



## **NATIONAL REFORM PROGRAMME 2006-2008**

**UPDATE ON PROGRESS**

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**NON OFFICIAL TRANSLATION**

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## 1. Introduction

Promoting growth, increasing employment, reducing the divide between regions, reducing social exclusion: these are the ultimate goals of the economic and social policies underpinning the Lisbon Strategy. This means increasing both activity rates and productivity, against a more solid backdrop of long-term financial stability. Improving Italy's ability to compete over the long term is the challenge we face in order to encourage lasting, sustainable growth for the country and establish a fairer society.

This Report on implementation of the NRP reflects the progress made thus far on the various projects and measures presented by the previous government, and outlines the strategies adopted by the new government and regions in accordance with the renewed Lisbon Strategy.

Italy is suffering from structural delays, which have restricted its potential for growth and ability to compete and exacerbated macro-economic instability and social tensions. The reasons for such delays are to be found in unfavourable economic conditions, a major regulatory burden on the economy, the lack of ability of the companies to increase their scale, low productivity rates among employees, and the lack of funding devoted to research and innovation. Accordingly, the government and regional authorities intend, through the initiatives to be adopted for the next two-year period, to speed up implementation of the Lisbon Strategy in order to "unlock" Italy from its present situation.

The main challenges facing the Italian economy should be viewed primarily against a macro-economic backdrop wherein the government's chief commitment is understood as being to pursuing stability in public finances. This is fundamental for public spending and the Italian economy to get back on the road to stability, without which it will not be possible to achieve lasting growth. In order to deliver on the above objectives, a budget for 2007-2009 was unveiled on 30 September 2006 (Legge Finanziaria 2007 and related provisions) worth approx. 2.3% of GDP, of which 1% will be used to bring about correction in public finances and the other 1.3% to support growth. Recovery of public finances is intended not only to re-establish financial stability, but also to free up resources for action in the public sector itself in order to stimulate growth and equity.

The government's priorities in terms of economic and social action cannot fail to take account of the international context. Italy, like (and along with) the rest of Europe, is having to compete with the increasingly sharp economic growth being recorded by new countries, and global markets are impacting increasingly significantly on national economies. Italy intends to respond to these challenges via a strategy aimed at raising the potential growth rate of the economy through measures involving productivity factors, the economic and regulatory framework, and the features of the productive system itself. This will mean greater innovation and research, greater facility in terms of access to capital markets, businesses growing in size, support for increasing international operations, and the capability to attract foreign investment.

Against this backdrop energy policy assumes a strategic importance as far as Italy is concerned. Such policy must be based on secure supplies and increasingly liberalized markets. The government, *inter alia* in response to the indications made at the Spring 2006 European Council, has adopted measures to promote diversification of primary energy sources and the construction of new infrastructure for storing natural gas, with a view to opening up markets in line with effective market conditions in terms of supply, the presence of third parties in operation of the infrastructure, and integration of the domestic market.

In order to return to a growth rate consistent with the country's capacities, Italy confirms the five intermediate objectives contained in the 2006-2008 NRP, but also intends to "change gear" by bringing about a strategic discontinuity through measures aimed at speeding up and improving the quality of growth. These objectives are:

- to improve the market efficiency, through increasing competition and simplifying legislation, via actions to reduce entry barriers to protected markets, liberalize services, and reduce the time needed to acquire administrative authorizations;
- to promote research and innovation, with targeted incentives to strengthen public-private partnership. Italy confirms the goal of reaching a degree of investment in research equal to 2.5% of GDP by 2010, with two-thirds to be funded by the private sector;
- to increase participation in the labour market and encourage investment in human capital, that will translate into employment policies aimed at increasing the quality of work, enhancing efforts in terms of permanent training, and greater effectiveness on the part of the education system;
- to upgrade infrastructures, through concentrating funding on projects deemed to be a priority for our economy, with a view to increasing the country's productivity;
- reconciling protection of the environment with technological progress, through developing technologies that are useful to increasing energy efficiency and supporting the competitiveness of Italian business.

Improving the functioning of markets and extending the area of free choice for citizens are the objectives underpinning the measures adopted by the government to liberalize networks and services as part of the “citizen consumer” initiative, with the aim of encouraging entrepreneurial initiative and increasing the welfare of consumers. The numerous measures proposed in respect of better regulation and reform of the public administration, e.g. simplifying and reducing administrative costs, which are intended to reduce the burden of public spending on the rest of the economy and encourage companies to grow in size, also form part of the same rationale. Further measures will supplement the budget provisions in this area.

Research and innovation, along with human capital, constitute the foundation of a knowledge-based society, providing the basis for progress in pushing back technological frontiers, growth in productivity and improvement in competitive positioning. The research and innovation policies adopted by the government take into account the distinctive features of the structure of Italian production, which is based on a majority of small and medium-size enterprises (SMEs). The new measures are intended to establish a structural discontinuity in terms of spending on Italian research. Incentive mechanisms for private investment, such as tax credit on research and grants to researchers, are such as to provide immediate impetus for research activities. The government's intention is to extend the range of sectors for investment, opening it up in particular to sectors of excellence or high technology, and developing a programme to leverage more fully on human resources, with the objective of setting up centres of excellence and attracting highly-qualified specialists.

The population trend constitutes an important variable in increasing the growth potential of the Italian economy. Encouraging young people and women into work through active employment policies, encouraging more experienced workers to remain in the job market through a series of re-employment incentives, and guaranteeing social policies that are able to offer more services and assistance, are the areas that have been identified to tackle the increasing ageing of Italian society. A policy of “flexicurity” which ensures adequate protection for the worker against a backdrop of increased flexibility and more frequent job changes, a reform of the pension system in such a way as to gradually extend the average working life, and a controlled immigration policy will contribute to a more active and fairer society by reducing the forms of social exclusion currently reflected in Italian society.

Leveraging on human capital is at the heart of the government's employment policies. The government aims to reduce areas of inactivity, increase the rate of “good” employment, make work more attractive and rewarding, and tackle the black market economy, thus reducing the under-employment of human resources and forms of job insecurity that continue to characterize the Italian economy and society. By reducing the expense associated

with employment, the so-called “tax wedge”, both as far as employers and employees are concerned, steps are already being taken in this direction. On the one hand the aim is to bring about an immediate increase in competitive margins, through reducing the cost of labour, and on the other to promote permanent jobs, and hence is accompanied by an increase in contributions to be paid in respect of para-subordinate employment. Initiatives to improve the quality levels of human resources will be developed, with a view to recovering the productivity lag that has developed over the past decade.

The level of women in employment in particular is below the European average, so active employment policies will be implemented through action in support of the families. The measures envisaged will enable Italy to gradually come nearer to the target of the Lisbon Strategy in terms of childcare for children in the 0-3 years age bracket.

Initiatives involving physical infrastructure and transport and logistical services, in view *inter alia* of the TEN-T projects, serve to improve general productive efficiency and reduce the disparities between Central/Northern Italy and Southern Italy. They are geared towards both physical infrastructure and technology for transport. The project for a “logistics plan”, that should render Italy a platform for Europe, will allow for an expansion in commercial flows arriving in the Mediterranean. This objective will drive growth not just in Italy but also in the whole European Union. Programmes for the development of innovative technologies will be promoted.

Protecting the environment is an opportunity to develop excellence technologies in areas such as energy efficiency, increased use of renewable energy sources, and development of hydrogen as an energy carrier. Government and regional authorities are actively committed in this direction with a view to reconciling environmental protection, technological development and the requirements of the productive world. The government and regional authorities are also aiming at pursuing measures which make environmental regulation a resource for business competitiveness.

Italian regional policy, based on close co-operation between government and regions, will provide a substantial contribution to attaining the Lisbon objectives. A significant proportion of the micro-economic and employment policies described in the Report for 2006-2008 use funding sources, such as structural funds and funds for under-utilized areas, that are specifically designed for such purposes. Regional development policy, which will be finalized in the 2007-2013 national strategic framework, is intended to make an increasing commitment to growth and employment. The priority actions that will guide the application of funds, both EU and domestic, for the seven years, reflect the strategic dimension of the EU cohesion policy in significant synergy with the policies of Lisbon.

Italy, in adopting the policies announced in the DPEF and budget in addition to the measures already adopted, intends to bring state and market together on a virtuous path, in accordance with the Lisbon Strategy, to unlock the country’s potential for growth, increase its ability to compete on global markets, and promote social inclusion. An innovative, open and competitive economy is also a dynamic economy, with higher levels of productivity, higher salaries, a more equal distribution of wealth, and a better quality of life. In implementing the Lisbon Strategy, the Italian government intends to stimulate the development of an economic and social environment that will encourage innovation and competition, cause businesses to grow, and provide more, better-quality jobs. Progress as identified in the tables that follow is certainly significant, but Italy intends to proceed strongly in this direction in order to bridge the gap which currently exists versus the European average and reach the goals set for 2010.

1.1. *Financial summary*

Tables 1 and 2 provide a financial summary of the measures contained in the assessment grid attached to this Report. A breakdown of the methods used in constructing this grid, and a preliminary methodological contribution to the evaluation of the effects of the reforms, are contained in the box at the end of this section. The measures have been grouped according to national priorities and to areas of priority action as defined in the Spring 2006 European Council.

*Table 1 - Funds earmarked for the Lisbon Strategy until 2008. National Priorities.*

Lisbon Strategy priorities	No. of measures	Funds earmarked until 2008 (€m)
Extending area of free choice	27	410.70
Research and technological innovation	51	10,673.60
Increasing education, strengthening training and social inclusion, reducing disparities	59	14,875.59
Infrastructure	11	34,330.40
Environmental protection	18	457.90
Long-term fiscal sustainability	7	-
<b>Total</b>	<b>173</b>	<b>60,748.19</b>

*Table 2 - Funds earmarked until 2008 for priority action areas (Spring 2006 European Council)*

	No. of measures	Funds earmarked until 2008 (€m)
Unlocking business potential, especially SMEs	22	165.11
Greater investment in knowledge and innovation	70	11,399.36
Increasing quality employment opportunities	42	14,395.42
Achieving an efficient, integrated EU energy market	7	180.00
<i>Total</i>	141	26,139.89
Environmental protection	*14	277.90
Infrastructure	11	34,330.40
<i>Total</i>	25	34,608.30
Others	7	-
<b>Total</b>	<b>174</b>	<b>60,748.19</b>

*\* Another four environmental protection measures are included in the Council's "energy" priorities.*

## 2. Governance

The NRP submitted in October 2005 was drawn up by a high-level *ad hoc* technical committee, under the supervision of a committee of ministers co-ordinated by the Italian Ministry for EU affairs in its capacity as National Lisbon Co-ordinator. Central and regional administrative authorities also took part in the process. The NRP was approved by the Council of Ministers, and presented to the Parliament by the Minister for EU Policies.

With the new legislature the governance structure has been strengthened further. The duty of giving political direction to the Lisbon Strategy has been taken over by an inter-ministerial committee for EU affairs, or CIACE, chaired by the Italian Minister for EU Policies. Both the inter-ministerial and technical committees are permanent bodies as provided under Italian Law 11/05. Both the regional authorities and the Minister for Regional Affairs also take part. For matters of interest to them, representatives of local entity associations are present at meetings of the inter-ministerial committee. Accordingly regional authorities as well as central administrations have participated in the preparation of the Report, the former reporting on specific initiatives.

At two hearings in July and October with the relevant permanent commissions, the Minister for EU Policies outlined the government's intentions and the main points of the Report to parliament.

The Report was then discussed by the CIACE and subsequently approved by the Council of Ministers.

All social partners were involved in the process, and account was duly taken of the contributions and comments which they made; the Report will also be presented at the State-Regions Conference.

As far as governance – in general terms – is concerned, it should be noted that there is an overlap between the date on which the NRP and the progress reports have to be submitted, i.e. 15 October, and the date on which the government's main economic initiative, i.e. its draft budget law, is to be presented to the Parliament, i.e. 30 September. The Parliament shall approve the budget before the year-end, and in this lapse of time various qualitative changes can occur. Even if they do not affect the balances, they may have an impact on the composition of the instruments. As with the NRP presented last year, the Report contains various measures aimed at implementing the Lisbon Strategy that are also contained in the draft budget law. It is our intention to make clear at this juncture that all measures which refer to the draft 2007 budget law should be understood as being subject to approval by Parliament. A similar clause has been added to the grid attached as an annex to the Report.



## Measuring the effects of reforms: preliminary methodological contribution.

An evaluation grid is included as an annex to this Report, which summarizes - in the form of an inventory - the measures adopted to pursue the objectives set under the Lisbon Strategy. This grid has been drawn up in accordance with the model proposed by the European Commission.

The grid lists the measures along with a brief description and an estimate of the impact expected. The measures have been broken down according to the six Priorities corresponding to the division used in the Report: macro-economic policies aimed at stabilizing public spending and making it sustainable, micro-economic policies expanding the area of free choice for both citizens and companies, investing in research and technological innovation, upgrading infrastructures, protecting the environment, and policies to boost employment, training, education and social inclusion. For each national priority the main Integrated Guidelines are indicated, and reference is made to comments made by the European Commission in its assessment of the NRP where this is possible.

For every measure, an indication of correspondence to the four areas for priority action identified by the Spring 2006 European Council is provided, along with two further areas (upgrading infrastructures and protecting the environment) to account for each measure mentioned by the Report.

Regarding the implementation and value of the action envisaged for each measure, the following are indicated:

- state of progress and timescale estimated for completion, and one or more structural indicators;
- funds set aside for the measure until 2008.

This grid will be useful not just with respect to external assessment, but as an effective tool for monitoring progress and co-ordinating internally.

In a document attached hereto we provide several preliminary estimates of the potential impact of reform on the economy. This document contains a description of the main assumptions underlying the estimates and the methodology employed, and constitutes a first attempt at complying with the assessment methodology outlined in the European Commission document entitled "A methodological framework for assessing progress with the implementation of the Growth and Job Strategy" as interpreted by document ECFIN/EPC(2006)REP/5431 issued by the Economic Policy Committee. These documents refer to three different and potentially complementary methodologies to be used in monitoring and evaluating the reform process.

The first methodology makes use of the grid mentioned above. The second and third methodologies have the aim of evaluating reforms by estimating their impact respectively (1) on some variables relevant for growth (e.g. mark-up and spending on research and development); and (2) on overall performance at the macro-economic level.

One of the main requisites on which it has been decided to base quantification of the impact of the measures adopted is that of consistency in the process of assessment: accordingly, the grid containing indication of the measures represents the natural starting-point for this assessment.

The original grid has been altered so as to bring together several measures within individual cells. It should be noted that this division largely reflects that adopted in presenting the measures in the Progress Report. Classification is based on a root-and-branch structure, which starts with the general areas of action - the national priorities identified in the official grid - and expands to cover more specific areas progressively until the individual groups of measures are finally reached.

The final division, which corresponds to the individual cells of the altered grid, is the one that is relevant for the purposes of our assessment. As that no further sub-division is made, a given number of indicators is attributed to each cell. Indeed, the real area of overlap between the first methodology and the other two is to be found in the indicator columns: one contains a list of the indicators shown in the official grid, while the second shows the indicators employed in the econometric literature we have consulted. There is not always complete overlap between the two, as

there are generally fewer indicators in the second column. This is one of the reasons why the quantitative analysis carried out does not provide exhaustive coverage of the measures adopted.

In addition to the classification applied, for some cells there is also a brief description of the structural problems which the reforms are intended to address (e.g. reducing the weight of administrative measures). The literature we have analysed generally shows empirical evidence taken from panel regressions which examine the influence of structural factors on various growth determinants – and through these on changes in GDP – in industrialized countries (or at EU level).

Only articles which use indicators deemed potentially useful for evaluation purposes are referred to. In particular, in the description reference is made to the transmission mechanisms activated by the measures and main effects of the reforms on different key variables – identified by output indicators – and on growth and employment. Our approach incorporates the European Commission's suggestion to use stylised relationships as a starting point for the assessment. Where possible, we make reference to elasticities referred to in the articles examined, and seek to establish by how much the variables deemed to be vital for growth would have to change to bring Italy into line with the objectives of Lisbon, or at least to reach the average levels recorded throughout the European Union. The impact of the measures for reform on growth in GDP (and employment) may subsequently be quantified by making reference to a second group of elasticities. These effects are where necessary put in correct order, based on the size of the sector directly affected by the reform. Unfortunately it is not always possible to introduce also indirect, spill-over effects to the rest of the economy.

Changes in the growth rate or level of GDP have been estimated on the assumption that the reforms will be able to exert the desired change on the indicator variables. In this way we end up generating preliminary assessments of the potential impact of the individual reforms (or groups of reforms) rather than the “true” impact anticipated. However, it is not possible to prepare more accurate estimates at this stage of development of the models.

The most important limit of the second methodology is that the results produced by the empirical literature refer, and are applicable, to different types of structural reform, and hence the estimates produced cannot simply be added together. By the same token, this approach does not enable the overall impact of the reforms on the economy to be assessed, because it does not produce reciprocally coherent changes to the variables under review. The purpose of the third methodology is to use macro-economic models precisely in order to overcome this problem. To this end, a first attempt at assessment using the econometric model developed by Treasury Department ITEM has been made.

This model is suitable for engaging in such analysis because it reflects a correctly-defined supply-side, and hence also presents correct transmission channels. We have carried out several simulations designed so as to reproduce the effects of the structural reforms on the economy. We analyse the impact of changes in the behaviour of prices brought about by a reduction in the mark-up, movements in the wage-determination curve, increases in the participation rate, and technological shocks (increase in Total Productivity Factors). We also show an assessment of the measure to reduce the tax wedge contemplated in the 2007 budget. With the exception of this last simulation, we prefer to apply “standard” variations to the level of the variables (e.g. varying the TFP by one percentage point).

In the future, when the evaluation of the reforms carried out using the second methodology has become more reliable, it will be possible to make a more direct comparison between the reforms implemented and the modelling of shocks.

### **3. Macroeconomic policies**

#### *3.1. Trends in the Italian economy*

After the stagnation recorded in 2005 in terms of economic activity, data for the first six months of 2006 appear to be more encouraging. GDP grew by 0.7% in the first quarter of the year and 0.5% in the second quarter, driven by the main demand components.

A breakdown of domestic demand reflects sharp acceleration in capital spending, with respect in particular to machinery and driven above all by items of transport. Capital spending in construction reflects moderate growth, bearing out the end of the growth cycle in evidence last year.

Household spending also quickened during the first six months, on the back of healthy trends in demand for services, which has picked up strongly.

In terms of non-domestic demand, exports have begun to grow once again, driven by growth in world trade and the concomitant weakening of the Euro.

As a result of the healthy overall performance recorded in first half of 2006, it has been possible to revise GDP growth estimates for the current year slightly to 1.6%, compared with the 1.5% indicated in the Italian Government's Economic and Financial Planning Document ("DPEF") for the 2007-2011 period.

Against this backdrop of an upturn in the economic cycle, conditions on the job market should also improve in 2006, with employment set to rise by 0.8% during the year as a whole. As indicated by the results of the Italian statistics agency ISTAT's survey of the country's work force, the number of people in work in Italy at June 2006 was above 23,180,000, an increase of 536,000, or 2.4%, compared with the equivalent period in 2005, which marks a clear acceleration compared to the first quarter of the year (up 1.7%).

The survey also reveals signs of changes on the labour market. Growth in the number of people in work continues to be attributable to immigrants' positions being regularized, which accounts for 162,000 of the increase. But the main constituent item in the growth regarding involved the percentage of the working population over the age of 50, among whom an increase of 242,000 was recorded, clear proof of the increase in the working life: this is the so-called "cohort" effect, i.e. employees who started work later in life now coming into the higher age bracket. Another significant factor in this regard was the increase in the work force (Italian nationals) of persons under the age of 50 employed on a contract basis, up 120,000. One other interesting aspect is the resumption in growth in women in the workplace, up 2.9% on an annualized basis in the second quarter of 2006, compared to 2% growth by the male component. In terms of geographical distribution, the rise in demand for work in the second quarter 2006 affected all areas of Italy, but more so in Central Italy (up 3.3% in terms of trend) and Southern Italy (up 2.2%).

GDP is estimated to grow by 1.3% in 2007, slightly above the figure indicated in the 2007-2011 DPEF. For the medium period the growth targets provided for in the DPEF unveiled in July are confirmed. GDP is expected to grow by around 1.7% on average during the 2008-2011 four-year period, as a result *inter alia* of the growth policies due to be implemented by the Italian government.

Growth will be driven by higher demand and investment. Exports too should have a positive impact, while the contribution from the foreign sector should remain nil for the entire estimate period.

Household spending should be boosted by reduced domestic inflationary pressures as a result of the liberalization policies implemented. Aggregate investment in production is estimated to grow at an average rate of 3%, driven in particular by the equipment and machinery segment.

### 3.2. *Public balance*

In the 2007-2011 DPEF unveiled on 26 July 2006, the Italian government estimated that its net borrowing for the current year would be equal to 4% of GDP. This estimate reflected the improved growth prospects on the one hand, and the results of due diligence activity carried out by the new government since coming to power on the other, plus the effects of emergency measures adopted under Italian Law 248/06 to bring about structural correction to the deficit and re-launch the Italian economy.

Subsequent trends in public balance reflect tax revenues that are approx. €6bn higher than the estimates provided for in the DPEF – due mostly to a better than expected dynamic of structural revenues and in some extent to sporadic taxes - against trends in public spending in line with the DPEF estimates - in particular due to management of budget commitments in twelfths and control by the state treasury of spending by local administrations.

Following the ruling issued on 14 September 2006 by the European Court of Justice in respect of VAT on vehicles and fuel used for corporate purposes being tax-deductible (claim C-228/05), which will lead to reduced revenues for 2006 and higher charges for arrears with regard to the 2003-2005 period, and reflecting the improved trend in tax revenue, in the update to the 2007-2011 DPEF the public administration's net debt stands at 4.8% of GDP with a primary balance deficit of 0.3%. Net of the effects of the above ruling, government borrowing would have been equal to 3.6% of GDP, a 0.4 point improvement on the target specified in the DPEF, while the primary balance surplus would have been 0.9%.

For 2007 and the following years, the financial targets established in the DPEF have been reconfirmed by adopting specific measures to compensate adequately for the revenue reduction deriving from the ruling referred to above.

*Table 3 - Public finance goals (figures as % of GDP)*

	2006	2007	2008	2009	2010	2011
Primary balance	-0.3	2.0	2.5	3.2	4.0	4.8
Net borrowing	-4.8	-2.8	-2.2	-1.5	-0.7	0.1

Source: Ministry of Economics and Finance

In compliance with the European commitments, public deficit in 2007 should be reduced to 2.8% of GDP, a level which should allow Italy to meet the targets for overhauling public finances specified in the Recommendation made by the Ecofin Council in July 2005: structural net borrowing, i.e. net of cyclical effects and one-off measures, should be reduced by 1.6 percentage points in 2006-2007. The primary balance should also record a significant improvement to reach a 2% surplus with respect to GDP.

For 2008-2011, net borrowing is expected to reduce gradually until a small surplus of 0.1% is recorded in 2011. The primary balance is expected to rise from 2% of GDP in 2007 to 4.8% in 2011. Interest expense is expected to remain at around 4.7% of GDP.

The 2007 draft budget law prepared by the government represents its response to the commitment it has made to re-launch sustainable economic growth against a backdrop of structural recovery of public finances, social equity and more efficient public spending.

To achieve these objectives, a budget worth approximately 2.3% of Italian GDP was unveiled, of which some €15.2bn, or 1% of GDP, has been earmarked for permanently reduction the deficit and some €19.5bn for measures regarding essential state functions, growth and social equity.

The main feature of the correction being submitted to parliament is that its effects are permanent: the 2007 budget should enable net borrowing to be brought down to 2.8% in 2007, as has already been emphasized, and to be kept below the 3% threshold in the years to

come. The government intends to continue with the task of overhauling public finances in order to get public debt back onto a sustainable path of reduction, but the proposal submitted means that the state of emergency which public finances in Italy were heading towards should be seen as having come to an end.

Table 4 - Composition of 2007 budget (effects for 2007 in €bn)

Source of funds		Application of funds	
<i>State system</i>	12.3	<i>Reduction in net borrowing</i>	15.2
of which: Reorganizing/rationalizing PA	3.5		
Public employment	0.4	<i>Action for growth and equity</i>	19.5
Increasing revenue efficiency	7.9	of which: Reduction in tax wedge	5.5
Leveraging state assets	0.5	Companies	2.5
		Households	3.0
<i>Local entities</i>	4.4	<i>Basic state functions</i>	4.0
<i>Healthcare</i>	3.1	of which: public employment contracts	1.1
		Peace missions	1.0
<i>Pensions</i>	11.1	<i>Action for growth</i>	7.0
of which: Pensions and immigrants	5.1	of which: road and railway networks	2.9
Staff severance indemnity provision	6.0		
<i>Tax revenues</i>	3.9	<i>Social action</i>	2.0
		<i>Other measures</i>	1.0
<i>Total:</i>	34.7		34.7

Source: Ministry of Economics and Finance

The 2007 budget law makes provision for action to be implemented on both the spending and income sides.

With regard to spending, action is envisaged in four different sectors: organization of the public administration, local governments, healthcare and pensions. It should be noted that primary current expenditure, which has grown on an ongoing basis in recent years, should be stable in 2007 vis-à-vis 2006 and begin to fall as from 2008 as a result of action envisaged in the budget law. Capital spending, meanwhile, should increase moderately as from 2007: hence the overhaul of public finances in Italy shall not be at the expense of investing in the country's infrastructure, so as not to jeopardize the economy's prospects of growth.

In particular, action on the expenditure side should involve:

– *rationalization and reorganization of the public administration*

The draft budget law launches a reorganization and rationalization of the different components of the Public Administration with a dual purpose in mind: an increase of efficiency and a reduction of costs. In particular a reduction in ministerial offices is envisaged to avoid duplication of functions, both in terms of central government and decentralized structures. As such processes require time, the draft budget law makes provision for a suitable – but non-negotiable – timescale which will enable each ministry to identify and agree on the relevant strategies for reorganization with the relevant social parties.

At the same time the regional authorities, local bodies, national health service institutions and schools will move towards a gradual and natural reduction in staff numbers in order to be competitive with respect to the objectives of rationalizing and reorganizing the public apparatus. In particular, as far as schools are concerned the draft budget law goes alongside plans to keep down staff numbers via an approach that seeks to leverage on greater independence for schools, flexibility in teaching approaches and contacts with the region they are serving.

– *local and regional institutions*

The new stability pact with local institutions seeks to combine financial rigour (financial balance rather than expenditure now becomes the most important measurement criterion) with fiscal independence (taxes may be introduced for specific purposes, aimed at implementing works of particular interest at the local level; transfer of the land registry is also anticipated). The methods according to which each entity shall contribute to the overall budget is innovative: the burden will no longer be shared in uniform fashion, but will be borne on the basis of indicators, such as current spending and deficit, that are intended to highlight the different places from which the various local institutions are starting. In the event of the pre-established restrictions being breached, automatic mechanisms are provided for which centre on increasing the tax rates applicable to the local and regional entities.

The stability pact with regional authorities, which excludes healthcare, is also based for a test period on the concept of financial balance. During the test period the rule on expenditure in force since 2001 is largely confirmed.

– *healthcare*

The new healthcare agreement signed by the Italian government and regional authorities on 22 September 2006 should enable healthcare spending to largely stabilize as from 2007 via measures to reorganize and qualify spending, keeping down pharmaceutical costs and reorganizing medical provisions.

For regions which fail to meet the agreed objectives, co-operation measures are confirmed, as are the automatic increases in the regional rates for additional taxes already provided for under regulations currently in force.

– *pensions*

The budget's intervention in the area of pensions is based on measures aimed at strengthening the fairness of the system by bringing the effective rate into line with the rate of calculation used for purposes of pensions, both for employees and independent workers.

On the income side, action provided for in the budget is based around three groups of measures: tax policy action in the strict sense of the term; action aimed at improving the efficiency of the public administrative institutions, and conversely at reducing tax avoidance and evasion; and action aimed at unlocking value from the state's real estate portfolio.

The first group of measures involves inter alia a major reorganization of the IRE with a view to making the tax system more progressive and supporting nuclear families with children. Marginal rates remain largely unchanged, while average rates are reduced. Existing mortgage and land registry taxes will be reorganized.

In terms of the second group, the Italian government has included a new set of measures in the 2007 budget aimed at strengthening the fight against tax evasion and tax avoidance. The proposed regulations would tackle a variety of areas and sectors of economic activity, with the objective of reducing such phenomena drastically and structurally: revisions of sector studies; regulations in respect of deductions and detractions of spending on healthcare; and procedures for collecting fees due in respect of medical and para-medical activities carried out on a freelance basis within private healthcare institutions are just some of the examples.

The third series of measures is aimed at creating value from concession of state-owned property, encouraging the rationalization and valorization of use of the state's real estate portfolio, and devolving management of the land registry to local entities. The choices that have been made provide suitable instruments for improving the use of state-owned properties and lands, providing borough administrations with the possibility of using public buildings for new purposes which are more consistent with the current needs of Italian citizens and changing the very shape of their cities.

### 3.2.1. Sustainable public finances

Despite the significant ageing of the population as a whole, public spending linked to it, when taken as a whole (i.e. pensions, healthcare, education, etc.) reflects a largely stable profile over the long term (i.e. until 2050), hence the pension debt path provided for in the 2007-2011 DPEF is sustainable. As a result of important reforms introduced during previous legislatures, public spending on pensions has reflected a relatively lower trend compared to other expense items. Moreover, the long-term profile of the debt appears to be robust even in the event of the most pessimistic hypotheses in respect of interest rates and healthcare spending trends (cf. the most recent Stability Programme).

Nonetheless, reaching the objectives in terms of primary balance is a necessary pre-condition to the sustainability of public-sector borrowing. To this end, four to five years of significant increases in the primary balance are required. In this light, the structural adjustment – corrected by the cyclical component and net of one-off measures – guaranteed by the 2007 budget law equal to 1.6 percentage points of GDP in the space of twelve months is especially important.

### 3.3. *Medium-/long-term trends in the Italian pension system*

#### 3.3.1. The state pension component

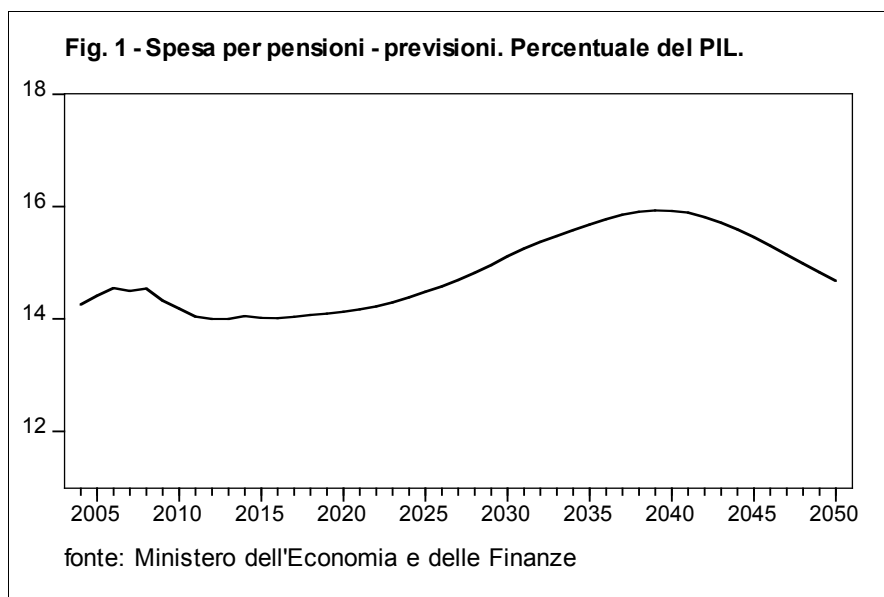
As a result of the significant reforms introduced during previous legislatures, public spending on pensions has reflected a relatively lower trend than many other expense items. This is largely due to the reforms to the pension system introduced from 1995 to the present day, with the first having guaranteed greater savings due to the transition to a contributions-based system which links pension treatment to the expected life of the pension. In this sense, the adjustment to the so-called transformation coefficients provided for by the 1995 reform was particularly significant.

The annual average growth rate reduced from 2.1% between 1997 and 2000 to 1.4% in the last five years. However, public pension spending still rose as a percentage of GDP. Moreover, demographic trends suggest that against a backdrop of unchanged legislation, there would be a further, albeit relatively limited, increase in the ratio between public pension spending and GDP. Public pension spending trends estimated on the basis of a tendential macro-economic framework predict that in the 2006-2011 period, there will be a slowdown in this trend as from 2009 due to the progressive effects of the 2004 reform. When the next Stability Programme is presented the long-term pension spending and public debt projections will be updated: according to current forecasts, spending will continue to increase in relation to GDP over the medium/long term as a result of the ageing population, until it reaches its high in the years between 2035-2040 at around 1.2 percentage points higher than the level recorded in 2005 (cf. fig. 1). This increase is admittedly low in comparison with the rest of Europe, but the ratio itself reflects one of the highest levels in Europe at 14.2% in 2004, compared with a European average of 10.6%.

The path towards achieving the condition of equilibrium without reducing performance is to expand the active population, including via increasing the number of contributions, and higher rates of employment in particular among women and older people, to reflect the fact that the improvement in health and longer average lives should enable people to remain active beyond the effective pension age.

Along these lines, in the next few months the government and social parties shall launch plans to further refine the Italian pension system, in the direction set by the 1995 reform. The discontinuity, or 'scale', of the 2004 pension reform will be done away with, which will imply in any case the need to find the funds to cover it. The principle of actuarial equity, introduced to the pension system by the Dini reform, will be defended and strengthened. The transformation coefficients will be revised in such a way as not to reduce the individual cumulative contribution, which should help to preserve the financial stability of the system and that of public finances overall. In the absence of the ten-year transformation coefficients,

the ratio would remain substantially unchanged until 2015, approx. 1.5 points higher at its highest point and just under 2% at the end of the estimate period.



[Pension spending estimates – as % of GDP – Source: Ministry of Economics and Finance]

In the budget law recently presented to parliament, provision has been made for additional contributions for the bracket of workers who otherwise would have serious problems in terms of pension performance. At the same time, the reduction in the tax wedge shall be financed so as not to take money from pension contributions.

### 3.3.2. Complementary pension schemes

The government has also brought forward the launch of complementary pension provision to 1 January 2007 with the start of a wide-ranging information campaign aimed at workers in both public and private sectors with a view to encouraging them to participate in complementary schemes. The issue of general directives by COVIP (“Commissione Vigilanza Fondi Pensione”) should enable all interested entities – social parties, institutions, entities and market operators – to take steps to make the requisite amendments in order to ensure complementary pension provision takes off fully.

The general structure deriving from the legislation governing this sector starting with the pension reforms of the 1990s is confirmed, although the government reserves the right, following due consultation with the social parties and operators, to explore the possibility of introducing adjustments to the regulations provided for in Italian Legislative Decree 252/05 in order to maximize the mechanisms for providing incentives to workers to adhere to complementary schemes against a backdrop of transparency, stability and efficiency for all forms of pension provision.



## 4. Microeconomic policies

### 4.1. *Extending the areas of free choice for corporates and citizens*

#### 4.1.1. Improving legislation

*Better regulation* - In order to improve the competitiveness of the economy, the government intends to target red tape. Accordingly, work has continued on codifying and simplifying substantial regulations in different sectors identified by the third simplification law (Italian Law 229/03), including those of industrial property (Italian Legislative Decree 30/05), digital administration (Italian Legislative Decree 82/05), establishment of the public connectivity system and the international network of the public administration (Italian Legislative Decree 42/05), consumer protection (Italian Legislative Decree 206/05), and insurance (Italian Legislative Decree 209/05).

A fourth law to simplify and reorganize the regulatory framework has also been approved, Italian Law 246/05, which provides *inter alia* for wide powers to be granted to the government to simplify administrative procedures for companies, strengthening of the “one-stop shop” for productive activities (Article 5), and provision of state-region consultation mechanisms on better regulation (Article 2) with a view to ensuring quality regulation in a multi-level governance system.

Italian Laws 15/05 and 80/05 also reformed several institutes of administrative simplification, including the conference of services, agreements with interested parties, start of activity notification and tacit assent. Technical assistance has also been provided, and monitoring and appraisal surveys carried out of regulation quality policies at every level of government, plus action in respect of training and embedding good practice *vis-à-vis* the Italian regions, with *ad hoc* activity in Southern Italy.

An explicit and organic policy of better regulation has also been pursued via the creation of a task force at the Prime Minister's office and technical support unit. An experimental plan to measure the administrative and information expenses burdening companies has also been introduced, with reference to specific cases selected and appraised in consultation with associations for each category. A “guillotine” mechanism has been introduced and is currently being implemented to enable the stock of existing legislation dating back to before 1970 to be reduced (the so-called “law-cutting” measure).

A new draft simplification law was presented in parliament on 22 September 2006. It is based on integrated use of the instruments and actions deemed suitable for achieving them: administrative and regulatory simplification, analysis of impact of regulation, organizational innovation, process re-engineering, technological innovation, training and motivating staff in relation to use of technologies, encouraging management to take responsibility, linking incentive-based staff payments to simplifying goals and meeting deadlines for completing procedures (including at the level of collective bargaining), implementing accompanying and support programmes with advisory activities and assistance to administrations, and the diffusion of best practices.

On 20 July a group of MPs from the majority presented a draft law which proposes to reduce the time required to start up a business. One-stop shops for this type of authorization have existed in Italy since 1998: however, it is still believed that the procedures need to work better and quicker, *inter alia* in line with the invitation in this direction extended by the European Council in Spring 2006. The proposal is aimed at extending the use of self-certification, enabling this to be used in a general number of cases and establishing that the applicant may in any case be authorized to begin his/her new business after seven days (as opposed to seventy as is currently the case) have elapsed following the date on which the application was submitted.

*Bankruptcy procedures* - Italian Legislative Decree 5/06 brought about a wide-ranging reform of procedures for dealing with cases of bankruptcy. This reform is one of the measures that

could contribute most to sustaining the productivity base and market resources. The system has moved away from what was essentially a liquidation procedure, with the company's outstanding assets being frozen and involved in a major, time-consuming litigation, to a more flexible procedure aimed rather at recovering productive capacity.

Execution of the procedure has also been simplified with respect to the methods adopted, with greater emphasis being given to entrusting the assets to professionals external to the judicial apparatus for independent management, who decide whether or not trade relations in course should be continued, and plan compositions with creditors.

Persons who have gone bankrupt, once their situation has been assessed and they have been dispossessed of their assets, are released from their debt provided certain conditions of merit are met, so that they may start up a new business or in any case be restored to their economic condition as consumers of goods and services.

A preventative phase prior to opening bankruptcy proceedings has also been strengthened, which provides for the possibility of reaching debt restructuring agreements.

*Use of IT in civil procedure* – Improving the efficiency of civil procedure can make a significant contribution to improving the competitiveness of Italy. By conducting civil proceedings in electronic format, the Italian Ministry of Justice's aim is to introduce innovation to the entire judicial system via more wide-ranging use of information technologies, with a view to recovering efficiency and productivity on the part of all players involved in such proceedings, i.e. magistrates, lawyers, administrative staff and notaries, and to embed a new judicial culture capable of bringing together technological innovation with organizational models and regulatory dimension in such a way as to realize the constitutional principle of reasonable length of trial. Because of its importance, this project is described in more detail in the section on best practices.

#### 4.1.2. Better enactment of EU law

The government has set up a task force within the department for EU policies, with the dual objective of swiftly reducing the number of existing infringement procedures, and finding methods to prevent new cases.

A single national archive of all infringement procedures will be created; SOLVIT (the objective of which is to prevent conflicts on matters on EU law) will be restructured and strengthened; the department for EU policies will open early negotiations to avoid infringement proceedings being initiated.

There will be a more direct management of procedures via: the launch of a due diligence activity by each administration in respect of the infringement proceedings falling within its own sphere of authority; more active management of procedures by the department for EU policies; the establishment of a network of “infringement” contact points at each central and regional administration.

One major deterrent on future infringement procedures will be ensured by Article 181 of the 2007 budget law, which provides that the Italian state is entitled to claim against the persons or entities responsible for financial expenses incurred as a result of being found guilty by the European Courts of Justice and/or Human Rights. In particular, the state is entitled to claim against the regional authorities, the independent provinces of Trento and Bolzano, local entities, other public entities.

In order to improve the mechanism for the transposition of EU directives, the term to do it by government decree will be shortened from 18 months to 12 months; the preparation of the legislative decrees will be brought forward; a session on the transposition of EU law during the working parliament will be set up; the transposition of EU law by administrations other than the central government will be monitored on an ongoing and more careful basis.

#### 4.1.3. Liberalization measures

“To complete market liberalization by acting on the recommendations of the antitrust authority” is one of the most ambitious commitments undertaken in the NRP. Indeed, overregulation is one of the main problems faced by the Italian economy.

For this reason the new government has significantly speeded up the process of market opening which began in the 1990s with a series of important measures already implemented in the course of the period under review in this Report:

- the “citizen-consumer” decree law (Decree Law 223/06, converted into Law as Italian Law 248/06), which introduces new regulations in respect of competition and consumers' rights while eliminating a series of restrictions on commercial distribution, bakers, sale of over-the-counter pharmaceutical products and exercise of trade in the following sectors: notaries, liberal professions, insurances, banks and taxis (see following table and annex for further details);

Quantitative limits	Bakers
Professional qualifications	Commerce (apart from food products)
Minimum distances	Commerce Public exercises Petrol stations
Antitrust caps at local level	Commerci
Business restrictions	Over-the-counter medicine pharmacies Notaries in respect of transactions involving vehicles
Minimum prices	Liberal professions
Advertising bans	Liberal professions
Limits on sales at discounted prices	Commerce Over-the-counter medicines Third-party liability motor policies
Restrictions on product range offered	Commerce
Restrictions on form of company	Pharmacies Liberal professions
Restrictions on number of activities	Pharmacies Taxis
Exclusive distribution agreements	Third-party liability motor policy agents
Client mobility restrictions	Banking services

Source: Ministry of Economic Development

- adoption of a consumers' code, which consolidates and simplifies existing regulations on consumer protection and increases awareness of consumers' rights.
- strengthening the functions of the national centre forming part of the European network of consumers ECC-NET.
- use of funds deriving from administrative sanctions handed down by the competition and market authority in initiatives that work to the advantage of the consumer.

Further measures still under review by the parliament are contained in:

- draft energy law presented on 28 June 2006, which completes the process of liberalization of the energy market, provides greater guarantees on safety with respect to storage, re-launches savings and efficiency and renewable sources of energy, and promotes the establishment of energy infrastructure within Italy; further information on this measure is provided in section 4.1.5;
- draft law approved by the Council of Ministers on 30 June 2006 providing regulations in respect of the overhaul of local public services, via which it is proposed to reorganize national regulations governing the assignation and management of local public services in the aim of promoting more widespread diffusion of the principles of competition in management of services of general interest with a local remit, and ensuring that all users have the right to universal, accessible, local public services and the basic essential level of provision;

- draft law approved by the Council of Ministers on 30 June 2006 introducing in the Italian legal system the class action, i.e. legal action initiated by an individual qualified to act on behalf of a group of consumers who have been damaged as a result of illegal acts in a contractual or non-contractual situation, through illegal commercial practices or anti-competitive behaviour.

#### 4.1.4. Industrial property policy and combating counterfeiting

The Italian Patents Office (“Ufficio Italiano Brevetti e Marchi”, or “UIBM”) is finalizing executive regulations with a view to establishing the code of industrial property, following the legislative decree which amended the same and includes re-assignment of the ownership of patents deriving from research carried out at universities, the life of the protection afforded by copyrights in the event of accumulation for design, and the reintroduction of ordinary rite, simplified and streamlined.

To strengthen and upgrade the national patents, the European Patents Office (“OEB”) has been entrusted with the task of researching the novelty of national inventions. The time estimated for this project is 18 months, at an estimated cost of €18m. France and four other European countries already use the OEB in this way. At the same time a three-year programme to strengthen the UIBM is underway for a value of €9m.

In 2005 a high commissioner to combat counterfeiting was established, with the following objectives:

- to protect scientific research and technological innovation both within and outside Italy;
- to monitor reforms currently in existence in order to be able to propose, where appropriate, regulatory instruments which are more suitable for preventing counterfeiting and pirating;
- to improve the patent protection of Italian companies;
- to work together with business to record and monitor illicit phenomena.

At the level of bilateral agreements on counterfeiting, an agreement on intellectual property was signed with China on 8 June 2006, an Italian/French anti-counterfeiting committee was set up, and a bilateral co-operation programme was entered into with the United States Patent and Trademark Office (USPTO).

#### 4.1.5. Energy policy

The two fundamental instruments of Italian energy policy are market liberalization and development of new infrastructure.

In the electricity sector, the opening of the market has given rise to a major cycle of investments, with the generation facilities being modernized and strengthened and high-efficiency technologies being adopted. Approx. 20,000 MW have been authorized since 2002 to the present day, i.e. roughly one-third of the installed capacity, of which over 8,000 MW have already come on stream, approx. 6,000 MW will be on stream by year-end 2007 and the remainder is gradually being implemented and is expected to become operative as of 2009. This positive effect has however made the country's dependence on natural gas more pronounced, which currently is needed to provide 50% of national electricity production.

The experience of the first five years of open markets has shown that, despite the entry of new producers, there is still an insufficient level of internal competition linked to a high level of concentration of supply, which could impact on the level and trend of prices. Electricity prices in Italy have grown at a slower pace than in other European countries - even though the absolute level of Italian prices is still the highest in Europe - due both to sector regulation to keep down the upward trends and inflationary effects, and to the delay with which Italy will feel the impact of the Kyoto protocol on energy prices.

The natural gas sector has seen a more limited degree of diversification in terms of supply and upgrading of infrastructure. In this sector the incumbent operator still has control of the import and storage infrastructure. Natural gas has also become the second source of energy in Italy. This leads to new risk factors in terms of geopolitical dependence on the price of oil, in that with the growth in the gas market – both in the United States and Europe – the correlation between the prices of oil and natural gas will continue to increase.

Strengthening the gas pipeline networks and building new infrastructure for producing, importing and storing natural gas are therefore indispensable issues not just in order to encourage new operators to enter the market, but also to ensure the safety of the system in line with the new requirements. While a significant cycle of investment in generation has been initiated in the electricity sector, this has not been the case in the energy transport sector and in the import of natural gas, causing recurring emergency situations that are difficult to manage.

Italy, like other European countries, in order to ensure guaranteed supplies needs to promote the diversification of primary sources and implement new infrastructure for storage of natural gas, such as LNG terminals, gas pipelines and underground storage facilities.

Further liberalization of energy services therefore has a strategic value in promoting the effective conditions for competition in supply and the presence of third parties in management of infrastructure granting access to the market and in developing a higher degree of integration with the internal energy market.

To this end, the government submitted a draft law, approved by the Council of Ministers on 9 June 2006, whose main elements were as follows:

- neutrality of access to networks will be pursued by implementing forms of corporate, organizational decision-making separation provided for in the relevant EU directives, and also where necessary, via forms of separate ownership and limits to equity investment in companies which own the national networks for transmission of electricity and transport and storage of natural gas.
- regulation will have to ensure non-discrimination of access to transportation networks and storage infrastructure, and also to the activity of measuring electricity in view of the complete opening of the market as from 1 July 2007. Moreover, in the gas sector transitory mechanisms may be introduced to protect the safety of supplies to civilian customers aimed at optimizing the use of gas stores to this end.
- in the energy distribution sector, regional aggregations between local networks and utilities will be promoted to the advantage of reducing the cost of the service, including via identification of minimum user basins and adoption of general criteria of effectiveness, efficiency and quality of service in awarding concessions through competitive mechanisms. With the complete opening of the market, the arrangement of public operators operating in the electricity sector will be rationalized and simplified.

In order to support these processes of liberalization, the production of new energy infrastructure required to help the country quickly (i.e. in the space of two or three years) out of its emergency situation with respect to the natural gas system which has been put in situations of grave crisis in recent years will be promoted and accelerated via incentive-based regulation. To facilitate agreement on the part of local communities to new energy infrastructure, it will be necessary to embark on a communication offensive with regard to the characteristics of the work to be carried out and its impact on the region, and to give the regions thus affected economic signals in terms of reduced costs of supply; incentives in this direction could reasonably be provided by appropriate structuring of gas transport and distribution tariffs.

In order to meet the country's infrastructure requirement, the following priority initiatives have been identified in the DPEF as shown in the table below.

Table 6 - Priority energy sector initiatives

Piedmont, Lombardy	380 KW electroduct Trino (VC)- Lacchiarella (MI)
Piedmont	380 KW transformation station at Asti
Friuli Venezia Giulia	Italian stretch of 380 KW Udine Ovest – Okroglo (Slovenia)
	380 KW electroduct Udine Ovest – Redipuglia
Veneto	380 KW backbone between the areas of Venice and Padua to make the 380 KW ring of Triveneto secure
	380 KW connecting RTN directives “Sandrigo (VI) – Cordignano (TV)” and “Venezia Nord – Salgareda (TV)” in order to strengthen 380 KW ring of Triveneto
	380/130 KW transformation station in province of Treviso
Emilia Romagna and Tuscany	380 KW electroduct Calenzano (FI)- Colunga (BO)
Emilia Romagna and Lombardy	380 KW electroduct La Casella (PC)- Caorso (PC)
Campania	380/220/150 KW transformation station in Area pedemontana east of Vesuvius
Campania, Apulia	380 KW electroduct Foggia – Benevento
	380 KW electroduct Montecorvino (SA) - Benevento
Calabria and Sicily	380 KW electroduct Sorgente (ME) - Rizziconi (VV)
Sicily	380 KW electroduct Chiaramonte G. (RG) – Ciminna (PA)
Sardinia	150 KW electroduct Santa Teresa (SS) Buddusò (SS)

Against this backdrop, re-gasification terminals for liquefied gas constitute infrastructure of particularly high strategic value, in that they make it possible to diversify the countries from which gas is sourced and enable new operators to gain access to the Italian market. Each new terminal meets approx. 9% of domestic demand. Accordingly it is a priority for Italy to step up international dialogue between consumer countries and bilateral relations with producer countries, as it is to develop plans for energy infrastructure corridors with the Euro-Mediterranean area and the countries of South-East Europe.

In Southern Italy the methane gas programme will be completed and upgrade of distribution pipelines facilitated. The government, in dialogue with the regional authorities, will adopt and propose to parliament new general principles and instruments to promote competition in respect of fuel distribution, with the objective of increasing efficiency and quality of service, including via new types of facility, integration with non-oil activities, growth in average volumes distributed by facilities, and overcoming entry barriers placed indirectly by sector regulations.

In order to reduce the country's dependence on non-Italian sources of energy, decisive changes will need to be made to the energy mix, by unlocking value from internal resources, promoting effective use of renewable sources according to a *filière*-type rationale, and targeting advanced technologies for coal use and sustaining forms of distributed production. Research in this sector must seek to make a contribution to the analysis and application of technologies for diversification of energy sources and high-efficiency energy generation.

Particular attention will be given to guaranteeing the safety of supplies for end-consumers and safeguarding households' purchasing power. In the liberalized sectors, public service obligations towards businesses will be defined with a view to the general economic interest, in a consistent, efficient manner. The overhaul of the social tariff will be completed according to criteria of effective economic need and state of social disadvantage; regulation will have to develop new IT instruments to the advantage of consumers, and identify in forms compatible with a market scenario, standard supply terms for both domestic clients and small businesses.

#### 4.1.6. Telecommunications market

*Digital television* - in recent years the Italian state has provided incentives for the development of digital terrestrial services through grants to aid acquisition of decoders, modernization of television sets, and transmission of public utility services (t-government) with particular reference to the all-digital areas in Sardinia and Valle d'Aosta.

In total the investment in digital terrestrial technology over the past three years has amounted to €247m, €234m of which in respect of acquiring decoders and the other €13m for experimental services in the all-digital regions.

As at end-June 2006 there was a take-up rate for digital terrestrial services of approx. 54% of licence-fee payers in Sardinia and of 68% in Valle d'Aosta. Nonetheless, the switch to digital still appears to be less than straightforward, and hence will require further investment and regulation to make the new digital technology available to the entire Italian population during the switch-over period (broadcasting currently being both via analogue and digital technologies) in order to comply with the dates set at EU level for definitive switch-off (i.e. definitive conversion to the digital system).

In order to define and co-ordinate the activities required to implement the switch-over in a technologically neutral environment, a national "Digital Italy" committee was set up in August 2006 which includes inter alia representatives from the relevant institutional bodies, the association for digital terrestrial television, private national and local television broadcasters, and cable and satellite operators.

Provision is made in the 2007 budget for a fund to be established at the Ministry of Communications in order to aid the switch to digital technologies covering the 2007-2009 period, with the following objectives:

- to provide incentives for producing quality output using digital technology;
- to provide incentives for the holder charged with coverage of the national territory to switch to digital;
- to facilitate the design, implementation and broadcast of interactive public utility services via digital television;
- to help economically or socially disadvantaged families switch to digital;
- to provide incentives to raise the population's awareness of digital technology.

Regarding the development of television towards mobile terminals, DVB-H networks are currently operational in Italy (solutions which use the digital television networks), in respect of which the broadcasting competition authority has already issued a regulation (resolution no. 266/07/CONS).

Conversely, no regulations for DMB (technology part of the digital radio transmission standard) currently exist, in respect of which experimentation is still in progress by a consortium of radio broadcasters

To improve frequency management, The Ministry of communications and the broadcasting competition authority have launched a complete overhaul of the archive of television, analogue and digital broadcasting frequencies.

*Broadband* - In application of the provisions of the eEurope 2005 document, Italy has prepared a strategic plan for the development and diffusion of broadband, by using public demand as the main engine for stimulating private demand and identifying minimum levels of service for citizens. Initiatives have also been adopted to encourage the uptake of broadband and reduce the digital divide, with grants disbursed to consumers and businesses in 2003-2005 and further loans provided for investment in broadband technology for disbursement by Infratel Italia S.p.A. This company was set up specifically to implement plans to develop broadband in the less well-off areas of the country under Article 7 of Italian Law 80/05.

Completion of the first set of implementation plans, if the funds granted by CIPE were disbursed entirely, would enable approx. 31% of the national territory and approx. 80% of Southern Italy to be covered by year-end 2007.

The provision of ADSL services is considered an absolute priority, and technical solutions and plans are being finalized at this moment for further roll-out in areas of the country which do not yet have coverage. But a further incentive to the development and take-up of broadband will come from the increasing availability of wi-fi services, including via the

elimination of geographical restrictions and issue of authorization to wi-fi operators. This form of technology provides access to the public telecommunications network for internet-type high speed applications and VoIP through use of collective frequencies (2.4 Ghz). Currently there are approx. seven million ADSL lines, and the growing use of wireless communications and wireless access platforms such as 3G, wi-fi, wi-max and satellite, will doubtless increase the development and take-up of broadband generally.

The draft Budget law submitted by the new government provides for an increase of €10m per year in 2007, 2008 and 2009 in funds to finance implementation of the programme to develop broadband services in Southern Italy operated by the Italian Ministry of Communications through Infratel Italia.

#### 4.1.7. Initiatives for small- and medium-size businesses

Under the 2005 Budget Law (Italian Law 311/04) and Italian Law 80/05, a series of instruments aimed at SMEs have been activated:

##### *Tax relief*

- savings on Italian regional production tax as a result of higher deductions.
- prizes for concentration, which are granted to micro-businesses and SMEs which take part in business concentrations.
- deductions to increase the employment base (for all individuals, not just SMEs).

##### *eGovernance incentives*

- The eGovernance services for corporates portal is an instrument which aims at simplifying administrative relations between businesses and public administration. Its objective is to provide 20 services on line, including registrations, changes and de-registrations, opening of new local branches, regularizing social security and insurance contributions, registering new staff, etc., and setting up a technological communications platform for integrated management of administrative requirements for businesses.
- Improving the level and quality of services which the local public administration provides via innovative solutions. A group of 134 projects put forward by the regions and local entities have been co-financed.
- The “electronic tax return” system enables businesses to access the database operated by the income tax authorities *inter alia* for purposes connected with filing their tax returns. The “tax drawer” is a web space where citizens can access their tax records, ask questions, obtain information regarding declarations that have been presented, or on direct tax rebates, payments made or asset data, or can check the tax identification code, general data and residence, or find out the name, VAT number, residence for tax purposes, registered office and business description of individual firms. Set up in December 2002, the “tax drawer” has been a major success, with approx. 1 million hits in 2005 and more than a million hits in the first eight months of 2006.
- Patent deeds may be deposited electronically under the terms of an agreement between the Italian Ministry of Economic Development, UIBM and Unioncamere.

#### 4.1.8. Tourism systems

Development of the tourism industry, including via the strengthening of regional policies, will improve the competitiveness of Italy.

Demand will be the main guiding principle of policy, both in terms of consumer motivation and behaviour, and in terms of the quality and composition of the hospitality system. Policies will in turn have to reflect the guidance established at EU level on sustainable development



of tourism. Increasing the competitiveness of the Italian tourism industry will therefore also depend on the level of attention that is paid to market trends.

The main areas that have been identified are as follows:

- strengthening the system of selling tourism products and promoting national tourism;
- raising the overall quality standard offered by tourist destinations;
- more select action;
- encouraging aggregation between small and medium-size companies up and down the *filière*;
- promoting inter-regional co-operation.

These priorities must filter down to the local level while paying the utmost attention to the overall quality of the regional system and services. Common positions are recorded in particular with reference to the importance to be attributed to environmental and social sustainability in developing Italian tourism, and to the opportunities provided by the significant presence in many areas of the country of cultural and natural resources (the latter to be chiefly albeit not exclusively understood in the sense of natural protected areas) to create/strengthen the supply of innovative tourist solutions on the market. In defining strategies to re-launch the competitiveness of the national tourism industry, certain segments of tourist demand in specific regions (rural areas, mountainous regions - both the Alps and the Apennines - coastal, river and lake systems) should not be neglected while a selective approach to the work carried out should be adopted.

#### 4.1.9. Law and order measures

Specific initiatives have been and are being implemented as part of the National Operational Plan for law and order, with additional measures to promote legality in boroughs vulnerable to the mafia, plan structured logistical and infrastructural action with respect to the police force, and bolster the police's capability to safeguard the legality of public tenders and of a law-abiding economy. Technological upgrade of the security system for measures to improve the effectiveness of local administrations forms part of this policy, as does the creation of a system for monitoring the awarding of public tenders in order to combat criminal infiltration, in view of the fact that a lack of transparency in operating terms is perceived as a factor encouraging the persistence of illegality.

Developing the foundations laid in the late 1990s, the field of law and order has been through a process of permanent implementation in the past five years, geared towards protection and investments, especially through general strengthening of technological systems throughout the country.

Some of the measures worth mentioning in this connection are:

- digitalization of the network of police communications, and interconnection of the different operations rooms;
- video-surveillance in areas at risk in urban centres, particularly the historical centres of cities, access areas to industrial estates, and railway networks and the main railway stations. Similar measures are also being implemented for roads outside city centres and football stadiums;
- completion of the video-surveillance system on the Salerno-Reggio Calabria motorway, for intelligent monitoring of service stations and access roads, plus the launch of similar technological measures on the main trunk roads;
- environmental monitoring to bolster prevention capabilities and the fight against crime in the waste and dangerous substances treatment sectors, unlawful construction, and damage to the country's ecological and archeological heritage;

- development of non-invasive methods for controlling containers and lorries;
- improving the technology to connect the police force with the judiciary.

Such technological measures are aimed at strategies for free exercise of business activities and support for free trade, by reducing the response times by the police, reducing the number of thefts at stations and ports and on motorways, effective controls at industrial and commercial areas, immediate certainty of personal identity in the case of persons charged or arrested, and complete overhead mapping of the regional territories.

## 4.2. *Research and technological innovation*

### 4.2.1. Scientific research

Research and innovation, along with human capital, constitute the foundations of a knowledge-based society and the basis for advancing the technological frontier, increasing productivity and improving competitive positioning.

The production structure of Italy is based on a majority of SMEs. Sectors such as textiles, clothing, footwear, wooden/furniture/household goods, light mechanical engineering and agricultural/industrial see a prevalence of small, often family-run companies, which are vulnerable to both global price competition and unfair competition, such as counterfeiting of “made in Italy” products. It is these two sources of vulnerability that research and innovation policies must address, while bearing in mind on the one hand the sectorial characters of production and business demographics, and on the other the need to direct the production of goods and services towards higher value-added sectors.

If for Italy competitiveness is based more on the quality of products than on their price, the ability to stimulate research and innovation and initiate effective transfer of technology mechanisms directed towards SMEs in particular will be crucial.

SMEs represent the vast majority of Italian businesses: hence it is necessary to encourage the flow of information and knowledge from universities and research institutes towards such businesses. It is also necessary to take into account the specific requirements of each sector and the actual demand for innovation, including process innovation, coming from the market and which can be met *inter alia* by intermediate goods with high technology content.

It should be emphasized that the existence of a productive structure based on SMEs makes statistical records of spending by businesses on research very hard to compile, and in particular creates significant potential for under-representation. Companies are sometimes reluctant to take part in statistical surveys, also to avoid adding further bureaucracy to their workloads.

In view of these issues, the tables contained in this section illustrate spending on research by institutional sectors estimated until 2006. Statistics and estimates for research funded by companies and non-profit institutions until 2006 are also provided.

Adopting a goal of research spending amounting to 2.5% of GDP by 2010, two-thirds of which funded by the private sector, is very ambitious. Such an objective may be successfully pursued only if policies are adopted that are able to create a structural discontinuity in the growth trend for Italian research spending. Incentives to stimulate private spending on research must be immediate in nature so as to provide a catalyst, but at the same time also have to provide strategic direction which takes into account the peculiar features of the Italian productive system. They must also be compatible with EU guidance on state aid for research and innovation, and take into account the constraints on public spending.

At an institutional level, the government has given a clear signal with the establishment of the Ministry for University and Research (MUR), which has responsibilities for co-ordination, direction and planning. With these responsibilities, the new Ministry intends to implement improved policies for integrating research at every level, i.e. European, national, regional and local.

Table 7 - R&D internal spending by institutional sector - 2004 actual data and 2005-2006 estimates (€'000)

INSTITUTIONAL SECTORS	2001	2002	2003	2004	2005 (a)	2006 (a)
A1. BUSINESS (BERD)	6,660,900	7,056,502	6,979,177	7,292,850	7,806,427	8,101,183
A2. PUBLIC INSTITUTIONS (GOVERD)	2,493,293	2,565,321	2,582,142	2,721,631	2,738,329	2,868,844
A4. NON-PROFIT PRIVATE INSTITUTIONS (PNP)	-	186,398	207,817	232,706	281,988	303,958
<b>TOTAL EXCLUDING UNIVERSITIES</b>	<b>9,154,193</b>	<b>9,808,221</b>	<b>9,769,136</b>	<b>10,247,187</b>	<b>10,826,744</b>	<b>11,273,985</b>
A3. UNIVERSITIES (HERD)	4,418,275	4,791,712	4,999,720	5,004,511	5,035,215	5,275,205
<b>TOTAL (GERD)</b>	<b>13,572,468</b>	<b>14,599,933</b>	<b>14,768,856</b>	<b>15,251,698</b>	<b>15,861,959</b>	<b>16,549,190</b>
<b>GERD/GDP (b)</b>	<b>1.09%</b>	<b>1.13%</b>	<b>1.11%</b>	<b>1.10%</b>	<b>1.12%</b>	<b>1.13%</b>

Source: ISTAT and government estimates.

(a) ISTAT estimates of data provided by companies, public institutions and non-profit-making institutions. Spending by universities in 2005 and 2006: Government estimates based on GOVERD.

(b) Government estimates for 2005 and 2006, based on a real product growth rate of 1.6% and a GDP deflator of 2% for 2006.

Table 8 - Research spending funded by Italian and non-Italian businesses and non-profit making institutions (€'000)

	2001	2002	2003	2004	2005 (a)	2006 (a)
<b>TOTAL SPENDING (GERD)</b>	<b>13,572,468</b>	<b>14,599,933</b>	<b>14,768,856</b>	<b>15,251,698</b>	<b>15,861,959</b>	<b>16,549,190</b>
of which: funded by Italian and non-Italian companies and non-profit-making institutions	5,986,842	6,607,424	6,379,377	6,785,881	7,296,651	7,583,481
- as percentage of total	44.1%	45.3%	43.2%	44.5%	46.0%	45.8%

(a) 2005 and 2006: for companies, data estimated based on rates of growth in total company spending. Figures do not include funds provided by business to universities because not recorded.

Source: ISTAT and government estimates.

Implementation of the NRP has focused on the ten points contained in the plan itself and on the new initiatives that have been proposed by the MUR and enacted by the government via the 2007 budget law currently being debated by the Parliament. These initiatives are aimed at creating value from the three elements on which knowledge is based: university training, research and innovation.

#### Existing instruments

The twelve strategic research programmes to re-launch Italian industry were designed as an integrated unit of basic research action, industrial research, pre-competitive development and training of outstanding quality human capital. They include initiatives that are intended to stimulate co-operation between the business world and the research system, with the objective of providing incentives to the national heritage of outstanding technologies.

Businesses, universities, public research entities and other public or private bodies operating in research and innovation have been invited to submit joint projects to be financed via the subsidized credit mechanism. Funds of €1.1bn are available. At the deadline on 30 September 2005 a total of 744 applications had been received worth a total of over €10bn. A breakdown is provided in the table below, with the proviso that the total value of spending on private research in 2005 in Italy amounted to an estimated approx. €8bn. The stimulus effect has accordingly been most significant.

Another extremely significant fact is the level of involvement of SMEs. As may be observed in the following table, SMEs occupy second position in terms of quantity and value of project ideas submitted, bearing out their capabilities in attracting strategic research.

An assessment commission charged with selecting the best project ideas established that applications with a minimum score of 85 points out of 100 was selected for the second stage. After completion of the initial assessment, 196 project ideas worth a total of €3,104m had achieved the minimum score.

*Table 9 – twelve strategic research programmes – first stage of evaluation*

Programme	Project ideas	Value (€)
Human health (study and treatment of tumours and degenerative diseases using new approaches deriving from knowledge of the human genome)	42	536
Re-launch of pharmaceutical industry including through fine chemistry of natural compounds for new diagnostic applications and new active principles	48	653
New applications in bio-medical industry	86	1,074
Advanced manufacturing systems with impact not just on tool machinery industry but “made in Italy” manufacturing segments, such as textiles, clothing and mechanical instruments	55	743
Upgrade and development of the motor industry, including the two-wheel segment with low fuel consumption and low environmental impact motors	23	383
Ship-building, aeronautics and helicopters with high penetration capabilities on non-Italian markets	39	601
Advanced materials (especially ceramics for structural applications)	40	566
Innovative broadband-based telecommunications systems, including via satellite, for a variety of applications in security, prevention and intervention in the event of natural disasters	46	694
Exploiting typical food and agricultural and food safety products via new identification and quality guarantee systems	104	1,355
Advanced transport and logistics, info-mobility of persons and freight	76	1,139
ICT and electronic components	98	1,431
Energy saving and micro-generation	87	1,238
Total	744	4182,237

Source: Ministry of University and Research

*Table 10 - Distribution\* of project ideas by category of applicant*

Entity	No. of project ideas	Value (€m)
SMEs	593	3,509
Large businesses	519	4,116
Public research entities	414	964
Universities	669	1,826

\*no. and value of project ideas in which each type of entity is involved.  
Source: Ministry of University and Research

In March 2006, applicants with scores of 100 and 90 were invited to submit executive projects; there were 138 such ideas with a total cost of €2,250m. At the 31 March 2006 deadline, 140 basic research and 130 industrial research executive projects had been submitted, which are currently at the appraisal stage to be completed by year-end 2006. The 58 project ideas with a score of 85 which have a total cost of €853m will shortly be invited to submit their executive projects.

*Technological districts* aim at encouraging co-operation between large, small and medium-size businesses on innovative projects, promoting growth by outstanding companies, and facilitating the development of small and medium-size enterprises towards creating a high value-added system. Because of the importance of this project, further details are contained in the section on best practice.

*Public-private laboratories* - Public-private partnerships in research provide a stable co-operation structure between the two sectors in areas where there are complementary interests. They may, based on the model already in operation for the aeronautical industries, reduce the gap in terms of interaction between industry and public research, and increase the effectiveness of policies aimed at supporting the process of innovation at the stage of pre-competitive research.

In this connection, the term “laboratory” is defined as a concentration on strategic sectors of scientific and technological competencies with high innovative potential, that are

distinguished by the organic nature of the co-operation between large-scale industrial enterprises, niche technology SMEs and public research.

The goal is to consolidate, integrate and create value from investments in research and development already carried out through the various public funds. Successful initiatives and structures are emerging and being selected using international assessment criteria, displaying a remarkable degree of convergence of public and private interests .

The research topics identified in the notice of competition for Central and Northern Italy are: nano- and micro-technologies applied to post-genomics, advanced diagnostic systems, bio-informatics, structural biology, membrane receptors, advanced genomic diagnostics for animals and plants, anti-infection agents, the bases of neurological illnesses, the development of innovative technologies for genetic mapping in the cardiopathic sector and for the study of antibiotics and resistance to bacterial substances. For Southern Italy, twelve research topics have been identified: advanced medical diagnostics, thermal, high-temperature solar energy, advanced production systems, e-business platforms enabling innovative applications in the agro-food sectors, tourism, cultural heritage and development of new products, biotechnology platforms for identifying new anti-infective drugs, genomics applied to the improvement and certification of vegetable species (tomatoes, durum wheat and vines) of major specific economic relevance, polymer-based substances of interest for electronics with respect to development of new chips and in particular gallium nitrate wafers which are not affected by electro-magnetic impulses, bio-informatics applied to genomics, new materials and planning methods for the railway sector and for medium-size carriers, assessment of the effectiveness of drugs on animals and humans, open source in software, acquisition and analysis of data required for a detailed knowledge of the earth's crust with a view to mitigating seismic risk and unlocking value from subterranean fluids.

A total of €344m has been set aside for this purpose, €104m for Central and Northern Italy and €240m for Southern Italy. The projects are expected to run for thirty-six months.

In Central/Northern Italy a total of 21 projects have been funded out of over 100 applications. These have absorbed a total of €97.2m in funding, over €20m of which in respect of three-year contracts with young researchers. All the said projects currently appear to be on course, with finance disbursed to date amounting to approx. 30% of the total pledged. For the first eleven research projects in Southern Italy a total of 59 applications were received, 26 of which have been selected for further consideration (which is now nearing completion), involving total funding amounting to €249.5m,. For the twelfth topic two projects have been submitted for a total cost of €48.6m, which are currently being reformulated.

*The Industrial Liaison Office (ILO) project* enables structures to be set up and strengthened in order to promote greater interaction between universities and the productive system, and to develop an active presence on the part of the universities in these structures and in activities of technological transfer. A total of 18 projects have been submitted, 12 of which have been successful, the total cost of which as indicated by the 42 universities involved is €11.6m. The ministerial co-financing applicable in these instances amounts to €5.8m, €1m of which has already been disbursed.

*International research programme agreements* improve the competitiveness of the public research system. In conjunction with the United States, Israel and Japan a total of 56 projects have been approved, the majority of which have already been launched. Other scientific co-operation agreements with Mediterranean countries (Morocco, Tunisia, Palestine and Turkey) are currently being finalized. Commitments already entered into amount to approx. €26.6m, €6.5m of which have already been disbursed. Co-operation agreements with Egypt, Jordan and India are in the process of being definitively approved, for a total commitment of €4.6m. Other projects with Canada, the United Kingdom and India are currently being appraised.

*The scientific degrees project* seeks to encourage young people to start enrolling again for scientific degrees via measures that aim to stimulate their interest in this kind of subject, to provide more adequate preparation in basic science subjects at the upper middle school level, and increase the interaction between university and business in order to facilitate young people's entry to the work place. Projects for teacher guidance and training are currently underway, and involve funding of €2m. In July 2006, notices of competition were published for 120 grants for enrolling for degree courses in chemistry, physics and mathematics. Other activities reserved more specifically more students are also underway, such as laboratories, work placements and workshops, for which €6.17m has been set aside.

*The Italian Institute of Technology (IIT)* is a new centre of excellence that has been set up together with the Italian Ministry for Economics and Finance to train new researchers and develop research projects in the sector of humanoid technologies and the interface between robotics, neurosciences and nano-biotechnology. The IIT has received €181m in funding for the 2004-2006 period, during which the scientific programme has been presented, a new campus established, directors of research recruited, the doctorate programme at the University of Genoa launched and strengthened, and five multi-disciplinary networks set up.

*Implementation networks for the technological platforms set up under Italian initiative* represent an attempt at promoting synergies between the public-private laboratories mentioned above. A total of €43m has been set aside in respect of such initiatives. The procedure for approval of laboratory networks in the sectors of bio-informatics, protection and defence of the national territory from natural risks, tissue and chemical-pharmaceutical engineering is now nearing completion, while for nano-sciences the procedure is still at the assessment stage.

*The National Aerospace Plan (PASN)* for the 2006-2008 three-year period is intended to strengthen Italy's presence in space and give priority to investments in sectors of excellence (e.g. observation of the earth and the universe, transport systems etc.) and maintain the level of investment necessary to develop innovative uses in already mature segments (i.e. telecommunications, satellite navigation, medicine and bio-technologies, human life in space). With reference to the PASN 2006-2008 financial framework, of the €2.85bn available for the three-year period, €2.49bn have been earmarked for activities planned by the Italian Space Agency itself and the other €364m for working expenses.

*Action to support SMEs*, with particular reference to tax credit. Provision has been made for specific subsidies to be available to SMEs which recruit research staff, commission research contracts with universities and/or public research entities or fund grants for students to complete PhD courses. Based on funds available annually for this purpose, i.e. €50m, 2,475 applications have so far been financed for a total commitment of €257m.

*Five-thousandths of the income tax for research.* The 2006 budget law (Italian Law 266/05) stipulates that, on a preliminary and experimental basis for the 2006 financial year, a citizen may choose to earmark five-thousandths of his or her income tax to support organizations operating in the field of scientific research, university and/or voluntary work. An initial estimate of the tax yield deriving from this measure is €70m for 2006, €70m for 2007, and €130m for 2008.

With respect to the vast multi-disciplinary impact (aerodynamic, electronic, professional, new non-metallic materials, fine mechanics, new metal alloys) and the effects on SMEs taking part at the first level of sub-contracting, the following initiatives should be pointed out:

- the FREMM European pilot programme for patrolling the seas, the financing for which has been arranged in fifteen-year tranches of €30m in 2006, another €30m as from 2007 and a further €75m per year as from 2008;
- innovative production technologies and continuous engineering activities for the lots of the Eurofighter programme, the financing for which has been arranged in fifteen-year contributions of €50m as from 2006.

In the healthcare sector, co-operation is being strengthened between industry, university and research centres, with particular attention being given to leveraging on research and technology transfer. The regional authorities co-ordinate and share scientific and technological knowledge acquired through healthcare structures (centres of excellence and assistance/care units) with the other research centres, i.e. universities and other public and private centres. The government's three main lines of action are: leveraging on the activity of research carried out in connection with the science of health; the creation of paths aimed at identifying research products and their transfer; and development of social/healthcare initiatives.

– *New instruments*

The 2007 draft budget law makes provision for new funds and incentives for the activity of research and innovation.

*Tax credits.* A new tax credit of ten per cent of the cost incurred in respect of industrial research activity and pre-competitive development has been introduced up to a maximum of €15m. This rises to fifteen per cent if the costs are in connection with contracts entered into with universities and public research entities, in order to promote closer networking between the business and science communities. Funds of €300m per year have been set aside for a period of three years.

*Establishment of a national council for university and research assessment (ANVUR).* With funding of €5m, this council will have the task of assessing the results of teaching and research carried out at Italian universities, public entities and private entities in receipt of public funds, in accordance with principles of impartiality and independence. The results of such assessment activity shall form the basis for allocation of state funding in the future.

*Fund for investment in scientific and technological research (FIRST),* which brings together the three existing funds operated by the MUR (PRIN, FAR and FIRB) and the resources of the Fund for Under-utilized Areas (FAS) attributable to the Ministry itself which in the aggregate amount to a total of €200m. FIRST will also receive additional funds, which will bring it up to €500m for 2007 and 2008, and €560m for 2009, plus additional resources from the CIPE.

*Recruiting research staff.* In 2008-2009, research bodies will be able to take on research staff up to a limit of 80% of their budget of total current income. From 2007 onwards, staff employed on a contract basis may be stabilized within a limit of 40% of turnover. In the next three years, at universities and research bodies 100% of the staff turnover rate versus the previous year may be taken on without qualification limits. In addition, provision has been made for an extraordinary three-year plan for taking on research staff, estimated at 2,000 persons, with funding of €20m for 2007, €40m for 2008 and €80m for 2009. Public competitions will be launched by March 2007.

*Further measures for the university sector.* Tax credits are also provided for rent for university students who do not live at home and for university teaching staff to acquire PCs. A further €157m has been provided to finance grants, €147m for funding building work at universities and university residences, and €20m for the *Accademie di Belle Arti* and Conservatories.

4.2.2. The *Industria 2015* programme

The industrial innovation projects provided for in the *Industry 2015* draft law presented in September 2006 aim at co-ordinating the activities of large-scale public and private enterprises, industrial and technological districts and the world of research and innovation.

The programme's objective is to encourage the creation of partnerships between universities, research centres, private enterprises and financial capitals, of national and international scope, in order to implement medium/long-term industrial initiatives able to make industry more competitive.

Priority areas on which action will be concentrated will be identified based on a variety of issues, including:

- interest in promoting the emergence of products and technological solutions able to meet the needs of citizens;
- consistency with objectives set in the Italian NRP for the Lisbon Strategy, in the VI and VII framework programme for research and development, and in sector-specific technology platforms;
- capability on the part of the public system to direct demand for goods and services towards consumption paths compatible with growth objectives ;
- convenience for the Italian productive system to master emerging technologies which are likely to have a major impact on the production system as a whole;
- convenience to concentrate on industrial sectors that can play a crucial role in accumulating knowledge;
- possibility of defining models which take account of relocation processes, in agreement with regional administrations responsible for local development policies;
- exploiting possible globalization processes for groups of companies, through implementing integrated projects with non-Italian partners.

By way of example, some areas of interest are: health and wellness, sustainable mobility, energy efficiency, the environment, new consumer goods (technical textiles, domotics, new construction materials) and information technology. For these areas it appears possible to connect increasing public and private demand for innovation with the possibility of developing new services, leveraging on the results of the most advanced scientific research, and re-launching excellence in manufacturing industry.

Financing for these projects must be ensured by private entities' funds and funds from national public sources, while for high-tech, high-risk projects, it should come from national and EU public partnership. With respect to the public, national component of the financing, projects shall be distinguished by integration between the different instruments available to the central and local administrations:

- financial support to companies, both in the form of tax credit and instruments compatible with the models provided for under the EU subsidies regime;
- implementing infrastructure functional to achieving the objectives of the individual projects;
- developing training, basic research and technology transfer activities;
- qualifying public and private demand via incentive mechanisms.

In order to bring the system for providing subsidies to corporates in line with the new objectives in respect of public intervention, the incentive structure will be drastically simplified, as provided in the 2006-2008 NRP, through division in accordance with the EU classifications of aid to companies. This will involve transition from a model of supporting companies through laws providing for incentives, to a model based on homogeneous project areas.

Industrial innovation projects must also feature flexible management methods to ensure a balanced convergence between a top-down model able to co-ordinate the activities of the different ministries involved and concentrate resources in specific technological/productive areas, and a bottom-up approach involving the main players in the Italian productive system (e.g. large-scale enterprise, and industrial and technological districts) that can take account of demand for innovation from consumers.



#### 4.2.3. Technological innovation and reform of public administration

The new government has brought together under the head of a single ministry the responsibilities for managing public functions, modernization of the public administration and technological innovation. With this decision, the government intends to re-launch and strengthen technological growth and innovation in both the public and private sectors.

In the public sector, the objective of improving the quality of services and reducing administrative costs via more extensive usage information and communication technologies. In the private sector, the objective is to create an environment which is favourable to investment, growth and competitiveness by reducing the digital divide between citizens and regions and developing policies that cover the entire innovation *filière*, from basic research to application on the market.

Against this backdrop four priorities have been established:

- modernizing the public administration, with particular attention to services for citizens and corporates (e-government);
- implementing projects featuring significant innovation and impact in areas such as schools, healthcare, tourism, info-mobility and electronic recognition;
- facilitating technological innovation in the production system, with particular attention to SMEs;
- reducing the digital divide.

In view of these priorities, the measures included in the NRP for the 2006-2008 three-year period have been re-examined in order to assess the degree of progress made in their implementation, and evaluate the necessary correctional and/or additional measures to be taken.

As far as the Department for Public Administration (Funzione Pubblica) is concerned, out of 11 measures provided for in the NRP, a total of six measures consisting of introduction of regulations or administrative measures have been implemented in full. Two measures (*Simpliciter*: simplifying relations between state, regional and local authorities; research on methodologies for measuring administrative charges facing businesses) are currently being completed and a further two (training and technical assistance for regional and local authorities in Southern Italy; reform of the system for staff training in public employment) show levels of progress in line with estimates. Only one measure – the *humane governance* project – has not yet been launched, and the possibility of reprogramming the project in its entirety is currently being looked at.

For the Department for Innovation and Technology, out of 37 measures included in the NRP, thirty show progress in line with the original predictions. Of the other seven measures, three (venture capital and raising capital for innovative new companies; themed competitions to promote innovation by SMEs; and instruments for promoting transfer of technology) have been merged into others. The other four (Platform for info-mobility integration, Disclosure of public databases, Streamlined government and National infrastructure for data access and exchange between regions) are still at the planning stage as either funding has not been secured or the measures themselves have not yet been launched. The regional component to these four measures has, however, been included in 2007-2013 structural funds planning proposal, and may accordingly be financed from such funds.

To make the Department's action more effective, the 37 measures have been streamlined and combined to enable a new programme to be developed featuring a total of 11 measures:

1. eGovernment – improving the efficiency of the public administration
2. eGovernment – high-impact initiatives
3. ePlatform for tourism

4. ICT and digital content for schools
5. ICT @ University
6. eHealth – national health platform
7. info-mobility platform
8. action to facilitate process and product innovation by SMEs
9. regional plans to strengthen the competitiveness of local industry
10. more widespread use of ICT
11. improving access to education and training.

For the future, modernization of the public administration is targeting several key elements. These include: development of broadband applications; simplifying administration and developing one-stop shops, electronic management of public registers and flows of documents with legal validity, dematerialization of documents via digital signatures and certified post, accessibility of websites and simpler institutional communication.

In order to stimulate the economic system to be more competitive, the government's action shall be directed towards reducing the digital divide and removing cultural and social obstacles which produce resistance to change and reduce potential for innovation. Implementation of new technologies within the business system will be supported, increasing the inter-connection between traditional and high-tech sectors of production and with the public research system.

#### 4.2.4. Cultural heritage and technological innovation

*Conservation and promotion of cultural heritage* – the importance of which scarcely needs to be underlined as far as Italy is concerned – is also part of the overall strategy for innovation, growth and employment.

Action involving cultural resources using innovative methods and technologies can be strategic for purposes of: integrating and spreading knowledge; preservation and sustainable use and exploitation of the country's cultural resources; growth of businesses linked to creative industries.

Conservation and protection of cultural assets require and determine development of innovative, experimental technologies in respect of:

- specialist and applied research into the nature and quantity of the nation's heritage, the state of preservation of individual assets and the environmental situations in which they are located (catalogues, regional IT systems, risk maps);
- complex intervention to preserve or develop cultural assets;
- carrying out restoration and preservation work on assets, which has its most wide-ranging applications in the construction and systems sectors and/or other sectors linked to them.

The “Finalized cultural assets project” carried out by the CNR in 1996-2001 recorded around 12,000 companies engaged in this sector in Italy.

Use of innovative technologies can lead to applications which have a significant impact in economic terms on the region concerned, deriving from direct use of heritage *inter alia* in relation to functions connected with, for example, the running of museums, archeological sites or other sites open to the public, teaching workshops, or development of cultural services and activities within cultural sites in order to provide support services to management.

Production and distribution of artistic and cultural events also activate complex organizational mechanisms, which often require technologically advanced means and instruments that are perfected and developed in productive and/or service sectors, both within and outside the *filière* of economic activity for the sector concerned.

In relation to use of cultural resources for tourist purposes, the use of innovative technologies can support and improve the product offerings of hospitality structures, companies engaged in some way in the tourism system (e.g. transport, recreational and/or cultural services), and services in respect of cultural tourism on a regionalized basis.

The technological impact of activity in this area will therefore lead to growth in sectors other than those most closely linked to the maintenance of the specific cultural assets. Also worthy of notice in this regard is the co-operation thus established between private sector, research centres and university system, plus the effective convergence between the different levels of government implied in improving the state of Italy's cultural resources. Less obvious, but no less important for this reason, is the role of education and non-university training in promoting integration, social growth and changes in the lifestyle of Italian citizens.

The ICT Culture programme is based on the themes of e-government, information-based society, quality of service, efficiency of administration and management of the nation's cultural resources, and, conversely, awareness of the strategic role this sector plays in developing the information-based society which is particular to the sector.

Two areas of action are envisaged:

- administrative/technological innovation, with a view to obtaining improved managerial efficiency, in accordance with the strategic lines and objectives of e-government;
- innovation in the processes of disseminating knowledge of and exploiting resources, through digitalization and publication on the internet.

Recent experiences in instances of international co-operation have demonstrated the leading role that Italy has to play in this sector.

With the Lund 2001 action plan aimed at co-ordinating digitalization projects and programmes, the Minerva project was launched using European Commission funding under the IST (Information Society Technologies) and fifth RS&T framework programmes. The project spawned a network of European ministries of culture, co-ordinated by the Italian Ministry of Cultural Heritage and Activities ("Ministero per i Beni e le attività Culturali", or "MiBAC"), the objective of which was to harmonize scientific and cultural heritage digitalization activities.

Among the results produced by the Minerva project, two significant new co-operation programmes should be mentioned:

- Minerva Plus, which opens the network to countries newly accessed to the European Union, including Russia and Israel
- Michael, which developed from the work carried out by groups of Minerva experts and which has the objective of creating a trans-European portal to publish the findings of digitalized cultural funds in France, Italy and the United Kingdom via the internet, with facilitated, multilingual access, with a view subsequently to extending participation also to other interested countries.

In the digitalized cultural heritage sector, a project to develop a Culture portal is now underway, which aims to make available via the internet cultural resources forming part of the digitalized information heritage belonging not just to the Ministry, but those belonging to regional and local authorities, universities and cultural institutions taking part in the project.

Nearing completion, meanwhile, is Project Archeomar to record archeological findings in the regions of Campania, Calabria, Apulia and Basilicata, through use of advanced survey, representation and data management technologies. Project Cuspis is an innovative project impacting significantly on protection knowledge management, which aims to identify applications for Galileo technology to the cultural heritage sector. The Risk map IT system is being implemented to manage the security of the nation's cultural heritage, and provide

decision-making support in planning restoration work, much like the Archeological heritage programme which seeks to develop agile, flexible information instruments with a view to implementing cultural protection. Lastly, the Sound-data-image multi-function network is now being completed to link all administrative structures and places where cultural services headed up by the Ministry are provided.

#### 4.3. *Tangible and intangible infrastructures*

##### 4.3.1. Transport infrastructures and services – strategic and financial framework

The NRP submitted last year devoted a great deal of attention to the question of transport infrastructure. Of the various annexes, attention should be drawn in this connection to the strategic sector policy document, both on the level of tangible infrastructure and logistical/inter-modal services, and on that of technologies for managing traffic on the different modal transport networks.

The objectives pursued are, on the one hand, improving the quality of logistics services in order to make business more competitive, and on the other upgrading the existing network in order to meet the need to develop commercial interchange and integrate the Italian network into the transport system of Europe as a whole. For these reasons, particular emphasis has been placed on the corridor projects for the TEN-T networks, without, however, neglecting the need to modernize and supplement the existing transport networks in Southern Italy, and on the effects that the disparity in terms of infrastructure provision in such regions has on total factor productivity and on the productivity of labour in particular.

Implementation of the priority projects belonging to the TEN-T networks shall involve:

- at sector level, contribution to completing and extending the domestic market, via projects to develop inter-connection and inter-operability between different infrastructures, and adoption of innovative technologies to improve safety in managing traffic on the networks;
- at a horizontal level, development of technological research, innovation and growth that is consistent with the infrastructure: innovative technologies used in development of high-speed rail links, the Galileo satellite programme and new means of transport are just a few examples;
- impact on employment at the stage both of constructing and operating the works, i.e. with respect to the latter, in production of person/freight transport services linked to development of the major high-speed rail link projects and inter-modal logistics in respect of the so-called “highways of the sea” project.

#### *Developments compared to NRP and funding*

Action in respect of European Priority Projects (PPs) 1 (Berlin-Palermo) and 6 (Lisbon-Kiev) are confirmed. With respect to PP 24, i.e. the Lyons-Genoa-Basle-Duisburg-Rotterdam-Antwerp axis, it should be noted that the Genoa-Milan-Novara-Swiss border stretch is unlikely to be completed within the timeframe stipulated under EU ruling 884/2004/EC, i.e. 2013. This project has been however included in the assessment grid for information purposes.

The following projects have a particular strategic value at inter-regional level both insofar as regards Southern and Northern Italy, and their implementation shall impact positively on the nation’s regional redistribution and cohesion:

- Salerno-Reggio Calabria motorway;
- A1 motorway – new Sasso Marconi-Barberino pass;
- A4 Turin-Trieste motorway;

- expansion of Mestre ring-road and related works.

It should be emphasized that the railways also receive priority treatment: this is seen even in the allocation of structural funds, given that under the 2000-2006 National Operating Plan (PON) has confirmed a 60:40 rail-road division, as required by the European Commission.

These projects together include virtually all the networks of trans-European interest which pass through Italian national territory. In the strategic programming deeds for 2007-2013 (national strategic framework and infrastructure annex attached to the DPEF), these axes form the basis of the accessibility system for the entire country.

*Table 9 - List of territorial platforms*

Strategic trans-national territorial platforms	PT1 Corridor V – West PT2 Two-seas corridor PT3 Ti-Bre axis PT4 Corridor V – East PT5 South-east platform PT6 Tyrrhenian-Ionian platform
Strategic national territorial platforms	PN1 Arno axis PN2 Romagna platform PN3 Lazio-Umbria-Marche transversal axis PN4 Naples-Bari transversal axis
Strategic inter-regional territorial platforms	PI1 Central Apennines PI2 Lazio-Abruzzo transversal axis PI3 Basentana main road PI4 Western Sicily PI5 Southern Sicily PI6 Northern Sardinia

Source: 2007-2011 DPEF – Infrastructure annex

Seen in this light, Corridor V (rail and road), Corridor I (rail), and, to a lesser extent Corridor VIII, represent the backbone supporting a network of national level connections which in turn underpins those portions of the national territory that have been designated “territorial platforms”.

Structured on three levels (trans-national, national and inter-regional), the territorial platforms (see table) are defined as those parts of the national territory in which investment will have to be made in order to leverage as fully as possible on the resources and potential already in existence.

With respect to provision of funding for the projects included in this Report, reference is made to the Infrastructure annex attached to the 2007-2011 DPEF.

The updated financial framework currently reflects a total of €173.4bn in investment, €58.4bn of which has been set aside. In order to carry out all the work envisaged, a further €115bn is therefore required. In view of this shortfall, a number of strategic directions have been identified in the DPEF:

- selectivity, according to a rationale of efficient allocation;
- reduction in delays in implementing infrastructure, whether economic, social or organizational, that affect several areas of Italy in particular;
- assessing contribution to territorial development, taking into account the entire European territory and action agreed between the various member states;
- increasing the capacity of transport and logistics, in particular by strengthening the great strategic routes, both railway and shipping, and the relevant points of modal transfer.

Completion of the infrastructure work provided for in the NRP is scheduled for 2010. It has therefore been deemed useful in this Report to limit the financial indications provided to those sub-projects scheduled for completion by 2008.

#### 4.3.2. State of progress on TEN-T projects

Italy intends to step up the implementation of Priority Projects of its interest identified in the European master plan. The Italian PPs listed below form part of the TEN-T networks master plan approved under ruling 884/2004/CE, and are also contained in the 2007-2011 DPEF. Further details on implementation of the main projects are contained in the Annex to this Report.

- Berlin – Verona – Bologna – Milan – Rome – Naples – Reggio Calabria – Palermo axis (Corridor I) (PP1). For projects relating to this stretch of motorway a total of €15.6bn has been set aside until 2008.
- Lisbon – Lyon – Turin – Milan – Trieste – Liubliana - Budapest axis towards Kiev (Corridor V) (PP6). For projects relating to this stretch of motorway a total of €8.9bn has been set aside until 2008.
- The “highways of the sea” (PP21).
- Genoa – Rotterdam axis (PP24).

In terms of financing, some sections of these projects are financed with TEN-T funds earmarked for the 2001-2006 multi-annual indicative plan (MIP).

In December 2005, at the request of the European Commission, planning began for the next 2007-2013 MIP, which as far as Italy is concerned sees the indications for all the projects mentioned above confirmed. Their implementation depends to a large degree on TEN-T funding being secured to the degree for which the applications were submitted.

At this stage in time it should be emphasized that for the large projects which involve crossing the Alps, i.e. Lyon-Turin and the Brenner, the respective inter-governmental conferences have actively committed to finalizing legal, financial and economic agreements between the states involved.

The “international” stretch of the Lyons-Turin link is currently at the planning stage, as is the stretch leading up to the base tunnel. For this project, once the procedures have been completed for assessing the environmental impact, and approval has been obtained through the procedures required by the *Conferenza dei servizi*, the activity of geological prospecting can be resumed (exploratory tunnels on the Italian side) with a view to commencing the main works by 2010 as required by the European Commission.

For the Brenner, Law 115/06 issued on 6 March of this year ratified the agreement signed with Austria on 30 April 2004 in respect of construction of the base tunnel. Work began on both the Italian side and the Austrian side at the same time on 30 June 2006. Still with respect to PP1, the high-speed Florence-Rome-Naples link is now operative, whereas the upgrade to the Naples-Reggio Calabria link is still at the planning stage.

The Highways of the Sea, which may be described as a transport service project supplemented by logistical chains across land and sea, are being accelerated *inter alia* under the impulse of the European Commission which intends to finance the project using TEN-T network funds and funds deriving from the Marco Polo programme.

The master plan for the Highways of the Sea was included by the government in the 2006-2009 DPEF, with three lines of action: infrastructure, services and regulations. The financial requirements for logistics services amounts to €240m for the three years, plus the funds required for support to services on the Adriatic and Tyrrhenian lines. The requirement for infrastructure for logistics purposes amounts to €1.1bn, €0.6bn of which for ports located in Central-Northern Italy, and €0.5bn for those in Southern Italy. The process of strengthening the Highways of the Sea currently continues with agreements between the regional authorities and the Rete Autostrade del Mare (RAM) company, and with the preparation of the relevant regional master plans.

Italian Highways of the Sea projects currently operating in the Mediterranean and financed from funds from the Marco Polo programme are:

- EUROSTAR, aimed at developing shipping services between Italy and Spain, connecting Naples, Salerno and Palermo with the Spanish ports of Valencia and Barcelona, and with Rades-Sfax in Tunisia;
- MARIS, aimed at shipping/railway intermodal transport between the Spanish regions of Catalonia and Castilia and the Central-Northern Italian regions of Tuscany and Lombardy on the Tarragona-Livorno-Piacenza axis. This service provides for the transfer over the life of the project (2006-2008) of 885.5 million tonnes/km of freight from the roads to the sea/rail mode of transport on the Spain/Italy axis via Ventimiglia.
- ACCESS, aimed at implementing IT systems for auto-transport companies based on call-centre services and website linked to Highways of the Seas lines;
- SCAMPED, a short-sea shipping service;
- ATTAC (Alternative To The Alps Crossing), a short-sea shipping service between Civitavecchia and Toulon;
- Morocco Seaways.

The Master Plan for the Highways of the Sea and co-financing of European projects amounts to total expense of €10m, already earmarked.

The national logistics plan is intended to improve the competitiveness of businesses and commercial activities by reducing their transport costs per product unit and integrating these services as part of the *filière* of industrial production by optimizing the entire production cycle at the stages of production, distribution and consumption. The national logistics plan was approved by the inter-ministerial committee or CIPE on 22 March 2006 with the following objectives: encouraging auto-transport companies to grow in size; re-balancing the competitiveness of Italian auto-transport firms vis-à-vis non-Italian companies; ensuring efficient allocation of traffic; renewing the vehicle fleet; finalizing deregulatory measures and de-legislation in order to remove barriers to the auto-transport market.

In the plan macro-areas of logistical interest are identified, with a basic infrastructure network comprising nine large hubs for the earth-bound component, 11 poles for concentrating traffic for the shipping component, 3 port hubs (Gioia Tauro, Cagliari and Taranto) for transshipment of containers arriving from beyond the Suez and the Far East, plus 2 cargo airport areas at Milan Malpensa and Rome Fiumicino. The logistics fund was initially provided with €80m for 2006.

A fund has also been set up with a €20m provision for a life of 15 years to grant concessions for incentives (or ecobonuses) for developing rail and sea inter-modal transport. Italian Presidential decree 205/06 enacting the ecobonus system came into force on 22 June 2006.

#### 4.3.3. The transport network in Southern Italian regions

Development and increase in the efficiency of the transport network in Southern Italy has largely been consigned to implementing the 2000-2006 PON transport plan which involves the regions of Southern Italy plus the islands, i.e. Campania, Calabria, Apulia, Basilicata, Sicily and Sardinia.

The transport PON affects all categories of infrastructure - roads, motorways, railways, ports, airports and inter-ports - and its funding amounts to €4,520m, €1,905m of which comprises EU funds and €2,615m of which derive from the national budget. There is a significant overlap between the works forming part of the transport PON and the road and rail networks of Southern Italy forming part of the TEN-T networks. In other words, the road and rail network of Southern Italy guarantees the circulation of freight and passengers within

the Italian national territory and makes connections with European transport networks possible.

Table 10 - Work on railways in Southern Italy contemplated in 2000-2006 transport PON. Euros.

	Admissible expense	Payments made at 31/12/05	Payments certified at 31/12/05
1 BARI-TARANTO	278,549,665	32,828,438	20,852,035
2 BOLOGNA-BARI-LECCE	239,685,534	157,406,028	61,476,515
3 CASERTA-FOGGIA	453,987,267	5,332,422	5,331,412
4 SARDINIAN MAIN LINE	175,000,000	61,718,067	39,706,174
5 MESSINA-CATANIA	394,401,207	0	0
6 MESSINA-SYRACUSE	78,873,853	2,278,570	2,278,448
7 NAPLES-ROME (Campania stretch)	349,641,320	203,128,265	203,128,265
8 PALERMO-MESSINA	375,655,765	191,698,224	86,853,487
9 PESCARA-BARI	18,344,242	0	0
10 REGGIO CALABRIA-SIBARI- TARANTO	15,500,000	7,007,031	5,433,170
GENERAL IMPROVEMENTS			
Basilicata	15,000,000	14,649,401	14,639,222
Calabria	68,000,000	67,063,662	65,960,819
Sardinia	18,024,000	18,024,000	13,283,111
Sicily	70,176,000	70,176,000	70,176,000
Removal of level crossings	31,605,236	0	0
Total TEN-T Measure 1.1	2,550,838,853	831,310,108	589,118,658

Source: Ministero per le Infrastrutture.

Work on the rail network in Southern Italy, comprised both in the PON and the TEN networks, involves both establishment of high-speed links and modernization of conventional lines. The programmes aim to finance the following types of intervention:

- construction of new lines designed to allow speeds of 250 km/h or more;
- refurbishment of existing lines suitably equipped for speeds of up to 200 km/h, or for the highest speed possible within the limits of topographical and/or urban planning restrictions.

The table shows initiatives included in the 2000-2006 transport PON for Southern Italy. The plan has also financed work on the rail junctions of the TEN-T networks (Bari, Naples, Reggio Calabria and Palermo), under measure 2.1 for a total expense amounting to some €205m. Funds earmarked for this purpose have been drawn completely.

#### 4.3.4. Transport technologies

In the transport sector, innovative projects are now at an advanced stage of implementation aimed at electronic applications for traffic controls on transport networks.

The Intelligent Transport System (ITS), already included in the NRP, aims at improving road traffic safety via systems which will enable flows to be optimized and information provided to the user on the condition of infrastructure, accidents and atmosphere conditions.

For the Galileo programme, the government deems that this can have an extremely positive impact in terms of research and development of new technologies.

National research activities in connection with the Galileo programme have a projected total expense of €153m in the 2007-2009 three-year period. The agreement signed in Berlin on 19 January 2006 in respect of a €950m contract between the European Space Agency (ESA) and Galileo Industries GmbH to develop the first four Galileo satellites and the related earth-bound infrastructure should be viewed as forming part of the launch of stage 2 – in-orbit



validation – of the programme, with an added expense for Italy of €35m to be disbursed via the Italian Space Agency (ASI).

The SESAR programme aims to deal with air traffic control as part of the European Single Sky programme. The objective here is to use new technologies to optimize traffic on flight paths and co-ordinate the existing, fragmented air traffic control systems at European level. A master plan is currently being implemented which involves players at a variety of different levels: airport operators, aircraft constructors, and air traffic control authorities. In this first stage of the programme which shall be completed in 2006, Italy shall take part via ENAV, Selex Sistemi Integrati (part of the Finmeccanica group) and other companies, contributing approx. 250 man months to the project’s activities.

There are also several new initiatives

- the Vessel Traffic Service (VTS) project for port traffic control, with radar systems that can control and optimize traffic in port spaces and straits. This may be interfaced with satellite technologies such as Galileo. Italian industry is in possession of specific expertise with respect to this system which therefore offers excellent prospects for export. As in the case of ERTMS, this is an industrial project which involves the Italian space industry and is able to generate new employment opportunities for highly-qualified staff. Detailed executive planning and implementation of the first cycle (2000-2006) involved an overall investment of some €93m. Activities provided for in the second cycle, which was commissioned in December 2005 with a spending commitment of €232m, should be completed by year-end 2011.
- ERTMS, which basically involves IT solutions being applied to railway signal command and control systems and to automatic control of high-speed trains, is an extremely innovative project. Implementation of the programme on the Italian TEN-T rail networks commenced in 2000 and led to the Turin-Milan and Rome-Naples high speed links being equipped with this technology involving an overall investment of €427.5m (the global European programme on the entire high-speed network has been estimated at approx. €10bn).

The value of the ERTMS high-speed network command and control programme is shown in the table below.

Type of line	Distance (km)	Cost (€m x km)	Total cost (€m)
High-speed	855	0.5	427.5
Conventional	1,397	0.4	558.8
<b>TOTAL</b>	<b>2,225</b>		<b>986.3</b>

#### 4.4. *Environmental protection*

Projects have been launched to develop areas of excellence in the field of environmental technologies, and environmental protection measures adopted that can have an impact at system level. Research and development projects are targeting energy efficiency, increased take-up of renewable energy sources and development of hydrogen as an energy carrier. Protective measures in terms of impact on the system are pursued in the objective of reorganizing environmental regulations, introducing environmental accounting to the national budget, promoting urban mobility plans, awarding “green” public tenders, and implementing environmental management systems in SMEs.

All the measures included in the NRP have as their strategic point of reference inter-ministerial committee CIPE resolution 57/02 in respect of environmental action strategy for sustainable growth in Italy and resolution no. 123/02 adopting the national plan for reduction of greenhouse gas emissions.

#### 4.4.1. Plans to achieve areas of excellence in the field of environmental technologies

These are projects which aim to promote innovation, facilitate the meeting of the objectives set in the Kyoto protocol, and increase the safety of storing energy in Italy.

##### – *Energy efficiency measures and renewable sources*

*Developing and extending the use of high-efficiency industrial motors.* Implementation of this project shall lead to savings of up to 7.2 TWh when at full capacity, with a corresponding abatement of CO<sub>2</sub> emissions of up to 3.6 Mt. This shall act as a catalyst for technological renewal and shall encourage Italian exports in the electric/mechanical engineering sector. After an initial phase of research and experimentation, the measure provides for a “revolving fund” to be set up for the granting of subsidized loans for the purpose of replacing motors. The requisite procedural formalities for the project to be effectively launch are currently being finalized.

*Production of electricity, heat and refrigeration via small co-generation facilities with high-performance distribution.* This project has the dual aim of reducing CO<sub>2</sub> emissions by approx. 8 Mt per year, and attaining coverage of approx. 20% of national electricity demand by 2012, thus contributing to the reduction in the gap between domestic demand and supply. Under an inter-ministerial decree issued on 3 November 2004 a total of €30m was set aside to implement the pilot project. A further €20m has been provided for the 2004-2007 three-year period pursuant to CIPE resolution 20/04 for promotion of co-generation with high-performance distribution in the Objective 1 regions. In 2005 several pilot projects were financed for €12m with respect to the installation of micro-generation facilities in public buildings and hospitals.

*Introduction of tax incentives to encourage energy savings* by facilitating the entry of low CO<sub>2</sub> emission, low consumption motor vehicles on to the market.

The three measures described above are all contained in the national plan for reducing greenhouse gas emissions. In the 2007-2011 DPEF, the government said that it wanted to resume the process of updating and revising the plan so as to assess the effective state of progress in attaining the Kyoto protocol objectives, and to identify which measures will make it possible to maximize the benefits to the national economy in terms of environmental protection and to minimize the overall costs in fulfillment of the obligations provided for in the treaty.

*Increasing take-up of renewable technologies at SMEs.* This project aims at increasing the take-up of renewable technologies for use in generating electricity and providing heating at SMEs. It is anticipated that grants will be provided to finance photovoltaic equipment with a nominal power of between 20 kWp and 50 kWp, wind power facilities with a nominal power of between 20 kWp and 100 kWp, solar-thermal facilities to produce hot water and heating/cooling systems for buildings, to provide process heat at low temperatures and heat swimming pools and thermal facilities using chips or pellets made from biomass, to generate heat, with a nominal power of between 150 and 1,000 kW. Grants shall be made on a variable basis ranging from 30% to 60% according to the location (Objective 1 areas, Objective 2 areas, other areas). A total of €25.8m has been committed for the purpose of this project deriving from carbon tax funds, with which it is anticipated that around 500 applications will be financed. It is estimated that reductions in CO<sub>2</sub> emissions of between 52 and 22 Mt per year may be achieved in this way.

*Programme to introduce solar power to Italian prisons.* This is a project to introduce solar heating technology to 18 Italian detention centers via implementation of 5,000 squ.m. of solar equipment to produce hot water. Installation shall be carried out by the inmates themselves who shall receive suitable training via courses, recognized at regional level, for “installation and maintenance of solar power equipment”, with a view *inter alia* to providing such inmates with a way of getting back into the work place once they have been released. The Ministry has earmarked funds amounting to €774,685 for this project, with which it is estimated that a reduction in CO<sub>2</sub> emissions of approx. 900 t per year may be achieved.

*Solar power at schools* is a project which aims at promoting and expanding a culture of renewable energy and energy efficiency in schools. It involves pupils at senior schools conducting an energy analysis of their school buildings in accordance with the format laid down by the Ministry, and preparing a project to carry out energy efficiency actions followed by installation of demonstrative solar thermal and photovoltaic equipment at the school. The 100 best projects shall be rewarded through receiving financing for the proposed equipment, and an electronic network will be established between the successful schools which will involve creation of a website to share their experiences and the documentation thus produced. An estimated budget of €2m is available for this purpose in 2007.

– *Research and development projects in the areas of renewable sources and hydrogen as an energy carrier*

*Developing technologies to exploit use of hydrogen as energy carrier.* This project, which will be funded via grants from the FIRS funds and the Ministry for the Environment, involves supporting research and development programmes at national and EU level and scientific and technological co-operation programmes between Italy and the U.S. to produce, store and use hydrogen, via loans disbursed jointly by the public administration, the scientific institutions and businesses. A framework agreement has been launched between the Ministry for the Environment and the Veneto region to establish a district aimed at producing and using hydrogen as an energy carrier and for re-use in CO<sub>2</sub> chemical processes, with a €5m grant to each of the partners. A further €5m has also been provided as part of a protocol agreement executed with the region of Lombardy for the same purpose.

Developing alternative technologies for exploiting solar energy. This involves two pilot projects:

- *Production of thin-film high-efficiency photovoltaic panels.* A protocol agreement was signed between the Ministry for the Environment and the region of Lombardy on 2 December 2005 for production of photovoltaic modules in thin cadmium telluride film at a company located in the region. The cost of this project is €24m, €9m of which is payable by the Ministry while the remainder is to be funded from a group of entrepreneurs selected by competitive procedure at regional level.
- *Production and storage of heat at high temperatures following capture of solar energy (Archimedes project).* The project is currently being restructured with a view to extending the range of technologies to be experimented based on the results of the pilot experimentation. To date a total of €54m has been set aside for this project, €42m of which has already been disbursed.

The *centre for biomass research* launched in 2003 at the University of Perugia pursuant to an agreement with the Italian Ministry for the Environment, in the first three years of its activity has produced: a laboratory for chemical and physical analysis of biomass and bio-combustibles; a laboratory anaerobic digester for production of biogas; a national biomass register/observatory; a methodology for certifying, labelling and tracing energy/environmental codes coming from the energy conversion from biomass *filière*; feasibility studies for small biomass co-generation facilities, anaerobic digestion equipment from zootechnical effluence, diathermic oil boilers fed by wood residue from pruning, and mini-systems to produce bio-combustibles. In order to set up this centre, the Ministry has set aside €4.5m.

#### 4.4.2. System-impacting environmental protection measures

The following system-impacting actions are also included in the NRP which it is intended to implement or complete.

Enactment of delegation to government provided for under Italian Law 308/04 to reorganize, co-ordinate and supplement legislation on environmental matters. The Council of Ministers on 31 August 2006 adopted the first legislative decree in correction of the Code to enact EU directives by 31 January 2007.

*Presentation of a draft law to introduce environmental accounting to the national budget.* The expiry of the previous legislature meant that it was not possible to discuss the measure. During the legislature now in course, the government intends to represent the draft law as shown in the 2007-2013 DPEF.

*Promotion of Urban Mobility Plans (“Piani di Mobilità Urbana”, or “PUM”).* These plans, which were already contemplated by Italian Law 340/00, have been identified within the national plan to reduce greenhouse gases as one measure that will be able to contribute to meeting the objectives laid down in the Kyoto protocol. This measure could lead to a reduction in consumption of up to 2 MTep per annum, with a corresponding abatement of emissions equal to 4.5 MtCO<sub>2</sub> per annum.

*Pilot schemes to promote environmental sustainability* (CIPE resolution 27/04). This initiative has as its priority objective the upgrade of areas subject to environmental degradation, bringing about energy savings at state-owned properties, and environmental recovery in areas subject to natural disasters (especially during the 2001-2003 three-year period). The valuation procedure has been completed during the course of 2006, and 39 applications have been awarded funding covering the entire €15m announced in the notice of competition.

*Promoting public and private contract competitions based on environmental services (“green contracts”).* Ministerial decree 203/03 has been enacted and the recycling catalogue activated, in which 19 recycled materials and 5 manufactured materials are currently registered. In May 2006 the Ministry for the Environment also launched a consultation process with a view to drawing up its own national action plan by the year-end.

*Promoting environmental management systems.* The competition launched by the Ministry for the Environment to provide incentives for SMEs adopting environmental management systems is still open. Total funds disbursed and pending disbursement amount to approx. €0.9m, out of a total available of €8m.

#### 4.4.3. Environmental protection measures provided for in the 2007 draft budget law

In the 2007 draft budget law launched by the government on 29 September 2006, provision is made for the establishment of a Rotating fund to finance measures aimed at implementation of the Kyoto Protocol (Article 160).

Funds earmarked for the 2007-2009 period for this fund, which shall be established at the *Cassa Depositi e Prestiti*, amount to €200m, and are intended to finance the measures referred to above on a priority basis, i.e.:

- installation of high-performance electric and thermal micro-cogeneration facilities;
- installation of small-scale equipment to utilize renewable energy sources to generate electricity and heat;
- replacement of electric industrial motors in excess of 45 Kw with high-efficiency motors;
- increasing efficiency in the end-uses of energy in the civil and tertiary sectors;
- elimination of nitrogen protoxide emissions from industrial processes;
- structural initiatives in respect of urban mobility;
- pilot R&D projects using new technologies and new low-emission or zero-emission energy sources.

The 2007 budget (Article 161) also makes provision for setting up the Fund for sustainable development under the auspices of the Italian Ministry for the Environment and Protection of Land and Seas, with a view to funding environmental sustainability projects in specific

economic/productive sectors or geographical regions, to providing environmental education and information, and for launching environmentally-sustainable projects. For the 2007-2009 period, funds amounting to €25m have been set aside for this purpose.

Lastly, Article 162 of the draft budget law provides for the Ministry for the Environment to adopt a “national action plan on green purchasing” by end-March 2007.

## 5. **Employment, education and social inclusion**

The government wishes to draw attention to the profound political change underlying this part of the NRP, where previously employment was defined as an “endogenous variable”, and to which accordingly it is intended to bring substantial correction, in line with the open nature of the programme. In particular the intention is to target the quality of work, in order to raise activity levels, and make employment more attractive and rewarding by combating the increasingly uncertain nature of the labour market.

The government intends to carry out decisive action to pursue greater equity and social cohesion: the primary objective is reducing conditions of poverty and increasing social justice (7,588,000 individuals, or 13.2% of the entire population, currently live in conditions of poverty). To this end the Report reflects the definition a national strategy for social inclusion, in accordance with the new 2006-2008 national action plan for social inclusion.

### 5.1. *Policies currently being implemented*

Since 2000, the year in which the Lisbon Strategy was launched, the unemployment rate in Italy has fallen from 10.1% to 7%, levels that have been below the European average for some time now. Similar reductions have been recorded in the long-term unemployment rate, which has been cut from 6.3% to 3.4% and now reflects values in line with the European average. The employment rate, meanwhile, has recorded levels above the EU average, in particular with regard to the female component of the work force, despite a slight slowdown in the last two years (or in the last year in the case of women). This healthy trend is borne out by data for the first six months of 2006, which show an acceleration in the growth rate of employment, especially among women, with an upturn in the weakest areas and a further reduction in unemployment.

In order to strengthen employment policies, various information systems are being integrated both at central and local levels (so-called *Borsa Lavoro*), in order to help bring supply and demand for work closer. A system for monitoring key labour market indicators has been established. Such surveys have sometimes been followed by agreements with regional and provincial authorities to improve employment services.

The creation of more and better jobs, which is a priority objective of the new Lisbon Strategy, along with a corresponding rise in productivity, is founded on investment in human capital. Improving the quality of education and training, and ensuring a high degree of social cohesion, are at the heart of Italy's educational and employment policies.

With regard to the area of professional training, the activity of inter-professional funds has encouraged an uptake in lifelong learning. In 2005, the first year in which these funds were operative, approx. 240,000 staff working at 8,500 companies were reached. Greater availability of training upon individual demand via use of training vouchers has also contributed to increasing the participation of adults in training – one of the most significant critical factors as far as Italy is concerned, *inter alia* with a view to achievement of European targets.

Within the education system, provision of training for adults has increased consistently. Permanent local centres and secondary schools used for evening classes have launched courses for adults, channelling over €25m in merely the past two years. Such activities, carried out *inter alia* in partnership, are aimed at strengthening core competences and encouraging adults to take part in education and professional training courses with a view to obtaining diplomas or professional qualifications. The new organizational model brings regional centres and senior schools together into a network, in order to pursue a threefold objective: (a) raising the level of education of the adult population, in line with the objectives set at EU level; (b) making the supply of education and professional training more flexible, with a view to leveraging on the capabilities that adults have already acquired in the work place and elsewhere; (c) implementing innovative and experimental teaching methodologies, including through use of e-learning facilities.

With regard to teacher training, conversely, the action envisaged shall be implemented through integrated e-learning methods which involve class hours with a tutor as well as the online component, with the possibility of tailoring training solutions in order to meet individuals' personal requirements.

With the aim to ensure more generalized access to information and communication technologies, a broadband network has been set up, satellite reception equipment installed in schools, and a school staff training programme in information technologies established.

Among the initiatives aimed at raising the number of young people completing their secondary school education, the government has invested in: (a) constructing a system of guidance for young people; (b) strengthening apprenticeships; and (c) developing alternate school-work options, with a view to using the entrepreneurial system in order to help young people in their approach to the productive world. The government's action in this respect is geared towards building a school system that is able to unlock the real value of training, and ensure equal opportunities for all in providing access to education.

Among the policies for social inclusion adopted, action to reconcile the difference between time spent on work and time spent on caring for the family should in particular be noted, especially with regard to the impact this has on women in the work place. Such action includes improving childcare provisions, where a coverage rate of nearly 10% has been achieved in terms of services provided for children aged 0-3, up from 7.4% in 2000, through funds amounting to €300m in the 2002-2004 period. The government is committed to reaching the objective of 33% coverage set at EU level, and to this end has set aside €100m per year for the 2007-2009 three-year period, as provided in the 2007 draft budget law.

Another major theme in terms of social issues is the safeguarding of rights of persons with disabilities, the elderly, children and immigrants. Government activity is directed towards, for instance, supporting persons with disabilities by pursuing the commitments entered into by Italy during the European Year of the Disabled (2003) and in line with the strategy launched by the European Commission in order to ensure a society which truly is inclusive for all. A project is currently underway in Italy to develop a new system of classifying disabilities (ICF) approved by the World Health Organization, which so far has been used only in the area of employment policies. Policies to support children's and young people's rights have also been launched, with projects to combat poverty and violence, and which develop alternative measures to children being taken into educational or social institutions. Particular regard is given in this respect to the condition of children from outside Italy.

## 5.2. *Challenges for the coming years*

Despite the good performance recorded in the first half of this decade in terms of jobs created, Italy is unfortunately still a long way off reaching the European objectives of a 70% employment rate – and a 60% female employment rate – by 2010. Pronounced regional disparities still persist. The Italian labour market currently displays a high degree of fragmentation in terms of the type of job on offer, and as a result also high levels of temporary employment and low job security. The lack of action in terms of social security rights and the absence of a welfare system require this trend to be reversed.

In order to tackle these delays, government action is geared towards developing the quality of work, to attaining a higher level of social equity, to combatting regional disparities, and protecting the weaker classes of society, in compliance with the re-launched Lisbon Strategy.

A fundamental step in this regard is resuming forms of dialogue with the social parties, as a means to pursuing the objectives of financial stability, growth and better employment, as well as to generating higher levels of trust between the parties concerned.

The main action undertaken by the government in order to support employment growth and reduce regional disparities is to reduce the costs associated with employment: the so-called “tax wedge”. The decision here has been to reduce the cost of employing a person, in terms of taxes and contributions as measured against their gross pay by a total of 5 percentage

points as follows: 60% (three percentage points) for the businesses, and 40% (2 percentage points) for the employees. With regard to the relief thus granted to the companies, the tax wedge measures allow for part of the labour cost to be deducted from the tax base for purposes of IRAP (Italian regional production tax), via: (a) deduction of all social security charges for workers employed on a permanent basis, and (b) an additional €5,000 deduction for each employee, which is increased up to €10,000 in the regions of Southern Italy (in accordance with the limits deriving from application of the *de minimis* rule provided for under EC regulation CE 69/01).

This measure applies solely to the cost of permanent employment, in order to reduce the percentage of the work force accounted for by temporary employment. Costs in relation to apprenticeships, employment of persons with disabilities, staff with employment training contracts and staff engaged in research and development are also deductible for tax purposes. Overall this action, based on an average pre-tax annual wage of €24,000 (including contributions payable by the employee), should save companies 3% per year, (around €700 saved on IRAP) for every full-time worker employed. The table below shows a simulation of the impact on a “typical” worker's wage and on the labour cost for the company. In defining what represents a “typical” worker, the average wage has been calculated using OECD 2005 criteria and defining an average family in accordance with the distribution of households with and without children. For companies, average regional subsidies have been considered.

*Table 12 - Effects of reducing the tax wedge (figures in Euros)*

	<i>Before reduction</i>	<i>After reduction</i>	<i>Change in absolute terms</i>	<i>Change as % of pre-tax salary</i>
Worker's pre-tax salary	23,669			
Tax (1)	2,945	2,837	-107	-0.5
Contributions (payable by worker) (2)	2,175			
Child benefit (3)	922	1,282	+361	+1.5
Net salary + benefit	19,471	19,939	+468	+2.0
Contributions (payable by employer) (4)	7,593			
IRAP (5)	1,329	626	-703	-3.0
Cost of labour	32,591	31,888	-703	-3.0
Tax wedge = (1+2+4+5-3)	13,120	11,949	-1,171	-5.0

Source: Ministry for Economics and Finance

Given the methods adopted in this action, for wages that are below the average (which is where the majority of workers employed by companies are concentrated), the saving in tax terms is higher than three percentage points. As far as workers are concerned, the reduction in the tax wedge takes place via a combination of actions based on: (a) reduction in income tax (IRPEF), and (b) an increase in child benefit for employees. Again based on the assumption of an average worker earning €21,500 per year for income tax purposes (i.e. net of contributions), the worker will see an average increase in his/her disposable income of two percentage points.

Such benefits increase with the family size. On average, there will be a general increase of 1.5 percentage points due to the rise in child benefit (only applicable to permanent employees), and a half-point reduction in the tax rate. Accordingly, the average pay packet will increase by approx. €468, rising to over €700 if the worker has two or more children.

The 2007 draft budget law introduced a further deduction from the tax base for purposes of IRAP for hiring women in the Southern regions - mainly in those regions which are eligible for this kind of State aid accordingly to European parameters: a clearly innovative action of generalised and non episodic nature in the Italian legislation.

Such action of a tax-related and contributions-based nature is aimed at immediate recovery of competitiveness, through a reduction in the labour cost. It is a choice which opens up the



path to flexibility as reflected in more stable employment positions and reduced fragmentation in terms of types of employment.

Active welfare requires income support to be supplemented by continuous training and with active policies encouraging people to find work. In this sense a new set of social measures shall be defined for the work force, targeting the most vulnerable categories in particular – i.e. young people, women, and workers over the age of 50 – in order to combine flexibility in the labour market with the European social model.

The government has implemented a series of direct measures to increase safety in the work place, to encourage permanent employment, and to combat irregular forms of employment. Such measures shall consist of new regulations and experimental projects. Among the new projects to be introduced will be “fairness indexes”, which shall seek to identify groups of companies with irregular records in this respect. Such indexes will aid the activities of inspection and control to be carried out in the fight against irregular unemployment.

Increasing activity rates, social inclusion, and the competitiveness of productive systems depends on the quality of the education and training systems. The government intends to increase involvement by young people and improve the level of learning for them, to provide opportunities for life-long learning, and to strengthen the capability of economic players to compete and to innovate.

Flexibility must go hand-in-hand with appropriate safeguards for the most vulnerable categories. To this end the debate on “flexicurity” as a tool for promoting productivity in work places must be extended.

The structure of the labour market must be compatible with the needs of individuals' private lives. Italy has a relatively low female employment rate compared to the European average, and a similarly low birth rate. Through family-based policies to be launched by a specific ministry, the government intends to contribute to the European strategy for employment growth and social cohesion with measures to support the responsibilities and incomes of families. To this end a national family observatory will be set up, and the fund for family policies will be increased by €215m in the 2007-2009 period.

Paid maternity and paternity leave will be extended in two directions: *a)* by including workers employed on a contract- or non-permanent basis among those eligible for such entitlements; *b)* by increasing the age of children in respect of which it is possible to take such leave. The desire is to stimulate innovative methods of organizing employment that are more compatible with the needs of caring for children. At the local level, the development of “time-banks” will be encouraged, to promote the reciprocal exchange of activities and services. Measures will be adopted to strengthen crèche facilities, and services aimed at those who are not self-sufficient. Other measures shall be aimed at wiping out irregular forms of employment, which is extremely commonplace in the domestic assistance sector. In this connection, professional requirements for domestic assistants shall be identified, and in conjunction with regional authorities, courses will be set up to train *inter alia* non-Italian workers. The government has also undertaken to support families' incomes through a single “cheque” to take the place of the various forms of child benefit available under the existing system.

A first step in this direction has already been achieved with the approval of the 2007 draft budget law, which reduces the tax burden on those with average-low incomes and supports the finances of families, especially those with children. Deductions for dependent family-members are translated into tax deductions that are equal for all and are significantly higher. Cheques payable to nuclear families have been increased, for both subordinate and para-subordinate employees, and the existing income brackets have been abolished. For such workers there will be an average increase of €250 per year for each dependent child compared with the present. The family cheque, combined with the tax deduction, will amount to €2,400 per year for children under the age of three for those with the lowest

incomes (€13,000), and to €2,300 for children aged between 3 and 18. Overall additional resources to be devoted to this area will amount to €1bn.

The policies described above will contribute actively to a redistribution of wealth and a social inclusion policy, both directly (i.e. via the provision of cheques for children) and indirectly (by increasing the female employment rate, and hence helping to raise household incomes).

Among the policies to promote social inclusion, the government has decided to strengthen the national fund for social policies, according to a rationale which seeks to reward initiative on the part of local autonomies. To confirm the attention being devoted to this area, the share of the fund to be divided between the regions – intended primarily to develop the network of services across the country – has been increased by a total of €300m compared with 2005, as part of the measures to recover public finances implemented in recent months. A further increase of €145m is provided for in the 2007 budget law, in order to bring the fund back up to around the €1bn mark.

Along with the issue of funding, a new form of governance is being defined which will see both institutional and non-institutional parties involved in social inclusion policies. In this sense the government is committed to strengthening co-operation between the different levels of responsibility, and re-launching dialogue with the social parties, with the social private sector and with representative associations.

Action to combat social exclusion is aimed at people living below the poverty line, the elderly, people living in areas which are at “geographical risk” (some parts of Southern Italy and especially suburban areas of the main Italian cities), and immigrants. The measures envisaged aim primarily at:

- rationalizing the system of income support, by re-activating the minimum wage based on new criteria, along with action to facilitate entry or re-entry to the work place and society, in particular in Southern Italy; development and access to the services system; and fixing the levels of assistance deemed to be essential;
- promoting a new strategy for active ageing, that will ensure the requisite assistance is provided to persons who are not self-sufficient, through establishment, as part of the attempts to fix the levels of assistance deemed to be essential, of a specific fund (as provided in the 2007 draft budget law, in an amount of €50m rising to €200m in subsequent years) in order to strengthen domestic assistance and ensure closer integration with the health services;
- to reduce the North-South gap by supporting social initiatives in Southern Italy: the recent establishment of the “Foundation for Southern Italy”, with funding of €300m, represents an attempt to move in this direction;
- to limit the risk of marginalization in the large Italian cities by rethinking housing policies, in order to support families in difficulty, to promote social housing projects, and to revamp supply (regulatory framework for construction of subsidized public residential housing);
- to encourage the inclusion of immigrants and increase their stability by supporting their entitlement to acquire Italian citizenship, facilitating their families joining them, tackling the growing presence of pupils of non-Italian origin in Italian schools, increasing stability in terms of employment, helping them to learn Italian, and encouraging their ambitions to own their own house; the 2007 budget law makes provision for social inclusion of immigrants, with especial attention being given to the housing crisis.

With respect to the theme of social inclusion specifically, one aspect that has received scant attention hitherto is the repercussions that social inequality, unemployment and/or job insecurity can have on the state of the nation's health. An innovative approach to this issue may be found in the Health Impact Assessment policies, which aim at preventing the effects

of social, economic, political and institutional changes on the health of citizens. On the healthcare side, moreover, efforts are now being concentrated on promoting an integrated network of health services, that is able to manage chronic disease, elder people and persons with disabilities.

## 6. Co-ordination between NRP and structural funds

Italian regional policy is financed through two different sources of funding: the structural funds and their respective national co-financing; and resources from the fund for under-utilized areas. Both contribute to the country's policies for growth and economic and social re-equilibrium, according to common guidelines and through strong links to the Lisbon objectives. A significant portion of the micro-economic policies described in the preceding sections, then, are based on such sources of funding. This section seeks to provide a general framework for the contribution made by regional policy to the Lisbon Strategy, and in particular to show the specific contribution of the structural funds.

### – *Estimated spending for 2006-2008*

Total spending for implementing the national and EU programmes for regional politics in 2006-2008, according to the most recent estimates of public spending by the public administration (contained in the Consolidated Financial Framework (“Quadro Finanziario Unico”, or “QFU”), compiled for the 2007-2011 DPEF, amounts to approx. €58bn (€55bn by way of capital expenditure, and €3bn for training, which is classified as current expenditure), of which over €45bn has been earmarked for Southern Italy.

This estimate comprises: for the EU portion, funds yet to be spent from the 2000-2006 Community Support Framework (CSF), plus a valuation of the first two years of the new 2007-2013 planning cycle and the respective co-financing; and for the national portion, resources from the fund for under-utilized areas.

Regional policy contributes approximately €29bn to the NRP priorities, and its efforts are concentrated in particular on projects to upgrade tangible and intangible infrastructure, to strengthen human capital, and on measures to support employment (cf. table). A significant proportion of the funds, approx. 75%, is earmarked for Southern Italy.

Estimated spending for the NRP priorities reflects the state of progress hitherto made on implementation of infrastructure projects or production of services, which comprise the regional policy launched in 2000 and still in progress, reclassified by sector according to the five stated priorities. It is made up as to 70% by programmes financed from the structural funds, and as to 30% by measures financed from the fund for under-utilized areas.

*Table 13 - Additional resources for 2006-2008, all Italy: estimated spending by priority*

Priority	Estimated spending	
	€m	In percentage terms
Extending the area of free choice for citizens and corporates	77	0.3
Providing incentives for research and innovation	3,316	11.4
Education and training to strengthen human capital <sup>1</sup>	3,963	13.7
Upgrading tangible and intangible infrastructure	8,654	29.8
Protecting the environment	6,076	20.9
Policies for employment and inclusion	6,918	23.9
<b>Total Lisbon priorities</b>	<b>29,005</b>	<b>100.0</b>

For the purposes of this calculation, spending on training initiatives has been included in the totals, despite the fact that the majority of it qualifies as current expenditure and therefore is not included in the QFU.

**Source:** “Quadro finanziario Unico” (“QFU”) – 2007-2011 DPEF, and estimated monitoring data from structural funds and fund for under-utilized areas.

### – *Cumulative spending from 2000-2006 structural funds*

Financial indications for regional policy contained in the NRP were based on data as at 31 December 2004. More up-to-date information now enables spending from the structural funds, including the 2000-2006 CSF, to be quantified with respect to the measures for individual NRP priorities as at 31 December 2005.

In the 2000-05 period such spending amounted to €18bn, €4bn of which in the last year, which was concentrated on infrastructure, training and measures to support employment.

	Cumulative spending at 31/12/05	Spending in 12 mths to 31/12/05
Extending the area of free choice for citizens and corporates	-	-
Providing incentives for research and innovation	1,626	416
Education and training to strengthen human capital	3,272	919
Upgrading tangible and intangible infrastructure	5,183	1,006
Protecting the environment	3,829	800
Policies for employment and inclusion	4,321	1,035
Total Lisbon priorities	18,231	4,175
Total 2000-2006 structural funds	32,239	7,513

*Source: compiled from Monit-IGRUE data*

### 6.1. *Priorities: significant programmes*

The following sections illustrate the measures currently in progress that have been funded from the additional EU and national regional policy, and the most recent balances for both the two types of funding. For EU programming the monitoring data as at 31 December 2005 have been used.

#### 6.1.1. Initiatives to extend the area of free choice for citizens and corporates

As part of the EU programme, it was decided to reward improved internal functioning of the public administration, issuance of sector planning (e.g. water, waste, landscape, etc.), and rigorous use of selection criteria for projects, in order to provide better services to citizens and corporates. In the 2005-2006 period, the incentive method used at national level was adopted by the regions, who applied it to strengthening the institutional capabilities of local entities, improving the quality of planning, and rewarding meeting service targets vis-à-vis citizens, for example in the waste sector and information society.

#### 6.1.2. Initiatives to improve education and training, employment policies and policies for social inclusion.

The objectives contained in the NRP of raising employment rates, increasing skills, strengthening human capital, and building a more inclusive society are central to the regional development policies. In order to develop skills and reduce early school-leaving, the CSF contains a specific programme entitled “School for growth” (cf. Section 9). This programme runs alongside measures implemented using the additional national funding. Such measures include the “CIPE school project” to increase provision of broadband in schools in the regions of Southern Italy, and to introduce innovative teacher training methods, and the “E-Inclusion” project, which promotes inclusion in society through use of the new technologies available.

EU planning supplements the national employment and training policies adopted. To this end, competitive procedures have been strengthened for project selection, accreditation of training institutes has begun, and the measures implemented have been increasingly decentralized, especially in the regions of Central-Northern Italy. EU planning constitutes the primary and in some cases only source of funding for training at the different stages of life – initial training as part of the compulsory education system and apprenticeship courses; advanced technical education and training courses; second-level professional training courses; and life-long learning. A major proportion of the money from the European social fund is included in measures aimed at preventing unemployment and facilitating entry or re-entry to the labour market.

Other funds from the additional national policies are devoted to supporting business and recruitment through the use of tax credits (employment bonuses).

Over 2.5% of the QCS objective 1 is earmarked for social inclusion as part of EU planning. This involves measures to encourage young people to continue in education; targeted activity to promote involvement in the work place by disadvantaged or needy individuals; increasing

the provision of social services in particular for the weakest groups of society; supporting the social economy; and measures to promote compliance with the law. In addition to training, in particular schools, the main types of service involved are personal services, assistance facilities and helping people (back) into work.

#### 6.1.3. Initiatives to strengthen scientific research and technological innovation

EU regional planning for 2000-2006 with regard to the Objective 1 regions involves a national “scientific research, technological development and high-level” training programme to be headed up by the Italian Ministry of Scientific Research, and specific measures in each regional programme.

As at 31 December 2005, over 2,200 projects had been financed of which 1,355 already complete. The high-level training projects, which included masters' courses, PhDs and university diplomas, have involved 1,200 companies and 32,000 participants. A total of 939 product, process or organization innovations have been introduced resulting in issuance of 80 new patents. New infrastructure has been implemented, including school rooms and laboratories as well as historical and cultural buildings in universities and research centres being refurbished, providing floor space of 110,000 sq.m, especially in the following sectors: advanced biology, information technology, robotics and the environment, and broadband connections for research institutes have also been extended.

Strong integration has been pursued between the fund for under-utilized areas and the structural funds. In addition to financing made available for “Sportello 297” (independent industrial research projects), CIPE in 2003 earmarked a total of €140m for financing existing or potential technological districts, or for preparatory measures in respect of launching such districts. During 2005 framework programme agreements were executed between the central administration and the regions of Southern Italy to decide how to employ these funds.

#### 6.1.4. Initiatives for protecting the environment

In relation to the EU funds the implementation of environmental regulations has been speeded up, as has the process of institutional innovation, improvements in operating efficiency of certain services, notably in the water and waste sectors, and prevention of hydro-geological risks. Valorization of protected areas has commenced, as has recovery of contaminated areas, and the energy planning capacity of the regions has been strengthened. The improvement in environmental monitoring is due *inter alia* to setting up regional environment protection agencies, driven by North-South twinning processes in order to facilitate transfer of skills.

Insofar as regards integrated water services, the number of authorities in this area established has risen from 48 out of 91 in 2000 to 88 in 2005, and the plans adopted to date number 71, with a 100% coverage rate in the Objective 1 regions. In the waste sector a total of 793 projects worth €696m have been funded, largely in connection with differentiated waste collection (328 projects out of 550); 9 facilities for special waste have been funded, and 91 projects for facilities to treat, store and recover urban waste have been financed.

Energy efficiency and use of renewable sources, e.g. solar, hydro-electric, wind and biomass power, which will contribute to meeting the objectives of the Kyoto protocol, will receive specific funds in accordance with EU regulations. Of the 4,573 projects devoted to the energy sector recorded by the monitoring system, 90% involve renewable energy sources, while the others target network efficiency improvements and extending the methane gas distribution pipeline.

Further measures in the energy sector have been implemented under the terms of the Local Entrepreneurial Development Programme in favour of industrial businesses, by means of a special environmental league table implemented under Italian Law 488/92. Investments in existing production equipment have also been financed, in order to reduce energy consumption or increase the share covered by energy produced from renewable sources.

### 6.1.5. Initiatives for completing infrastructure

In Southern Italy, the CSF has earmarked approx. €7bn for accessibility measures, from national (cf. section 6) and regional programmes aimed at meeting demand for mobility and freight transport involving: a) accessibility; b) modal re-balancing; c) inter-modal transport; d) quality and efficiency; e) reduction of the impact on the environment. In view of these objectives the main initiatives financed to date involve:

- completion of works on motorways and ordinary roads on parts of the primary network (including the Salerno-Reggio Calabria motorway, and the 106 Ionica and 131 Carlo Felice main roads);
- completion of various stretches of railway that will lead to parts of the modernized network being opened and coming into operation (Bari-Taranto, Naples-Rome, Bari-Lecce);
- at the urban level or in terms of services provided to the network of cities, action to complete airports (e.g Catania) and their connections to urban centres (e.g. Palermo; project already launched at Bari), and extension of the regional and urban metropolitan networks (Campania and Naples).

The contribution of national regional policy is structured according to two distinct lines of action: 1) funding to implement regional priorities through framework planning agreements promoted by regional authorities; and 2) financing, since 2004, of works under objective Law 443/01. In respect of the latter, in the 2004-2005, a total of €2.2bn from the fund for under-utilized areas was made available for such purposes.

### 6.2. *Integration between national strategic framework for 2007-2013 structural funds and NRP*

The regional development policy outlined in the 2007-2011 DPEF will be defined in the 2007-2013 national strategic framework (the “Framework”), a technical and administrative draft of which has been prepared and which is currently being finalized. Such policy is intended to promote the potential represented in Southern Italy and to increase the competitiveness and productivity of the entire country, in connection with achievement of the Lisbon strategy objectives. The intention is to promote the implementation of tangible and intangible infrastructure, to improve the level of collective services, and to increase the return on private investments, income and employment.

Based on EU commitments and the agreement reached between Italian state and regions in February 2005, the Framework shall contain an indication of the priority with which the measures are to be implemented, the rules and conditions according to which funds will be transferred, including those to safeguard the principle of additionality with respect to EU funds vis-à-vis national funds, and seven-year financial commitments in respect of EU and national funds.

*Table 15 - 2007-2013 national strategic framework priorities*

Priority 1.	Improving and exploiting human resources
Priority 2.	Promoting, leveraging and embedding research and innovation with a view to competitiveness
Priority 3	Sustainable, efficient use of environmental resources for growth
Priority 4	Valorizing natural and cultural resources to increase attractiveness and promote growth
Priority 5.	Social inclusion and services to improve quality of life/increase attractiveness of country
Priority 6.	Networks and links for mobility
Priority 7.	Competitiveness in productive systems and employment
Priority 8.	Competitiveness and attractiveness of cities and urban systems
Priority 9.	Increasing international openness and attracting investment, demand and resources
Priority 10.	Governance, institutional capabilities and competitive, effective markets

Source: National Strategic Framework , technical and administrative draft, 20 April 2006

EU funding for use in conjunction with national, regional and inter-regional programmes for the 2007-2013 seven-year period based on the agreement on projected EU funding amounts to approx. €29bn. To this should be added the national funds required as co-financing and national funds deriving from the fund for under-utilized areas (still adopting a seven-year horizon for financial planning).

The 10 priorities, which will drive the usage of the additional EU and national funds for the seven years (identified in the course of the partnership process in putting together 2007-2013 Framework) reflect the involvement of EU cohesion policy in implementing the Lisbon strategy (cf. table).

Within this framework, the programmes co-financed with the structural funds shall contribute to reaching the objectives of the Lisbon strategy according to the methods laid down under EU regulation 1083/06. As a indication of how regional development and cohesion policies, and the Lisbon strategy are already complementing each other, it is estimated that the share of spending from the 2000-2006 structural funds attributable to the five Lisbon priorities accounts for approx. 56% of the total resources in the 2000-2005 period (cf. previous tables). For a general appraisal of the results of planning activity for 2000-2006, reference is made to the 2005 report prepared by the Department for Development Policies and to documents drawn up in preparing the QSN.



## 7. **Best practices and regional experiences**

In this section further details are provided regarding a variety of projects and measures deemed to be most significant for addressing the main challenges that Italy now has to face. As will be seen shortly, several of these involve co-operation between different levels of government, national and regional.

### 7.1. *National best practices*

#### – *Use of IT in civil procedure*

Here the Ministry of Justice has introduced wide-ranging use of information technologies to bring about a recovery in terms of efficiency and productivity on the part of all the main players in the legal system (magistrates, lawyers, administrative staff and notaries), in enactment of the constitutional principle of reasonable length of trial.

The reference model used here is a single structure for all rites of process and all judicial offices. In practical terms, however, given the complexity of the legal system and the number of players involved, the model has been implemented gradually using an experimental approach.

Hence the choice of several pilot locations (Bari, Bergamo, Bologna, Catania, Genoa, Lamezia Terme and Padua) and launch of the project by individual rites, giving priority to locations where the technology infrastructure was such as to be able to provide immediate effects. At Bologna, Catania, Genoa, Lamezia Terme and Bari the experiment involved the injunction procedure, with positive results both in terms of the functioning of the system and of times for issuance of the injunctions themselves.

Downstream of these results, the electronic injunction procedure was definitively introduced at the Court of Milan, thus doing away with the obligation for any paper-based procedure where it was decided to use the electronic procedure.

The next steps will involve pension-related procedures and those in respect of property enforcements. Rationalization of the technological structure using EU funds will lead to a significant reduction in operating costs and will introduce a system for monitoring the procedures which will be useful for making the timescale involved in the process more transparent and making it possible for owed amounts to be recovered. The project will be tested in January 2007.

Another imminent measure in terms of regulation should gradually make electronic format, to be sent via secure post, compulsory for all procedural communications between the parties involved in proceedings.

This innovation in terms of technology should lead to a clear reduction of at least one-third in terms of clerical work, and make it possible to use more funds on jurisdictional work that should reduce the time involved in trials.

In general the use of electronic technology should make for a quicker, safer and therefore also more efficient form of civil procedure by:

- increasing citizens' trust in the workings of the legal system;
- dissuading companies from pursuing more costly forms of private justice;
- discouraging inappropriate or delaying tactics on the part of debtors who rely on the inefficiencies of the legal system, thus enabling companies to recover their debts more quickly and use them for further investment.

#### – *Technological districts*

Technological districts aim at encouraging co-operation between large, small and medium-size businesses on innovative projects, promoting growth by outstanding companies, and

facilitating the development of small and medium-size enterprises towards creating a high value-added system. The final objective is to encourage greater competitiveness of existing productive areas with a view to engendering a higher intensity of exports, revitalizing them and re-launching them through research and development of key technologies that will enable innovation of product, process and organization. The regional governments have a significant role to play in promoting these co-operation agreements.

The link between businesses and research centres, public and private, plus the presence of researchers in companies themselves, will promote the development of high-tech clusters and increase the degree of innovation of the companies taking part in them, by means of technology transfer and sharing of innovations.

The initiative proposes to encourage the development of the industrial district model by increasing its technological content.

*Table 16 - Technological districts launched as at 30 September 2006*

Piedmont	Torino Wireless, aeronautics and defence #
Emilia Romagna	Hi-mech
Veneto	Nanotech
Campania	Polymer-based materials, aeronautics and defence #
Lombardy	Bio-technologies, ICT, new materials
Sicily	Micro- and nano-systems, naval transport, bio- agriculture and fishing and compatible
Lazio	Aerospace and defence #
Liguria	Integrated intelligence systems, military and naval architectures §
Friuli Venezia Giulia	Molecular bio-technologies
Abulia	Nano- and info-sciences, biotechnologies, mechanotronics
Sardinia	Biomedicine
Calabria	Logistics, cultural heritage
Abruzzo	Food safety and quality
Molise	Agro-industry
Basilicata	Hydro-geological risks
Tuscany*	ICT and process and product safety technologies, naval and military architectures §
Umbria*	Materials and micro-nanotechnologies
Independent province of Trento*	Technologies for the environment

\* Currently being launched.

# To be launched on integrated basis in order to achieve maximum results.

§ Multidisciplinary (electronics, fine mechanics, development of modular construction).

Source: Ministry of University and Ministry of Economic Development.

A total of €342m has been set aside for the venture: the government's degree of intervention in the various individual projects shall vary according to other individuals' involvement, which at the moment averages around 50% of the cost.

A brief description of the projects grouped by region is provided hereunder; data has been updated to 30 September 2006:

- *Piedmont* – “*Torino Wireless*”. On 30 May 2003, a programme agreement was executed between MUR, the Piedmont regional authority, and the province, borough council, and chamber of commerce, industry, agriculture and crafts of Turin, to set up a technological district operating in the wireless technologies sector. Under the terms of the agreement MUR committed a total of €26m over a time-span of three years. To date projects have been selected following the first public competition for a total value of € 11m.
- *Veneto* – “*Veneto Nanotech*”. A programme agreement was executed with the Veneto regional authorities on 17 March 2004, to set up a district specializing in nano-technologies. MUR's commitment under the terms of this agreement amounts to €26m over three years. At end-July 2005 MUR published the first notice of competition for an amount of €11m, expiring on 21 October 2005. The projects are currently at the appraisal stage.

- *Emilia-Romagna – “Hi-Mech”*. On 9 December 2003 a protocol agreement was executed with the Emilia-Romagna region to create a district operating in the advanced mechanics sector. A programme agreement was then signed on 13 May 2004, stipulating a commitment on the part of the Ministry of €25m over three years. The first notice of competition for the financing of projects has been published, expiring on 28 February 2005. The projects are currently at the appraisal stage.
- *Lombardy – Bio-technologies – ICT – Materials*. On 22 December 2003 a protocol agreement was signed with the region of Lombardy to implement measures in the ICT, bio-technologies, and advanced materials sectors involving a total commitment by MUR of €30m for the 2004-2006 period. On 22 March 2004 a programme agreement was then signed with respect to the bio-technologies sector, providing for ministerial funding in an amount of €8m. Projects submitted following publication of notice of competition are currently at the appraisal stage. On 19 July 2004 the second programme agreement was initialled in Milan in respect of the ICT and materials sectors and providing for MUR funding of €22m.
- *Lazio – Aerospace – Defence*. On 5 May 2004, a protocol agreement was signed with the region of Lazio to create a technological district in the aerospace-defence sector. The framework programme agreement required under CIPE resolution 17/03 was then signed in June in view of the use of the funds earmarked for this purpose by the region under the terms of the resolution in question. MUR's commitment amounts to €30m for the 2004-2006 period. MUR has now published the first notice of competition, and at present appraisal activity is underway with respect to the projects submitted in time for the 15 June 2005 deadline.
- *Liguria – Integrated Intelligence Systems*. On 27 September 2004 a protocol agreement was signed with the region of Liguria to develop an Integrated Intelligence Systems district, more detailed information in respect of which shall be provided in the following section on regional experiences.
- *Friuli Venezia Giulia – Molecular Bio-medicine*. On 5 October 2004 a programme agreement was executed with the region of Friuli Venezia Giulia to establish a district in the molecular bio-medicine sector. MUR has committed €15m for the 2005-2006 period and is currently preparing the first notice of competition.
- *Tuscany*. On 14 December 2005, a protocol agreement was signed to set up a technological district proposed by the region regarding the ICT sector and technologies for process and product security.
- *Umbria*. In February 2006, a protocol agreement for the materials and micro-and nano-technologies sectors was signed, also with reference to the iron and steel industry in the area around Terni.
- *Independent province of Trento*. In February 2006 a protocol agreement was signed with respect to the domotics sector and environmental technologies.
- *Abruzzo*. Implementation of preparatory action with a view to setting up a technological district in the area of food safety and quality. The aim is to bring together the competences and resources in terms of scientific research and high-level training existing at public and private institutions in respect of food and agriculture product and process quality to form a system. Funding: €6m.
- *Molise*. Implementation of preparatory action with a view to setting up a technological district in the area of agriculture/industry: the objective is to bring together innovative initiatives regarding some of the main *filieres* of agriculture/industry in the region (e.g. cereals, dairy/cheese produce, poultry, pork meats, fruit and vegetables), with a view to promoting high-value-added products in particular. Funding: €3.6m.

- *Campania*. Implementation of consolidation action with respect to the technological district in the area of engineering and polymer and compound materials and structures. Scientific research and pre-competition development initiatives will be launched, with impact in terms of innovation in the aeronautical-aerospace, automotive, bio-medical, electronics, packaging, ship-building, textile and civil construction industries. Funding: €33.5m.
- *Apulia*. Implementation of consolidation action with respect to the Apulian technological district in the nano-sciences, bio-sciences and info-sciences sector. There are plans to strengthen the research and technology transfer infrastructure in the areas of materials, technologies and miniaturized equipment for applications in the photonics, electronics, bio-technologies and new-generation diagnostics industries, plus measures to consolidate an infrastructure platform for e-business management; development of a platform for calculating high performances on grids; and developing a platform for undergraduate and post-graduate training in scientific disciplines aimed at the Euro-Mediterranean basin. Funding: €15m.
- *Apulia*. Implementation of preparatory action with a view to setting up a bio-technological district: steps will be taken to establish a public-private network of laboratories in order to promote innovation in key sectors for improving the quality of life from a regional viewpoint (environment, healthcare, food and agriculture, etc.). Funding: €6m.
- *Apulia*. Implementation of preparatory action with a view to setting up an Apulian mechatronic district: the aim is to stimulate and support innovation in the most important sectors for the regional economy (mechanics, textiles and furniture) and in a variety of emerging sectors, such as mechatronics, and nano-technologies applied to production, via development of technologies for use in all production systems (e.g. automation, robotics, controls, metrology) and sector technologies. Funding: €2m.
- *Basilicata*. Implementation of preparatory action with a view to setting up a technological district in the area of innovative technologies for protection against hydro-geological, seismic and climatological risks: the aim here is to promote research, technological development and innovation in the fields of recording technologies, systems monitoring, reporting, prevention and of and repair following environmental risks and safeguarding human life in view of the hydro-geological, seismic and climatological conditions of the country. Funding: €6.2m.
- *Calabria*. Implementation of preparatory action with a view to setting up a technological district in logistics, and transformation of the area around Gioia Tauro. The aim is to promote integrated production processes for existing activities in the direction of a district-type model and to increase the pole's ability to attract new, high-value added establishments. Funding: €11.8m.
- *Calabria*. Implementation of preparatory action with a view to setting up a technological district for cultural assets in the area around Crotona: there are plans to establish a regional centre for restoration, leveraging on the existing skills and resources both in public entities and private organizations. It should be possible to generate synergies including through the action provided for as part of the APQ which the regional administration has agreed with the Ministry of Cultural Heritage and Activities. Funding: €5.5m.
- *Sicily*. Implementation of consolidation action with a view to setting up a technological district in micro- and nano-systems: there are plans here for developing technological applications for micro- and nano-manufacture in the electronics, optical, biological, chemical, mechanical and fluid management sectors via development of micro-systems and multi-functional materials to be integrated on spatial scales of varying sizes. Innovative items of equipment to be manufactured must guarantee a high degree of reliability, reduced interference in environmental terms, more rapid mechanical and

thermal responses, and more limited consumption of energy and materials. Funding: €8.5m.

- *Sicily*. Implementation of preparatory action with a view to setting up a technological district in the ship-building sector, commercial craft and yachts: for research aimed at identifying appropriate technological resources to enable shipping innovations to converge with innovations in the sphere of port equipment both for loading and unloading (automatic mooring systems; flatter access ramps on several levels; programmed systems for access/stopping/outflow of vehicles; loading platforms for moving loading units). Funding: €2.9m.
- *Sicily*. Implementation of preparatory action with a view to setting up a technological district in the area of “bio” agriculture and eco-compatible fishing: advanced biotechnological applications for use in the food and agriculture sector will be developed, through use of living organisms and their components, in order to improve the characteristics of plants and animals in both qualitative and quantitative terms. Innovative methodologies will also be studied and new experimental techniques tested for the reproduction and breeding of different species of fish in a protected marine environment. Funding: €22.2m.
- *Sardinia*. Implementation of preparatory action with a view to setting up a technological district in the bio-medicine sector and in health technologies in the area around Cagliari-Pula: research activities and technological developments aimed at leveraging on the possible co-operations and synergies existing in the metropolitan area of Cagliari are planned. Funding: €16.8m.
- *Photovoltaic modules*. It is estimated that the photovoltaic market in Italy will grow very rapidly in the next few years, driven by suitable incentive policies that will enable the country to make up lost ground in terms of rolling out this technology. The current low levels of national productivity in terms of photovoltaic modules means that Italy is currently highly dependent on non-Italian producers for sourcing raw materials. Given the growth prospects for this market in Italy, substantially increasing the national production of such modules at competitive prices would appear to be a strategic priority.

Roll-out of photovoltaic technology currently reflects the high initial costs of production, which was linked to the use of silicon, an expensive raw material whose reference market is electronics.

Starting in 2000, the University of Parma embarked on a research project aimed at developing innovation in the production processes for thin-film photovoltaic modules made of cadmium telluride (CdTe), as a valid alternative to silicon, which is particularly suited to industrial-type, low-cost production. This research has yielding extremely promising results, consisting in particular of development of a thin, highly effective film made out of cells which is very stable over time and which is easy to reproduce.

Following a programme agreement between the Ministry for the Environment and the region of Lombardy, a pilot project was launched with the objective of scaling the results achieved in the laboratory for use in an industrial context. The pre-competition development project, which will be carried out at Arese and involve a total investment of €24m, shall include design and construction of a pilot facility for automated line production of photovoltaic modules in CdTe thin film.

This will be the first such facility in Italy and the most advanced worldwide in terms of quality of product, low cost of production and technology employed. The strengths of this initiative are:

- pilot facility production capacity of 18 MW per annum, corresponding to approx. 250,000 modules for 180,000 m<sup>2</sup>;
- initial cost of production below €1/Wp;

- photovoltaic conversion efficiency of modules produced above 11%;
- at full capacity, more than 80 high-quality staff employed and even more (approx. 150) in allied industries.

The complete automation of the process and low cost of the raw materials used will mean the initial cost of producing the photovoltaic watt will be less than €1, meaning a cost saving of fifty cents per watt produced at full capacity. The product to be sold on the market will therefore have much lower prices than the traditional silicon modules, which currently sell at over €4 per watt.

In the medium and long term, the anticipated impact on the national market is significant: the success of this project will lead to design and construction of facilities of this type on a much greater scale, which in turn will re-launch national industry in this sector with likely impact in terms of international competitiveness and penetration of this technology in Italy.

– *Initiatives for education in regional policy*

The 2000-2006 CSF, objectives 1 and 3, contribute to the NRP priorities of improving the quality of education. Initiatives have been devised to dissuade children from leaving school, to strengthen language, IT and maths skills at adult as well as child level, to introduce innovative teaching methods, to improve teaching facilities and equipment, to facilitate teachers' career development, and to encourage the interface between work and school.

With regard to objective 1, the “School for Growth” Programme managed by the Ministry for Education is currently underway, with total funding of €830m. Some 3,418 schools have benefited from funding disbursed under the Programme, with the involvement of 668,198 pupils, approx. 57% of which were girls and around 19% of working age, chiefly between 30 and 49 years old. The projects regard:

- promotion of an information-based society through purchase of PCs, cabling of school buildings, IT instruction for both pupils and teaching staff (approx. 40% of funds);
- laboratories, language, scientific and technological, to simulate a business environment; provide language and environmental instruction; bring the school system and the work place closer; and decrease the number of early school leavers (approx. 24% of programme funding);
- 133 “resource centres to encourage pupils to stay at school”, 41 of which in mountainous or isolated regions and 92 in urban areas, with technological laboratories, media facilities, graphic and visual arts laboratories, business simulation laboratories, and electronic music laboratories;
- specific study guidance initiatives to encourage adult women into or back into the job market (25,561 students) and strengthen core adult skills (56,638 students).

Specific measures for schools are also provided for in the regional programmes, with total funds of approx. €275m, and for adult education. One example is the initiative promoted by Sicily in conjunction with the Ministry of Education to support schools on the smaller islands. The region has also taken steps to embed a culture of legality in schools.

7.2. *Regional experiences*

The regions have a major role to play in the governance of the Lisbon strategy in Italy. As described in section 2 above, they have been involved from the start in the process which led to the preparation of the NRP and the Report.

As was shown in the “Contribution of the Italian regions”, which was attached as an annex to the 2005 NRP, and the validity of which is confirmed, the regions identify their path towards growth and employment from the perspective of a country-system/regions-system,

which brings together measures to increase competitiveness with other measures aimed at convergence in terms of integration of social, economic and environmental aspects.

While starting from a differentiated territorial framework presenting very different situations and trends, the regions of Italy have nonetheless defined a unitary strategy which is structured into different initiatives in accordance with European Council guidelines.

Some of the more significant regional experiences are described in more detail below.

– *Piedmont: the WI-PIE programme*

The multi-year WI-PIE programme, which has a total value of €100m, aims to provide Piedmont with an extensive broadband-based connectivity system by year-end 2007. WI-PIE comprises seven strategic guidelines divided into sub-projects that range from promoting the programme in schools and universities to planning and implementation of demonstrators, to experimentation using emerging technologies. The project is developed into the following five macro-phases.

- qualifying regional spending on research.
- supporting directly the development of new forms of knowledge and understanding.
- developing a regional research system.
- supporting the competitiveness of the region and providing incentives for knowledge and innovation on the part of SMEs.
- ensuring that the regional policy on research is consistent with both the national and European one.

The Piedmont region, the Ministry for the Economy and Finances, and the Ministry for University and Research have each contributed to the project with funding of €32.7m.

– *Piedmont: Piedmont hydrogen system*

The objectives of the Piedmont hydrogen system (“Sistema Piemonte Idrogeno”, or “SPH2”) are: to support and direct research aimed at hydrogen technologies; encouraging the growth of managerial and technical staff at universities, laboratories, and in companies; promoting the use of hydrogen as a clean carrier and alternative to fossil fuels; helping develop the region's hydrogen infrastructure; promoting the transfer of technologies from laboratories to business; and providing support in the pre-competitive phase for technologies using hydrogen used from renewable sources.

Piedmont intends to play the role of co-ordinator, in partnership with the other regions of Italy and Europe, for one of the future platforms for hydrogen and the new energies currently being defined as part of the European Union's energy policy.

Research carried out through a network of specialist laboratories, both pure and applied, is geared towards: production, purification and storage of hydrogen; acquiring more indepth knowledge of fuel cells, both PEM/PEFC (Polymer Electrolyte Membrane Fuel Cell) and high temperature, MCFC (Molten Carbonate Fuel Cell), and SOFC (Solid Oxide Fuel Cell); managing power; and specific applications.

Some of the main projects include:

Micro-CHP, to develop a CHP unit based on a combination of a methane steam reformer and a polymer fuel cell stack for multi-household domestic usage and small service industries. Celco Yacht, to develop a fuel cell system to power onboard auxiliary motors and yachts. Microcell, for a methanol fuel cell system to power computers and mobile phones. Hydrogen bus, with a fuel cell propulsor to be tested in service on urban routes. Electro-power systems, the start-up venture which won the “National Prize for Innovation 2005” implemented 7 kV prototype power systems using pure hydrogen and 50 kV systems using natural gas. EOS is a

laboratory research project within the Gtt facility at Turin. Primo Settimo, to develop facilities to store and generate energy from renewable sources at Settimo Torinese. FIAT Panda Hydrogen-cell, to develop a fuel cell-powered city car. Hysyrider, to develop a fleet of Light Fun Vehicles (LFV) running off hydrogen power systems (PWS) using a stack of low power fuel cells (300 W). The PWS will be produced in a relatively high number of examples (around 80), making possible a drastic reduction in costs and effective experimentation on the ground.

- *Marche: sustainable mobility in regional public transport*

The Marche region is implementing a project to reorganize the local public transport system with a view to integrating innovative forms of transporting by introducing elements for a new model of management, offering new opportunities for management of the railway system, contributing to social and territorial cohesion, making the market more competitive and aiming to ensure effective provision of quality service.

The project aims to evaluate the technical, technological, operational, legal and economic issues involved in introducing a mobility system of high efficiency in environmental and transport terms. It takes into consideration all the new ICT applications for sustainable mobility and their various possible uses, not just by local administrations but also by private entities. The competitiveness of companies based in the Marche region is largely impacted by the correct functioning of the internal market, and for fair, concrete competition between companies there has to be an integrated system of infrastructure, transport and energy which is able to guarantee parity of conditions and free trade. The research project is part of an approach to develop tangible networks to ensure long-term economic growth and effective use of resources. The estimated cost of implementation and financial coverage is €0.3m, co-financed via funds from the regional programme for innovative action “Marche ISSOCORE 2005-06”.

- *Molise: food and agriculture technological district*

The Molise region is implementing a project to develop a technology district in the food and agriculture sector. The project is aimed at bringing together the *filieres* in the food and agriculture industries in the Molise region in order to develop product and process innovation. The modernization processes necessary in order to compete on global markets require a business system that encompasses technological competences and skills to conceive and develop innovation by encouraging competition in local SMEs. The technological district will act to promote the roll-out of technological innovation at companies operating in Molise. An estimated economic commitment of approx. €5.5m is necessary, €3.5m of which to be drawn from Ministry of University funds, and €2.0m from the Molise 2007-2013 POR.

- *Valle d'Aosta.*

*Improving accessibility of airport system.* The objectives here chiefly regard consolidation and increase of passenger traffic at the regional airport, through increasing its capacity for traffic, increasing the number of daily flights, increasing the number of routes, using bigger aircraft, increasing the possibilities of night-time flying or flying during unfavourable weather conditions, greater possibilities of action by the civil protection or alpine aid services, and improving the reliability of the service. A total of €14.6m has been set aside for this purpose, €11.9m of which from regional funds.

*Improving the Aosta-Turin railway transport system.* The chief objective here is to save time by giving priority to direct links over medium/long distances while ensuring high levels of comfort and service on the service, improving the use of the railway network in order to create more value from the Alpine scenery in economic and tourism terms, without neglecting the importance that railway stations can have with respect to their immediate surroundings by creating points of interchange in correspondence with the various centres at the head of the side valleys situated on the Aosta-Turin line. Removal of a total of eleven



level crossings is also planned, as is the development of an intermodal exchange. A total of €5.7m has been provided, of which €2.1m coming regional funds.

*Promotion, research and innovation to make the productive system more competitive.* The intention is to create an environment which is favourable to innovation and competition by leveraging on the region's human resources. A regional plan for research and innovation has been drawn up comprising measures in support of innovation by SMEs. Funds of €0.35m have been provided.

*E-government.* The e-government programme aims at strengthening the infrastructure of the network of the regional public administration and services provided to citizens and corporates. The objective is to guarantee higher levels of administrative efficiency while at the same time generating significant advantages for users: less interaction with different entities, fewer journeys from one office to another, and quicker turnaround times against a backdrop of security through use and exploitation of the most up-to-date authentication technologies. The results anticipated from implementing this project involve development of inter-operability systems through application of e-government at inter-regional level and demonstrable effectiveness of infrastructural services. Funds of €2.6m have been provided.

*One-stop-shop for local entities.* The aim here is to enable businessmen to have a single point of reference to co-ordinate and manage all relations with internal offices and entities involved in the administrative process. The project involves activities being shared among three different offices throughout the Valle d'Aosta region.

– *Lombardy: training centres*

The region of Lombardy has launched a programme scheduled for completion in 2008 to set up training centres involving schools, universities, businesses and research entities. The centres are intended to combine educational policies with support for employment and services to corporates, with particular reference to advanced technical education and training (“Istruzione e Formazione Tecnica Superiore”, or “IFTTS”). The training centres are intended for young people, adults in work or out of work or businessmen. Funds of €11.6m have been set aside.

– *Emilia-Romagna.*

*Private broadband network for public administrations in the Emilia Romagna region (LEPIDA).* The Emilia Romagna region has launched the technological modernization of its regional public administrations' electronic network. This new network, which has been in operation for a year now, is called “Lepida” in honour of Marco Emilio Lepido, the Roman consul who had the Via Emilia built in 2 BC. The network will enable the regional, borough and provincial authorities, mountain communities, universities, healthcare institutions, hospitals and schools to be inter-connected, which will encourage the implementation of interactive online services for citizens and corporates, as well as rationalizing and streamlining bureaucratic procedures. In order to establish this network three different technologies are being used: fibre optic, ADSL and satellite. Lepida is being implemented in conjunction with the region of Emilia Romagna and multi-service businesses mandated to construct the actual network and manage active connectivity services.

Achievement of the objectives will make it possible to provide and distribute e-government services to corporates and citizens; construction of urban fibre optic networks is also envisaged.

Total investments of €155m have been earmarked and provided.

*Regional programme for industrial research, innovation and transfer of technology (PRRIITT).* This Programme defines the strategic direction, implementation criteria, and priorities for strengthening trends in the regional production system in favour of applied research activity, competitive growth and innovation, in order to stimulate an increase in the technological content of the production and development of a knowledge-based economy. The objective is

to provide support to companies and productive activities *inter alia* in the context of other national and EU instruments in order to support research and innovation. The basic objective of the Programme is to contribute to the consolidation of a regional knowledge- and innovation-based community, comprising individuals and entities who, in their respective environments, are working for innovation and who interact to exchange and develop new forms of knowledge.

The Programme examines the strong and growing propensity on the part of the regional system towards investing in technological innovation and development of knowledge. Action is aimed at investments in research and development by businesses in information and communication technologies, to implement patented industrial innovation and rapid development by new businesses and new professions operating in advanced services to corporates. The Programme aims to define the structure of action focusing on the specific characteristics of the individual regions, considering the different types of players involved vis-à-vis the technological structure of the region based on a “Regional Technology Foresight” approach strategy for consolidating an economy based on innovation and knowledge at regional level which passes through four integrated actions: development of the regional production system in favour of industrial and strategic research; generation of new business and professional activities with high technology content; transfer of knowledge and technological competencies; and development of networks.

Full implementation of the Programme provides for operation of 670 projects in the industrial research sector and pre-competitive development for companies, for an aggregate value of €369m.

– *Liguria.*

*Technological district for integrated intelligent systems* Liguria has a flexible production system based on a high number of small and medium-sized companies, and has developed several medium- and high-technology content productive sectors, such as energy, mechanical engineering, instrumentation, robotics, micro-electronics and bio-medical technologies, where production occupies leading international positions. Another peculiar aspect of the regional production system is its specialization in the transport and logistics sector, while in academic terms the region boasts positions of excellence in the integrated intelligent systems sector, after many years of research in this area. These considerations gave rise to the idea of a district based not around one technology in particular but a sector, which would bring together several technologies, primarily of an information, electronic, telematic and robotic nature. Some of the main objectives are:

- promoting the transfer of technology between universities, research centres and businesses, with a view to exploiting, *inter alia* in terms of profits, the results of scientific and technological research.
- promoting the development of technological entrepreneurship by implementing and strengthening growth initiatives to establish and develop new high-tech companies.
- supporting companies developing projects involving integrated intelligent systems.
- attracting high-tech firms and venture capitalists to Liguria, with a view to increasing the number of start-ups and spin-offs operating in the technology sector via dedicated “incubators”.
- strengthening, via high-level training, professionals profiles involved in research and development, with reference in particular to sectors of interest for the technological district.

The project will cost a total of approx. €80m, fully set aside, €35.7m of which to be funded by the private sector.

*Promotion, development and exploitation of research, innovation and university advanced training activities.* With the aim of creating a regional system for research and innovation in order to encourage

the transfer of technology throughout the region, a three-year Programme to develop and support universities, research and innovation has been adopted. This programme has received funding for pre-competitive industrial research and development projects; for technological, productive, commercial, organizational and operational innovation; for productive integration and combinations between companies; for projects to start up businesses with high technology potential and to promote spin-offs of businesses. The Programme will run for three years from 2007 to 2009.