



CONTENT

- 01 | Times are gradually changing, **Bohuslava Šenkýřová**
- 02 | COVID-19 crisis and its impact on the automotive industry, **Petr Mach**
- 05 | Current status and perspectives of standardization in the electromotive industry, **Le Wei**
- 07 | The automotive industry is facing a great challenge; how will it fare? **Viktor Muchin**
- 09 | Make me study

Bulletin of Confucius Institute and VSFS Research Centre for Development of Czech-China Relations
Published by University of Finance and Administration, Estonska 500, 101 00 Prague 10.
Editor: Ing. Petr Mach, PhD.,
Contact: mach@mail.vsfs.cz.

Times are gradually changing

Bohuslava Šenkýřová



The COVID-19 crisis will undoubtedly subside. Whether health care capacity adapts, vaccines work, or people learn to live with the coronavirus

the way they do with the flu, clearly it is impossible to live in continual “lockdown”, nor to operate every year at a budget deficit of CZK 500 billion.

And so even our bulletin will gradually begin looking for other topics. In this year’s first issue, we are still looking at the impact the COVID era has had on the automotive industry. It is coming out at a time when the Czech automaker Škoda is among those considering withdrawing from the Chinese market and focusing on other markets. The trends in the automobile market are thus certainly worthy of note.

An article by economist Petr Mach demonstrates the main macroeconomic impacts of the COVID crisis on the growth of the economy and the balance of public finances.

An article by a Czech economist working at a university in Wuhan, China, Viktor Muchin, describes how even the automotive industry has begun looking to online distribution channels in the wake of the coronavirus.

“We’ve mastered not only teaching online but also giving tests online, in a way that is personal for preserving the integrity of equivalence testing.”

Le Wei, dean of the Faculty of Economics and Management of China’s Jiliang University, describes the process of developing electromobility regardless of the coronavirus from a perspective of standardization. The University of Finance and Ad-

ministration is also adapting to the new international, epidemiological, and economic situation. We wish to take advantage of the mastery of emergency online training and will therefore offer this uncertain world instruction in the form of distance learning as a „standard”, particularly for international students. In addition to baccalaureate, masters, doctoral, and postgraduate studies, our university will provide accredited technical examinations for brokers on the financial, insurance, and real estate markets on the basis of a license from the Czech National Bank. We will be offering these examinations both in presentational and distance formats. We’ve mastered not only teaching online but also giving tests online, in a way that is personal for preserving the integrity of equivalence testing.

*Bohuslava Šenkýřová is the rector of the University of Finance and Administration and chair of the administrative board
Confucius Institute at the University of Finance and Administration*

COVID-19 crisis and its impact on the automotive industry

Petr Mach



The manufacture of automobiles is an important indicator economic development. There are several reasons why economists follow statistics for

the sale and manufacture of cars more than trends in other industries. 1) Auto manufacturing is an easily measurable and exact statistic, unlike estimates of gross domestic product (GDP). Auto manufacturing statistics are available immediately, while it always takes several months before GDP data is available. 2) Auto manufacturing is a substantial part of industrial manufacturing in modern economies, on which the manufacture of parts is dependent. A large part of the workforce is dependent on work in the automotive industry. 3) The manufacture of cars also responds with sensitivity to economic trends, as the purchase of a car is usually a deferrable expense. In other words, in times of recession, auto manufacturing sharply decreases, while in times of recovery it sharply increases.

COVID-19 impacts on auto sales and manufacturing

The COVID-19 crisis led to a drop in global auto manufacturing for three main reasons.

First, some automakers in Europe



were forced to suspend production at first, since delivery ceased of essential parts from China, which was the first to be affected by COVID-19. Second, the subsequent “lockdown” of European economies

closed auto dealerships. With people not buying cars, the automakers had no consumption and production practically ground to a halt. Third, another blow was suffered at the moment when the supply crisis

Tab. 1.: GDP growth and balance of public budgets in 2020

	Růst HDP	Bilance rozpočtu (% HDP)
Čína	+2,30%	-11,40%
USA	-5,30%	-15,30%
Česko	-5,60%	-5,90%
Japonsko	-4,80%	-12,60%
Velká Británie	-9,50%	-18,20%
Německo	-4,90%	-4,20%
Itálie	-8,90%	-9,50%
Slovensko	-5,20%	-7,30%
Švédsko	-2,80%	-4,00%

Zdroj: Mezinárodní měnový fond. WEO database, duben 2021

transitioned into a demand crisis. In every economic crisis, people's incomes decrease. Automobiles are a non-essential luxury property which people stop buying in times of decreased income or concerns about future income.

Many countries have compensated companies and their employees for losses from manufacturing decreases, but at the cost of massive budget deficits. Tab. 1 shows the drop in GDP and the amounts of the budget deficits of selected countries for the entire year 2020. We can say that the year 2020 mean the largest global recession and the greatest growth of state debts since the Great Depression in the 1930s. The Czech economy experienced a drop of almost 6 percent and a similarly large national budget deficit. Other countries had a similar experience. China avoided an absolute drop in GDP, but the tempo of its growth slowed to record levels.

The tourism and airline industries were drastically affected, as were the cultural, hospitality, and automotive industries.

Car sales in China dropped in the first quarter of 2020, then gradually

"In 2020, three million fewer cars were sold in the EU than in the previous year."

returned to their original levels, as shown in Graph 1. September car sales were already higher than the previous year. For the moment, the same cannot be said of Europe.

A large decrease in new car sales occurred in Europe between March and May, as shown in Graph 2. In 2020, three million fewer cars were sold in the EU than in the previous year, a decrease of 24 percent. It can

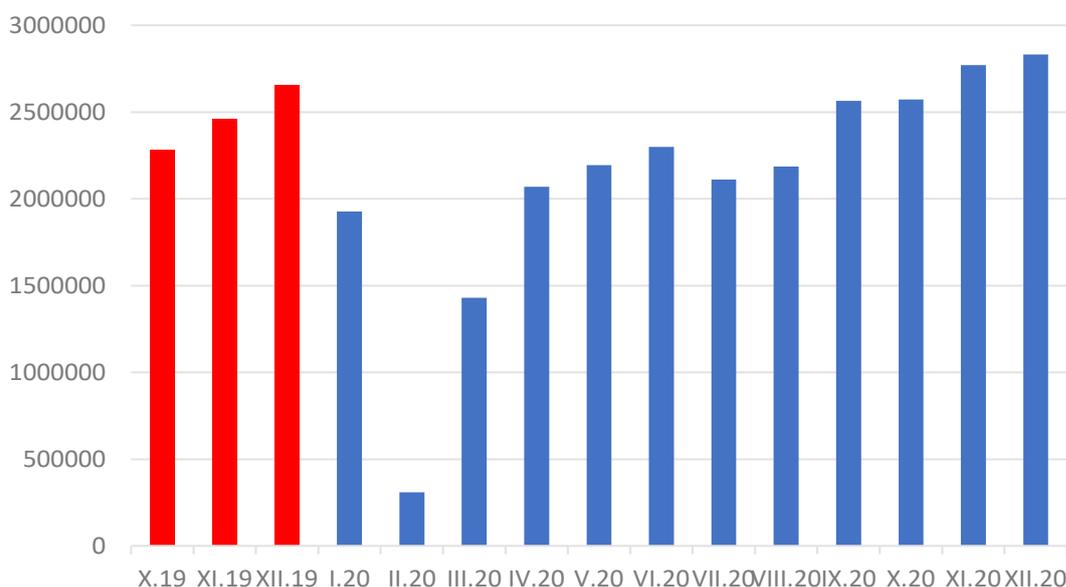
be assumed that auto manufacturing decreased by a similar percentage in all countries that manufacture cars. This assumption is confirmed by data from the Czech Republic. As demonstrated by statistics from the Association of Automobile Manufacturers [Sdružení automobilových výrobců], in the period January-December 1,152,901 cars were manufactured in the Czech Republic (see Graph 3), which is 274,662 cars or 19.2 percent less compared to the same period of the previous year.

Czechia shielded by the crown

The determining factor in Europe for industry, export, employment, and the trends of the GDP indicator at the time of the crisis, is whether a given country has the Euro or its own currency.

As shown in Graph 4, the Czech currency weakened against the Euro in March, when the Czech economy was closed because of COVID-19

Graph 1: Sale of motor vehicles in China



Source: CEICdata.com

for the first time in the Spring, to the tune of roughly 6%, from CZK 25.50 to CZK 27. This was the logical outcome of a decreased influx of tourists, decreased production, and the subsequent decrease in exports of cars and other products.

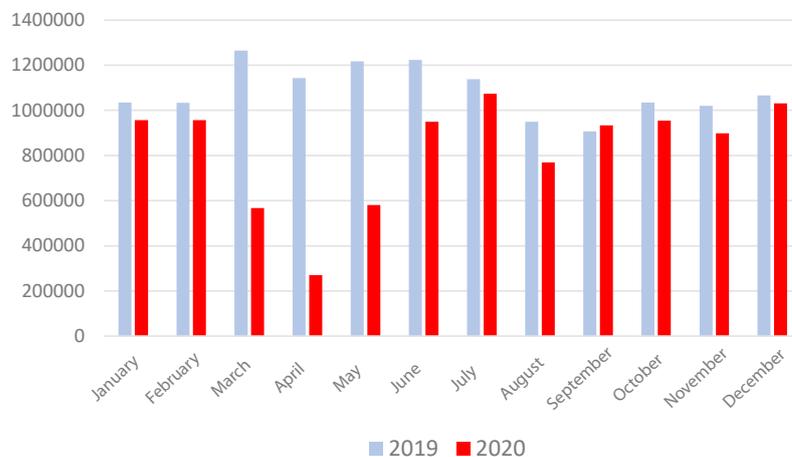
As a result of this weakening, Czech production became cheaper for foreigners, which is a stimulus for growth of export to Euro markets. It can be expected that a weaker crown will help exporters still in this year. If the Czech automaker ŠKODA, for example, lost its position on the Chinese market and was considering whether to abandon this market, a weaker crown would allow it to conquer new markets, where it can reduce prices compared to its competitors from the Eurozone without losing profit.

What economic trends can we expect?

In the first half of 2021 restrictive measures continued in many European countries, including the Czech Republic. If the economy is restricted in approximately the same way as it was a year ago, we can expect only slight GDP growth this year compared to 2020. We may expect a sharper increase in 2022, once the effects of the measures are felt and GDP balances out the low level of the years 2020-21. It would appear that China will get by this year without closing its economy and may expect rapid growth as early as this year.

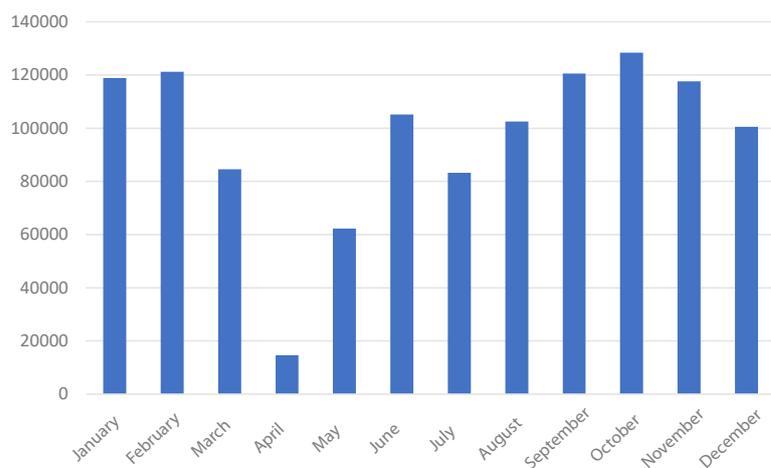
Petr Mach teaches economics at the University of Finance and Administration and is the editor of the Bulletin.

Graph 2: Number of registrations of new passenger cars in the EU in 2020



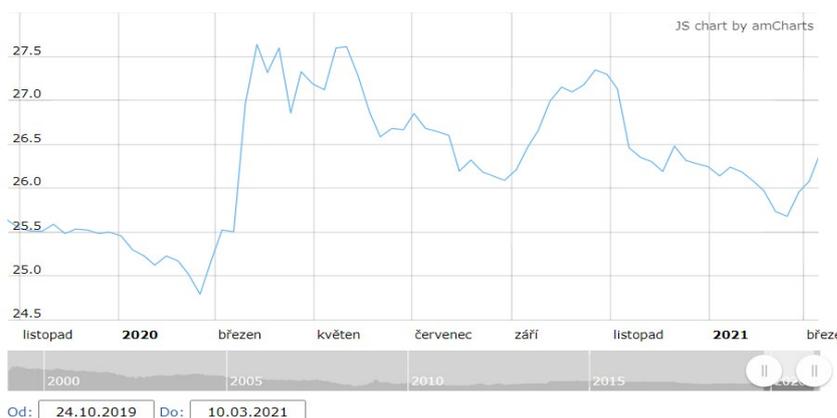
Source: <https://www.acea.be/press-releases/article/passenger-car-registrations-23.7-in-2020-3.3-in-decem->

Graph 3: Manufacture of motor vehicles in the Czech Republic in 2020



Source: Sdružení automobilových výrobců Autosap.cz

Graph 4: exchange rate between the Czech crown and the euro



Current status and perspectives of standardization in the electromotive industry

Le Wei



Cars using electrical power trains have a substantial impact on saving energy, limiting emissions, and reducing costs. They are critical in the process of technological innovations in the automotive industry. China actively supports the development

“Standardization is a catalyst of economic and social development.”

of electromobility. In 2010 the Chinese government classified the alternative fuel vehicle industry (i.e. automobiles using charging batteries, fuel cells, or hybrid drive systems) among seven prospective industries in the country and adopted a range of policies for support of the development of alternative fuel vehicles with the goal of creating a functional system for the entire industry and achieving 5 million alternative fuel vehicles, building 12,000 mass charging stations, and 4.8 million local charging points by 2020. The catalyst of economic and social development is standardization. Standardization as such is a critical part of development in a range of

other industries as well. Alternative fuel vehicles encounter problems due to a lack of norms and standards during this abrupt growth in this industry. On the one hand, the distribution of alternative fuel vehicles will undoubtedly lead to increased demands for safety and ease of use, whereas a lack of unambiguous standards can lead to safety risks when operating alternative fuel vehicles. On the other hand, alternative fuel vehicles are more heavily dependent on infrastructure, which requires unified, complex, and functional construction norms for the design of charging stations. For these reasons, the implementation and refinement of a system of standards has become an important factor enabling the long-term growth of the alternative fuel vehicle industry.

Status of standardization of the electromotive industry in the USA

The American Society of Automotive Engineers (SAE) was founded as early as 1902 and the standards that this association has adopted are one of the most notable systems

of industrial standardization in the world. Standards adopted by SAE are not only broadly implemented in the USA, but are used by a number of other countries and industrial

“Unified, complex, and functional construction norms for the design of charging stations are key.”

associations throughout the world as well, where countries adopt norms for their own national automobile industries. The standards of the American Society of Automotive Engineers (SAE) for the area of alternative fuel vehicles is divided into two circuits: norms for purely electrical and hybrid vehicles and norms for vehicles using fuel cells.

Standardization of the electromotive industry in Japan

The growth of the alternative fuel vehicles industry is not a top field only in Asia, but worldwide. With the goal of supporting this new industry, Japan in 2010 established



the Association for the Promotion of Electric Vehicles. The Japanese system of industrial standards for alternative fuel vehicles was always ahead of the other countries of the world. The Japanese Society of Electric Vehicles had already been established for the purposes of research and preparation of norms for this industry as early as 1971.

Standardization of the industry for electric alternative fuel vehicles in China

The Chinese government intensively supports the development of alternative fuel vehicles industry as a key industry. The Ministry of Industry and Information Technology issued in 2014 a communication about the support and use of alternative fuel vehicles which clearly demonstrated strong support of development in this industry on the part of the central government. For the time being China has created a system of standards for alternative fuel vehicles and

has issued 87 norms covering four main areas – vehicle and key system parameters, parameters of individual parts, and parameters for construction of the infrastructure. Out of the 87 norms, 21 of them are industrial norms (QC/T) and 67 are national norms (GB/T).

The fact that standards for alternative fuel vehicles differ from coun-

“It will be necessary to collaborate internationally with the goal of achieving global synchronization of norms.”

try to country and that a system for technical norms has not been fully developed is an important factor limiting the growth of the industry. For this reason it is necessary to implement and refine a system of standards for the alternative fuel vehicle industry as soon as possible

with the goal of unifying and standardizing all aspects of the industry. This standardization will aid the popularization and scope of alternative fuel vehicles.

The global alternative fuel vehicle market has great potential, and for this reason it is necessary to continue supporting the development of electromobility. Standardization is essential for the development of any industry. The government should take a lead role in the process of standardization of the alternative fuel vehicle industry. It should focus on planning the development of the industry and improving the system of technical norms. It will be necessary to collaborate internationally with the goal of achieving global synchronization of norms for alternative fuel vehicles.

Professor Le Wei is Dean of the Faculty of Economics and Management, China Jiliang University.



The automotive industry is facing a great challenge; how will it fare?

Viktor Muchin



The outages of the automotive industry resulting from the pandemic shook a number of states. Large companies in this industry cannot get by without

strategic changes. The battle for the customer will take many forms, and old methods need no longer work in today's unusual conditions. At the same time, the Asian and European market rank among the largest producers of automobiles. Will manufacturers in these markets adapt to new trends and find the fabled niche in the market?

Electrical mobility, driverless cars, automated factories, and car sharing had registered outages even prior to the COVID-19 crisis. Today in particular, when most of us are not traveling, working in factories, or selling or buying vehicles, there is a question as to what the automobile

"It is a good time to transform communication with the customer into online in the automotive industry as well."

sector will look like in the future. In Germany up to 95% of the employees in the automobile sector received temporary leave during the

closing of the economy, paid for the most part by the state. In other European and Asian countries supplying cheap components for cars, the decrease in income in 2020 has been estimated at USD 100 billion. This represents a drop of 6 percentage points compared to the situation two years ago.

We are all on the web

Now most consumers are using the internet for payments and connecting to internet electronic business options. For this reason it is a good time to transform communication with the customer using online networks in the automotive industry as well.

Whereas Chinese companies often use online platforms to address potential customers, in Europe this trend is building only gradually. At the same time, in the online space it will eventually be possible to build a structured online shop, contactless driving tests, delivery of cars directly to homes, and other opportunities.

The pandemic to a significant extent hindered the growth of the automotive industry. According to estimates, global car sales dropped in 2020 by 20 to 30 percent. A return to ordinary sales will last at least four years, which nonetheless depends heavily on the specific regions where companies operate.

"According to estimates, global car sales dropped in 2020 by 20 to 30 percent."

Disruption of delivery

In the first weeks of the pandemic, the instability of global supply chains quickly surfaced. The dependency of the United States and Europe on Chinese parts caused outages in manufacturing. Between 2000 and 2020 China supplied its components to 5 to 30 percent of the world. Only now have the leading industrial actors realized the need



for fluid delivery and are belatedly looking for alternative means for using their own local resources. In future the company will focus on specific areas ensuring the resilience of the supply chain. For example, companies should perform strict checks of employee health and the safety of their products. Also worth noting is the monitoring of interactions between partners and registration mechanisms. It is essential to once again build the trust of all involved parties and carefully analyze fluctuations in demand.

A light at the end of the tunnel

Investments into autonomous technology and electromobility certainly seem to be an innovative solution. The recently signed investment agreement between the EU and China is clear proof of this. Beijing has undertaken to make the Chinese market available to European companies for import of vehicles with ecological application. Now the incorporation of a joint venture will no longer be required for conducting business with China. European investors can financially

“A disadvantage of compressed and liquefied natural gas is that such vehicles cannot be used anywhere in enclosed spaces.”

improve thanks to the high level of demand for electric vehicles in China, also associated with the declaration of President Xi on the need to neutralize CO₂ emissions by the year



2060. The South China metropolis of Shenzhen on the border with Hong Kong is emerging as a demonstrative example. In 2017, Shenzhen became the first in the world to implement widespread use of electric buses. A year later it was time for electric taxis, which began replacing combustion engines on local streets.

Vehicles propelled by compressed natural gas (CNG) and liquefied petroleum gas (LPG) are an analogue of electric vehicles. For example, in Pakistan, these vehicles are of course prohibited due to low safety and risk of explosion. Moreover, this category of vehicles is not permitted for use in any state in enclosed spaces (garages, tunnels), due to the risk of high combustibility of their fuel cylinders.

Even cars using hydrogen fuel cells cannot compete with electromobility. Their consumption is incomparably higher than regular electric vehicles.

According to Zachary Shahan, editor of Cleantechnica.com, hydrogen has a very slow response time, which means that supplemental systems have to be used in order to store energy. For this reason the biggest draw of technological development will for now most likely remain electric vehicles.

“The biggest draw of technological development for now will most likely remain electric vehicles.”

Viktor Muchin is an economist specializing in international relations and China. He works at Zhongnan University in Wuhan. This article was reprinted with the permission of the author from the website Asiaskop.cz



Make me study

VŠFS History

University of Finance and Administration (VŠFS) established in 1999 was one of the earliest private universities in the Czech Republic. The first group of 330 students had entered the university premises in the following year - in September 2000. We introduced the follow-up master programs in 2004. The award of PhD program accreditation in Finance was a significant milestone resulting in the university status awarded to VŠFS. In 2012 the university was registered as a research organization and confirmed its position of a research center focusing on elementary, applied and experimental research.

National Accreditation Bureau of Higher Education appreciated the quality of educational and research activities performed by University of Finance and Administration and (following the introduction of the new Higher Education Act) awarded new accreditations to most of our education programs, often for the maximum of 10 years. University is due to successfully complete the accreditation process in this year.

University of Finance and Administration has repeatedly occupied the front positions in “Top 100 Czech universities” awards. As the only Czech university, VŠFS had a representative in the Executive Committee of the International Association of University Presidents (IAUP).

The international environment is one of the most outstanding features of the university. Almost one third of our students come from more than 50 different countries. One of our earliest

international partner, the City University of Seattle, focuses on education of adult professionals on all levels of higher education. In 2020 VŠFS got officially approved as a branch of non-European international education institution – City U.

Education Programs

There are eight education programs at VŠFS intended for a broad spectrum of students of various professional backgrounds; the university’s motto is that education brings success. Most academics in the faculty have practical professional experience. A great emphasis is put on the long-lasting and mutually supporting relationship between the university, its students and graduates. A number of graduates get employed in the field of their specialization and in high positions. The education programs are of a

challenging design; the individual approach means friendly communication, strong background and support to overcome occasional obstacles. Equal approach to everyone is strictly applied. The only way to succeed and get a degree is to demonstrate the required knowledge.

The endeavor to provide quality education is by no means limited only to the Czech market. The programs Economics and Management (EM) and Marketing Communication (MC) are among the most popular VŠFS programs both in Czech and English. EM and MC graduates are well prepared for their future either corporate or self-employing jobs. There is a third program that complements the two popular study programs and combines law and economics. Graduates of

“What I appreciate on our university above all is its atmosphere of a large family and interconnection. Our employees become our students, some of our graduates become our employees. Others become our business partners and many partners look for their employees among our students. Such an interconnection and a sense of belonging manifest for instance in form of a membership in the Diamond Club. It is not exceptional to see the entire families studying with us. I simply cannot imagine a better acknowledgement.”

Bohuslava Šenkýřová, rector



**UNIVERSITY OF FINANCE
AND ADMINISTRATION**

Business Law (in Czech only) are well sought-after for their extensive knowledge. The university also provides accredited programs in the area of security and law. The overwhelming popularity of our programs Criminalistics and Forensic Disciplines and Security and Law (in Czech only) have proven to be very attractive not only among the young. People realize the world has been changing and security has gradually become an issue of the present and future times. University of Finance and Administration has been fairly successful in concluding projects and contracts in this area with a range of institutions and business partners and thus arranging practical training for our students. There is one other program that must not be omitted - Applied Informatics. VŠFS is one of the few private universities teaching this program on both undergraduate and post-graduate level.

Moreover, there are MBA and BSBA programs taught in cooperation with CityU, that students may study either separately or in combination with the Czech program for a better price.

„All the students and graduates of University of Finance and Administration would have filled a small town – there are 23,000 of them.“

Innovations

Every VŠFS student may rest assured that the specific content of each program is regularly evaluated and upgraded in order to keep them up-to-date with the most recent findings in each respective field of study. University of Finance and Administration adopts such a firm approach towards all accredited programs in accordance with the applicable law. In order to identify the relevance of the education programs to practice

and to verify practical use of the acquired knowledge, skills and competences on the job market, University of Finance and Administration regularly conducts opinion surveys among its students, graduates and partners. In addition, VŠFS partakes in both national (usually organized by the Czech Ministry of Education, Youth and Sports) and international surveys (e.g. Eurostudent, Eurograduate, Universum Talent Research etc.). The university works with and gets inspired by data available from research agencies, job market surveys and public opinion polls that make the fundaments of the university's strategic decision-making and planning. Although there are many private and public universities in the Czech Republic, University of Finance and Administration enjoys a long-lasting popularity among its students owing to the guaranteed quality as well as the competitiveness of our graduates on the job market.

Previous issues of the bulletin in the Czech, Chinese and English versions can be found at www.konfucius-vsfs.cz/služby/ekonomicky-think-tank/

