (2019)<sup>82</sup> and IndustryARC (2019)<sup>83</sup>

It is estimated that 2.16 million new tractors will be sold in 2018, more than half of them in India and China alone.<sup>84</sup> In India, the four largest tractor manufacturers have a market share of 82.6% and in

<sup>76</sup> JeuneAfrique (2019): Engrais : au Mali, DPA marche sur les plates-bandes du leader Toguna Agro-industries. Mis à jour le 12 mars 2019.

<sup>77</sup> Maaden (2019): Maaden acquires Meridian Fertilizer Group. Apr 18, 2019.

<sup>78</sup> CompCom (2019): An analysis of infrastructure and inputs as a barrier to entry and expansion for emerging farmers. WORKING PAPER CC2019/02.

<sup>79</sup> Grain SA (2011): Fertilizer report.

<sup>80</sup> Strategyr.com (2019): Low Farm Mechanization in Developing Countries & Increased Reliance on Machine Power to Drive Agricultural Productivity to Benefit Global Sales of Planting & Fertilizing Machinery. May 2019.

<sup>81</sup> Eilbote (2018): Internationale Landtechnikmärkte: Im Würgegriff der Politik. 19.12.2018.

<sup>82</sup> agrarheute (2019): Die fünf größten Landtechnik-Hersteller der Welt. Juli 2019.

<sup>83</sup> IndustryARC (2019): Agricultural Machinery Market - Forecast(2019 - 2024).

<sup>84</sup> Agriland (2019): 2.16 million new tractors sold across the world in 2018. July 9, 2019.

Bangladesh 75%. In Peru, the four largest tractor suppliers account for 63% of the market, including AGCO with 32.8% and John Deere with 18.7%.<sup>85</sup>

Table 30: Market shares in tractors in India and Bangladesh

Corporation/India	2018	Corporation/Bangladesh	4-11/2018
Mahindra & Mahindra (M&M mit PTL)	40.2%	Sonalika	31%
TAFE (mit Eicher Motors)	18.4%	TAFE	19%
Escorts Ltd.	11.8%	Eicher	13%
Sonalika	12.2%	M&M	ca.12%
Andere (Johne Deere, New Holland etc.)	17.5%	Swaraj	ca.7%
<b>CR4</b>	<b>82.6%</b>	<b>CR4</b>	<b>75%</b>

Source: EconomicTimes.com (2019)<sup>86</sup> and Samimulhasan.com (2018)<sup>87</sup>

Table 31: Import shares in Peru (tractors)

Corporation	Market share
AGCO (Brasilien)	32.8%
John Deere (Mexiko)	18.7%
Kubota	7.8%
SDF (Italien)	3.7%
CNH Industrial	3.7%
<b>CR4</b>	<b>63%</b>

Quelle: ICEX (2019)

Table 32: Market shares in Spain (tractors)

Corporation	Market share
John Deere	25.3%
CNH Industrial	25.9%
AGCO	12.4%
SDF	8.0%
Kubota	6.1%
<b>CR4</b>	<b>71.6%</b>

Quelle: ICEX (2019)

Table 33: Market shares in tractors in Germany and in France in 2018

Corporation	Tractor brands	Market share (DE)	Market share (F)
AGCO	Fendt, Valtra, MF, Challenger	27.6%	28.9%
John Deere	John Deere	24.8%	18.5%
CNH Industrial	Case IH / Steyr; New Holland	16.3%	26.8%
Claas	Claas	7.7%	11.1%
<b>CR4</b>		<b>76.4%</b>	<b>85.3%</b>

Source: Schlepper-Bundesliga (2019)<sup>88</sup> and Agriland (2019)<sup>89</sup>

In Germany, the market share of the top 4 companies in 2018 is 76.4%, in France 85.3% and in Spain 71.6%.<sup>90</sup> In Portugal John Deere has a market share of 11%.<sup>91</sup> For the European market, only publicly available data is available for the year 2015. At that time CNH Industrial had a market share of 24%, followed by AGCO with 21% and John Deere with 19%.<sup>92</sup> In 2017 Same Deutz-Fahr (SDF) had a market share of 11.5% in Europe.<sup>93</sup> TürkTraktor, a joint venture with CNH Industrial, had a market share of 49.3% in Turkey in 2017.<sup>94</sup>

<sup>85</sup> ICEX (2019): El mercado de maquinaria agrícola en Perú.

<sup>86</sup> EconomicTimes (2019): Tractor sales growth pace hits three-year low in FY'19. April 30, 2019.

<sup>87</sup> Samimulhasan.com (2018): Tractor market in Bangladesh. December 05, 2018.

<sup>88</sup> Profi.de (2019): Schlepper-Bundesliga. 29.8.2019.

<sup>89</sup> Agriland (2019): Tractor sales: Who topped one of Europe's biggest markets in 2018? January 10, 2019

<sup>90</sup> Lavozdeg Galicia (2019): John Deere no pasa de moda y continúa como el tractor más deseado por delante del New Holland. 16/04/2019.

<sup>91</sup> Profesional AGRO (2019): John Deere supera el 28% de cuota de mercado en tractores. 15/01/2019.

<sup>92</sup> Statista (2019): European Tractor Market - Statistics & Facts. Jan 10, 2019.

<sup>93</sup> Eilbote (2018): Same Deutz-Fahr: 2017 mit hohen Investitionen in die Standorte. 21.6.2018.

<sup>94</sup> Hurriyetdailynews.com (2018): Turkish firm sold nearly 50,000 tractors in 2017. February 13, 2018.

Table 34: Market shares in combine harvesters and seed drills in France (2017)

Corporation Combine harvester	Market share	Corporation Seed drills	Market shares
Claas	37.5%	Horsch	29.9%
CNH Industrial	31.5%	Sky Agriculture	22.5%
John Deere	22.8%	Amazone	10.7%
AGCO	4.0%	Pöttinger	7.7%
<b>CR4</b>	<b>95.8%</b>	<b>CR4</b>	<b>70.8%</b>

Source: Axema (2018)<sup>95</sup>

For combine harvesters and seed drills there is little public information on market shares. In France, the top 4 combine harvester manufacturers are identical to the four largest tractor manufacturers, while the market for seed drills is dominated by Horsch, Sky Agriculture, Amazone and Pöttinger. In Perú, the four largest companies supply 45% of harvesting machinery in 2017, including the German company Stihl with 24.2%. CNH Industrial has an 8% share, Kubota 5.8%, John Deere 2.8% and AGCO 1.9%.<sup>96</sup> In China, the five largest companies control 69.9% of the combine harvester market.<sup>97</sup>

In 2017, AGCO acquired Precision Planting from Climate Corporation.<sup>98</sup> Originally, John Deere wanted to buy the company. John Deere's market share of high-speed precision planting systems in the USA at that time was 44%, followed by Precision Planting 42%, Kinz 12% and Horsch 2%.<sup>99</sup>

### Annex: Assessment of market power and information situation

The starting point for the assessment of market power is usually the market share (including market share gaps, distribution of market shares and market share development). The calculation of market shares is mainly based on available sales data of companies. If the companies generate the majority of their sales in one region, the significance of global market shares for other regions is less significant. The availability of country-specific sales data also influences the calculation of global market shares.

The OECD has based its calculation of market shares on the total seed market, even though the calculation of seed breeding by farms is subject to great uncertainty. According to the OECD, detailed market share information is only available for corn, soy, wheat and barley, rape seed and sunflower. For individual countries, data were also available for potatoes, sugar beet and cotton. The OECD report on market concentration in the seed sector is currently the most comprehensive report, but at the same time it reveals considerable gaps, especially in countries of the Global South. Through my own research, some additional market share data in these countries could be obtained. Based on the available data, the OECD report implicitly defines the relevant market as the national seed market for a specific crop. For other sectors - pesticides, fertilisers, agricultural machinery - there are no publicly available reports like the OECD report on seeds. There are therefore considerable gaps existing.

The market share of the four largest companies is usually used to calculate market concentration ("Concentration Ratio", CR4). It is an important indicator for policy makers to assess the excessive market power of individual companies. The CR4 does not capture how market shares are distributed among the four companies. Additional market share information on the two largest or three largest companies would provide an even more comprehensive picture. Economists estimate that in a market with a CR4 of less than 40%, competition works. A market with a CR4 of 40-60% is considered "moderately concentrated" and with a CR4 of more than 60% "highly concentrated".<sup>100</sup> Monopolies are incomprehensibly often no longer seen as a problem in discussions on competition law. US courts usually assume that a market share of 70-80% is sufficient to establish a monopoly.<sup>101</sup> In the USA,

<sup>95</sup> Axema (2018): Economic Report 2017.

<sup>96</sup> ICEX (2019): El mercado de maquinaria agrícola en Perú.

<sup>97</sup> Marketwatch (2019): Grain Combine Harvester Market size, Share, Market Types, Business Providers and Future Forecasts to 2024. Published: Mar 27, 2019.

<sup>98</sup> <https://news.agcocorp.com/news/agco-closes-on-precision-planting-acquisition>

<sup>99</sup> <https://www.agequipmentintelligence.com/articles/1092-why-doj-put-brakes-on-deere-precision-planting-deal>

<sup>100</sup> Jennifer Clapp (2019). [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2448656](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2448656)

[https://aia.in1touch.org/document/4671/The%20Rise%20of%20Mega%20Companies\\_Jennifer\\_Clapp\\_April\\_4\\_2019.pdf](https://aia.in1touch.org/document/4671/The%20Rise%20of%20Mega%20Companies_Jennifer_Clapp_April_4_2019.pdf).

<sup>101</sup> <https://fas.org/sqp/crs/misc/R45910.pdf>.

however, there is a proposal by Elisabeth Warren and David Cicilline to reduce this market share to 45% (USA, Antimonopoly and Competition Restoration Act).

Which market concentration is regarded as problematic is subject to economic and socio-political considerations, which have changed considerably with the spread of neo-liberal economic policy.<sup>102</sup> The Hirschman-Herfindahl Index (HHI) is frequently used in competition law considerations, in the USA since 1982. Before that, the CR4 was decisive there. The HHI is calculated as the sum of the squared market shares of all companies. If a monopoly exists, the HHI is 10,000. In a market with 100 companies and a market share of one % each, the HHI would be 100. In a market with five companies, each with a market share of 20 %, the HHI is 2,000.

The U.S. Federal Competition Commission describes a market as "concentrated" if the HHI is greater than 2,500 and as "not concentrated" if the HHI is less than 1,500. Previously, a market with an HHI of less than 1,000 was considered "not concentrated" and a market with an HHI of more than 1,000 was considered "concentrated" and more than 1,800 was considered "highly concentrated". HHI values of 1,000 and 1,800 correspond approximately to CR4 values of 50% and 70% respectively.<sup>103</sup> In EU merger control, HHIs of 1000 to 2000 are considered unproblematic.<sup>104</sup>

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<sup>102</sup> Siehe auch: [https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Leitfaden/Leitfaden%20-%20Marktbeherrschung%20in%20der%20Fusionskontrolle.pdf?\\_\\_blob=publicationFile&v=12](https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Leitfaden/Leitfaden%20-%20Marktbeherrschung%20in%20der%20Fusionskontrolle.pdf?__blob=publicationFile&v=12)

<sup>103</sup> [Bundeskartellamt \(2001\)](#): Das Untersagungskriterium in der Fusionskontrolle – Marktbeherrschende Stellung versus Substantial Lessening of Competition?

<sup>104</sup> Monopolkommission (2018). [https://monopolkommission.de/images/HG22/HGXXII\\_Gesamt.pdf](https://monopolkommission.de/images/HG22/HGXXII_Gesamt.pdf).