

RGA

Portugal vs. other territories: Regulatory impact comparison

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Key points



Impact of tax policy

- High turnover taxes distort price and cause a black market to occur
- This black market is in large part a direct function of tax avoidance...
- ...meaning effective underlying tax rates are very similar
- A 20% GGR rate of betting tax would capture much of the market, maintain
 current levels of tax collected and allow domestically regulated growth

Impact of product restrictions

- Customers enjoy betting on a wide range of sports, competitions and markets
- If these options are not available in regulated form, customers will find them
- ...again, creating a black market and reducing channelling
- If all bet types were allowed, then c. 35% of additional betting leakage would be brought within the domestically regulated market, if effectively taxed

Impact on channelling

- High turnover taxes and product restrictions are the two major causes of leakage into black markets
- Portugal displays both of these issues within its betting sector, causing material distortion and leakage
- We estimate c. 57% of revenue is migrating to .com; only 24% of turnover (betting activity) is captured domestically after turnover tax is deducted
- By switching to GGR tax *and* lifting product restrictions, channelling could increase from 43% to over 90% (in line with Italy, UK, Denmark)

Impact on monopolies

- There is little evidence to suggest that growing commercial online gambling directly impacts the revenue generated by national monopolies
- Channel shift to online devices will occur due to demand-drivers, effectively channelling this into domestic regulation offers tax and protection options
- Equally, monopolies are capable of competing and thriving in this environment, either directly or indirectly
- A commercial online gambling market can sit alongside a monopoly, strengthening overall tax, player protection, integrity and market oversight

Comparing market size: data



60% 100.00 90.00 50% 80.00 70.00 40% 60.00 50.00 30% 40.00 20% 30.00 20.00 10% 10.00 0.00 0% Portugal Spain Italy France Denmark UK Domestic sports Domestic gaming Domestic growth rate (Q4 YoY) : RHS .com sports .com gaming

Online gambling market per capita 2017 (€)

Methodology

- Official market statistics used, annualised estimate for UK and • Denmark (exchange rates: DKK 0.13; GBP 0.83)
- Italy and UK adjusted for bonuses to reflect NGR; Italy also • adjusted to treat recently licensed local operators as domestic
- Per capita taken from total population statistics (not adult only) .
- See below for .com calculations • (NB, Portugal leakage concentrated in sports, as per graph) CONFIDENTIAL: Regulus Partners 2018

Per capita (2017)							
NGR, €	Portugal	Spain	Italy	France	Denmark	UK	
Domestic sports	6.60	6.70	9.05	10.75	35.37	39.15	
Domestic gaming	5.28	5.27	9.18	3.66	41.19	52.25	
Total domestic market	11.88	11.97	18.23	14.41	76.56	91.40	
.com sports	8.72	0.21	0.17	14.20	2.46	0.45	
.com gaming	3.88	2.19	0.86	22.42	3.51	0.89	
Domestic growth rate (Q4 YoY) : RHS	34%	38%	50%	39%	26%	24%	
GDP per capita (index to Portugal)	1.00	1.33	1.54	1.86	2.74	1.69	
Total domestic market size (NGR, €m)	123	558	1105	964	436	5996	

Source: SRIJ, DGOJ, Agimeg, ARJEL, Spillmydigheden, GB GC, Regulus Partners estimates

Comparing market size: analysis



Total domestic market

- Portugal's online market has rapidly established scale, at €123m...
 which makes it equivalent to Spain in terms of domestic GGR per capita
- While France is 22% larger in GGR per capita, GDP per capita is 82% higher ie, France is relatively underperforming Portugal
- Italy is 53% larger in GGR per capita, while GDP per capita is 54% higher - ie, Portugal is performing broadly in line with Italy on an adjusted basis
- UK and Denmark are significantly higher (5.4x and 6.7x respectively) - driven by: higher GDP per capita (2-2.7x), mobile transactions and culture)

The betting market

- Portugal's domestically regulated betting market appears the same size as Spain's, however this is misleading due to the impact of tax (see below)
- Italy's appears to be larger, but when factoring in .com revenue also, we estimate the Portuguese online betting market is actually 66% bigger
- ...which also outperforms France on an economically adjusted basis (France 63% bigger in €-terms per capita, GDP per capita 82% greater)
- However, the regulated market captures only 43% of this total market
 we discuss the basis and dynamics of this below

Total market including .com

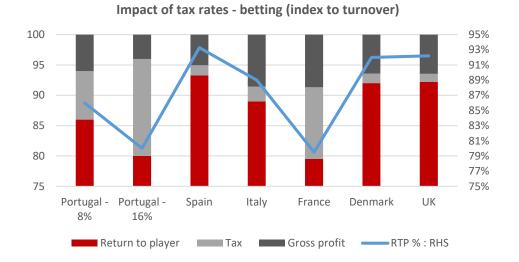
- Considering only the domestically regulated market provides a supply-driven view, since some customers will always gamble with .com providers
- This is highly opaque, varies significantly by territory and is discussed in detail below
- However, a key point to make here is that Portugal materially outperforms both Spain and Italy in terms of total online market size, which may surprise
- This is partly because Portugal has no retail betting and less developed gaming machine markets than either Spain or Italy, driving more business online

The gaming market

- Portugal's domestically regulated gaming market is also the same size as Spain's per capita, with broadly similar tax rates and leakage issues
- While Portugal's domestically regulated gaming market is 27% smaller than Italy's per capita; when .com GGR is factored in this gap closes to 9%
- Levels of distortion are lower in Portugal's gaming market than for betting for three key reasons (which we discuss in detail below)
 - substantially all products are available, unlike sports
 - taxes are more reasonable in both scale and where they fall (win vs. turnover)
 - there is an engaged and competitive domestic licensee based

Tax rates and collection: data





600.00 500.00 400.00 300.00 200.00 100.00 0.00

Spain

Portugal

Turnover per capita (€)

Methodology

- Official tax rates applied in UK, Italy, Spain and Denmark
- Declared tax amounts used for France and Portugal
- Portugal betting tax calculated by working out casino duty from official range and deducting from declared total

International tax rate comparison								
		Portugal	Spain	Italy	France	Denmark	UK	
Headline	Betting	8-16% TO	25% GW	22% GW	8.9-12.7% TO	20% GW	15% GV	
neaunne	Gaming	15-30% GW	25% GW	20% GW	2% TO	20% GW	15% GV	
	Betting	63%	25%	22%	58%	20%	179	
	Gaming	21%	25%	20%	36%	20%	169	
NGR eqivalent	Blended rate	44%	25%	21%	52%	20%	169	
	Product difference	205%	0%	10%	60%	0%	8%	

Italy

France

Denmark

UK

Tax rates and collection: analysis



Impact of turnover tax

- When a gambling duty is levied on operators' win it forms part of its cost of sales and therefore does not directly affect price
- When a gambling duty is levied on turnover it forms part of the customer's cost of play since it is either added to stakes or taken off prizes
- An operator may choose to absorb some or all of this cost, but:
 with 'free market' sports margins averaging c. 8%, a 2% levy is about the max[®]
 products naturally priced below the rate of tax cannot be effectively offered
- NB, scale accentuates these issues in Portugal due to the escalating rate

Impact of high turnover taxes on reported revenue

- Turnover taxes distort price, but they also distort reported revenue
- Taxes are borne by operators and therefore treated as part of revenue
- However, high turnover taxes effectively cost the customer in price...
- ...this means that reported revenue can appear high because of the tax
- Turnover per customer is therefore a better measures of distortion:
 - Portugal has the lowest turnover per capita by some distance
 - Spain, 2.7x higher; Italy 2.2x higher; only turnover tax France is comparable

Impact of different tax models by product within a jurisdiction

- Portugal has a different tax rate for gaming than for betting
- Some other countries adopt this approach (France, to an extent Italy)...
- ...though none have the product difference distortion on the scale of Portugal:
 where betting is taxed c. 2x the cost of gaming, with additional price impact

Given that turnover taxes impact price and Portugal's gaming tax is on GGR, we can reasonably assume that customers are being pushed toward gaming; this causes economic distortion and possibly also Social Responsibility issues

Taxation's role in channelling and leakage

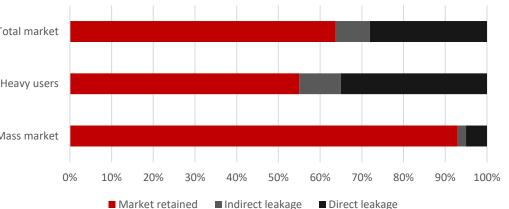
- High turnover taxes create two key issues visible in Portugal:
 - .com sportsbooks will offer better odds which are visible to customers
 - domestically regulated sportbooks will struggle to market and innovate
 ...especially since scale attracts significantly increasing rates of tax
- In other words, high turnover taxes hamper both the customer experience and the operator's ability to gain scale...
- ...this means that not only is leakage significant initially within a market, it is likely to get worse over time as .com offers strengthen relative to domestic

Establishing a sports catalogue: data



Sports catalogue leakage: Portugal						
	Portugal	Market	Gap	Weighted gap		
Available sports	26	70	63%	5%		
Competitions within allowed sports - football	270	1445	81%	10%		
Bet types - football	45	71	37%	5%		
Revenue impact of missing sports and football restrictions 20%						
Estimated revenue impact of competition and bet type restrictions on other sports						
Total estimated sports catalogue restriction leakage			26%			
Source: Regulus Partners estimates						

Leakage impact of sports catalogue restrictions



Methodology

- Portuguese published catalogue compared to market offers in jurisdictions without catalogue restrictions (eg, UK, Spain, Italy)
- GGR concentration by cohort based upon Regulus Partners' understanding of market dynamics, including discussions with operators
- NB, cohort and market analysis are indicative averages, not based upon any specific geography or operator, for which there will be material variation
- NB, leakage rates are hypothetical, not a direct forecast for Portugal

"Typical" remote betting market breakdow by user cohort							
	Mass market	Heavy user	Total				
# customers (index)	90	10	100				
SpH (€)	100.00	3000.00	390.00				
# accounts per customer	1.2	10.0	2.1				
Revenue per account (€)	83.33	300.00	187.50				
Revenue (€m hypothetical)	9.0	30.0	39.0				
Revenue from 'marginal' products	0.5	10.5	11.0				
Marginal product leakage if restricted	5%	35%	28%				
Potential other business loss - rate	2%	10%	8%				
Potential other business loss - amount	0.2	3.0	3.2				
Total potential catalogue impact - amount	0.6	13.5	14.1				
Total potential catalogue impact - rate	7%	45%	36%				

Source: Regulus Partners estimates

Establishing a sports catalogue: analysis



Portugal's sports catalogue: the importance of what is missing

- On the face of it, Portugal allows betting on a broad range of sports, competitions and betting markets
- However, fully 44 sports are missing which are available in the wider market •
- Nearly 1,200 football are absent: over 80% of total supply...
- ...and nearly 40% of bet types within football are also absent, for example
- Customers wishing to bet on these products will find them readily available in the .com market, with few meaningful barriers to access

Direct and indirect impact on missing betting markets

- While large numbers of events and bet types are missing, we recognise that

 these tend to be relatively 'marginal'
- However, the impact of not offering these markets is materially greater than the direct revenue lost to .com by the transfer of other customer activity
- This is because once a customer has signed up with an operator which offers the bet types the customer is looking for, they are very likely to migrate a proportion of their activity on domestically allowed products also – NB, this is also likely to apply to gaming GGR lost to .com betting sites

Customer cohort analysis: why the tail matters

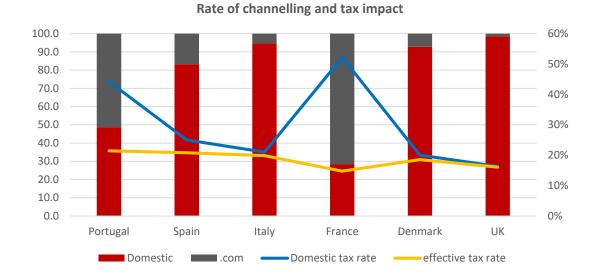
- It is probably the case that the majority of customers by volume would not typically notice the absence of marginal events and bet types
- However, gambling revenue is typically concentrated into 'heavy user' cohorts and there is no evidence to suggest that Portugal is any different
- These heavy users tend to bet on a much wider range of products since they are motivated by betting as much as by the underlying sport
- Consequently, the revenue impact of marginal sports and events within sports is materially greater than their popularity within a population might suggest

Cumulative impact on missing betting markets

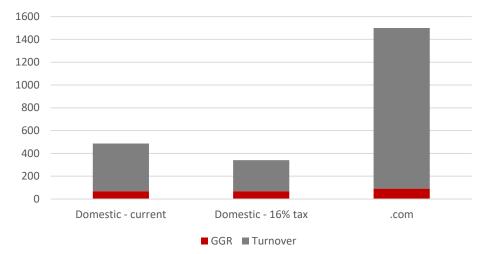
- We have triangulated the above data and customer cohorts to provide an estimate of economic impact, using hypothetical figures
- According to our analysis, almost 30% of revenue is directly at risk from a narrow catalogue such as Portugal's (overwhelmingly from heavy users)
 - NB, this is not a forecast of leakage in Portugal since granular trading data is not available
- When the migration of broader activity is included, this figure rises to 36%
- It should be noted that this revenue / channelling impact is specifically due to the sports catalogue and excludes the additional significant impact of tax

Channelling rate and tax impact: data





Portugal: domestic vs. .com turnover (€m)



Methodology

- RGA survey of Portuguese customers triangulation
 only 32% of surveyed gamblers were registered with just domestic supply
- Triangulation of channelling impact
- Triangulation of price impact of turnover duties on price sensitive heavyusers
- Regulus Partners' appreciation of market dynamics, including discussions with operators

Rate of channelling and tax impact						
	Portugal	Spain	Italy	France	Denmark	UK
Domestic	11.9	12.0	18.2	14.4	76.6	91.4
.com	12.6	2.4	1.0	36.6	6.0	1.3
Total market	24.5	14.4	19.3	51.0	82.5	92.7
% leakage	51%	17%	5%	72%	7%	1%
Domestic tax rate	44%	25%	21%	52%	20%	16%
Effective tax rate	21%	21%	20%	15%	19%	16%
Source: Regulus Partners estimates						

Channelling rate: analysis



Key causes of leakage: general

- There are three main causes of leakage within a domestically regulated market,
 caused by economic distortions of the nature of the regulation:
- High turnover taxes impact the price of products to the customer and also reduce the operator's ability to market and invest in innovation

 see France
 *
- Product restrictions cause customers, especially critical heavy users, to seek supply which provides them with the betting or gaming they enjoy
 see France, historically Spain and Italy

Underlying tax rates

- An obvious impact of channelling is that there is an untaxed and unregulated .com market which competes with domestically regulated supply
- What is remarkably consistent is the extent to which tax rates effectively shape this outcome
- Where high turnover taxes exist, they push supply into the .com environment to the extent that underlying tax rates are in a relatively tight 14-21% range
- Ie, a 20% GGR tax (all products allowed) would likely capture substantially all the Portuguese market without impacting the amount of tax collected

Key causes of leakage: Portugal

- Portugal contains both of these key factors:
- High turnover taxes on betting mean that net customer losses are significantly
 lower than revenue and prices are distorted
- Product restrictions in sports betting force customers into the .com market to find the bet types they want, likely taking wider activity (inc. gaming) also
- The cumulative impact on betting (the key distortion) is pronounced:
 - sports betting leakage in GGR terms is 57%
 - this is far more pronounced in turnover (activity), with leakage of c. 76%
 - NB, when a 16% tax rate is factored in, activity leakage grows to c. 81%

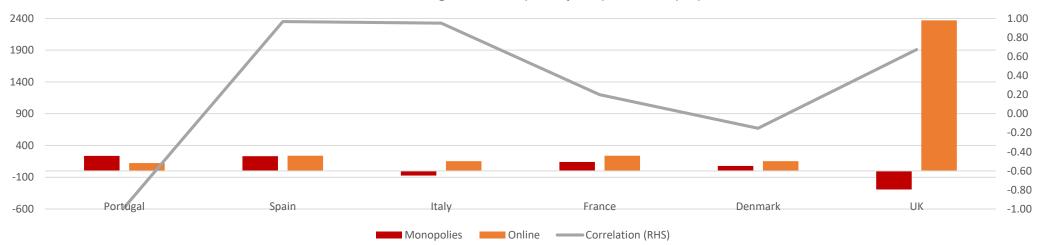
Impact on growth

- The case for a workable rate of GGR tax which channels substantially all the market is not just an issue of current channelling
- As previously explained, high taxes inhibit marketing and investment, over time therefore increasing the relative strength of .com operators
- This will mean that over time online growth will increasingly favour .com operators over domestically licensed supply...
- ...in turn making channelling rates even worse in the future (from an already low base) especially given the increasing impact of an escalating turnover tax

Impact on monopolies: data



Cumulative change in revenue (net of prizes) 2014 2017 (€m)



Methodology

- Sum change in repprted revenue for monopolies 2014 2017:
 - Portugal: Santa Casa
 - Spain: SELAE, ONCE
 - Italy: Lottomatica
 - Frsnce: PMU, FDJ
 - Denmark: Danske Spil
 - UK: Camelot

• Correlation analysis of annual remote change vs. annual monopoly change in revenue (NB, latter reversed so that monopoly decline shows positive

Cumulative change in revenue (net of prizes) 2014 - 2017								
(€m)	Portugal	Spain	Italy	France	Denmark	UK		
Monopolies	235.9	23	L -73	141	79	-293.0		
Online	123	23) 152	239	152	2,368.1		
Correlation (RHS)	-0.98	0.9	7 0.95	0.20	-0.15	0.67		

Source: Annual Reports, Regulus Partners estimates

Impact on monopolies: analysis



Growth vs. decline?

- There are two perceived themes often reported which concern legislators:
 online is in growth while lottery (and other) monopolies are in decline
 - online growth in part causes online decline
- We have analysed the 2014-17 online and monopoly results of the six markets covered comparatively in this report:
 - four monopoly regimes have grown (Portugal, Spain, France, Denmark)
 two have declined (UK, Italy; both with specific reasons)
- There is no clear pattern or correlation between monopoly performance
- There is no clear pattern or correlation between monopoly performa and the nature of the online regime

Coincidence or causality?

- There are three markets where correlation in growth dynamics is high:
- In Spain, notwithstanding the correlation, monopolies have grown net revenue by almost exactly the same amount as the online market
- While Lottomatica has reported revenue declines in Italy, it has attributed this to the terms and amortisation of the new contract: not competition
- While UK TNL has also reported decline, its competitive concerns are with lotto-style products and it has also materially changed game dynamics

Relative share of growth

- A stronger case can be made that online products are more likely to gain share over time as they benefit from wider consumer channel shift

 this is happening in France, Spain, Denmark, UK, Italy
- Since there are more gambling options online than in landbased formats (which are easier to restrict), this growth is bound to be spread across operators rather than preserved within monopoly frameworks
- The key issue is to channel demand into regulated supply, since the demand will migrate online anyway (just with any other form of entertainment)

Symbiosis vs. competition

- While creating a liberal online gambling regime channels increasing online demand, consideration can nevertheless be given to monopoly status:
- A number of monopolies compete directly and effectively online
 PMU, FDJ, Danske Spil, Lottomatica
- All monopolies have some product and distribution advantages due to their status, which can still be leveraged online
- Monopolies and commercial gambling can operate effectively in the same market, allowing the broadest tax base and range of customers protections



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