(cf. Goel *et al.*, 2008). Instead, Coccia (2012) shows that when R&D spending of business enterprise sector exceeds R&D spending of government sector, the labor productivity and GDP tend to growth, *ceteris paribus*. Moreover, a range of R&D investment as per-centage of GDP between 2.3 per cent and 2.6 per cent seems to maximize the long-run impact on productivity growth of advanced countries (Coccia, 2009; cf. Coccia, 2011). This finding is the key to explain the political economy of R&D for sustained productivity, accumulation of scientific and technical knowledge, as well as technology improvements in industries of advanced countries.

5 A COMPREHENSIVE GRAPHICAL REPRESENTATION OF THE DRIVERS OF GPTS TO SUPPORT THE FORE-SIGHT AND INNOVATION POLICY: THE FISHBONE DIAGRAM

This study shows a visualization technique for systematizing and analysing the drivers of GPTs, just discussed, that explain the social and economic change over time. In particular, an appropriate visual representation of the complex drivers of major innovations can be the fishbone diagram. Figure 2 shows this comprehensive theoretical framework (Fishbone diagram) to represent and explore the source of GPTs. In particular, the fishbone diagram in Figure 2 shows that the source of GPTs is due to a com-plex interplay of causes represented at left, which support emerging GPTs (hexagon at right). The major categories of the potential root causes of GPTs are described as follows. Firstly, the presence of natural and human resources in temperate climate for societies with economic potential is the base for laying the foundations for a GPT. This condition is a necessary, but not a sufficient factor because GPTs thrive in specific socioeconomic and cultural background with high level of democratization and specific predominant religions, such as Protestant reli-gion that can fruitful affect the higher education system and culture of human resources in so-ciety. However, an appropriate socioeconomic background is an important base for the source of major innovations but GPTs thrive mainly when great powers have to achieve and/or sup-port the purpose of global leadership to cope with consequential environmental threats and/or take advantage of important opportunities in contestable circumstances (e.g., during major conflicts/threats and/or struggle to prove scientific superiority and military strength among great powers).

Figure 2. Determinants of the source of GPTs in advanced nations represented with the fishbone diagram. Note: GPT = General Purpose Technology.