European stock markets and the euro tumbled Monday, as political uncertainty in two key euro-zone countries, France and the Netherlands, pushed investors into the traditional haven of German government bonds.

The Stoxx Europe 600 index sank 2.3% to 251.75, its lowest close since mid-January. By contrast, the yield on 10-year German Bunds, fell to a record low of 1.55% as investors flocked to safety.

Wall Street stocks were also trading sharply lower as European markets closed. The Dow Jones Industrial Average slid 146 points, or 1.1%, to 12882, while the Standard & Poor’s 500-stock index shed 16 points, or 1.2%, to 1363 and the Nasdaq Composite dropped 44 points, or 1.5%, to 2957.

French stocks slid into the red for the year as the CAC 40 index dropped 2.8% to 3098.37. Investors sold following Sunday’s first-round presidential election. Socialist candidate François Hollande, who is seen as less committed to fiscal austerity than President Nicolas Sarkozy, took first place in the contest. The two candidates will face each other in a runoff election on May 6.

Until now, France has subscribed to Germany’s austerity recipe for tackling the financial crisis, but Mr. Hollande has urged his neighbors to spend more to achieve economic growth.

Crédit Agricole lost 4.5%, BNP Paribas fell 4.1% and Société Générale SA dropped 3.9%. Oil company Total declined 2.4% as investors responded to a drop in oil prices.

Germany’s DAX 30 index fared even worse, tumbling 3.4% to 6523.00. A preliminary reading of the country’s manufacturing purchasing managers’ index showed business activity contracted at the fastest level since 2009, according to Markit.

Car makers fell sharply in Germany. BMW fell 4.1% after sales chief Ian Robertson reportedly said at a press briefing in Beijing that sales growth in China will ease in coming months. Daimler slid 4.2%.

Adding further pressure, Netherlands Prime Minister Mark Rutte and his cabinet resigned after Dutch budget talks fell apart over the weekend. The development paves the way for early elections and led to speculation among investors that the nation might lose its AAA credit rating.

The Amsterdam AEX index plunged 2.6% to 301.27. The insurance firms Aegon and ING Groep fell 6.7% and 6.1%, respectively.

"If the Dutch politicians can’t even agree on a smaller amount of budget cuts, there are concerns that larger
countries won't be able to do it either," said Justin Urquhart Stewart, co-founder of Seven Investment Management.

“Germany will have troubles pushing through austerity measures and when you start seeing political concerns in France and the Netherlands you have this fear creeping through other nations," he added. "It can be resolved by clear leadership, but with elections in the Netherlands and France there is no leadership at the moment."

In the U.K., the FTSE 100 index ended 1.85% lower at 5665.57. Stocks in fiscally weaker European countries declined as well. Spain's IBEX 35 was off 2.8% at 6846.60, while Italy's FTSE MIB tumbled 3.8% to 13849.55.

Early in the day, data showed the euro-zone private sector contracted in April at its sharpest pace since November, weighed down by a steep decline in the manufacturing sector. The preliminary composite purchasing managers' index for the region fell to 47.4 from 49.1 in March.

Asian markets also fell. China's Shanghai Composite was down 0.8% after data showed that manufacturing activity in the country continued to contract in April, although at a slower rate than in March. Japan's Nikkei Stock Average lost 0.2%.

Monday afternoon in Europe, the common currency was at $1.3122, down from $1.3218 late Friday in New York. The dollar was at ¥81.13 from ¥81.55.

On the New York Mercantile Exchange, oil for June delivery fell $1.63, or 1.6%, to $102.25. On Nymex's Comex division, gold for April delivery was down $10.50 per ounce, or 0.6%, at $102.25.

Write to Michele Maatouk at michele.maatouk@dowjones.com