

September 2019

**The Coin-operated Gaming and Amusement Machine
Industry in a Downturn
–
Against the Trend in the Gambling and Gaming Market**

**Abridged English version
of the
study commissioned
by the
German Coin-operated Machine Industry**

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German version published in:
**ifo Schnelldienst 17 / 2019,
72. Jahrgang 12. September 2019**

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The amusement machine industry is part of the dynamic gambling and gaming market with commercial gaming. With the Interstate Treaty on Gambling (Glücksspielstaatsvertrag, GlüStV), which came into force in 2012 in conjunction with the State-specific gaming regulations, the German federal states took advantage of their legislative authority for amusement arcades. The core regulations – mandatory minimum distances and the ban of multi-concessions – have resulted in a reduction of the capacities for commercial gaming. The transitional periods for existing amusement arcades expired for the most part on 1 July 2017. At the same time, at the federal level, the 6th Amendment of the German Gaming Ordinance (Spielverordnung (SpielV)), which entered into force on 11 November 2014, tightened the regulation of the amusement-machines with prizes (AWP) with the aim of further increasing the already existing high-level protection of players and minors. The expiry of the transitional period for installed AWP on 11 November 2018 required a nationwide conversion of the whole inventory. The restrictive provisions of both sets of rules have – in their cumulation – meanwhile led to double-digit declines in operators' revenues from AWP. The negative trend in the area of commercial gaming will continue in the coming years, in stark contrast to the strong expansion of other segments of the gambling and gaming market.

The amusement machine industry offers its customers with AWP games with small cash prizes. AWP are the economic backbone of the industry. Because of the strict limitation of stakes, winnings and losses by the German Trade, Commerce and Industry Regulation Act (Gewerbeordnung (GewO)) in conjunction with the SpielV, the focus of the game is on entertainment. In contrast to gambling in terms of criminal law, there is no risk that the player will suffer unreasonably high losses in a short time (§ 33e para. 1 sentence 1 GewO). Gambling is generally prohibited in Germany in accordance with § 284 StGB of the German Criminal Code (Strafgesetzbuch (StGB)), but is subject to permission by the federal states. Other entertainment machines in the industry include touch screen devices, video game machines, driving simulators, pinball machines and Internet terminals. Sport-game machines such as billiards, darts, table football, air hockey supplement the product portfolio. Jukeboxes play hardly any role in the multimedia age.

Until 2006, commercial gaming had suffered from poor framework conditions and lost market share, even municipal revenues from the amusement tax sank despite rising tax rates. The legislature had recognized the situation and with the fifth amendment to the SpielV, which came into force on 1 January 2006, made a paradigm shift that allowed commercial gaming to compete on an equal footing with gambling services offered by public monopoly providers and private Internet providers. In addition to the changed framework conditions and product innovations, new business models were also responsible for the dynamic expansion, which aimed at a stronger integration of amusement arcades in leisure facilities, in addition to cinemas, cafés, bowling centres, etc. The image of the industry changed for the better. New customer groups were accessed. Increasingly, women are also enjoying these games, an area dominated by men in the past. The legislators' aim of strengthening the competitiveness of commercial gaming was achieved. The net gaming revenues¹ (NGR) of the operators increased between 2006 and 2018 at an average annual rate of 6.0% (nominal) to €5,765 million (excluding VAT).

1. DIGITALIZATION PROMOTES THE DEVELOPMENT OF ATTRACTIVE GAMES

Until the middle of the last decade electromechanical components formed the basis of AWP. This technology hindered the development of a broad, varied range of products. Technological advances in electronics and digitization have enabled fundamental innovations in hardware and software of the devices. In conjunction with the 5th Amendment to the German Gaming Ordinance, which took effect on 1 January 2006, a legal framework was created for such product innovations. While stakes, winnings and losses remained strictly limited, a variety of games with different sequences and plots was developed. These new AWP offer 20 or more video-based, multi-dimensional animated games (multi-gamer), from which the customer can choose. So-called feature games with

¹ Up to 2018, gross gambling revenues (GGR) were applied to present developments of the industry. This and future reports will present developments based on net gambling revenues (NGR). GGR = NGR plus value added tax (VAT).

different themes and game plans, which distribute winnings after successfully completing the game, are part of the product range.

Table 1: Amusement machines with and without prizes and sport-game machines

Type of machine	2014	2015	2016	2017	2018			
	Installed machines ^{a), b)}						Revenues ^{c)}	
	1000 units				in % ^{d)}	Mill. €	in % d)	
Amusement machines without prizes	30.0	25.0	20.0	18.0	17.0	6.0		
Pinball machines	2.2	2.2	2.2	2.2	2.2	0.8		
Internet terminals	15.0	10.0	5.0	3.0	2.0	0.7		
Score games etc. ^{e)}	2.4	2.4	2.4	2.4	2.4	0.9		
Video games	10.4	10.4	10.4	10.4	10.4	3.6		
Sport-game machines^{f)}	19.8	19.7	19.7	19.7	19.7	7.0		
Amusement machines with prizes	269.0	267.0	264.0	255.0	245.0	87.0	5,715	99.1
Total	318.8	311.7	303.7	292.7	281.7	100	5,765	100.0

a) The estimated number of all machines as of 31 December is based on surveys of the VDAI for the entire market and on other available empirical studies: **AWPs**: AkS, extrapolation on total stock in Germany and estimation of recent developments based on own estimations and company survey, **other products**: IFH, company survey; - b) The figures include machines of VDAI members and non-members, run by operators; - c) Operators' NGR from amusement machines with and without prizes and sport-game machines = cash payments incl. Innkeepers' share, without VAT; - d) of total; - e) Touch-screen machines, juke boxes and other amusement machines; - f) Billiard, dart, table soccer, skittle alleys, bowling, air hockey etc.

Source: Federal Statistical Bureau; VDAI; Arbeitskreis gegen Spielsucht e.V. (AkS); IFH Institut für Handelsforschung GmbH (IFH); own calculations.

The attractiveness of the multi-gamers has led to a partial substitution, in particular of amusement machines without prizes, which lost ground both in technological development as well as in game innovations. The swift pace of innovation in AWP since 2006 has made it the predominant offer of operators with shares of 87% of the number of units installed in 2018 and 99% in net revenues.² After declining since the middle of the last decade, the number of amusement machines without prizes has largely stabilized at the existing level in recent years. The only exception is the Internet-terminals, which as a

² NGR = cash payments incl. innkeepers' share, without VAT.

result of the tightening of the regulation of commercial gaming by the GlüStV will disappear in coming years (See: Table 1).

2. PLAYER AND YOUTH PROTECTION IS BEING EXPANDED

Commercial gaming is an economic activity governed by federal law. As part of the federalism reform, regulatory authority over the amusement arcades was assigned to the federal states. They took advantage of the new competence with the GlüStV, which came into force in 2012, and regulated gaming by means of quantitative restrictions (e.g. mandatory minimum distances, the ban of multi-concessions). The transitional period for the application of the provisions also for existing amusement arcades expired for the most part on 1 July 2017. Although the Federal Administrative Court (BVerwG) with its judgments of 16 December 2016 and the Federal Constitutional Court (BVerfG) with its decision of 7 March 2017 confirmed the legality of the GlüStV, nevertheless, the constitutionally granted fundamental rights of the operators must be guaranteed (Keyword: best possible use of a location's potential).

The extent to which the selection procedures developed by the executive branch meet this requirement is currently under legal review in a large number of pending legal cases, and clarification will take time. Since the expiration of the transitional provisions for existing amusement arcades in mid-2017, there has been a noticeable reduction in the number of AWP in amusement arcades. The decline of 9,000 AWP in 2017 was primarily in the second half of the year and exclusively affected the arcades.³

However, the legal situation created by the GlüStV requires a reduction of more than half of all AWP.⁴ Due to the complexity of balancing legally protected interests and the requirement of the BVerfG to uphold the fundamental rights of the operators, the process will drag on over the coming years unless there is a change in the legal situation.

³ The biennially published "Trümper Study", which has been available since autumn 2018, notes for the period from 1 January 2016 to 1 January 2018 a decline in the number of arcade locations (-2.2%), the number licenses (-7.6%) and the number of AWP in amusement arcades (7.0%), while the number of AWP in the restaurant and catering sector did not change appreciably. (See: Jürgen Trümper, Christiane Heimann; Angebotsstruktur der Spielhallen und Geldspielgeräte in Deutschland, as of: 1.1.2018, September 2018, p. 57.)

⁴ Hans-Günther Vieweg; Wirtschaftsentwicklung Unterhaltungsautomaten 2012 und Ausblick 2013, München, March 2013, pp. 56.

The downward trend continued in 2018 with a reduction of almost 12,000 AWP installed in amusement arcades, while in the restaurant and catering sector there was still a slight increase. On balance, a reduction in the range of 10 000 AWP to 245 000 AWP as of 31 December 2018 has been estimated.

The machine-related regulation of commercial gaming by the 6th amendment to the SpielV required, according to the transitional period in § 20 para. 2 SpielV, on 11 November 2018 a nationwide conversion of the AWP and corresponding investments to meet the new technical requirements. New generation AWP are subject to much stricter provisions with regard to the limits for winnings and losses as well as the regulation of break times. The stake for the minimum playing time of a game is still maximum of 0.20 euros and the maximum prize is 2.00 euros (§ 13 no. 2 SpielV), which means the actual expenditure of a player per five seconds is 1 to 2 cents with a pay-out ratio of 90% to 95%. In accordance with § 13 no. 5 SpielV winnings minus the stakes must not exceed 400 euros (previously 500 euros) in the course of an hour. The sum of the losses in the course of an hour must not exceed 60 euros (previously 80 euros) according to § 13 no. 4 SpielV. In the long term, according to § 12 (2) no. 1 SpielV, no higher amount than 20 euros (previously 33 euros) per hour may remain as cash. The five-minute game break required after one hour of game operation (§ 13 no. 6 SpielV) has been tightened by a ban on any game processes, free trial and demonstration games or other animations during the break to “cool off the player”. The newly introduced game interruption after three hours of gaming (idle state of at least five minutes), in which all readings of an AWP are set to the predefined initial values (zeroing of the AWP, § 13 no. 6a SpielV), leads to a forced abortion regardless of the game situation. In addition, each stake per five seconds of game may only be triggered directly by the player (prohibition of the “automatic key”, § 13 no. 7 sentence 3 and 4 SpielV) to prevent playing of several AWP simultaneously, and to demand a conscious decision from the player before each game.⁵ A game starts with the insertion of the stake and ends with the payout of the winnings or the loss of the stake (§ 13 no. 1 SpielV).

⁵ For AWP with a type approval from 10 February 2016 and later, there is the additional requirement that the activation of the AWP is only possible with a machine-bound, concurrent means of identification. The transitional period for the implementation of this provision also ended on 11 November 2018.

The German National Metrology Institute (*Physikalisch-Technische Bundesanstalt*, PTB), which is responsible for the type approval, has summarized the specifications from the amendment to the SpielV in unequivocal provisions in the Technical Guideline 5.0 (*Technische Richtlinie, TR 5.0*) for the equipment manufacturers.⁶ It was by far the largest change in the history of the German amusement machine industry.⁷ Extensive work on the development of complying AWP was completed by the industry on time, and the machines in accordance with TR 5.0 came on the market with the obligatory type approval⁸ by PTB in accordance with the statutory transitional period.⁹

3. REVENUES OF THE VERTICALLY STRUCTURED AMUSEMENT MACHINE INDUSTRY

The amusement machine industry includes not only the operators but also the manufacturers of the equipment and their wholesalers. In 2018, the industry as a whole generated revenue amounting to €6,725 million, 85.7% of which were from the operators.¹⁰ (See: Table 2)

Since 2006, this tripartite division has been subject to a trend pushed by the manufacturers, who have expanded direct distribution and reduced the sale of their products in favour of rentals and leasing. The wholesale trade, which traditionally was the link between the manufacturers and the operators, has increasingly become a service

⁶ Physikalisch Technische Bundesanstalt (PTB); Technische Richtlinie für Geldspielgeräte – Version 5.0 vom 27.1.2015
https://www.ptb.de/cms/fileadmin/internet/fachabteilungen/abteilung_8/8.5_metrologische_informativstechnik/8.54/Richtlinien_Merkblaetter_PDF/2015-0068-D.pdf (23 July 2019)

⁷ Jörg Bewersdorff; Neues aus der Automatenwirtschaft, in: Zeitschrift für Wett- und Glücksspielrecht (ZfWG) 2018, 5/18, p. 357.
http://www.bewersdorff-online.de/zfwg/Bewersdorff_Neues%20von%20der%20Automatenindustrie_zfwg-05-2018.pdf
 (23 July 2019)

⁸ Since May 2015, the application for the approval of an AWP at the PTB additionally requires the submission of a report on tamper resistance prepared by an independent testing organization.

⁹ The AWP according to TR 5.0 were brought to the market only at the end of the transition period provided for in the SpielV on 11 November 2018, because of the expected low acceptance of the more complex handling by the players.

¹⁰ The time series for total revenues of the industry in Table 2 cannot be directly compared with the statistics published in previous years, since the summation is made-up by the operators' net-revenues and not by the gross-revenues which contain the VAT.

provider. The companies that used to work primarily in the distribution of amusement machines with and without prizes and sport-game machines have in many cases become consultants for their customers. They develop business models, set-up financing plans, design and furnish amusement arcades etc. The revenues of manufacturing companies and wholesalers can no longer be clearly separated in their functions.

Therefore, in the following, the manufacturers, the wholesalers and other industry-specific service providers have been merged and constitute a sector upstream of the operators. The sales of this upstream sector are – where available – taken from published annual reports and collected by interviewing the key players in the market. Its consolidated revenues comprise sales of manufactured goods, rental and leasing, as well as services, such as financing, consulting and other industry-specific activities.

The core of the manufacturing companies' activities is reported to the Federal Statistical Office under the heading "Games with coins or tokens". Their manufacturing costs are reported as a sub-item of all revenues of upstream companies. They are presented in italics in Table 2, which essentially serves to depict the development of revenues. The relationship between sales and production of amusement machines with and without prizes and sport-game machines has largely dissolved since the middle of the last decade due to changed business policies. Approximately 85% of the AWP manufacturers' sales – by far the most important product group – are now made via rental and leasing. The expansion of machine production¹¹ in order to be able to accomplish the replacement of all installed AWPs on time, as prescribed in the SpielV on 11 November 2018, is not adequately reflected in the manufacturers revenues, as the leasing and rental payments for the new generation AWPs are spread over several years into the future. (See: Table 2) The operators are predominantly medium-sized, often family-owned companies that run amusement arcades and/or set-up AWPs in the restaurant and catering sector. Large chain stores command a share of around 15% of total AWPs on the market. In 2018, all operators together generated GGR amounting to €6,860 million (VAT included); this

¹¹ The increase in industrial production in 2018 compared to the previous year is exaggerated due to a change in the number of companies, subject to mandatory reporting. However, excluding this effect, the production value doubled in a year-on-year comparison. This underlines the tremendous efforts made by manufacturers to implement the requirements of TR 5.0 into new products and bring them to market in time, at the end of the transition period.

corresponds to €5,765 million (excluding VAT).¹² In addition to the previous presentation of the time series, both the time series for gross and net revenues are shown in Table 2.

Table 2: Revenues of the coin-operated gaming and amusement machine industry

Sector level		2014	2015	2016	2017	2018	
		Mill. €					in %
Total		5,700	6,180	6,540	6,690	6,725	100,0
Upstream-sector total^{a)}		800	830	860	840	960	14.3
<i>reporting:</i>							
<i>Manufacturing costs^{b)}</i>		<i>460</i>	<i>580</i>	<i>550</i>	<i>400</i>	<i>1,100</i>	<i>-----</i>
Operators	net^{d)}	4,900	5,350	5,680	5,850	5,765	85.7
downstream^{c)}	gross	5,830	6,365	6,760	6,960	6,860	-----
Amusement machines with prizes		5,750	6,300	6,700	6,900	6,800	-----
Other amusement machines, sport-game machines		80	65	60	60	60	-----

a) Turnover of manufacturers, wholesalers and other industry-specific service providers with operators (sales of AWP or game packages, other amusement machines and sport-game machines via purchase, rental and leasing as well as financing, consulting and other services). b) Manufacturing costs for AWP, other amusement machines and sport-game machines on the basis of the production reports to the Federal Statistical Office, taking into account the positions not disclosed due to confidentiality (For the increase in 2018 compared to 2017, see: footnote 11.). c) Revenues of operators from amusement machines with and without prizes and sport-game machines = cash content including economic portion, net: excluding VAT, gross: with VAT d) 2014-2017 based on operators' advance notifications for VAT payments as reported by the Federal Statistical Office, 2018 estimation based on amusement tax statistics and on company data.

Source: Federal Statistical Bureau; VDAI; IFH Institut für Handelsforschung GmbH; own calculations.

The reduction of capacities in the arcade sector led to an improved utilization of the remaining AWP in 2018, so that the cutback could be partially offset. However, the conversion of AWP from TR 4.x to TR 5.0 on 11 November 2018 has significantly worsened the situation. The attractiveness of AWP was severely impaired by extensive and drastic regulations. The deadline was a turning point for the operators. GGR collapsed

¹² The estimated GGR for 2017 reported in the industry report was €7,160 million (including VAT). Due to the information provided by the Federal Statistical Office on advance notifications for VAT payments of operators, the figure had to be adjusted downwards to €6,960 million.

at a high double-digit rate. While in the first three quarters of 2018, GGR still – estimated by amusement tax payments of operators – slightly expanded by just under 1%, it fell by around 3% in the fourth quarter. This was mainly due to the nationwide conversion of AWP to TR 5.0 as of 11 November 2018. The stricter machine-bound regulations for the protection of players and minors complicated the handling of the AWP and led to a slump in revenues of 10-40% during the last weeks of the year, depending on the product configuration and kind of location. On average for the year 2018, this development results in a slight decline.

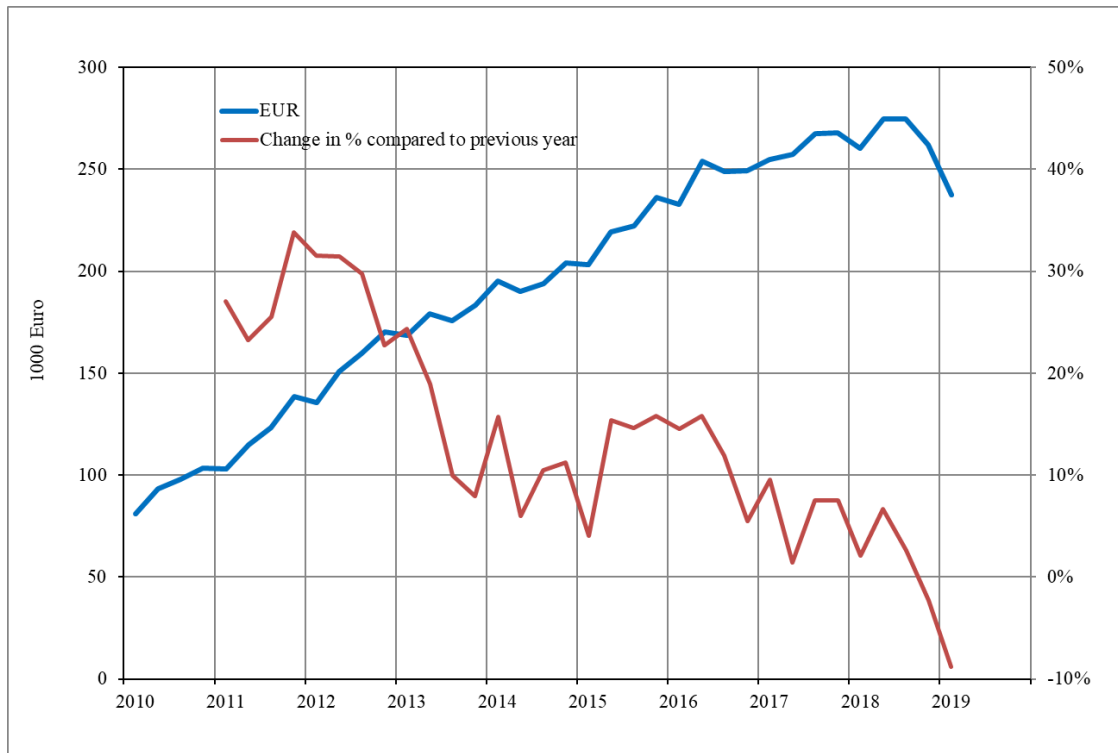
4. IN THE MEDIUM-TERM OPERATORS LOSE CUSTOMERS TO COMPETITORS IN THE GAMBLING MARKET

In the years up to 2014, amusement taxes expanded at a high double-digit rate, driven both by a dynamically expanding demand and, in some cases, by massive increases in tax rates and the conversion of the tax base for AWP. In the following years, municipal revenue from amusement taxes continued to grow at high rates of around 10%. In the last quarter of 2018, for the first time, there was a decline caused by the conversion of AWP to TR 5.0. This development continued in 2019 in the first quarter. The amusement tax fell by 8.8% from €260.3 million in the previous year to €237.3 million (See: Fig. 1). The decline in municipal amusement tax receipts signals a collapse of operators' revenues. Using the elasticity of the amusement taxes and revenues, which in recent years was in the range of 1.5 and 2.0, the operators' revenues slumped at around 12% compared to the same quarter last year.

The main reason for this decline has been the fundamental amendment of the SpielV, which applies after the end of the transitional period on 11 November 2018 for all installed AWP. The operators are faced with the fact that the handling of AWP based on TR 5.0 is considerably more complex and require explanation and getting used to for the players. The entire game process is not intuitively comprehensible on the part of the players and is often critically described as time-consuming and non-transparent. The players also need to get used to the obligatory use of a machine-bound, concurrent means of identification for the release of AWP version 2 (V2 - type approvals from 10 February

2016 onwards), which has been mandatory since 11 November 2018, and calls for information, in particular regarding the ensuring of privacy. The operators are trying to address these problems with appropriately trained personnel who explain the background of the use of an identification device and its handling.

Figure 1: The municipal revenues from amusement taxes on the operation of AWPS



Source: Federal Statistical Bureau; own calculations.

As a result of the amended SpielV with its multiplicity of new and changed machine-related regulations aimed at an extension of the traditionally high protection of players and minors of AWP, commercial gaming has lost much of its attractiveness. It is to be feared that the majority of players who have migrated away from commercial gaming have not withdrawn from the gaming and gambling market but have switched to other

offers, in particular, to the slot-machines in the parlours of casinos and to the extensive, unregulated offer of online-casinos on the Internet.¹³

In both cases, the offers are comparable to commercial gaming, with the major difference that they are not subject to PTB approval. Extreme gambling incentives (opportunities for high stakes and chances of winning) imply the risk that not insignificant asset shifts can occur in a short period of time.¹⁴ The latest results of a study carried out regularly on behalf of the Federal Center for Health Education (BZgA) indicate that there are higher potential threats – measured by the proportion of at least problematic players in the totality of all players in a game form.¹⁵

In interviews, arcade operators reported that in the first few months of 2019 after the conversion of AWP, customers had moved away to nearby casinos. This is in agreement with information from the German Casino Association (Deutscher Spielbankenverband, DSbV) that the state-licensed casinos enjoyed an increase of GGR in slot-machine parlours of 42% in the first quarter of 2019 compared with the same period last year.¹⁶ The extraordinary increase in GGR in casinos' slot-machine parlours corresponds to about one-third of AWP's shortfall in revenue of operators, which was around €150 million in the first quarter 2019. The greater part of the loss of revenue was presumably caused by players migrating to other offers of the gaming and gambling market, especially stationary offers at locations unsuitable under § 1 Abs. 2 SpielV (such

¹³ This problem was addressed years ago in a study for the Hessian Ministry of the Interior and Sports (HMdIS): The market-reducing regulation of commercial gaming is counteracted by a migration to the Internet and should be discussed (See: Media & Entertainment Consulting Network GmbH July 2014, p. 22).

¹⁴ It is often overlooked that the existence of a “game of chance” depends not only on whether chance is crucial to the game, but equally whether it involves not inconsiderable asset shifts in a short time. For example, the element of the asset shift in a short time is an essential characteristic of “gambling”, however, in the case of AWP operated in the Federal Republic of Germany under the SpielV this element is missing.

See: Franz Wilhelm Peren; “Public Hearing of the Main Committee and the Committee on Labor, Health and Social Affairs, Landtag Committee Report on North Rhine-Westphalia (APr 16/56) 16th electoral term”, 28 September 2012, available at:

<https://www.landtag.nrw.de/Dokumentenservice/portal/WWW/dokumentenarchiv/Dokument/MMST16-26.pdf;jsessionid=78E82AF9B11999E7D3A9E13C5A49B36A.ifxworker> (18 July 2019)

According to § 33e GewO the type approval and the certification of clearance for AWP is to be refused if there is a risk that the player may suffer unreasonably high losses in a short time.

¹⁵ Markus Banz and Peter Lang; Glücksspielverhalten und Glücksspielsucht in Deutschland – Ergebnisse des Surveys 2017 und Trends, BZgA-Forschungsbericht, Bundeszentrale für gesundheitliche Aufklärung, Köln, p. 251.

¹⁶ For comparison, the increase in the first quarter of 2018 compared to 2017 was only 7.5%.

as alleged or fake gastronomy, café casinos, sports bistros, etc.), in illegal back rooms and the likewise illegal online casinos. Such a development is in contrast to the objectives formulated in § 1 GlüStV, in particular the steering of the natural play instinct of the population in orderly and supervised channels by a limited, suitable alternative gambling offer (channelling obligation).¹⁷

Recently, operators report that the slump in business activity is losing momentum, with some customers returning in some cases. This suggests that the far-reaching changes in AWP's due to the amendments to the SpielV had discouraged customers, but after experiencing offers of the gambling market, they have come to appreciate the advantages of the strictly regulated commercial gaming. In line with this, reports from amusement arcades near casinos suggest that players are returning based on their experience with slot-machines and their greater potential for danger. However, a trend reversal is not expected. It must be assumed that the previous year's level will not be reached and that revenues will continue to decline in the coming years.

This expectation is derived from the regulatory framework for commercial gaming. Among the regulations that are relevant for the industry are the GlüStV in connection with the state-specific gaming regulations and the GewO in connection with the SpielV, whose reducing effects reinforce each other. The machine-related provisions of SpielV impair the attractiveness of the AWP's. This concerns the restriction of winnings and losses (§ 12 para. 2 no. 1, § 13 no. 2, 4, 5 SpielV), but even more the interferences in the flow of the game, like the newly introduced game interruption after three hours (§ 13 no. 6a SpielV) and the prohibition of the automatic key (§ 13 no. 7 sentence 3 and 4 SpielV). As in previous years, in 2019 it will no longer be possible to compensate for the capacity reduction required by the GlüStV for the most part of existing amusement arcades as of 1 July 2017 (primarily mandatory minimum distances, the ban of multi-concessions) through higher equipment utilization. In the area of the arcades, in 2019 – as in the past

¹⁷ In this respect, the 6th amendment to the SpielV implies a request on the executive authority to prevent evasive movements caused by the stricter regulations for commercial gambling towards unregulated gambling offers. In particular, the remaining enforcement deficits should be eliminated in order to curb the illegal stationary supply. With regard to the Internet, the legislator is required to set a framework for a regulated offer taking into account youth and player protection (See: Hans-Günther Vieweg; Die Unterhaltungsautomatenwirtschaft im Spannungsfeld unternehmerischer Freiheit und staatlicher Regulierung, ifo Forschungsberichte 94, ifo Institut, München 2018, pp. 23.)

year – a reduction in the number of installed AWP is expected. A decline of between 10,000 and 15,000 devices is likely.

The number of AWP installed in the restaurant and catering sector has increased over the last decade. New locations at traffic junctions, service areas, train stations, airports, etc were partly responsible for this development. Around 20% of the sector's locations are equipped with 3AWP, the maximum allowable number. According to § 3 para. 1 SpielV, as of 10 November 2019 only two AWP per location in the restaurant and catering sector are permitted. This necessitates the reduction of between 5,000 and 10,000 AWP of the currently 87,000 installed machines, which will lead to a loss of revenue, especially in 2020. For both sectors of commercial gaming, the total stock of AWP could decrease by between 20,000 and 25,000 GSG to a total of 220,000 AWP by 31 December 2019.

For the first quarter of 2019, the revenue slump compared to the previous year was calculated at 12%. The decline weakened slightly by mid-year. While the reduction in inventories of up to 15,000 AWP in the amusement arcades at the federal level is spread over the year, the reduction of up to 10,000 AWP in the catering sector is expected only towards year end and thus will affect the decline in GGR, on average, only slightly. Overall, a reduction of around one tenth in the number of AWP deployed as of 31 December 2019 is likely. Assuming that the operators can no longer increase the GGR per AWP, as in previous years, a reduction in operators' revenues of up to 10% is to be anticipated for 2019.

For the period until the expiration of the GlüStV on 30 June 2021, no change in the general conditions for commercial gaming is to be expected. The dismantling of AWP in the arcade sector will continue at a comparable rate as observed since 1 July 2017, the date on which the central, capacity-reducing provisions of the GlüStV came into force. Assuming that the capacity utilization of AWP complying to TR 5.0 cannot be increased due to the stricter machine-related regulations of the SpielV, an annual decline of GGR on a similar scale as in the current year can be expected. By the end of June 2021, there will be a one-third decline in commercial gaming. Of the more than 5 million regular players, around 1.5 million will switch to other offers or give up gaming. In particular, recreational players who only use the offers occasionally will leave the gaming and

gambling market.¹⁸ Players, especially if they play regularly in their leisure time, tend not only to focus on one single form of gaming and gambling, but prefer a mix of different offers. If the supply of AWP is reduced that drastically, to a large extent commercial gaming will be replaced by another offer.¹⁹ In this respect, it can be expected that in addition to casinos, non-regulated, stationary and the Internet-based illegal gambling in particular will benefit from the cutbacks in commercial gaming.

¹⁸ Franz Wilhelm Peren and Reiner Clement; Der deutsche Glücks- und Gewinnspielmarkt – Eine quantitative Bemessung von regulierten und nicht-regulierten Glücks- und Gewinnspielangeboten in Deutschland, MUR-Verlag, München 2018, pp. 83.

¹⁹ TNS EMNID; Spielen mit und um Geld in Deutschland – Ergebnisse einer repräsentativen Bevölkerungsuntersuchung – Sonderauswertung: pathologisches Spielverhalten, October 2011, p. 35.