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THE WALL STREET JOURNAL.

SATURDAY/SUNDAY, MAY 1 - 2, 2010

VOL. CCLV NO. 101

WEEKEND EDITION

★★★★ \$2.00

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A NEWS CORPORATION COMPANY

WSJ.com

What's News—

Business & Finance

World-Wide

The Dow industrials ended near session lows, off 158.71 points, or 1.4%, to 11008.61, up 1.4% for April. All 30 blue chips fell. Goldman Sachs, which isn't a Dow component, slid 9.4%. It ended with a 15% decline for April, its worst monthly drop since 2008. **B1**

The economy grew at a slower 3.2% pace in the quarter, but consumer spending and inflation trends were encouraging. **A1**

Paul Volcker appears to be winning his campaign to shackle big banks so they can't turn to taxpayers if they lose money trading for their own profit. **A3**

The Justice Department is under pressure to show it can successfully prosecute a big Wall Street case and do so without cutting corners. Attorney General Eric Holder has made it a priority to overhaul investigations and prosecutorial techniques. **B1**

ICE aims to move into the emissions-trading sector with a \$603 million bid for Climate Exchange, preparing a fight with CME. **B1**

Suppliers American Axle and Visteon showed gains in the quarter, hinting at an auto-industry recovery. **B5**

Greece said it is near terms of an EU-IMF bailout; EU officials set a meeting Sunday to discuss aid. **A8**

In the wake of Greece's woes, ratings agencies downgraded Portugal and Spain. That has prompted analysts to re-examine the durability of the U.K.'s top-notch AAA rating. **A9**

Regulators closed three Puerto Rican banks, and the FDIC took receivership in one of the biggest single cleanups of failing banks in the financial crisis. **B1**

Avon has extended an investigation into possible bribery of foreign government employees. **B5**

Chevron's earnings more than doubled as it is said to be bidding for blocks in the South China Sea. **B5**

—Markets—

Stocks (Friday):
DJIA 11008.61, ▼158.71;
Nasdaq 2461.19, ▼50.73;
S&P 500 1186.69, ▼20.09.
Bonds: 10-year Treas.
▲17/32, yield 3.663%;
30-year Treas. ▲11/32,
yield 4.529%.

Dollar: 93.93 yen, -0.13;

The FBI is investigating the recent mine explosion. Officials want to know if certain safety devices and procedures were bypassed or tampered with at a Massey Energy facility in West Virginia where 29 miners were killed in an April 5 blast. **A3**
Massey said it is aware of FBI interviews and that it would cooperate.

The government and BP scrambled for ways to stop the Gulf oil leak as weather hampered efforts to stop it from washing ashore. Meanwhile, some supporters of offshore drilling are changing their views. **A1, A4, A5**

A new militant group claimed responsibility for the killing of an ex-Pakistan intelligence operative. **A8**

Chinese authorities stepped up security and tamped down media coverage after the third attack at a school in as many days. **A9**

Obama has narrowed his list for his second Supreme Court nominee, aiming for confirmation before the Senate's August recess. **A3**

New rules will make it easier for federal judges to consider defendants' military service and other factors when sentencing. **A6**

The success of temporary high-risk insurance pools that are part of the national health overhaul depends heavily on how individual states implement it. **A6**

Federal agents arrested 596 immigrants with criminal records in a three-day enforcement sweep. **A6**

A federal judge refused to issue a subpoena for Obama to testify at former Illinois Gov. Blagojevich's political-corruption trial. **A6**

NASA's chief is under fire for efforts to set lifetime health benefits for ex-astronauts, including himself. **A6**

Putin proposed merging Russia's state-controlled natural-gas company Gazprom and Ukraine's Naftogaz. **A8**

Pentagon leaders warned Congress not to tamper with the ban on gays serving openly in the military, which Obama wants repealed, until they reach a plan to handle potential opposition.

China announced it was entering the Western-dominated global TV market with its own English-language television channel. **A14**

New Mexico Gov. Rich-

Oil-Spill Fight Bogs Down

BP Says Stopgap Plan to Cap Well May Take Weeks; Weather Slows Effort to Limit Slick

VENICE, La.—Engineers prepared to try containing the gushing Gulf of Mexico oil well with giant underwater boxes and siphons, as seaside towns braced for landfall of a giant slick.

BP PLC, the oil giant that leased the rig whose sinking last week caused the disaster, has failed in efforts using unmanned

By Ben Casselman,
Stephen Power
And Ana Campoy

submarines to activate a shutoff device on the undersea well.

A stopgap solution BP is planning—covering the well with containers and pumping the oil out—will take weeks to roll out and is untested at the one-mile depth of this well, however. BP said it would begin working this weekend on a permanent solution to the crisis, drilling a new hole to cut off the damaged well, but industry scientists said that could take months.

The Deepwater Horizon, operated for BP by Transocean Ltd., burned and sank last week, leaving 11 dead and an open well on the ocean floor.

With a quick solution to shut off the spill looking out of reach Friday, the government and the oil industry struggled to contain the resulting slick and keep it from shore. The American Petroleum Institute alerted members that Interior Secretary Ken

Salazar wanted advice from the industry on how to manage the spill by the end of Friday.

On Friday evening, the National Guard was mobilized to assist in the cleanup, and the Pentagon said BP would have to bear the cost. Earlier Friday, a small drilling rig tipped over in inland waters near Morgan City, La., the Coast Guard said, though no oil was spilled.

The Deep Horizon slick began threatening the wetlands of the Louisiana coast, raising fears of environmental disaster in some of America's richest shrimp, oyster and fish breeding grounds.

Strong winds and choppy seas hampered efforts to hem in the oil. Several vinyl containment barriers, known as booms, broke up in the rough weather. Others remained on shore, as high waves—expected to continue through the weekend—made it impossible to lay them in the Gulf.

An equally pressing emergency loomed more than 40 miles offshore, where the deep-

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The Gulf Oil Spill

- New strains on an already-ailing region..... A4
- Threats to wildlife will linger A5
- BP's troubled record..... W3
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An oil-coated Northern Gannet bird was rescued Friday in Louisiana.

Show Stopper: How Plastic Popped the Cork Monopoly

By TIMOTHY AEPPEL

ZEBULON, N.C.—In a nondescript factory in this small, wooded town, 10 giant machines worked around the clock last year to churn out 1.4 billion plastic corks, enough to circle the earth 1.33 times if laid end-to-end.

Unknown to most American wine drinkers, the plant's owner, Nomacorc LLC, has quietly revolutionized the 400-year-old wine-cork industry. Since the 1600s, wine has been bottled almost exclusively with natural cork, a porous material that literally grows on trees in Portugal, Spain and other Mediterranean lands.

But over the past 10 years, an estimated 20% of the bottle stopper market has been replaced by a new technology—plastic corks that cost between 2 and 20 cents apiece. More than one in 10 full-sized wine bottles sold worldwide now come with a Nomacorc plug, while another 9%



A machine makes Portugal wine.

or so come from other plastic cork makers. Screw caps took another 11% of the market.

"We infuriated the cork industry," says Marc Noel, Nomacorc's chairman.

Plastic stoppers have so rattled the once dominant natural cork producers that they have gone on the defensive. This summer, Portugal, which accounts for 52% of the cork market, and the Portuguese Cork Association, are bankrolling a €21 million ad and social media campaign to tout the superiority of natural cork over synthetics.

"It's easy for cork to be taken for granted—but its importance goes well beyond its tiny little size," says Carlos de Jesus, head of international marketing for the Amorim Group, the world's largest cork producer in Santa Maria de Lamas, Portugal.

The story of how Nomacorc and other stop-

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Business Spending Propels Recovery

By SUDEEP REDDY

The U.S. economy grew at a slower pace in the first quarter, but the underlying trends—including a bigger share of growth from industry, strong consumer spending and low inflation—were encouraging.

The nation's gross domestic product, the value of all goods and services produced, grew at an annual rate of 3.2% after climbing 5.6% in the fourth quarter, the Commerce Department said Friday.

That's not nearly fast enough to bring down stubbornly high unemployment. In addition, threats ranging from turmoil in Europe to the difficulty smaller businesses face in borrowing

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Show Stopper: How Plastic Cracked the Cork Monopoly

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per upstarts broke the centuries-old cork monopoly is a lesson in how innovation, timing and hustle combined to exploit an opening in a once airtight market. It shows that any dominant industry can be vulnerable to competition, especially if it grows complacent about its position.

Cork was first adapted to close bottles of sparkling wine by a French Benedictine monk named Dom Perignon in the late 1600s. For the next four centuries, cork was considered the ultimate wine stopper: Its cellular structure makes it easy to compress into the neck of a bottle, where it expands to form a tight seal. Wine also benefits from "breathing," which is facilitated by cork's cell structure. An airtight seal on a wine bottle can cause another set of problems and is one factor that limited the use of plastics and screw caps in the past.

Cork is harvested from the outer bark of cork oak trees, always by hand by workers using axes designed to slit the bark without harming the deeper layers of the tree. It can take two decades for a tree to grow old enough for the first harvest and subsequent culling is done only once every nine or ten years.

Despite its labor-intensive origins, cork remains cost effective. The most inexpensive corks start at 2 cents and go up to 1.5 euros for the finest varieties used in the best wines.

Although it was long known that cork could sometimes ruin the taste of wine, the problem wasn't well understood until the early 1980s. Then, chemists finally pinpointed the main cause of cork taint: The powerful chemical 2-4-6 Trichloroanisole or TCA. It can get into wine through contaminated cork, tainted barrels or pallets and render bottles undrinkable.

By the 1990s, retailers and wineries were clamoring for a solution to wine taint but the cork industry didn't respond. "No industry with 95% to 97% market share is going to see its propensity to listen increase—and that's what happened to us," says Mr. de Jesus from Amorim.

The outcry was just the opening needed by Mr. Noel, a Belgian immigrant who in 1998 began making what he calls "corks," he says in part to avoid lawsuits from cork producers, in his North Carolina plastics factory.

Mr. Noel, whose company had specialized in extruded plastics such as pool noodles, named the new business Nomacorc LLC. He eventually built a new, highly automated factory that does nothing but churn out the plastic stoppers, 157 million a month.

The business took off as wineries, desperate for closures that



A man strips bark from a cork tree in Odemira, Portugal. Some 52% of the world's cork comes from Portugal.

wouldn't cause cork taint, lined up to buy his product. Nomacorc now has plants on three continents, which produce 2 billion corks a year.

What Mr. Noel and other plastics innovators realized was that they could use new technology to make a new kind of closure. Plastic corks had been tried in the past—but were largely rejected because they were made of solid plastic, which can be difficult to insert and extract and can leave gaps around the edges that are prone to leaks.

Mr. Noel's innovation was to make corks with two types of extruded plastic: A firm inner core that would hold the shape of the cork and a spongy exterior that would fit better. The new corks had the feel of natural cork and were easier to remove with a cork screw, which addressed a key consumer objection. Not only that, but they could be printed to look like cork or made in fanciful colors. Nomacorc holds 30 patents on its products and the techniques to make them.

"We changed the way wine-makers think about making and closing wine," says Mr. Noel.

A host of other upstarts emerged around the same time, including Supreme Corq LLC in Kent, Washington, and Neocorc Technologies in Napa, Calif.

One of the earliest innovators was NuKorc Pty. Ltd. in Pooraka, Australia, which began making extruded plastic corks in 1996. NuKorc filed for bankruptcy protection in March, a victim of the economic downturn and the rise of screw caps. Metal screw caps now dominate Australia and New Zealand's wine markets, where they aren't as associated with cheap wine as they are in the U.S. Screw caps start at 4 cents apiece and are thus slightly

more expensive than the cheap plastic and natural corks.

In 2002, the founder of California's Bonny Doon Vineyard, Randall Grahm—a screw-cap advocate—held a "funeral for cork" in New York's Grand Central Station. The ceremony included a casket containing a dummy made of cork.

"Synthetics solved a problem," says Mark Coleman, director of business development for Neocorc, founded by investors representing five California wineries and now selling stoppers in 22 countries. Mr. Coleman says the U.S. in particular embraced plastic: He estimates half of the top 30 selling brands in the U.S. now use synthetic corks.

Jochen Michalski, president of Cork Supply, a Portugal-based cork producer and distributor, was among the first to break ranks and start selling both natural and plastic corks to wineries around the world in 1997.

"At the beginning, it was a hard decision—because I believed in cork and thought I'd be in cork for all my life," says Mr. Michalski. Fellow cork producers also turned up the heat: "A lot of pressure was put onto me in Portugal by the big boys—they

tried to cut us out of the supply chain, by talking to suppliers," he says.

Cork Supply buys raw cork from growers and fashions them into finished corks. Mr. Michalski says the rapid rise of alternative closures was driven by retailers, including large grocery chains in Britain and the U.S., who demanded a fix for wine taint. In the end, Cork Supply didn't lose any suppliers.

Mr. Michalski contends there will always be a market for natural cork in wine. But moving down the price ladder, he says, there's more demand for less-expensive types of closures—including corks made of bits of cork glued together, plastic stoppers and screw caps.

"Even though we're a pure cork company, my motto is you sell what your customer wants and not what you want to sell," he says. "So we made a point to offer synthetic and it's worked very well." Synthetics now account for about 20% of Cork Supply's sales.

As alternative closures grabbed market share, cork makers began fighting back with advertising campaigns aimed at discrediting plastic and touting

the virtues of the natural product. Green groups picked up the theme, including one that enlisted support from Britain's Prince Charles in a campaign that warned that the decline of natural cork could endanger Europe's vast cork forests. In a speech several years ago, the Prince Charles called plastic corks, "nasty plastic plugs." If the natural cork industry faded, he said, there could be temptation to cut the trees down.

Mr. de Jesus says natural cork makers have changed their ways—and many now rely on new screening technology that sharply cut the amount of cork contaminated with TCA that ends up in wine closures. But the problem wasn't eliminated. One reason: There are some 600 cork producers in the world, and many small operators lack the ability to screen cork for any trace of the chemical.

Natural cork makers believe the tables are turning again against the upstarts. Mr. de Jesus contends that surveys of public opinion show that natural cork has an approval rating of about 92%.

The problem is that consumers don't buy corks, they buy wine. And so cork makers are mounting yet another round in their public-relations battle with this summer's advertising campaign.

The new campaign will target plastic. One print ad, for instance, shows a gnarled cork tree with a horse in the background. The caption reads: "Harvested correctly, a cork tree can last up to 300 years. Unfortunately a plastic cork can last even longer." The print ads will be run in wine industry trade magazines and publications for wine enthusiasts, says Mr. de Jesus.

Plastic cork producers counter that their product, unlike natural cork, is 100% recyclable and uses four times less energy to produce than natural corks.

Moreover, the plastic producers believe they have a new ace in the hole. Nomacorc, now majority owned by Boston-based investment group Summit Partners, has been pouring money

into developing the science around wine closures with a focus on controlling oxygen entry in bottles.

Natural cork has irregular cellular structures making it difficult to know exactly how much oxygen will enter a bottle—while plastic has the virtue of consistency. "Oxygen management is resonating within the industry and Nomacorc is leading the charge," boasts Lars von Kantzow, the company's Swedish chief executive.

Leading the way through the company's North Carolina factory, Mr. von Kantzow stops in front of a stack of huge bins of plastic corks. The company employs 400 people worldwide, 250 of them in Zebulon. The plant is dominated by huge extrusion machines, which feed corks into machines that print the names and logos of wineries on them.

A key issue in the plant is making sure even a single cork printed for one winery doesn't find its way into a giant container headed to a competitor. "It's like dropping a baby in the nursery," says Mr. von Kantzow. "It just can't happen."

The company employs five PhDs who do nothing but study the impact of oxygen levels in wine—and how that is influenced by different types of corks. This growing trove of intellectual capital isn't restricted to cork technology. The company studies the shape of bottle necks—where subtle differences can mean tiny variations in the amount of air that gets inside. They even study how far corks should be inserted for maximum benefit. The company recently launched a side business selling German-made equipment that vintners can use to measure oxygen levels in wine.

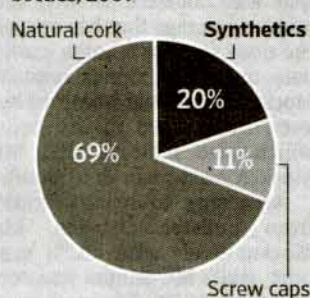
Last August, "Wines & Vines," an industry magazine, devoted an entire issue to "closure issues." It suggested that the oxygen issue could play a key role in wine's future.

"For centuries winemakers have simply filled bottles by gravity and then popped in a cork. And by and large, they have gotten away with it," the magazine noted. It then delved into the latest research, some coordinated by Nomacorc, which is focused on studying what happens to wine once it's bottled. "Enhanced knowledge about the interaction between oxygen and wine is likely to result in more wines reaching consumers in optimal condition, which has to be a good thing," the research article concluded.

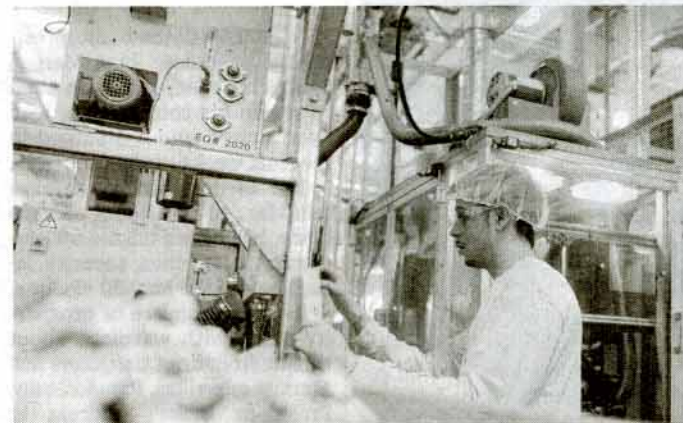
Meanwhile, the cork makers are confident they can win back customers. "A pink plastic stopper between a consumer's mouth and his wine does not keep me awake at night," says Amorim's Mr. de Jesus. "But a bad cork, that's what worries me."

Open Competition

Types of closures on wine bottles, 2009



Source: Nomacorc internal estimates



A worker makes plastic corks at the Nomacorc factory in Zebulon, N.C.

Amanda Lucier for the Wall Street Journal