BRUSSELS—Greece's political leaders agreed on unpopular budget, wage and pension cuts that moved Europe to the verge of approving a new bailout to stave off a messy Greek debt default. But euro-zone finance ministers meeting here late Thursday demanded the measures pass the Greek Parliament before they would finally sign off on the deal.

The demands from the finance ministers set the stage for further uncertainty over the long-awaited bailout and debt-restructuring package for Greece. The focus on Sunday will shift to the Greek Parliament, where the euro zone is insisting the program be agreed upon. "In short, no disbursement [of aid] without implementation," said Jean-Claude Juncker, the Luxembourg prime minister who serves as chairman of the ministers' meeting.

The ministers coupled their demand for Parliamentary action with an insistence that the political leaders of the coalition sign a written pledge to back the program—in an effort to bind political leaders after elections expected as soon as April—and to identify exactly from where €325 million ($431 million) out of more than €3 billion in promised budget cuts this year will come. Mr. Juncker confidently predicted: "The Greek Parliament will not reject the program."

Evangelos Venizelos, the Greek finance minister, put the choice facing Greece in stark terms: "If we see our future and the salvation of the country in the euro zone, in Europe, we must do..."
what we must do in order for the program to definitely be approved.... If our country, our people prefer another political decision that necessarily leads out of the euro zone and therefore outside European integration, we have to say this clearly to ourselves and to our compatriots."

The demands underline the erosion of trust between Greece and its creditors in the euro zone. A further meeting of euro-zone ministers is scheduled for Wednesday to finally sign off on the agreement, assuming the package passes Parliament.

European officials said Mr. Venizelos was criticized harshly by many other ministers, in part because of the way negotiations dragged on to the last minute.

After all-night talks, Greek Prime Minister Lucas Papademos announced a deal early Thursday among the main political parties to cut spending, slash the minimum wage by 22% and cut pension benefits. These measures are the price of a package of new loans and a debt restructuring.

Thursday’s political deal in Athens followed protracted overnight negotiations among Greece’s main political leaders—from the Socialist, or Pasok, party, the conservative New Democracy party and the small nationalist Laos party—over what measures they were prepared to accept to clinch the bailout deal.

The plan would pave the way for a bond swap between the government and its private-sector creditors that needs to be put in motion soon. A €14.5 billion bond repayment looms March 20; without the bailout in hand, Greece will default on its debt, with potentially catastrophic effects on euro-zone government-bond markets.

Olli Rehn, the European Union economics commissioner, said the debt-restructuring accord was "practically finalized." He admitted that time for completing the debt swap is running short—"but we are still within the schedule."

Mr. Rehn said a proposal for Greece’s bailout receipts to be placed into a special escrow account—so as to guarantee payments to creditors are made before money is directed to the Greek budget—is under serious consideration. The proposal, coming out of Germany, has upset Greek politicians, who view it as a further challenge to Greek sovereignty.

The three political party bosses had earlier agreed to most of the creditors’ demands, including private-sector wage cuts and public-sector job cuts, but they were divided over a plan for deep cuts in pension benefits, leaving a €300 million shortfall in this year’s budget targets. Officials later said an agreement was reached on how to cover the gap.

The finance ministers’ meeting was expected to review the accord and an accompanying debt-restructuring deal aimed at cutting Greece’s debt to private creditors by €100 billion. Before agreement on the €130 billion bailout can be completed, the International Monetary Fund must ensure the numbers add up and that the debt restructuring would lower Greece’s debt to 120% of gross domestic product by 2020.

"We want to see real implementation of the measures needed by the Greek government and also full commitment of all leaders in
Cut 150,000 public-sector jobs by 2015. Measures would secure a €130 billion loan from the European Central Bank, European Union and International Monetary Fund.

Source: WSJ research

Greece for future measures,” said Dutch Finance Minister Jan Kees de Jager.

German Finance Minister Wolfgang Schäuble, meanwhile, said he is confident Greece will meet a timetable to complete its negotiations on a debt restructuring and its talks with the eurozone on a second bailout in time. "I'm confident the timetable can be met. It's all down to Greece, [but] these are not simple decisions," he said.

The first crack in the government's unity came earlier Thursday with the resignation of Deputy Labor Minister Yannis Koutsoukos. "Our creditors ignored the arguments and factual proposals of the Labor Ministry and those of the finance minister. In an extortionate manner which is completely improper and shameless, they [creditors] imposed measures which demolish the structure of labor relations," he said.

Separately, in the first real admission by top European officials that Portugal's bailout program may need some kind of adjustment, Mr. Schäuble was caught on camera on the sidelines of the Brussels meeting telling his Portuguese counterpart that would be possible once key decisions on Greece are out of the way.

Portugal signed onto a €78 billion three-year bailout program last May. German's Ministry of Finance declined to comment on the comments, which a spokesman said were private.

For Greece, some crucial details are missing in the deal, including how the European Central Bank will participate. The ECB holds an estimated €45 billion or more of Greek government bonds, which it bought at prices substantially below face value, and European officials said the bank had agreed in principle to sell those bonds at below-par prices.

In a news conference on Thursday, ECB President Mario Draghi said the central bank is prohibited from giving direct financial aid to governments. But he said giving up profits it would make if the bonds were paid in full wouldn't break the rules. "If the ECB distributes part of its profits to its member countries as part of the capital key, that's not monetary financing," he said.

Even if Greece avoids a disorderly default, years of sharp spending cuts and tax increases are having devastating effects on the Greek economy.

Greece's unemployment rate soared in November to 20.9%, compared with an 18.2% rate just a month earlier and up sharply from one year ago, Elstat, the government statistics agency, reported Thursday. The total number of unemployed reached 1.029 million, up 126,062 from October, Elstat said.

The new cuts have the country's unions up in arms. Greece's public and private-sector umbrella unions on Thursday called a 48-hour general strike, following protests by thousands of workers earlier this week.

—Matina Stevis, Costas Paris and Brian Blackstone contributed to this article.

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