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Opinion

Pipelines for New Chemicals: a strategy to create new value chains and stimulate innovation-based economic revival in Southern European countries

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Summary

Countries of Southern Europe are currently suffering from severe socio-economic pain resulting from high debt levels and austerity measures which constrain investment in innovation-based recovery strategies that are essential for entry into a long-term sustainable period of increasing employment and wealth creation. Young university-educated people are particularly innovative, and hence vital to the development of such strategies, but employment opportunities are poor and many are forced to seek employment that neither profits from their training nor satisfies their justified career expectations, or to emigrate. They are the 'lost generation'. A strategy is proposed here for the creation of *Pipelines for New Chemicals*, national centre-network partnerships for the discovery-synthesis of new chemicals obtained though harvesting new biological diversity, and their exploitation to develop new medicines, agrochemicals, materials, and other products and applications. The goal is to create new regional motors of economic growth and development, by harnessing the knowledge, motivation and innovation potential of the excellently educated young people of Europe to catalyse the development of new small, medium and large enterprises centred around novel chemicals, and the value chains that will evolve with them, and thereby develop a powerful sector of sustainable growth in employment and social and economic prosperity in Southern Europe.

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The problems

The global economy, that of Europe, and in particular that of Southern Europe, is facing serious long-term problems of degradation of prosperity and social well-being. Unsustainable debt and intolerably high levels of unemployment, especially among the young, constitute a chronic sociopolitical disaster. Given the lower labour costs of developing economies, and the globalization of current technologies and manufacturing processes, the exit of Southern Europe from the current crisis, and minimization of crisis repeats, requires imaginative, selective, substantial and sustained investment in those inherent human capital strengths that can give countries of Southern Europe an edge in the competitive market of today and tomorrow, namely innovation, innovators and the entrepreneurs that take innovations to market. Fundamental research in academic centres is a major source of new