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Chemical compounds
First-quarter 2012 global chemicals mergers and acquisitions analysis

pwc

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Welcome to the latest edition of *Chemical compounds*, PwC's analysis of mergers and acquisitions in the global chemicals industry. In this report, you'll find an overview of M&A in the sector during the first quarter of 2012, plus expectations for deal activity in the near future.

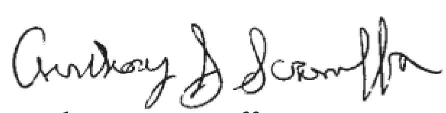
PwC analysts are looking to several trends expected to affect the values and locations of deals in the chemicals sector:

- The volume and value of deal activity fell steeply, continuing a decline that began in the second half of 2011. Responding to concerns over poor first quarter earnings, companies may have shied away from deals to streamline operations and jumpstart earnings growth through organic means.
- Financial investors did not drive any significant deal activity this quarter. Within the past year, cash balances have increased, while debt-to-capital levels have declined, suggesting that potential acquirers are becoming better positioned to enter into negotiations. Strategic investors may be seeking revenue growth and access to new markets through acquisitions in the face of valuations that are low by historic standards.
- Mega-deal activity (deals valued at $1 billion or more) increased, as five such transactions—centered on North American targets—drove nearly $10 billion in value.
- Four of the five deals announced in the BRIC region (Brazil, Russia, India, and China) involved targets in China, which again led the way for BRIC-related M&A activity. Overall, Chinese activity fell 52% to 41 deals, and deal values declined as well.
- Concerns about the economy and slower economic growth have led to greater investor caution, with activity decelerating in the second half of 2011 and into 2012.

Major chemical end-user industries made gains, but many have not returned to pre-recession levels. However, more assets available for acquisition and low public valuations could drive increased buying. If the economy continues to show sluggish improvement, and interest rates remain low, M&A activity could increase as strategic acquirers pursue growth by acquisition in the face of continued uncertainty. We remain cautiously optimistic that the deal environment could start turning around throughout 2012.

We're pleased to present the first-quarter 2012 edition of *Chemical compounds* as a part of our ongoing commitment to provide a better understanding of M&A trends and prospects in the industry.

Antoine Westerman
Global Chemical leader



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Perspective:
Thoughts on deal activity in the first quarter of 2012

The year is off to a slow start. The average volume and value of deals fell steeply in the first quarter of 2012 in the face of economic uncertainty. As we noted in fourth-quarter 2011, post-recession activity appeared to peak in the second quarter of the year and began to decline in the second half. This slide appears to be continuing into 2012.

There was no significant deal activity by financial investors this quarter. Traditionally, financial investors are constrained by a need for quicker profits, while strategic investors tend to have more flexible time lines. Over the past year, cash balances have increased, while debt-to-capital levels have declined. This indicates that potential acquirers are becoming better positioned to negotiate deals. Given the economic uncertainty, it appears that strategic investors may be seeking revenue growth and access to new markets through acquisitions in the face of valuations that are low by historic standards.

Despite the decline in deal volume overall, mega-deal activity (deals valued at $1 billion or more) was a positive note in an otherwise difficult quarter. The five mega-deals announced in the first quarter drove almost $10 billion in value. North America was the driver of mega-deal activity, as all five targets were from this region.

As in 2011, China was responsible for the majority of BRIC-related activity. Of the five deals announced for BRIC targets, four involved targets in China. For the first quarter, the volume of Chinese deal activity (including those deals with undisclosed values) fell 52%, with only 41 transactions being announced. Deal values declined as well. These declines likely indicate that consolidation activity might be slowing as the Chinese government seeks to cool economic growth.

Concerns about the economy and slower economic growth have led to greater investor caution, with activity decelerating in the second half of 2011 and into 2012. While major chemical end-user industries such as automobiles, durable goods, and construction have shown improvement, many have not returned to pre-recession levels. Despite these concerns, more assets hitting the selling block and relatively low public valuations could spur buyers to act. If the economy continues to show sluggish improvement and interest rates remain low, we could see an increase in M&A activity as strategic acquirers look to grow through acquisition despite continued uncertainty. Given these possibilities, we remain cautiously optimistic that the deal environment could begin to turn around in 2012.

Commentary

Slide continues in wake of economic uncertainty

Deal volume in the first quarter of 2012 fell to its lowest level in three years. Deal value increased, but it was still at its second-lowest since the recession ended in 2009. This decline in volume follows a trend seen since the third quarter of 2011, as momentum has slowed in the sector. Possible causes for this decline include continued concern over sovereign debt issues in the Eurozone, general economic uncertainty, and an expected decline in earnings for many chemicals producers.

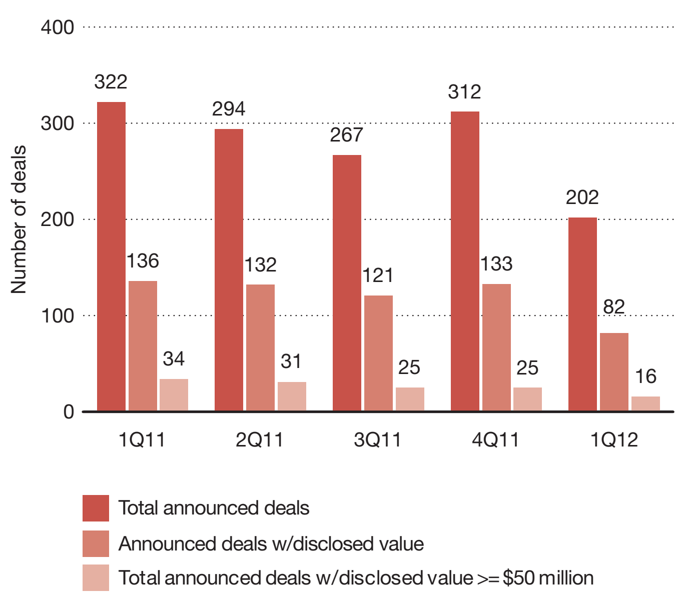
Quarterly chemicals deal activity
Measured by number and value of deals worth $50 million or more (2Q09—1Q12)

	2009			2010				2011				2012
	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q
Number of Deals	22	24	29	23	31	25	33	34	31	25	25	16
Total Deal Value ($ bil)	5.3	7.8	7.9	22.3	16.3	50.6	24.5	42.4	14.5	16.6	7.5	12.0
Average Deal Value ($ mil)	239.1	325.6	273.8	971.0	526.6	2022.6	743.3	1247.6	468.2	664.3	301.6	747.9

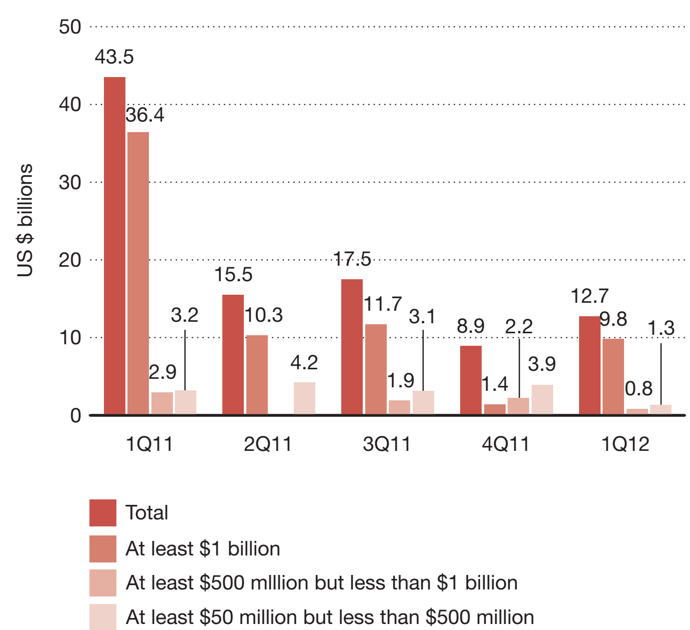
Mega-deals increase despite weak environment

Despite the decline in deal volume, mega-deal activity (deals valued at $1 billion or more) was one positive note in an otherwise difficult quarter. The five mega-deals announced in first-quarter 2012 drove almost $10 billion of the $12.7 billion announced for all deals. The volume of smaller deals (those valued at less than $50 million as well as those deals with undisclosed values) declined substantially to 202 in the first quarter compared with 312 deals in fourth-quarter 2011. Total value for these smaller deals declined as well, falling to $779 million in the first quarter from $1.35 billion in fourth-quarter 2011. Given the current economic and business climate, it appears that although fewer deals are being announced, they tend to be larger than in recent quarters.

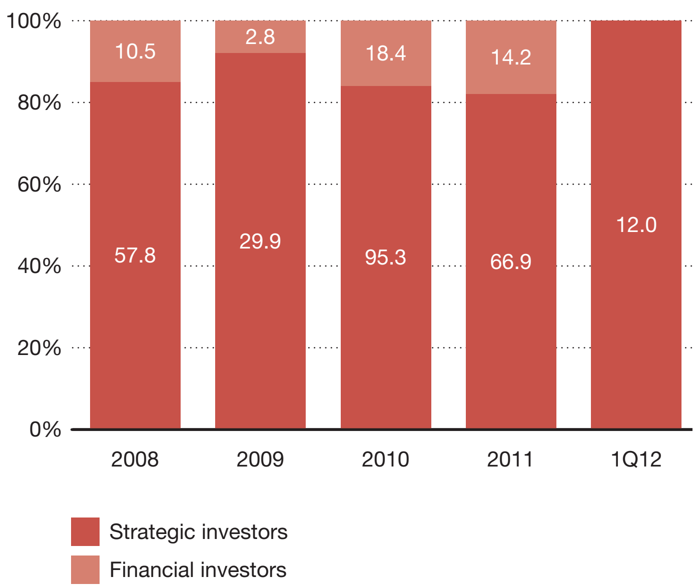
Deal activity by number of deals
Measured by value of all announced deals



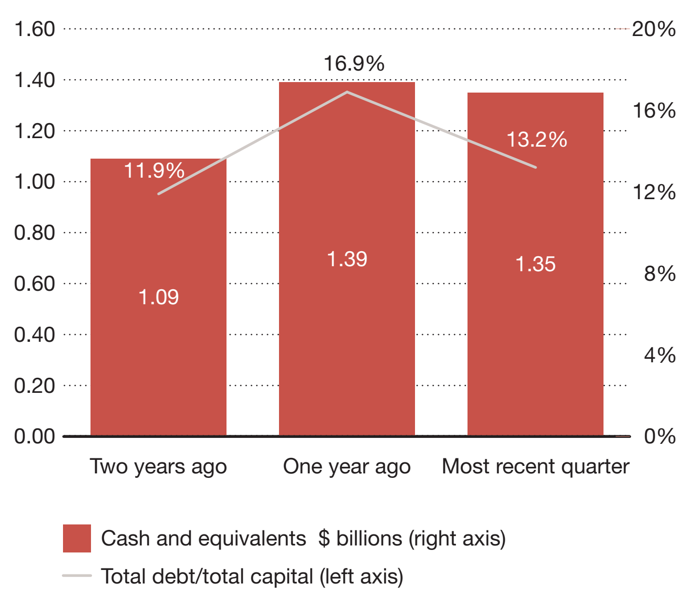
Deal activity by total deal value
Measured by value of all announced deals with disclosed values



Deal activity by investor group
Measured by value of all announced deals



Financial leverage and liquidity
Measured by average of top 50 global competitors



Financial players leave the table

In the first quarter, most M&A activity for deals valued at $50 million or more involved strategic investors. Financial investors have been constrained by a need for quicker profits, while strategic investors tend to have more flexible time lines. Also, in light of a potential slowdown in earnings, strategic investors may show more interest in mergers and acquisitions as a way to supplement weakening organic growth. Over the past two years, we have seen an increase in cash balances, and debt-to-capital levels have declined within the past year, indicating that potential strategic acquirers are becoming better positioned to initiate deals in the longer term. If the economy continues to grow slowly and interest rates remain low, we could see an increase in M&A activity as many strategic acquirers look to make their business model more immune to cyclical volatility by investing in assets with fewer cyclical end-user markets. Also, financial investors could choose to sell out to strategic investors, which could boost M&A activity if equity market performance makes IPOs less attractive. Finally, recent earnings warnings may have deterred financial investors in the first quarter.

Mega-deal activity: One bright spot

As mentioned previously, mega-deal activity was one of the few bright spots in the first quarter, driving more than 77% of the quarter's total value (all deals with a disclosed value).

In January, Eastman Chemical, a US-based producer of plastics and polymers, announced that it plans to acquire US-based specialty chemicals manufacturer Solutia for $3.4 billion. The merger would add to earnings immediately, Eastman said, and the combined company would save about $100 million a year in costs by the end of 2013. Eastman Chemical plans to finance the deal through a combination of cash on hand and debt, and the acquisition is expected to close by the end of the second quarter of 2012. Strategically, the acquisition is expected to assist Eastman Chemical in its goal to expand sales in emerging markets.

Also in January, US plastics manufacturer Westlake Chemical Corporation made a $1.14 billion unsolicited offer for Georgia Gulf Corporation. If accepted, the acquisition would help Westlake expand into vinyl construction products such as siding and window frames. Westlake anticipates a number of possible synergies if the deal goes through, including Georgia Gulf's significant ability to leverage improving global PVC demand and its access to comparatively low-cost US shale gas. In February, Westlake increased its offer after Georgia Gulf rejected the initial one. The second offer was rejected as well. On February 21, Westlake President and CEO Albert Chao said Westlake was prepared to walk away if Georgia Gulf refused to continue negotiations.[1]

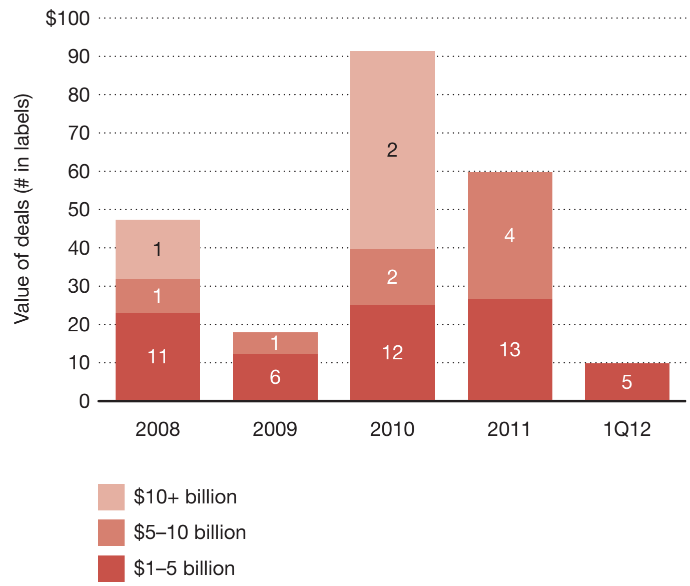
In March, Asahi Kasei, Japan's leading diversified chemicals manufacturer, with businesses in the healthcare, chemicals and fibers, homes and construction materials, and electronics sectors, entered into a definitive merger agreement with ZOLL Medical Corporation, a US-based manufacturer of resuscitation and critical care devices and related software solutions. The deal, valued at $2.2 billion, is expected to help Asahi Kasei expand its presence in the rapidly growing healthcare market.

Also in March, Canada-based agricultural-products provider Agrium announced an agreement to buy the majority of Viterra Inc.'s agri-products business from Glencore International for $1.81 billion plus working capital. The deal allows Agrium immediate access to the Canadian market (Agrium is buying about 90% of Viterra's 258 Canadian retail locations), a position that the company felt would likely have taken five to 10 years by buying smaller chains or through organic growth.

Finally, rare earth miner Molycorp is set to buy engineered materials manufacturer Neo Material Technologies in a $1.29 billion cash and share deal that will give Molycorp access to Neo's rare earth processing capabilities and patents. There are a number of synergies accruing from this deal, which is expected to close in the second or third quarter of 2012. The transaction will give Molycorp greater exposure to China, the world's largest and fastest-growing rare earth consuming economy (China currently comprises about 70% of global rare earth consumption). Also, the deal expands Molycorp's strategic rare metals portfolio to include gallium, rhenium, and indium, which are used in the advanced electronics, photovoltaic, aerospace, and lighting industries.

While Zoll Medical is not a chemical target per se, it was included in the analysis for the purpose of completeness, given that the acquirer is a chemical company.

Mega-deals
Deals valued at $1 billion or more



[1] "Chemical mergers and acquisitions fundamentals intact for strong 2012," ICIS.com, 12 March 2012.

Mega-deals in 2011

Month announced	Target name	Target nation	Acquirer name	Acquirer nation	Status	Value of transaction in US$ billion	Category
Jan	The Mosaic Co	United States	Creditors	United States	Completed	8.88	Fertilizers & Agricultural Chemicals
Mar	Lubrizol Corp	United States	Berkshire Hathaway Inc	United States	Completed	8.79	Commodity Chemicals
Jul	Nalco Holding Co	United States	Ecolab Inc	United States	Pending	8.11	Specialty Chemicals
Jan	Danisco A/S	Denmark	DuPont Denmark Holding ApS	Denmark	Completed	7.21	Other
Apr	Rhodia SA	France	Solvay SA	Belgium	Completed	4.64	Specialty Chemicals
Feb	PTT Aromatics & Refining PCL	Thailand	PTT Chemical PCL	Thailand	Completed	3.78	Other
May	International Specialty Prods	United States	Ashland Inc	United States	Completed	3.20	Other
Feb	Sued Chemie AG	Germany	Clariant AG	Switzerland	Completed	2.63	Specialty Chemicals
Jan	Elkem AS	Norway	China Bluestar(Group) Co Ltd	China	Completed	2.18	Other
Mar	Chevron Corp-Pembroke Refinery	United Kingdom	Valero Energy Corp	United States	Completed	1.83	Other
Dec	Taminco NV	Belgium	Apollo Global Management LLC	United States	Completed	1.43	Specialty Chemicals
Sep	Exxaro-Mineral Sand Op	Australia	Tronox Inc	United States	Pending	1.33	Other
Apr	Evonik-Carbon Black Business	Germany	Investor Group	United States	Completed	1.30	Specialty Chemicals
Jul	Arch Chemicals Inc	United States	Lonza Group Ltd	Switzerland	Completed	1.20	Specialty Chemicals
Jun	Vale Fertilizantes SA	Brazil	Mineracao Naque SA	Brazil	Completed	1.13	Fertilizers & Agricultural Chemicals
Feb	Sued Chemie AG	Germany	Clariant AG	Switzerland	Completed	1.08	Specialty Chemicals
Jul	Vacuumschmelze GmbH & Co KG	Germany	OM Group Inc	United States	Completed	1.01	Other

Mega-deals in 1Q12

Month announced	Target name	Target nation	Acquirer name	Acquirer nation	Status	Value of transaction in US$ billion	Category
Jan	Solutia Inc	United States	Eastman Chemical Co	United States	Pending	3.40	Specialty Chemicals
Mar	ZOLL Medical Corp	United States	Asahi Kasei Corp	Japan	Pending	2.20	Other
Mar	Viterra Inc-Agri Prods Bus	Canada	Agrium Inc	Canada	Pending	1.81	Fertilizers & Agricultural Chemicals
Mar	Neo Material Technologies Inc	Canada	Molycorp Inc	United States	Pending	1.29	Other
Jan	Georgia Gulf Corp	United States	Westlake Chemical Corp	United States	Intended	1.14	Commodity Chemicals

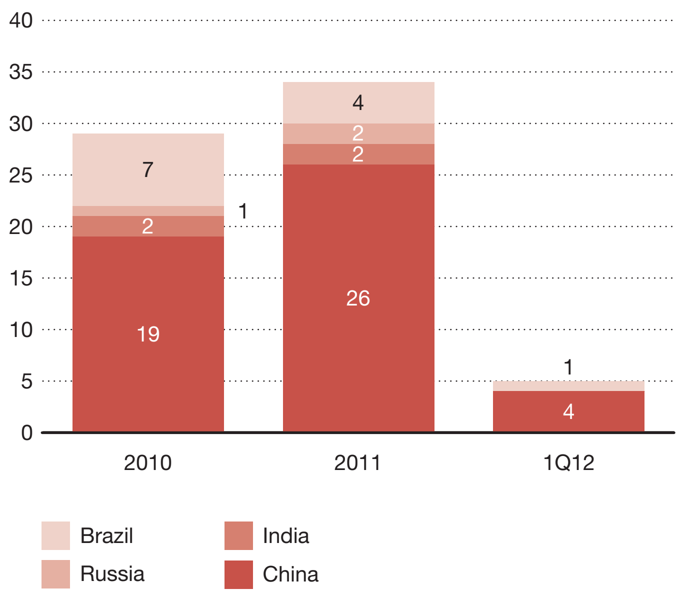
BRIC-affiliated transactions decline as China economy slows

In line with lower deal activity overall in the first quarter, the level of activity related to BRIC countries for deals valued at $50 million or more declined as well. As in 2011, China was responsible for the majority of BRIC-related activity. Of five deals announced involving BRIC targets, four were in China, and one was in Russia. Of the five deals announced by BRIC acquirers, once again, four involved Chinese companies and one involved a Russian acquirer.

For the first quarter, Chinese deal activity (including those with undisclosed values) fell to 41 deals, a decrease of almost 52% compared with the previous quarter. Deal value declined as well, from $4.3 billion in fourth-quarter 2011 to less than $1.75 billion in the first quarter. These declines indicate that consolidation activity might be slowing as the Chinese government seeks to cool economic growth. Year-over-year growth of China's gross domestic product was 8.9% for the fourth quarter of 2011 and fell to 8.1% for the first quarter of 2012.

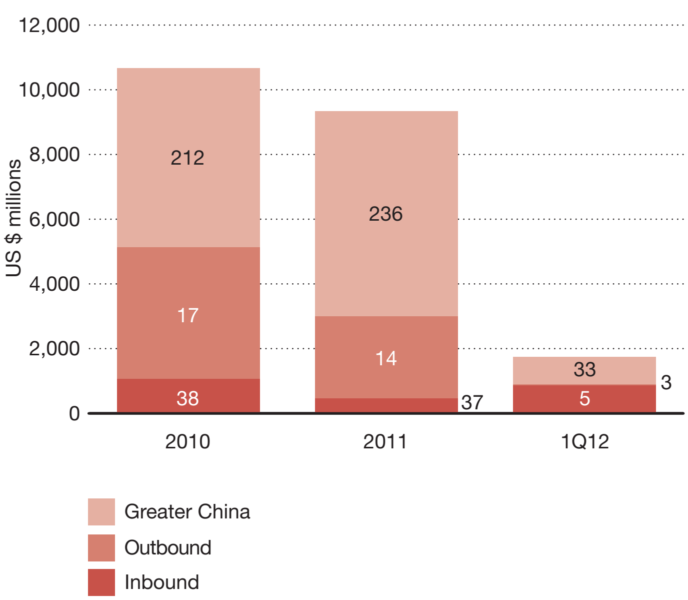
Distribution of BRIC deals by target nation

Measured by number of announced deals worth $50 million or more



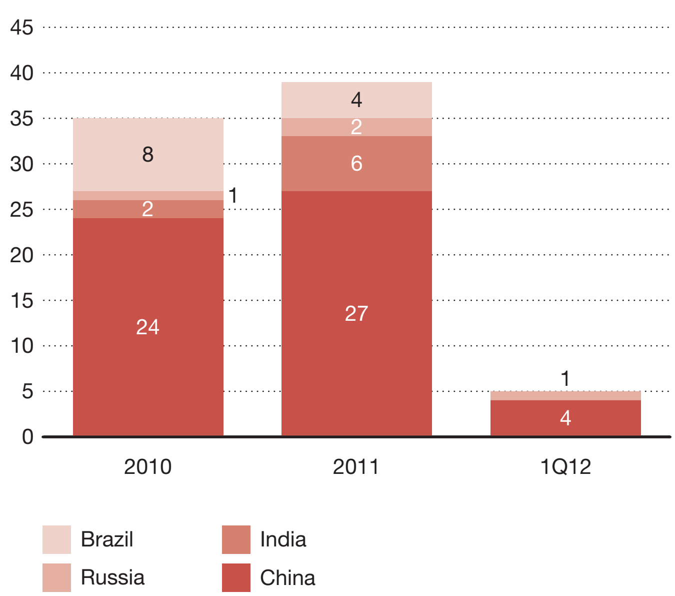
Greater China Deals

All announced deals by value of deals (for all announced deals with disclosed deal values)

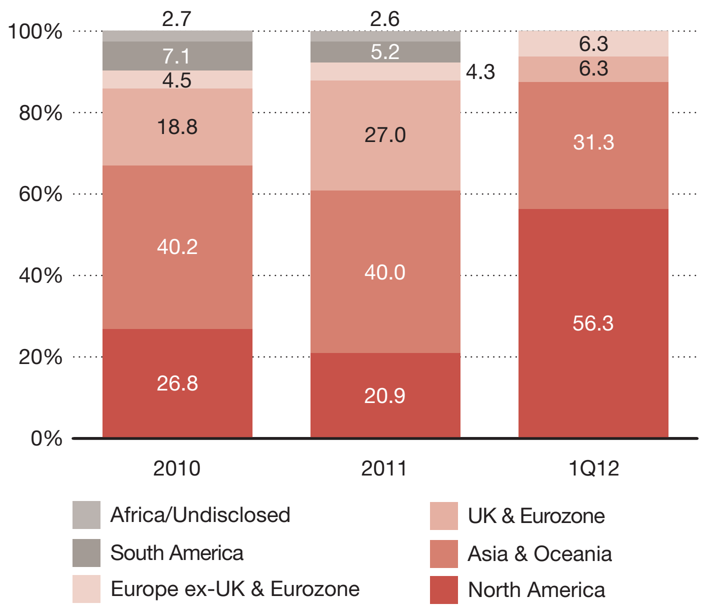


Distribution of BRIC deals by acquirer nation

Measured by number of announced deals worth $50 million or more

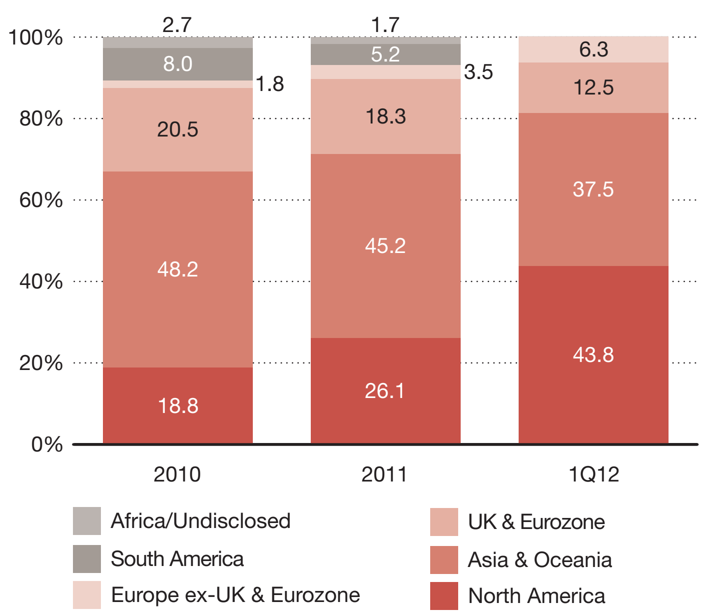


Regional distribution of deal volume by target region*
Measured by number of announced deals worth $50 million or more



*Deals may not equal 100% due to rounding.

Regional distribution of deal volume by acquirer region*
Measured by number of announced deals worth $50 million or more



*Deals may not equal 100% due to rounding.

North America drives deal volume in first quarter

During the first quarter, targets in North America again drove deal volume and value, with Asia and Oceania responsible for a significant portion of the balance. The two regions combined were responsible for more than 87% of activity. This strong showing was aided by the five mega-deals, all for North American targets. Deal value in Europe declined substantially, accounting for only 12.5% of activity amid sovereign debt issues and concerns over a slowing economic recovery. The European bond and debt markets were effectively closed in the second half of 2011; therefore, there was almost no European activity.

For acquirers, deal volume was driven by Asia and Oceania. Activity in the United States was also strong, assisted by North American acquirers in four of the five mega-deals (valued at $7.65 billion). All mega-deal acquirer activity was driven by advanced economy nations this quarter. This could be caused by the relative size of companies in the industry, as well as the propensity for more stringent reporting requirements in the United States (e.g., US public companies are required to disclose M&A transaction values, while many unlisted state-owned Chinese companies are not).

Chinese targets played a major part in activity for Asia and Oceania. The majority of this activity involved local market deals, particularly in China, where Chinese companies sought controlling interests in local operations. In March, the Chinese government lowered its official GDP growth target to 7.5% from its previous long-standing target of 8%. This will represent the slowest annual growth rate in China's economy since 1990. The slowing Chinese economy has driven the search for synergistic growth and the slowing of Chinese M&A. While we expect this region will continue to be a major driver of overall deal activity, it will likely be at a slower pace, as China's economy cools.

North America drives local and inbound deal value

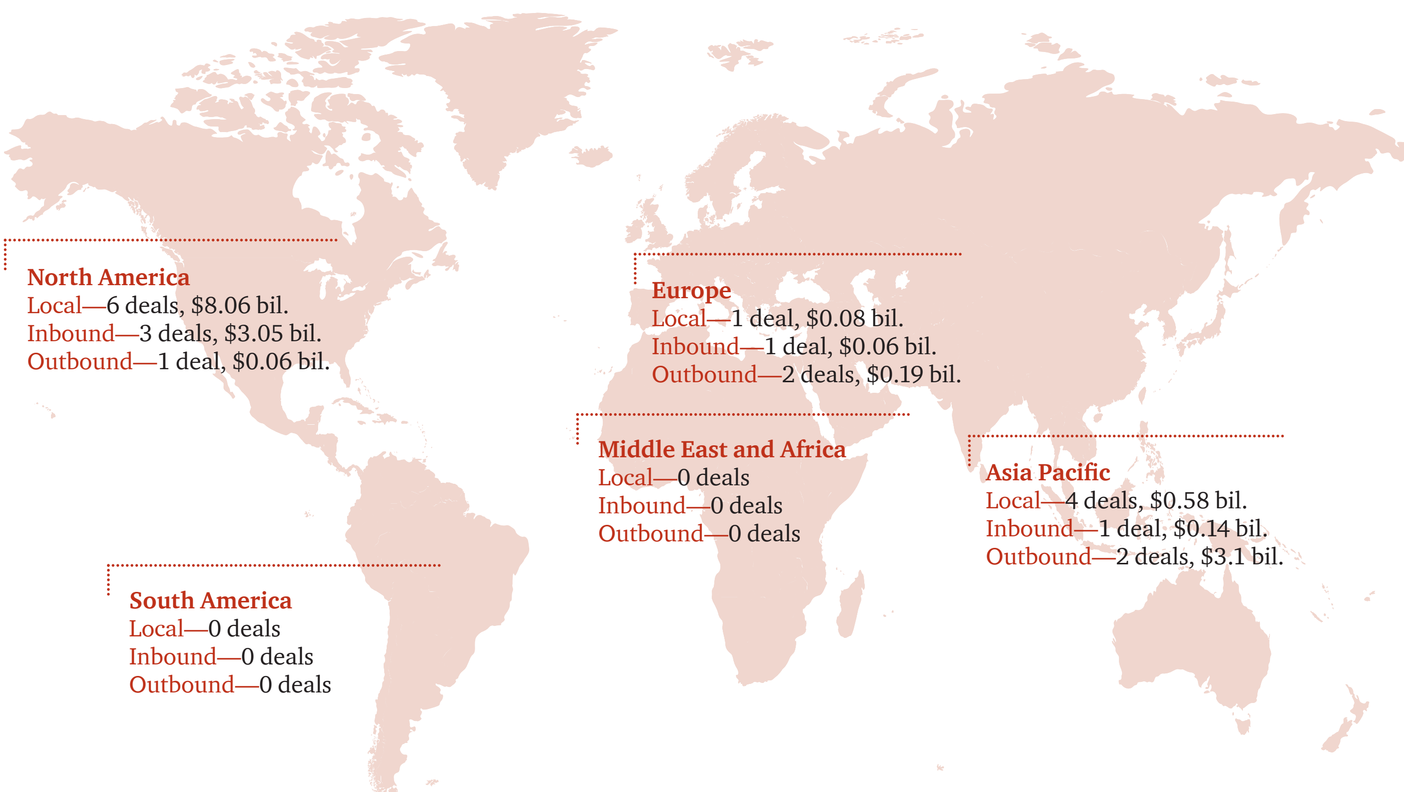
North America drove local deal volume and value in the first quarter, as chemical companies continued to seek growth and other synergies through consolidation. Similarly, North America also drove inbound deals, primarily Japan-based Asahi Kasei's acquisition of US-based ZOLL Medical. Of the five mega-deals, all involved North American targets. Four of the deals were local market, while the fifth was inbound.

Outbound volume and value were driven by the Asia-Pacific region, with two deals for the quarter valued at $3.0 billion, driven by Japan-based Asahi Kasei's acquisition of ZOLL, as mentioned above. There was only one outbound deal involving the United States, in which Akron, Ohio-based A. Schulman acquired France-based Elias SAS, manufacturer of color concentrates for the plastics industry, from British Vita Plc for $63 million in cash. This decline in outbound deals from the United States could be caused by a weak dollar, which makes offshore acquisitions by US companies relatively more expensive.

Low activity in Europe could be caused by concerns related to a further decline in the Euro-zone economy as well as sovereign debt issues. At this point, investors may be taking a wait-and-see attitude, investing instead in less risky regions.

Global chemicals M&A activity

Measured by number and value of deals worth $50 million or more (1Q12)



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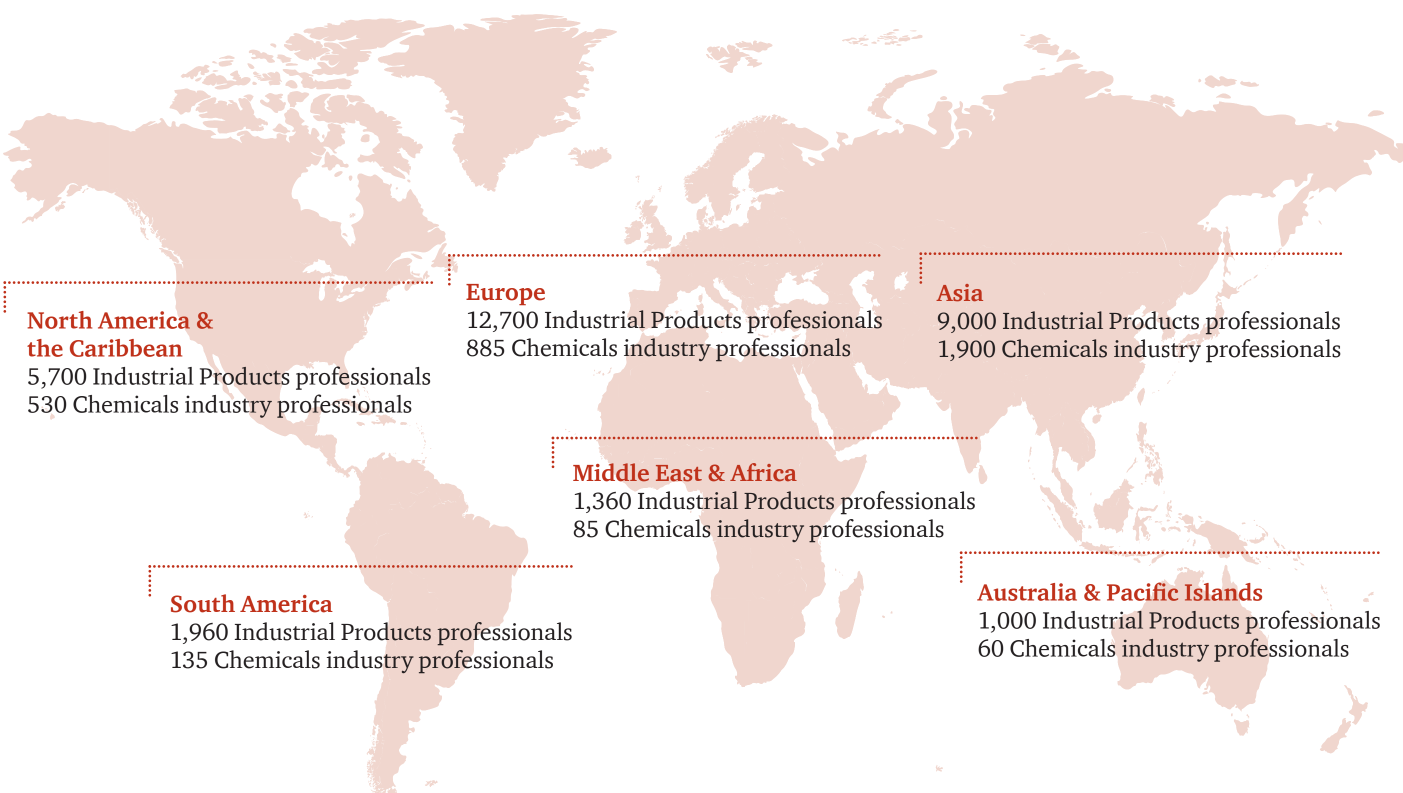
Global connection

PwC's Chemicals Industry practice is part of an Industrial Products group that consists of more than 31,500 professionals, including more than 18,600 providing Assurance services, 7,700 providing Tax services, and 5,200 providing Advisory services.



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PwC’s global Transaction Services practice

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Methodology

Chemical compounds is an analysis of deals in the global chemicals industry. Deal and financial information was sourced from Thomson Reuters using the Thomson-defined industry sector of Chemicals and Allied Products for target, and other selected industries acquired by companies that are part of the Thomson-defined Chemicals and Allied Products designation. This analysis includes all mergers and acquisitions for disclosed or undisclosed values, leveraged buyouts, privatizations, minority stake purchases and acquisitions of remaining interest announced between January 1, 2008, and March 31, 2012, with a deal status of completed, intended, partially completed, pending, pending regulatory approval, seeking buyer, seeking buyer withdrawn, unconditional (i.e., initial conditions set forth by the acquirer have been met but deal has not been completed) or withdrawn. Geographic categories generally correspond to continents with exceptions for Australia (included in the Asia Pacific category), Europe (divided into Western and Eastern categories based upon UN definitions) and the Middle East (defined as a separate category based upon US CIA World Factbook). Where China is referenced in this analysis, it includes both the Peoples Republic of China and Hong Kong, unless otherwise indicated. Where the number of deals is referenced in this analysis it means the number of all deals with disclosed or undisclosed values, unless otherwise noted.

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