Answers to Chapter 1
Questions:

1. a. primary
   b. primary
   c. secondary
   d. secondary
   e. secondary

2. a. money market
   b. money market
   c. capital market
   d. capital market
   e. capital market
   f. money market
   g. money market
   h. money market
   i. capital market
   j. money market

3. The capital markets are more likely to be characterized by actual physical locations such as the New York Stock Exchange. Money market transactions are more likely to occur via telephone, wire transfers, and computer trading. That is, the majority of money markets are OTC markets, while the same is not true for capital markets.

4. According to Figure 1-43, federal funds and repurchase agreements, followed by negotiable CDs, Treasury bills, and commercial paper, had the largest amounts outstanding in 2016.

5. The major instruments traded in capital markets are corporate stocks, mortgages, corporate bonds, Treasury notes and bonds, state and local government bonds, U.S. government ~~owned and sponsored agencies~~agency bonds, and bank and consumer loans.

6. According to Figure 1-54, corporate stocks represent the largest capital market instrument in 2016, followed by mortgages and corporate bonds.

7. The bank would be most concerned about a depreciation of the yen against the dollar.

8. Financial institutions consist of:

Commercial banks - depository institutions whose major assets are loans and major liabilities are deposits. Commercial banks' loans are broader in range, including consumer, commercial, and real estate loans, than other depository institutions. Commercial banks' liabilities include more nondeposit sources of funds, such as subordinate notes and debentures, than other depository institutions.

Thrifts - depository institutions in the form of savings ~~and loans~~associations, savings banks, and credit unions. Thrifts generally perform services similar to commercial banks, but they tend to concentrate their loans in one segment, such as real estate loans or consumer loans.

Insurance companies - financial institutions that protect individuals and corporations (policyholders) from adverse events. Life insurance companies provide protection in the event of untimely death, illness, and retirement. Property casualty insurance protects against personal injury and liability due to accidents, theft, fire, etc.

Securities firms and investment banks - financial institutions that underwrite securities and engage in related activities such as securities brokerage, securities trading, and making a market in which securities can trade.

Finance companies - financial intermediaries that make loans to both individual and businesses. Unlike depository institutions, finance companies do not accept deposits but instead rely on short- and long-term debt for funding.

~~Mutual funds and hedge~~Investment funds - financial institutions that pool financial resources of individuals and companies and invest those resources in diversified portfolios of asset.

Pension funds - financial institutions that offer savings plans through which fund participants accumulated savings during their working years before withdrawing them during their retirement years. Funds originally invested in and accumulated in pension funds are exempt from current taxation.

9. If there were no FIs then the users of funds, such as corporations in the economy, would have to approach the savers of funds, such as households, directly in order to fund their investment projects and fill their borrowing needs. This would be extremely costly because of the up-front information costs faced by potential lenders. These include costs associated with identifying potential borrowers, pooling small savings into loans of sufficient size to finance corporate activities, and assessing risk and investment opportunities. Moreover, lenders would have to monitor the activities of borrowers over each loan's life span, which is compounded by the free rider problem. The net result is an imperfect allocation of resources in an economy, where transactions would be characterized by a direct transfer of funds from suppliers of funds to users of funds.

10. There are at least three reasons for this – monitoring costs, liquidity costs, and price risk.

First, once they have lent money in exchange for financial claims, suppliers of funds need to monitor or check the use of their funds. They must be sure that the user of funds neither absconds with nor wastes the funds on projects that have low or negative returns. Such monitoring actions are often extremely costly for any given fund supplier because they require considerable time, expense, and effort to collect this information relative to the size of the average fund supplier's investment.~~.~~

Second, the relatively long-term nature of some financial claims (e.g., mortgages, corporate stock, and bonds) creates a second disincentive for suppliers of funds to hold the direct financial claims issued by users of funds. Specifically, given the choice between holding cash and long-term securities, fund suppliers may well choose to hold cash for liquidity reasons, especially if they plan to use savings to finance consumption expenditures in the near future and financial markets are not very deep in terms of active buyers and sellers.

Third, even though real-world financial markets provide some liquidity services, by allowing fund suppliers to trade financial securities among themselves, fund suppliers face a price risk upon the sale of securities. That is, the price at which investors can sell a security on secondary markets such as the New York Stock Exchange (NYSE) may well differ from the price they initially paid for the security either because investors change their valuation of the security between the time it was bought and when it was sold and/or because dealers, acting as intermediaries between buyers and sellers, charge transaction costs for completing a trade.

11. A suppler of funds who directly invests in a fund user's financial claims faces a high cost of monitoring the fund user's actions in a timely and complete fashion after purchasing securities. One solution to this problem is for a large number of small investors to place their funds with a single FI serving as a broker between the two parties. The FI groups the fund suppliers' funds together and invests them in the direct or primary financial claims issued by fund users. This aggregation of funds resolves a number of problems. First, the "large" FI now has a much greater incentive to hire employees with superior skills and training in monitoring. This expertise can be used to collect information and monitor the ultimate fund user's actions because the FI has far more at stake than any small individual fund supplier. Second, the monitoring function performed by the FI alleviates the "free-rider" problem that exists when small fund suppliers leave it to each other to collect information and monitor a fund user. In an economic sense, fund suppliers have appointed the financial institution as a delegated monitor to act on their behalf. For example, full-service securities firms such as Morgan Stanley carry out investment research on new issues and make investment recommendations for their retail clients (or investors), while commercial banks collect deposits from fund suppliers and lend these funds to ultimate users such as corporations.

12. In addition to information costs, FIs help small savers alleviate liquidity and price risk. Often, claims issued by financial institutions have liquidity attributes that are superior to those of primary securities. For example, banks and thrift institutions (e.g., savings associations) issue transaction account deposit contracts with a fixed principal value and often a guaranteed interest rate that can be withdrawn immediately, on demand, by investors. Money market

mutual funds issue shares to household savers that allow them to enjoy almost fixed principal (depositlike) contracts while earning higher interest rates than on bank deposits, and that can be withdrawn immediately. Even life insurance companies allow policyholders to borrow against their policies held with the company at very short notice. Notice that in reducing the liquidity risk of investing funds for fund suppliers, the FI transfers this risk to its own balance sheet. That is, FIs such as depository institutions offer highly liquid, low price-risk securities to fund suppliers on the liability side of their balance sheets, while investing in relatively less liquid and higher price-risk securities—such as the debt and equity—issued by fund users on the asset side.

13. As long as the returns on different investments are not perfectly positively correlated, by spreading their investments across a number of assets, FIs can diversify away significant amounts of their portfolio risk. Thus, FIs can exploit the law of large numbers in making their investment decisions, whereas due to their smaller wealth size, individual fund suppliers are constrained to holding relatively undiversified portfolios. As a result, diversification allows an FI to predict more accurately its expected return and risk on its investment portfolio so that it can credibly fulfill its promises to the suppliers of funds to provide highly liquid claims with little price risk. As long as an FI is sufficiently large, to gain from diversification and monitoring on the asset side of its balance sheet, its financial claims (~~it~~ issue~~d~~s~~s~~ as liabilities) are likely to be viewed as liquid and attractive to small savers, especially when compared to direct investments in the capital market. ~~A mutual fund invested in a diverse group of stocks and fixed income securities will best provide diversification for an investor.~~

14. If net borrowers and net lenders have different optimal time horizons, FIs can service both sectors by mismatching their asset and liability maturities. That is, by maturity mismatching, FIs can produce long-term contracts such as long-term, fixed-rate mortgage loans to households, while still raising funds with short-term liability contracts, such as deposits. In addition, although such mismatches can subject an FI to interest rate, a large FI is better able than a small investor to manage this risk through its superior access to markets and instruments for hedging the risks of such loans.

15. Because they are sold in very large denominations, many assets are either out of reach ~~of~~ to individual savers or would result in savers holding highly undiversified asset portfolios. For example, the minimum size of a negotiable CD is $100,000; commercial paper (short-term corporate debt) is often sold in minimum packages of $250,000 or more. Individual savers may be unable to purchase such instruments directly. However, by pooling the funds of small savers (e.g., buying shares in a mutual fund with other small investors),~~,~~ household savers overcome the constraints to buying assets imposed by large minimum denomination sizes. Such indirect access to these markets may also allow small savers to generate higher returns (and lower risks) on their portfolios.~~on their portfolios as well.~~

16. Other services provided by FIs that benefit the overall economy include:

Money Supply Transmission - Depository institutions are the conduit through which monetary policy actions impact the rest of the financial system and the economy in general.

Credit Allocation - FIs are often viewed as the major, and sometimes only, source of financing for a particular sector of the economy, such as farming and residential real estate.

Intergenerational Wealth Transfers - FIs, especially life insurance companies and pension funds, provide savers the ability to transfer wealth from one generation to the next.

Payment Services - The efficiency with which depository institutions provide payment services directly benefits the economy.

17. ~~As financial institutions perform the various services described above, they face many types of risk. Specifically, all~~All FIs hold some assets that are potentially subject to default or credit risk (such as loans, stocks, and bonds). As FIs expand their services to non-U.S. customers or even domestic customers with business outside the United States, they are exposed to both foreign exchange risk and country or sovereign risk, as well. Further, FIs tend to mismatch the maturities of their balance sheet assets and liabilities to a greater or lesser extent and are thus exposed to interest rate risk. If FIs actively trade these assets and liabilities rather than hold them for longer-term investments, they are further exposed to market risk or asset price risk. Increasingly, FIs hold contingent assets and

liabilities off the balance sheet, which presents an additional risk called off-balance-sheet risk. Moreover, all FIs are exposed to some degree of liability withdrawal or liquidity risk, depending on the type of claims they have sold to liability holders. All FIs are exposed to technology risk and operational risk because the production of financial services requires the use of real resources and back-office support systems (labor and technology combined to provide services). Finally, the risk that an FI may not have enough capital reserves to offset a sudden loss incurred as a result of one or more of the risks it faces creates insolvency risk for the FI.

18. FIs provide various services to sectors of the economy. Failure to provide these services, or a breakdown in their efficient provision, can be costly to both the ultimate suppliers (households) and users (firms) of funds, as well as the overall economy. For example, bank failures may destroy household savings and at the same time restrict a firm's access to credit. Insurance company failures may leave households totally exposed in old age to catastrophic illnesses and sudden drops in income at~~on~~ retirement. In addition, individual FI failures may create doubts in savers' minds regarding the stability and solvency of FIs in general, ~~ and~~ causing~~e~~ panics and even runs on sound institutions. FIs are regulated in an attempt to prevent these types of market failures.

19. A major event that changed and reshaped the financial services industry was the financial crisis of the late 2000s. As FIs adjusted to regulatory changes brought about by the likes of the FSM Act, one result was a dramatic increase in systemic risk of the financial system, caused in large part by a shift in the banking model from that of "originate and hold" to "originate to distribute." In the traditional model, banks take short term deposits and other sources of funds and use them to fund longer term loans to businesses and consumers. Banks typically hold these loans to maturity, and thus have an incentive to screen and monitor borrower activities even after a loan is made. However, the traditional banking model exposes the institution to potential liquidity, interest rate, and credit risk. In attempts to avoid these risk exposures and generate improved return-risk tradeoffs, banks have shifted to an underwriting model in which they originate~~d~~ or warehouse loans, and then quickly sell them. When loans trade, the secondary market produces information that can substitute for the information and monitoring of banks. Further, banks may have lower incentives to collect information and monitor borrowers if they sell loans rather than keep them as part of the bank's portfolio of assets. Indeed, most large banks are organized as financial service holding companies to facilitate these new activities.

More recently, activities of shadow banks, non-bank financial service firms that perform banking services, have facilitated the change from the originate--and--hold model of commercial banking to the originate--and--distribute banking model. In the shadow banking system, savers place their funds with money market mutual[7] and similar funds, which invest these funds in the liabilities of shadow banks. Borrowers get loans and leases from shadow banks rather than from banks. Like the traditional banking system, the shadow banking system intermediates the flow of funds between net savers and net borrowers. However, instead of the bank serving as the middleman, it is the nonbank financial service firm, or shadow bank, that intermediates. ~~Further, unlike the traditional banking system, where the complete credit intermediation is performed by a single bank, in the shadow banking system it is performed through a series of steps involving many nonbank financial service firms.~~

These innovations remove risk from the balance sheet of financial institutions and shift risk off the balance sheet and to other parts of the financial system. Since the FIs, acting as underwriters, are not exposed to the credit, liquidity, and interest rate risks of traditional banking, they have little incentive to screen and monitor activities of borrowers to whom they originate loans. Thus, FIs' role as specialists in risk measurement and management has been reduced.

20. The boom ("bubble") in the housing markets began building in 2001, particularly after the terrorist attacks of 9/11. The immediate response by regulators to the terrorist attacks was to create stability in the financial markets by providing liquidity to FIs. For example, the Federal Reserve lowered the short-term interest rate that banks and other financial institutions pay in the f~~F~~ederal funds market. ~~ and even made lender of last resort funds available to non-bank FIs such as investment banks.~~ Perhaps not surprisingly, low interest rates and the increased liquidity provided by the c~~C~~entral bank~~s~~ resulted in a rapid expansion in consumer, mortgage, and corporate debt financing. Demand for residential mortgages and credit card debt rose dramatically. As the demand for mortgage debt grew, especially among those who had previously been excluded from participating in the market because of their poor credit ratings, FIs began lowering their credit quality cut-off points. Moreover, to boost their earnings, in the market now popularly known as the "subprime market," banks and other mortgage-supplying institutions often offered relatively low "teaser" rates on adjustable rate mortgages (ARMs) at exceptionally low initial interest rates, but with substantial ~~step-up in rates~~rate increases ~~after~~ once the initial rate period expired (two or three year later) ~~and~~ if market rates

~~rose~~increased. ~~in the future.~~ Under the traditional banking structure, banks might have been reluctant to so aggressively pursue low credit quality borrowers for fear that the loans would default. However, under the originate-to-distribute model of banking, asset securitization and loan syndication allowed banks to retain little or no part of the loans, and hence the default risk on loans that they originated. Thus, as long as the borrower did not default within the first months after a loan's issuance and the loans were sold or securitized without recourse back to the bank, the issuing bank could ignore longer term credit risk concerns. The result was deterioration in credit quality, at the same time as there was a dramatic increase in consumer and corporate leverage.

21. ~~Measured as more than $1trillion in international debt outstanding as of 2015 the~~According to Table 1-8, the ~~biggest issuers~~countries with the most international debt outstanding (from greatest to smallest) ~~are France, Germany, the Netherlands, the United Kingdom, and the United States.~~are the United States, the United Kingdom, Germany, France and the Netherlands.

22. According to Table 1-11, China, France, Japan, the United Kingdom, and the United States have the ~~biggest~~ largest commercial banks (in terms of total assets ~~held in 2016~~).