Wednesday, April 11, 2018

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Potential Upside/ (Downside): 1%	Celia Chen Yale School of Management celia.chen@yale.edu

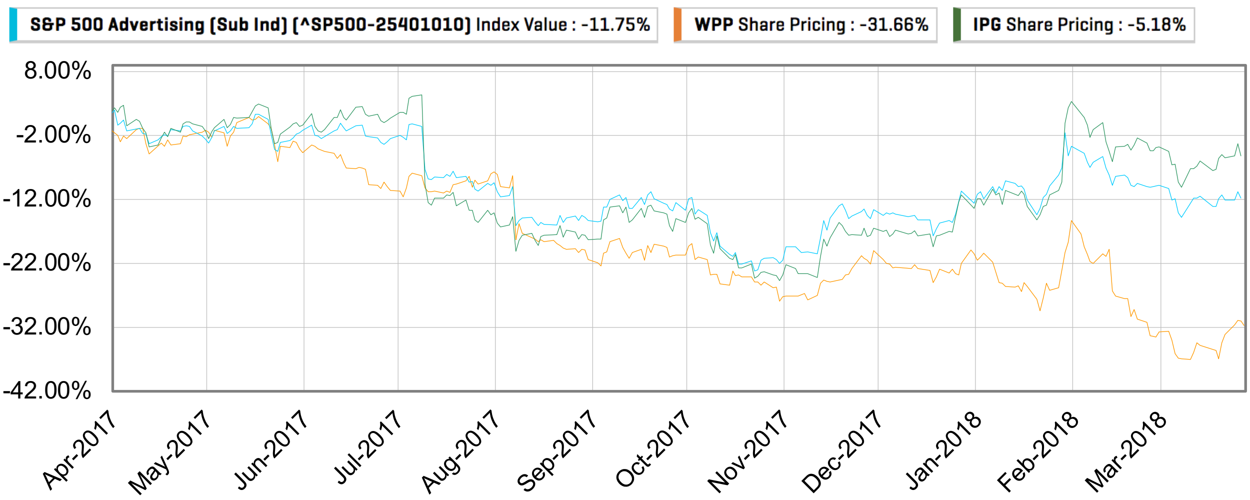


Figure 1: Interpublic vs S&P 500 Advertising vs WPP (largest competitor)[1]

Key Financial Metrics			
Millions (USD)	**2015**	**2016**	**2017**
Revenue	7614	7847	7882
EBITDA Margin	13.5%	13.9%	14.3%
Net Income	6.0%	7.8%	7.3%
Current Price	$23.2		
52 Week range	$18.30 - $26.01		
Target Value	$23.3		
Potential Upside/ (Downside)	1%		

Please see the disclaimer at the back of this report for important disclosure information

[1] Capital IQ Chart Builder

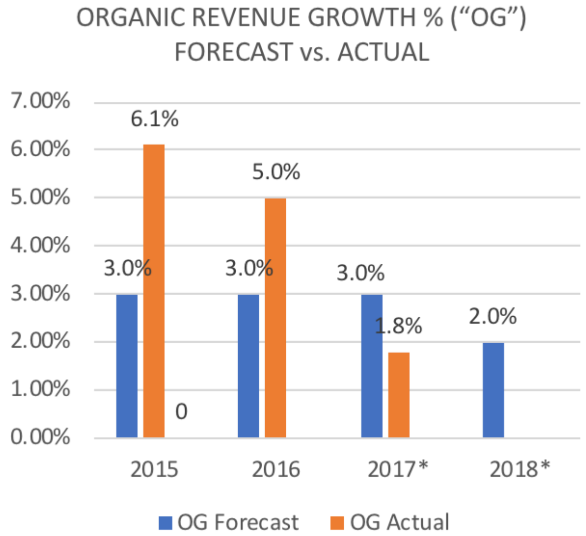
Company Overview

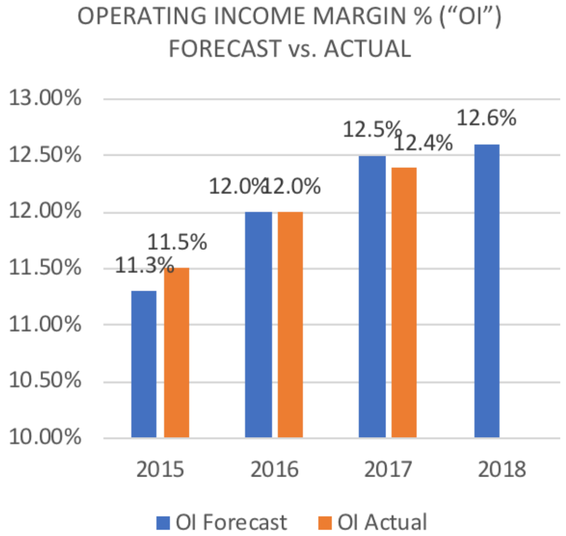
If you've come across commercials on TV recently for Quicken Loans, LG Electronics, or Sling TV you are familiar with some of The Interpublic Group's work. As a holding company in New York City, The Interpublic Group (NYSE: IPG) is a collection of independent agencies with over 50,000 employees[2] around the world. IPG is regarded as one of the "big four" in advertising along with WPP, Publicis, and Omnicom. With revenues of $7.88 billion in fiscal year 2017, IPG stands as the smallest of the "big four" advertising firms. The agencies which comes under IPG are organized into 3 major "networks": McCann Worldgroup, Lowe and Partners, and FCB. Advertising Age, the premier magazine in advertising, named McCann the "top agency" in the B2B category in 2018[3].

The company's strategic elements include: Investing in senior leadership, Growing digital capabilities, Investment in emerging markets, and Integrated marketing solutions. While, on the outset, this set of initiatives do not differ from the other "big four" agencies, considering that 60% of IPG's revenues come from the US and another 20% from Europe and the UK, diversification into high growth geographic regions like LatAM and Asia are critical for IPG to stay on par with the other "big four".

The company reports that top ten clients account for over 20% of total revenue and the largest client account for 5% of revenues. This poses a huge risk to IPG as clients may leave or reduce marketing spend at any time with short notice and have significant impact on future cash flows[4].

Our Outlook





*2017 target OG at the beginning of year was in the range of 3% to 4%, and later revised down to 1% to 2%; 2018 target OG in the range of 2% to 3%

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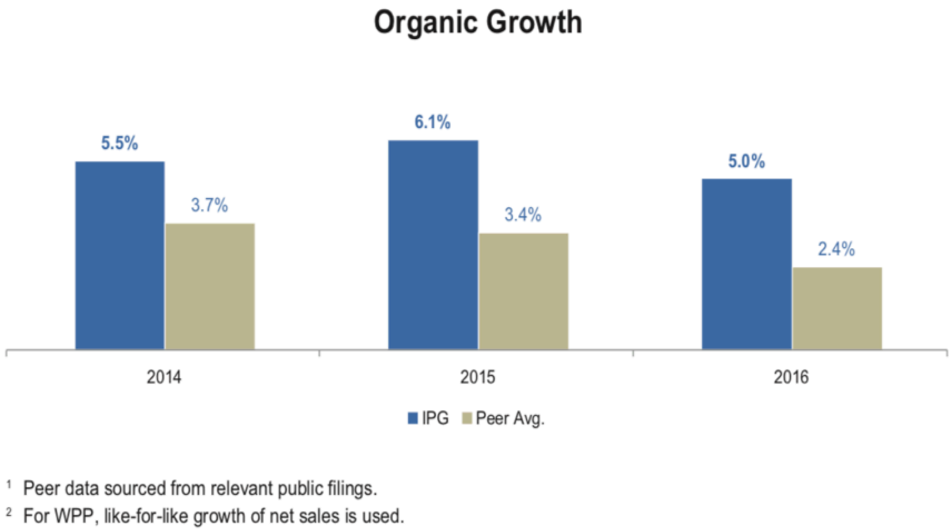
[2] IPG Website: https://www.interpublic.com/about/overview
[3] http://investors.interpublic.com/phoenix.zhtml?c=87867&p=irol-newsArticle&ID=2333435
[4] https://www.sec.gov/Archives/edgar/data/51644/000005164418000019/ipg12311710k.htm

In 2015 and 2016, the organic growth of IPG was at the high-end of IPG's target range, while the operating margins have consistently met target. After the 2nd quarter of 2017, IPG revised downward the target organic growth from 3% to 4% to between 1% and 2%, as well as 40 basis points of margin improvement from the previous year's operating margin of 12%. As a result, IPG achieved its target forecast three years in a row.

IPG's OG outperformed the peer group from 2014 to 2016 In 2017, the IPG's OG was 1.8% which is higher than most of the key advertiser in 2017 (WPP -0.3%, Omnicom 3%, Publicis 0.8% and Dentsu 0.1%). And the operating margin has been on the ascending track since 2013.



Source: 2017 IPG proxy statement

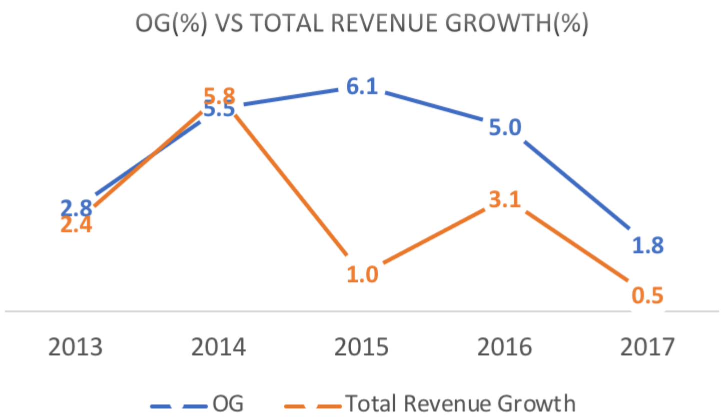
We attribute the performance result to:

1. Diverse client base and client relationship management: top 10 clients account for 20% of revenue in 2017 and top 100 clients account for over 50%. Key clients appreciate IPG's global marketing solution offering and most of the organic growth from the deepening of the wallet size of existing clients. Given its above-the-industry organic growth in the past few years, IPG has the proven ability to attract new client and retain existing clients.
2. Continuous investing in the technologies, data and analytics boost the organic growth of specialty digital assets such as Huge, MRM//McCann and R/GA and creativity-driven advertising business at McCann Worldgroup, FCB and Deutsch Agencies.
3. Disciplined expense management: levering the economic scale, the operating margin has been increased 310 bps and the occupied square footage per employee is off ~20% since 2013.
4. Pay-for-performance incentive model and bottom-up budget: the principle metrics are organic revenue growth and margin growth related to the targets set at the beginning of each year. ~90% of the target compensation for the Chairman & CEO was variable pay while 75% represented for all other NEOs.

Short term outlook is positive given the tax reform increased the cash flow of their US clients

In the long-term revenue is driven by a wide range of the agencies and services both in U.S. market and international markets. IPG Mediabrands, a Group that spearheads the media innovation and digital marketing under IPG, has achieved strong global growth in the past few years. IPG was leading by the continued outstanding performance of IPG Mediabrands and other creatively-driven advertising businesses at McCann Worldgroup, FCB and Deutsch. Notable growth in the area of auto & transportation, travel, government and healthcare.

Current acquisitions and investments enhance the service offerings to the client; however, the financial return is below the group level. The overall revenue growth has been consistently lower than the organic growth due to the net dispositions.



Cyclicality of the advertising industry and potential top-line volatility due to major account will affect the revenue growth. IPG has diversified its business into international market and maintained its exposure to the developed market in the past three years. Although the strong GDP growth is spotted in the emerging market, we see that marketers experiencing slower growth, companies continuing to cut the fees they pay agencies, and consulting firms intensifying the competition. Another challenge has been brands cracking down on nontransparent practices in the ad-buying sector, which industry observers say has squeezed holding company margins.

Revenue Contribution by Region

Revenues (USD)	**2013**	**2014**	**2015**	**2016**	**2017**	**2018E-2022E**
United States	56%	56%	59%	60%	60%	60%
United Kingdom	8%	9%	9%	9%	9%	9%
Continental Europe	11%	11%	9%	9%	9%	9%
Asia Pacific	12%	12%	12%	12%	12%	12%
Latin America	7%	6%	5%	5%	5%	5%
Other	6%	6%	6%	6%	6%	5%
Total Revenues	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: 2017 IPG Annual Report

Forecasts

Financial Objectives:

The major financial goals include: competitive organic revenue growth, operating margin expansion, and increase value to the shareholders.

Revenues:

Total revenue growth is attributable to three factors: changes in foreign currency, the net effect of acquisitions and divestitures, and organic change.

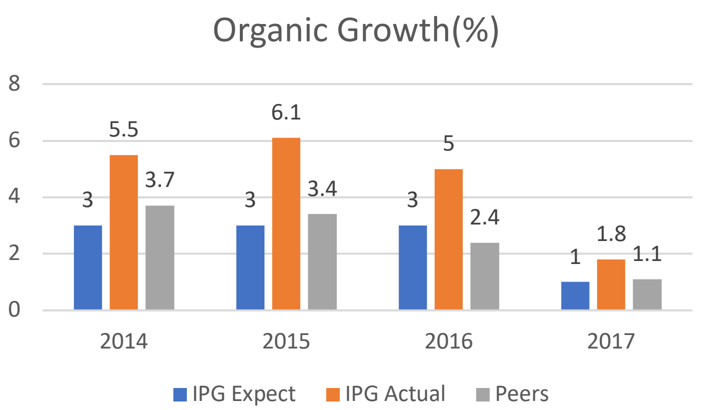
Revenue Growth	2013	2014	2015	2016	2017
OG	2.8	5.5	6.1	5.0	1.8
FX Adjustment	-1.1	-1.0	-5.4	-2.1	0.0
Net Acquisition/Divesture	0.7	1.3	0.3	0.2	-1.3
Total Revenue Growth	2.4	5.8	1.0	3.1	0.5

Source: 2013 to 2018 IPG Conference Call

FX adjustment. The revenue from U.S. accounts for 60% of total revenue while 40% of the revenue are generated in foreign currencies. Hence both positive and negative currency fluctuations against U.S. dollar affect the top-line growth. Given US dollars rallied from 2013 to 2016 and weakened in 2017, FX adjustment went negative in 2013 to 2016 to rebounded to 0.0 in 2017. We assume a flat USD in the long run.

Net Acquisition/Divestiture. IPG invested to strategically expand industry expertise and strengthen position in high-growth and strategic market, while it devested some businesses due to its agency consolidation strategy. The net effect in the past years is mostly positive. We assume conservatively a zero-net effect of acquisition/divestiture.

Organic Growth. From 2014 to 2016, the organic growth of IPG was at the high-end of IPG's target range and IPG has constitutionally outperformed the peer group. In 2017, the IPG's OG was 1.8% which is higher than most of Big Five advertising companies in 2017 (WPP -0.3%, Omnicom 3%, Publicis 0.8% and Dentsu 0.1%).

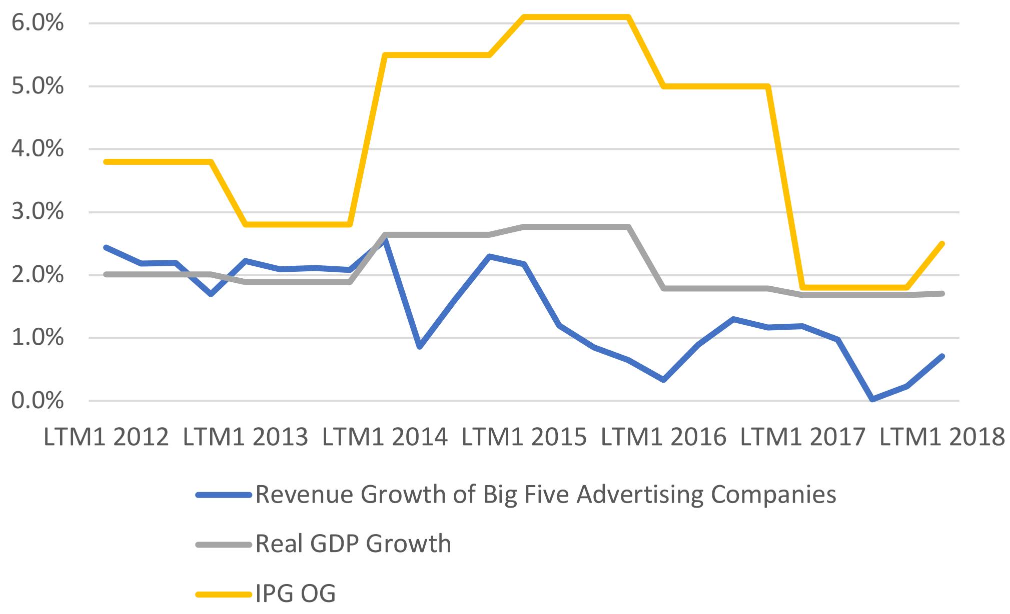


*2017 target OG at the beginning of year was in the range of 3% to 4%, and later revised down to 1% to 2%; 2018 target OG in the range of 2% to 3%

Source: 2017 IPG proxy statement; public filing

We expect that the above-industry-level of organic growth rate will be maintained from 2018 to 2022. Given its decent organic growth in the past few years, IPG demonstrated competitive advantage to attract new client and retain existing clients. The major drivers for the organic growth rate:

1. The global diversified product/service offering especially in fast-growing emerging market as well as accumulated customer analysis higher client's switching cost.
2. IPG has strengthened its digital capability in line with the market trends. Continuous acquisitions in digital ad market have successfully accelerated IPG's transition from traditional advertising to digital and data-driven advertising.
3. Strong reputation and holding company's brand image.



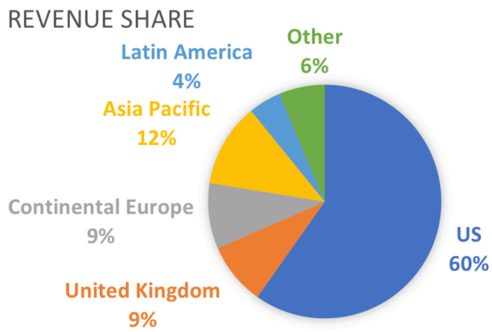
Data Source: Capital IQ

Advertising industry are driven by GDP growth. We find the highly positive correlation between the revenue growth of the key advertisers and real GDP growth. Based on the 2017-2022 GDP forecast of IMF, weighted average GDP growth is 2.3% in the markets in which IPG operates. Given IPG has better organic growth than the GDP growth in the past 5 years, we assume a constant 2.5% organic growth rate from 2018 to 2022 considering:

1. IPG's competitive advantage in customer relationship management
2. The growth in US clients' ad and marketing budgets from increasing disposable income from tax reform.
3. Diversified business and client bases in global market and as well as the exposure to the fast-growing emerging market will help offset the cyclicality.

In the long run, we assume that the organic growth of IPG will revert to the 2.05% of long-term real GDP growth.

GDP Forecast	US	UK	Europe	APAC	Latin America	Other
2017*	2.2%	1.7%	2.2%	4.4%	1.2%	2.2%
2018*	2.3%	1.5%	2.0%	4.3%	1.9%	2.1%
2019*	1.9%	1.6%	1.7%	4.4%	2.4%	2.0%
2020*	1.8%	1.7%	1.7%	4.3%	2.7%	2.0%
2021*	1.7%	1.7%	1.6%	4.4%	2.7%	2.1%
2022*	1.7%	1.7%	1.5%	4.4%	2.7%	2.1%
Average	1.9%	1.6%	1.7%	4.4%	2.3%	2.1%



Source: IMF; 2017 IPG Annual Report

Expenses:

Salaries and related expenses. The salaries and related growth rate is constantly smaller than the growth rate of headcount. Due to the slow top-line growth in 2017, IPG's salaries and related expenses % of total revenue hit a 10-year high 64.3%. We expect that the Salaries and related expenses will drop to the average level of the past 5 years at 64.0% of total revenue. With IPG's discipline around Salaries and related expenses, we believe Salaries and related expenses will plateau at 64.0% of total revenue in the long run.

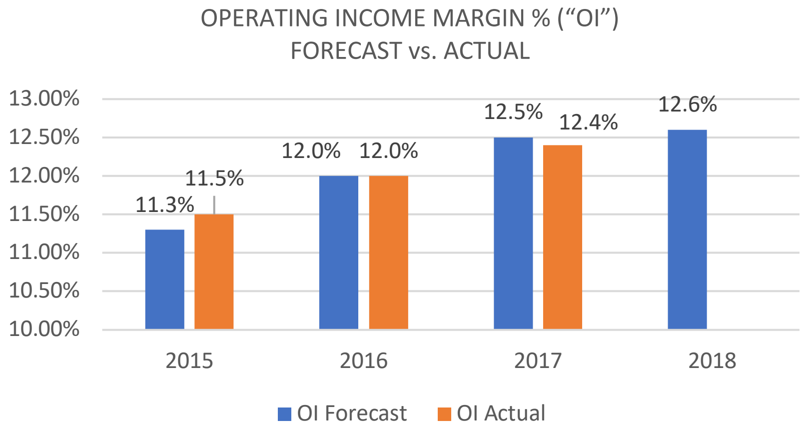
Office and general expenses. IPG's continuously declining Operating Income Margin reflects its leverage on the O&G expenses. The largest deduction is in the expenses items of Other O&G (mostly product expenses) and T&E, Office Supplies and Telecom. As a result of focusing on the costs, the O&G expenses has declined in the past 10 years from 28.9% in 2008 to 23.4% in 2017. We expect the IPG will continuously try to reduce O&G expenses in order to achieve its operating margin target.

O&G Expense	2015	2016	2017	2018E	2019E	2020E	2021E	2022E	Long Term
Professional Fee	1.6%	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
Occupancy Expense	6.3%	6.5%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%
T&E	3.3%	3.1%	2.9%	2.9%	2.8%	2.8%	2.7%	2.7%	2.6%
Other O&G	11.5%	10.8%	10.4%	10.2%	10.1%	9.9%	9.8%	9.6%	9.6%
Total O&G Expenses	22.7%	21.9%	21.5%	21.3%	21.1%	20.9%	20.7%	20.5%	20.4%

Source: 2017 IPG annual report

Operating Income Margin:

Operating margin expansion have been listed as one of the financial objectives and have been consistently achieved in the past 5 years. The operating margin has been increased 310 bps and the occupied square footage per employee is off ~20% since 2013 as a result of enhanced economic scale.



Source: 2017 IPG proxy statement

According to the management team, IPG aims to reach the operating margin target of 13% or average peer-level. The weighted operating income margin of Big Five Advertising Companies are 13.7%. We expect that the operating margin expansion trend will continue. We assume that IPG will reach the target of 13% before 2022 as it planned and stabilize at industry-average level of 13.7% in the long-run.

Source: 2017 IPG proxy statement

Interest Expenses. We have seen a de-leveraging trend in the past 5 years. Given its relatively strong operating cash generating capability and ample cash and equivalent in the account, we anticipate that de-leveraging is likely to continue in the next 2 to 3 years. We assume that the total Debt/EBITDA ratio below 1.5x in the short run and below 2.0x in the long run, which is in line with IPG's gross leverage ratio forecast from Fitch.

IPG has $1.5bn committed banking facility and $1.5bn commercial paper program. Over 90% long-term debt under commercial paper program. After retiring its 2.25% senior notes in 2017, the weight average interest rate increased to over 5% percent. Since the senior notes program will be due after 2022, we expect the interest rate in the next few years would be stabled at a little bit around 5.2%.

Year	2013	2014	2015	2016	2017
Interest Rate	5.9%	3.3%	3.6%	4.2%	5.2%
Total Debt/EBITDA	2.04	1.82	1.69	1.55	1.22

		2017	
	Effective Interest Rate	Book Value	Fair Value [1]
2.25% Senior Notes due 2017	2.30%	$ 0.0	$ 0.0
4.00% Senior Notes due 2022 (less unamortized discount and issuance costs of $1.3 and $1.1, respectively)	4.13%	247.6	259.0
3.75% Senior Notes due 2023 (less unamortized discount and issuance costs of $0.8 and $2.1, respectively)	4.32%	497.1	513.2
4.20% Senior Notes due 2024 (less unamortized discount and issuance costs of $0.7 and $2.6, respectively)	4.24%	496.7	524.2
Other notes payable and capitalized leases		46.2	46.2
Total long-term debt		1,287.6	
Less: current portion		2.0	
Long-term debt, excluding current portion		$ 1,285.6	

Source: 2017 IPG Annual Report

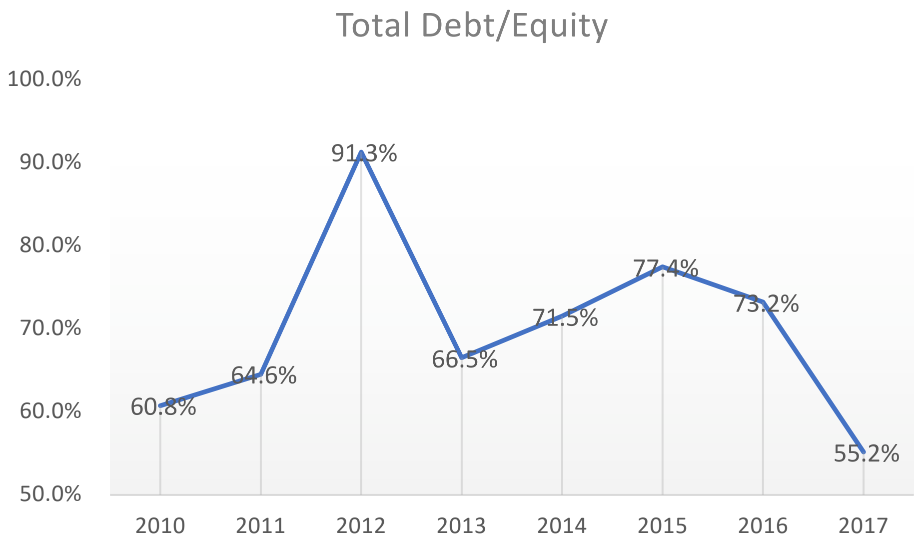
Income Tax. According to the management team, they estimate of a positive impact on their financials from 2017 enacted U.S. tax reform. The normalized effective tax rate is expected to decrease to approximately 28% going forward.

Free Cash Flow:

Depreciation & Amortization. Depreciation as a percent of sales has stayed around 2% over the past 3 years. We assume that this trend will continue.
Capital expenditure. Capital expenditure % of PP&E has hovered at 10% over the past 5 years. And PP&E is about 1/5 of total revenue. We assume that this Capital expenditure % revenue at 2% in the long run.
Acquisition. IPG has spent a little around $40 million per year on acquiring various ad agencies during the last three years. As IPG run a disciplined M&A strategy, we assume the cash acquisition amount will be in line with 2% revenue growth in the long run.

APV Analysis

Since the leverage has been volatile from 2010 to 2017, our valuation methodology is Adjusted Present Value (APV).



To be in line with IPG's worldwide footprint, the global real GDP growth rate is weighted at 2.05%.

GDP Growth by Region	2022 Forecast	%Share
US	1.7%	1.00%
United Kingdom	1.7%	0.15%
Continental Europe	1.5%	0.14%
Asia Pacific	4.4%	0.51%
Latin America	2.7%	0.12%
Other	2.1%	0.13%
Weighted GDP Growth		2.05%

Source: IMF

ROE: We use a return on equity of 8.63%, which derives from the CAPM using a risk-free rate of 1.77%, an implied market risk premium of 5.08%, and a unlevered beta of 1.35.

Terminal Growth Rate	2.05%	Weighted Real GDP growth 2.05%
Risk Free Rate	1.77%	US 10-yr treasury bond % minus 1%
Market Risk Premium	5.08%	
BETA	1.35	Unlevered Rolling Beta over the past 5 years
Cost of Equity	8.63%	

APV result:

PV of NOPAT	8,882
PV of Tax shield	677
Enterprise Value	9,558
Less: Debt and Preferred Equity	(1,373)
Plus: Cash	791
Estimated Value of Common Equity	8,977
Shares outstanding	385
Estimated Value per share	23.3
Current share price	23.2
Upside (Downside)	1%

Based on our APV valuation, we currently project the price of IPG to be $23.3 while the stock currently trades at $23.2. The current price is 1% under-valued. This leads us to a HOLD recommendation on The Interpublic Group of Companies, Inc. (NYSE: IPG)

Appendix 1: Spreadsheet

P&L											
Year	**2013**	**2014**	**2015**	**2016**	**2017**	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**	**LT**
Currency USD											
Revenue	7,122.3	7,537.1	7,613.8	7,846.6	7,882.4	8,079.5	8,281.4	8,488.5	8,700.7	8,918.2	9,141.2
Revenue Growth	2.4%	5.8%	1.0%	3.1%	0.5%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Total Revenue	**7,122.3**	**7,537.1**	**7,613.8**	**7,846.6**	**7,882.4**	**8,079.5**	**8,281.4**	**8,488.5**	**8,700.7**	**8,918.2**	**9,141.2**
Salaries and related	4,545.50	4,820.40	4,854.80	5,035.10	5,068.10	5,170.85	5,300.13	5,432.63	5,568.44	5,707.66	5,850.35
% Rev	63.8%	64.0%	63.8%	64.2%	64.3%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Gross Profit	**2,576.8**	**2,716.7**	**2,759.0**	**2,811.5**	**2,814.3**	2,908.61	2,981.32	3,055.85	3,132.25	3,210.56	3,290.82
Office and general expenses	1,762.1	1,769.9	1,729.1	1,719.6	1,690.5	1,720.9	1,747.4	1,774.1	1,801.0	1,828.2	1,864.8
SG&A % Rev	24.7%	23.5%	22.7%	21.9%	21.4%	21.3%	21.1%	20.9%	20.7%	20.5%	20.4%
Depreciation & Amort.	155.8	158.4	155.1	150.9	150.2	153.51	157.35	161.28	165.31	169.45	173.68
Depreciation & Amort. % Rev	2.2%	2.1%	2.0%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
Other Operating Exp., Total	**1,917.9**	**1,928.3**	**1,884.2**	**1,870.5**	**1,840.7**	**1,874.4**	**1,904.7**	**1,935.4**	**1,966.4**	**1,997.7**	**2,038.5**
EBITDA	814.70	946.80	1,029.90	1,091.90	1,123.80	1,187.68	1,233.94	1,281.76	1,331.21	1,382.32	1,426.02
Total Debt/EBITDA	2.04	1.82	1.69	1.55	1.22	1.50	1.50	1.50	1.50	1.50	1.50
Operating Income	**658.9**	**788.4**	**874.8**	**941.0**	**973.6**	**1,034.2**	**1,076.6**	**1,120.5**	**1,165.9**	**1,212.9**	**1,252.3**
OI % Revenue	9.3%	10.5%	11.5%	12.0%	12.4%	12.8%	13.0%	13.2%	13.4%	13.6%	13.7%
NOPAT	404.9	552.0	550.7	716.7	660.6	744.6	775.1	806.7	839.4	873.3	901.7
Net Interest Expense	(98.0)	(57.5)	(63.0)	(70.5)	(71.4)	(92.6)	(96.2)	(100.0)	(103.8)	(107.8)	(111.2)
Interest % Total Debt	5.9%	3.3%	3.6%	4.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%
Net Interest Exp.	**(98.0)**	**(57.5)**	**(63.0)**	**(70.5)**	**(71.4)**	**(92.6)**	**(96.2)**	**(100.0)**	**(103.8)**	**(107.8)**	**(111.2)**
Income Tax Expense	181.2	216.5	282.8	198.0	281.9	263.6	274.5	285.7	297.4	309.4	319.5
Effective Tax rate%	38.5%	30.0%	37.0%	23.8%	32.1%	28%	28%	28%	28%	28%	28%
Earnings from Cont. Ops.	**288.9**	**505.4**	**480.5**	**632.5**	**595.0**	677.9	705.8	734.8	764.7	795.6	821.6
Minority Int. in Earnings	(21.0)	(28.3)	(25.9)	(24.0)	(16.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)
Net Income	**267.9**	**477.1**	**454.6**	**608.5**	**579.0**	**657.9**	**685.8**	**714.8**	**744.7**	**775.6**	**801.6**

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