would eliminate another moral ssociated with conventional debt. s could not reduce their real obli- creating massive inflation, as they y with conventional government ause their nominal GDP would in- th the inflation.

based on GDP have the great merit imple. Other measures of national might seem more accurate than vould sacrifice simplicity. It might be an improvement to calculate earnings as GDP minus some na- oxy for costs. This would have the everaging Trills so that they would volatile and appeal to investors in y markets.

stance, we might subtract some te measure of interest on the con- national debt from GDP to arrive l earnings. After all, corporations heir interest costs when they cal- eir earnings. It certainly would ed Greece to have a Trill based on us interest during its recent crisis; ors balked at efforts to roll over , interest costs skyrocketed, mak- situation even more unmanage- he other hand, adjusting for inter- dds a complication—and another noral hazard, since it could tempt nent to play with interest rates.

ing of Greece, what effect could e had during the Great Recession termath? Greece's real GDP fell 010. If its Trills were leveraged ally—say, five to one—then the paid on them would have fallen 0%. This would have done much e the crisis, making it easier for xpayers to bear. It would have ece a bailout without any inter- hand-wringing or broken prom- the fact, investors in Greek Trills ve been unhappy. But they still e been willing to purchase them, ng the possible upside of such ed investment. Investors avidly veraged corporate stocks, so it's that they would buy leveraged ell.

AUDACITY WORKS!

ERADICATE SMALLPOX

Smallpox was still killing millions in 1967, two centuries after the invention of a vaccine for it. That year the World Health Organization decided to immunize everyone in the world. To do so it had to develop a vaccine that required no refrigeration and a new needle that would simplify inoculation. Then came a seven-year program to contain outbreaks through door-to-door surveillance. By 1979 smallpox had disappeared from the planet.

Markets for national shares would fundamentally change the economic atmosphere. An immediate market response would accompany every new government plan affecting the future of the economy, generating a discussion of each country's development plan, as well as a flow of international resources toward governments with plans that passed the market test.

At the same time, with Trill prices gyrating up and down from minute to minute, national shares might seem to be a dangerous extension of financial capitalism—a system in some ill repute at the moment. But in fact the enthusiastic implementation of financial capitalism has been the story of every successful nation on the planet. We should not shrink from having real markets for countries, which would track countries' successes much more accurately than stock markets do. Stock markets represent only claims on corporate earnings after corporate taxes—an unreliable measure of a country's success. We can do better.

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TIME FRAME NEXT WEEK **DEGREE OF DIFFICULTY** OPERATIONALLY EASY, PSYCHOLOGICALLY HARD
BARRIER GREED, ECONOMIC THEORY

Stop Tying Pay to Performance

The evidence is overwhelming: It doesn't work.

by Bruno S. Frey and Margit Osterloh

We've talked about this since the financial meltdown. Now it's time to do it: Unlink pay from performance. The evidence keeps growing that pay for performance is ineffective. It also may induce executives to take company-killing risks. There are other ways to motivate employees that yield better results at lower cost.

Thanks mainly to provisions linked to performance, CEO compensation has skyrocketed in recent decades, while its correlation with actual corporate performance has remained as weak as ever. This has been most true in the U.S., where among the S&P 500 the ratio of average CEO pay to average employee salary went from about 40:1 in the 1970s to 325:1 in 2010. The ratio isn't as extreme in most other countries, but the trend is the same. Below the top level, mismatches between pay and performance aren't so acute. But all variable-pay-for-performance schemes still suffer from four inescapable flaws:

1. In a modern economy, where new challenges emerge constantly, it's impossible to determine the tasks that will need to be done in the future precisely enough for variable pay for performance to work well.

2. People subject to variable pay for performance don't passively accept the criteria. They spend a lot of time and energy trying to manipulate the criteria in their favor, helped by the fact that they often know the specifics of their work better than their superiors do.

3. Variable pay for performance often leads employees to focus exclusively on areas covered by the criteria and neglect other important tasks. This is known as the "multiple tasking" problem.

4. Variable pay for performance tends to crowd out intrinsic motivation and thus the joy of fulfilling work. Such motivation is of great importance to business, because it supports innovation and encourages beyond-the-ordinary contributions.

The idea that people work only for money has been thrown overboard by leading scholars. Research has shown that human beings are not interested solely in material gain. They care for the well-being of other individuals and value recognition from coworkers. Many employees apply themselves because they find their work challenging and worthwhile. These nonmaterial motivations point to better ways to get results from the members of an organization.

One way is to select employees more carefully, hiring people who are truly interested in the work—not people whose primary goal is earning the highest pay. Another approach is to pay fixed compensation but adjust it on the basis of a comprehensive evaluation of employees' work after some time. This avoids the multiple-tasking problem. At the end of the year companies can also distribute part of their profits to employees according to their contribution to overall performance, rather than preset criteria. Awards and recognition are effective motivators as well. Research suggests that effort increases among both the winners and other employees when awards are given out.

Variable pay for performance, while it may seem attractive in theory, creates more problems than it solves. There's no proof that it helps achieve its intended purposes, and other approaches not only work better but also strengthen employee loyalty.

Bruno S. Frey is the Distinguished Professor of Behavioural Science at the UK's Warwick Business School and a professor of economics at the University of Zurich. **Margit Osterloh** is a professor of management science at Warwick Business School.

TIME FRAME BEFORE COD DISAPPEAR **DEGREE OF DIFFICULTY** SURPRISINGLY EASY
BARRIER NATIONAL AND INTERNATIONAL BUREAUCRACY

Declare 20% of the Ocean Off-Limits

Here's one great way to save fish—and the fishing industry. *by Enric Sala*

We are consuming fish faster than they can reproduce, denuding the ocean. Conventional solutions, such as forcing reductions in fishing capacity, lowering industry subsidies, and imposing sustainable quotas on catches, have proved difficult to implement globally.

Creating fish banks—marine reserves where no fishing can ever take place—covering at least 20% of the ocean is a bold way to tackle the problem. When areas of the ocean are left to recover from overfishing, the results are impressive. The number of marine species in fish banks increases by 21%, on average, and the fish grow to be 28% bigger, according to data on 124 reserves in 29 countries. The amount of fish per hectare increases 166%, on average, and fish biomass, or total weight, shoots up 446% over the next 10 years. In most cases, the fish biomass keeps rising for more than 25 years.

There are spillover effects, too. Because of the higher biomass and higher reproduction rates inside a fish bank, adjacent areas often get rejuvenated. The creation of the Columbretes Islands Marine Reserve in Spain, for instance, increased catches in surrounding fisheries by about 10% a year. In the same way, after five small fish banks were established in St. Lucia, catches in adjacent areas grew by 46% to 90%, depending on the gear used, over a five-year period.

These spillover effects more than offset the financial losses to fishermen caused by the creation of no-fishing zones. In Kenya and the Solomon Islands, the incomes of people living near marine reserves doubled within a decade. Reserves attract more tourists, too. The 345,400-square-kilometer Great Barrier Reef Marine Park—of which 33% is a marine reserve—generates around AU$5.5 billion a year in net economic benefits and has created more than 50,000 full-time jobs.

Fish banks also help preserve ocean ecosystem benefits such as carbon sequestration. In fact, "blue carbon" projects could generate additional revenues for lo-