

Name \_\_\_\_\_ Last 4 PSU ID \_\_\_\_\_

Final Exam: Econ 304 –Fall 2012

EACH QUESTION IS WORTH 130 POINTS

**DO THIS QUESTION IF A HEADS IS FLIPPED**

1. There has been a great deal of debate about taxes, tax rates, and what to do about them. Almost two years ago, the following article surfaced where President Obama backed a corporate tax cut. See excerpt below.

## **Obama Backs Corporate Rate Cut Along With Tax Simplification**

January 26, 2011, 12:03 AM EST

*By Ryan J. Donmoyer and Peter Cohn*

Jan. 26 (Bloomberg) -- President Barack Obama called on Congress to **cut the top U.S. corporate tax rate for the first time in 25 years** "without adding to our deficit," a sign that businesses will have to give up tax breaks in exchange for lower rates.

The top marginal corporate tax rate, or the rate paid on the last dollar of income earned, has stood at 35 percent since 1993.

We now fast forward to the present and we see that gridlock is alive and well in Washington since nothing much has changed in nearly two years. The excerpt from the article below is quite current.

## **12/3/2012**

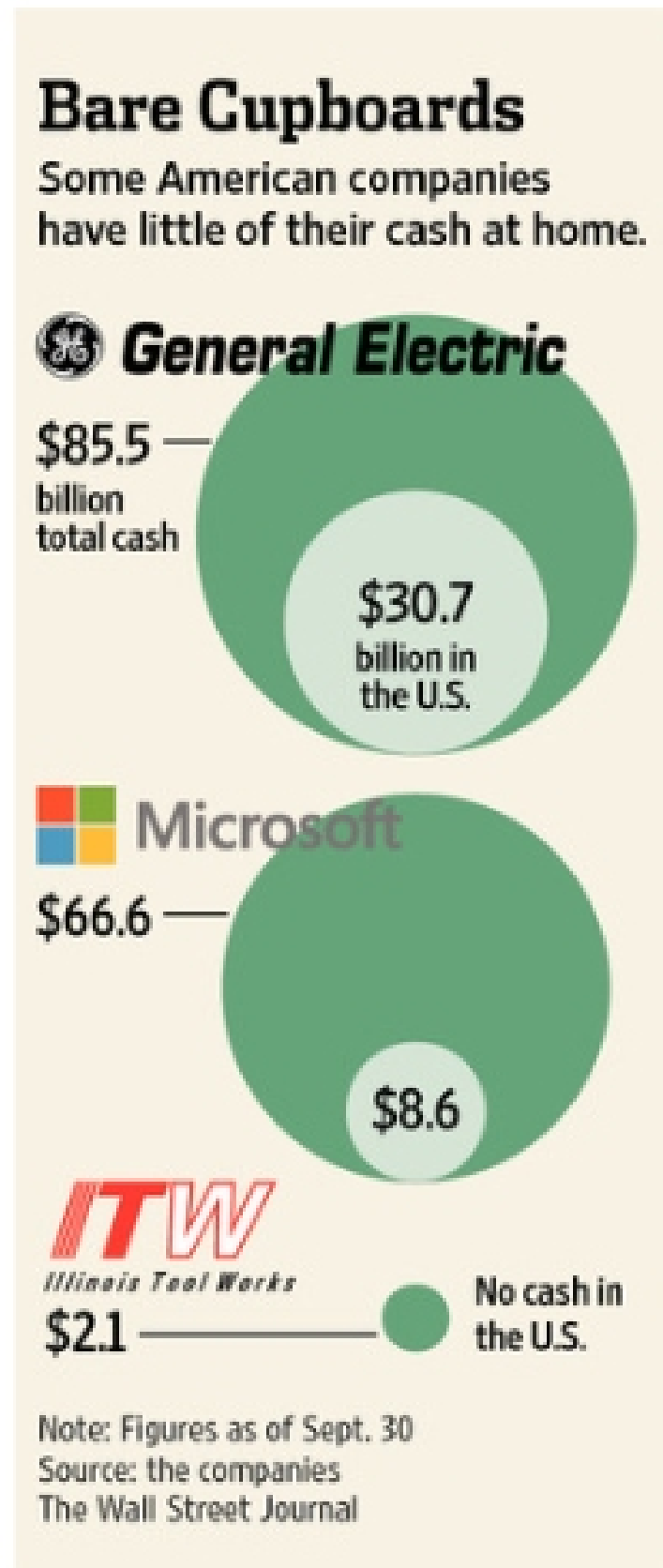
## **Top U.S. Firms Are Cash-Rich Abroad, Cash-Poor at Home**

By [KATE LINEBAUGH](#)

[Emerson Electric](#) Co. has \$2 billion of cash in the bank. But this year it had to borrow money in the U.S. to help buy back shares, distribute dividends and even pay its taxes.

That's because "substantially all" of Emerson's cash is in Europe and Asia, according to the company's filings with securities regulators. The maker of power-plant and data-center equipment could always bring that cash back home,

but it would be taxed at the 35% rate on corporate profits minus whatever tax it has already paid overseas.



As a result, Emerson says, it brings its foreign cash holdings back to the U.S. only if that can be "accomplished tax efficiently." In its most recent fiscal year, that meant bringing back just \$500 million, then using debt to cover other obligations.

With lawmakers and the White House working to come up with a package of tax increases and spending cuts to trim the deficit and head off the "fiscal cliff," there is **new impetus to change the corporate tax structure**. There is also broad agreement that the current system, in which foreign earnings are kept offshore and untaxed, isn't working. But lawmakers and businesses disagree on a fix.

The businesses want to pay taxes only in the country where profits are earned. They argue that being able to move their funds back to the U.S. freely would spur capital spending and help create jobs. As part of its proposal to lower the corporate tax rate to 28%, the Obama administration wants to expand the tax on foreign income to all income earned overseas.

Please answer the following questions.

1. a) (30 POINTS) In this part you are to explain exactly how lowering the effective tax rate on capital ( $\tau$ ) will work (in theory) its way through the economy. In this discussion, you need to differentiate between the short- run and long-run. In the space below, explain, with graphical analysis, how lowering the effective tax rate on capital will influence real economic variables in the **short run** (hint, it's a demand side story). Draw 4 diagrams (label them 1 through 4), with 1) a user cost ; desired capital ( $K^*$ ) diagram, followed by 2) a closed economy desired saving; desired investment diagram, followed by 3) an IS – LM diagram followed by 4) an aggregate supply ; aggregate demand diagram.

Start at an **initial equilibrium** and label as point A in all diagrams, with all the associated market clearing variables denoted by subscript A. For example, in your IS – LM diagram, the interest rate that clears the goods and money market is labeled as  $r_A$  with the associated output at  $Y_A$ . **Note that  $Y_A$ , our initial equilibrium output, is below full employment output =  $Y_B$  (we are in a recession, read on).** Now let the effective tax rate on capital fall (same as a fall in  $\tau$ ) and show how all your graphs are affected. In particular, locate point B as the new (short-run equilibrium)

**in all graphs** (assume the standard; that is, let output rise (to  $Y_B = \text{full employment } Y$ ) in this short-run while holding the general price level fixed at  $P_A = P_B$ . Make sure you refer to **each diagram** individually **explaining how and why we get to point B** (i.e., provide intuitive economic reasoning starting with how a lower  $\tau$  affects  $K^*$  and why!)).

b) (20 POINTS) Now we are going to focus on the idea that in the **longer run**, the influence of the decrease in the effective tax rate on capital will have 'supply-side' effects. In particular, argue that this new investment, spurred on by the lower effective tax rate on capital, will result in a positive productivity shock resulting in a higher "A and K" which will result in a shift upward in the production function (via increasing the  $MPK^f$  and  $MPN^f$ !) In the space below draw a production function with the labor market diagram below it and show what is going on in this longer run. That is, locate the corresponding point B (from above), and then show the longer run influence as point C in these two (supply – side) diagrams. What happens to  $N^*$  and  $w^*=W/P$ ? Explain in detail. Are these results in the labor market consistent with the business cycle facts? Now explain why output has changed, give two specific reasons. Note, in this part of the problem, do not worry about identifying point A in the labor market diagram and production function diagram since point A does not exist given the assumption that labor markets always clear at full employment (i.e., a weakness of the classical model). Be sure to label your graphs **completely** or points will be taken off.

c) (20 POINTS) Now show how graphs 1) through 4) are influenced by this longer-run development. Note again that we assume that before these longer run developments take hold, the FE line in graph 3) and the LRAS in graph 4) is set at  $Y_B$ . Now let these longer run developments take hold, i.e., these supply side effects, and label this final equilibrium as point C. Again, please make sure you refer to **each diagram** individually **explaining how and why** we get to point C (i.e., provide intuitive economic reasoning!).

d) (20 POINTS) Let's pretend now that you are an economic advisor to President Obama and you are to explain to him why this policy, the policy of lowering the effective tax rate on capital ( $\tau$ ) is **preferable** to increasing  $G$  and lowering  $T$  (income taxes), the typical Keynesian response to a weak labor market. Make sure you focus and discuss in much detail how the long –run results differ when comparing cutting the effective tax rate vs. the Keynesian prescription of increasing  $G$  and lowering  $T$  (be sure to discuss the long run implications for the Keynesians assuming no influence on labor supply due to the expansionary fiscal policy - recall, that is a classical notion). In particular, focus your attention on the implications, in the long run, on the following real economic variables for **both scenarios**:  $C, I, Y, w, N, y^f, a, a^f, G, Y/N$ , corporate profits, and budgetary implications. You must refer to and **explain** the differences/similarities that each of the two policies have on all these real economic variables for full credit.

e) (10 POINTS) Finally, defend the Keynesians, that is, provide strong arguments as to why the President should follow their policy prescription (i.e., the lower  $T$  and higher  $G$  approach) and not the supply sider approach (cutting the effective tax rate on capital). **Make sure you 'trash' the supply sider approach while supporting that Keynesian position (make Keynes proud!).**

f) (20 points) We discussed the 'hey day' of Keynesian economics when during the 1960s, many if not most economists and politicians alike firmly believed in a permanent trade-off between unemployment and inflation. Therefore, it was up to the policy maker to choose a point on the Phillips curve. In the space below, draw a Phillip's curve diagram that is representative of the of the 1960s (the entire decade) with point A representing the conditions in the beginning of the decade (use data from 1961), point B representing conditions in the middle of the decade (use data from 1966) and point C representing conditions at the end of the decade (use data from