

International

The Economic Impact of Bavarian Business and Industry in the USA

Study

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Note

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Foreword

Bavaria's Economy Creates Added Value and Employment in the USA

Under the presidency of Donald Trump, the economic course adopted by the US administration has been a protectionist one. Legitimate as his interest in bolstering the US economy may be – protectionism is the wrong answer.

Globalisation and division of labour on an international scale offer advantages to all involved. The USA, too, has been profiting from international trade, and from cross-border investment. This is demonstrated by this Study commissioned by *vbw – Vereinigung der Bayerischen Wirtschaft e. V.* (Bavarian Industry Association) with *TwinEconomics GmbH*. Thanks to the availability of additional and more detailed data sources, it has been possible to achieve improvements in quality compared to the previous study from the year 2018.

The core result has been confirmed in an impressive manner: the business and industry of the State of Bavaria are anything but insignificant partners to the USA. It is in both direct and indirect ways that Bavarian business enterprises in the USA have been contributing to a high level of added value and employment in the United States.

It is therefore in the shared interests of both sides that transatlantic economic relations are stabilised and strengthened.

Bertram Brossardt
13 October 2020

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1 Executive Summary

Bavarian enterprises are important providers of stimulus to the US economy

With a gross domestic product of 17.32 billion euros in the year 2017 (BEA, 2019), the economy of the United States is still the largest national economy in the world. For one thing, this important market has a beneficial effect on the Bavarian economy, for which it is not only a major sales or procurement market but also a significant location for economic activities. At the same time, the USA reaps benefits from the Bavarian economy – via direct investment flows into the USA on the one hand, and as an important export and sales market on the other.

This revised version of the study from the year 2018, using an improved data basis, gives an update of these positive effects of Bavarian business and industry on the USA, which is based on the key economic parameters of gross output value, gross value added, and employment. The term ‘output value’ covers all goods and services generated in a country in the course of the production process. If one deducts from that figure the value of the goods and services used up, processed or transformed in the production process (i.e. input-related expenditure), this will result in the gross value added. Put in other words, this means that ‘gross value added’ represents the amount available for compensating for the productive factors of labour (wages and salaries) as well as capital (profit, cost of interest on debt, and depreciation).

The most significant results, in relation to direct investment by Bavarian business enterprises in the USA, are as follows:

- The Bavarian economy’s direct contribution to the output value of the USA, according to the most recent data available (year 2017), amounts to 71 billion euros; this is equivalent to a share of 0.23 percent. On account of its input purchases in the form of raw materials and supplies, Bavarian business has enabled US component suppliers and their subcontractors indirectly to increase their own output (indirect effects). Furthermore, it was possible for the incomes of the employees of US-based Bavarian enterprises and their suppliers to be spent on consumption and investment, thus contributing to an increase in ultimate demand (induced effects). Accordingly, the total contribution of Bavarian business to the output value of the USA is close on 174 billion euros, or 0.57 percent, respectively.
- The Bavarian economy’s direct contribution to the USA’s gross value added amounts to 26 billion euros, or 0.15 percent. Indirect and induced effects add around 59 billion euros. The total financial contribution by Bavarian business to the USA’s gross value added, then, is 85 billion euros, or 0.49 percent, respectively. This is about equivalent to the value added by the entire State of New Mexico.

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- With 166,000 persons employed, the Bavarian economy's contribution to employment in the USA amounts to a rate of 0.11 percent. The number of persons employed by Bavarian business enterprises is complemented by another 410,200 jobs created by direct and induced effects. The entire share of employment on the part of Bavarian business in the USA is 0.38 percent, or 576,200 persons, respectively. This is about equivalent to the number of all employees in the State of Maine.

The above figures are evidence of this:

- Each euro generated in sales revenue by Bavarian business and industry in the USA will there generate an additional 1.45 euros in revenue.
- Bavarian business enterprises create prosperity in the USA: each euro added in value by Bavarian business and industry results in an additional 2.28 euros generated in other US business enterprises.
- Bavarian business enterprises are, first and foremost, job-creation engines in the USA: each job created in a Bavarian company in the USA will secure an additional 2.47 jobs at the national level since it is particularly in employment-intensive sectors that purchases of goods and services will stimulate the economy.

2 Introduction

The significance of Bavarian business is important for political debate

From the beginning, it has been the policy of the Trump administration to induce domestic and foreign business enterprises to effect investments in the USA. For this purpose, the US government provided an important economic stimulus by enacting a large-scale tax reform which has reduced corporate taxes and accorded preferential tax treatment to investments. According to information from the Bureau of Economic Analysis (BEA), private investments in fixed assets, in real terms, rose by 3.2 percent in 2017 compared to the previous year, and by 8 percent in the year 2018. Bavarian US-based enterprises, too, have been affected by that policy.

Against this background, it is important for Bavarian business to be able to use arguments based on facts in discussions with American policy-makers. For that purpose, information about the economic footprint of Bavarian business in the USA is of high value. After all, Bavarian business enterprises create significant economic value at their US locations. This includes employment and the related income, tax revenues, as well as indirect value-added growth generated through purchases of goods and services and investments. In this way, they contribute to increasing prosperity in the USA.

Knowledge relating to the extent of these direct, indirect, and induced effects on the value chain and employment can add decisively to the arguments used in negotiations with the US government. Such knowledge about the economic impact of US-based Bavarian business enterprises can be crucial when it comes to informing the general public or convincing the US administration of the importance of the economic activities of Bavarian companies in the USA, and of the positive effects they have. Furthermore, by using information about its purchases of goods and services, Bavarian business will be able to document the extent to which it is integrated in the US value-added chains and in the American corporate landscape.

The data required for this purpose – expressed in terms of direct, indirect, and induced contributions to production output, added value, and employment – cannot, or only insufficiently, be derived from official statistics or management reports by the individual companies. Rather, this will require an impact analysis within which Bavarian US-based enterprises will be modelled in the form of a satellite account, Bavarian Business – USA. The results of the update of the analysis first conducted in the year 2018 will be presented in the following chapters.

3 Methodological Background

Updating the satellite account based on recent and more detailed data

This study constitutes an update to the *vbw* study, “The economic impact of Bavarian business and industry in the USA” from the year 2018. Quantification of the overall economic significance of Bavarian business in the USA is expressed in contributions to gross output value, gross value added, and employment. For this purpose, a so-called *Satellite Account, Bavarian Business – USA* was developed, in which the economic effects of direct investment in the USA from Bavaria are reflected (cf. Chapter 4). Effects of this type cannot be derived from official statistics.

The basis for the analysis is provided by the updated figures of *Deutsche Bundesbank* [i.e. the German central bank] in relation to direct investment by the Bavarian business enterprises in the USA. These figures define the framework for the direct effects of Bavarian business in the USA.

Thanks to the availability of additional and detailed data sources, it was possible to improve the quality of study results over that of the previous study. For the present study, a markedly more detailed data basis was available for the calculation of the value added by Bavarian business enterprises in the USA, as well as of the effects of the upstream value-added chain (indirect effects) and the effects on consumption (induced effects). This applies particularly to the AMNE database (Activity of Multinational Enterprises) of the OECD as published in the year 2019. AMNE is a multi-regional input-output table which not only reflects for each country the input-output linkage of each individual branch of an economy but also differentiates between domestic and foreign-controlled enterprises. Based on these data, it is in particular the indirect effects of Bavarian business that can be analysed more thoroughly, using the domestic input-output linkages of Bavarian US-based enterprises. In addition, the OECD’s AMNE database has been built on updated parameters, and is thus providing the current input-output figures.

A further gain in quality for the present analysis is provided by taking the most recent data of the Bureau of Economic Analysis (BEA) of the US Trade Department. The BEA offers data relating to added value and employment in respect of US companies, with differentiation according to the nationality of the controlling company and the branch of industry. On the basis of those data, it was possible to specify more precisely the value added and employment generated and wages paid on account of production by the Bavarian business enterprises. In particular, it is payroll data that enabled a much more precise collection and calculation of the induced effects. All data were reviewed and validated again by means of a survey among German business enterprises in the USA conducted in May 2020.

As a consequence of those adjustments and the improved availability of data, there has been change in some results, which to that extent are no longer fully comparable with the results of the previous study. Whilst there is no intention to anticipate the results of the

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calculation, this includes, by way of example, the fact that German and Bavarian business enterprises in the USA are producing in a more input-intensive way than had become obvious based on industry data in the previous study. On account of their own lower real net output ratio, the direct value-added effect thus turns out to be markedly smaller. At the same time, however, the required input value per unit is markedly higher. As intermediate goods and services are largely purchased domestically in the USA, the indirect value-added effect, accordingly, turns out to be substantially higher compared to the previous study.

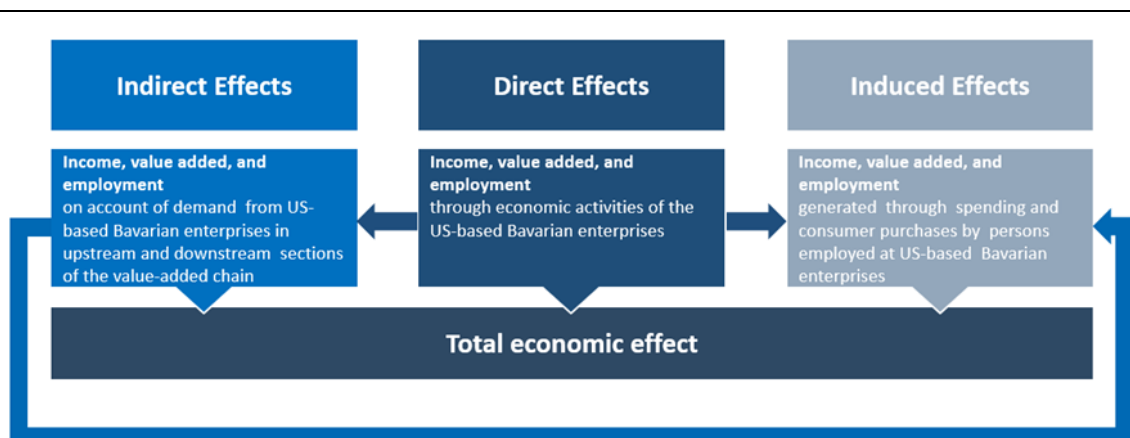
4 Impact of Bavarian Business in the USA

Effects markedly exceed the direct contribution of investment

It is in several respects that the US economy has been profiting from Bavarian business and industry: for one thing, Bavarian direct investment in the USA has been directly generating added value and employment. By virtue of input-output interlinkage in upstream and downstream areas as well as of consumption by the employees, however, the overall effect on the US economy is many times greater.

This study determines the direct, indirect, and induced effects of Bavarian business and industry in the USA using an impact analysis (cf. Figure 1). In the process, economic significance is analysed using three macroeconomic parameters: gross output value, gross value added, and employment.

Figure 1
Interrelations between direct, indirect, and induced economic effects



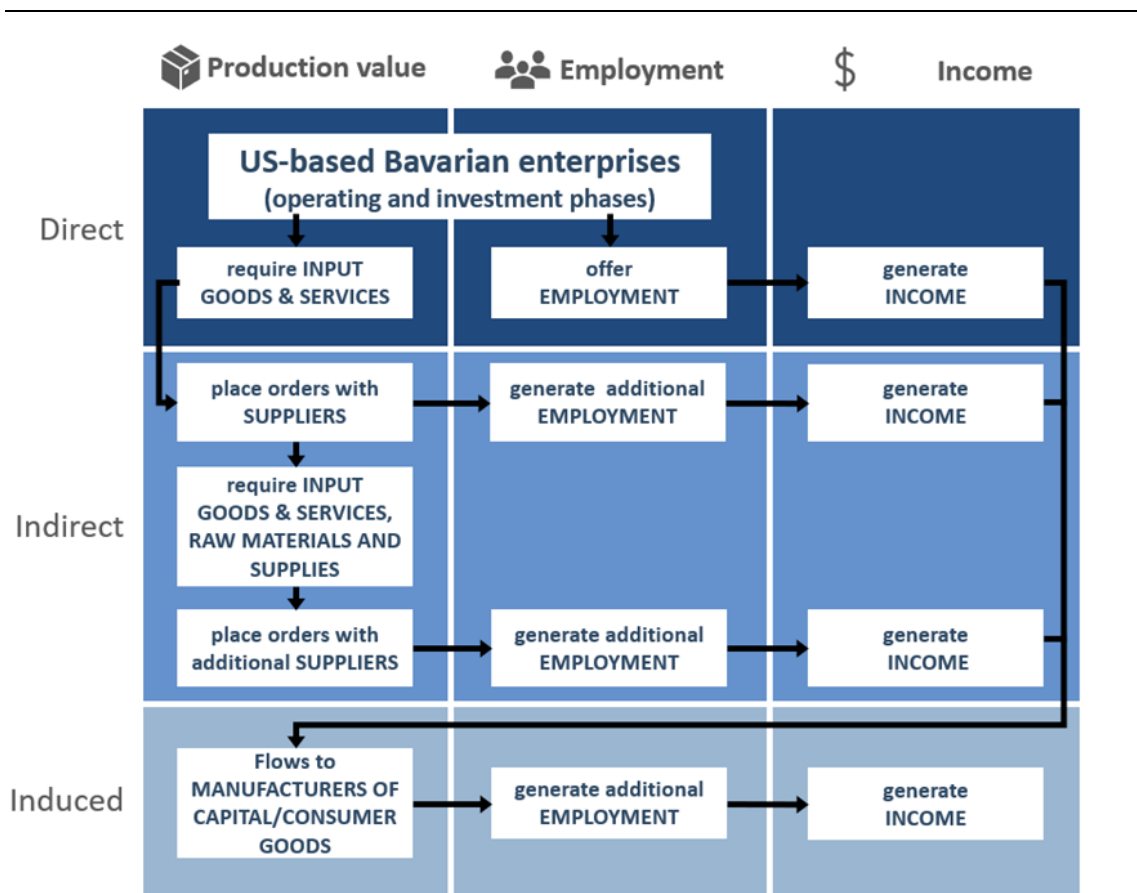
Source: TwinEconomics (2020)

- *Direct effects:* These are defined as the added value and the employment generated by Bavarian business and industry in the USA at their own production facilities in the course of day-to-day operations. Direct effects also include the effects triggered immediately by direct investment during the erection or expansion of a site (for instance, in building construction).
- *Indirect effects:* This term refers to the added value and the employment triggered by Bavarian US-based enterprises in the USA through purchases of goods and services from, or investment in, American companies.
- *Induced effects:* On account of direct investment by Bavarian business enterprises in the USA, American employment figures rise due to direct and indirect effects. The rise in total

income as a consequence of higher employment figures will in turn result in higher demand. The economic effect of this increase in demand is referred to as an induced effect.

The overall effect is calculated from the sum total of direct, indirect, and induced effects. Figure 2 below gives an overview of the mechanisms of action as described in our impact analyses.

Figure 2
The economic effects triggered by Bavarian business and industry in the USA



Source: TwinEconomics (2020)

4.1 Positive effects of direct investment

The term ‘direct investment’ (foreign direct investment; in short, FDI) refers to investments made abroad by a domestic investor. ‘Direct investment’ refers to cross-border equity participation with a share of at least 10 percent in the voting capital. It is assumed that from that threshold upwards, an investor will enter into a longer-term commitment to a company. This represents an important delimiting criterion from portfolio investment because in direct investment, the exertion of influence and control over business operations abroad and, hence, over the generation of revenue, is of great importance. Thus, it is not only capital but also knowledge and technology that will be transferred abroad. Furthermore, in direct investments, a distinction is made between “active direct investment” and “passive direct investment”. In an active direct investment, a permanent resident will invest in a foreign company, whilst in passive direct investment, foreigners will be holding stakes in domestic companies.

The calculations conducted in the course of this study are based on the active direct investments made in the USA by Bavarian business enterprises. This means that Bavarian investors invest in American companies – be they third-party companies or any of their own subsidiaries. It is only the effects resulting from such investment that will be calculated.

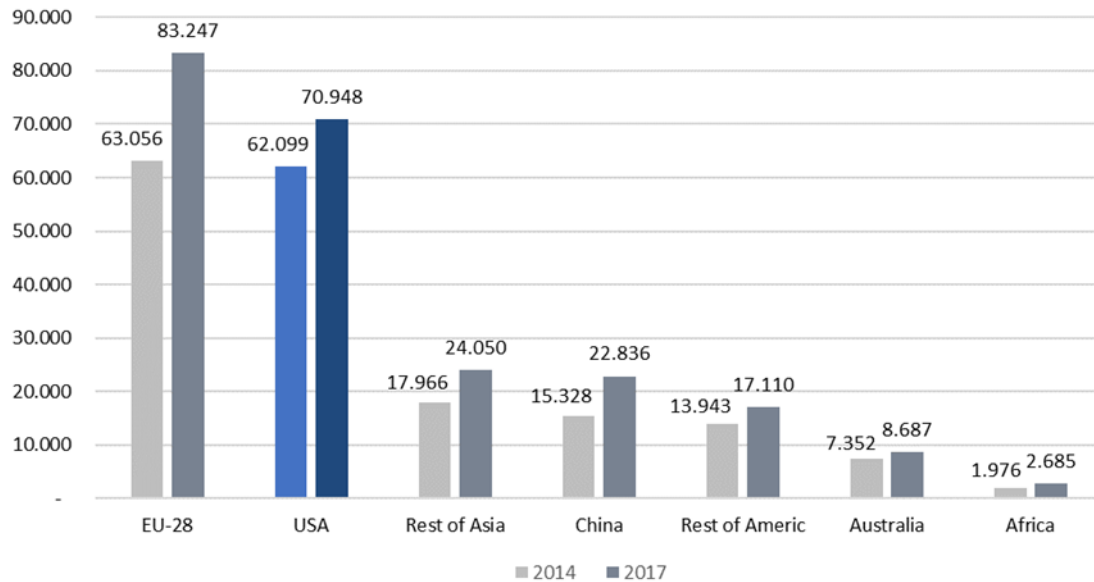
FDIs have even further-reaching positive effects that are not being quantified in the present study. In various studies, the following aspects are mentioned *inter alia* (cf. for instance, OECD, 2002):

- direct investment is important for international economic integration;
- direct investment brings about direct, stable, and permanent interconnections between national economies;
- direct investment promotes the transfer of technology and know-how among countries;
- direct investment allows the economy of a country of destination to sell larger volumes of its products in international markets;
- direct investment offers an additional source of funding for investments;
- direct investment represents an important instrument for corporate development.

4.2 Direct investment by Bavarian business enterprises in the USA

It is not only as a purchaser and supplier of products and services that the USA is an important partner for Bavarian business and industry. As before, there are close connections within the capital market, too. For instance, the USA is by far the country with the largest foreign direct investments made by Bavarian business enterprises (cf. Figure 3). With a total of 71 billion euros, 29 percent of Bavaria’s foreign direct investments have been made in US undertakings. Compared to 2014, the total has risen by 8.9 billion euros; however, the share of all Bavarian FDIs has decreased slightly; in 2014, it was still approx. 31.5 percent. The reason is the noticeable increase in Bavarian direct investment in the EU from 63 to the current level of 83 billion euros. Thus, the EU-28 has become by far the most significant destination of direct investment for the State of Bavaria. But it is also direct investment in China that has grown by 7.5 billion euros between 2014 and 2017.

Figure 3
Bavarian direct investment, 2017, worldwide, compared to 2014



in million euros

Source: Deutsche Bundesbank (2020); TwinEconomics (2020)

4.3 Gross output value generated by Bavarian business and industry in the USA

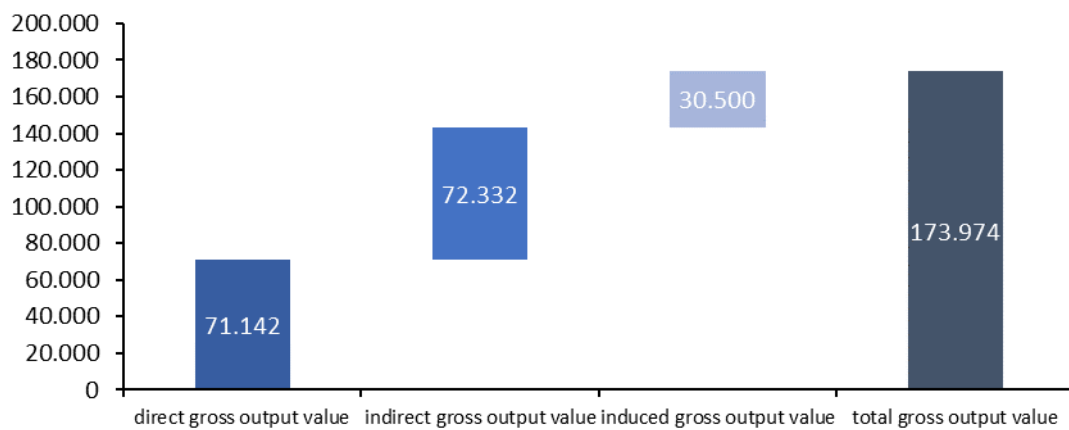
Gross output value is one of the most important parameters in macroeconomic accounting, and equivalent to the total value of all goods and services generated in the production process. Bavarian direct investment leads to a commensurate direct rise in US output value.

- The direct gross output value generated by Bavarian business enterprises in the USA includes the direct production result attributable to the Bavarian business enterprises operating in the USA. According to the most recent data available, from the year 2017, it amounted to 71.1 billion euros (cf. Figure 4). This is equivalent to a 0.23-percent share of the US output value.
- The indirect effects on gross output value include demand by Bavarian US-based companies for intermediate goods and services purchased in the United States. They include all activities along the upstream value-added chain, i.e. further purchases by suppliers to Bavarian US-based companies in the United States. In the year 2017, the volume of indirect gross production values of Bavarian business and industry in the USA totalled 72.3 billion euros.
- The induced effects on gross output value amounted to 30.5 billion euros in the year 2017. These induced effects are caused by increased consumption and the investments

triggered by higher wage incomes. The calculations take account of wage incomes from both direct and indirect employment at the upstream providers of goods and services for Bavarian US-based companies.

The overall gross output value of Bavarian business in the USA, i.e. the sum total of direct, indirect and induced effects, thus amounted to close on 174 billion euros in the year 2017. This is equivalent to a share of 0.57 percent of US production value. Every euro generated in sales by a US-based Bavarian business enterprise generates 2.45 times that amount in sales; i.e. an additional 1.45 euros.

Figure 4
Gross output value generated by Bavarian business in the USA, 2017, in million EUR



Source: BEA (2020); OECD AMNE Database (2020); own calculations by TwinEconomics (2020)

4.4 Gross value added by Bavarian business and industry in the USA

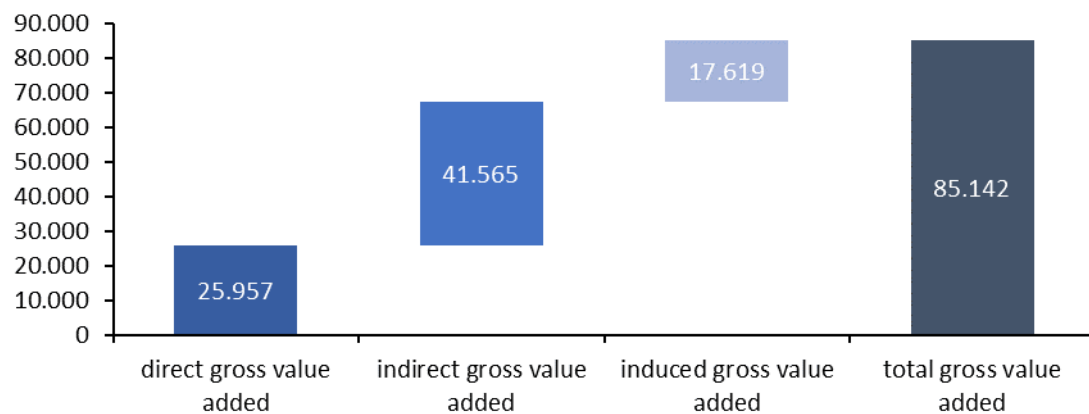
From a macroeconomic perspective, the mere production value is second in importance to the gross added value generated therefrom at the national level. That gross added value represents the aggregate value of the goods and services created in the production process (gross output value, cf. Chapter 4.3) minus the value of goods and services used, processed or transformed in the production process. In other words, the term ‘gross value added’ refers to the amount available for compensating for the productive factors of labour (wages and salaries) as well as capital (profit and depreciation).

- The direct gross value added by US-based Bavarian business enterprises in the USA was 26 billion euros in the year 2017. The share of direct gross value added to the aggregate value added in the USA was hence 0.15 percent.
- The indirect effect amounts to 41.6 billion euros.
- Add to this an induced effect amounting to 17.6 billion euros.

In the year 2017, the total effect of gross value added by Bavarian business and industry in the USA therefore amounted to 85.1 billion euros (Figure 5). The entire share of Bavarian business in US gross value added was hence 0.49 percent.

The value-added multiplier is 3.28. This means that every euro of direct value added which is generated by Bavarian business enterprises in the USA will, through multiplier effects, trigger another 2.28 Euro in additional value added to the American economy. The reason for this is that the input intensity harnessed by Bavarian business enterprises in the USA is remarkably high and, as a consequence, every euro in production value comprises a high value-added quota from subcontracted US suppliers.

Figure 5
Gross value added by Bavarian business in the USA, 2017, in million euros



Source: BEA (2020); OECD AMNE Database (2020); own calculations by TwinEconomics (2020)

Certain sectors of industry in the USA enjoy particularly strong benefits from the economic activities of Bavarian business enterprises in America (cf. Table 1). As in the case of the financial services sector, for example, this can be attributed to high direct investments made by the Bavarian business enterprises. Approximately 14.4 billion euros is generated directly by the US-based Bavarian enterprises of this sector. Add to this another roughly 16 billion euros in value added from purchases of intermediate goods and services from other US companies of this industry, as well as 1.8 billion euros in induced value added on account of the wage incomes spent by those employed by the US-based Bavarian enterprises and by the facilities producing such goods and services. With an aggregate effect amounting to around 32.2 billion euros, this sector is the largest absolute beneficiary of Bavarian US investments.

The industry branches of “Manufacture of data-processing equipment, electronic and optical products”, the chemical and pharmaceutical industry, as well as mechanical engineering,

are followed by three additional sectors in which Bavarian direct investment generates a single-digit billion amount in added value.

Of the total of 85.1 billion euros in direct, indirect and induced contributions by Bavarian business to gross value added, approximately 11.3 billion euros are attributable to the M+E industry.

Table 1

TOP-10 Sectors – added-value effects of Bavarian business in the USA in 2017; gross value added in million euros

Sector of industry	Direct value added	Indirect value added	Induced value added	Sum total
US-based Bavarian business, total	25,957	41,565	17,619	85,142
M+E industry*	7,248	3,424	648	11,320
Provision of financial and insurance services	14,379	15,987	1,796	32,162
Provisions of services involving freelance contributions, science, and technology; provision of other economic services	558	8,079	1,766	10,402
Manufacture of data-processing equipment, electronics, and optical products	4,445	1,817	200	6,462
Trading, maintenance, and repair of motor vehicles	377	3,652	2,064	6,093
Real estate and housing	534	2,055	2,986	5,576
Manufacture of chemical products; Manufacture of pharmaceutical products	2,140	1,138	426	3,704
Mechanical engineering	2,479	399	60	2,939
Health and social care	0	5	2,273	2,278
Transport and warehousing	114	1,120	636	1,871
Education and teaching	0	772	969	1,741

*M+E industry: sectors with WZ code nos. 24 to 33

Sources: BEA (2020); OECD AMNE Database (2020); Deutsche Bundesbank (2019); own calculations

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An overview of the relative effects for the individual sectors reveals that the manufacturers of data-processing equipment, electronics, and optical products – at a total of 2.6 percent of the value added in the entire industry in the USA – have been benefiting in a particularly strong fashion from Bavarian investments (Table 2), with financial services and mechanical engineering being almost equally strong beneficiaries. In the entire M+E industry, 1.1 percent of American added value is accounted for by the direct, indirect or induced effects of Bavarian direct investment in the USA.

Table 2

TOP-10 Sectors – added-value effects of Bavarian business in the USA in 2017; gross value added in percent of the industry in total

Sector	Share of direct value added	Share of indirect value added	Share of induced value added	Sum total
US-based Bavarian business, total	0.15%	0.24%	0.10%	0.49%
M+E industry*	0.72%	0.34%	0.06%	1.13%
Provision of financial and insurance services	1.09%	1.21%	0.14%	2.44%
Provisions of services involving free-lance contributions, science, and technology; provision of other economic services	0.03%	0.38%	0.08%	0.49%
Manufacture of data-processing equipment, electronics, and optical products	1.78%	0.73%	0.08%	2.59%
Trading, maintenance, and repair of motor vehicles	0.02%	0.18%	0.10%	0.31%
Real estate and housing	0.02%	0.09%	0.13%	0.24%
Manufacture of chemical products; Manufacture of pharmaceutical products	0.67%	0.35%	0.13%	1.15%
Mechanical engineering	1.89%	0.30%	0.05%	2.24%
Health and social care	0.00%	0.00%	0.18%	0.18%
Transport and warehousing	0.02%	0.21%	0.12%	0.34%
Education and teaching	0.00%	0.35%	0.44%	0.80%

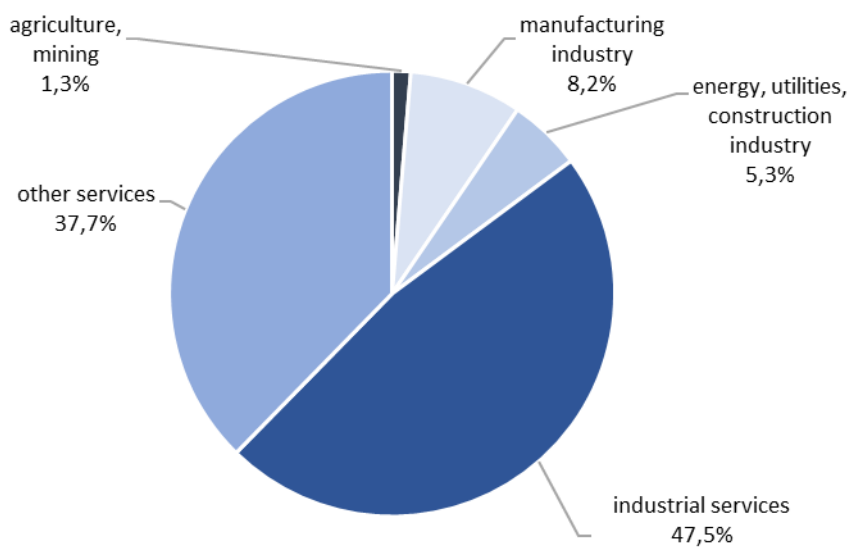
*M+E industry: sectors with WZ code nos. 24 to 33

Sources: BEA (2020); OECD AMNE Database (2020); Deutsche Bundesbank (2019); own calculations

4.5 Employment effects generated by Bavarian business in the USA

In the USA in the year 2017, a total of some 152 million persons gainfully employed were working predominantly in the service sectors (cf. Figure 6). Unlike Bavaria – where 20.3 percent of the workers are employed in the manufacturing industry, the percentage of employees working in the manufacturing industry in the USA – according to the most recent data available, from 2017 – was a mere 8.2.

Figure 6
Employment in the USA in 2017, by sector



Sources: BEA (2020), own calculations

Since the financial crisis of 2009, industrial employment in the USA has to a large extent stabilised. Whilst between 2000 and 2009 employment in the manufacturing industry of the USA had gone down from 17.2 million wage and salary earners (12.6 percent) to 11.8 million wage and salary earners (8.7 percent of all gainfully employed people) (cf. BEA, 2020), it picked up slightly until 2017, to 12.4 million. Nonetheless, the share of all wage and salary earners continued to shrink to 8.2 percent because other sectors were obviously registering a markedly more rapid growth in employment. One reason for the slight growth in industrial employment between 2009 and 2017 may have been the increase in foreign direct investment. Within the period from 2010 to 2017, Bavarian business enterprises alone increased their direct investments in the US manufacturing industry by more than 12.7 billion euros, which represents a 77-percent rise (cf. *Bundesbank*, 2016, 2019).

With the help of the *Satellite Account Bavarian Business – USA*, the effects of Bavarian business in the USA was determined using the same methodology that was applied to determining value-added effects.

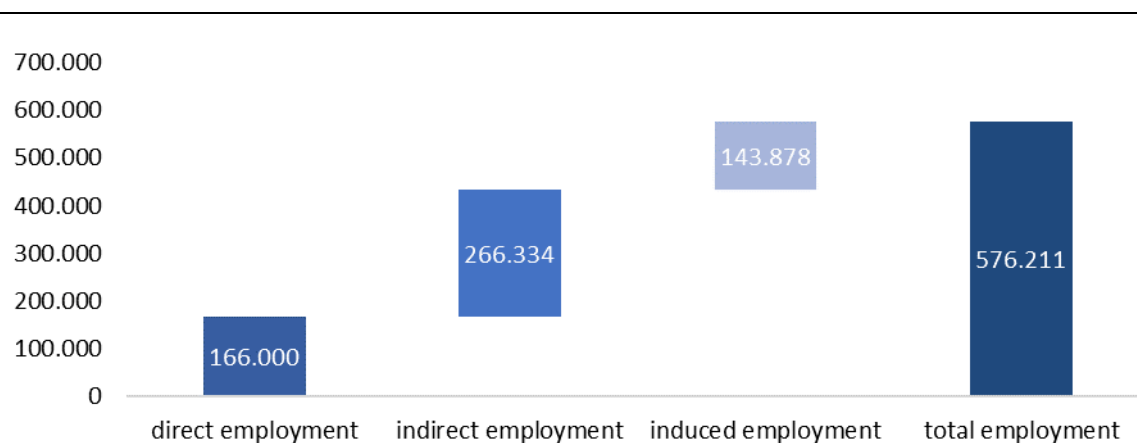
The direct employment effects caused by Bavarian business and industry include those jobs that can be attributed to the companies working in the respective area directly on account of their day-to-day operations. They hence reflect the jobs created directly by US-based Bavarian enterprises. In these companies, a total of roughly 166,600 persons were directly employed in the year 2017. The share of direct employment by Bavarian business and industry in the USA is hence 0.11 percent of all wage and salary earners in the USA. This share is below the share of gross value added by Bavarian enterprises in US business, which documents the high intensity of value added by Bavarian business in the USA.

If one goes beyond direct effects and considers indirect effects at upstream suppliers of intermediate goods and services as well, the result is a marked increase in the employment effect generated by Bavarian business and industry. The employment effects based on employment with suppliers to Bavarian business enterprises amount to 266,334 persons. The employment induced by Bavarian business in the USA, which is triggered by the spending of wage incomes earned in the US-based Bavarian enterprises and their suppliers amounts to approximately 143,878 Jobs.

Hence, the overall employment effect generated by Bavarian business in the USA comes to 576,211 jobs (cf. Figure 7) or approximately 0.38 percent of wage and salary earners in the USA. This implies an employment multiplier of 3.47 so that every job at US-based Bavarian business enterprises is associated with another 2.47 jobs in the American economy. This slightly higher employment multiplier, compared to value-added effects, is based primarily on the higher employment intensity on the part of industrial service providers as upstream suppliers to industry.

Figure 7

Employment effects of Bavarian business in the USA 2017, in persons



Source: BEA (2020); OECD AMNE Database (2020); own calculations of TwinEconomics (2020)

The following Tables 3 and 4 show the ten sectors of Bavarian business in the USA that generate the most significant overall effect in absolute terms as well as in relative shares of the respective sectors in the USA.

Table 3

TOP-10 Sectors – employment effects of Bavarian business in the USA, 2017; employees in 1,000 persons

Sector of industry	Direct employment	Indirect employment	Induced employment	Sum total
US-based Bavarian business, total	166.00	266.33	143.88	576.21
M+E industry*	78.22	19.46	4.17	101.84
Provisions of services involving free-lance contributions, science, and technology; provision of other economic services	2.59	77.48	16.93	97.00
Provision of financial and insurance services	15.34	72.94	8.20	96.48
Trading, maintenance, and repair of motor vehicles	20.82	42.85	24.26	87.94
Manufacture of data-processing equipment, electronics, and optical products	37.26	6.59	0.72	44.58
Health and social care	0.00	0.07	33.04	33.11
Hospitality trades	0.00	10.23	19.75	29.99
Manufacture of chemical products; Manufacture of pharmaceutical products	25.94	2.45	0.92	29.32
Mechanical engineering	20.82	3.02	0.45	24.30
Transport and warehousing	3.11	9.83	5.59	18.52
Manufacture of motor vehicles and parts of motor vehicles	16.44	0.52	0.50	17.45

Sources: BEA (2020); OECD AMNE Database (2020); Deutsche Bundesbank (2019); own calculations

In relative terms, the sector manufacturing data-processing equipment, electronics and optical products has by far the greatest effect of US-based Bavarian business and industry (cf. Table 4). A total of about 4.3 percent of employment in that sector is direct, indirect, or induced employment on account of the economic activity of Bavarian business enterprises in the USA. With aggregate effects of 3.6 percent of employment in the chemical industry

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as well as 2.3 percent of employment in mechanical engineering and 1.8 percent in the automotive industry, additional sectors of the US manufacturing industry are positively impacted, to a significant degree, by Bavarian investments in the USA.

A separate look only at the M+E industry reveals that a total of approximately 1.5 percent of employment is based on the economic activity of US-based Bavarian enterprises. In those sectors, hence, the impact is almost four times as high as in the entire American economy. The share of direct employment by Bavarian US business in US total employment is roughly 0.11 percent; with indirect and induced effects included, that share is 0.38 percent.

Table 4

TOP-10 Sectors – employment effect of Bavarian business in the USA in 2017; employment expressed in percent of the respective sector in the USA

Sector of industry	Shares of direct employment	Shares of indirect employment	Shares of induced employment	Sum total
US-based Bavarian business, total	0.11%	0.18%	0.09%	0.38%
M+E industry*	1.13%	0.28%	0.06%	1.47%
Provisions of services involving free-lance contributions, science, and technology; provision of other economic services	0.01%	0.39%	0.08%	0.48%
Provision of financial and insurance services	0.24%	1.16%	0.13%	1.54%
Trading, maintenance, and repair of motor vehicles	0.09%	0.20%	0.11%	0.40%
Manufacture of data-processing equipment, electronics, and optical products	3.57%	0.63%	0.07%	4.27%
Health and social care	0.00%	0.00%	0.17%	0.17%
Hospitality trades	0.00%	0.07%	0.14%	0.22%
Manufacture of chemical products; Manufacture of pharmaceutical products	3.15%	0.30%	0.11%	3.56%
Mechanical engineering	1.94%	0.28%	0.04%	2.26%
Transport and warehousing	0.06%	0.19%	0.11%	0.36%
Manufacture of motor vehicles and parts of motor vehicles	1.69%	0.05%	0.05%	1.80%

*M+E industry: sectors in accordance with code nos. WZ 24 to WZ 33

Sources: BEA (2020); OECD AMNE Database (2020); Deutsche Bundesbank (2019); own calculations

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Editorial Note

All information in this publication refers on principle to all genders, without any discriminatory intent.

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