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Outline of a crucial dilemma

- The dilemma currently faced by Greece reflects the severe strain on society of a very painful adjustment process, combined with the tensions underlying the need for continued funding under a mutually acceptable agreement with our euro area partners.
- In the following analysis, we shall attempt to: i) describe the key factors that the economy will face under the clearly undesirable scenario of a Greek exit from the euro; and ii) provide an overview of the Memorandum of Understanding (MoU) agreed with the troika, so as to formulate the debate regarding the potential re-negotiation of some of its clauses under the current extremely difficult conditions.
- An exit from the euro would lead to a very significant decline in Greek living standards (reduction of per capita income by at least 55% in euro terms) -- hitting particularly hard the lowest income groups. This would occur through a sharp drop in value of the new currency (65% in nominal terms), even deeper recession (22% at constant prices, on top of the 14% contraction between 2009-2011) and yet higher unemployment (34%), while the state would be forced to print money to meet its daily expenditure, thereby creating an inflationary spiral (inflation of over 30% initially, with a strong upward trend thereafter, as the weaker currency passes through to import costs and nominal wages), which in turn would gradually offset any competitive advantage gained from the currency devaluation. Because of the difficulty in accessing foreign currency, the country would default on most of its obligations to external creditors (€360 billion), having an obvious detrimental impact at the transnational level, as well as on transactions of Greek firms with their foreign counterparts, thereby leading to a further significant deterioration in living standards and difficulty in accessing basic goods, especially fuel, medical supplies and essential raw materials. In the event of a disorderly changeover to a new currency, we should expect the various components of the scenario outlined here to be much worse.
- The strategy of the economic programme accompanying the MoU is multidimensional and can hardly be judged indiscriminately with a simple “for” or “against”. Consider some of the programme’s key features: **i)** it secures time for the implementation of reforms by providing an unprecedented level of financing (almost €150 billion to date and another €90 billion by 2014), under particularly favourable terms while, with the successful completion of the PSI, the public debt is cut by 50% of GDP and significant reductions are attained on the interest payments on the debt for the rest of the decade (2% interest rate through to 2014, average maturity of new bonds of 20 years). In addition, it secures vital liquidity support for the domestic banking system via the Eurosystem, of over €130 billion; **ii)** it includes three groups of measures (concerning structural reforms, the financial sector, and fiscal consolidation) ranging from the self-evident to certain changes that have provoked strong resistance. The former include, *inter alia*:
  - i) the clampdown on tax evasion;
  - ii) the reform of public administration;
  - iii) the strengthening of entrepreneurship; and
  - iv) the recapitalization of the banking system

  all of which comprise cornerstones of the adjustment process with a view to rebooting the economy on a more healthy course.
- Changes that could enhance social support for the Programme include the extension of the adjustment time and increased provisions for those social groups most severely affected by the crisis. Our euro area partners would probably be prepared to show greater flexibility in respect of the said adjustments and provide the additional funding required (approval of which would require a relevant European Summit decision as well as ratification by the various individual parliaments of the euro area countries), as long as they received a firm political commitment on the Greek side to push through with agreed reforms and deliver on the adjusted fiscal targets.

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THE CRUCIAL DILEMMA

Greece is experiencing one of the most critical periods in its modern history. The 35-year progress of the country as a full member of the EEC and EU and, more recently, as a member of the euro area, have now been thrown into doubt because of the accumulated social frustration and fatigue resulting from the unprecedented economic downturn and the rise in unemployment to over 20% which have accompanied the sovereign debt crisis. The dilemma currently faced by Greece reflects the severe strain on society from a very painful adjustment process, combined with the tensions underlying the need for continued funding under a mutually acceptable agreement with our euro area partners.

It should be noted at the outset that, despite the undeniably harsh measures implemented over the past two years, the Greek economy has made substantial progress in key areas of economic adjustment. This progress has been achieved despite persistent uncertainty, which has been an important obstacle to the adjustment process, due in large part to frequent deviations from the overall targets set under the Programme and the consequent concern regarding the disbursement of the loan instalments.

Nevertheless, progress has been significant -- considering the extremely tight timeframe in which it was achieved -- and reflects the great sacrifices made by the Greek people. However, all these sacrifices could prove to have been in vain if, under the strain of frustration and fatigue on our part or on the part of our euro area partners, we were led either by injudicious political manoeuvring or deliberate choice to leave the single currency.

It is worth noting some of the achievements -- often forgotten -- that have been made during this period:

- The primary deficit has been reduced by more than 8% of GDP over the past two years (the best performing OECD member country in recent decades).
- An absolutely vital and long overdue pension reform, which was essential if the system was to be restored to a sustainable path, together with other reforms in the social benefits system which are helping to rationalize expenditure and remove injustices in the system (e.g., clamping down on pension fraud and abuse).
- Decisive promotion of reforms in the labour market that will enhance its flexibility and thereby protect jobs and ensure that wage bargaining is more closely linked to productivity in the medium term.
- Opening up of a significant number of closed professions so as to enhance competition and compress domestic firms' operating costs, thereby boosting competitiveness.

- Reform in health and pharmaceutical expenditure by rationalizing spending, and applying effective control systems/computerization and greater transparency and accountability.
- The first visible signs of improvement in efficiency of state enterprises with significant reductions in their operating deficits.
- Primary evidence of a determined assault on tax evasion, with a shift in the philosophy of tax administration, including the setting of targets (KPIs), as well as more direct pressure for tax compliance, although the ongoing recession, uncertainty and other shortcomings of the state apparatus still present obstacles to more tangible improvements in tax efficiency.

The first signs of adjustment and positive reaction by the economy are visible, though still nascent under the strain of the strong recessionary dynamic.

- Progress in regaining lost competitiveness is notable: by the end of 2012, unit labour costs should have recovered more than 2/3 of the ground lost to the euro area average over the course of the past decade, providing a significant boost to exports.

- The performance of exports -- up 21% at current prices in the period 2010-2011, excluding petroleum products, and by almost 40% including petroleum products -- has also demonstrated that an outward looking economy is not just a dream for Greek businesses.

These signs of improvement could form the beginning of a period of economic stability and a sustainable growth dynamic if they were accompanied by a reduction in uncertainty and a more determined pursuit of badly needed structural reforms.

A key conclusion arising from the obvious failings of the Programme is that any strategy for economic adjustment must be applied consistently and, at the very least, those who shoulder the burden of implementing it -- if not the majority of society at large -- must universally embrace and accept the philosophy and strategy needed to attain the Programme's objectives.

In view of the fact that the clouds of recession are gathering over Europe, our euro area partners may be prepared to address with greater flexibility the issue of extending the timeframe for adjustment and to approve the additional funding that this implies, provided, of course, that a credible political commitment to decisive and consistent pursuit of reforms is secured in return. It should be stressed, however, that approval of any additional funding for Greece would require a relevant EU Summit decision as well as ratification by a significant number of parliaments of the various individual member countries of the euro area. Therefore, it is also essential that an honest discussion takes place regarding the causes of the crisis and the nature of the accumulated structural problems of our country, so as to forge a wider consensus for the measures required to remedy the situation and to correct the

view, held by a not insignificant part of the public, that these measures are mere arbitrary decrees dictated from foreigners.

This brief study seeks to: i) describe the key factors that the economy will face in the event of a Greek exit from the euro, and thereby provide a consistent framework for analysing such an eventuality and contribute to the public debate, with all sides being fully aware of the magnitude of the risks to the country if this scenario eventually plays out; and ii) provide a brief presentation of the key points of the MoU, so as to facilitate a more fruitful discussion of how it might be adjusted to the current extremely difficult situation.

An exit from the euro will lead to a dramatic decline in Greek living standards

The risk of a Greek departure from the single currency zone is no longer a theoretical working hypothesis or a zero probability event, but the topic of daily debate and a scenario that is being discussed in all earnestness, particularly outside Greece. It needs to be realized that, within such a flammable environment, the unimaginable could easily come about, provoked by an isolated event or ill-advised stratagem with a self-fulfilling, disastrous outcome, however strong the political resolve to the contrary.

The framework of analysis

In the event of a Greek exit from the euro, the economy will face two key financial constraints (see the *macroeconomic model* presented at the end of this text):

i) Without funding provided by the Programme, coupled with inability to access financial markets, the current account deficit will have to change rapidly from a deficit of 9.8% of GDP (in 2011) to a surplus to ensure the necessary net inflow of foreign exchange to finance imports and cover external debt repayments.

ii) The funding gap implied by the budget deficit would need to be closed, resulting in a balanced budget, with a concomitant dramatic cutback in spending or would have to be financed by the country’s central bank through the issue of a new currency, creating spiralling and self-fuelling inflationary pressures.

Under a euro exit scenario, the adjustment of the external balance will derive from: i) an immediate 40% drop in value of the new currency vis-a-vis the euro in real terms (corresponding to a nominal decline in value of c. 65%, see below); and ii) a massive contraction of imports consistent with an even deeper recession. In the short term, the contraction of imports is the key mechanism for rebalancing the current account, until export activity strengthens.

A euro exit would mean that Greece will inevitably default on a large part of its c. €360 billion foreign debt, including *inter alia* €148 billion in loans already received by the Greek government under the two support programmes from its euro area partners and the IMF, the obligations of the Greek banking sector to the Eurosystem

(over €130 billion), the Greek government bonds held by the ECB and other foreign central banks (c. €35 billion), the new government bonds issued under the PSI and held by foreigners (almost €40 billion) and the external debt of the Greek private sector (€10 billion). Without defaulting on a substantial part of such debt service obligations, the combination of devaluation and recession would push the total external debt to over 340% of GDP and create the need for a greater (and obviously unattainable) current account surplus in order to meet foreign debt repayments. Thus, the Hellenic Republic will have no other choice than to default on an important part of its foreign loan obligations; and, of course, such a development cannot but have a significant adverse impact on our relations with our euro area partners and the international community in general. This outcome would automatically mean a shutdown on the disbursement of at least €90 billion outstanding from the new Programme, as well as depriving the Greek banking system of more than €130 billion in funding from the Eurosystem and, in all probability, putting a halt to vital funding from EU structural funds.

Even under the assumption that the Government defaults on a significant percentage of its obligations to its lenders, the funding gap of the budget will still be relatively high. Note that in 2011, Greece had a primary deficit of 2.2% of GDP, while under the default scenario government revenue will decline by more than currently programmed because of the deeper recession and the heightened uncertainty in the country. Furthermore, spending will increase due to the impact of the currency depreciation on the cost of imported public sector goods and services and the increased need for social spending as unemployment climbs to significantly higher levels than at present. A further financial burden will derive from the need to meet the additional capital needs of the financial system due to: i) the default on the new PSI bonds held by banks (c. €17 billion, as well as any repayment of liquidity raised from the Eurosystem; and ii) the significant further deterioration in the quality of banks' loan books.

Our estimates, drawn from an empirical model based on the financial constraints outlined above, provide an indication of the magnitude of the potential decline in living standards in the country.

- It is estimated that economic activity would suffer a further significant decline of around 22% in real terms (constant prices, constant exchange rate) -- on top of the 14.3% contraction in the period 2009-2011. The resulting impact on unemployment would be dramatic, bringing the estimated rate of unemployment to 34%, i.e. 1/3 of the workforce. The social groups to be worst hit would be the most vulnerable, i.e., the young, less skilled workers, and women. The dramatic worsening of the recession and rising unemployment will most likely push loan delinquencies to over 1/3 of the total loan portfolio.

- The budget deficit would obviously not have as its starting point the initial target for a primary deficit of c. 1% of GDP in 2012, but would incorporate the negative impact on state revenue of the recession and uncertainty, as well as the level of

interest payments on the remaining external debt and the new domestic debt. Thus, the portion of the government debt that the Hellenic Republic would choose to continue to service is an important parameter in determining the level of the total budget deficit, as it will determine the level of interest and amortization payments (a large part of which would still be in foreign currency) combined with the new currency's exchange rate vis-à-vis the euro. Under the baseline scenario, we assume that an exit from the euro would be accompanied by default of c. 80% of public sector obligations worth some €390 billion in total (external and domestic), of which approximately €65 billion represents the new bonds arising from the PSI, €47 billion bonds held by the ECB and other central banks in the euro area (including Bank of Greece), €125 billion loans from the EU, €22 billion from the IMF, and over €130 billion liabilities to the Eurosystem. Under this scenario, and under relatively moderate assumptions in respect of taxpayer behaviour and restrained spending policy, the deficit after the transition would be 12% of GDP (primary deficit of 3.5% of GDP, plus interest payments of 8.5% of GDP), corresponding to a public debt ratio of c. 95% of GDP (72% foreign and 23% domestic).

- Inflation will rise initially to 30-35%, pushed up by the monetization of the deficit and debt repayments, the impact of the devaluation on the CPI through the higher price of imported goods and services, together with the pressure for adjustment -- at least in part -- of nominal wages. Clearly there is a high risk of spiralling inflation over the medium term, which would push inflation up to significantly higher levels, eventually negating the cost competitiveness gained from the initial devaluation.

Potential macroeconomic impact of exit from euro*

	BNP	Citi	NBG
Nominal effective exchange rate of the new currency (change)	-50/-60%	-60%	-65%
Real effective exchange rate of the new currency (change)	...	...	-40%
GDP (decline post 2011)	>-20%	-17%	-22%
Unemployment rate (%)	...	...	34%
Inflation (annual change)	40-50%	16%	32%
Public debt - % GDP (without default)	>200%	435%	373%
Public debt - % GDP (with 80% default)	...	...	95%
Budget deficit (% GDP) (with 80% default)	...	10,7%	12%

Sources: BNP Paris, Citigroup, NBG Research (May 2012)
* Indicative adjustment period 1-3 years

Accordingly, the necessary depreciation in real terms outlined above will lead to an immediate nominal depreciation of the new currency by c. 65% against the euro (the sum of the real depreciation plus inflation, without taking into account an additional margin for currency overshooting that may arise as a result of the country's uncertain outlook). In their effort to maintain a minimum level of exchange rate equilibrium, the monetary authorities would need to raise policy rates to levels higher than inflation (c. 5 percentage points higher, i.e. around 37%), with an obvious impact on borrowers' capacity to repay.

GDP per capita in euro (2011)	
	€ 000s
Greece	19.400
Croatia	10.385
Poland	9.726
Latvia	9.102
Greece (after depreciation)	8.700
Turkey	7.177
Romania	7.173
Bulgaria	5.225

IMF and NBG estimates

In light of the above, following the country's transition to the new currency, per capita income of the average Greek earner in euro terms will fall dramatically by 55% to €8,700 from €19,400 in 2011. The wealth of Greeks, including the value of property and deposits, will undergo a similar sharp decline.

Generally speaking, the estimates outlined above are in line with corresponding estimates conducted by international financial institutions regarding the impact that an exit from the euro would have on the Greek economy (see relevant table).

A full default on the Greek public debt -- as compared with the already high c. 80% default considered in our baseline scenario -- would alleviate, to some extent, the recessionary outcome (e.g. under the assumption of a 95% default on the country's obligations, the contraction of GDP would be reduced by an additional 15%, as compared with an additional 22% under our baseline scenario, see relevant table). Such a scenario would definitely turn our country into a pariah of the international community, as few countries would be willing to do business with us.

Sensitivity of key variables to different rates of default			
Default rate ▶	60%	80%	95%
Nominal depreciation	-86%	-65%	-48%
inflation	55%	32%	17%
Public debt*	174%	95%	43%
GDP decline post 2011	-38%	-22%	-15%
Unemployment rate	45%	34%	29%

*Loans granted by the EU/IMF, new PSI bonds and Greek Government debt securities that were not included in the PSI, as well as Eurosystem claims on Greece

Source: NBG estimates

Note that all these estimates are based on the assumption that the transition from the euro to the new currency will be smooth, without a full-scale disorderly default, which would disrupt the economy much further. Clearly, an empirical model cannot quantify the dramatic impact -- during the transition to the new currency -- that extreme conditions of uncertainty, social unrest and financial panic in the economy might provoke or the initial reluctance of foreigners to conduct transactions with our country. The undesirable developments described above would clearly lead to an even deeper recession. In addition, our hypothesis assumes that the greater part of Greek businesses, and especially those that are outward-looking, will succeed in sustaining their activity, mainly with their own resources, finding ways to circumvent the technical and psychological obstacles that will probably arise in their dealings abroad following the country's bankruptcy.

Here, we should clear up an over simplistic argument that is often put forward by the proponents (mostly abroad) of the view that Greece's exit from euro would

enable the country to enhance the competitiveness of its economy through the devaluation of the currency. Specifically, most of the key export sectors of the Greek economy, as well as a significant part of production intended for domestic consumption, rely on imported raw materials and imports of intermediate and capital goods which it would be difficult for them to obtain due to limited access to foreign exchange. Consequently, they would be compelled to reduce their output, putting their survival into doubt, in turn hampering further firms' ability to access financing and causing many in the private sector to default on their obligations with their overseas creditors. Even the tourism sector (which should be a primary beneficiary of depreciation) would be unable to fully benefit from the overall cost benefit since due, *inter alia*, to the geography of Greece it is particularly exposed to factors related to transportation costs and energy prices, which would absorb a significant part of the benefit gained from depreciation. In the short term at least, the tourism sector would also be severely hit by the uncertainty caused by likely social unrest and the country's international default.

In addition, the likelihood of increased pressure to recover salary losses resulting from domestic inflation -- many will recall from the period of the drachma the vicious circle of back-to-back nominal salary increases and intensifying inflationary pressures -- would lead to even higher inflation than envisaged in our baseline scenario, gradually undermining any gains in competitiveness deriving from the initial devaluation. Between 1975 and 1994 -- a period in which the drachma experienced a steady loss in value -- specifically the drachma declined in value against the currencies of Greece's key trade partners by 85%, while exports of goods and services increased by only three percentage points of GDP (from 13% to 16%), despite the huge boost to trade stemming from the country's entry and full economic membership of the EEC and, later, the EU. The key reason for this anaemic performance is that there was in fact a 12% appreciation of the real exchange rate over the same period, due to an average annual rate of inflation of around 17% that cancelled out any benefit to competitiveness deriving from the series of devaluations.

Furthermore, the adjustment of contractual obligations to the new currency will incur a significant cost to economic activity not only domestically, but above all in relations with overseas trading partners. The legal confusion as to which contracts are subject to conversion and the respective legal disputes, likely dragging on for years, would only serve to enhance uncertainty and delay any economic recovery. Additional challenges for the new currency would stem from the problems and the additional costs related to the conversion of all IT and payment systems, simply adding to the recessionary pressures. Note that Greece's transition from the drachma to the euro required very substantial preparation in respect of such systems (lasting for over 2 years), with significant assistance coming from our euro area partners.

Demonizing the MoU: throwing the baby out with the bathwater

The Economic Programme written into the MoU is complex and multidimensional and can hardly be judged indiscriminately with a simple "for" or "against", as so often seems to be the case in public debate.

The rationale behind the adjustment Programme is that our euro area partners and the IMF provide sufficient financial support for the Greek government to gain the time needed to implement structural reform and fiscal consolidation, and enable the initial benefits, in terms of fiscal stability and economic growth, to emerge.

Policies included in the MoU: I) FINANCING	
Financial support	• Financial support of €150 billion (through interstate loans and financing via the EFSF) and €90 billion to be disbursed by the end of 2014. • Reduction of the Greek public debt by over €100 billion through PSI. • Drawdown of *circa* €130 billion liquidity by the Greek banking system through the Eurosystem.

The Programme includes three basic strategic targets supported by specific packages of measures, ranging from long overdue reforms that enjoy the broad consensus of society to painful changes that provoke intense resistance from various social groups that are affected by them. For example, many of the targets, such as clamping down on tax evasion, cutting back on wasteful spending of public money and reducing bureaucracy, all enjoy broad public support, while other parts of the Programme, such as measures relating to the labour market or privatization, have provoked strong resistance.

Support/facilities received by Greece from its euro area partners & IMF over the past 2 years and 2014 projections

	2010-May 2012	2014
	(€ billions – cumulatively)	
EU and IMF loans	147,7	237,9
Greek bonds (held by ECB & foreign Central Banks)	35,2	16,2
EU transfers (structural funds etc)	5,8	14,3
Estimated total	**188,7**	**268,4**
Memo item		
Eurosystem*	>130	...
Public debt reduction through PSI	106,0	...
Estimated Total (including Eurosystem)	**425,0**	**...**

*Estimate based on Q1.12 data

The financial assistance provided by our euro area partners is indeed of an unprecedented scale. To date, we have received approximately €150 billion (through interstate lending and support via the EFSF), of which c. €20 billion has been used exclusively to finance the Budget's primary deficit, €25 billion is earmarked for the stabilization of the banking system, which bore the brunt of the cost of the PSI, €30 billion to support the sovereign debt swap, and around €70 billion replaced existing debt service obligations, securing a lower cost and a

longer repayment term. A further €90 billion is due for disbursement by the end of 2014. Specifically, the new loan facility is provided under particularly favourable terms (at an interest rate in line with the long-term rate at which the EFSF borrows and which does not diverge significantly from the long-term average interest rate on Bunds, while it stands at 3-3½ points below the current average borrowing cost for Spain and Italy, countries that are both participating in the support package for Greece). Moreover, the repayment term is exceptionally long, as amortization payments are reduced significantly through to the end of the decade, as compared with the €38 billion, on average, that Greece paid each year in the period 2008-2010.

Likewise, the successful completion of the PSI, which would have been impossible without the decisive support of the euro area and the IMF, means that we have secured a reduction in the Greek public debt by 50 pps of GDP (i.e. more than €100 billion), low interest rates on the new bonds (2% for the 3-year period 2012-2014), and zero amortization payment obligations on the new bonds for the entire decade.

The third component of the funding package provided by our euro area partners concerns the drawdown of over €130 billion in liquidity for the Greek banking system via the Eurosystem. Accordingly, the direct and indirect financial assistance from our euro area partners exceeds €420 billion, or more than 2 times the Greek GDP (including the the estimated reduction in the sovereign debt as a result of the PSI).

Policies included in the MoU: (II) ADJUSTMENT STRATEGY	
1st Pillar – Structural reforms	i. Combating tax evasion ii. Improving effectiveness of public administration iii. Improving efficiency of local government and state enterprises iv. Enhancing entrepreneurship v. Fostering a more effective judicial system vi. Forging a more flexible labour market
2nd Pillar – Financial system	• Recapitalization of banks to compensate for losses from PSI • Stabilization of liquidity resources • Normalization of borrowing conditions in the economy
3rd Pillar – Fiscal adjustment	Attainment of primary surplus within a reasonable timeframe so as to secure debt sustainability and enable the Greek government to regain access to capital markets – a precondition for Greece's disengagement from the MoU

A shutdown of funding would mean immediate bankruptcy, as international experience confirms. To ensure continued access to financial support from our euro area partners, we must agree, and be seen to commit, to a programme of structural reforms that can be implemented. Specifically, the strategy of the Programme can be summed up in the following packages of measures:

1st pillar – Structural reforms

The first pillar incorporates structural reforms aiming at sustainable growth. The need for these reforms and the majority of measures required to expedite them is not in doubt; however, errors in handling their implementation proved to be a key weakness of the first MoU. The measures under this pillar aim at addressing chronic shortcomings of the Greek economy, including:

i. Combating tax evasion, with the threefold objective of achieving a fairer allocation of the economic and social cost of the fiscal measures, enhancing growth through improved incentives for healthier productive units, and supporting the fiscal consolidation effort.
ii. Enhancing the functionality of public administration, with a view to reducing waste in public spending and using limited resources more effectively in critical areas such as social security, healthcare and defence.
iii. Radical overhaul of local government and public enterprises, with a view to providing quality services while substantially reducing the burden on the state budget.

If progress in these three fields had been stronger, the need for further painful horizontal cuts or tax increases during implementation of the first MoU would have been avoided or at least minimized.

iv. Enhancing entrepreneurship, mainly by removing bureaucratic obstacles to setting up businesses, undertaking investments and projects to pursue outward-looking growth.
v. Fostering a more efficient judicial system, principally by speeding up the process of delivering court rulings and decisions.
vi. Forging a more flexible labour market: in this area, significant structural change was only pursued in the context of the second Programme, once unemployment had already soared to over 20%. The reforms concern the area of wage bargaining under collective labour agreements, so as to provide an incentive to protect a greater number of jobs and to help the economy shift to the production of tradable goods and services. It should be recalled that the initial Programme accompanying the first loan facility protected private sector wages from horizontal cuts (e.g. the so-called 13th and 14th salaries were left untouched), as well as the wages of low-income public sector workers and pensions considered low. Inevitably, the reaction of the labour unions has been strong, reflecting the fact that the wage bargaining framework applied for decades across entire industries was overturned. However, the said framework had failed to yield satisfactory results regarding the level of participation in the workforce, while it contributed to a growing mismatch between wage levels and productivity. This misalignment had become evident in various sectors, with the public sector comprising the most extreme example -- reflecting a trend that was incompatible with the badly needed restructuring of the Greek economic model.

Progress on these fronts was disappointing due both to the limited ability of the public administration to rise to the challenge of such a complex and demanding reform programme, as well as to the lack of adequate political will to follow through with measures that obviously impact negatively certain interest groups. The lack of progress in these areas incurred a double cost: i) it highlighted the reluctance of the Greek political system to pursue structural improvements in the Greek economy, thereby denting public confidence and hindering recovery; and ii) precious time was wasted, during which significant progress should have been made in the sphere of structural reforms (which, notably, require considerable time to pay off in terms of output growth).

2nd pillar – Financial system

The second pillar focuses on supporting the banking system, this being a precondition for economic growth within a bank-centred economy such as Greece.
Under the MoU, around €48 billion has been earmarked for the recapitalization of Greek banks, primarily to restore asset losses arising from the Hellenic Republic debt exchange programme (PSI). Moreover, the MoU includes significant liquidity support from the ECB (over €130 billion), which seeks to fill the gap left by the contraction of deposits and the exclusion from the interbank market, as well as term borrowing (€80 billion and €50 billion, respectively).

The need to channel financial support to the banking system, as provided for in the MoU, is not in question, as this is essential for a return to growth. This need is independent of the debate regarding the terms of the recapitalization and the ownership status of banks in the short term, i.e. whether to proceed directly with nationalization of the Greek banking sector and return it to the private sector in 4-5 years' time through their re-privatization or to try and attract private capital in the current conjuncture through attractive terms, thereby keeping the banks privately controlled.

3rd pillar – Fiscal consolidation

The third pillar concerns the fiscal adjustment, i.e. the reduction, within a reasonable timeframe, of the primary deficit so as to ensure the sustainability of government debt and enable the Greek government to regain access to the capital markets -- a basic precondition for the country's disengagement from the MoU. In 2010 and 2011, the Greek Government launched an unprecedented, in terms of magnitude, programme of fiscal measures that amounted overall to 14.5% of GDP. As a result, the primary deficit fell by a remarkable 8.2% of GDP (down to 2% of GDP in 2011, compared with 10.4% in 2009), though the scale of the adjustment achieved fell short of the fiscal effort because of the sharp 10.3% decline in economic activity (in the two-year period 2010-2011). While the scale of the economic slowdown reflects the magnitude of the consolidation effort, it also reflects the failure to adopt and implement properly the overall package of measures under the Programme, which needed constant adjustments (i.e. new measures) and fuelled uncertainty, creating yet further obstacles to growth and, in the end, making it necessary to activate a new and larger bailout package, as well as the restructuring of the sovereign debt.

To attain the medium-term objective under the new Programme of a primary surplus of c. 4.5% of GDP (from a deficit of 2.2% in 2011), the Programme requires the identification of measures amounting to €11.5 billion (5.5% of GDP over the period 2013-14) in June 2012, over and above the impact of measures already taken. With the economy contracting by over 5% of GDP in 2012 -- in view of the deteriorating domestic and international environment -- and in a climate of extreme uncertainty (e.g. constant concerns about whether the next disbursement under the loan facility will be forthcoming), the question that obviously arises is whether a more gradual fiscal consolidation strategy can be agreed with our euro area partners (which, of course, would require them to provide increased funding).

If Greece adopts and implements in a determined fashion all the other provisions of the MoU, and above all the structural measures it sets out, our euro area partners would probably show greater flexibility about extending the timeframe for adjustment and providing the associated funding. Our estimates suggest that a realistic extension of the timeframe for consolidation would generate the need for an additional loan facility of €5-10 billion, requiring relevant approval by an EU Summit as well as authorization by a large number of national parliaments of euro area member states. Furthermore, in view of the extremely adverse trends in the labour market, it would be reasonable to seek adjustment of the targets set by the MoU in order to lend more effective support and relief to vulnerable social groups and particularly the unemployed -- in other words expanding the social safety net.

Discussions, therefore, regarding renegotiation of the MoU need to focus on the points outlined above and not on an outright and simplistic rejection of the Programme in its entirety, which would only jeopardize access to the significant support -- including financial -- provided to Greece by the Programme.

Potential macroeconomic impact of exit from euro and estimated scenario under implementation of the Programme

Scenario adjustment period through to end of 2013	Nominal effective exchange rate (change)	Real effective exchange rate, ULC based (change)	GDP (change post 2011, at constant prices and exchange rates)	Nominal GDP (change post 2011, current prices and exchange rates)	Unemployment rate (%)	Inflation (annual change)	Government debt (% of GDP) (without default)	Government debt (% of GDP) (80% default)	Budget deficit (% GDP)
Exit scenario	-65%	-40%	-22%	-55%	34%	32%	370%	95%	12%**
Baseline	…	-14%*	-6,1%	-5,7%	24%	0,9%	167%[2]	…	4,6%[2]

Source: NBG estimates and IMF Staff Report[2] March 2012

* Refers to effective and nominal exchange rate of euro, weighted in line with Greece's trading partners)

** under an 80% default scenario

Structure of the macroeconomic model for the simulation of the impact of a transition to a national currency

The macroeconomic model on which the estimates in the foregoing analysis are based is structured around two key equations that describe the main financial constraints acting on the economy, these being:

i) The Government funding gap FG_G , comprised of the primary balance *PB, interest payments* (r_{ext}, r_{dom}) and amortization (A_{ext} *and* A_{dom}) for that part of the domestic and external debt that the Hellenic Republic will continue to service

$$FG_G = PB + r_{ext} + r_{dom} + A_{ext} + A_{dom} \qquad (1)$$

as well as its financing, which, since funding under the Programme is assumed to terminate, can be maintained only by printing new currency. Specifically, the change in money supply *d(M)* reflects the financing of the Government fiscal funding gap (FG_G) plus the money needed to recapitalize the country's banks (*Rec*).

$$d(M) = FG_G + Rec \qquad (2)$$

Inflation is determined as a function of the change in money supply *d(M),* compared with the transaction demand for money *Dep*, as well as the output gap over the previous period (OG_{t-1}) defined as the difference between real GDP in period *t-1* and its estimated medium-term trend.

$$\pi = \alpha_1 \cdot \frac{d(M)}{Dep} - \alpha_2 \cdot OG_{t-1} \qquad (3)$$

The transaction demand for money *d(Dep)* is a function of the nominal income of the previous period Y_{dnom} and the real interest rate (nominal rate minus inflation of the previous period).

ii) Equilibrium in the balance of payments (BP=0), which comes about when the necessary surplus in the balance of goods and services NX_{nom} (at current prices) is achieved by devaluing the currency and reducing domestic demand, so as to service -- in the absence of access to a support mechanism (OSS=0) -- the deficit in the income and capital accounts balances (IB and AT_{ext}) and, accordingly, keep the balance of external payments in equilibrium.

$$BP = NX_{nom} + IB + AT_{ext} + OSS + Other = 0$$

$$\Leftrightarrow NX_{nom} + OSS = IB + AT_{ext} + Other \qquad (4)$$

The Real Exchange Rate *(REER)*, which ensures the necessary surplus in the balance of goods and services, is determined endogenously, using empirical functions that describe the reaction of the components of GDP *(Yd) (in constant prices)* – i.e. final consumption *d(C)*, investments *d(I)*, imports *d(X)* and exports *d(Imp)* – to shifts in the real domestic interest rate (i_{dom}), real exchange rate *d(REER)* and real disposable income *dW*, (assuming partial price-indexing of wages), and external demand $d(Y_f)$.

$$d(Yd) = d(C) + d(I) + d(X) - d(Imp) \quad (5)$$

$$d(C) = \alpha_3 \cdot dW - \alpha_4 \cdot di_{dom} \quad (6)$$

$$d(I) = \alpha_5 \cdot d(C_{t-1}) + \alpha_6 \cdot d(X) \quad - \alpha_7 \cdot di_{dom} \quad (7)$$

$$d(X) = -\alpha_8 \cdot d(REER) + \alpha_9 \cdot d(Y_f) \quad (8)$$

$$d(Imp) = +\alpha_{10} \cdot d(REER) + \alpha_{11} \cdot d(Y_d) \quad (9)$$

The nominal exchange rate is expressed as a function of the real exchange rate *REER* and inflation of tradable goods π_{ext}, which, in turn, is a function of the rate of change in the average nominal wage that is lower than inflation ($d(w)<\pi$).

Finally, the change in unemployment is expressed as a function of the change in GDP of the previous period and the change in the real wage $d(w_r)$.

$$d(Unempl) = \alpha_{12} \cdot d(Y_{d,t-1}) - \alpha_{13} \cdot d(w_r) \quad (10)$$

Note that the overall structure of the model is oriented to describing the adjustment of key macroeconomic variables, taking as its starting point the present state of the Greek economy and ending with the completion of a short adjustment period for these variables, following a significant devaluation of the new national currency. The forecasts are based on the values of parameters in the key equations, calculated on the basis of a long-term sample of historical observations for the Greek economy.

This model does not attempt to capture other sources of short-term fallout on economic activity, such as uncertainty, a complete shutdown in funding to the private sector, the need for abrupt deleveraging of the economy, and problems in maintaining supplies of raw materials and export activity etc., which would probably cause real GDP to contract yet further. Moreover, it does not incorporate crisis conditions, collapse in transaction activity, serious convulsions in the banking system, long-term damage to the domestic production base that could be caused by disinvestment and flight of businesses or capital from the country, or even by a rapid increase in emigration (particularly of the most dynamic/skilled part of the country’s workforce).

Greek Economy

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