US Economics Digest

US Economics

Research Analysts

Neal Soss
212 325 3335
neal.soss@credit-suisse.com

Jay Feldman
212 325 7634
jay.feldman@credit-suisse.com

Isaac Lebwohl
212 538 1906
isaac.lebwohl@credit-suisse.com

GDP Revisions: Like Adding Another New Jersey

Comprehensive benchmark revisions to the national income and product accounts will be released on July 31st. There will be significant conceptual changes to how GDP is scored.

The most important change is the reclassification of "intangible" asset spending as investment – the largest item being research and development spending.

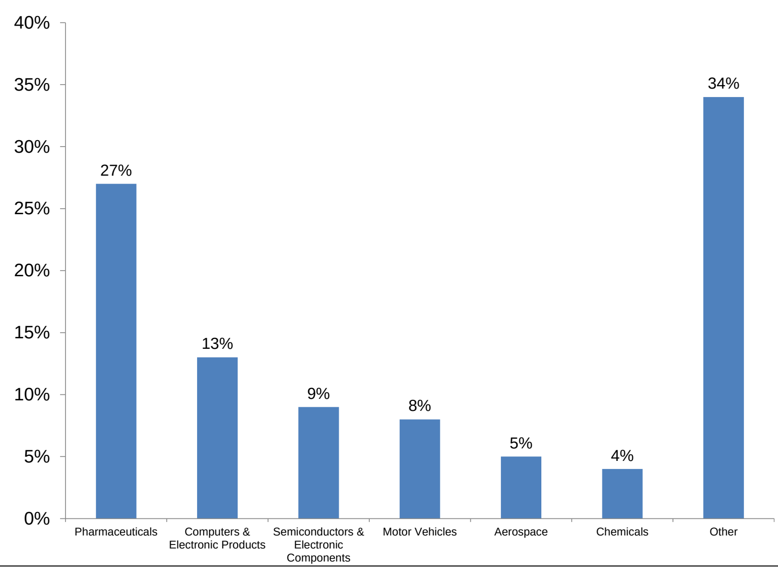
As a consequence, GDP, as well as its income-side sibling GDI (Gross Domestic Income), is expected to be roughly 3% larger in size than currently measured. That's akin to tacking on another New Jersey, Ohio or Virginia to the nation's broadest measure of output.

The GDP will be larger in a statistical sense, but not any healthier. Think of the revision as analogous to measuring something with a ruler denominated in meters as opposed to yards. The unit of measurement is different, but the object being measured is not any different.

Other "routine" annual revisions might deliver more GDP growth to the very recent past, which would narrow the wedge somewhat between the stronger labor market data and the relatively weaker GDP data. However, second quarter growth is currently tracking sluggish (latest forecast is 1.1%).

Exhibit 1: Top Private Business R&D-Investing Industries

% of R&D



Source: BEA, Credit Suisse

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We say this tongue and cheek. The revision should not change the fundamental view of the economy's prospects, asset prices or policy. **The GDP will be larger in a statistical sense, but not any healthier. Think of the revision as analogous to measuring something with a ruler denominated in meters as opposed to yards. The unit of measurement is different, but the object being measured is not any different.** Debt ratios and other measures which use GDP as the denominator will appear superficially lower. There will be small upward revisions to growth rates. And the contours of historical business expansions and recessions should not be materially altered.

Comprehensive Revision

Every July, with the release of second quarter growth figures, the Bureau of Economic Analysis (BEA) releases an annual benchmark revision to the national accounts. The annual revision incorporates previously reported adjustments to monthly source data that feed the accounts, such as retail sales, construction spending, durable goods, and international trade. More complete information from the Internal Revenue Service, the Census Bureau, and other industry sources is also integrated.

Roughly every five years, the BEA goes one step further, and conducts a "comprehensive" benchmark revision. The comprehensive revision sometimes incorporates extensive measurement or conceptual changes to the accounts, in addition to the routine annual benchmarks. Such a comprehensive revision is due this time.

The inclusion of R&D and other intangibles as investment will be the most significant change since the BEA did something similar in 1999, when software was reclassified as investment.

What GDP does and does not measure

Gross Domestic Product attempts to capture the **final** value of goods and services. Consider an example of how the purchase of a car enters the GDP accounts. When you buy a car, the dollar price captures the value of the labor and materials that went into manufacturing the car, the shipping of the car to its dealer lot, the wage of the salesman that sold you the car, and the wage of the engineers that designed it. It's the value of that final purchase of the car that gets scored as GDP as an entry in, say, personal consumption. But that value already encompasses the various inputs and expenses that went into producing the car and getting it to the showroom. GDP does not count all of these intermediate inputs separately, as that would be double-counting.

Fixed investment, however, does get scored as GDP. The BEA defines a fixed investment asset as anything that can be used repeatedly or continuously in the production process for more than one year. If the car company were to invest in, say, a new plant, the plant would be scored in GDP as fixed investment, not an intermediate input. But spending on intangibles, such as research and development, has always fallen into a grey area. What if the car company designs a new energy efficient engine to be used in future models? As of now, that would not get scored as investment, but rather as an expense. After the comprehensive revision, it will be capitalized as investment, and scored as GDP.

Why the conceptual change?

R&D spending has the character of "investment" – long-lasting, and repeated use and benefit in the production process. The BEA argues (we think justifiably) that including R&D in investment will allow "users to better measure the effects of innovation and intangible assets on the economy." Essentially it will recognize the growing importance of intellectual property for business and productivity.

The shift to treating intangibles as investment will also make it more consistent with proposed international guidelines. Most other developed countries, including Europe, will have incorporated similar changes to their national accounts by 2014, as part of the internationally agreed upon System of National Accounts recommendations from 2008. Treating intangible spending as investment will ultimately help make GDP more comparable across countries.

Effect on levels and growth rates

The BEA estimates that as of 2007 (nothing more recent is estimated) nominal GDP including R&D as investment would be $314bn larger than currently reported. On a base of $14.028 trillion, that's 2.2% more GDP. We expect revision to be similar in scale for the more recent years as well. In 2007, about three-quarters of the $314bn R&D spending should show up as private fixed investment, with the other quarter in government.

GDI, which in theory must equal GDP (in practice there is a statistical discrepancy) will reportedly be revised up by the same amount. Most of the upward revision will show up as depreciation (the "consumption of fixed capital") with minor upward adjustments to corporate profits and proprietors' income (within personal income). The inclusion of R&D into GDP will stretch all the way back to 1929 using a patchwork of wage and employment data, as well as survey information from the National Science Foundation.

Exhibit 2: Summary of GDP and GDI Impact (2007)

GDP	**$bn**
Total GDP (published NIPAs)	14,028.7
Plus: Business own-account and purchased R&D investment	234.3
Less: Overlap with own-account software	23.6
Plus: CFC on government and nonprofit R&D assets	103.4
Total GDP, with R&D as investment	14,342.8
GDP impact of capitalizing R&D	**314.1**
GDI	
Total GDI (published NIPAs)	14,040.7
Plus: Corporate profits from current production	27.8
R&D Investment (no longer an expense)	194.5
Less: CFC on R&D assets	166.8
Plus: Proprietors' income from current production	3.7
R&D Investment (no longer an expense)	16.1
Less: CFC on R&D assets	12.5
Plus: CFC on R&D assets	282.6
Corporate	166.8
Proprietors'	12.5
Nonprofit and government	103.4
Total GDI, with R&D as investment	14,354.8
GDI impact of capitalizing R&D	**314.1**

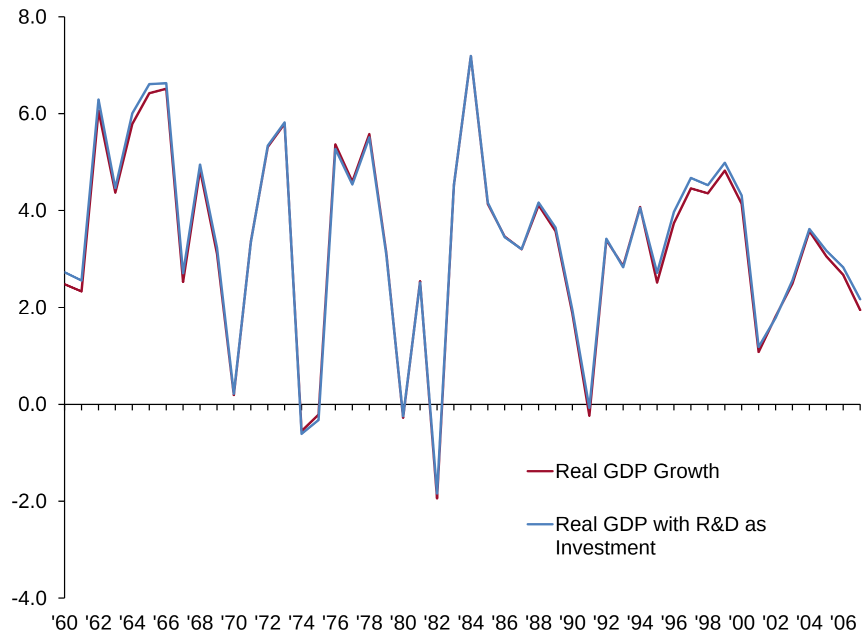
Source: BEA, Briefing on the 2013 Comprehensive NIPA Revision, Credit Suisse

What about growth rates? A few years ago, the BEA published a Research and Development Satellite Account, with R&D time series history going back to 1959. The Satellite Account might be viewed as a (rough) prelude to the real thing at the end of this month. According to BEA, the numbers from the Satellite Account will differ somewhat from the finished product, but officials suggested that year-to-year growth rates should be similar.

As Exhibit 3 shows, the difference in real GDP growth rates with R&D and without is small. If R&D were treated as investment, real GDP would have increased at a slightly faster rate – 0.08 percentage point – for the period 1959-2007. The difference is slightly larger in the more recent periods. In the 2002-2007 expansion, the boost is (0.10). During the 1990s expansion, it's about 0.12.

Exhibit 3: Real GDP Growth Should not Change Materially after Including R&D: 1959-2007

Annual percentage change. Real GDP growth is based on a 2010 vintage. The Research and Development Satellite Account's history was last revised in 2010, with historical data covering the period 1959-2007.

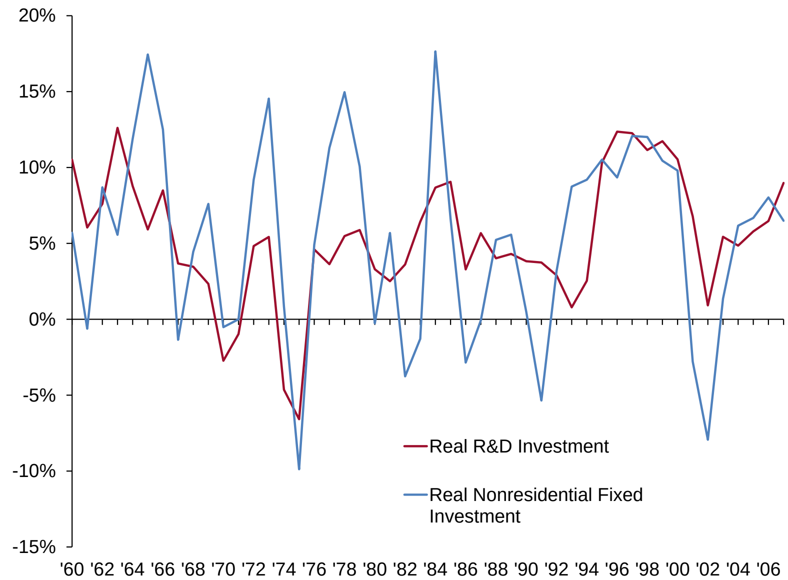


Source: Bureau of Economic Analysis, Credit Suisse

Judging from the Satellite Account data, real R&D spending has a positive correlation with overall real business investment spending (correlation coefficient: .55, Exhibit 4). In the more recent business recessions, R&D appears to be less cyclical than other fixed investment, with no annual declines in the early 1980s, 1990s, or 2001 recessions (unfortunately, we have no data yet for the Great Recession period).

Exhibit 4: Real R&D Investment vs. Real Business Fixed Investment

Annual percentage change



Source: Bureau of Economic Analysis, Credit Suisse

Other intangible assets: The "Seinfeld effect" on GDP

In addition to R&D spending, BEA will capitalize various intangible assets in the entertainment sphere, which will now be counted as investment and GDP. These include long-lived television programs, theatrical movies, books, music, and other miscellaneous entertainment that BEA says have a useful lifespan of more than a year. Currently these are classified as expenses that are consumed as part of the production of other goods and services.

Capitalizing these entertainment originals will boost the level of nominal gross private domestic investment by $70 billion as of the year 2007, according to BEA (or about 0.5% of GDP). As in the case of R&D, the revision will apply to the historical data from 1929 forward, and GDI will show a parallel increase to GDP. Unlike R&D, BEA published no historical data to give a sense of the trend over time.

Capitalization of transfer costs in residential investment

Certain closing costs will also be capitalized within residential investment. These are expenses associated with the acquisition of residential structures Currently, only brokers' commissions on the sale of homes are capitalized and counted as GDP. Other closing costs will now be as well, such as attorney fees, obtaining title insurance, or payments for surveys and engineering. Capitalizing these items will boost the 2007 nominal GDP level of $60bn, or 0.4% of GDP.

R&D investment, entertainment originals, and residential transfer costs will boost the level of 2007 nominal GDP by a combined 3.1%. We expect the adjustment to the most recent period to be similar in scale.

Accrual-Based Measurement of Defined Benefit Pension Plans: Personal Savings Rate to Get a Boost

BEA will change its recording of the transactions of defined benefit pension plans from a cash accounting basis to an accrual accounting basis. The accrual method, according to BEA, will better align pension-related compensation with the timing of when the employees actually earned the benefit. It will also smooth out volatility in the personal income data that arises when sporadic cash payments are made by employers under the current cash-based method.

In the personal income data, compensation will get a boost in the most recent period. Because defined benefit plans are in the aggregate underfunded (particularly in the state and local government sector), there will be a "catch-up effect" when switching to an accrual basis. Even though many benefits have not been funded on a cash basis, they have still been earned, and will be counted as income on an accrual basis.

In other words, if your employer promises you deferred compensation in the form of a pension payment in the future, that amount will now be recorded as (accrued) income to you. Since you haven't yet received it and haven't spent it, your income is reportedly higher, your consumption the same as before, and hence your saving has gone up. If the employer didn't actually fund that promise adequately, you may not get it in the future – reportedly an issue in Detroit today – that will call for adjustments in the accounts when the time comes. But in the interim, on an accrual basis, the present value of the promised future pension is your personal income.

According to BEA, personal savings will be revised up about $155bn as of 2007, and "will be revised up for most years." That would lift the personal savings rate in 2007 by 1.5 percentage points - from 2.4% as currently reported to 3.9%.

Prospects for the "routine" annual revision to growth rates

The discussion above refers to changes stemming from the conceptual change to the measurement of GDP. But there may be other changes from the routine update of source data that occurs every year. This may be of particular interest given the recent inconsistency between GDP growth and employment growth (the latter running well ahead of the former).

Predicting the GDP revision is difficult because the BEA will integrate survey data that isn't easily accessible. But research from a Federal Reserve staff economist found that GDI growth estimates have tended to predict revisions to initial GDP growth estimates.[1] According to the study's conclusions, if GDI is running above GDP, GDP tends to be revised up in due course. And if GDI is running lower than GDP, GDP tends to be revised down.

What's happened lately? In both real and nominal terms, the level of GDI is higher than GDP as of Q1 ($73bn and $85bn, respectively). In the most recent period, real GDI growth has also been tracking higher than real GDP growth. On a year-ago basis ending in Q1, real GDI is +2.2%, compared to +1.6% real GDP.

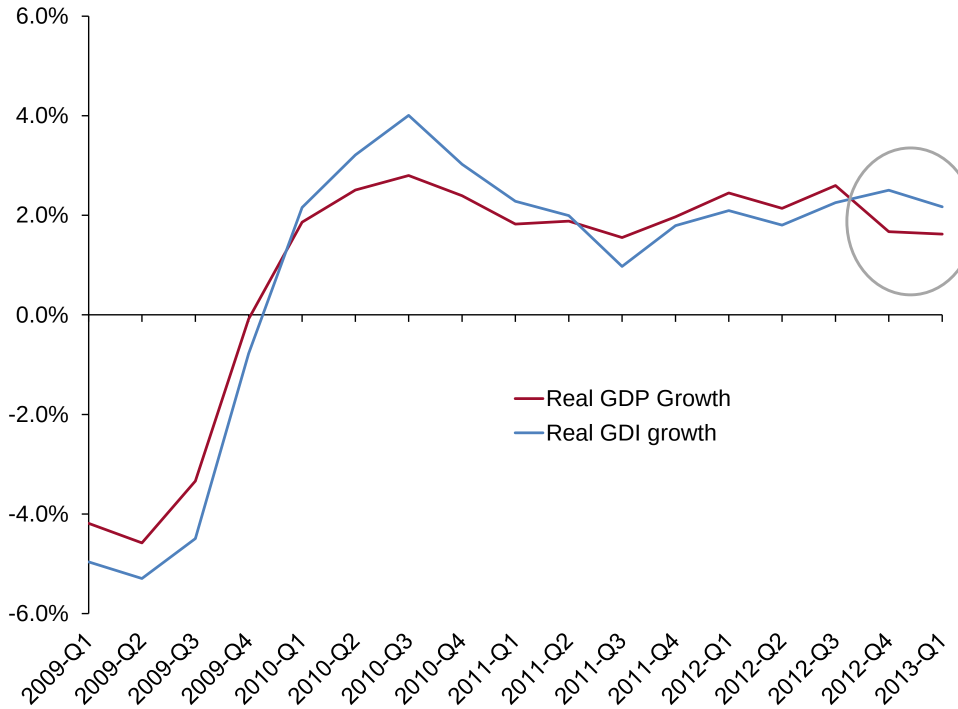
In the prior two quarters, real GDI grew 2.5% and 5.5% (Q1 and Q4, respectively), compared to 1.8% and 0.4% for GDP. The spike in Q4 GDI should probably be discounted to a degree as it was inflated by the shifting forward of income to avoid pending 2013 tax increases (personal income is the largest block of GDI). But that distortion, we think, should be washed out of the data through Q1.

[1] Nalewick, Jeremy J. "The Income and Expenditure-Side Estimates of US Output Growth", Brookings Papers on Economic Activity, Spring 2010

With YoY GDI growth as of Q1 running 60 basis points faster than YoY GDP growth, that might suggest an upward revision to GDP growth is more likely than a downward revision. And that would make it more consistent (at least directionally) with the stronger readings on payroll growth, which have been running close to 200K per month over the first half of the year. If, in the end, GDP and/or GDI are revised lower, that would only sow more confusion about the recent jobs/GDP disparity.

Exhibit 5: Real GDI Growth vs. Real GDP Growth

YoY%



Source: Bureau of Economic Analysis, Credit Suisse

CREDIT SUISSE

GLOBAL FIXED INCOME AND ECONOMIC RESEARCH

Dr. Neal Soss, Managing Director
Chief Economist and Global Head of Economic Research
+1 212 325 3335
neal.soss@credit-suisse.com

Eric Miller, Managing Director
Global Head of Fixed Income and Economic Research
+1 212 538 6480
eric.miller.3@credit-suisse.com

US AND CANADA ECONOMICS

Dr. Neal Soss, Managing Director
Head of US Economics
+1 212 325 3335
neal.soss@credit-suisse.com

Jonathan Basile, Director
+1 212 538 1436
jonathan.basile@credit-suisse.com

Jay Feldman, Director
+1 212 325 7634
jay.feldman@credit-suisse.com

Henry Mo, Director
+1 212 538 0327
henry.mo@credit-suisse.com

Dana Saporta, Director
+1 212 538 3163
dana.saporta@credit-suisse.com

Jill Brown, Vice President
+1 212 325 1578
jill.brown@credit-suisse.com

Isaac Lebwohl, Associate
+1 212 538 1906
isaac.lebwohl@credit-suisse.com

Peggy Riordan, AVP
+1 212 325 7525
peggy.riordan@credit-suisse.com

LATIN AMERICA ECONOMICS AND STRATEGY

Alonso Cervera, Managing Director
Head of Non-Brazil Latam Economics
+52 55 5283 3845
alonso.cervera@credit-suisse.com
Mexico, Chile

Casey Reckman, Vice President
+1 212 325 5570
casey.reckman@credit-suisse.com
Argentina, Venezuela

Daniel Chodos, Vice President
+1 212 325 7708
daniel.chodos@credit-suisse.com
Colombia, Latam Strategy

Di Fu, Analyst
+1 212 538 4125
di.fu@credit-suisse.com

Nilson Teixeira, Managing Director
Head of Brazil Economics
+55 11 3701 6288
nilson.teixeira@credit-suisse.com

Daniel Lavarda, Vice President
+55 11 3701 6352
daniel.lavarda@credit-suisse.com
Brazil

Iana Ferrao, Associate
+55 11 3701 6345
iana.ferrao@credit-suisse.com
Brazil

Leonardo Fonseca, Associate
+55 11 3701 6348
leonardo.fonseca@credit-suisse.com
Brazil

Paulo Coutinho, Associate
+55 11 3701-6353
paulo.coutinho@credit-suisse.com
Brazil

EURO AREA AND UK ECONOMICS

Neville Hill, Managing Director
Head of European Economics
+44 20 7888 1334
neville.hill@credit-suisse.com

Christel Aranda-Hassel, Director
+44 20 7888 1383
christel.aranda-hassel@credit-suisse.com

Giovanni Zanni, Director
+44 20 7888 6827
giovanni.zanni@credit-suisse.com

Violante di Canossa, Vice President
+44 20 7883 4192
violante.dicanossa@credit-suisse.com

Axel Lang, Associate
+44 20 7883 3738
axel.lang@credit-suisse.com

Steven Bryce, Analyst
+44 20 7883 7360
steven.bryce@credit-suisse.com

EASTERN EUROPE, MIDDLE EAST & AFRICA ECONOMICS AND STRATEGY

Berna Bayazitoglu, Managing Director
Head of EEMEA Economics
+44 20 7883 3431
berna.bayazitoglu@credit-suisse.com
Turkey

Sergei Voloboev, Director
+44 20 7888 3694
sergei.voloboev@credit-suisse.com
Russia, Ukraine, Kazakhstan

Carlos Teixeira, Director
+27 11 012 8054
carlos.teixeira@credit-suisse.com
South Africa

Gergely Hudecz, Vice President
+33 1 7039 0103
gergely.hudecz@credit-suisse.com
Czech Republic, Hungary, Poland

Alexey Pogorelov, Vice President
+7 495 967 8772
alexey.pogorelov@credit-suisse.com
Russia, Ukraine, Kazakhstan

Shahzad Hasan, Vice President
+1 212 325 2003
shahzad.hasan@credit-suisse.com
EEMEA Strategy

Natig Mustafayev, Associate
+44 20 7888 1065
natig.mustafayev@credit-suisse.com
EM and EEMEA cross-country analysis

Nimrod Mevorach, Associate
+44 20 7888 1257
nimrod.mevorach@credit-suisse.com
EEMEA Strategy, Israel

JAPAN ECONOMICS AND STRATEGY

Hiromichi Shirakawa, Managing Director
+81 3 4550 7117
hiromichi.shrirakawa@credit-suisse.com

Takashi Shiono, Associate
+81 3 4550 7189
takashi.shiono@credit-suisse.com

Tomohiro Miyasaka, Director
+81 3 4550 7171
tomohiro.miyasaka@credit-suisse.com

NON-JAPAN ASIA ECONOMICS

Dong Tao. Managing Director
Head of NJA Economics
+852 2101 7469
dong.tao@credit-suisse.com
China

Robert Prior-Wandesforde, Director
+65 6212 3707
robert.priorwandesforde@credit-suisse.com
Regional, India, Indonesia, Australia

Christiaan Tuntono, Vice President
+852 2101 7409
christiaan.tuntono@credit-suisse.com
Hong Kong, Korea, Taiwan

Santitarn Sathirathai, Vice President
+65 6212 5675
santitarn.sathirathai@credit-suisse.com
Regional, Malaysia, Thailand

Michael Wan, Analyst
+65 6212 3418
michael.wan@credit-suisse.com
Singapore, Philippines

Weishen Deng, Analyst
+852 2101 7162
weishen.deng@credit-suisse.com
China

Disclosure Appendix

Analyst Certification

Neal Soss, Jay Feldman and Isaac Lebwohl each certify, with respect to the companies or securities that he or she analyzes, that (1) the views expressed in this report accurately reflect his or her personal views about all of the subject companies and securities and (2) no part of his or her compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this report.

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