

Artículo

## The Portuguese development plans in the postwar period: How much was spent and where?

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### ABSTRACT

After the Second World War, Portuguese decision-makers began to produce *planos de fomento* [development plans]. The conclusions reached using unique historical data show that the Portuguese nation spent roughly 211 million *contos* on development plans in the period from 1953 to 1974. Approximately three quarters of this amount (which at today's prices and in today's currency is equivalent to €50.4 billion, i.e. 26.1% of the current Portuguese GDP) were spent in the metropolis; while the remaining quarter was spent in the overseas provinces. Based on the estimation of a linear regression model, it was also possible to identify a positive relationship between this expenditure and the extraordinary growth of the Portuguese economy during the Golden Age. It is hoped that this research can make a valuable contribution to the economic history of the twentieth century and provide a useful tool for future research.

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### Los planes de desarrollo portugueses en la posguerra: ¿cuánto gasto supuso y dónde se gastó?

### RESUMEN

Después de la Segunda Guerra Mundial, el Gobierno portugués comenzó a aprobar *planos de fomento* [planes de desarrollo]. El objetivo principal de esta investigación es cuantificar y analizar los gastos realizados en el marco de estos planes. Las conclusiones alcanzadas muestran que, en el período entre 1953 y 1974, se gastaron aproximadamente 211 millones de *contos* en estos planes de fomento. Aproximadamente tres cuartas partes de esta cuantía (50 400 millones de euros en moneda de hoy, equivale al 26,1% del PIB actual portugués) se gastaron en inversiones en la metrópoli, mientras que un poco más de la cuarta parte se empleó en inversiones en ultramar. Con base en la estimación de un modelo de regresión lineal, es posible identificar una relación positiva entre este gasto y el extraordinario crecimiento de la economía portuguesa durante la *Golden Age* [Edad de Oro]. Se espera que esta primera cuantificación aporte una valiosa contribución a la historia económica y constituya una herramienta útil para la investigación futura.

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## 1. Introduction

After the Second World War, the Portuguese economy enjoyed remarkable success in a very favourable international context that came to be known as the Golden Age (1950-1973).<sup>1</sup> The literature indicates certain decisive factors that explain Portugal's extraordinary performance: 1) the relative liberalisation and integration of the Portuguese economy into the world economy resulted in its increased openness; 2) Portuguese economic policy was geared towards the promotion of economic growth, with the Portuguese economy undergoing a strong process of industrialisation.<sup>2</sup>

During this period, the so-called *planos de fomento* [development plans] were implemented by the Estado Novo regime (1933-1974).<sup>3</sup> These guiding charters of the Portuguese nation (consisting of the metropolis and the overseas provinces)<sup>4</sup> decisively marked economic policy in Portugal during the postwar period, having been designed precisely to stimulate economic growth by using (public and private) investment as a key tool.<sup>5</sup> Therefore, the spending resulting from the plans must have made a direct contribution to increasing Portuguese aggregate demand.

Although various works have highlighted the importance of the development plans, none of them makes it possible for us to know how much was spent under their scope, nor where these sums were spent. Existing studies (see, for example, Neves, 1994 and Lains, 1994) deal only with the amounts that were budgeted, and not those that were actually spent.

The main aim of this research is precisely to fill in this evident gap in the literature by performing the first financial quantification of this expenditure in order to answer several important questions:<sup>6</sup> What was the total amount spent on the development plans? What percentage was allocated to the metropolis and how much do those amounts represent at today's prices and currency? What percentage was spent in the

<sup>1</sup> The Portuguese economy grew at 5.7% per year, while the Western Europe and world economies grew by 4.8% and 4.9% respectively (Maddison, 2003, Table 8b, p. 260). For more details about the Golden Age, see, for example, Eichengreen (1994), Crafts (1995), Maddison (1995, pp. 73-78), Temin (1997, 2002) and Toniolo (1998).

<sup>2</sup> For more information about these factors, see, for example, Lains (1994, 2003a), Neves (1994), Silva Lopes (1996, pp. 63-103), Mata and Valério (2003, pp. 200-218), Costa *et al.* (2011, pp. 365-441), Coppolaro and Lains (2013) and Mateus (2013, pp. 19-21; pp. 81-104).

<sup>3</sup> The Estado Novo was a Portuguese political regime that was nationalist, corporatist, anti-liberal, authoritarian and anti-democratic.

<sup>4</sup> The term metropolis referred to mainland Portugal and the nearby islands (Madeira and the Azores). The terms "overseas" and "overseas provinces" were adopted after the Second World War in place of the words "colonial empire" and "colonies", respectively. The overseas provinces were Cape Verde, Guinea (Portuguese Guinea), São Tomé and Príncipe, Angola, Mozambique, Macao, Timor (Portuguese Timor) and the State of India (Portuguese India).

<sup>5</sup> It should be noted that, before the Second World War (1939-1945), the State had already assumed a fundamental role in the Portuguese economy. However, after the conflict, this role intensified, resulting in a very significant increase in public expenditure (see Ferraz, 2015). This was due essentially to two factors: 1) The strong industrialisation process that began in the 1950s and intensified from the 1960s onwards (see Lains, 1994); 2) The Colonial War (1961-1974), which significantly increased "defence and security" spending (see Ferraz, 2017).

<sup>6</sup> Our research also introduces the novelty of examining the expenditure of these plans in the overseas provinces.

overseas provinces? Which were the economic sectors on which the largest amounts were spent? What were the sources of this finance?

Taking into account the fact that stimulating economic activity was a crucial objective of the development plans, a natural extension of this work involves an attempt to find empirical evidence of a possible relationship between the expenditure made under their scope and the extraordinary growth experienced by the Portuguese (metropolitan) economy during the Golden Age.

After this introduction, Section 2 provides a brief outline for understanding the origins of planning in Portugal and the appearance of the development plans. This is followed by Section 3, which, for the first time, presents a financial quantification of the expenditure made under the scope of these plans and answers the questions that have been raised. Section 4 is devoted to a study of the relationship between this expenditure and the growth of the Portuguese economy. Finally, Section 5 highlights the main conclusions.

## 2. The origins of planning in Portugal and the development plans

The first attempt to plan investments in Portugal with a medium to long-term perspective was made with Law No. 1914, of 1935 (*Diário do Governo*, 1935). This was known as the "Economic Reconstitution Law", through which various military and non-military investments were planned to be made over the next fifteen years.

This Law remained in force until 1950, and it can be considered the precursor of the Portuguese development plans (about its implementation, see *Governo*, 1950). This was the first great experiment of the Estado Novo in regard to planning matters. The policymakers considered the "Law of Economic Reconstitution" to be a success, and its links with the subsequent development plans are undeniable. This is clearly reflected in various speeches made by members of the National Assembly (Portuguese Parliament) during the discussion of the First Development Plan in December 1952. Some examples:

- 1) "The Development Plan [...] embodies the spirit that presided over the elaboration and implementation of Law No. 1914, known as the Law of Economic Reconstitution"—Pinho Brandão (Ministérios da Economia e do Ultramar, 1953, vol. 2, p. 192).
- 2) "The Development Plan is the continuation of the Law of Economic Reconstitution and represents the most vigorous impetus that it is believed possible to give to the nation's economy"—Vaz Monteiro (Ministérios da Economia e do Ultramar, 1953, vol. 2, p. 280).
- 3) "As far as the metropolis is concerned [...], the plan is the continuation of the Law of Economic Reconstitution [...]. In the case of the overseas provinces, however, this is the first time that many of their aspirations are due to be fulfilled in a project of major works and undertakings"—Noronha (Ministérios da Economia e do Ultramar, 1953, vol. 2, p. 405).

However, despite its importance, this Law was not considered by the regime to be a genuine plan. This becomes quite clear when evaluating the words written on 25 November,

1950, by António de Oliveira Salazar, the head of the government of the Estado Novo: "The Law of Economic Reconstitution cannot be considered to have approved a fifteen-year plan [...] it lacks, precisely, the concatenation and harmonisation of objectives that would make it a true national economic development plan" (Governo, 1950, p. 12).

The appearance of plans in the Portuguese territory was not, however, a novelty in the world economy, and the Opinion on the First Development Plan issued by the Corporative Chamber recognised this fact.

As an advisory body of the Estado Novo, the Corporative Chamber presented the examples that it considered most relevant in the area of economic planning at the external level. Three Russian plans were mentioned: the third five-year plan (1938-1942); the fourth five-year plan (1946-1950); and the fifth five-year plan (1952-1956). The Spanish Law of 25 September, 1941, was also mentioned, this being a law that created the National Institute of Industry with the purpose of "promoting and financing the creation and development of industries in the service of the Nation" (Ministérios da Economia e do Ultramar 1953, vol. 1, p. 151). This Institute contributed to the development of activities such as shipbuilding, mining, railways and the construction of aeroplanes and automobiles.

However, it was the French *Premier plan de modernisation et d'équipement* that aroused the greatest enthusiasm in the Chamber. Known as the Monnet Plan (1946-1950), it had the aim of reconstructing and modernising the French economy, with a special focus on industry. The members of the Corporative Chamber considered the plan "a remarkable synthesis of French needs in many areas [...]". It was described as a "vast work, which impresses us by its detail", and which even contained "forecasts for the evolution of the external trade of France and its balance of payments" (Ministérios da Economia e do Ultramar, 1953, vol. 1, pp. 150-151).

Thus, these initiatives -with most emphasis being given to the Monnet Plan- may have served as an external impetus for the creation of the development plans in Portugal (Mateus, 2013, p. 92, suggests precisely that the Portuguese plans had a French inspiration).

In any case, it seems clear that, in the early fifties, the Portuguese government understood that there was sufficient experience and knowledge for drawing up detailed and elaborate plans, covering the most important economic sectors.<sup>7</sup>

When analysing the extraordinary performance of the Portuguese economy in the postwar period, the literature frequently highlights the importance of these plans. De Moura (1973, p. 43) stated that they were initially "formed through the joining together of some partial programmes and, above all, public investments", evolving over time into a "consistent global programming framework". In the same way, Neves (1994, pp. 1018-1019) considered that they "evolved from a mere catalogue of public investments into a more global and integrated approach". Also, in terms of evolution, Lains (1994, p. 927) mentioned that the "predict-

ed expenditure" had gradually increased, and that the (predicted) private funds had gained more importance after the first plan.

In a detailed analysis, Rosas and Brito (1996, pp. 739-742) pointed out that the development plans, which "were an important instrument for supporting the growth of the Portuguese economy", had given "greater rationality to State intervention in the economy", identified "the main structural bottlenecks", established "mechanisms of technical and financial coordination" and governed "the growth model that was followed". This planning had two phases: "a first phase, corresponding to the period of the first two development plans, in which the Government managed, with reasonable success, to impose a set of structural public investments in basic sectors of the economy [...]; and a second phase, which took place from the beginning of the 1960s onwards, in which planning objectives and methodology were developed, with increasing importance being given to social concerns". Silva Lopes (1996, pp. 82-83) also stressed that "the government played an active role" in the first two development plans, not only by promoting "infrastructure investments" that were "necessary for industrial development (notably electrification)", but also by launching "new manufacturing activities" and by "expanding the productive capacity of previously installed industries".

Looking at the question from a global perspective, Mata and Valério (2003, p. 210) claimed that the development plans "attempted to coordinate public investment" and sought to "set up an indicative planning structure for the whole economy". Also, for Mateus (2013, p. 92), who considered this planning "one of the most important elements of economic policy during the golden period of the Portuguese economy", these plans should be understood as a "series of measures that are mandatory for the public sector, but merely indicative in terms of macroeconomic projections and measures for the private sector".<sup>8</sup>

The Portuguese plans were, in fact, imperative with regard to public investments and programmatic with regard to private investments, with there having been obvious transformations between the first and the last plan. For example, there was an increase in the number of investment sectors, while the degree of detail and complexity of the information provided increased significantly.

The plans, which officially came into force in 1953, were enshrined as laws (see *Diário do Governo*, 1952, 1958, 1964, 1967, 1973). Specifically, with the First Development Plan, 1953-1958 (Ministérios da Economia e do Ultramar, 1953), the first genuine attempt was made to combine the resources of

<sup>7</sup> Attention should also be drawn to the fact that, at the end of 1948, Portugal submitted a long-term economic programme to the Organisation for European Economic Cooperation (OEEC), justifying the American aid requested under the scope of the Marshall Plan. Some authors have also established a link between this programme and the development plans. On this topic, see Rollo (1994, p. 267) and Lains (2003b, p. 173).

<sup>8</sup> In the literature, it is also possible to identify some criticisms of the plans, which include the limited focus that was placed on promoting social equity, and their use to politically legitimise the Estado Novo regime (see Silva 1982, 1984). However, generally speaking, we can consider the evaluation made of the Portuguese plans to be a generally positive one, especially if we compare it with the evaluation that is made of the *planes de desarrollo del franquismo* (the Spanish development plans adopted under Franco's dictatorship), which seems to be a largely negative one. For example, Comín and Vallejo (2009, p. 137) argue that the Spanish plans (1964-1975) were "[...] an instrument of the dictatorial regime used to make political propaganda and to distribute favours among businessmen and local politicians in order to gain more support for Franco". Interestingly, their conclusions also seem to suggest that Franco's plans did not have any particular importance for Spain's economic performance during the Golden Age.

the metropolis and the overseas provinces into one single plan. This was a six-year plan, largely devoted to public investment in a very small number of sectors, such as energy, transport and communications, although some investments were also made in the private sector, particularly at the industrial level.

The Second Development Plan, 1959-1964 (Assembleia Nacional, 1959), which continued to be a six-year plan, did not introduce any major novelties in relation to the previous plan, despite the fact that it forecast more investments in new sectors (e.g. the fishing sector in the metropolis).

On the contrary, it was the Interim Development Plan, 1965-1967 (Assembleia Nacional, 1965), presented in the context of the Portuguese Colonial War (1961-1974), which brought major changes. Besides investing in a wider range of sectors (e.g. the tourism sector of the metropolis), this plan also provided specific economic, financial and social policy measures. For the first time, this plan included forecasts for various indicators in the Portuguese economy. According to the government, the explanation for the plan's shorter time horizon (only three years) was due to "the impossibility of predicting the evolution of the Portuguese economy with any certainty [...] in terms of the financial effort dictated by defence requirements, as well as by the process of unifying national markets and the progress of European integration movements" (Secretaria-Geral da Assembleia Nacional, 1968, vol. 1, p. 22).

With the Third Development Plan, 1965-1967 (Secretaria-Geral da Assembleia Nacional, 1968), new investments in new sectors were stipulated (e.g. investments in the metropolis in the area of meteorology). Policy measures were also to be implemented in several areas: foreign trade, employment, social policy, productivity and the public sector. The economic forecasts were also more complete, due to improvements in public administration. Another novelty was the presentation of a study of the problems caused by regional asymmetries in the metropolitan economy. This plan again covered a period of six years. According to the government, this was due, above all, to the fact that "the favourable evolution of the financial environment" made it possible to "dispel the initial uncertainties about the compatibility between defence requirements and the needs of economic development" (Secretaria-Geral da Assembleia Nacional, 1968, vol. 1. p. 24).

Finally, the Fourth Development Plan, 1974-1979 (Secretaria-Geral da Assembleia Nacional e da Câmara Corporativa, 1974) not only stipulated greater investment in various sectors of the metropolis and the overseas provinces, but also presented more detailed economic forecasts for a wider range of indicators. It also included various studies that analysed the issues of regional asymmetries and Portugal's external relations in the context of European integration. This last plan was the most elaborate of all, although it was the only one that had practically no financial implementation. Attention is drawn here to the fact that, after the revolution of 25 April, 1974, which overthrew the Estado Novo regime, Decree-Law No. 203/74 was promulgated, calling for an immediate revision of the Fourth Development Plan (*Diário do Governo*, 1974). However, instead of a revision, consisting of an update in the light of internal and external events, the Fourth Plan was abandoned. This decision marked the end of the development plans in Portugal.

### 3. Financial quantification of the Portuguese development plans

While the development plans provide details about what was intended to be done, their implementation reports reveal which investments were actually made. These latter reports, which are currently to be found scattered around different Portuguese libraries and historical archives, enable us to extract historical data and to construct a unique key dataset.

For reasons beyond our control, in the case of the Third Plan, it was not possible to find the implementation reports for the entire period (1968-1973). It is plausible to admit that most of these missing reports may never have been produced. In the case of the metropolis, it was only possible to consult the reports until 1971, and, in the case of the overseas provinces, until 1972. Nevertheless, in both cases, some expenditure relating to the missing years was identified in the Portuguese State's General Account for 1973.

As far as the Fourth Plan (1974-1979) is concerned, no implementation reports were produced, although some public expenditure can be found in the State General Account for 1974. For the following years (1975-1979), no expenditure was identified in the public accounts.

Thus, based primarily on the various implementation reports, but also using two State General Accounts (for 1973 and 1974), the first financial quantification can be made of these plans. Both in the metropolis and in the overseas provinces, the reports grouped the various investments together under different sectors or categories. These categories were obviously changed from one report to another; not only did their names change, but their scope was also broadened. This initially caused difficulties, particularly when we attempted to draw conclusions about the importance of each of them. In order to mitigate this problem, we chose to standardise these categories.

#### 3.1. Financial quantification for the metropolis

Starting with the case of the metropolis, investment expenditure can be presented under the following categories: 1) Agriculture, Livestock and Fisheries; 2) Industry; 3) Energy; 4) Transport and Communications; 5) Education and Research; 6) Housing and Urbanisation; 7) Tourism; 8) Health (examples of these investments are given in Table A1 in the Appendix). In the case of the metropolis, the implementation reports of the Third Plan do not present any figure relating to expenditure in the manufacturing industries. In the reports, it is mentioned that the government was unable to obtain the desired quantitative information, although it is acknowledged that these investments were made. This seems to show that, in the last years of the *Estado Novo*, there was a lack of control regarding the implementation of private investments made under the scope of these plans (for information about the public entities responsible for monitoring the development plans, see Table A2 in the Appendix).

Thus, in order to avoid any undervaluation of the expenditure of the Third Plan, it was hypothesised that the spending on manufacturing industries grew at the same annual rate as the gross value added of these same industries (which can be calculated using the data from Valério, 2001).

Taking this into account, Table 1 documents the investment expenditure of the metropolis by category.

**Table 1**Expenditure of the development plans by category, metropolis, 1953-1971 (*contos*)<sup>9</sup>

Metropolis	I Development Plan: 1953-1958	II Development Plan: 1959-1964	Interim Development Plan: 1965-1967	III Development Plan: 1968-1971 <sup>a</sup>	Total
At current prices					
1) Agriculture, Livestock and Fisheries	1,086,493	3,963,723	3,891,105	7,977,928	16,919,249
2) Industry	663,268	7,661,241	12,503,783	20,277,984 <sup>b</sup>	41,106,276
3) Energy	5,257,406	7,069,690	5,497,829	9,360,769	27,185,694
4) Transport and Communications	2,562,933	7,841,691	5,902,011	15,284,543	31,591,178
5) Education and Research	319,530	582,575	955,764	3,255,132	5,113,001
6) Housing and Urbanisation	-	-	1,649,415	6,903,484	8,552,899
7) Tourism	-	-	1,403,500	2,072,902	3,476,402
8) Health	-	-	263,504	1,372,322	1,635,826
Total	9,889,630	27,118,920	32,066,911	66,505,064	135,580,525
At constant prices <sup>c</sup>					
Total	254	565	641	1,363	2,823

Sources: a) Inspeção Superior do Plano (1959); b) Presidência do Conselho (1967a, 1968a, 1968b, 1969a, 1970b, 1971a, 1972a, 1974a).

<sup>a</sup> The expenditure made under the scope of this plan relates only to the period 1968-1971.

<sup>b</sup> Includes the estimation of 20.2 million *contos* for the manufacturing industries.

<sup>c</sup> Price index 1914 basis (Valério, 2001).

Based on the implementation reports, it can be seen that, in nominal terms, more funds were spent from one plan to the next (the same conclusion is also obtained at constant prices). Secondly, it can be concluded that, in the period 1953-1971, such expenditure amounted to 135.6 million *contos*. However, this amount increases to 154.4 million *contos* if the expenditure identified in the State General Accounts of the period 1972-1974 is also taken into account (see Ministério das Finanças, 1974, 1976).<sup>10</sup> Inevitably, the following fundamental question arises: how much does this amount represent, both at present-day prices and in today's currency (the euro)? The

answer is €50.4 billion at 2017 prices, i.e. 26.1 % of 2017 Portuguese GDP.<sup>11</sup>

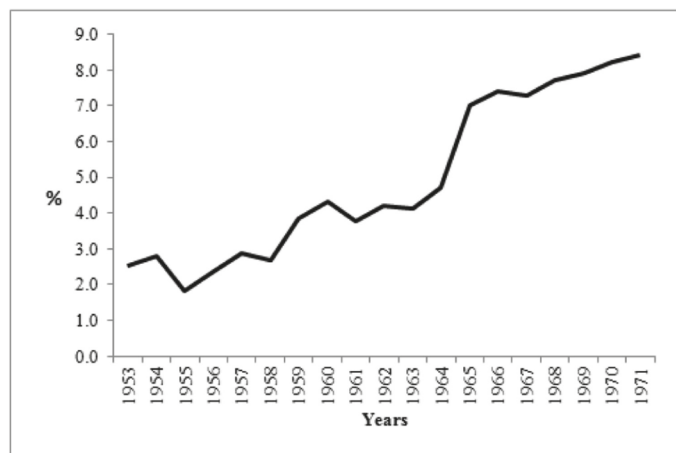
The information provided in the above table also shows that "Industry" was the most expressive category, accounting for about one third of total expenditure. This is not surprising if we take into account that it was precisely at that time that Portugal underwent a strong process of industrialisation. There were also other categories that individually recorded expenditure of more than 20 million *contos*. This was the case with "Transport and communications", and "Energy", which, together with "Industry", accounted for almost three quarters of the total investments made in the metropolis under the scope of the development plans.

It is also possible to analyse the evolution of this expenditure as a percentage of GDP. For this purpose, Figure 1 was constructed.

<sup>9</sup> The *escudo* was the currency of Portugal in the period under analysis. A *conto* was equal to 1,000 *escudos*. More recently, on 1 January, 1999, the *escudo* was replaced by the euro (1 euro = 200.482 *escudos*).

<sup>10</sup> This total amount is roughly 32 million *contos* lower than the one that is obtained by adding together the total budgeted amounts of each plan, as presented by Neves (1994, Table 9, p. 1019) and Lains (1994, Table 1, p. 928), a result that is largely explained by the divergence in the Third Plan. Attention is drawn to the fact that implementation reports (which present the total expenditure incurred with the plans) only exist for the period 1968-1971, whereas the budgeted data refer to the whole period of 1968-1973.

<sup>11</sup> The annual values were updated to 2017 prices using the deflator of the Consumer Price Index currently provided by the Portuguese statistical authority (for more information, see INE, 2017a). More specifically, all the values in *contos* that are quoted in current prices (for the years 1953 to 1974) were converted to values in euros at 2017 prices. The nominal value of the Portuguese GDP for 2017 was obtained from the INE database (INE, 2017b).



**Figure 1.** Expenditure in the metropolis under the scope of the development plans, 1953-1971 (percentage of GDP).

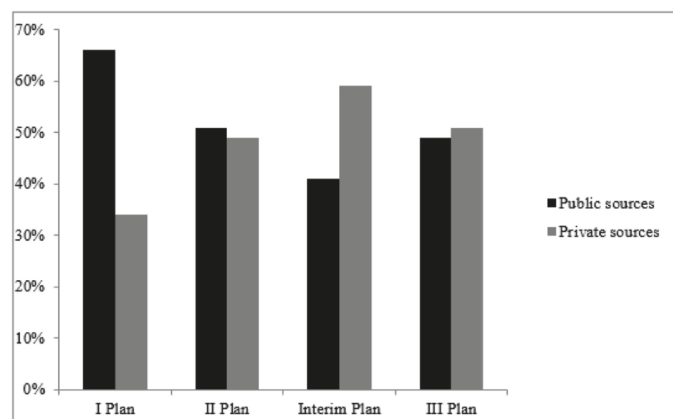
*Note:* Includes the estimation of roughly 20.2 million *contos* for the manufacturing industries in the Third Plan.

*Sources:* The same as those that were used to construct Table 1 for data relating to the plans, as well as Pinheiro (1997) for the data relating to the GDP of the metropolis.

The figure shows a positive trend in the expenditure ratio. While, in 1953, the expenditure of the development plans was only 2.5% of GDP, by 1971, it was already 8.5% of GDP, which means that it more than tripled. This expenditure represented an average ratio of 5% of GDP.<sup>12</sup>

It is also important to analyse the origin of the funds that were obtained to finance these investments in the metropolis. In other words, we must analyse these funds according to their provenance: whether they were public or private (about these sources, see Table A3 in the Appendix).

Figure 2 therefore shows the proportion of the funding obtained from each of these sources.



**Figure 2.** Origin of the funding of the development plans, metropolis, 1953-1971 (percentage of the total).

*Note:* The Third Plan stipulated that investments in the manufacturing industries should be financed 4.5% by the State budget and 95.5% from

<sup>12</sup> In *per capita* terms, this expenditure was equal, on average, to 0.8 *contos* (sources: the same as those that were used to construct Table 1 for data relating to the plans, as well as Valério (2001) for demographic data relating to the metropolis).

private sources. The value of our estimate for the manufacturing industries (20.2 million *contos*) was thus allocated to the sources of funding according to those percentages.

*Sources:* The same as those that were used to construct Table 1.

Until such time as the Interim development plan came into force, there was a fall in the share of public financing, and consequently an increase in private financing. Despite the increase in investments in the Third Plan, the share of public financing was below that recorded in the first two plans. However, it should be noted that, in monetary terms (*contos*), the share of public financing increased nominally from plan to plan, except in the case of the Interim Plan itself (using the price index of Valério, 2001, the same conclusion is also obtained at constant prices). The increase that occurred with the Third Plan is interesting, since, as has already been mentioned, when this plan was being implemented, Portugal was fighting the Colonial War. This conflict caused a “war shock”, which had clear repercussions on public expenditure (see Ferraz, 2017, p. 45).

However, if we analyse the funding obtained for the entire period 1953-1971, it can be concluded that the investment expenditure in the metropolis made under the scope of the development plans had a practically even distribution: 49% public financing and 51% private financing.<sup>13</sup>

### 3.2. Financial quantification for the overseas provinces

The total expenditure made in the overseas provinces can be calculated by adding together the expenditure of the various provinces: Cape Verde, Guinea, São Tomé and Príncipe, Angola, Mozambique, Macao, Timor and the State of India (for obvious reasons, this last province only until 1960). The total expenditure overseas can also be grouped together under the following categories (examples of investments are given in Table A4 in the Appendix): 1) Scientific Knowledge of the Territory; 2) Agriculture, Livestock and Fisheries; 3) Energy; 4) Industry; 5) Transport and Communications; 6) Education and Research; 7) Housing and Urbanisation; 8) Tourism; 9) Health.

The following table shows the investment made in the overseas provinces under each of these categories.

<sup>13</sup> Public funding of the investments in the metropolis made under the plans was therefore, on average, close to 2.5% of GDP. This value becomes more interesting, especially if we take into account, that, for example, in Spain, the public investment expressed as a percentage of GDP did not even exceed 2.0% of GDP during the implementation of Franco's plans, 1964-1975 (see Comín and Vallejo, 2009, pp. 130-131). De la Torre and García-Zuñiga (2013, p.51) also confirm that “through the regular budget, the plans received no more than a meagre 1% of GDP”.

**Table 2**Expenditure under the scope of the development plans by category, overseas, 1953-1972 (*contos*)

Overseas	I Development Plan: 1953-1958	II Development Plan: 1959-1964	Interim Development Plan: 1965-1967	III Development Plan: 1968-1972 <sup>a</sup>	Total
At current prices					
Scientific Knowledge of the Territory	18,001	310,733	225,544	—	554,278
Agriculture, Livestock and Fisheries	644,851	2,235,560	989,974	4,048,286	7,938,671
Energy	861,748	588,845	491,225	2,834,357	4,776,175
Industry	64,216	46,570	2,709,841	12,188,567	15,009,194
Transport and Communications	2,755,788	4,754,198	2,572,109	7,637,327	17,719,422
Education and Research	—	428,047	247,179	1,967,795	2,643,021
Housing and Urbanisation	217,699	461,619	288,198	1,984,914	2,952,430
Tourism	—	—	114,517	441,225	555,742
Health	—	232,615	187,946	749,635	1,170,196
Total	4,562,303	9,058,187	7,826,533	31,852,106	53,299,129

Sources: a) Inspecção Superior do Plano de Fomento (1959); b) Presidência do Conselho (1967b, 1968c, 1969b, 1970a,c, 1971b, 1972b, 1974b,c).

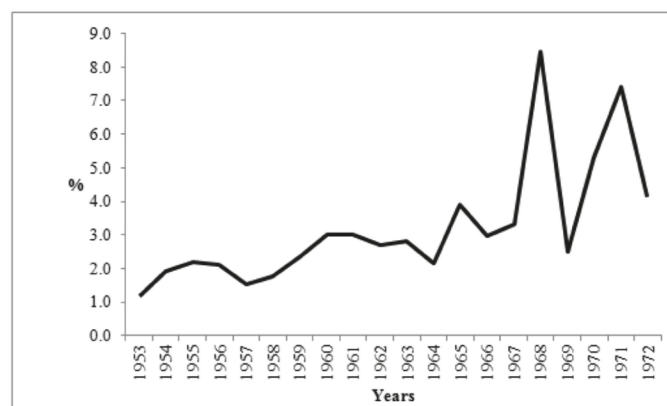
<sup>a</sup> The expenditure made under the scope of this plan relates only to the period 1968-1972.

Through an analysis of Table 2, and based on the implementation reports, it can be seen that, with the exception of the Interim Plan, which had a shorter time horizon, more funds were spent from plan to plan (contrary to what happened in the case of the metropolis, it was not possible to calculate the values at constant prices, given the lack of a price index for the overseas provinces).

The investments made overseas amounted to approximately 53.3 million *contos* in the period 1953-1972 (56.5% of this value was spent in Angola, 31.7% in Mozambique, 2.6% in Cape Verde, 2.8% in Guinea, 1.5% in São Tomé and Príncipe, 0.5% in the State of India, 2.9% in Macao, and 1.6% in Timor). This amount rises to 56.5 million *contos* if the expenditure recorded in the State General Accounts for the period 1973-1974 is also taken into consideration (see *Ministério das Finanças*, 1974, 1976).

It should also be noted that the investment category that had the largest share was “Transport and Communications”, which amounted to one third of total expenditure. This seems to make sense if we bear in mind that the various overseas provinces lacked appropriate infrastructure and transport, such as adequate roads to link their different villages. There were, however, other categories that individually also recorded values above 5 million *contos*, as was the case with “Industry” and “Agriculture, Livestock and Fisheries”, which, together with “Transport and Communications” amounted to slightly more than three quarters of the total investment made in the overseas provinces under the scope of the development plans.

Based on Figure 3, it is possible to analyse these investments as a percentage of the overseas GDP.



**Figure 3.** Expenditure made in the overseas provinces under the scope of the development plans, 1958-1972 (percentage of GDP).

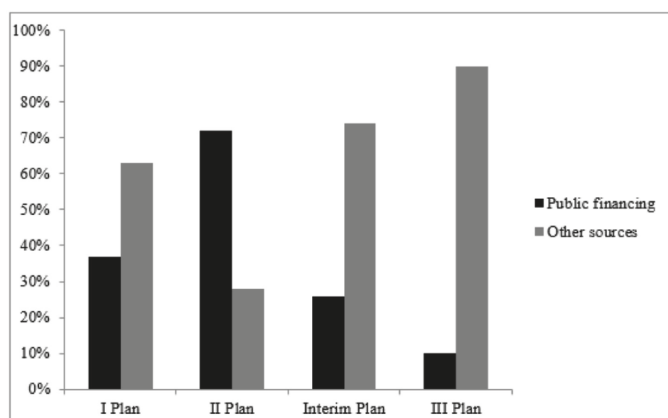
Note: Except for the case of the State of India, the implementation reports of the Plans provide data for the GDP of the overseas provinces for the years 1958, 1960, 1963, and for the period 1966-1972. From these data, it is possible to calculate average growth rates, assuming that the GDP of the overseas provinces grew each year according to those same rates. For the period 1953-1957, it was assumed that the average annual GDP growth rates were the same as those that occurred in the following five years, i.e. 1958-1962. Finally, from the sum of the GDP of each of the different overseas provinces (excluding the State of India), it is possible to obtain a rough approximation to what may have been the GDP of the overseas provinces as a whole.

Sources: The same as those that were used to construct Table 2.

It can be seen that, despite the intense oscillations that occurred in some years, there was a moderately positive trend. While, in 1953, this expenditure represented only 1.2% of GDP, by 1972, it already amounted to 4.1% (i.e. it more than tripled). Until 1959, the expenditure was always lower than 3% of GDP, and, in almost every year from 1960 onwards, it was higher than that value.<sup>14</sup>

There were two years when the expenditure was considerably higher than in other years. In 1968, this increase was due essentially to investments that were made in Angola, specifically in industry (extractive and manufacturing industries). As for the peak that occurred in 1971, this was largely explained by the heavy investments that were made in Mozambique, above all in the energy sector.

It is also important to analyse the origin of the funds that were used to finance this expenditure. Figure 4 shows two different types of sources: 1) public financing from the metropolis; 2) financing from another source (about these sources, see Table A5 in the Appendix).



**Figure 4.** Origin of the funding of the development plans, overseas, 1953-1972 (percentage of the total).

Sources: The same as those that were used to construct Table 2.

The proportion of public financing from the metropolis, which was below 40% in the First Plan, was over 70% in the Second Plan. However, from the Interim Plan onwards, the proportion of public financing from the metropolis was relatively small, amounting to only 10% in the Third Plan when, consequently, the financing from other sources reached its highest proportion. In fact, in monetary terms (*contos*), the public financing in the Interim and Third Plans was less than half of what it was in the Second Plan. This is an interesting fact that may be linked to the uncertainty that the Colonial War brought regarding the future of the overseas provinces, which, in turn, may have led Portuguese policymakers to reduce the public funds originating from the metropolis.

By analysing the sources of the funding obtained for the plans as a whole, it was found that the public financing from the metropolis was responsible for less than half of the expenditure made, amounting to only one quarter of the total, while the financing obtained from other sources amounted to three quarters.

### 3.3. Summary of the financial quantification

Based on the quantitative data obtained from the implementation reports for the development plans of the metropolis and the overseas provinces, it is possible to present a summary of the financial quantification of the first four Portuguese development plans. This information is shown in Table 3.

<sup>14</sup> In *per capita* terms, this expenditure amounted on average to 0.18 *contos*, with the following average values in each of the provinces: São Tomé and Príncipe = 0.60 *contos*; Macao = 0.30 *contos*; Cape Verde = 0.29 *contos*; Angola = 0.28 *contos*; Guinea = 0.15 *contos*; Mozambique = 0.11 *contos*; Timor = 0.08 *contos*; State of India = 0.05 *contos* (sources: The same as those that were used to construct Table 2 for data on the plans, as well as Valério, 2008, for demographic data relating to the overseas provinces).

**Table 3**

Expenditure made under the scope of the development plans, metropolis and overseas, 1953-1972 (*contos*)

	I Development Plan	II Development Plan	Interim Development Plan	III Development Plan <sup>a</sup>	Total
At current prices					
Metropolis	9,889,630	27,118,920	32,066,911	66,505,064 <sup>b</sup>	135,580,525
Overseas	4,562,303	9,058,187	7,826,533	31,852,106	53,299,129
Total	14,451,933	36,177,107	39,893,444	98,357,170	188,879,654

Sources: The same as those that were used to construct Table 1 and Table 2.

<sup>a</sup> In the case of the Third Plan, the expenditure made in the metropolis relates to the period 1968-1971, whereas that made in the overseas provinces relates to the period 1968-1972.

<sup>b</sup> This includes the estimation of 20.2 million *contos* made for the manufacturing industries.



Evaluating the Portuguese nation as a whole (both the metropolis and the overseas provinces) and based on the data provided by the implementation reports, it can be concluded that the expenditure made under the scope of the development plans increased in nominal terms from one plan to the next (as we have seen previously, the same conclusion can be obtained at constant prices for the case of the metropolis).

Based, once again, on these reports, it can be seen that the total expenditure made on the plans was roughly 189 million *contos*. However, if we further add to this amount the additional expenditure that was taken from the State General Accounts (relating to the Third and Fourth Plans during 1972-1974), this figure amounts to approximately 211 million *contos*. Almost three quarters of this value were invested in the metropolis while the remainder was invested overseas.

#### 4. Applied research

A natural extension of this work consists in finding empirical evidence of a possible relationship between the expendi-

ture of the plans and the Portuguese GDP. We attempt to answer the following question: was the expenditure on a broad set of investments made under the scope of the development plans associated with the extraordinary growth of the Portuguese economy during the Golden Age? However, before presenting any answer, it is important to establish relevant parameters for this study.

As far as the perimeters for this study are concerned, it makes sense to reduce the institutional scope of the research to the expenditure made in the metropolis. In terms of the time horizon, the study should only comprise the period 1953-1971, since, as already mentioned, for the following years it is not possible to consult the implementation reports of the plans.

To quantify the direct relationship between Portuguese GDP and the expenditure of the plans, we present equation (1), the construction of which was inspired by some existing works that have sought to explain the determinants of economic growth (see, for example, Barro and Lee, 1994, or more recently Huchet-Bourdon *et al.*, 2018):

$$GDP_t = \beta_0 + \alpha GDP_{t-1} + \beta_1 Edu_t + \beta_2 Life_t + \beta_3 GCF_t + \beta_4 Exp_t + \beta_5 Plans_t + \beta_6 t + u_t \quad (1)$$

In this model, the dependent variable is the Portuguese GDP *per capita*. The explanatory variables are: 1) the initial level of the Portuguese GDP *per capita*, which can be useful for testing the impact of "initial conditions"; 2) population with middle and higher education (*edu*), as citizens with a higher level of education are expected to contribute more intensely to increasing productivity; 3) life expectancy at birth (*life*); 4) real gross capital formation as a percentage of GDP (*gcf*); 5) real exports of goods and services over GDP (*exp*), as a measure of trade; 6) real expenditure made under the development plans as a percentage of GDP (*plans*);<sup>15</sup> 7) time-trend (*t*), useful in

accounting for period-specific effects (as, for example, productivity changes). The unknown parameters are  $\alpha$ ,  $\beta_0$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ ,  $\beta_5$  and  $\beta_6$  with  $u$  being the error term.

The regressors can also be expressed in terms of their growth rates: *gdp*, *edu*, *life*, *gcf*, *exp* and *plans* (lowercase letters). This will enable us to obtain better estimated results in terms of stationarity (to consult the stationary tests, see Table A6 in Appendix).

The estimated results are presented in Table 4:

<sup>15</sup> For the regressors *gdp*, *gcf* and *exp*, data are taken from Pinheiro (1997) and Valério (2001). For *edu*, data are taken from Domingos (1997). For *lif*, data are taken from HMD (2017). For *plans*, data are the same as those that were used to construct Figure 1.

**Table 4**

Estimation of equation (1) by OLS method with Robust Standard Errors (HAC)

Explanatory variables	Coefficients
<i>Const</i>	-0.79 (1.07)
<i>gdp</i> <sub>t-1</sub>	-0.09 (0.20)
<i>edu</i> <sub>t</sub>	1.01*** (0.31)
<i>life</i> <sub>t</sub>	0.63** (0.28)
<i>gcf</i> <sub>t</sub>	0.05 (0.06)
<i>exp</i> <sub>t</sub>	0.03 (0.06)
<i>plans</i> <sub>t</sub>	0.05** (0.03)
T	0.33*** (0.08)

Note 1: The estimation was performed using the software GRETL (2017).

Note 2: \* \*\* and \*\*\* represent the statistical significance of the regressor at the 10%, 5% and 1% levels, respectively. Figures in parentheses are standard errors.

Note 3: Adjusted R-squared = 0.44; p-value of Durbin-Watson statistic = 0.42; p-value of LM test for autocorrelation (until order 3) = 0.95; p-value of Breuch-Pagan test for heteroskedasticity = 0.95; p-value of White test for heteroskedasticity = 0.43; P-value of Normality Residual Test = 0.39.

As can be seen, the basic assumptions of OLS are not violated. In this context, it is possible to observe that the explanatory power of the model is moderate, and that only the regressors relating to life expectancy, education and the expenditure of the plans display any statistical significance.<sup>16</sup>

For this study, the most important conclusion is, however, related to the last variable. More concretely, the results show that an increase of 1 percentage point (pp) in the real growth rate of the expenditure made under the development plans was associated, on average, with an increase of 0.05 pp in the real growth rate of the Portuguese GDP *per capita*.

Despite its simplicity, this experimental econometric application is extremely useful for proving that there was, in fact, a positive and statistically significant relationship between the expenditure of the plans and economic growth during the Golden Age period.

## 5. Conclusion

Using unique data, the results obtained showed that, in the period 1953-1974, roughly 211 million *contos* were spent under the scope of the development plans. Almost three quarters of this amount was invested in the metropolis (which, at today's prices and currency, is equivalent to €50.4 billion, i.e. 26.1% of the Portuguese GDP in 2017). In turn, more than one quarter of this amount was related to investments in the overseas provinces. Both in the metropolis and overseas, the expenditure showed a positive trend as a percentage of their respective GDPs.

Looking more closely at the metropolis investment categories, it can be seen that the "Industry" category accounted for about one third of total expenditure. This seems to make sense, since it was in this period that the Portuguese economy underwent a powerful process of industrialisation. These metropolitan investments were 51% financed from private sources and 49% financed from public sources. The proportion of private funding was higher from the Intermediate Plan onwards. However, it should be noted that the Third Plan displayed an increase in public funding when compared to its predecessor. This is an interesting fact, since it means that, despite the war effort, the Portuguese State continued to focus its attention on the investments in the metropolis outlined in these plans.

In the overseas provinces, "Transport and Communications" was the most relevant category, representing one third of the total. This also seems to make sense if we take into account the fact that the various provinces lacked the infrastructures and transports necessary to link the different villages. The investments made in the overseas provinces were 25% financed by public sources in the metropolis, while the remainder had another origin. From the Interim Plan onwards, the proportion of public financing from the metropolis began to decrease, and, in monetary terms (*contos*), in the Interim Plan and the Third Plan, it even represented less than half of what it did in the Second Plan. This is another interesting fact that may have been linked to the Colonial War. The uncertainty that this conflict brought regarding the future of the overseas provinces may have led Portuguese policymakers to reduce the ex-

penditure made through public funds originating from the metropolis.

Based on a trial application, which involved the estimation of a multiple regression model, it was also possible to identify a positive and statistically significant relationship between the development plans and the extraordinary growth of the Portuguese economy during the Golden Age. It is possible that there may also have been medium-term impacts of this expenditure on growth, something that may be a subject of possible study in future investigations.

The main conclusions of this paper reflect the great effort made in terms of the consultation, processing and analysis of the unique historical data that are to be found scattered around different libraries and historical archives. Despite its limitations, it is hoped that the presentation of the first financial quantification of the expenditure made under the scope of the Portuguese development plans represents an important contribution to the economic history of the twentieth century, serving as a valuable aid for future research studies.

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<sup>16</sup> Additionally, the model was also estimated through the TSLS method in order to evaluate eventual problems related to endogeneity. Through the *Hausman test*, it was concluded that the OLS estimates are consistent.

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