UNIVERSITY OF THE PEOPLE

ECON 1580-01-INTRODUCTION TO ECONOMICS-AY2024-T3

WRITTEN ASSIGNMENT UNIT 7

INSTRUCTOR: CHRISTOPHER STUTTS

To solve this problem, we need to understand the concept of the money multiplier, which represents the maximum amount by which the money supply can increase due to an initial injection of reserves into the banking system.

Given information:

The Federal Reserve purchases $2 billion worth of bonds.

The required reserve ratio is 0.2 (or 20%).

Step 1: Calculate the initial increase in reserves.

Initial increase in reserves = $2 billion

Step 2: Calculate the money multiplier.

Money multiplier = 1 / Required reserve ratio

Money multiplier = 1 / 0.2

Money multiplier = 5

Step 3: Calculate the maximum possible increase in the money supply.

Maximum possible increase in the money supply = Initial increase in reserves × Money multiplier

Maximum possible increase in the money supply = $2 billion × 5

Maximum possible increase in the money supply = $10 billion

Therefore, if the Fed purchases $2 billion worth of bonds and the banking system is loaned up, the money supply could potentially expand by a maximum of $10 billion, given a required reserve ratio of 0.2 (or 20%).