

## STOP Using ROI (and Use EVA Instead)

By Bennett Stewart, CEO, EVA Dimensions

EVA versus ROI. Which is better? ROI is profit *divided* by capital, and EVA is profit *less* the full cost of the capital. ROI is a ratio, and EVA is a fully-loaded measure of profit. Both use the same ingredients and there is no more work to get to EVA than ROI—but in practice EVA is far better and much easier, so much so that you should stop using ROI and use EVA instead. Let's walk through the reasons.

### EVA provides more obvious and more accurate incentives to manage assets

- EVA turns balance sheet assets into a charge to profit, a cost of doing business like any other operating expense. There no longer are separate P&L statements and balance sheets to confuse people. There's a single consolidated schedule of economic profit (or loss).
- EVA plainly motivates managers to turn assets faster and develop leaner business models to reduce the capital charge. The incentive is obvious and the same as if superfluous overhead costs were cut.
- ROI also motivates managers to cut capital, but does so as a function of reducing the denominator in the ratio; the incentive is not as obvious, simple, or precise as when it's expressed as a P&L benefit.
- Consider, too, that ROI *overstates* the value of asset management, because it expands at an exponential rate as more and more capital is withdrawn from a business. Take \$200 of capital out of a \$1,000 capital base, and ROI increases by 20%; then take an additional \$200 out of the remaining \$800 capital base, and ROI increases by 25%. Yet, the impact on value is the same, \$200 in both cases, and the impact on EVA is the same too. It increases by the cost of the capital saved.
- ROI is thus a deeply flawed metric. It complicates and overstates the value of asset management. ROI overstates the added value because where ROI is higher, it is earned on less "1." There's less capital going along for the return ride, much like a basketball player who improves his shooting percentage by taking fewer shots. Actual scoring doesn't improve as much as the shooting percentage suggests.
- EVA, on the other hand, and ratios derived from it, avoid that distortion. In fact, EVA works quite successfully even when capital is near zero or negative, whereas ROI completely blows up.

### EVA puts decisions in big picture perspective

- EVA puts the incentive to manage assets in the context of the greater good. A manager, for example, can appreciate the merits of holding *more* working capital and incurring a greater capital charge if that supports additional sales that generate added profits that *increase EVA overall*.
- It is impossible to evaluate opportunities like that with ROI because it offers an incomplete picture. ROI myopically focuses on efficiency and ignores the potential value of growth or increasing the scale of an investment, a point that deserves elaboration.

### **ROI ignores the value of growth, where EVA incorporates it**

- As was suggested, ROI is like rewarding a basketball player for shooting percentage. The incentive is to take a sure layup and shoot no more. In business, a goal to increase ROI or just maintain a high one encourages managers to pass up worthwhile opportunities, to under-invest, under-innovate, and under-scale, and to leave valuable growth on the table.
- But that does not happen with EVA. So long as an investment covers the cost of capital, which means it adds to NPV, it adds to EVA, and will do so even if a business unit's existing margins or returns come down. Add a 15% ROI investment to a 20% ROI business, and the blended ROI comes down. But EVA goes up and value goes up so long as the hurdle rate is less than 15%.

### **ROI also is a very poor measure to evaluate the optimal scale or pacing of individual projects**

- The same deficiency applies to specific investment proposals shaped by field operating teams, which means ROI-minded companies can never optimally allocate capital.
- Suppose a new plant, product line, marketing campaign or R&D program is forecast to generate a 20% return. Suppose increasing the size of the investment—with a larger plant, or more product lines, or a stepped-up ad or innovation budget—would *incrementally* return 15%.
- Managers that look to maximize IRR or ROI will reject the bigger scale, the larger plant, the extra products, and the added marketing or research oomph.
- But again, so long as the cost of capital is less than 15%—say it is 10%—they should eagerly embrace the more ambitious proposals. They should seek the additional funding, drive for the bigger scale, and punch harder, because that will add EVA and that will add value.

### **EVA is value additive**

- EVA gets the incentives right *incrementally and at the margin*. Add something good enough to something that's great, and EVA is greater still. The value adds up, whether for a whole business division or for sizing up an individual investment decision.
- But that's not true of ROI. ROI increases only when the returns from new investments or new decisions exceed the existing return or some arbitrary target return, which are completely irrelevant considerations.

### **EVA harmonizes corporate and line-of-business perspectives**

- EVA is additive in another way: When a business unit initiates a positive EVA decision, its EVA increases by the EVA of the decision, and the parent's EVA goes up, too, in *exactly the same amount*. EVA adds up, from bottom to top, so that managers at all levels reach the same conclusion about a given decision and its significance.
- ROI does not possess this important attribute (neither does margin, or growth, nor any other conventional ratio statistic for that matter—they're all biased by the beginning point). The ROI impact of a given decision will look different depending on which unit sponsors it, and will have a different impact on corporate ROI than by line of business. It is an incredibly clumsy and confusing metric, when you think about it.

### **ROI is a legacy metric that makes irrelevant sunk costs seem relevant**

- The ROI a business reports is an agglomeration of the returns earned on all prior investments in the business, including acquisition premiums. The value of any new decision, therefore, is distorted because it is overlaid on top of an *arbitrary and irrelevant* capital base.
- But when managers focus on *increasing* EVA, which is the goal we advocate, then all prior investments, all legacy capital, all “sunk” costs, are effectively wiped out, *as they should be*. EVA brings the performance in the period into sharp relief. It is always forward looking and aimed at adding incremental value, whereas ROI always drags a heavy anchor from the past.
- This also simplifies asset allocation. Since existing assets are just a fixed charge to EVA, the initial allocation has no bearing on a manager’s ability to drive improvements in EVA. Existing assets are seen for what they are—irrelevant sunk costs. It’s only new investments, and new decisions, that count. With ROI, by contrast, the allocation of existing assets to individual divisions matters greatly, which always makes the allocation a bitter political battle. There’s no need for it.
- In sum, the right goal, and the simple message, is to zero in on the news and not the nostalgia by focusing on the *increase* in EVA.

### **Even if a growth factor is added, ROI is still handicapped**

- There is no need to add a growth goal or growth metric to EVA since the value of growth is already correctly factored into it. To increase EVA managers must devise and exploit profitable growth opportunities. Stand still, and EVA stands still, too.
- But for ROI to work at all, some measure of growth must be added to it. But how, and in what proportions? With ROI hovering near the cost of capital, growth doesn’t count, but at any other ROI, it does. Combining a growth goal with ROI is thus very complicated, ambiguous, hard to target, non-linear, and dependent on the situation.
- Also, it can never be as simple or as effective as asking managers to increase EVA (and then, showing them how to do that with a companion ratio analysis framework, which is discussed later). Two wrong measures don’t add up to a single right one.

### **EVA discounts to value where ROI does not**

- Here is the real clincher in the case for EVA: it turns out that, for any given forecast or business plan, the present value of the projected EVA always equals the net present value of the forecast cash flows. Said simply the PV of EVA = NPV.
- That’s mathematically true, because EVA sets aside the profit that must be earned in each period to recover the value of the capital that has been or will be invested, and thus it always discounts to the value added to, or deducted from, the invested capital base.
- If EVA is zero, NPV is zero. If that’s a project, or line of business or company, it is worth just the book capital put into it, and not more. If there’s no economic value added, there is no market value added to the capital. But if EVA is positive, and better, growing, then NPV is too.
- To maximize EVA is to maximize NPV, share price, and TSR – *by definition!*

## The implications are profound

- For one, the *change* in EVA measured by period or over a multi-period trajectory must be and in fact is the single best and most reliable indicator of whether value is being added or lost, clearly superseding ROI, or ROI with an added growth metric (which is then no longer a single metric).
- Second, managers can forecast and discount EVA to measure the value of plans, projects, acquisitions and decisions, and they can use EVA and a set of EVA ratios that are discussed later to explore alternatives and discover ways to increase value with insights they otherwise would not see or see so easily. And they can do that *instead* of discounting cash flow.
- Third, one measure, EVA, can be used to make decisions, check results, even meter incentive pay, as discussed below. Using EVA for all those things is what makes it so simple—there's just one technique to learn--and what also makes managers feel so accountable—the same metric that guides their decisions is used to measure their performance, even reward them, after the fact. There's a natural post audit built in.
- ROI can't do any of this, of course, because ROI (or ROI plus growth) does not discount to anything. ROI forces companies to use discounted cash flow analysis. But that multiplies the metrics, adds complexity, and voids accountability.

**In sum, EVA is not just a measure, and not just an interesting performance indicator to sit beside others. It is a score, really, *the score*, which means it is the one measure to maximize. It ought to sit at the pinnacle of any scorecard that purports to be value based.**

- ROI, or ROI in tandem with a growth goal, doesn't do the trick. There is no objective function. There's nothing to maximize. There's only complexity, ambiguity, impracticality.

## EVA can be used in bonus plans that are extraordinarily powerful.

- A classic EVA bonus plan consists of a competitive base bonus plus a percent of the *change* in EVA. It's not tied to beating negotiated budget or plan goals. It's a profit sharing formula.
- With that, there's no incentive for managers to lobby for lower budget or plan goals because they are not paid for beating their plans. Quite the contrary: There is every incentive for them to develop and execute the stretch plans that are they believe will create the most value by creating the most EVA over time, for that is how they are paid.
- Managers also can simulate the bonuses they will receive if they achieve their long-range plans by running them through the EVA profit sharing formula. What looks like an annual bonus plan is in fact a very long term incentive plan, the longest of all in fact because it is a never-ending share of the added value. With this, managers are inclined to approach planning much more seriously, strategically and collaboratively. They are motivated to think and act like long term owners because they are paid like long term owners.
- Under the EVA regime, the bigger the EVA is, the bigger the bonus is, and the greater the company's value and TSR will be. The line of sight is clear, and everyone wins. The alignment between pay and performance that boards seek but seldom achieve is there. Bonuses are no longer a cost to be controlled or minimized; they are a share of added value to be maximized.
- ROI, or ROI in combination with a growth metric, can't do this. It takes a score, a single measure to maximize, to end up with a bonus plan that is this simple, yet so effective.

## EVA is now a ratio, and a ratio analysis framework

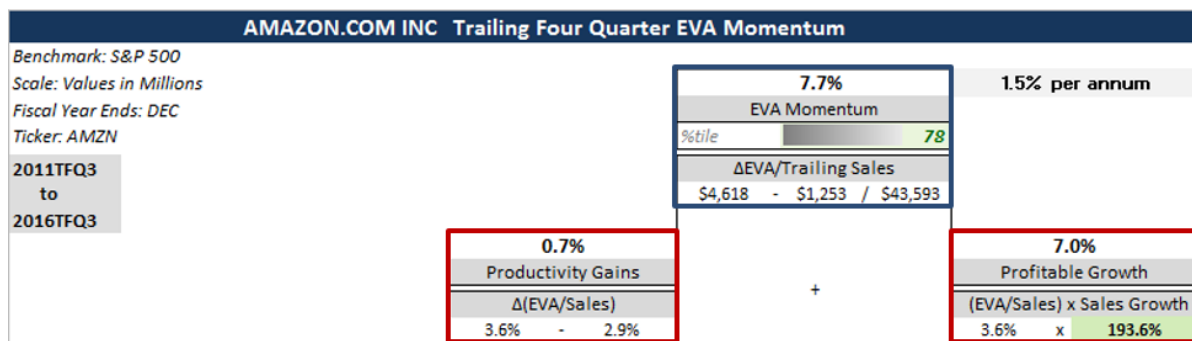
- ROI's one traditional advantage over EVA was that it is a ratio. It provides a convenient statistic that can be compared over time and across business lines, and a companion analysis model, breaking ROI into profit margin and asset turns.
- *But those advantages over EVA no longer exist.* Advances pioneered by EVA Dimensions converted EVA into a set of headline ratio statistics and a structured format to trace them to all the levers and ratio drivers that managers can manage.
- We believe, and our clients tell us, that the new EVA ratios and ratio analysis format are *far better than what ROI offers.*

## The most important new ratio is EVA Momentum

- That's defined as the *change* in EVA, divided by *prior period* sales. It measures an EVA growth rate, scaled to the sales size of the business.
- Unlike ROI, EVA Momentum is a ratio measure to *maximize*. It's literally the only corporate performance ratio where bigger is always better, because more Momentum is more EVA, which means even more value is being created.
- In fact, the EVA Momentum a business plan generates over the life of the plan is always 100% perfectly correlated with the quality and intrinsic value of a plan, which makes EVA Momentum a perfect partner in the planning process.
- EVA Momentum also can be traced to all the levers managers have at their disposal to increase the value of their business, as will be shown. It conveniently provides the score and the insights needed to improve the score.
- Which is what led Dow Chemical's CEO Andrew Liveris to call EVA Momentum a "game-changer." It gave him what he wanted—an overarching goal and common scorecard to apply across all the company's lines of business—while freeing each line team to discover the specific strategies most suited to create value and add EVA given the unique opportunities they faced.
- Call it, "freedom within a framework." True empowerment is possible because the requisite accountability for managing capital and delivering value clearly exists.

## The EVA Momentum Pyramid is the ratio analysis schedule we constructed as the companion to EVA

- The Pyramid is shown below for Amazon. Reading the top cell, over the five-year interval ending in the 3<sup>rd</sup> quarter of 2016, EVA rose from \$1.253B to \$4.168B, an increase of \$2.915B. Divide by the sales 5 years ago, which were \$43.6B, and Momentum was 7.7%, or an average of 1.5% a year, which put Amazon in the 78<sup>th</sup> percentile among S&P500 companies – quite good!



- What accounts for the 7.7% Momentum? What are the sources, the insights? How can it be managed? The Pyramid starts to answer the question by revealing two main drivers.
- The first, **Productivity Gains**, is the added value that comes from an increase in the ratio of EVA to sales, which we call the EVA Margin. Assuming sales are flat, EVA still can increase if management finds ways to drop more EVA to the bottom line out of its top line, which Amazon did to a modest degree. Its EVA increased from 2.9% of sales to 3.6%, which contributed 0.7% to Momentum, or .14% a year, as reported in the lower-left cell above.
- Productivity gains emerge from many different sources. For convenience of exposition, we divide them into 3 categories – price, product and process—covering actions and strategies that enable a company to earn premium prices, to field an outstanding, EVA-attuned product portfolio and bench the losers, and to extend operational excellence by trimming the total sum of operating costs and capital costs. Do those, and EVA Margin expands, and Momentum too.
- A second source of Momentum and value creation, labelled **Profitable Growth**, comes from adding sales at positive EVA profit margins. Note that this score is multiplicative: what counts is the sales growth rate *times* the EVA Margin. Only profitable sales are valuable.
- As is shown in the lower-right cell above, Amazon was a real winner in this category. Its sales grew by 191.6% over the five years, basically tripling. Combine that with a solidly-profitable 3.6% EVA Margin, and significant value was created. To put a precise figure on it, Profitable Growth contributed 7% to EVA Momentum, or 1.4% a year, which is *10 times* the productivity gains. Obviously, pure productivity measures like ROI miss a big part of the performance story.
- Add the two sources— 0.7% from Productivity Gains and 7% from Profitable Growth. The 7.7% sum ties to the 5-year change in EVA divided by sales five years ago. The math works. Managers indeed can use the schedule to dissect performance and analyze decisions and set targets with full confidence it ties back to growing EVA and growing value.
- Momentum tells us, for example, that no amount of sales growth or EPS or EBITDA growth adds any value if the EVA Margin is zero or close to it. It also shows that 5% sales growth at a 5% EVA Margin is more valuable than 10% growth at a 2% EVA Margin. The tradeoff of growth and profitability is naturally built in.
- Unlike ROI, or even ROI in tandem with sales growth, EVA Momentum helps managers instantly see where there is and isn't value to growth, and it shows the *precise* value of the growth compared to productivity gains, or really any driver, which improves resource allocation.

#### **EVA Margin is simpler and analytically superior to the ROI analysis model**

- While EVA Momentum is the ultimate ratio score, reflecting the growth pace in EVA, managers also need a measure and technique to help them assess and improve productivity.
- The reigning champ in this is the co-called “DuPont” ROI formula, which divides ROI into operating margin *times* asset turns. It's a longstanding technique, but rather clumsy.
- The ROI impact of improving operating margins depends on the existing turnover ratio, and the value of improving asset turns depends on the current profit margin. The one is the derivative of the other. The multiplicative dependency is complicated. A margin is not a margin if it depends on the turns.



- Isolating the impact of managing any individual asset also is hard to discern. Suppose a supply chain initiative to cut working capital by a third is being considered. How much does that increase ROI? It's not immediately obvious, is it? It depends on the overall asset turnover ratio, of which working capital is a component. If working capital is small compared to fixed assets, the ROI benefit will be small, and it will be larger for working capital intense businesses. It's just not easy to appreciate the value of managing specific assets.
- In the EVA model, productivity performance is represented by the EVA profit margin, by the ratio of EVA-to-sales. Like ROI, it can be taken apart to reveal the underlying operating and capital levers, but in a simpler and more practical format.

		2011TFQ3	2016TFQ3
	Sales	\$ 43,593	\$ 127,993
-	COGS (Adjusted)	75.4%	59.4%
-	SG&A (Adjusted)	10.7%	15.3%
	<b>EBITDAR Margin</b>	<b>13.9%</b>	<b>25.2%</b>
-	Productive Capital Charges	9.2%	19.8%
-	Working Capital Charge	-0.2%	0.0%
	Cost of Capital Before Tax	14.6%	11.2%
	Working Capital Days on Hand	(4)	(1)
-	PPE Charge	3.8%	9.3%
	Gross PPE (Adjusted) Per \$1 Sales	0.13	0.32
x	Rental Rate	28.6%	29.2%
	Depreciation Rate	16.7%	20.4%
	Remaining Life (NetGross PP&E)	82%	78%
-	Intangible Capital Charge	5.6%	10.5%
	Book Intangibles Charge	0.3%	0.2%
	R&D Charge	3.6%	7.6%
	Ad & Promotion Charge	1.7%	2.8%
=	<b>EVA Before Tax</b>	<b>4.7%</b>	<b>5.5%</b>
-	Corporate Charges	1.8%	1.9%
x (1- )	EVA Tax Rate	37.0%	39.4%
=	Standard Tax Rate (STR)	40.0%	40.0%
-	Cap Chrg: Cum Std - Act EBIT Tax % of EVABT	0.4%	-0.7%
-	Cap Chrg: Def Tax Liab (Asset) % of EVABT	2.7%	1.3%
+	Other EVA	0.3%	0.5%
-	Goodwill & Unusual Items Charge	0.4%	0.2%
	Goodwill (Adjusted)/Sales	0.04	0.03
	Cum Unusual Items After Tax/Sales	0.01	0.00
	<b>EVA Margin</b>	<b>2.9%</b>	<b>3.6%</b>

- Consider the schedule at left, which breaks out the components of Amazon's EVA Margin for the most recent period and five years back. Remember, it's the change in the Margin that creates Momentum, so contrasting the two helps.
- Note that each driver on the schedule is expressed as a percent of sales. P&L and balance sheet, gross margin and capital costs, are directly comparable, for example. All the drivers are on the same scale.
- Each component of capital has its own line item charge. Unlike ROI, the decision impact on specific capital items is easily assessed.
- For example, the annual charge Amazon incurred to cover the cost of capital and depreciation of its gross property plant and equipment assets, including leased assets,

featured in the blue bordered box above, increased significantly, from 3.8% of sales to 9.3%. That figure tells management exactly how much its PPE assets are costing as an annual profit charge, and the increase tells them exactly how much compensation they must obtain elsewhere in their business model if they are to preserve EVA and grow it.

- The EVA Margin schedule also makes the working capital question that stumped ROI a snap. Suppose a company has \$1,000 in sales and carries \$300 in working capital, which is equivalent to about 110 days on hand. If the firm's cost of capital is 10%, the working capital investment translates into a \$30 charge to EVA, or 3% of sales. A manager can easily see that cutting working capital by a third, reducing days on hand from 110 to 73, say, cuts the charge a third—its linear—from 3% of sales to 2%. The 1% benefit is the same as if gross margin increased 1% or sales grew 20% at a 5% EVA Margin. Everything is on the same scale, even growth, and all tradeoffs are comparable with simple plus and minus math. There's no multiplication involved.
- By comparing the two columns, which could be separated by years, or quarters, or the span of a five-year business plan, managers can easily pinpoint the key trends and key drivers, and accurately size up the significance, and assess tradeoffs that otherwise might not be so obvious.

- The EVA ratios also reflect the true value of asset management, and do not exaggerate it as ROI does. Turn assets faster and withdraw capital from a business, and EVA, and the EVA ratios related to sales, get steadily bigger, not exponentially larger.

### Summing Up – EVA Wins, Hands Down. Stop Using ROI, and Use EVA Instead.

- The EVA Momentum and the EVA Margin schedules are unquestionably far easier to understand and far more effective to use in analysis of business plans and business performance than any other technique. They are based on sales, and express all productivity drivers as ratios to sales, which is a familiar and comfortable construct, much more so than looking at ROI.
- Face it, managers don't naturally think in terms of investing capital and earning returns on capital. That's a financial model, jury rigged for operating people.
- Real world business managers naturally think in terms of sales—of driving sales growth, serving customers, entering markets, expanding share, innovating products, and the like—and earning a profitable margin on the sales. That's what the EVA Momentum model does—it transforms the financial complexities of cash flow and IRR and ROI and NPV into a simple and intuitive sales-based, margin-driven management model.
- Best of all, it's coded into the EVA Enterprise Software Solution that we license to clients, making implementation simple and administration automatic. Dow Chemical is one such user of the software and the Momentum model it supports, as is evident from the investor briefing below.

## Dow Showcases the Value of EVA Momentum

### CEO Andrew Liveris on Q4 Earnings:

*"In summary, 2015 represents the culmination of actions we have taken over a three-year period... 2015 will go down as the most significant year in Dow's storied history, and the quarter put an exclamation mark on the year."*

*"These results are also underpinned by our intense focus on driving an EVA culture and performance as our key lens, and actions on multiple fronts:*

- lowering our working capital and asset base through multiyear productivity actions,
- leveraging our functional expertise across the enterprise to increase sales,
- optimizing purchasing and driving a lean corporate center and regional hubs,
- capturing growth by cross-selling opportunities,
- maximizing our operating leverage, and
- improving our sales mix.

*As a result, over the past three years, our EVA improvement has been significant, placing us in the 95<sup>th</sup> percentile relative to peers."*

