



CFA Institute

CFA Institute Research Challenge

Hosted by

CFA Society Ukraine

Taras Shevchenko National University of Kyiv

Company name: MHP SE
Exchange: LSE
Ticker symbol: MHPC
Sector: Food Producers
Industry: Consumer Staples

Current price: 6.78 (as of 31 Dec 2021)
Target price: 9.04 (33.4% increase)
Recommendation: **BUY**



Figure 1. Market profile

Market profile (as of 31 Dec 2021)	
Closing price	6.78
52-Week High / Low	8.26
Average volume	31 254
Current Market Cap	719.3
EPS	1.91
EV / Sales	0.93
EV / EBITDA	3.71

Source: Refinitiv

Figure 2. Valuation highlights

Valuation	DCF	Multiples
Estimated Price	9.19	8.9
Weights	50%	50%
Target Price	9.04	

Source: Team estimates

Figure 3. Financial highlights

Gross Margin	28%
EBITDA Margin	25%
Net Margin	12%
ROE	18%

Source: Team estimates

Figure 4. Share performance



Source: Refinitiv

INVESTMENT SUMMARY

MHP is a leading Ukrainian agricultural vertically integrated company with operations in 4 segments with the main segment represented by poultry and related operations producing 731,279 tones of chicken meat in 2020. The company is located in Ukraine and in the Balkans with Europe and MENA as the main export markets.

Recommendation

We issue a **BUY** recommendation on MHP SE based on the 12-month target price of **9.04 USD** (Figure 2) at a **33.4%** upside from the price of **6.78 USD** per share as of December 31, 2021.

Our valuation is based on 2 methods: Discounted Cash Flow (DCF) to Firm model with estimated target price **9.19 USD** and valuation model using multiples EV/Sales, EV/ EBITDA with estimated target price **9.52 USD** and **8.28 USD** respectively.

Our conclusion is also supported by facts listed below.

Vertically integrated business model provides a competitive position

The vertically integrated business model implies a highly competitive cost-base as the company performs all key stages of poultry production (as grain and fodder production; egg production and incubation; hatching; breeding; slaughtering; sausage and convenience food production; sales, marketing and distribution) and is highly independent from suppliers.

Focus on international expansion and value-added products

Transformation to culinary company, as the company's strategic priority for the future, involves development of value-added products performed by ready-to-eat and ready-to-cook segments as well as being a targeted participant in international consolidations. Such strategy diversifies countries MHP operates in, the company's range of products, and company export geography, that is going to increase company revenue and operating margin.

Expected industry growth

Poultry Production is going to be one of the leading factors of company growth in the medium term, because poultry consumption and nominal prices are expected to increase in the next 10 years globally (Figure 11). MHP has wide sales geography with growing demand in many markets (Ukraine, EU, Saudi Arabia). Demand for cereals will also increase as a result of improved macroeconomic indicators and increased demand for meat proteins.

Fast recovery from Covid and Avian Influenza with a positive financial outlook

In 2021, the company's financial metrics such as revenue, gross margin, assets turnover, ratio of long term debt and liquidity ratios have improved compared to 2020, when MHP faced Covid-19 pandemic and Avian Influenza outbreak. In 2021, MHP demonstrated the greatest y-o-y change of ROE (18,98%) and ROA (7,62%) that was driven by increased Net profit to Sales ratio.

Figure 5. Dividend policy

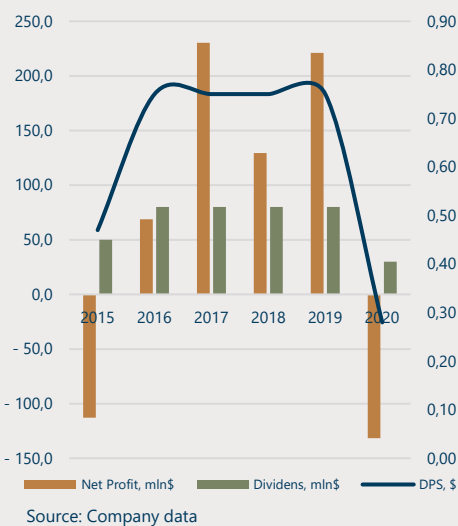


Figure 6. Export markets

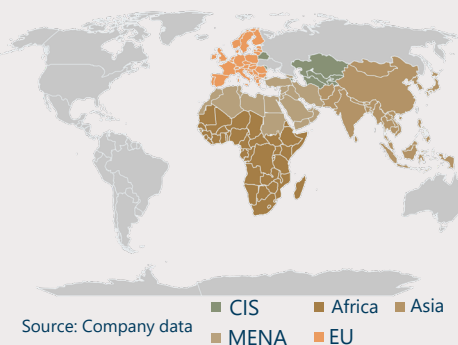


Figure 7. Revenue by destination

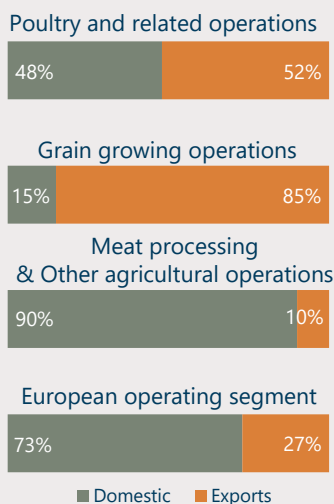
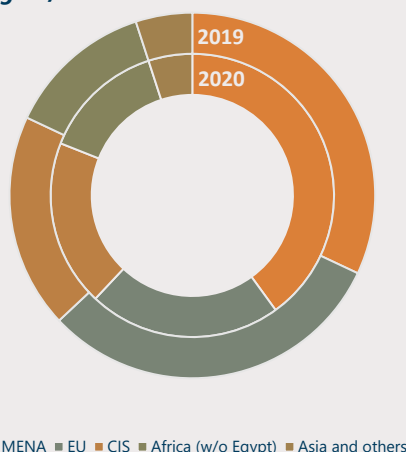


Figure 8. Volumes of poultry export by region, tn



Dividend policy

MHP approved the policy which maintains the balance between the needs of investments in further development and shareholders' interest to receive a share of the company's net profit. Company's goal is to pay up to 50% of the consolidated net profit for the respective year.

Effective risk mitigation

Some of the most significant risks MHP is exposed to relate to conditions the company cannot influence. Nevertheless, MHP performs an effective risk mitigation strategy to reduce exposure and minimize the probability of risk by diversifying capacities, taking preventive measures for livestock diseases, producing biogas, etc.

Sustainable development and biosecurity are one of MHP priorities

The results of the ESG analysis indicate that MHP is relatively attractive compared to the peers. For example, three competitors do not have ESG rate and this reduces their attractiveness to investors. On the other hand, MHP has lower overall ESG score and lower scores for majority ESG components compared to four other competitors that are rated. Investor extra benefits are based on the findings that the company scores high at Governance, development at the average level and construction of plans to increase it in the future; releasing sustainability reports since 2015.

External factors

Agriculture is one of the leading sectors of the Ukrainian economy and MHP is a domestic market leader in this sector, the company invests in new production facilities, creates workplaces, increases export volumes. It gives MHP the right to receive compensation from the government. Moreover, MHP, as company with social significance, is included in the list of companies that will purchase gas at lower prices according to the Order of the Ministry of Agriculture as of 05.01.2022.

Moreover, in 2022, Ukraine is going to launch stocks trading via Ukrainian banks. We expect it to warm up the demand for Ukrainian stocks.

BUSINESS DESCRIPTION

Main facts

MHP agro-industrial group which operates in Ukraine and the Balkans was founded in 1998. MHP SE is headquartered in Ukraine and listed on the London Stock Exchange since 2008. The company specializes in the production of chicken, cultivation of cereals and other agricultural activities and employs 30,471 people across 11 countries. The group is a leading poultry producer in Ukraine and sells to over 80 countries (Figure 6) in the world and has one of the largest landbanks in Ukraine of approximately 380k ha.

The group operates in 4 business segments:

Poultry and Related Operations

Today, this is the main segment of the company's operations, bringing 68% of the Group's revenue in 2021 in the amount of 1,481 million dollars. The segment produces and sells chicken meat, vegetable oils and mixed fodder. The share of chicken meat in the segment is almost 75% which makes MHP a leading producer of chicken on the Ukrainian market. In 2020, 52% of segment production were exported under a wide portfolio of trademarks for different products and target audiences that supports the company's strategy "right products to the right markets". The share of poultry export volumes to the MENA (Figure 8) market increased in 2020 to 40% (compared to 32% in 2019), which was caused mostly by reduced export volumes to the EU due to closing export markets due to COVID-19 and Avian Influenza.

The MHP's strategy for this segment is to retain their existing export share with brand's diversification ("right products to the right markets") and to develop existing domestic brands.

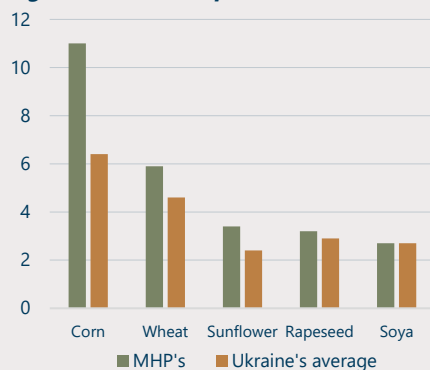
Grain growing segment

It is also a key segment due to the vertically-integrated structure of the company, which allows them to use fodder for further production of meat and increase margin in this way. Part of the production in the segment is sold to third parties, the 7% share of this segment in Group's revenue amounts to 134 million USD. The company produces corn, wheat, sunflower, rapeseed, soya and others. The Company's harvest yields are higher than Ukraine's average (Figure 9, 10) and MHP plans to increase them further by implementing innovation and using technology including Artificial Intelligence ("AI") and machine-learning algorithms for real-time analysis, forecasting and facilitation of decision making.

Meat-processing & Other agricultural operations segment

The Segment includes produce and sells sausage and cooked meat, convenience

Figure 9. Yields, tn per ha



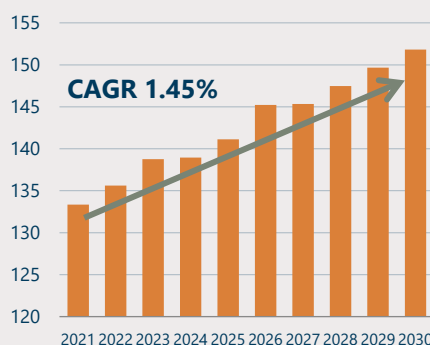
Source: Company data

Figure 10. Landbank structure



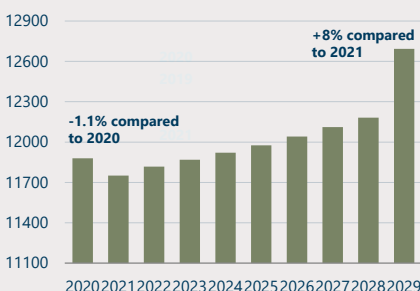
Source: Company data

Figure 11. Poultry meat projected consumption worldwide, thousand tones



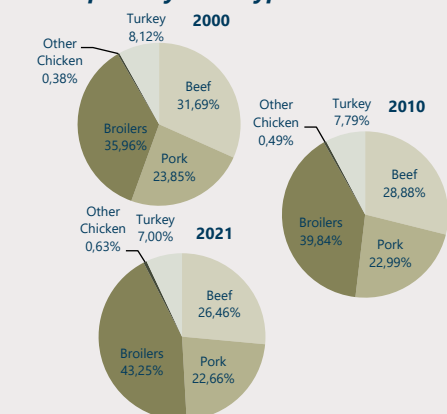
Source: Statista

Figure 12. Forecast volume of poultry meat consumed in the European Union



Source: Statista

Figure 13. The structure of meat consumption by main types worldwide



Source: USDA

foods and produce from cattle and dairy operations. It generates about 8% of the Group's revenue that amounts to approx. 150 million dollars. This segment focuses on production of higher ore value-added products and market penetration.

European operating segment

The segment is represented solely by Perutnina Ptuj operating in the Balkans with production in Slovenia, Croatia, Serbia, Bosnia and Herzegovina, which was acquired by the group in February of 2019. This segment generates about 18% of Group's revenue of around 399 million USD. PP sells products under Poli and PP brands.

Attractive business model

MHP is a vertically-integrated company and this structure enables it to reduce dependence from the third parties. It also has an impact on the gross margin of each operating segment. An increase in soy, sunflower, and corn prices leads to decreased profitability of poultry and related operations segment, which can be mitigated with higher margin in grain growing operations. Thanks to their vertical business model, MHP sells the by-products of their core operations (mainly sunflower and soybean oil) to international traders and has regular hard currency revenues.

Corporate strategy

Company's strategic priority is product development which is supported by their R&D center. MHP strives to eliminate the use of f antibiotics in meat production, and increase production of value-added products, such as packed poultry. Company's research proves that poultry products are a source of healthy protein – and a key driver of MHP's sales growth.

Today the company is transforming into a culinary company with an aim to increase added value. MHP's strategy focuses on the production of further processed products, i.e. those in the "ready-to-cook" and "ready-to-eat" ranges. Commercial Kitchen concept changes the company's relationships with retail, HoReCa and franchisees. The company focuses on growing sales through attracting more customers and meeting their evolving needs. The group's brand portfolio is becoming more diversified with "Chef's Secrets" gastronomic studio, "Meat Market" convenience stores and "DönerMarket" gyro houses. The transformation process is connected with the company's R&D. MHP Innovation Department focuses on creating an ecosystem to generate customer value in three directions: products, business models and services

INDUSTRY OVERVIEW

Global demand trends

The planet's population is expected to increase by almost 2 billion

In projecting global food demand to 2050, much attention has been given to rising demand due to the projected population increase from the current 7.9 billion to 9.7 billion (CAGR 0.73%). But growth rate in the world's population is slowing, so demand for food is growing also due to per capita consumption growth (Appendix 5).

Real GDP per capita is growing

GDP growth is accompanied by an increase in living standards, which is reflected in an increase in the consumption of goods and services. World real GDP per capita is expected to grow by 35% in 2050 compared to 2021 with CAGR 1.57% (Appendix 4).

The trend to increasing disposable income

When disposable income increases, households have more money which leads to a growth in consumption. Bennett's law observes that as incomes rise, people switch from simple starchy plant-dominated diets to a more varied food input: vegetables, fruit, dairy products, and especially meat. MHP use unique poultry feeding systems to produce meat with less saturated fat and higher polyunsaturated fat, which is more beneficial for consumers.

Segment drivers and trends

Poultry & Related Operations Segment Overview

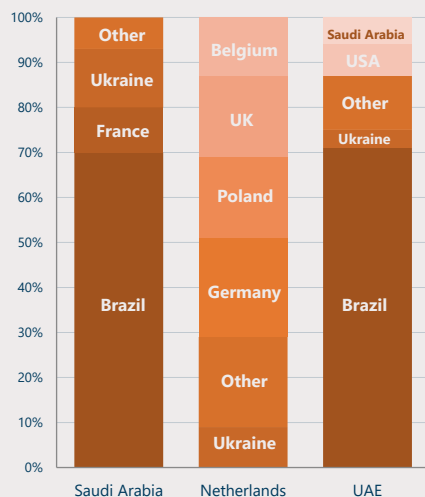
Strong demand for poultry meat on key MHP's markets and worldwide

Chicken meat consumption will increase by 8% in the EU, by 10.8% in Saudi Arabia, by 10% in Ukraine (Appendix 6) by 2029. The global poultry market is projected to register a CAGR of 1.45% from 2021 to 2030 (Figure11). The growth of the global market should have a positive effect on MHP, since chicken contributed 68% to the group's total revenue, while 52% of the segment's products were exported.

Structure of consumption by types of meat

While the share of beef in total consumption is declining, humans are eating more and more poultry (Figure 13). Poultry also predominates in the structure of MHP livestock: 48,523 ths Broiler chickens versus 6 ths cattle and pigs.

Figure 14. The structure of poultry meat imports in the context of the main supplying countries



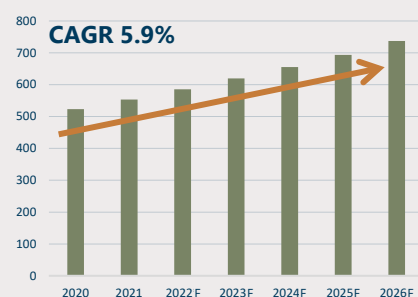
Source: Ukrainian Agribusiness Club report

Figure 15. EU (without UK) Imports (Main partners in 2021/2020)

POULTRY Meat (Tones carcass weight)			
Period:	Jan-Sep		% Chg
	2020	2021	
Brazil	172.910	174.496	0.9%
Thailand	103.382	106.272	2.8%
Ukraine	82.357	72.761	-11.7%
China	12.422	14.01	12.8%
Chile	14.382	2.202	-84.7%
Other	8.399	10.021	19.3%
Extra-EU without UK	393.853	379.763	-3.6%
United Kingdom**	193.804	177.311	-8.5%

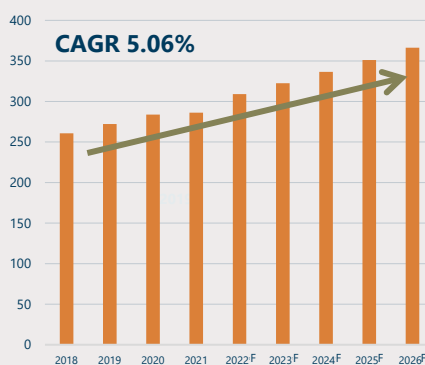
Source: Eurostat

Figure 16. Forecast market value of processed meat worldwide in 2020 to 2026



Source: Statista

Figure 17. Size of the frozen foods market worldwide from 2018 to 2026 (in billion U.S. dollars)



Source: Statista

Antibiotic free poultry meat

Antibiotic use in poultry is a top concern when purchasing poultry. 55% of buyers in 2017 said they were worried about the availability of antibiotics when buying poultry meat (Appendix 9). TM "Nasha Ryaba" is issued with a label of class "A", which means that antibiotics are not used in any of the production processes.

Ukraine is among the largest exporters of poultry meat

At the end of 2020, Ukraine took 8th place in the world ranking - the volume of sales abroad reached 431 kt. The main importing countries of Ukrainian poultry are Saudi Arabia (19% of Ukrainian exports), the Netherlands (12%), the UAE (8%). In each of the markets Ukrainian suppliers are among the largest (Figure 14). According to the results of 2021, Ukraine has a chance to become one of the seven largest exporters of poultry meat (Appendix 8).

EU as a market for Ukrainian poultry

Given the projected growth in demand in EU by 2030, the EU market may be an opportunity to increase exports of Ukrainian poultry (Figure 12). MHP provides over 80% of Ukrainian exports to the EU. In 2021, Ukraine met the requirements for protection zone in bird flu. It gives the right for Ukraine to export from free zones, despite the fact that quarantine restrictions still acting in the zones, where disease cases had occurred. At a time when tens of millions of birds in the EU have been killed due to HPAI outbreaks in the EU (Appendix 10). Although in the first nine months of 2021, Ukraine reduced chicken exports to the European Union by 11% compared to the same period in 2020, it still was the third largest supplier of poultry meat in the region (Figure 15)

Grain Growing Operations Segment Overview

Corn consumption is growing

Global corn market is expected to grow at a CAGR of 5.3% between 2021 and 2026 to reach a volume of nearly 1500 MMT by 2026. OECD examines corn consumption in developed and developing countries (Appendix 11). The levels of income and population growth are directly correlated to the consumption of milk, meat, and eggs. The rising demand for animal-based protein sources drive the global maize market level, as maize is one of the key ingredients of almost every type of compound feed for animal types. Other drivers of the industry are growing demand for sorbitol and starch (due to the rising demand from the food and bakery industry), the growing demand from the paper and textile sectors, the increasing demand for biofuels (Figure 12). Corn occupies 44% of MHP's cropped area with a yield of 5.6 t/ha, and 85% of grain sales came from exports in 2020.

Wheat use is expected to increase

Wheat consumption globally accounted for 759.5 MMT in 2020, and is expected to grow with a CAGR of 4.1% during the 2021-2026 due to increased consumption by processing industries for the production of products like flour, pasta, noodles, and beverages. Increased awareness of gluten allergies may be holding back market growth. Wheat occupies 11% of the cropped area of MHP (40,827 ha) with a yield of 5.1 t/ha

Grain prices going up

Wheat prices are projected to increase to USD 253/t by 2030 due to average harvest expectations and moderate growth in exports and food use. The world maize price averaged USD 199/t in 2020, the highest level in six years (171.5 USD/t in 2014); however prices are expected to revert back over the next three years to USD 169/t by 2023. Over the medium term, declining stocks combined with strong global feed demand will support maize prices, reaching nearly USD 200/t by 2030 in nominal terms. In real terms, prices for wheat, maize, other coarse grains and rice are expected to decline over the ten-year horizon (Appendix 7). Grain prices growth simultaneously means an increase in sales revenue and rise of the chicken cost for MHP.

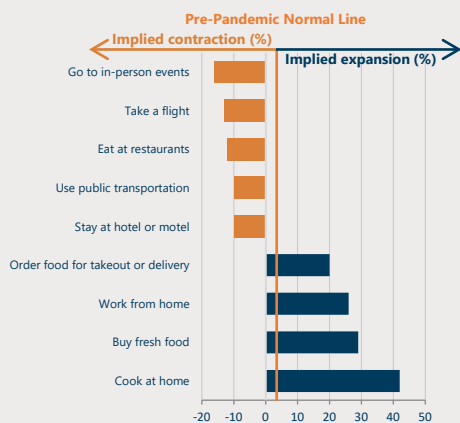
Meat processing and other agricultural operations segment

The global processed meat market size was valued at \$523.1 billion in 2020, and is estimated to reach \$732.2 billion by 2026, registering a CAGR of 5.9% (Figure 16). Expansion of fast-food chains such as KFC, McDonalds has had a significant influence in increasing consumption of processed meat. MHP is a supplier to KFS and McDonald's fast food restaurants.

A shift towards value-added products: ready-to-cook and ready-to-eat

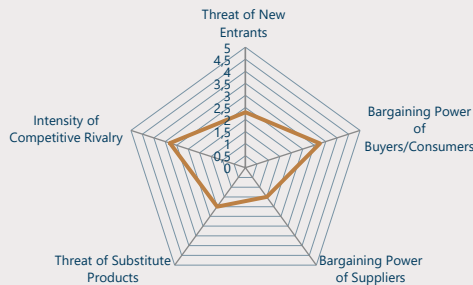
The ready-to-cook and ready-to-eat food markets is projected to register a CAGR of 5.06% and 4.3% respectively during 2021-2026. Market is driven by the greater need for convenience due to the busy lifestyles of consumers, since such products require less time and effort as compared to cooking from scratch. One of the biggest shifts in consumer behavior during the pandemic was a significant increase in eating home-cooked foods. Nearly half of shoppers report cooking at home more and eating far

Figure 18. Expected food buying and consumption habits after pandemic



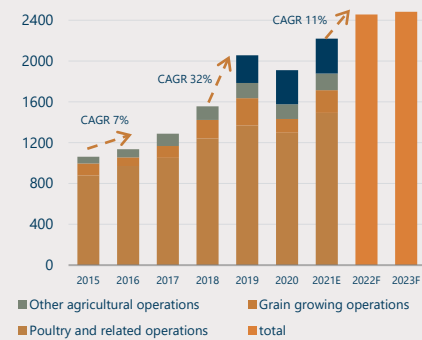
Source: Deloitte Global State of the Consumer Tracker

Figure 19. Porter's Five Forces



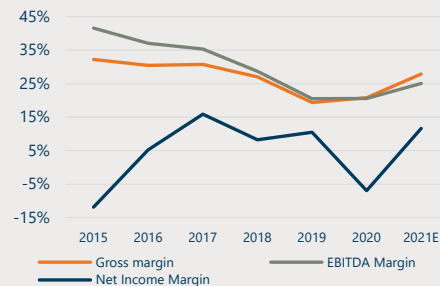
Source: Team Estimates

Figure 20. MHP's revenue by segments



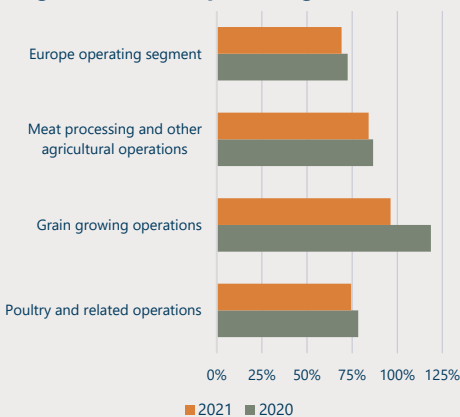
Source: Company data and Team estimates

Figure 21. MHP's profitability ratios



Source: Team Estimates

Figure 22. CoS as percentage of Revenue



Source: Team Estimates

more meals at home since COVID (Appendix 11). MHP is in the process of transformation to a culinary company.

Porter's Five Forces Analysis

Threat of New Entrants. Due to the presence of such large players in the market as MHP, new players may not appear because of fear of competition. Larger companies will have more cost savings and higher production levels (economies of scale).

Bargaining Power of Buyers. The sensitivity of consumers to the prices of everyday consumer goods is quite high. The company's products are not unique, and there are other manufacturers on the market with the same product range. Distributors through whom MHP interacts with the end customer are endowed with higher influence.

Bargaining Power of Suppliers. The Group's vertically-integrated business model enables MHP to reduce its dependence from third-party suppliers and its exposure to raw material price volatility.

Threat of Substitute Products. In consumer diets chicken is most likely to be substituted by beef and pork or lamb. Our assessment of how strong the competitive pressure from substitute products is based on three factors: whether attractively priced substitute are available; whether buyers view the substitute as being satisfactory in terms of quality, whether buyers can switch to substitutes easily, and other relevant attributes. Price of poultry is the lowest among other popular types of meat. Many consumers prefer poultry meat because of its nutritional benefits.

Intensity of Competitive Rivalry. Competition in the industry among existing players is high. In Ukraine, the company is dominant, but as an exporter to more than 80 countries, it must compete with manufacturers in foreign markets that use advanced business technologies, operate under other laws, have more favorable geographical location or political position (Figure 19).

FINANCIAL ANALYSIS

Strong recovery after a challenging year

2020 was a very difficult year for MHP due to COVID19, Avian Influenza, poor yield and other factors. All financial metrics have improved in 2021 compared to 2020: revenue, gross margin, assets turnover, ratio of long term debt, liquidity ratios etc. MHP was analyzed by Piotroski F-Score method of "how to separate winners from losers", and in 2021 F-Score for MHP was 9, which is the highest (Annex 19).

Positive revenue growth trend

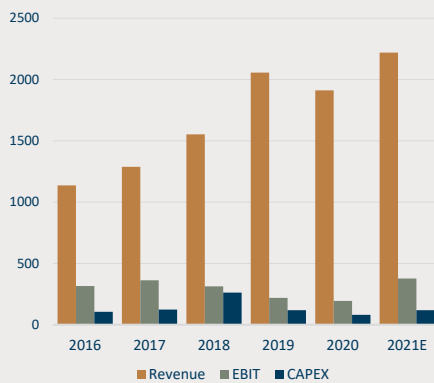
During the historical period MHP's revenue growth rate changed significantly from 7% in 2015 to 32% in 2019. Revenue was mainly generated by poultry production and related operations (about 80% before PP acquisition and 67% after). The period of 2020 was challenging for the company with a 7% revenue decrease (Figure 20). It was driven by bad weather conditions, impact of COVID-19 and outbreaks of Avian Influenza. But we expect its rapid recovery with 16% y-o-y positive change in 2021 (company has already declared 1,6 bln\$ revenue over the 9 month-period compared with 1,9 bln\$ yearly revenue in 2020). Moreover, a decrease in poultry prices was offset by increasing sales volumes) and 11% in 2022.

In future revenue growth will be driven not only by increasing poultry production, but also by a growing part of the European operating segment. Integration of Perutnina Ptuj was successful with high growth of revenue (up to 23% in 2020 and up to 20% in 2021) and sales volumes (up to 48% during 2020 and up to 15% in 2021). Today MHP is focused on improving the efficiency of business processes across the segment. MHP's transformation into a culinary company also gives an opportunity to increase revenue due to selling products with higher added value.

Attractive increasing margin

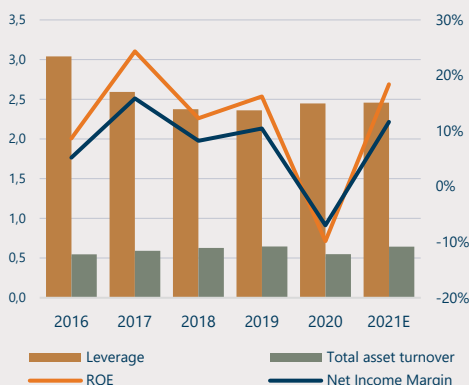
During the analyzed period MHP had a downturn trend of profitability ratios. Gross margin decreased from 30% in 2015 to 19% in 2020 (Figure 21). It was driven mainly by the fact, that MHP can not raise prices as fast as CoS increases. There was a 3x decline of EBIT margin during 2015-2020 (because of the impact of higher depreciation and amortization). In 2020 Net Income margin was negative because of high foreign exchange loss. According to the team's estimates, the company had reached the peak of decreasing profitability ratios in 2020 and it will declare higher EBITDA margin and Net Income margin mainly driven by high revenue growth in 2021. The gross margin of grain growing operations is historically higher than the gross margin of poultry and related operations segment (except 2019, when there was a drop in corn price and strengthening of the Ukrainian hryvnia). Main drivers for high gross margin of grain segment include MHP's higher yield than average in Ukraine and the rising world prices for grain. The difference in gross margin of business

Figure 23. CapEx analysis



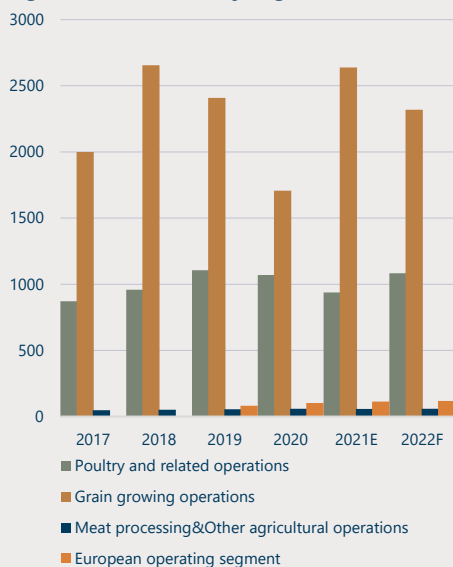
Source: Company data and Team estimates

Figure 24. DuPont analysis



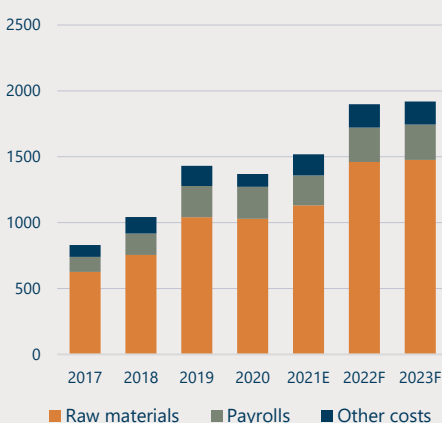
Source: Statista

Figure 25. Volumes by segments, tn



Source: Company data and Team estimates

Figure 26. CoS by expenses, kUSD



Source: Company data and Team estimates

segments is explained by Company's business model. When the price of grain rises, the margin of the grain segment also rises, but the margin of the poultry segment falls due to rising CoS (67% of CoS are raw materials, for the poultry segment the main share is fodder).

Cost of sales optimization

The results of 2021 demonstrate a significant decrease of cost of sales share in revenue (Figure 22). The most optimized segment by CoS share is poultry and related operations, so it is reasonable that it is the biggest segment of the company. The structure of CoS has remained relatively stable during the last years: the share of raw materials is 67% on average, D&A 11%, the share of payroll expenses increased from 12% to 16% during the last 2 years, which is connected with rapid salary growth.

CAPEX

CAPEX to Sales ratio for the last 6 years was not stable (Figure 23), the highest point (20.34%) was reached in 2018, when MHP launched the production sites of Phase 2 of the Vinnytsia poultry farm. The forecast of CAPEX is based on the assumption that MHP is not going to make such large investments as in 2018 over the next 5 years, and the new product segment will not need new PPE. However, in 2021 the ratio is 5.31% compared to 3.92% in 2020 due to modernization projects, maintenance and further improvements at PP.

Improving operational efficiency

Company's activity ratios shows that MHP has improved its financial position mainly by higher inventory turnover (2x increase during analyzed period). Receivables turnover decreased from 25x to 17x and payables turnover decreased from 16x to 11x. However, as a result of these changes, the company has decreased the duration of its financial cycle from 94 to 44 days. Stable working capital turnover (2,3 - 2,7x) indicates that MHP can pay its current liabilities and still maintain its day-to-day operations. Inventory turnover ratio has significantly improved for the last years. MHP has improved the efficiency of inventory stocks management (Annex 16).

Strong profitability recovery

ROE as for 2021 is at 18%, while ROA is 7% (Figure 24), which is almost the highest result for the last 6 years (it was higher only once, in 2017). 2021 has seen the greatest y-o-y change for the last years mainly caused by increased Net profit to Sales ratio. ROE for 2021 is significantly higher than MHP's cost of capital (Annex 18).

Capital structure and debt policy

MHP attracts funds mostly by issuing bonds (the share of bonds is constantly more than 50%). The other part of the debt is represented by loans from large European banks or their Ukrainian subsidiaries with the interest rates lower than average on the Ukrainian market. All subsequent bonds issued by MHP are issued under lower interest rate, which means that MHP manages its interest rate risk. Debt/EBITDA ratio was highest in 2019-2020 (4,5x and 4x respectively) as new bonds were issued and then decreased in 2021 to 3,1x. Net Debt/ EBITDA in 2021 estimated as 2,7x (less than 3x are considered acceptable).

VALUATION

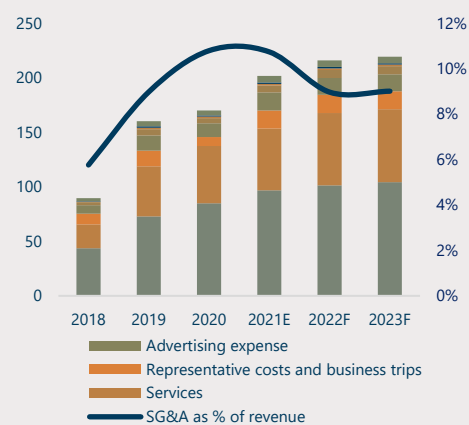
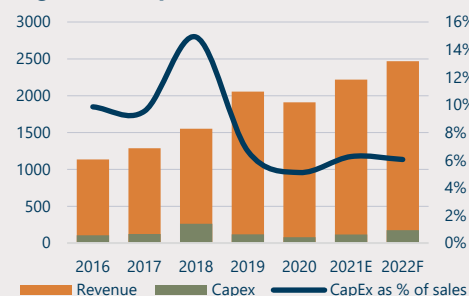
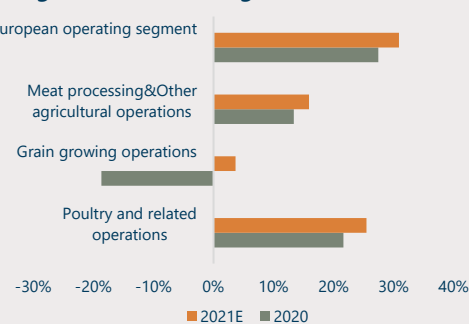
DCF

Forecasted period and TV. For the DCF model the present value period of 4 years was chosen, and the terminal value period starts from 2026. 4-year forecasted period was chosen due to the fact that MHP is a mature company, so we do not expect rapid y-o-y growth during a long period. For the terminal FCFF forecast adj. inflation in Ukraine was chosen as driver (Annex 21).

Volumes & CoS forecast. For cost of sales prediction they were divided by segments and by expenses. Firstly, volumes by each segment were forecasted, such assumptions were taken into account:

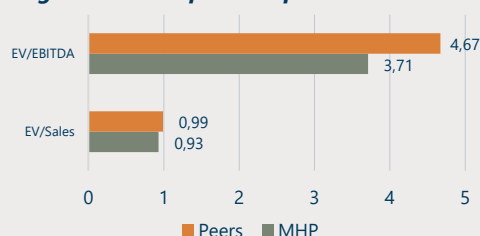
- **poultry and other related operations:** volumes of poultry sales is calculated with historical average sales as % of production, considering that Vinnytsa, Phase #2 is fully commissioned and there will be no additional capacity during forecasted period. Volumes of sunflower and soybean oil are predicted with historical average share from poultry sales.

- **grain growing operations:** it is assumed that MHP's land bank will remain stable, 380k ha during the forecasted period. Cropped area and MHP's yield by types of grain are predicted based on historical average of share of grain type in all cropped area and MHP's yield respectively. The forecasted volume in 2022 is less than in 2021 due to the fact, that it was a record yield in 2021, which is not likely to persist.

Figure 27. SGnA structure, kUSD**Figure 28. CapEx as % of sales****Figure 29. Gross margin****Figure 30. WACC components**

Risk-free rate in USD	1.55%
Equity risk premium	6.5%
Unlevered beta	0.56
Country risk premium	13.82%
Small size premium	1.58%
Cost of equity in USD	23.91%
Pre-tax cost of debt in USD	7.06%
Income tax rate	18%
After-tax cost of debt in USD	5.79%
Weight of equity	47.48%
Weight of debt	52.52%
WACC in USD	14.4%

Source: Team estimates

Figure 31. Multiples comparison

• **meat processing and OAO:** based on historical average volumes due to assumption that MHP's transformation plans will result in the development of new business segment.

• **European operating segment:** volumes are predicted to rise by average percent of the Balkan's countries real GDP change.

Besides forecasted volumes macro drivers were taken into account. Cost of sales were divided by expenses into raw materials, payrolls and other cost. For different expenses such drivers were considered:

• **raw materials:** producer price index adjusted by exchange rate was used as macro driver for raw materials. Huge increase in raw materials cost in 2022 compared to 2021 is explained by high predicted PPI in 2022 (as well as in 2021) mainly caused by strongly increased gas and electricity prices. After 2022 it is predicted PPI will return to lower rates.

• **payrolls** are driven by nominal wage growth adj. The MHP's policy to return its employees was also considered.

• **other costs** are driven by forecasted CPI adj.

Revenue and gross margin assumption. For the forecasted period the gross margin was fixed at the level of 2021: poultry segment 25.5%, grain growing operations 3.7%, meat processing 15.9%, PP 30.8%. Revenue is calculated based on predicted volumes hands CoS and gross margin.

For forecasting **SGnA** they were also divided by structure (Figure 27). Payrolls and related expenses are forecasted with nominal wage growth adj driver; services and fuel with PPI adj; other with CPI adj and advertising expenses are predicted as % of sales (0.8%).

CapEx and NWC. Capex is forecasted based on historical average % of sale (6.1%) (Figure 28) and net working capital is forecasted based on turnover ratios.

WACC argumentation. For calculating MHP's cost of capital CAPM model was used. We considered market yield on U.S. treasury securities at 10-Year constant maturity as as of 31.12.2021 as risk-free rate (1.55%). Market risk premium is an extra return for investor which is assumed at 6.5% based on "historical" MRP along with the use of a 5-year historical average of the respective risk free rate. Unlevered beta (0.56) was calculated as median beta among MHP's peers taking into account levered beta, D/E ratio average for the period and tax rate (Annex 22). Country risk premium is considered as difference between 10Y U.S treasury securities yield and Ukraine 10Y Government Bond estimated yield. Small size premium (1.58%) was applied from a study published in Duff & Phelps - Valuation Handbook considering MHP's capitalization: size premium is higher when the company's size is smaller.

Pre-tax cost of debt (7.06%) was calculated as weighted average interest rate of latest MHP's bonds issued due to the fact that as of 31 December 2021, long-term debt is 83% of the long-term debt is by bonds issued. Based on these inputs we assume that WACC of 14.4% is appropriate for discounting MHP's FCFF (Figure 30).

MARKET APPROACH

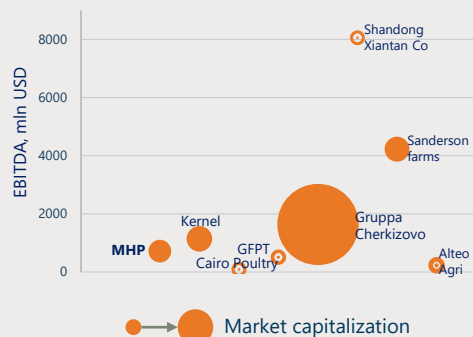
For the market approach, 7 peer companies were selected taking into account the following criteria: 1) public company; 2) operates in Packaged Foods and Meats, primary in Poultry Processing; 3) positive EBITDA LTM; 4) number of employees is greater than 5K. Kernel is also included in the list of peers as the most applicable Ukrainian peer, operating in the Agricultural segment (Figure 32).

For analysis **EV / Sales** and **EV / EBITDA** multiples were chosen. Equity multiples such as P/E, Price/Sales were not used because of share price volatility. EV / Sales multiple is applicable because it shows the value of purchasing the company sales and is not likely to be influenced by the company's management of accounting policy. EV / EBITDA multiple is commonly used for valuation and is applicable in terms of large investments in production facilities (D&A impact) and debt (interest on bonds, bank borrowings and other finance cost impact).

As for 2021 peer median EV/Sales 0,93x and EV/EBITDA 3,71x for MHP are lower than peer median EV/Sales 0,99x and EV/EBITDA 4,67x. It gives a reason to consider MHP as undervalued (Figure 31).

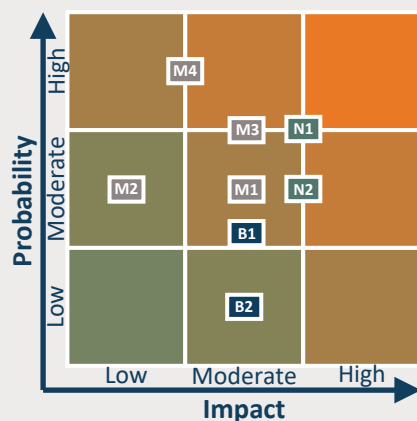
For determining the target price of MHP on the one year horizon the forecasted for 2022 revenue and EBITDA was taken into account. Based on multiple analysis the target price of MHP is 9,52 by EV/Sales multiple and 8,28 by EV/EBITDA multiple.

Figure 32. Peer comparison



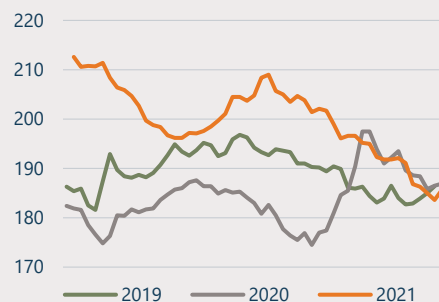
Source: Refinitiv

Figure 33. Risk Matrix



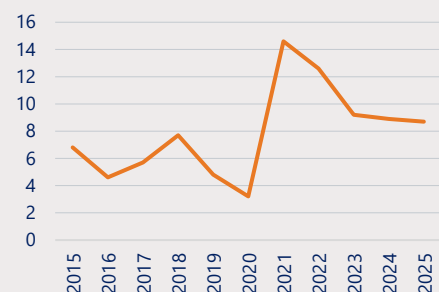
Source: Team estimates

Figure 34. Weekly EU broilers price (EUR/100 kg)



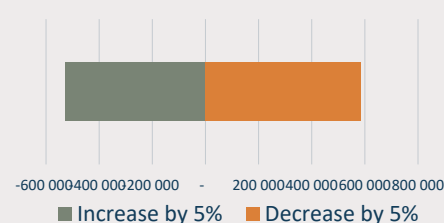
Source: European Commission

Figure 35. Natural gas price (Europe), USD/ One million British Thermal Units



Source: The World Bank Commodity markets outlook

Figure 36. Gross profit sensitivity to USD/UAH volatility



Source: Team estimates

INVESTMENT RISKS

Risks that might impact MHP financial results and share price were divided into 4 groups based on the risk origin: Business, Market, Natural and Political risks.

Business risks

Business risks arise from the company's fundamental decisions. MHP diversified domestic and export strategy involves expansion and transformation plans, according to which the company is seeking new M&As and product diversification that generates new risks.

B1: Transformation strategy is not winning

Description: transformation from raw materials to culinary company as part of company strategy might lead to loss of the company's well-established competitive position in the raw poultry meat market and deterioration of MHP financial indicators as result.

Mitigation: company launched pilot projects such as "Meat Market", "DönerMarket" and "Secrets of the Chef gastro-studios" working in ready-to-eat and ready-to-cook segments to test demand on such products. Moreover, company strategy extends mostly to domestic market and only to some export markets, where demand for ready-to-eat and ready-to-cook production is expected to be the highest.

B2: Inefficient / not properly managed M&As

Description: possibility of choosing a wrong M&A target-company and/or inefficient integration of acquired company caused by incompatibility and complexity of management, legal and organizational structures within companies, cultural differences or other factors might affect MHP financial results.

Mitigation: MHP has experience with acquisition, integration and management of a company located outside the main operating country.

Market risks

Market risks are expressed in the possibility of losses due to price movements, changes in product demand, new regulations, etc. Covid-19 impact on economy, exchange rate volatility, ongoing changes in Ukrainian and EU legislation as well as Nord Stream-2 launch generate risks for the company.

M1: Covid-19 impact on poultry prices decreasing

Description: lockdowns due to spread of a new strain of the virus called Omicron (Appendix 25) might lead to decreasing demand as fewer people attend cafes and restaurants, that may result in lower chicken prices and decreased operating profit accordingly (Figure 34). Also, demand for Ukrainian poultry can be lower as there is a surplus of frozen poultry that had not been sold by HORECA because of the Covid-19 pandemic in the past year in Europe, which leads to oversupply.

Mitigation: MHP has diversified sales channels, geography and product range, moreover Company is seeking further diversification.

M2: Commodity price volatility

Description: costs might be increased as gas prices are high (Figure 35) due to Nord Stream-2 launch expectations and shortage of gas reserves in Ukraine.

Mitigation: MHP is a leading biogas producer in Ukraine that produced 18 MW in 2020. The Biogas facility in Vinnytsia (12 MW) generates enough energy to provide electricity for about 40% of the consumers of the MHP's Agro-industrial cluster.

M3: Fluctuation of foreign exchange rate

Description: weakening in the UAH/USD exchange rate might decrease operating results of the company (Figure 36).

Mitigation: export revenue generated by grains, sunflower and soybean oil, sunflower husks, and chicken meat is a natural hedge against Ukrainian currency volatility. Moreover, the company is seeking for further export market expansion that might generate more revenue in USD or other foreign exchange.

M4: Regulatory risk

Description: Ongoing changes in Ukrainian legislation, such as taxation and land market regulation, as well as changes in poultry-related EU legislation might impact MHP financial results (Figure 37).

Mitigation: MHP diversifies its operations geographically and diversifies its operational segments. The company also remains committed to eliminating the use of antibiotics.

Natural risks

Natural risks are specific risks of agricultural companies. Unexpected weather conditions or outbreak of diseases might materially impact the company.

N1: Outbreaks of livestock diseases

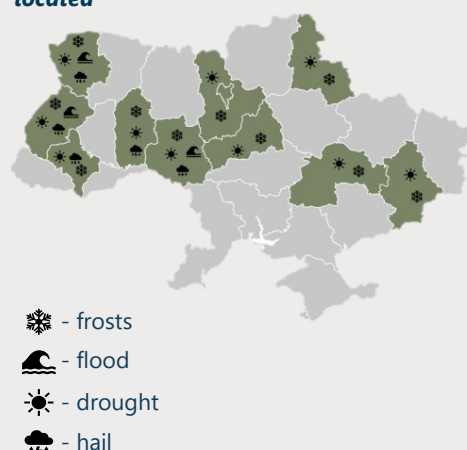
Description: mortality losses caused by outbreak of livestock diseases might lead to production decreasing and export cessation that negatively impacts company operating results.

Figure 37. Regulatory risks

Regulatory risk	Impact
Abolition of simplified tax system for poultry companies in Ukraine, as a result new income tax equal to 18%	Moderate -High
Moratorium on the sale of agricultural land in Ukraine	Low
Possibility of changes in EU poultry import quotas	Moderate
New requirements for antibiotics use in EU	Low

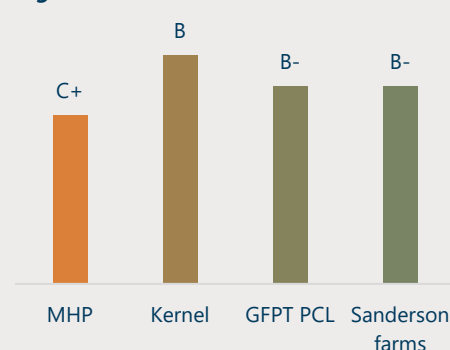
Source: Team estimates

Figure 38. Threat of unfavourable weather in regions MHP facilities are located



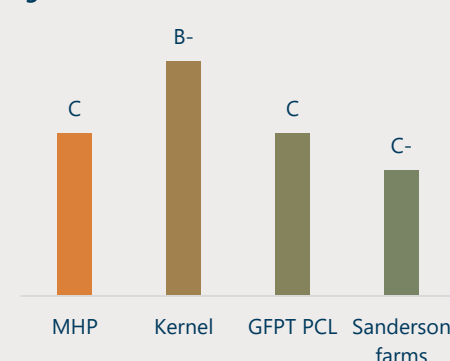
Source: Company data, Landlord

Figure 39. ESG Score



Source: Tomson One

Figure 40. Environmental Pillar Score



Source: Tomson One

Mitigation: MHP shares GLOBALG.A.P. standards that includes taking preventive measures for poultry welfare. Also, the spread of livestock disease is mitigated by the company's geographically diversified facilities.

N2: Weather conditions

Description: unfavorable weather conditions might have an impact on MHP operating results as the company produces fodder for chicken and sells its grain-growing segment products (Figure 38).

Mitigation: MHP uses modern technology, as METEOTREK to predict weather changes. Also, the company strives to become carbon neutral to minimize global warming effects.

Political risk

Political risk arises from an unfavorable or unstable situation in the country, there are risks of military involvement in Ukraine.

P1: Expansion of hostilities in the territory of Ukraine

Description: possible expansion of military actions in Ukraine might result in inability to use all MHP capacities/farms and lack of labor force. Reputational losses might affect company share price decreasing.

Mitigation: recently acquired Perutnina Ptuj, which is in the Balkans, generates 18% of revenue. Moreover, MHP is seeking for further expansion on international markets.

ENVIRONMENTAL, SOCIAL, GOVERNANCE

Nowadays, ESG is not only an indicator that shows the social responsibility of businesses and their values, but also has an impact on financial results, attracting investors and other criteria that affect the main activities of the enterprise. To quantify the development of ESG at MHP and major competitors, we chose Thomson One rating. The estimates are given in the range of D- to A +, which corresponds to a quantitative dimension from 0 to 1.

Overall ESG score in 2020 for MHP is C + (0.42-0.5) which corresponds to a level of development below average. Four of the selected competitors (ALTG, Cairo Poult Company SAE, Gruppo Cherkizovo PAO, and Shandong Xiantan Co Ltd) have no ESG estimates at Thomson One. This is an advantage for MHP, as the lack of ESG reports and assessments reduces the attractiveness of companies to investors. Compared to other competitors (Kernel, GFPT PCL, Sanderson farms) MHP has a lower overall ESG score and it reduces the competitiveness of the analyzed company. The further analysis involves only competitors that have ESG scores.

ESG rate of MHP by area:

Environmental rate C (0.33-0.42). The overall score corresponds to a level of development below average. MHP evaluates its own achievements at the average level, which practically meets its rate. Among competitors, only Kernel has performed better in this area. Other competitors have similar scores (Figure 40). MHP undertakes the following measures in the Environmental area:

- management of water resources and sanitation: updated registers of wells and mine shafts; re-consumed / used 0.5% of total annual water consumption;
- access to reliable, sustainable and modern energy sources: the first stage of the biogas facility in Vinnytsia region; reduction of energy consumption from nonrenewable sources and shift to energy from renewable sources; reduction of fuel consumption by 2.98% year on year, increase of indirect CO2 emissions;
- openness, security, sustainability and environmental sustainability: cooperation with non-profit and charitable organizations; investing in community development projects of over UAH 202 million in 2020; 132 projects in local competitions were shortlisted; 60 projects were awarded grants of UAH 50,000;
- combating climate change: plan to become a climate-neutral company by 2030; renewable energy equivalent to 100% of consumption by 2025, and absolute emissions reduced by 50% by 2030; reduction of direct emissions by 2.02% in 2020; investment projects in the European operating segment.

Social rate C + (0.42-0.5) is below average. MHP evaluates its achievements in this area at a medium and high level, which means they overestimate its performance. MHP has a significantly lower Social score compared to competition, which represents lack of actions (Figure 41). MHP undertakes the following measures in Social sphere:

- ensuring healthy lifestyle and well-being of people: \$ 2.5 million has been invested, opening of the COVID-19 hotline; 300 employees joined the MHP project "School of Health"; reducing the number incidents related to labor safety;
- ensuring comprehensive and equitable quality education and encouraging learning opportunities: dual education system is in place; more than 2,800 employees took part in distance learning in 2020;

Figure 41. Social Pillar Score

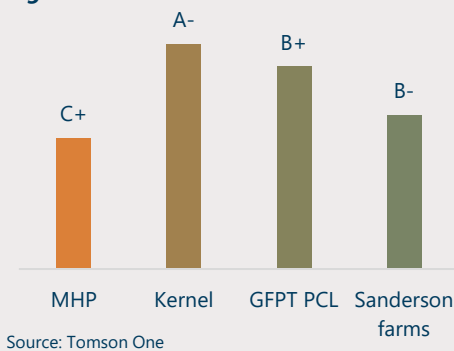


Figure 42. Governance Pillar Score

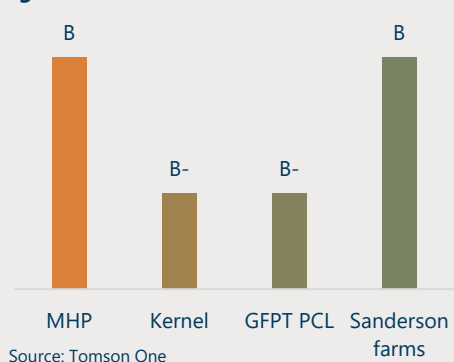


Figure 43. Factors to the BUY/SELL decision

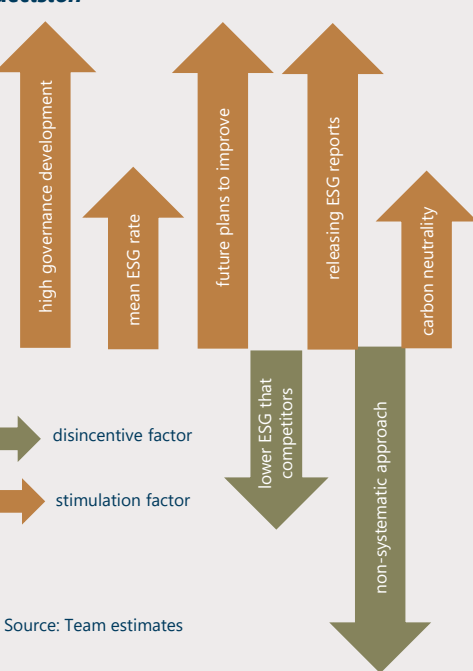
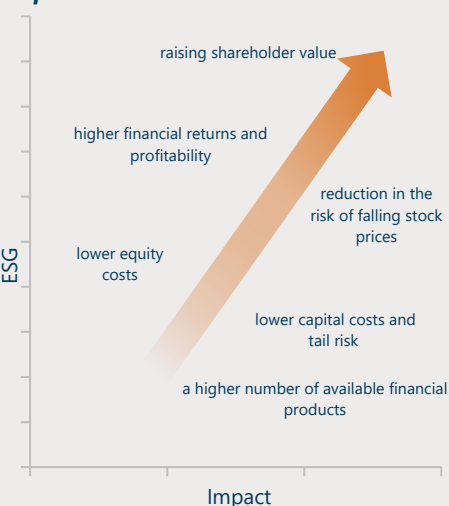


Figure 44. Prospects of ESG implementations



- promoting economic growth, full and productive employment and decent work; development of corporate governance; approved policy of remote work, transparent policy of remuneration and recognition; no gender gap.

Governance rate B (0.58-0.67). The overall score in the area is above average. MHP assesses their achievements in this area at medium and high levels, which corresponds to the rating assessment. Competitors have similar or slightly higher scores (Figure 42). MHP undertakes the following measures in Governance sphere:

- building a peaceful and inclusive society for access to justice at all levels: a compliance committee established; implementation of the program for business ethics and compliance; MHP hotline 7-4-77 introduced; requiring all partners to comply with the IHL's anti-corruption policy; in 2020, no complaints were received from the third parties or government agencies regarding breaches of customer privacy or data;
- strengthening global partnership: investment in communities amounted to UAH 202 million; partnerships with more than 20 international and national organizations, including UNDP, the Eastern European Foundation, ISAR.

Stimulating factors in the process of implementation of the ESC approach (Figure 43):

- High score in the area of Governance. As this direction quantifies the relations with stakeholders, its high value is a stimulating qualitative criterion for the purchase of shares. In Governance, MHP has the highest value among other areas. Meanwhile, competitors are experiencing similar development.
- Improvement at the level close to the ESG average and developing a plan to increase them in the future. MHP is not the ESG leader, but their average performance should not scare away potential shareholders.
- Publication of sustainable development reports since 2015. Investors declare that they are willing to invest even at higher prices compared to similar companies when the company publishes ESG reports and strives to improve in this area [The British Accounting Review];
- Focus on creating a carbon-neutral company. It is very likely that the fit for 55 program will include companies operating in the agricultural sector, so development in this direction is advisable. At the same time, this is in line with Ukraine's goals of reducing CO2 emissions.

Disincentive factors in the process of implementation of the ESC approach (Figure 43):

- Ambiguity of measures of performance, especially in the environmental approach: some indicators are becoming more adjusted, others are not; these goals do not correspond to the implemented quantitative measurements.
- Compared with competitors that have ESG scores, MHP has a lower level of development. If one of the top criteria to choose a company amongst investors was ESG, MHP would have had a low probability to be elected.

Prospects for the development of ESG implementations at MHP, taking into account specific features of the company (Figure 44):

- Development of ESG actions links to a rise of shareholders. ESG measures associate with long-term E value over 95%, S over 90%, G over 90% and Short-term value E over 55%, S over 65%, G over 70% [McKinsey];
- ESG has influenced the assessment and performance of companies, both through their systematic risk profile (lower capital costs and higher estimates) and its specific risk profile (higher profitability and lower tail risk) [Portfolio Management Research];
- Companies with a high ESG rating experience lower equity costs. It is related to lower susceptible to systematic market risks, better management of resources, human capital, and company-specific operational risks [MSCI];
- The increase in eco-innovation from the 25th to the 75th percentile is associated with a 17.62% reduction in the risk of falling stock prices [The British Accounting Review];
- Grants, zero-interest loans, and green bonds are some examples of a number of financial products that are more available for companies with higher ESG rates [Economic and Social Development];
- ESG investing can produce a competitive return. A positive relationship between ESG factors and corporate financial performance improve financial returns [Columbia Business School].

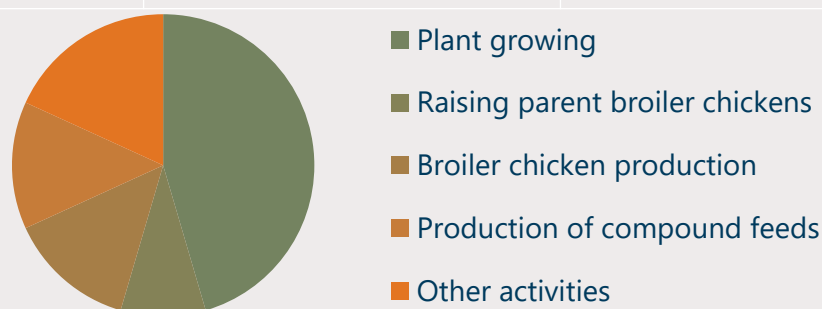
Appendix 1. MHP business segments

Segments			
Poultry and related operations	Grain growing operations	Meat processing & Other agricultural operations	European operating segment

Source: Company data

Appendix 2. MHP company structure

Name	Direction	Region
LLC „RPF Urozhay”	Plant growing	Cherkasy region
PrJSC “Agrofort”	Plant growing	Kyiv region
Branch “Perspektyv” of PrJSC	Plant growing	Ivano-Frankivsk region
LLC “Zakhid-Agro MHP”	Plant growing	Lviv region
«MHP-AGROKRYAZH» LLC	Plant growing	Vinnytsia region
«MHP-AHRO-S» LLC	Plant growing	Kyiv region
PrJSC Zernoproduct MHP	Plant growing	Vinnytsia region
«MHP-UROZHAINA KRAINA» LLC	Plant growing	Sumy region
Ridny Kray branch of PrJSC Zernoproduct MHP	Plant growing	Khmelnysk region
ALLC “Agrokryazh”	Plant growing	Vinnytsia region
ALLC „Starynska Breeding Farm”	Raising parent broiler chickens	Kyiv region
SE Poultry Farm Peremoha Nova	Raising parent broiler chickens	Cherkasy region
PrJSC „Myronivska Pticefabrika”	Broiler chicken production	Cherkasy region
LLC “Vinnytsia Poultry Factory”	Broiler chicken production	Vinnytsia region
PrJSC “Oril-Leader”	Broiler chicken production	Dnipropetrovsk region
PrJSC Myronivsky plant for manufacturing groats and feeds (mfc)	Production of compound feeds	Kyiv region
Katerynopilsky Elevator LLC	Production of compound feeds	Cherkasy region
Branch “ICPF” of LLC “Vinnytsia Poultry Factory”	Production of compound feeds	Vinnytsia region
«MHP-BAFFALO» LLC	Other activities	Volyn region
PrJSC MHP Eco Energy	Other activities	Vinnytsia region
Prjsc “Ukrainian Bacon”	Other activities	Donetsk region
Myronivskiy meat processing plant “Lehko”	Other activities	Kyiv region



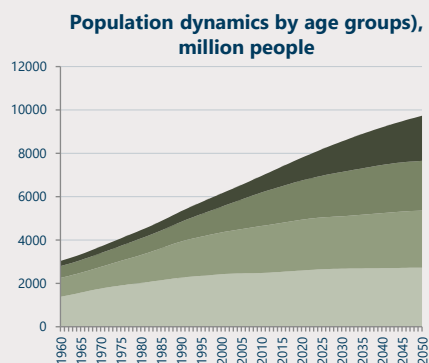
Source: Company data

Appendix 3. Board of Directors

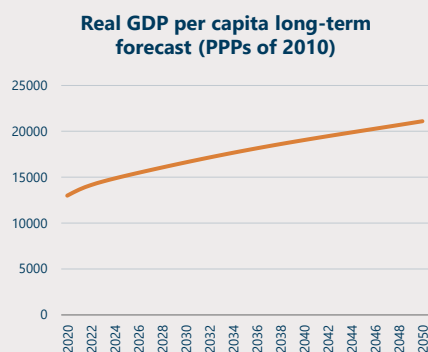
Name	Position	Joined the Board	Nationality	Description
Dr John C Rich	Executive chairman	2006	Australian	BSc and a BVSc from the University of Sydney; Member of the Australian and New Zealand College of Veterinary Scientists and a registered member of the Royal College of Veterinary Surgeons; Agribusiness Industry Specialist for the World Bank Group, Agribusiness Consultant for the European Bank for Reconstruction and Development, senior board advisor to ADM Capital, an Independent non-executive Director of Zalar Morocco and Director of Australian Agricultural Consulting and Nutrition etc.
John Grant	Senior Independent Director	2006	British	BSc in Economics from Queen's University Belfast, MBA from Cranfield School of Management and an Honorary Doctorate of Engineering from University of Bradford; Non-executive director of Augean Plc, a UK-based hazardous waste management business; Chairman of the British Racing Drivers' Club Limited; He has various experience as non-executive director, Senior Independent Director and Finance Director.
Christakis Taoushanis	Independent Non-executive Director	2018	Cypriot	Graduate from the London School of Economics and the London Business School; 30 years of banking experience including 4 years at Continental Illinois National Bank of Chicago, 18 years at HSBC Group in Hong Kong and Cyprus, and 8 years as Chief Executive Officer at Cyprus Development Bank.
Philip J Wilkinson	Independent Non-executive Director	2020	British	Commercial Director of Arla Foods with engagement in dairy and poultry sectors; Chairman of the National Dairy Council and the UK representative to the European Dairy Association in Brussels etc.
Yuriy Kosyuk	Founder and Chief executive officer	2006	Ukrainian	Processing engineer in meat and milk production graduated from the Kiev Food Industry Institute; In 1995 he founded the Business Centre for the Food Industry.
Yuriy Melnik	Chief Operating Officer	2010	Ukrainian	Graduated from Ukraine Academy of Agriculture and is a Doctor of Agriculture; A correspondent member of the National Academy of Sciences of Ukraine since 2002; Previously Agriculture Minister and Deputy Prime Minister of Ukraine and also served as an advisor to the Prime Minister of Ukraine
Viktoria Kapelyushnaya	Chief financial officer	2006	Ukrainian	Meat processing engineer and financial auditor graduated from the Kiev Institute of Food Industry; Deputy Chief Accountant, then Chief Accountant of Business Centre for the Food Industry

Source: Company data

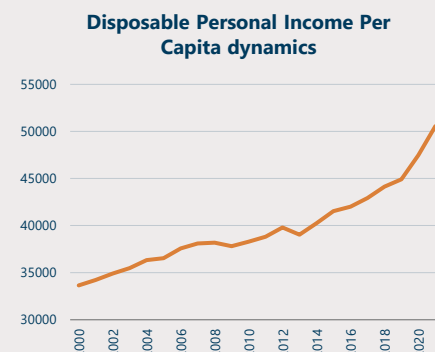
Appendix 4. Macroeconomic consumer demand indicators



Source: OECD

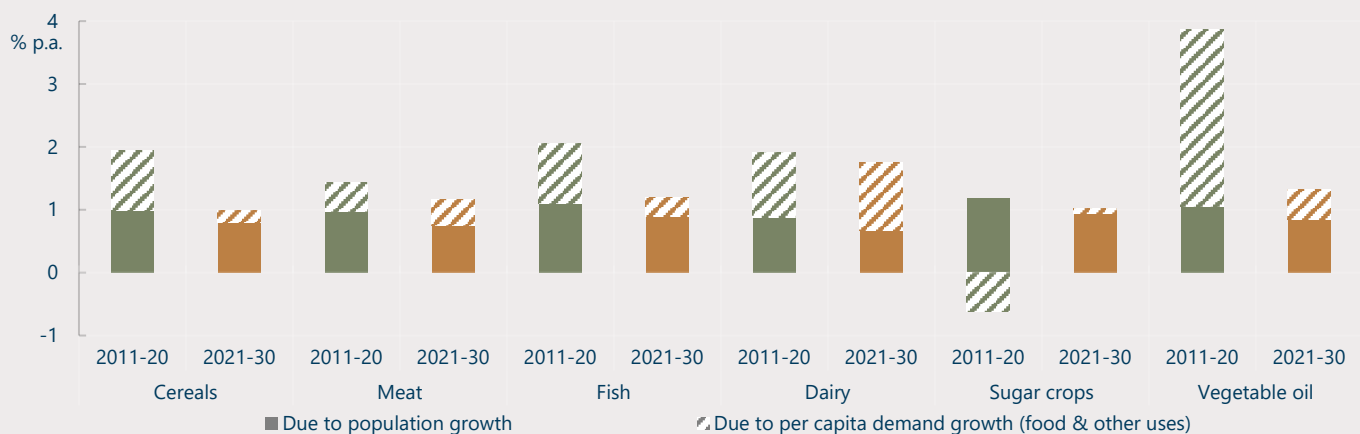


Source: OECD



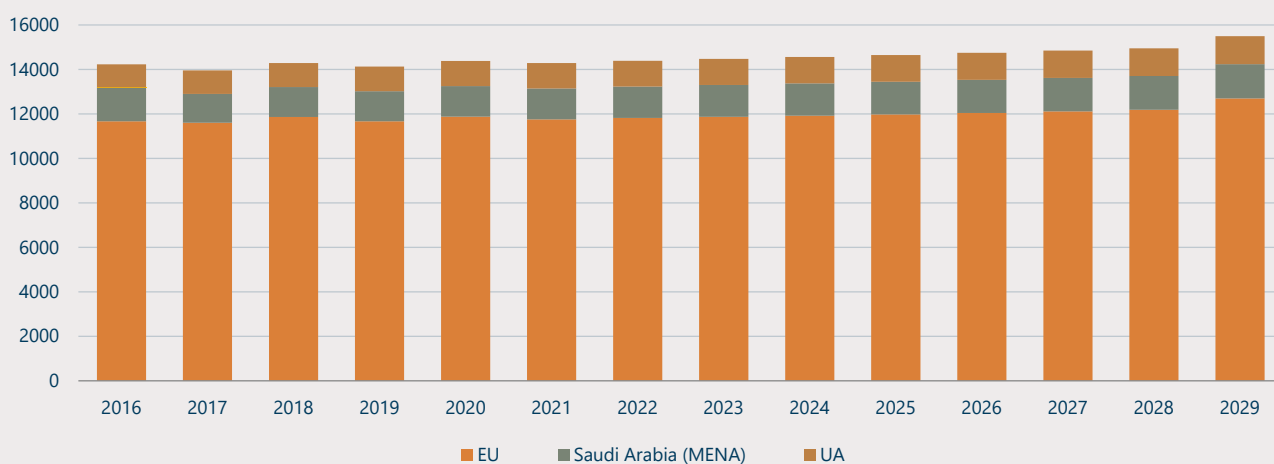
Source: OECD

Appendix 5. Annual growth in demand for key commodity groups



Source: OECD/FAO (2021)

Appendix 6. Chicken meat consumption forecast in UA, Saudi Arabia, EU



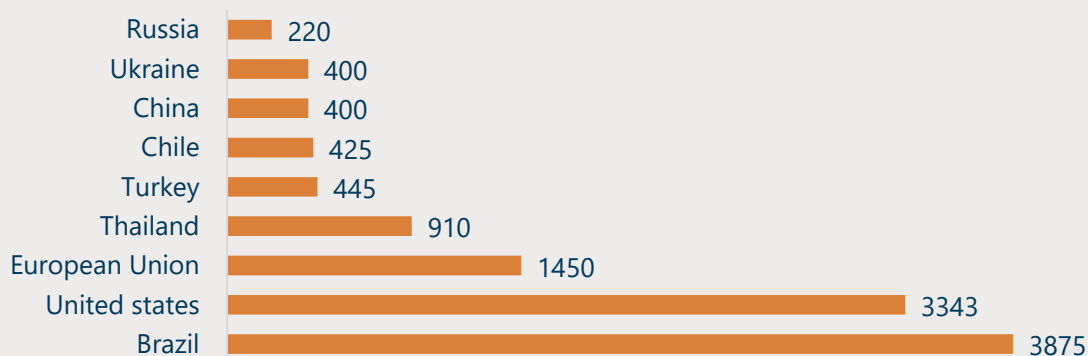
Source: IndexMundi

Appendix 7. World meat and cereal prices

Product	2020 real price, USD/t	Nominal price, USD/t	2030 real price, USD/t (in constant 2020 USD)	Nominal price, USD/t
Meat				
Pork	1,322.16	1,322.16	1,278.96	1,529.54
Poultry	1,406.58	1,406.58	1,391.61	1,664.26
Beef (right axis)	3,858.44	3,858.44	3,605.77	4,312.23
Sheep (right axis)	4,847.91	4,847.91	4,546.37	5,437.10
Cereals				
Maize	199.00	199.00	166.93	199.64
Wheat	245.71	245.71	212.02	253.57

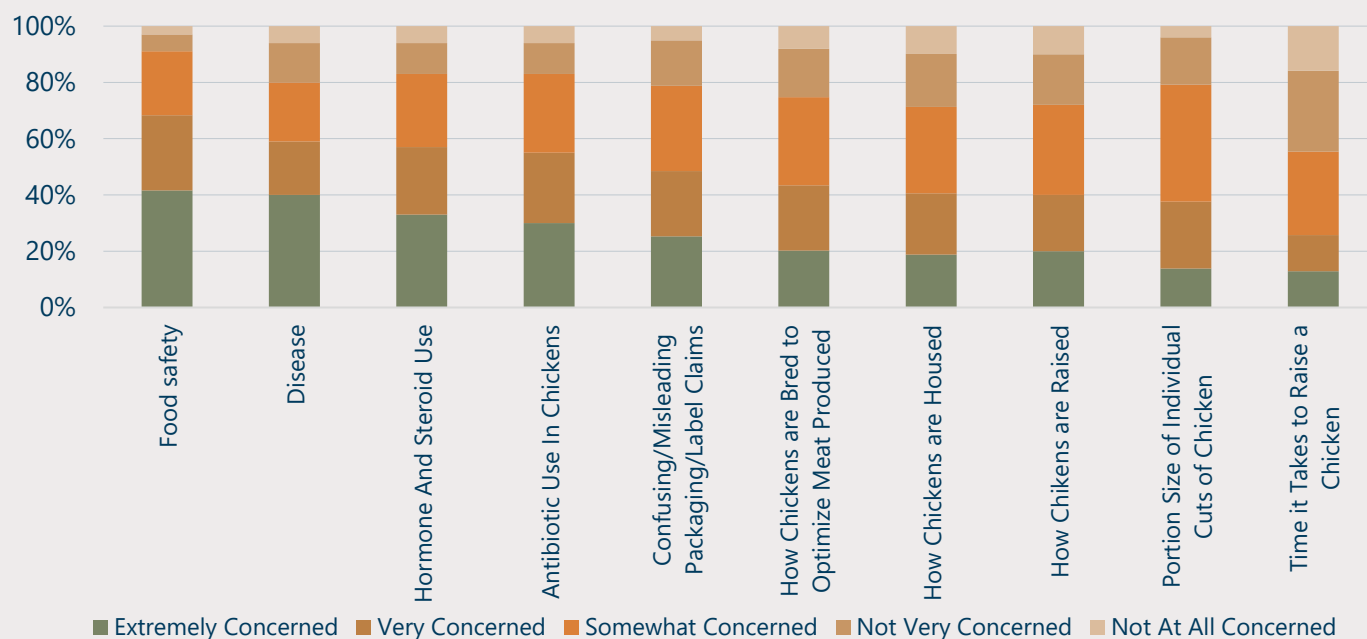
Source: OECD

Appendix 8. Export volume of broiler meat worldwide in 2021, by leading country (in 1,000 metric tons)



Source: Statista

Appendix 9. Chicken Purchase Concerns Base: Purchase Chicken



Source: US Chicken Marketing Summit Presentation

Appendix 10. Outbreaks of HPAI H5 since 1 October 2021 (to 22 Nov 2021) in Europe

Virus	Country	Belgium	Czech Republic	Denmark	Estonia	Finland	France	Germany	Hungary	Ireland	Italy	Netherlands	Norway	Poland	Romania	Sweden
H5	poultry												1			
H5N1	wild birds	3	3	20	2	9	1	12	1	2	3	26		1	1	7
H5N1	poultry		1					11	6	1	69	7	1	7		
H5N8	wild birds				2	1						1				1
H5N8	poultry				1											
H5N2	wild birds															
Total		3	4	20	5	10	1	23	7	3	72	34	2	8	1	8

Source: World Organization for Animal Health

Appendix 11. Cereal use in developed and developing countries, million metric tons

			Food Use	Feed Use	Biofuel Use	Other Use	All
Wheat	Developed	2018-20	134.564	95.771	7.082	28.330	265.748
		2030	138.150	97.241	6.599	29.427	271.416
	Developing	2018-20	384.341	50.262	1.603	46.703	482.909
		2030	438.669	70.459	3.230	51.325	563.682
Maize	Developed	2018-20	18.348	246.218	155.783	46.076	466.424
		2030	19.097	279.201	150.154	48.999	497.451
	Developing	2018-20	127.025	424.807	28.548	119.452	699.831
		2030	151.249	508.006	29.331	119.087	807.674

Source: OECD

Appendix 12. Five Porter's Forces (1/2)

Threat of New Entrants – 2.3

Government policy	To enter the market, new companies must obtain a number of licenses and permits from the state, such as a fuel storage license. On the other side, there is a state program to support farming in Ukraine, which allows you to reimburse expenses, receive subsidies and more.	4
Economies of scale	The presence on the market of such large players as MHP, whose economies of scale allow them to set a lower price, can be a barrier to the emergence of new market participants.	3
Customer and partner loyalty	In 2020, compared to 2019, the NPS index for MHP, which measures partner loyalty, has more than doubled. MHP occupies more than 50% of the chicken market in Ukraine and consumers often focus on the brand when choosing chicken.	2

Appendix 12. Five Porter's Forces (2/2)

Bargaining Power of Buyers/Consumers -3.25

Price sensitivity	Consumers' sensitivity to the prices of everyday consumer goods is quite high. As prices rise, consumers look for alternatives at a lower price	4
Available substitutes	Although consumer loyalty to MHP brands is high, the company's products are not unique and other manufacturers with the same product lines are present in the market.	4
Buyer concentration	Due to the high demand for the company's products among consumers, we assigned 2 points to this item.	2
Retail's power	MHP interacts with the end user through retail, HoReCa, modern trade and branded stores. In order for the product to be presented on store shelves, as well as in hotels, cafes and restaurants, the manufacturer must encourage the distributor by setting a reasonable price for the product.	3

Threat of Substitute Products - 2

Substitute price attractiveness	The price of poultry meat is the lowest among other popular types of meat.	2
Quality of substitute goods	Many consumers prefer poultry meat because of its nutritional features (protein, lower fat content, B-group vitamin) dietary benefits.	2
Easiness of switching to another product	It is easy to switch to other types of meat, but their price is higher, the representation in retail outlets is lower	2

Intensity of Competitive Rivalry – 3.3

Size of competitors	The number of competitors is large, but in the Ukrainian market MHP is the largest company in terms of production and sales. Since more than half of the products are for export, we also considered companies in foreign markets .	5
Market share	MHP has the highest domestic market share	2
Product differentiation	The company is more diversified by geography than by product. More than 50% of the company's revenue comes from the sale of chicken meat. However, revenue is also generated by the segments of grain growing and meat processing. In addition, in the long run the company intends to transform into a culinary company.	3

Bargaining Power of Suppliers – 1.5

Impact on cost	The Group's vertically-integrated business model enables MHP to reduce its dependence on third-party suppliers and its exposure to raw material price volatility.	1
Supplier competition	Most MHP procurements are made through open tenders and building long-term, transparent partnerships. Tender procedures are easy and transparent and take place on online platforms - SAP Ariba and IT-Enterprise	2

Source: Team Estimates

Appendix 13. SWOT-analysis

S	<ol style="list-style-type: none"> Vertically integrated business model reduces dependence on suppliers and raw material prices (MHP satisfies its needs in corn by 100%), allows to control the quality of raw materials and the final product quality and cost. Geographical diversification - 53% of revenue in 2020 was received from exports, MHP exports to 87 countries Export revenue provides MHP with a natural hedge against local currency volatility Extensive distribution network. 11 distribution centers and 450 refrigerated trucks reduce overall transport costs, delivery time and provide quality control to the point of sale. About 40% of sales go through 2,600 franchise stores. Extensive customer base, in which the share of each customer does not exceed 8% of total sales. The implementation of biogas projects allows MHP to effectively dispose of production waste, generate clean green energy, significantly reduce greenhouse gas emissions and produce environmentally friendly organic fertilizers. Customer loyalty, brands with high recognition
W	<ol style="list-style-type: none"> Currency risk. The majority of MHP's borrowings are denominated in US\$. Brand disproportion. The deterioration of the position of one of these brands will have a significant impact on the bottom line of the entire company. Reputational risks associated with discussing the fairness of government support of MHP; Reputational risks associated with the investigation of the Antimonopoly Committee to identify violations of compliance with the legislation on protection of economic competition during the acquisition of LLC "Lubnymyaso" Decreasing profitability ratios during the analyzed historical period.
O	<ol style="list-style-type: none"> Livestock support program - partial reimbursement of the cost of construction or reconstruction of production facilities. For poultry producers Transformation into a culinary company and increasing the Company's presence in value-added food products Achieving the best eco-innovation standards through carbon neutrality by 2030. The new feed mill is expected to further strengthen MHP's status as the largest feed producer in Ukraine. Expanding the geography of sales to new foreign markets New M&A strategies
T	<ol style="list-style-type: none"> Pandemics, new strains of viruses (like Omicron), a new wave of disease and lockdown, which will lead to the suspension of the HoReCa sector Livestock diseases - extinction or extermination of livestock due to outbreaks of livestock diseases High dependence on weather conditions. Prices for gas, fuel, feed. Probability of changes in EU poultry import quotas.

Source: Team Estimates

Appendix 14. Profit and Loss Statement

	2016	2017	2018	2019	2020	2021E	2022E	2023E	2024E	2025E
Revenue	1 135 462	1 287 752	1 555 977	2 055 943	1 911 137	2 219 107	2 442 334	2 472 365	2 494 311	2 513 309
Net change in fair value of biological assets and agricultural produce	38 894	21 001	32 094	(39 515)	30 502	99 247	-	-	-	-
COGS	(828 750)	(912 844)	(1 167 668)	(1 618 596)	(1 544 101)	(1 699 395)	(1 887 563)	(1 910 933)	(1 928 056)	(1 942 918)
Gross profit	345 606	395 909	420 403	397 832	397 538	618 959	554 770	561 433	566 255	570 390
SG&A	(62 273)	(79 239)	(99 674)	(179 156)	(187 801)	(224 067)	(213 414)	(216 932)	(219 173)	(221 312)
VAT refunds and other government grants income	34 056	52 605	1 200	6 997	7 951	-	24 299	-	-	-
Other operating (expense)/income, net	(1 125)	(3 912)	(7 003)	(3 926)	(14 837)	(18 147)	-	-	-	-
EBITDA	420 686	454 981	446 076	421 698	393 224	555 533	522 141	468 095	475 519	482 405
D&A	(105 865)	(93 225)	(134 953)	(206 195)	(192 103)	(178 789)	(156 487)	(123 593)	(128 437)	(133 327)
EBIT	314 821	361 756	311 123	215 503	201 121	376 744	365 655	344 501	347 082	349 078
Non-operating expenses, net	(259 115)	(148 619)	(132 492)	37 709	(337 828)	(85 602)	-	-	-	-
EBT	55 706	213 137	178 631	253 212	(136 707)	291 142	365 655	344 501	347 082	349 078
Income tax benefit/(expense)	13 080	17 118	(50 527)	(32 107)	5 132	(32 668)	-	-	-	-
Loss for the period from discontinued operations	(9 538)	(25 864)	-	(5 822)	(1 482)	-	-	-	-	-
Net profit / (loss)	59 248	204 391	128 104	215 283	(133 057)	258 474	365 655	344 501	347 082	349 078

Source: Company data and Team estimates

Appendix 15. Balance Sheet

	2016	2017	2018	2019	2020	2021E	2022E	2023E	2024E	2025E
Non-current assets										
Property, plant and equipment	1 258 250	1 180 334	1 383 102	1 498 530	2 049 298	1 678 917	1 743 431	1 663 845	1 660 156	1 656 227
Right-of-use assets					229 244	207 001	266 058	266 058	266 058	266 058
Land lease rights	46 252	43 845	45 410	48 809	106 522	96 841	99 378	99 378	99 378	99 378
Non-current biological assets	15 204	14 558	20 405	23 392	29 652	25 584	41 425	41 425	41 425	41 425
Other non-current assets	19 106	15 692	27 462	63 256	94 138	100 131	109 084	351 227	356 070	360 960
	1 338 812	1 254 429	1 476 379	1 633 987	2 508 854	2 108 474	2 259 375	2 421 932	2 423 087	2 424 047
Current assets										
Inventories	279 028	187 332	226 368	273 522	208 389	240 715	279 505	396 324	398 533	402 431
Biological assets	139 800	116 214	141 028	179 290	205 747	175 085	203 299	203 299	203 299	203 299
Agricultural produce	120 574	167 389	183 407	224 789	215 816	269 045	312 400	312 400	312 400	312 400
Taxes recoverable and prepaid	72 031	31 235	37 767	45 146	30 030	54 647	63 453	64 912	65 323	66 021
Trade accounts receivable, net	38 800	50 868	62 305	69 305	124 474	119 187	138 393	149 808	150 885	152 628
Cash and cash equivalents	59 343	154 570	125 554	211 768	340 735	217 579	252 641	439 132	658 908	874 143
Other current assets	27 345	113 820	25 327	32 858	56 450	98 090	113 897	120 437	120 717	121 194
	736 921	821 428	801 756	1 036 678	1 181 641	1 174 348	1 363 588	1 686 311	2 132 116	2 132 116
TOTAL ASSETS	2 075 733	2 075 857	2 278 135	2 670 665	3 690 495	3 282 822	3 622 963	4 108 243	4 555 203	4 556 163
Equity										
Share capital	284 505	284 505	284 505	284 505	284 505	284 505	284 505	284 505	284 505	284 505
Treasury shares	(56 053)	(48 503)	(48 503)	(44 593)	(44 593)	(44 593)	(44 593)	(44 593)	(44 593)	(44 593)
Additional paid-in capital	178 192	175 291	175 291	174 022	174 022	174 022	174 022	174 022	174 022	174 022
Revaluation reserve	567 525	570 649	661 454	642 800	862 435	648 982	648 982	648 982	648 982	648 982
Retained earnings	645 020	719 340	925 978	1 040 327	1 148 113	1 195 143	1 431 152	1 988 636	2 212 124	2 432 765
Translation reserve	(974 467)	(1 024 916)	(1 030 159)	(1 015 591)	(842 188)	(1 020 229)	(954 204)	(954 204)	(954 204)	(954 204)
Non-controlling interests	28 127	16 698	17 141	16 536	13 572	16 373	16 373	16 373	16 373	16 373
	672 849	693 064	985 707	1 098 006	1 595 866	1 254 203	1 556 237	2 113 721	2 337 209	2 557 850
Non-current liabilities										
Bank borrowings	278 131	259 567	138 817	105 783	75 880	64 608	44 856	44 856	44 856	44 856
Bonds issued	728 530	725 361	970 088	1 090 935	1 365 669	1 370 999	1 375 350	1 375 350	1 375 350	1 375 350
Finance lease obligations	9 595	5 581	7 410	9 087	151 789	136 495	164 397	164 397	164 397	164 397
Other non-current liabilities	13 227	11 264	23 730	47 531	111 110	81 605	65 744	60 161	60 161	60 161
	1 029 483	1 001 773	1 140 045	1 253 336	1 704 448	1 653 707	1 650 346	1 644 764	1 644 764	1 644 764
Current liabilities										
Trade accounts payable	47 669	46 508	43 175	66 398	147 334	149 768	166 333	159 101	160 110	161 820
Other current financial liabilities	7 605	5 960	40 575	60 171	70 701	47 925	53 226	0	0	0
Bank borrowings	249 057	236 807	36 917	132 715	24 945	39 788	44 189	44 189	44 189	44 189
Interest payable	23 328	22 731	17 955	19 472	21 789	21 487	23 864	23 864	23 864	23 864
Lease liabilities	14 027	8 044	4 040	4 355	64 074	62 004	68 862	68 862	68 862	68 862
Other current liabilities	71 035	122 736	60 017	132 595	193 332	155 805	173 038	107 484	108 310	109 627
	373 401	381 020	152 383	319 323	390 181	374 912	416 380	349 758	351 180	353 549
TOTAL EQUITY AND LIABILITIES	2 075 733	2 075 857	2 278 135	2 670 665	3 690 495	3 282 822	3 622 963	4 108 243	4 555 203	4 556 163

Source: Company data and Team estimates



Appendix 16. Key financial ratios

	2016	2017	2018	2019	2020	2021E	2022E	2023E	2024E
Profitability Ratios									
Gross Profit Margin	30%	31%	27%	19%	21%	28%	23%	23%	23%
EBIT Margin	28%	28%	20%	10%	11%	17%	15%	14%	14%
EBITDA Margin	37%	35%	29%	21%	21%	25%	21%	19%	19%
Net Income Margin	5%	16%	8%	10%	-7%	12%	15%	14%	14%
Return ratios									
Return on Assets (ROA)	3%	16%	9%	14%	-6%	11%	17%	15%	14%
Return on Invested Capital (ROIC)	12%	16%	17%	8%	7%	13%	11%	9%	9%
Return on Equity (ROE)	9%	24%	12%	16%	-9%	18%	21%	17%	16%
Return on Sales	5%	16%	8%	10%	-7%	12%	15%	14%	14%
Activity ratios									
Inventory turnover	3,6	4,4	4,7	6,7	6,9	6,5	5,6	4,8	4,9
Receivables turnover	25,3	22,8	23,6	21,2	15,7	17,2	17,1	16,6	16,6
Payables turnover	17,6	20,4	21,3	15,1	10,4	10,8	11,7	12,1	12,1
Total assets turnover	0,7	1,0	1,1	1,3	0,9	1,0	1,1	1,1	1,0
Liquidity ratios									
Current ratio	2,2	5,3	3,2	3,1	4,3	4,7	4,3	4,8	5,4
Quick ratio	0,8	1,2	0,9	1,3	1,3	1,5	1,2	1,7	2,3
Cash ratio	0,4	0,8	0,7	0,9	0,8	1,1	0,7	1,3	1,9
Solvency ratios									
Debt-to-equity ratio	1,8	1,2	1,2	1,1	1,4	1,1	0,9	0,8	0,7
Financial leverage ratio	3,0	2,6	2,4	2,4	2,4	2,4	2,1	2,0	1,9
Debt-to-EBITDA ratio	3,0	2,6	3,1	4,0	4,3	3,1	3,3	3,7	3,6
Net-debt-to-EBITDA ratio	2,6	2,3	2,6	3,2	3,7	2,5	2,8	2,7	2,2

Source: Team estimates

Appendix 17. Altman's Z-score calculation

	Coefficient	2015	2016	2017	2018	2019	2020	2021E
NWC/Total assets	1,20	0,18	0,21	0,29	0,27	0,21	0,24	0,26
Retained earnings/Total assets	1,40	0,31	0,35	0,41	0,39	0,31	0,36	0,40
EBIT/Total assets	3,30	0,17	0,15	0,16	0,12	0,06	0,06	0,10
Market value of stock/Book value of liabilities	0,60	0,73	0,70	0,99	0,73	0,51	0,33	0,00
Sales/Total assets	1,00	0,51	0,55	0,57	0,58	0,56	0,58	0,61
Altman's Z-score		2,15	2,21	2,59	2,27	1,75	1,78	1,82

Source: Team estimates

Appendix 18. DuPont analysis

	Average for BS, end of the year for PL					
	2016	2017	2018	2019	2020	2021E
Total assets	2 075 795	2 176 996	2 474 400	3 180 580	3 486 659	3 392 456
Equity	682 957	839 386	1 041 857	1 346 936	1 425 035	1 361 719
Retained profit / (loss)	59 248	204391	128 104	218 354	(139 943)	258 474
Revenue	1 135 462	1 287 752	1 552 206	2 055 943	1 911 137	2 219 107
ROE	8,68%	24,35%	12,30%	16,21%	-9,82%	18,98%
NI/Revenue	0,05	0,16	0,08	0,11	-0,07	0,12
Revenue/Assets	0,55	0,59	0,63	0,65	0,55	0,65
Assets/Equity	3,04	2,59	2,37	2,36	2,45	2,49
Delta ROE		15,67%	-12,05%	3,92%	-26,03%	28,80%
ROE (NI/Revenue)		17,71%	-11,69%	3,53%	-27,39%	25,44%
ROE (Revenue/Assets)		2,15%	0,77%	0,48%	1,70%	3,02%
ROE (Assets/Equity)		-4,19%	-1,13%	-0,09%	-0,34%	0,34%
ROA	2,85%	9,39%	5,18%	6,87%	-4,01%	7,62%
NI/Revenue	0,05	0,16	0,08	0,11	-0,07	0,12
Revenue/Assets	0,55	0,59	0,63	0,65	0,55	0,65
Delta ROA		6,53%	-4,21%	1,69%	-10,88%	11,63%
ROA (NI/Revenue)		5,83%	-4,51%	1,49%	-11,60%	10,40%
ROA (Revenue/Assets)		0,71%	0,30%	0,20%	0,72%	1,23%

Source: Team estimates

Appendix 19. Piotroski F-Score calculation

	2015	2016	2017	2018	2019	2020	2021E
F ROA	-0.12	0.03	0.09	0.05	0.07	-0.04	0.07
F ΔROA		0.15	0.07	-0.04	0.02	-0.11	0.11
F CFO		346.13	213.58	260.90	501.77	70.69	349.60
F ACCRUALS		59 248	204 391	128 104	218 354	-139 943	258 474
F ΔMARGIN	0.32	0.30	0.31	0.27	0.19	0.21	0.28
F ΔTURN		0.55	0.59	0.63	0.65	0.55	0.64
F ΔLEVERAGE	0.49	0.48	0.49	0.45	0.43	0.48	0.44
F ΔLIQUIDITY	1.97	2.16	5.26	3.25	3.03	3.13	3.27
EQ OFFER		N	N	N	N	N	N
Profitability signals							
ROA > 0		1	1	1	1	0	1
ROA(t) > ROA(t-1)		1	1	0	1	0	1
CFO > 0		1	1	1	1	1	1
OCF > Net income		1	1	1	1	1	1
Operating efficiency signals							
Gross margin(t) > Gross margin(t-1)		0	1	0	0	1	1
Total assets turnover(t) > Total assets turnover(t-1)		1	1	1	1	0	1
Financial leverage/liquidity signals							
Ratio of long term debt(t) < Ratio of long term debt(t-1)		1	0	1	1	0	1
Current ratio(t) > Current ratio(t-1)		1	1	0	0	1	1
No new shares were issued in the last year		1	1	1	1	1	1
Piotroski F-Score		8	8	6	7	5	9

Source: Team estimates

Appendix 20. Peers comparison

	MC	EV	Sales LTM	EBITDA LTM	Gross Margin	EBITDA Margin	Net Margin	EV/Sales	EV/EBITDA
MHP SE	719	2 136	2 219	555	28%	25%	12%	0,93	3,71
Kernel	1 141	2 201	6 050	911	16%	15%	9%	0,36	2,40
Cairo Poultry Company SAE	89	118	302	37	10%	12%	2%	0,40	4,40
GFPT PCL	510	601	420	52	10%	12%	4%	1,28	10,75
Gruppa Cherkizovo PAO	1 634	2 611	149 067	24 263	23%	16%	12%	1,28	7,88
Shandong Xiantan Co Ltd	8 055	5 382	492	32	3%	1%	5%	0,99	10,30
Sanderson farms	4 223	3 812	4 780	808	19%	17%	10%	0,79	4,67
Alteo Agri LTD	233	277	226	85	38%	38%	13%	1,01	3,20
Peer mean	2 269	2 143	23 048	3 741	17%	16%	8%	0,87	6,23
Peer median	1 141	2 201	492	85	16%	15%	9%	0,99	4,67

Source: Refinitiv and Team estimates

Appendix 21. Macroeconomic drivers

	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F
Real GDP	3.5%	3.2%	-4.0%	2.1%	2.7%	3.5%	3.4%	3.6%	3.9%
Nominal Wage Growth	24.8%	18.5%	10.4%	20.0%	12.0%	10.0%	9.0%	9.0%	9.0%
Nominal Wage Growth adj.	22.0%	25.5%	5.2%	18.6%	6.7%	4.8%	3.8%	3.8%	3.8%
Inflation									
CPI Ukraine, avg.	11.0%	7.9%	2.7%	9.4%	7.8%	5.7%	4.8%	4.8%	4.8%
PPI Ukraine, avg.	17.7%	4.1%	-1.7%	39.3%	18.5%	6.0%	5.8%	5.8%	5.8%
LTI Ukraine	-	-	-	-	5.7%	5.6%	5.6%	5.7%	5.7%
CPI Ukraine, adj.	8.4%	14.3%	-2.1%	8.1%	2.7%	0.7%	-0.2%	-0.2%	-0.2%
PPI Ukraine, adj.	15.0%	10.3%	-6.3%	37.7%	12.9%	1.0%	0.8%	0.8%	0.8%
LTI Ukraine	-	-	-	-	2.4%	2.3%	2.3%	2.2%	2.0%
Exchange rates									
UAH/USD, avg.	27.22	25.69	26.96	27.28	28.64	30.08	31.58	33.16	34.82
UAH/EUR, avg.	32.13	28.76	30.80	32.31	33.61	34.95	36.35	37.80	39.31
USD/EUR, avg.	1.18	1.12	1.14	1.18	1.24	1.24	1.25	1.25	1.25
Tax rates									
VAT	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Income tax	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Social contribution	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22

Source: Economist Intelligence (EIU) and Team estimates

Appendix 22. Beta calculation

Company name	Country	Lev. beta	R sq.	D/E Period av.	D/E LTM	Correction coefficient	Tax rate	Uniev beta
Kernel Holding S.A.	Ukraine	0.94	0.35	1.23	1.09	0.87	0.18	0.47
Cairo Poultry Company S.A.E.	Egypt	0.94	0.13	0.40	0.43	0.93	0.30	0.73
GFPT Public Company Limited	Thailand	0.70	0.10	0.23	0.26	0.93	0.20	0.59
Public Joint Stock Company "Cherkizovo Group"	Russia	0.78	0.11	0.88	0.75	0.95	0.20	0.45
Shandong Xiantan Co., Ltd.	China	0.58	0.04	0.04	0.05	0.64	0.25	0.56
Sanderson Farms, Inc.	United States	0.64	0.07	0.03	0.02	0.97	0.27	0.62
Alteo Limited	Mauritius	0.48	0.03	0.24	0.17	0.98	0.15	0.40
Median								0.56

Source: Refinitiv and Team estimates

Appendix 23. Risk Matrix description (1/2)

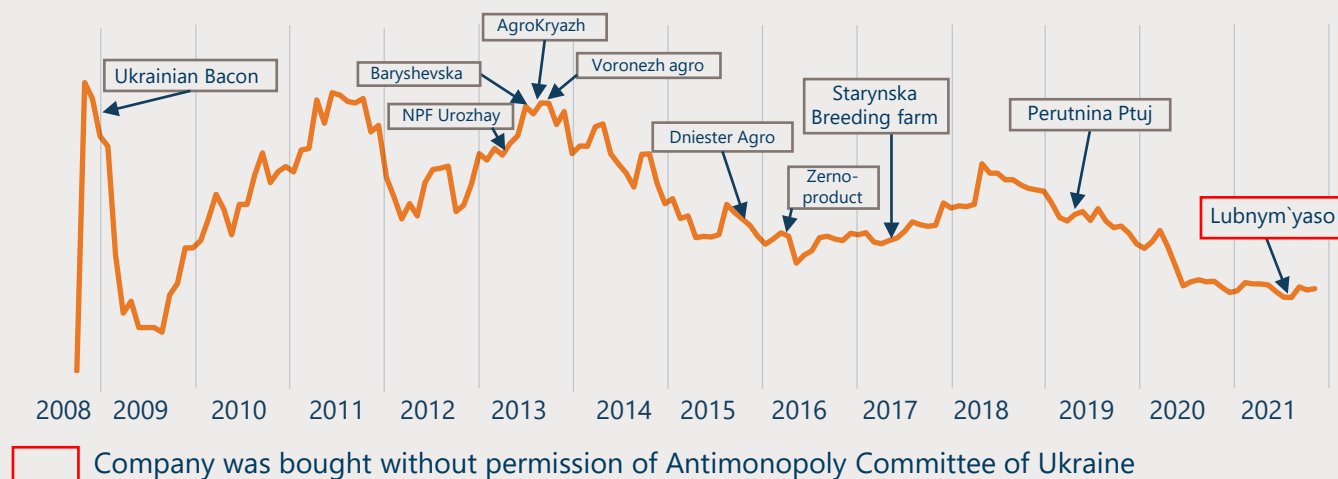
Risk		Risk assessment		Risk description	
Risk ID	Risk name	Probability	Impact	Probability	Impact
Business risks					
B1	Transformation strategy is not winning	Moderate	Moderate	Compound annual growth rate of frozen food market is not significant for two main export markets of MHP 3,78% and 3,95% for Europe and MENA accordingly.	Loss of costs required for R&D of new products and costs of new shops launch.
B2	Inefficient / not properly managed M&As	Low	Moderate	Historically MHP deals were successful.	The biggest acquisition of MHP was equal to 273 mln EUR without additional costs of integration.
Market risks					
M1	Covid-19 impact on poultry prices decreasing	Moderate	Low-Moderate	There are lockdowns in the Europe due to the spread of Coronavirus new strain - Omicron. Nevertheless, the rate of the vaccinated population in Europe is high, so HORECA wouldn't be stopped completely.	Decline in demand for poultry that lead to MHP export revenue decreasing.
M2	Commodity price volatility	Moderate	Low	Historically significant growth of prices.	The Biogas complex at Vinnytsia generates enough energy to provide electricity for about 40% of the MHP Agro-industrial cluster.
M3	Fluctuation of foreign exchange rate	Moderate-High	Moderate	According to Ukrainian government exchange rate of UAH/USD will be increased for almost 5%.	Possible decreasing of MHP gross margin to 528 353 USD ths. in 2020 (4,8% less than estimated value).
M4	Regulatory risks	High	Low-Moderate	Majority of new regulations that perform risk for MHP come into effect in 2022.	Rise of income tax rate for MHP (equal to 18%) can lead to 403 244 USD ths. of income tax paid in 2022

Appendix 23. Risk Matrix description (2/2)

Natural risks					
N1	Outbreaks of livestock diseases	Moderate	Moderate	As for December 2021 in many European countries such as Poland, Germany, Hungary and others outbreaks of Avian Influenza were registered.	Historically cessation of exports from Ukraine lead to export revenue maximum decreased by 18% year-on-year.
N2	Weather conditions	Moderate	Moderate-High	The rate of increase in air temperature in Ukraine is ahead of global trends, as a result Ukraine is likely to intensify and spread droughts, increasing the area of land prone to desertification.	Possible loss of up to 10% of revenue equal to 230 536 USD ths in 2022 generated by the grain growing segment. As well as additional costs for fodder purchase as the company has vertically integrated model
Political risk					
P1	Military involvement of Ukraine	?	High	Information about probability of hostilities on the territory of Ukraine significantly varies in different sources therefore we can't identify risk probability	Possible stop of MHP facilities located near the country borders as well as reputational losses equal to stock prices decreasing during 2014-2015.

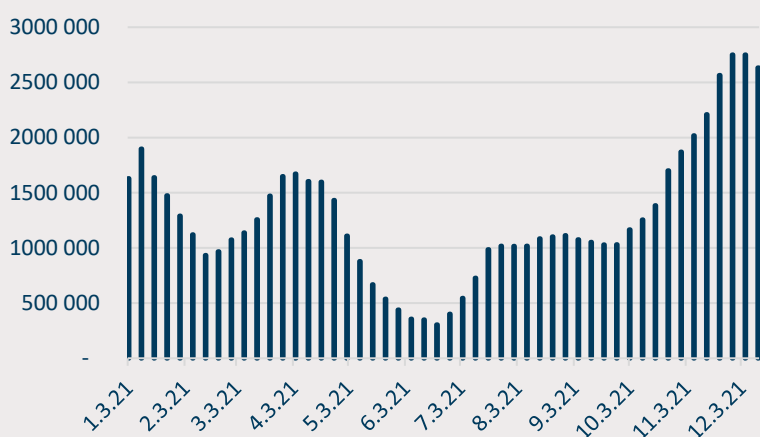
Source: Team estimates

Appendix 24. MHP M&A history



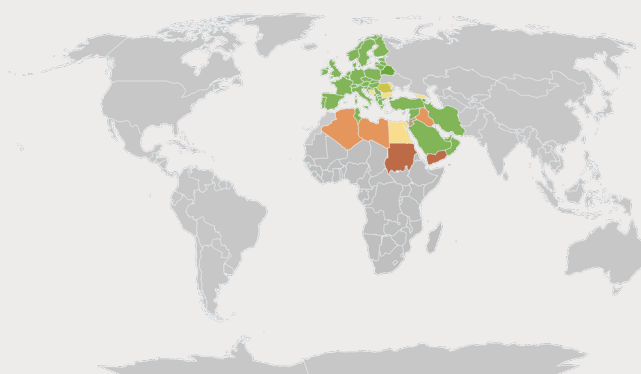
Source: Company data

Appendix 25. New Cases of Covid-19 in Europe



Source: Statista

Appendix 26. Level of vaccination in main regions of MHP export



Source: World Health Organization

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