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IMPACT OF VAT ON GROWTH AND PROFITABILITY OF THE FAST GROWING COMPANIES

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Summary: *The subject of this article is to show that value added tax (VAT) has significant downside impact on growth and profitability. In particular, the VAT affects young, fast growing companies that are in high demand for cash to fuel their growth and expansion. In this study, we are going to show that VAT is responsible for 1) increase of the cost of doing business, 2) less income as a result of the opportunity loss and 3) increase in the risk of doing business. Increase in cost comes from the need to borrow money to pay the outstanding VAT. The fast growing companies experience significant growth of their VAT gap resulting in a need to borrow money to pay for it. Also, the cost of administrating VAT is factored back in the VAT causing higher value of the final VAT with cascading effect on the operating cost. Opportunity loss comes from the fact that companies have to direct the funds towards VAT instead to invest into the growth and profitability. Increase in risk comes from the additional financial burden from borrowing money and using that money to pay the VAT gap. The action lowers the total amount of funds that company is eligible to borrow based on its financial position. Therefore, a company's capability to meet its financial obligations is reduced since there is less money for covering operating expenses and growth in assets not to say servicing its payables.*

Key words: *VAT Liability Gap, Growth, Net Income, Percentage Growth Margin, Opportunity Loss*

JEL classification: *M19, M38, O43*

INTRODUCTION

The goal of every company is to achieve a significant annual growth and profitability. In that regard, companies are trying to use their resources as effectively

and efficiently as possible. In particular, companies pay close attention on their finances using all means available to them to maximize their profits. On the other hand, governments, who adopted the VAT economy, as a part of their fiscal policy, are taxing top lines or net revenues, creating the VAT tax liability from receivables (PDV-u). The receivable VAT is a result of the companies' sales activity. The receivable VAT tax liability is lowered by the VAT liability from payables creating a VAT liability gap (VLG). If the VLG is positive the company has liability to the government. If negative, the government is required to pay or credit the company the VLG amount.

We are going to see that for the mature companies, with the annual growth under 10%, the VLG difference seem to have no significant impact on their growth and profitability. The VLG of mature companies tends to be predictable, stable and manageable. In the long run, it can be factored into the price to cover the expense.

However, the problem is with the fast growing companies that can double, triple or quadruple their sales in a course of one year. For example, if Google was in a VAT economy, say EU, with 20% VAT, it would have to pay about \$10 billion between 2001 and 2012. Fortunately for Google, it is part of the US economy which doesn't have the VAT. Therefore, Google was able to use those funds and funnel them into the new product development, growth and expansion of the company.

In this article, we are going to show that VAT has a significant downside effect on the fast growing companies. The downside effect is reflected as 1) lower profit or net income, 2) opportunity loss for not investing into growth, 3) lowering a company's credit status and 4) increasing and overall risk of doing business.

The methodology that we are going to use is 1) scenario analysis of the Google Inc. and 2) the growth model of a hypothetical company X in a different growth and profitability stages. The scenario analysis of Google will include looking the company's financial data in non-VAT and VAT scenarios during the 2001-2012 [Google, 2012]. The scenario analysis shows that fast growing companies in their early years can triple and quadruple their revenue. Such a high growth means that every penny counts and that the company is constantly cash hungry. Also, the analysis shows that as the company grows it improves the gross margin meaning that it becomes more efficient and sophisticated. Next, if the Google where in a VAT economy its net income would be 20% lower.

The other methodology used is the model based on the hypothetical company X. It shows the relationship between VLG, revenue, gross margin and net income. The model uses different scenario analysis in which by varying different variables we are going to expose relationships and behavior of the parameters of interest.

By keeping the percentage gross margin constant the model shows that VLG as percentage of revenue remains constant regardless of the growth rate. However, the difference becomes apparent in the amount of the VLG. By varying the percentage gross margin (PGM) in different growth scenarios we can conclude that PGM and VLG are positively correlated. Therefore, the higher the gross margin the higher the VLG.

By identifying the PGM as a main source of controlling the VLG we can further imply that VLG implications are significant to the fast growing companies with the higher percentage gross margin. More closely, those will be the companies which offerings are highly competitive in both point-of-parity and point-of-difference [Kotler, 2012]. Before competitors can catch up with them they are able to command premium price and, consequently the higher margins. The paradox here is the higher the margin the higher the VAT. The result is an opportunity loss from channeling the cash into the VAT rather than into the development of new products, increasing sales or reducing the cost. In other words, forgoing the opportunity to put the VAT money back into the business the company has less cash, weaker position to borrow and increased overall company risk.

As companies become more mature their growth slows down creating downward pressure on the gross margin which in turn reduces the VLG. On the other hand, over the time, companies acquire skills, knowledge, know-how and become more efficient and sophisticated. This in turn, creates the upward pressure on the gross margin which in turn increases the VLG. Such a relationship between VLG on one side and gross margin and growth on the other somewhat contradicts business philosophy of high profitability and less taxes.

The two analysis offered in this paper, one using Google and the other using the different growth scenarios of a hypothetical X company, are confirming the downward impact of the VAT on companies that are successful, fast growing and competitive.

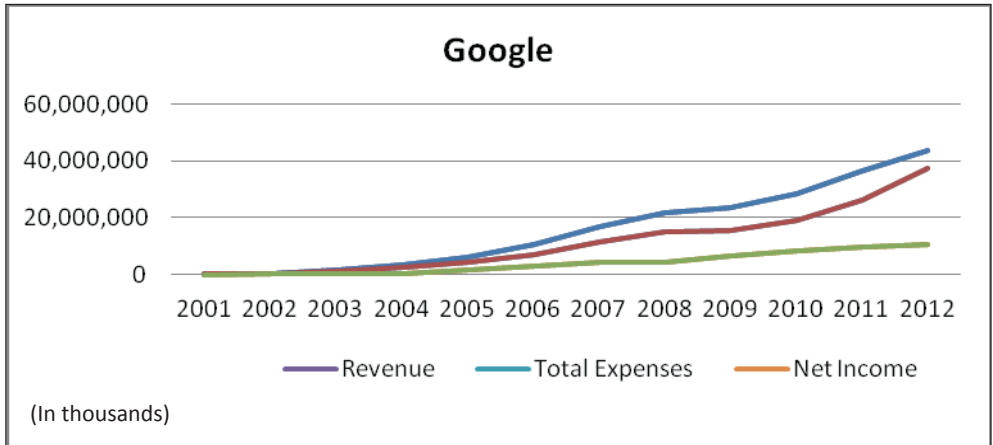
It is well known fact that the Government sector is a very inefficient environment making the good money, coming from the private sector, becoming the bad

money once it gets into the hands of the Government. Overall, it is a no win situation to a business sector and its stakeholders including the Government. As a consequence there is downward direct and indirect impact on the standard of living in the given economy.

GOOGLE SCENARIO

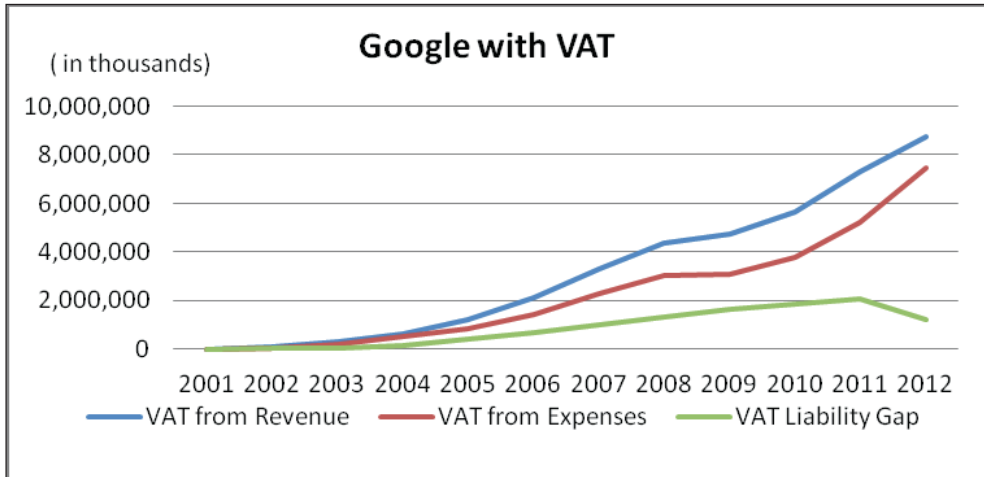
Between 2001 and 2012 Google [Google, 2012] grew its sales from \$80 million to an impressive \$40 billion, Figure 1. What was the secret behind such a phenomenal growth? Their business development strategy for sure but, there is something else - the VAT-free economy of the US.

Figure 1 – Google Sales Growth



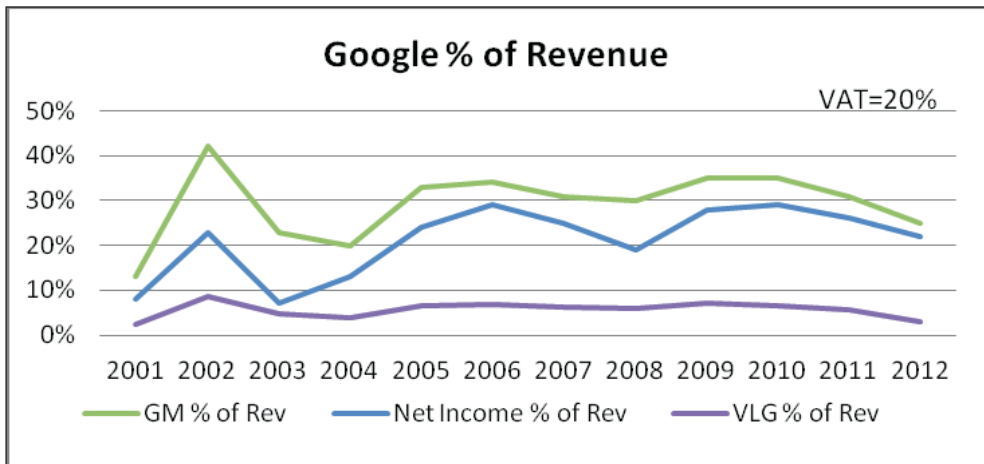
Assuming the Google was in a 20% VAT economy, and that it has achieved the same financial position and performance as it did in a non-VAT economy, it turned out that it would have to pay \$10 billion in VAT over what it had paid in non-VAT economy during the 2001-2012. Figure 2.

Figure 2 – Google VAT



The payment would slice a big chunk, approximately on fifth (20%), of Google’s net income earned during that period. It would certainly had a tremendous impact on Google’s ability to grow its company, maintain and improve its competitive position, keep the favorable position with the banks and would definitely increase the risk rating of the company. Figure 3.

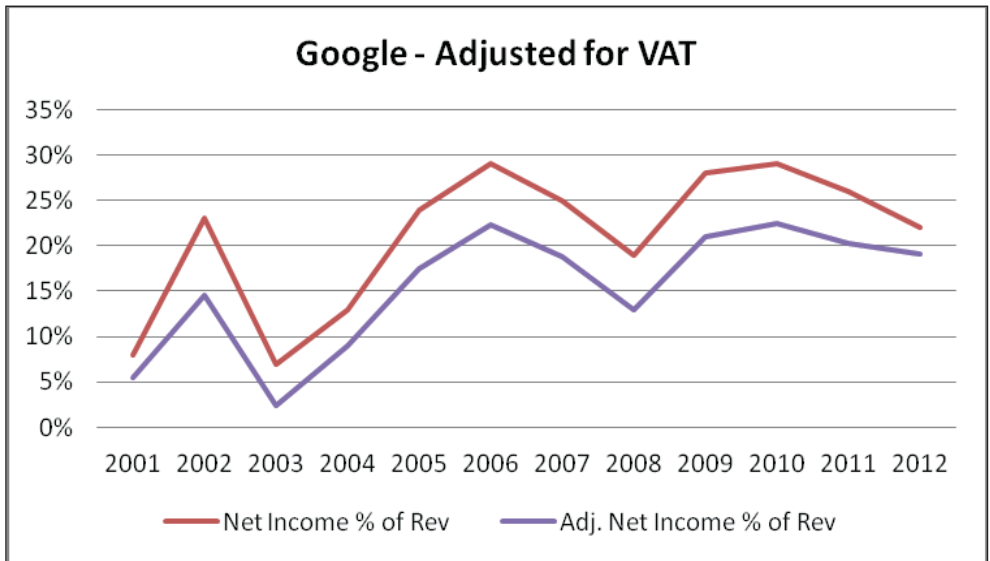
Figure 3 – Google Percentage of Revenue



Even though, there is no reason to believe that such a big chunk of VAT will bankrupt an innovative company of the Google’s statue there is a strong reason to believe that it would significantly impact the Google’s ability to maintain the growth and innovation edge that the company enjoyed in the non-VAT environment [Michael, 2010].

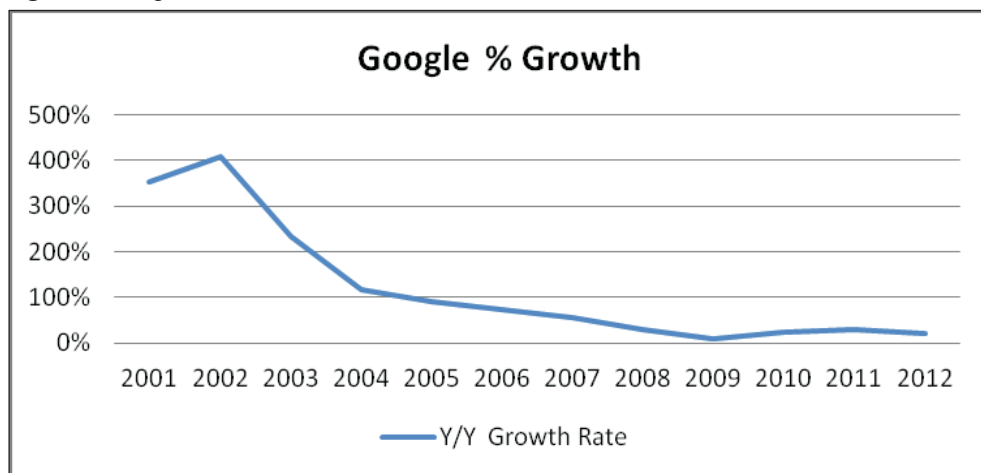
In 2002, Google [Google, 2012] recorded its highest growth. It quadrupled its sales generating 23% of net income as a percentage of sales. However, in the VAT economy Google would have incurred the additional VLG of 8% of the revenue that will in real terms reduce the income from 23% to 15% of the revenue. Such a significant decrease in income would not pass unnoticed with shareholders, financial analysis and all other financial markets where Google plays a significant role. Figure 4.

Figure 4 – Google VAT Adjusted Net Income



Further, in the later years the Google’s growth had slowed down followed by the increase in PGM. In the VAT economy, see Figure 3, the increase in PGM will automatically trigger increase in the VLG. The increase in the VLG will in turn have dominos effects on internal and external position and future growth. What would be the impact? In the later years, Google would expect that all the efforts, sacrifices and investments put during the previous years would start to pay back in the years to come. The company has strong brand equity, position in the market, loyal customer base and sophisticated know-how reflected through its gross margin. In the VAT economy, the big chunk of those dividends will be taken away. See Figure 4.

Figure 5 – Google Y/Y Growth Rate



GROWTH MODEL

To highlight relationships between VAT and financial performance we are going to use a growth model of a hypothetical company X. We will examine different growth scenarios with fix and variable margin. Assumptions for this model are:

1. VLG is a difference in the Revenue and the Cost of Goods Sold (COGS) VAT.
2. VAT from sales and administrative operations is zero
3. Operating cost is zero
4. VAT rate is 20%
5. No outstanding Payable and Receivable [Diana, & Harrington, 1989] at the end of the year.

Fixed Margin Scenario

In this scenario we will assume that our gross margin remains constant at 50%. Looking at high and low growth scenarios we can conclude that VAT liability gap as a percentage of revenue remains constant regardless the growth rate [PDV, 2012]. However, the amount of the VAT liability gap will change. The fixed margin scenario shows that the higher the growth the higher the amount of the VAT liability Gap. See Table 1.

Table 1 - Fixed Margin Growth Model

(In thousands)

Period	1	2	3	4	5	6	7	8	9	10
High Growth										
Revenue	1,000	2,000	4,000	8,000	16,000	32,000	64,000	128,000	256,000	512,000
Y/Y Growth Rate		100%	100%	100%	100%	100%	100%	100%	100%	100%
GM	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
COGS	500	1,000	2,000	4,000	8,000	16,000	32,000	64,000	128,000	256,000
VAT	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
VAT from Revenue	200	400	800	1,600	3,200	6,400	12,800	25,600	51,200	102,400
VAT from COGS	100	200	400	800	1,600	3,200	6,400	12,800	25,600	51,200
VAT Gap	100	200	400	800	1,600	3,200	6,400	12,800	25,600	51,200
VAT Gap % of Rev	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Low Growth										
Revenue	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195
Y/Y Growth Rate		2%	2%	2%	2%	2%	2%	2%	2%	2%
GM	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
COGS	500	510	520	531	541	552	563	574	586	598
VAT	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
VAT from Revenue	200	204	208	212	216	221	225	230	234	239
VAT from COGS	100	102	104	106	108	110	113	115	117	120
VAT Gap	100	102	104	106	108	110	113	115	117	120
VAT Gap % of Rev	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%

Variable Margin Scenario

If we vary percentage gross margin against different growth scenarios we can conclude that VAT liability gap as a percentage of revenue change in the same direction as the percentage gross margin does. In other words, those two are positively correlated. See Table 2. It makes a lot of sense. The smaller the gross margin the smaller the difference in COGS and revenue. Hence, the VLG will be small and vice versa [Diana & Harrington, 1989].

Table 2 – Variable Margin Model

High Growth (in thousands)										
Period	1	2	3	4	5	6	7	8	9	10
High Growth										
Revenue	1,000	2,000	4,000	8,000	16,000	32,000	64,000	128,000	256,000	512,000
Y/Y Growth Rate		100%	100%	100%	100%	100%	100%	100%	100%	100%
GM	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
COGS	200	400	800	1,600	3,200	6,400	12,800	25,600	51,200	102,400
VAT	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
VAT from Revenue	200	400	800	1,600	3,200	6,400	12,800	25,600	51,200	102,400
VAT from COGS	40	80	160	320	640	1,280	2,560	5,120	10,240	20,480
VAT Gap	160	320	640	1,280	2,560	5,120	10,240	20,480	40,960	81,920
VAT Gap % of Rev	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Low Growth										
Revenue	1,000	2,000	4,000	8,000	16,000	32,000	64,000	128,000	256,000	512,000
Y/Y Growth Rate		100%	100%	100%	100%	100%	100%	100%	100%	100%
GM	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
COGS	800	1,600	3,200	6,400	12,800	25,600	51,200	102,400	204,800	409,600
VAT	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
VAT from Revenue	200	400	800	1,600	3,200	6,400	12,800	25,600	51,200	102,400
VAT from COGS	160	320	640	1,280	2,560	5,120	10,240	20,480	40,960	81,920
VAT Gap	40	80	160	320	640	1,280	2,560	5,120	10,240	20,480
VAT Gap % of Rev	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%

Both fixed and variable scenarios show the impact of VAT on the bottom line can be significant. For the gross margins of 80% the VAT liability gap can be 16% of the revenue. Table 2. In today's economies it is considered a success for a company to achieve a gross margin over 50% and the bottom line higher than 20%. Also, those figures depend on the industry.

The implications of the fixed and variable scenario on the level of VAT shows that growth rate impacts only amount of VAT gap while it has no impact on the percentage of the VAT gap from revenue. Further implications are that companies need to pay VAT either from internal sources or by borrowing

money. The latter is a cheaper option for the company in stable developed economies.

Liability Gap Scenario

By looking at the low and high growth scenarios at the same gross margin level the company that doubles its growth rate each year, after 10 years, pays 438 times more VAT than the company with the low growth rate of 2% annually. This ratio remains as long as gross margins are unchanged and at the same level for both companies. Table 3.

Table 3 – Double Growth vs. Low Growth Model

Double Growth (in thousands)										
Period	1	2	3	4	5	6	7	8	9	10
Revenue	1,000	2,000	4,000	8,000	16,000	32,000	64,000	128,000	256,000	512,000
Y/Y Growth Rate		100%	100%	100%	100%	100%	100%	100%	100%	100%
GM	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
COGS	800	1,600	3,200	6,400	12,800	25,600	51,200	102,400	204,800	409,600
VAT	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
VAT from Revenue	200	400	800	1,600	3,200	6,400	12,800	25,600	51,200	102,400
VAT from COGS	160	320	640	1,280	2,560	5,120	10,240	20,480	40,960	81,920
VAT Gap	40	80	160	320	640	1,280	2,560	5,120	10,240	20,480
VAT Gap % of Rev	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Low Growth										
Revenue	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195
Y/Y Growth Rate		2%	2%	2%	2%	2%	2%	2%	2%	2%
GM	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
COGS	800	816	832	849	866	883	901	919	937	956
VAT	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
VAT from Revenue	200	204	208	212	216	221	225	230	234	239
VAT from COGS	160	163	166	170	173	177	180	184	187	191
VAT Gap	40	41	42	42	43	44	45	46	47	48
VAT Gap % of Rev	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
VLG Rate of Increase	1	2	4	8	15	29	57	111	218	428

If a company triples the growth rate it will pay 16,470 times more VAT than one with the low-growth rate of 2% annually. See Table 3. Even though, this more theoretical rather than realistic scenario it is not far from the reality. During the 2001-2005, Google has recording double, triple and quadruple sales levels [Google, 2012]. Figure 5.

Table 4 – Triple Growth vs. Low Growth Model

Triple Growth (in thousands)										
Period	1	2	3	4	5	6	7	8	9	10
Revenue	1,000	3,000	9,000	27,000	81,000	243,000	729,000	2,187,000	6,561,000	19,683,000
Y/Y Growth Rate		200%	200%	200%	200%	200%	200%	200%	200%	200%
GM	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
COGS	800	2,400	7,200	21,600	64,800	194,400	583,200	1,749,600	5,248,800	15,746,400
VAT	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
VAT from Revenue	200	600	1,800	5,400	16,200	48,600	145,800	437,400	1,312,200	3,936,600
VAT from COGS	160	480	1,440	4,320	12,960	38,880	116,640	349,920	1,049,760	3,149,280
VAT Gap	40	120	360	1,080	3,240	9,720	29,160	87,480	262,440	787,320
VAT Gap % of Rev	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Low Growth										
Revenue	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195
Y/Y Growth Rate		2%	2%	2%	2%	2%	2%	2%	2%	2%
GM	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
COGS	800	816	832	849	866	883	901	919	937	956
VAT	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
VAT from Revenue	200	204	208	212	216	221	225	230	234	239
VAT from COGS	160	163	166	170	173	177	180	184	187	191
VAT Gap	40	41	42	42	43	44	45	46	47	48
VAT Gap % of Rev	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
VAT Rate of Increase	1	3	9	25	75	220	647	1,904	5,600	16,470

The implications that growth has on the amount of VAT that company needs to pay raises the question of sustainability and cascading effect that growth has on the VAT liability.

OPPORTUNITY LOSS

If a company grows its revenue, gross margin and reduces its overall cost its VAT gap or liability increases. A company needs cash to pay the VAT. By doing that, it incurs the opportunity loss for not channeling the VAT funds into the company's growth, expansion, new product's development and cost reduction [Kotler, 2012].

It seems that there is a paradox here. Since the company could use the VAT money for the same activities that increases the VAT liability of the company. Therefore, we are getting into this endless cycle that, eventually, will result in a company not being able to maximize its business opportunities.

In 2001-2012, Google [Google, 2012] would have paid approximately \$10 billion in VAT if it had been in the VAT economy. Instead Google avoided the opportunity loss by retaining the cash and investing it into the future growth and profitability by developing applications such as AdWords, AdSense, Google Chrome, Google Earth, Android [Kotler, 2012] and many others. These applications become key factors for the Google's success both as a company and brand [Kotler, 2012].

The Growth Model suggest that companies with high growth achieve many times higher VAT liability than those with the lower growth rate, at the same gross margin level. On the other hand, increase in gross margin or profitability is always followed by the increase in the VAT liability.

INCREASED COST OF DOING BUSINESS

The funds a company will use to pay its VAT cost money. A company has a choice to pay from its cash account or to borrow the money from the bank. In general, the bank money has the lowest cost if a company is in a relatively developed and stable economy.

However, the cost of borrowing, opportunity loss and administrating the VAT is factored back into the VAT causing cascading effect on the cost of the total VAT which increases the overall operating cost.

In the Google's case the VAT can reduce net income by approximately 20% or by one fifth. On the other hand the Growth Model shows that deduction of the VAT from the net income can vary between 4% for the low growth to up to over

16% for the fast growing companies. For example if your net income is 10% of the revenue which is quite common for many companies and VAT is 16% of the revenue the company will end year in red.

INCREASE IN THE RISK OF DOING BUSINESS

The VAT increases the risk of a company by lowering its liquidity position. Therefore, VAT reduces a company's ability to pay for its financial obligations. On the other hand, by having less available funds a company's financial position is weakened resulting in reduced borrowing power. Therefore, a company's capability to meet its financial obligations is reduced since there is less money for covering operating expenses and growth in assets not to say servicing its payables.

Today, would Google financially look the same without \$10 billion of retained income? Obviously not. In the eyes of investors and stockholders it would be more at risk. It would have to scale down its growth and align the development and expansion with its financial position.

The Growth Model shows weaker financial position of companies with high VAT. Those companies will have lower retained income and lower levels of equity. As a result, their overall risk would increase and impair maximization of their future goals and objectives.

CONCLUSION

What Google, Yahoo, Amazon, Ebay, Dell, Microsoft, and Apple, to name just a few, have in common? They all thrive in the non-VAT economy. On the other hand, the VAT does have the advantages, however, they are not in the area of growth and profitability. We can say that the VAT makes sense in Europe since most of the companies there are mature with low growth and low margins. It is not coincidence that VAT is calculated based on top line and gross margin. In the financial statements, those are the items with the highest numbers. Also, from the policy standpoint charging the top line means that governments are not interested in the success of the company. That would be if the bottom line is one to be taxed. In the VAT economies the governments choose to ignore the voices from the industry and focus on reducing the gray economy and maximize the budget. However, by suppressing the growth and profitability the companies are missing to maximize its opportunities directly causing the economies to operate at lower levels and to provide lower standards of living to its members.

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