

# The Second Coming of Rail: The Spanish High-Speed Rail-Finance Complex

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**Abstract:** This article offers a critical account of Spanish high-speed rail (HSR) through the lens of the spatial fix. I designate the integration of Spanish HSR into a European-wide process of circulation of finance capital as the HSR-finance complex. The analysis of the inner workings of the HSR-finance complex reveals the way in which European finance has laid the conditions of possibility for the development of the project and offers a forewarning about the dangers of leveraging finance capital toward green infrastructure. The analysis of the Spanish HSR-finance complex shows that the particular form of capital circulation that has made it possible has not brought about new productive combinations but has instead deepened traditional relations of economic dependency and magnified their socioenvironmental consequences.

**Resumen:** El presente artículo ofrece una lectura crítica del desarrollo de la alta velocidad española desde el enfoque del arreglo espacial. A través del concepto de “complejo alta velocidad ferroviaria-finanzas” se identifica el proceso de integración de la alta velocidad ferroviaria española en un proceso europeo de circulación del capital financiero. El análisis de la lógica interna del complejo alta velocidad ferroviaria-finanzas pone de manifiesto las formas en que la circulación europea de capital ha creado las condiciones de posibilidad para el desarrollo del proyecto y advierte de los peligros que surgen del apalancamiento de capital financiero para el desarrollo de infraestructuras verdes. El análisis muestra que la forma particular de circulación de capital que ha hecho posible el desarrollo de la alta velocidad no ha contribuido al surgimiento de nuevas combinaciones productivas, sino que más bien ha reforzado relaciones existentes de dependencia económica, al mismo tiempo que ha ampliado sus consecuencias socioambientales.

**Keywords:** high-speed rail, Spain, spatial fix, European Investment Bank, infrastructure, finance capital

**Palabras clave:** alta velocidad ferroviaria, España, arreglo espacial, Banco Europeo de Inversiones, infraestructura, capital financiero

This final epoch will end with a railway line in front of every house. (Werner Sombart, 1903 [quoted in Wolf 1996:65])

The President of the Government, José Luis Rodríguez Zapatero, guaranteed today that in 2010 Spain will be the first country in the world in relation to high-speed rail. (*El Economista*, 14 February 2007)

For almost half a century it seemed like Sombart's vision of a form of mobility dominated by the railways underestimated capitalism's relentless drive for technological transformation. As the automobile replaced the train as the dominant

mode of transport, rail travel became the object of nostalgic attachments and a symbol of state inefficiency. However, with the car society's limits becoming increasingly visible and air travel under scrutiny for its environmental effects, high-speed rail (HSR) has come to stand in for the promise of a frictionless, capitalist driven technological solution to today's mobility and environmental challenges. Much like the 19<sup>th</sup> century expansion of the railways is the central image of the spread of industrial capitalism, HSR embodies the hopeful expectations tied to a dematerialising green capitalism.

HSR has been attracting increasing academic attention (Schwanen 2016), and while some scholars are unapologetically optimistic about it (Chen and Hall 2011; Tierney 2012; Willigers and Van Wee 2011), others have been highlighting its limitations (Banister 2011; Givoni and Banister 2012; Wang et al. 2013). Analysis clearly reveals that not everybody is equally positioned to benefit from the development of HSR (Albalate and Bel 2011; Sánchez-Mateos and Givoni 2012). Overall, however, the academic approach to HSR has been surprisingly cautious. While notable exceptions do exist (Minn 2013; Wolf 2006), by and large criticism has fallen short of firmly anchoring HSR as a form of infrastructural development tied to the geographical configuration of contemporary capitalism. Critical approaches are frequently toned down by a narrow focus on policy issues and institutional conflict (Audikana 2015b; Audikana and Kaufmann 2017), or by an insufficient engagement with the structural conditions favouring the expansion of HSR (García Mejuto 2017). Most of the time, opposition to HSR stops short of being a critique of the economic model into which it is embedded (Buier 2020).

Spain is today the European country with the largest HSR network, globally second only to China (European Commission 2020; European Court of Auditors 2018), and the country with the highest number of km of HSR/inhabitant. The attitudes towards this rather unknown record fall into two broad categories: for supporters of the project, the AVE (*Alta Velocidad Española*—Spanish HSR) is a result of Spain's democratic trajectory of economic growth. Critics of the project concede its exceptionality. However, rather than seeing it as a beneficial expression of successful modernisation, they recast it as a pharaonic project, fundamentally irrational from an economic point of view and understandable only through the prism of the Spanish political landscape. The most common line of academic criticism of the AVE sees it as an attempt to consolidate the centralisation of power at the national scale, at the cost of distorting rational market outcomes (Albalate and Bel 2011; Bel 2010, 2011). Against such readings, I draw on David Harvey's work and I propose to look at the development of the AVE through the lens of the spatial fix. This, I argue, is not a national phenomenon, but part of a European-wide process of geographical expansion in which finance capital has played a crucial role in the allocation of investments and which "confounds the analytic tendency to see state and capital as clearly separable from each other" (Harvey 2010:48).

Spanish HSR, I maintain, is a multiscalar infrastructural project that is rooted in capital's tendency to geographical expansion, but that has failed to engender the new productive combinations that would at least temporarily warrant its description as a "successful" spatial fix. I refer to the historically specific form in which

the movement of capital has found an outlet in infrastructure as the Spanish HSR-finance complex. My analysis of the Spanish HSR-finance complex follows three major steps. After a brief introduction to the specific use I make of the “spatial fix” concept, I familiarise the reader with the conjunctural origins of the development of HSR. I show that the articulation of the HSR-finance complex is not a narrowly deterministic process, but that the material route taken by loan capital into one of the most ambitious infrastructural projects of the century worked through the social, cultural and ideological imperative of post-Francoist modernisation. Next, I move on to a discussion of the institutional form of credit that underwrites the huge concentrations of capital required for such a development to take place. In the last section of the article I discuss the way in which the availability of credit for infrastructural development worked its way through the Spanish construction sector, resulting in one of the most spectacular infrastructural booms on the continent. Infrastructure, as I discuss through the case of Ciudad Valdeluz, not only followed the urbanisation of land but was also a driving force in relation to it. This, I argue, reveals the way in which the spatial fix, which appears as the mobility of capital from the standpoint of finance, manifests itself as a crisis of overaccumulation in the built environment from the standpoint of fixed capital formation. The conclusion asks whether the outlined processes should force us to reassess the limits to capitalist devaluation.

The article is part of a broader research project that can be briefly described as a historical ethnography of the rise of Spanish HSR. It builds on long-term fieldwork addressing the relationship between historical memory and labour organising in the Spanish railways that began in 2012. Subsequently I focused on HSR and broadened the ethnographic research on institutional and sectorial transformations to processes of urban development and opposition to HSR development. In addition to Madrid-based research this also involved research in Valdeluz, an urban development project in the proximity of Guadalajara, and regional research in the Basque Country. My understanding of the transformations in the Spanish railways is deeply indebted to interviews with railway workers, engineers, managers, bureaucrats, union members and leaders, planners and policy makers, as well as people brought into the orbit of HSR as users, opponents, voluntary and involuntary receivers of its effects. Throughout the years I have attended demonstrations, union meetings and presentations, in addition to carrying out long-term archival research. The description of structural processes does not allow me to do full justice to the diversity of experiences and voices through which I have come to understand these phenomena, but wherever possible I have tried to connect the analysis to its ethnographic ground.

### **The Spatial Fix: More Than a Frontier Phenomenon**

In Harvey’s classical formulation, the spatial fix is a reworking of capital’s circulation in order to overcome and displace capitalist crises (Harvey 1981, 1985, 2001, 2006). Harvey’s own formulation of the theory of the spatial fix leaves room for ambiguity, since the relationship between geographical expansion and restructuring, or between the inside and outside of the spatial fix is not rigidly

theorised. Earlier formulations seem to favour an interpretation which stresses the spatial fix as the expression of capitalism's drive to resolve its inner crises tendencies through outward expansion (Harvey 1975, 1978, 1981). That the stress would be on outward expansion in the early formulation is less surprising if we consider that these initial formulations arose out of Harvey's attempts to reconcile Marx's temporal treatment of capitalist crises with various formulations of the theory of imperialism. More recent treatments of the spatial fix seem to leave room for using the term to cover a broader range of processes of geographical expansion, as Harvey also moved to paying increasing attention to the relationship between motion and fixity in the process of opening new spaces and territories for renewed accumulation (Harvey 2001, 2006). From early on, Harvey's own theorisation of the spatial fix has been accompanied by discussions which have sought to clarify or expand the use of the concept (Arrighi 2004; Brenner 1998; Jessop 2006; Walker 2004). While I draw on these ongoing discussions, I stress the dynamic history of the concept within Harvey's own work (Buier nd), arguing that the relevance of favouring one reading over another can only be judged in relation to a specific analytic task. My own interest is in seeing how the concept can illuminate contemporary processes of infrastructural development, and for this purpose I find particularly useful those readings that highlight that the "outside" of the spatial fix "is not necessarily at capitalism's spatial frontiers, it can be internal to them" (Guthman 2015:2525). The spatial fix is thus not only a process of capital spreading out over territory, but also as one of deepening its presence in place (Schoenberger 2004). I am also deeply inspired by recent attempts to rethink the spatial fix as a socioecological process and to advance the theorisation of the relationship between the spatial fix and fixed capital formation (Ekers and Prudham 2015, 2017, 2018). While I adopt the view that understanding contemporary socio-environmental conditions must be integrated with the analysis of spatial fixes, I resist the idea that this is a fundamental departure from Harvey's theory or one that he did not foresee. While Harvey's own treatment of the spatial fix as a socioecological process might be considered marginal, his theory of internal relations and his accompanying observations about the unity of social processes (Harvey 1996, 2000) justify a reading whereby the spatial fix is the unitary process upon which we can open different windows, the socioecological lens being another window opened upon a process which he himself has mostly analysed as a political-economic one.

Drawing on this foundation, I then approach the AVE as part of a multiscale process of geographical expansion and restructuring that seeks to restore the conditions for capital accumulation on an expanded scale. The AVE emerges as a vehicle for the absorption of surplus capital and as an instrument in the valorisation of land. With a nod to Paul Sweezy's (1973) discussion of the automobile-industrial complex, I designate the integration of the AVE into this process of capital circulation as the HSR-finance complex. Its inner workings are my main focus. The concrete analysis delves into the way European finance has laid the conditions of possibility for the consolidation of this infrastructural pillar of the Spanish construction sector. Firstly, the AVE, I argue, offers a forewarning about the dangers of leveraging finance capital toward green infrastructure as a solution

to environmental problems and climate change (Castree and Christophers 2015). Secondly, the analysis of the inner workings of the HSR-finance complex raises serious doubts about the effectiveness of HSR as an instrument for restoring conditions of profitability at the national scale. While Harvey, following Marx, has been unwavering in arguing there is “no long-run spatial fix to capitalism’s internal contradictions” (Harvey 1981:9), the question remains whether in the short and medium-run spatial fixes result in the reorganisation required for restoring conditions of profitability. The analysis of the entanglements of the AVE and the construction sector shows that Spanish HSR, rather than bringing capital and labour into novel productive combinations, has deepened a traditional dependency on the construction sector. The redirection of surplus capital into fixed capital formation works as an outlet for surplus capital but has not substantially altered the existing circulatory systems. Harvey himself has likened the capitalist addiction to geographical expansion to capitalism’s necessary technological dynamism (Harvey 2001), and on the surface it is seductive to think of HSR as a spatial as much as a technological fix. But the analysis of the Spanish HSR-finance complex suggests that we are dealing with a process in which infrastructural development has assumed the rhetoric of technological innovation but has not in any meaningful way contributed to altering existing relations of production. This results in the continued threat of regional instability, which, in turn, under conditions of overinvestment in the built environment raises the dangerous spectre of devaluation.

Overall, my analysis of the AVE shows how two sides of geographical mobility operate in tandem as a spatial fix: on the one hand, we are witnessing a more conventional process of “outwards” expansion: Spanish HSR has been made possible by the circulation of finance capital from a central, supranational institution to the national and subnational level of a country from the European semi-periphery. The multiscale articulation of the process obscures, but does not cancel out the fact that what we are witnessing is a relatively fixed exchange between a core EU institution that operates as a for-profit lender and one of its semi-peripheral members acting as a buyer of credit. On the other hand, we are also witnessing a process of capital deepening its presence in place: at the national and subnational level the flow of supranational capital into Spain has resulted in a continuous restructuring of its geographical landscape and a crisis of overaccumulation in the built environment. Alternatively, it can be argued, the articulation of the process at the EU level reveals the degree to which the question of an inside/outside in relation to the geographical mobility of capital is riddled with tensions. While for the purposes of credit circulation the EU operates as a relatively “structured coherence”, debt repayment and the broader social and environmental consequences of infrastructural development are disproportionately shouldered at the national and subnational level, bringing to light processes acting against the EU constituting itself as a “structured coherence”.

## Modernise or Die: The Origins of Spanish HSR

The story of Spanish HSR unfolds over more than three decades. With approximately 3200 km in use<sup>1</sup> and over a thousand under construction, roughly one out of every 3 km of HSR in Europe corresponds to a km of AVE (European Court of Auditors 2018). Its origins go back to the mid-1980s, when the socialist government led by Felipe González took the decision to invest into what would become Spain's first HSR line, on the Madrid-Seville route. The inauguration of the first line in 1992 belongs to a cluster of events that were supposed to authenticate Spain's uncontested Europeaness: alongside the Seville World Expo and the Barcelona Olympic Games, the inauguration of the AVE was a key element in the showcasing of Spain's modernisation under the leadership of PSOE (Partido Socialista Obrero Español—Spanish Socialist Workers' Party) (Maddox 2012). Given the easily contestable choice for the first HSR route, plans for connections to the Basque Country and Barcelona soon followed. It was only in the 2000s that the project acquired its current defining feature: a radial network connecting Madrid to all regional capitals (Bel 2010). While in the early days of the AVE the then opposition party PP (Partido Popular—Popular Party) was critical of it (primarily on account of PSOE having successfully claimed it as a socialist victory), it did not take long before the two main governing forces converged in their unconditional support for HSR.

Present institutional convergence should not obscure the fact that the original decision to invest into HSR was not a straightforward choice. The turn to HSR was embedded into a broader debate about the future of the national railways. Different beliefs were carried by factions differently positioned in the political field. My research shows that the adoption of HSR occurred within a context defined by the broader agenda of a socialist administration set on breaking what they saw as the Francoist culture of the railways. Just a few years before the official endorsement of the AVE, an influential report on the state of the railways had rejected the HSR alternative and had instead favoured a more cautious approach of upgrading conventional rail (Buier 2016). However, expertise originated in the railway company was defeated by the higher order integration of the HSR project into the government's modernisation plans.

The national railways had emerged from Francoism burdened not only by decades of underinvestment, but also as the object of an ongoing negative campaign, the echoes of which can be found in the contemporaneous press (Buier 2016). At the time RENFE (Red Nacional de los Ferrocarriles Españoles—Spanish National Railway Network), the largest public company, had suffered decades of state-supported competition from highways, and it was broadly seen as an incarnation of state-led inefficiency and a symbol of Francoist corporatism. The arrival to RENFE of the first post-Francoist generation of socialist administrators was linked to an agenda of modernisation which was specifically aimed at challenging the Francoist legacy. During this period the main objective of railway reform became the rebuilding of sector to offer a competitive, market-oriented service. The horizon of transformation was that of a state-owned company that would internalise the formulas and lessons of the private sector. Company reorganisation was one key pillar of this strategy. Technological modernisation was the other.

The aggressive company reorganisation carried out by the socialist administration created widespread dissatisfaction. Autobiographies of railway managers offer us a glimpse into both the enthusiasm of some of the proponents of the measures (Martín Baranda 2011), as well as the resentment and resistance strategies of those who felt themselves portrayed as Francoist relics (Villa 2013).

Technological modernisation was another envisioned solution to the dire state of the railways. The 1980s saw the consolidation of a policy orientation that favoured the competitive specialisation of railways in the transport market, based on a view that attributed the decline of the railways to the persistence of the idea that they should offer a universal service. The time of the railways as the hegemonic mode of transport had long faded, it was argued (Buier 2016). Long distance passenger traffic, where railways could prove competitive in relation to air transport, was believed to be the niche best serviced by this mode. And indeed, the adoption of HSR, much like in the case of France (Meunier 2002), was made possible not by a technical breakthrough in relation to maximum speeds available (the speed records of HSR had been achieved decades before), but by a shift in railway policy through which it was finally deemed that commercial railway policy should be oriented toward the marketing of speed as a commodity. As railway historiography confirms (Vía Libre 2012) and eyewitness accounts record (Martín Baranda 2011), the possibility of higher speeds had been present for a long while but it was only with the arrival to power of the socialist managers that high-speed became considered commercially viable. Although the inauguration of the Madrid-Seville line was infused, at least for marketing purposes, with a messianic optimism,<sup>2</sup> the turn to HSR was less about confidence in the future and more about a diagnosis of the past. Socialist managers and engineers became powerful carriers of the idea that nothing short of technological revolution could save the railways from a death foretold. In the words of a former railway official describing to me his time as a high-profile engineer in charge of the implementation of the project: “we either went ahead with it or closed the stall”.

That HSR became synonymous with technological modernisation echoed the dominant view about the obsolescence of conventional rail. The devaluation of conventional rail is a long-term process that shows the rigidities that arise from locking in production and consumption in enduring spatial configurations. While the expansion of HSR has absorbed for almost two decades the lion's share of infrastructural funds, the decline of conventional passenger rail and freight has accelerated. The dynamic of decline has been steady for more than half a century. The national railways emerged battered from the Civil War and in spite of some attempts at modernisation the overall dynamic from the 1940s onwards had been one of sustained decline. By the 1980s the market quota of the railways was dramatically reduced, and transportation by road had become hegemonic (Rubio 1995). The changing industrial landscape of Spain and a definitive commitment of the first post-Francoist socialist government to a policy of deindustrialisation appeared as a death sentence to freight transportation by rail. The 1980s saw not only the emergence of the AVE but also the biggest closure of lines in the history of the Spanish railways, a significant share of which corresponded to freight routes (Vidal Olivares et al. 1999).

If the birth and development of Spanish conventional rail were connected to the needs of 19<sup>th</sup> century finance and industrial capital, the network gradually took up the function of articulating the mobility needs of parts of the country which have become peripheral within the contemporary structure of accumulation. In a country characterised by severe territorial imbalances (de Ureña 2016), it is not surprising that the defence of conventional rail has been stronger in areas where the underfunding and disappearance of conventional rail services is seen as both a cause and a symptom of peripheralisation. The recent escalation of struggles in the so-called “emptied Spain” (*España vaciada*), the regions with the lowest population density in the country, commonly referred to as “the Spanish Lapland” (*la Laponia española*), has typically involved a defence of conventional rail services. Such struggles make visible the fact that the development of HSR has consolidated the growth of regions already growing and strengthened ongoing processes of peripheralisation (de Ureña 2016).

### **Follow the Money**

So what made possible the concentration of resources required for a project as ambitious as the AVE, and what does it tell us about common assumptions regarding contemporary infrastructure finance? Infrastructure development has long-been treated as an exception in relation to the operation of the laws of the market, thus forcing classical and neoclassical economists to tackle the problem of the provision of goods considered necessary for the successful operation of markets but which on account of high sunk costs, low turnover times and uncertain returns are unattractive for private capital investment (Picot 2015). Today, this cluster of ideas finds its continuation in two partially contradictory propositions: that we are faced with an insufficient supply of long-term infrastructure funds and that governments have been retreating from infrastructural investment in favour of private investors eager to occupy a domain previously reserved for public sector development. While these general directions are expressed in a variety of concrete propositions, we can easily see them at work in discussions about financialisation and infrastructure. The widely shared scholarly assumption regarding the contemporary financialisation of infrastructure is that this process has involved a transition from public goods to private property and that it commonly involves local unbundling and international interlinking. The latter is frequently seen as the work of specialised investment funds trying to capitalise on the stability of infrastructural investment as part of a broader search for safe assets (Hildyard 2016; Torrance 2008). Thus, what we would be witnessing is capital having found an innovative way of breaking through traditional barriers to private sector involvement in infrastructural development. Similarly, political stances echoing a Keynesian version of a green new deal have looked at public enterprise as “the vital missing ingredient in a world dogged by indebtedness” (Castree and Christophers 2015), thus both acknowledging the advances of the private sector and decrying the retreat of the public one. The analysis of the Spanish HSR-finance complex does not confirm either of these assumptions. Looking at the institutional form of credit that has made possible the development of the AVE two



things are revealed: first, that infrastructure development has been a privileged sector of investment; and second, that public enterprise has been at its core. The case of the AVE provides essential evidence about the degree to which states and supranational governance structures remain crucial forces in the operation of market-based finance and the degree to which public guarantees enable governing through financial markets.

It is commonly believed that the AVE has been made possible by the availability of non-refundable EU grants. However, as other commentators have also showed (Audikana 2015a), in practice such funding has never surpassed more than a quarter of the total funds devoted to a single line, and the average is closer to one sixth of the total funding per project. Today this previously widespread belief is under increasing pressure, as the issue of the debt incurred to finance HSR is gaining increased visibility. At over 18 billion euro debt, ADIF Alta Velocidad (the public infrastructure manager in charge of HSR investment) is the most heavily indebted public Spanish company,<sup>3</sup> having overtaken in 2018 the bailout fund for banks established after the onset of the financial crisis. The development of the AVE remains formally in the hands of the national government, but the project and its particular links to financial market rule cannot be understood without taking into account the role of the indispensable, yet neglected European Investment Bank, the prime lender backing the development of Spanish HSR. Figures speak for themselves: in spite of recent initiatives to raise capital through bond issuing, over two thirds of ADIF debt is with the EIB. Or, in the self-congratulating tone of the EIB's own reports, "The EIB is the great financier of Spanish HSR" (Banco Europeo de Inversiones 2018).

To better understand the link between the AVE and the EIB one must start with the latter. The EIB is a curious institution by virtue of its neglected importance, which has led commentators to describe it as the EU's most overlooked institution (Robinson 2009) and the *Financial Times* to recently describe it as a "huge, unsupervised leverage machine ... that has been growing more or less undetected in the woods of Luxembourg over the last 60 [or] 61 years" (Toplensky and Barker 2019). Still, recent scholarship has begun to take note of the role of the EIB in the rise of the European consolidation state after the onset of the financial crisis (Mertens and Thiemann 2018, 2019). It has been argued that its role as an anchor investor for volatile capital markets has been dramatically consolidated (Mertens and Thiemann 2018). Yet, approaching the EIB through the case of the AVE casts doubts about the novelty of these processes and suggests that what we are witnessing is rather the acceleration of processes that have been at work for a substantially longer period. The EIB is the world's largest multilateral lender and the volume of its loan operations exceeded those of the World Bank for the first time already in 1993 (Clifton et al. 2014). Briefly, the relationship between the EIB and financialisation can be seen at three levels, rather than primarily as an outcome of the financial crisis: (1) in a long-term process of taking advantage of the openness of financial markets, as from 1973 onwards the dominant form of finance became capturing funds in capital markets and channeling surplus liquidity into high-investment utility projects; (2) as an institutional fix bolstering investment in the aftermath of the financial crisis; (3) as a crucial actor in the reallocation of credit

risks. As seen in the evolution of its loan portfolio, excess liquidity has enabled the continuous expansion of its operations: between 1986 and 2004 the value of EIB loans more than quadrupled (Clifton et al. 2014). It remains true that the EIB has been a crucial player in “saving finance from itself” in the aftermath of the financial crisis (Mertens and Thiemann 2018) and in assembling new asset classes for institutional investors. One of the most important EU initiatives for mobilising private finance for strategic investments, the 2015 European Fund for Strategic Investments (EFSI), popularly known as the Juncker Plan, is actually a pillar of the Investment Plan for Europe, integrated into the EIB group. Projects supported through the EFSI are actually subject to the EIB project cycle, a fact commonly overlooked. The sheer magnitude of the EFSI and its explicit promotion as a counter-cyclical device designed to raise effective demand through public investment belies the idea that we have been witnessing a drying up of public resources and enterprise in relation to infrastructure development.

Spain was a privileged recipient of EIB loans already before the crisis and its role as a main borrower has been consolidated in its aftermath.<sup>4</sup> A national breakdown of EIB transactions reveals that lending in pre-crisis years far exceeds funding through grants and regional development aid. Spain received its first EIB loans in 1981, ahead of its process of integration into the EC (Gómez Peña 2018). It has for years occupied a leading position as a recipient of EIB loans, and although news about EIB lending in Spain has recently focused on financing SMEs, the longer term look at the history of lending shows that infrastructure, and transport infrastructure in particular, has been clearly the sector attracting the most spectacular loans.<sup>5</sup> At almost 90 billion euro debt, in 2018 Spain was the top borrower at the EIB. From 1981 onwards, the EIB has lent to Spain more than 180,000 million euro, with transport and infrastructure as the leading sectors of investment. Between 2004 and 2008, years during which investment into HSR peaked, Spain was the top recipient of EIB funds. The scale of EIB lending has made possible projects that would otherwise not receive funding. In 2008 alone, Spain received over 5 billion euro in loans targeted for transport projects (Gómez Peña 2018). This is a trend consistent with the sectorial break up of EIB borrowing, which shows that in 2018 the main sector concentrating EIB loans was the transport sector, at almost 30% of total borrowing. The relationship between the EIB and the Spanish government has been nothing short of symbiotic, even as the European Commission has been increasingly heard criticising Spain’s transportation infrastructure policies.

The EIB has been promoted as a risk adverse investor with an impressively strong record of safe investment, a propensity questioned by those favouring a less risk adverse model of business (Toplensky and Barker 2019). The EIB prides itself on its “rigorous risk management policies” and attributes its own success to a preference for financing projects that meet strict “economic, technical, environmental and social standards” (European Investment Bank Group 2020). Yet, financing decisions at the EIB remain notoriously opaque (Toplensky and Barker 2019), and its success is measured not by the individual success of the projects financed but rather through the historically low levels of defaults and impairments. While nominally half of EIB borrowing is backed by callable capital shared

among member countries, less than 10% of its subscribed capital is paid-in. More significantly though, given its success at extracting payments from borrowers, the EIB has a “breathtaking low loss rate” of 0.02%, having first written off a loan in 2006 (Toplensky and Barker 2019). Indeed, the EIB, in 2019 the world’s biggest multilateral borrower and lender on international capital markets (European Investment Bank 2020) has recorded annual surpluses ever since its foundation. Yet, the case of the AVE casts doubt about the relationship between individual project success and EIB borrowing. As I will show in the next section the evidence for the AVE’s success just fails to materialise. Given that most of the investment into the AVE is capital that will in all likelihood never be turned over and that we are dealing with an investment that does not confirm the much touted economic multiplier effects of infrastructural investment, the question arises whether the EIB has been successful not because of the success of the investments it facilitates, but in spite of their failure. When the role of the EIB in credit intermediation for Spanish HSR is taken into account, excessive stress on the rise of “new asset classes” and financial innovation seems to obscure the fundamental process at work to begin with: the displacement of risk through the leveraging of public funds. It will perhaps then come as less of a surprise that the main borrower at the EIB is also a country that has successfully inscribed debt repayment as a constitutional principle, in spite of popular opposition to the waves of austerity preventing the devaluation of capital through debt servicing.

This has not been a process without contradictions. The ability to raise money for the AVE has been affected by the irruption of the financial crisis, which is where the EIB provides an institutional fix to existing market and fiscal limitations. Pressures to reduce public debt have also strengthened experimentation with what are essentially technical solutions for off-balance sheet investment. Experimentation with this in the Spanish railway sector goes back to the creation of GIF (Gestor de Infraestructuras Ferroviarias) in 1996, a public corporation that held its own assets and liabilities and could borrow funds by itself and, most importantly, the borrowing of which would not count in the computation of the public sector deficit. Following the separation of RENFE into an infrastructure manager and a service provider, ADIF, the infrastructure manager was able to deepen its borrowing by operating as a market-oriented public corporation the deficit of which would not count towards the consolidated public debt. The history of divisions and internal mergers in the public railway sector in the last two decades appears as an institutional jigsaw puzzle, the main logic behind which is the need to sustain the deepening of public borrowing while at the same time formally meeting EU criteria for deficit control. But what happens today “in the woods of Luxembourg” is always at risk of being brought to the fore in case of crisis. As CGT unionists, the most visible union confederation fighting against the development of the AVE, always reminded me during our conversations, when you draw the line the question that matters is: “who will pay for all of this when the debts are due?” This, as Loftus and March (2016) observe, is not only a politically salient question, but also an analytically crucial one. Behind the technical problems of finance lurk the political realities of funding.

## The Crisis in Concrete

While both defenders and critics of the EIB attribute its success to a conservative lending policy that favours investment into strictly appraised projects, the AVE unequivocally speaks against this position. When looked at through the lens of the complete production circuit (and not discrete phases such as construction), Spanish HSR fails to bring about anticipated returns in productivity. The environmental record of the AVE has been by now proven to be slanted (Segura 2012). But even without considering such evidence the case remains that the development of the AVE has not managed to bring about the revolution in mobility that it was supposed to engender. Almost three decades after the launch of its ambitious HSR project, Spain remains a car-dominated society more so than the average European country: 83.5% of all passenger transport by land (vs. the European 81.8% average), while transportation by bus occupies the second place (at 7.7 %). At 6.9% market share, Spanish railways lag behind the European 7.8% average. All this in the context of an overall mobility boom which has seen the uninterrupted increase of transport by car and a sharp increase in air transportation from 2007 onwards (European Commission 2020). HSR is a passenger service and its main product as a branch of the transport industry is not one that has altered the geography of commodity circulation. Freight transport by rail in Spain is undergoing a severe crisis and has been on a dramatic course of decline (LLevat and Llobet 2016). But the market for Spanish HSR's particular product, change in location for passengers, is also a struggling one. While most long-distance rail travel in Spain by now does take place by HSR, the railways have been a net loser in the effort to increase their share of the transport market. Much of the growth of HSR is attributable to its internal cannibalisation, with closure of conventional railway lines following the opening of HSR (Zembri and Libourel 2017). Even the most heavily utilised routes in Spain (Madrid-Barcelona, Madrid-Seville and Madrid-Valencia) fail to meet the EU guidelines on minimal ridership justifying investment (European Court of Auditors 2018). The severe underutilisation of the network is reflected in comparative figures: in 2017, the AVE registered a total of 15.54 billion passenger-km (pkm), while the smaller French network recorded 58.28 billion pkm. And if its official presentation in aggregate form suggests a continuous increase in ridership, this obscures its highly uneven character: if 30 out of 50 localities connected by the network concentrate over 90% of total ridership, almost three quarters of that traffic is concentrated in just five stations in four cities (Observatorio del Ferrocarril en España 2018).

The model of investment that underwrites railway development operates on the basis that construction of the infrastructure itself cannot be profitable, and profitable returns on investment are to be expected only in the operation of the service. Thus, investment decisions are taken on the basis of expected aggregate increases in productivity (rather than profitability) and the monetisation of time savings. Operational HSR is supposed to act as a high-economic multiplier. However, in spite of recent efforts to meet profitability demands in service provision through the launching of a low-cost service (AVLO), at the level of the entire network RENFE, the public company in charge of service provision, remains an overall loss maker. With the few routes likely to reap any profits just recently opened

to competition from foreign investors, the public service provider is likely to see its fate worsen. As for aggregate economic effects, despite the scramble for providing some evidence of connected growth for this or that intermediary locality on the network, Spain still holds the headlines for its extreme economic vulnerability. The “workhorse of Eurozone GDP” (Romei 2019) is a Trojan horse that hides the second highest rate of unemployment in the Eurozone after Greece, while within the EU the Spanish economy “is set to suffer most from the coronavirus crisis” (Dombey 2020). Rather than bringing capital and labour into new productive combinations, evidence points to the fact that the HSR-finance complex contributed to the strengthening of the illnesses of the Spanish economy.

Those illnesses are nowhere more evident than in the most recent cycle of boom and bust. The period of the “second Spanish miracle” (Franquesa 2018), the 1995–2008 cycle of economic growth, has been, quite literally, one of casting finance into concrete. Spain, one of the most highly financialised countries in the world, has seen, in the last two decades, a dramatic expansion of its built environment. A third of the artificial surfaces in Spain have been erected between 1990 and 2005 and between 2005 and 2011 urban expansion in Spain proceeded at the staggering rate of 109 hectares per day (González et al. 2016). In 2006 Spain broke all European records for cement and reinforced concrete production (Carpintero Redondo 2018), with its per capita consumption of cement matched only by China. The structure of public tendering reveals the degree to which the state’s direct involvement in the expansion of the secondary circuit of capital has primarily taken place through investment in transport infrastructure. The civil engineering component of public works tenders, in the range of 70% of all public bidding throughout the latest cycle of growth and in the aftermath of the crisis (Fuentes Bargues et al. 2015), has had its most important pillar in transport infrastructure and specifically HSR. Between 1989 and 2009 the amount of state investment in railway infrastructure went from approximately 540 million euro to almost 9.5 billion euro, or what amounts to an increase from a 5.77% share to 37.74% of the total public spending in civil works (Fuentes Bargues et al. 2015). But Spain is today a European leader also in terms of number of airports (48) and km of highway (15,444 [European Commission 2020]). The expansion of infrastructure (as opposed to the real estate market), took place not only in the boom phase of the cycle. In the first years of the crisis it also involved the countercyclical deployment of a package of infrastructural projects which initially prevented a loss of profitability of the civil engineering wing of the construction sector.

But perhaps some of the strongest evidence for the limits of the spatial fix is that as a more general response to the structural crisis of the construction sector after 2008, Spanish construction companies accelerated their internationalisation. And while the construction lobby has also waged an aggressive campaign at home demanding that the government return to pre-crisis levels of infrastructural development (SEOPAN 2019), it has certainly oriented itself towards extracting superprofits on the global infrastructure market. Otherwise put, while it has continuously lobbied for the further deepening of the domestic market for infrastructure projects, it has pursued a strategy of securing independence from it. This perhaps best points to how the limits of the market are not given, but negotiated. Today, some of the

world's most important global players in infrastructure development are leading Spanish transnational construction companies: ACS, Ferrovial, Acciona, FCC and OHL the most prominent among them (Stothard 2018). But it is unimaginable that Ferrovial could have become the main operator of Heathrow Airport or that ACS would own the largest German construction group, Hochtief, absent the decades of accumulation at home. While this has been often represented as an accumulation of know-how, it has primarily been one of capital accumulation, or what the *Financial Times* has described as a "domestic war chest" (Stothard 2018).

The fitness of the metaphor of war chest is probably underestimated, given that the Spanish infrastructural boom appears as a full-on war on territory, with massive environmental consequences. Accelerated urbanisation has been dependent on the abundance of land as a cheap production factor and the dramatic exploitation of natural resources (Observatorio Metropolitano de Madrid 2013). The transformation of Spain into a net exporter of capital has been dependent on domestic specialisation in resource intensive activities (Aguilera and Naredo 2009). In spite of the much touted success stories of Spanish construction companies, Spain's international presence has been secured through expertise accumulated in the construction of HSR lines, whereas in terms of technological development and presence in high-end manufacturing, it continues to occupy a subordinate position. The affirmation of Spain as an internationalised competition state has not weakened, but rather consolidated its position in the international division of labour (Charnock et al. 2014; López and Rodríguez 2010). Technological subordination and an extractive specialisation continue to characterise its economy. So, if the criteria for judging the "success" of a spatial fix should include, as others have argued (Danyluk 2018), and as Harvey (1985, 2001) himself has maintained, a reorganisation of capitalist circulatory systems that brings capital and labour into new productive combinations and expands the basis for the production of surplus value, the evidence fails to materialise. If, however, reduced to a form of a strategy of temporal deferral that favours the expansion of a faction of capital, the internationalisation of the infrastructural pillar of the Spanish construction sector could suggest otherwise. But the meaning of the latter, and the possibility for redeeming the spatial fix in its fixed capital formation guise for progressive objectives, as Castree and Christophers (2015) would have it, can only be assessed while looking at the economic and socioenvironmental landscape that has emerged from the operation of the HSR-finance complex. From that vantage point this looks less like a success story and more like an episode of capitalist burn and pillage. In its aftermath we find not only a profoundly vulnerable national economy and growing piles of public debt, but a physical landscape that points to the devaluation of daily life in the new geographies of accumulation.

## **Ciudad Valdeluz: Urban Development in the Footsteps of HSR**

The housing boom has brought with it the need for increased physical interconnection, but urbanisation has also followed the possibilities created by the expansion of the AVE. In 2018 the map of the AVE, comprising 47 railway stations,

exhibited a dual structure of central nodes and peripheral locations, the latter corresponding to stations and stops built outside or at the periphery of preexisting urban nuclei. The new stations for Segovia, Guadalajara, Cuenca and Burgos are all situated outside town and not accessible by walking. The case of the Guadalajara station is a remarkable example of the speculative processes of urbanisation following the expansion of HSR. Located almost 10 km outside the city, the station of Guadalajara-Yebes is an intermediary stop on the Madrid-Barcelona route. With an investment of about 9000 million euro and funded exclusively with public funds, the 625 km Madrid-Barcelona line was inaugurated in 2008. By 2013 the long-awaited connection to the French border was completed. While the AVE Madrid-Barcelona is constantly singled out as a success story due to being the route with the highest long-distance occupation, the same cannot be said about the intermediary stops. The decision to locate the new station for Guadalajara outside the city, in the municipality of Yebes, at the time a Castilian village of about 200 inhabitants, was taken in 2003. It was not long afterwards that a massive construction project was announced. Ciudad Valdeluz, hailed as Spain's "first town built from scratch" was planned as a town of approximately 34,000 people, divided into 9500 housing units. The centrepiece of the planned town was the new HSR station, which, the promoters claimed, would convert Valdeluz into an ideal suburban setting 60 km far but just 20 minutes away from Madrid's central station, Atocha. The project quickly took off and in 2006 the first residents moved in, but the collapse of the real estate market following the outbreak of the financial crisis brought construction to a halt. By 2008, Real Urbis, the promoter of the project, was in line for becoming one of Spain's largest bankruptcy cases. With only the first phase of the project completed, the few hundred people already living in Valdeluz became the invisible residents of a place that became notorious as one of Spain's ghost towns.

By the spring of 2017, when we were conducting fieldwork in Valdeluz,<sup>6</sup> the place had seen a significant increase in population. In 2017 there were 2652 residents and unofficial estimates placed the actual number at around 4000. The increase in population was mostly due to people taking advantage of the low prices following the collapse of the project, which frequently reached as little as 30% of pre-crisis prices. While this resulted in a strong social polarisation between the middle class residents who had moved in purchasing housing at pre-crisis levels and the working class residents who had taken advantage of the affordable post-crash prices, these two categories of residents were united by their shared status as reluctant commuters by car and suburban rail to Madrid and the surrounding towns. Valdeluz was built with the promise of a frequent, subsidised HSR shuttle service to Madrid, but the collapse of the project shattered most illusions about such a service ever being put into place, and today it is only a few of the Madrid-Barcelona long-distance HSR trains that stop here. With an estimated cost of almost 11 million euro for the train station alone, this is today one of Spain's least utilised HSR stops. With an average number of daily users falling below 200, Guadalajara-Yebes competes with stations such as Medina del Campo and Requena-Utiel.<sup>7</sup> The latter, 70 km from Valencia and with a construction cost of over 12 million euro, had 28 estimated daily users in 2016. At almost 20 euro

for a 20-minute ride to Madrid, and only nine trains a day, the AVE is today primarily a painful reminder of promises never fulfilled. By comparison, in 2017 the Guadalajara suburban rail line was serviced by 186 daily trains and the stop had an estimated number of daily users between 6000 and 10,000.<sup>8</sup> The 55-minute ride to Madrid from Guadalajara was less accessible to the residents of Valdeluz, who, at the time of fieldwork depended on an infrequent bus service for reaching the station in Guadalajara. For many, like for Carmen,<sup>9</sup> the length of the journey to work was a burden not only through its length, but primarily through its cost. Carmen, as she recounted in our interview, bought her home in 2012, together with her husband. However, it took more than two years before they managed to move out from her grandmother's flat in a working-class neighbourhood of Madrid, where they moved when they had started paying the mortgage. The monthly cost of gasoline for her and her husband was not something they could afford from their working-class salaries. Both eventually managed to find work closer to home. For a while, although she had already relocated to the newly opened hypermarket in Guadalajara, where she works as a shop assistant following her transfer from Madrid, her husband, on his way to work in Madrid, would drop by her workplace an hour before she finished her shift, so that he would leave their toddler in her care. Carmen laughs at the thought of ever becoming a user of the AVE, and the mirage of the 20-minute ride to the centre of Madrid does not quite work on her, as she finds the thought of most people from Valdeluz working in the centre of Madrid self-evidently ridiculous.

## War on Territory

"Instant throw-away cities are hardly feasible, no matter how hard the folk in Los Angeles try" (Harvey 1978). And here is Harvey again, 20 years later, for some reason still more fixated on the durability of the built environment than on attempts to circumvent that durability: "The idea of somehow dismantling the urban infrastructures of Tokyo-Yokohama or New York City overnight and starting all over again is simply ludicrous" (Harvey 2000:59). But perhaps what should give us pause is "no matter how hard they try". Because what, if not the willingness of capital to pierce through social and physical limits to devaluation, is signalled by highways closed down a few years after their opening, by millions of euros of investment into HSR stations that barely see any visitors or by overdeveloped coasts awaiting decisions of demolition? The HSR-finance complex is linked to a crisis of overaccumulation in the built environment that signals that where the construction of landscapes happens on the terms of capital disregard for the social and environmental conditions that ensure the reproduction of life are bound to follow. What makes capital accumulation possible on an expanded scale, is, as Harvey has shown over and over again, ludicrous from the standpoint of the reproduction of life. The limits to "instant throw-away cities" or "instant throw-away infrastructure" are not fixed, but are, ever more, the terrain of struggle. If posed merely as a question of economic devaluation, the case of the AVE pushes us to ask who will pay the debts. If, however, the question of devaluation is posed as a social and environmental question, then we are back to Harvey's



ominous reminder that capitalism stops short of nothing to achieve the levels of devaluation it requires. War, Harvey (2006) reminded us, is the ultimate form of devaluation. War on territory, we should perhaps add, is its closest peace time approximation. What better reason could there be to declare, against capitalism's indifference to the social and environmental limits to devaluation, that it is "then for us to find ways to transcend the limits to capital itself" (Harvey 2006:451)?

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## Endnotes

<sup>1</sup> Figure based on Spanish estimates. The coexistence of different criteria for classifying HSR accounts for differences in figures. According to most recent EU data based on a narrow definition of HSR, Spain is the European leader but the total length of the network in use is 2852 km (European Commission 2020).

<sup>2</sup> One of the first ads for the inauguration of the AVE plays on the partial homonymy between AVE and Ave María. The arrival of the AVE is represented against an easily recognisable musical arrangement of Ave María and the visual representation evokes the standard imagery of experiential revelation: [https://www.youtube.com/watch?v=dvMc\\_6mRjLM](https://www.youtube.com/watch?v=dvMc_6mRjLM)

<sup>3</sup> Data available at [http://www.adif.es/es\\_ES/compromisos/ciudadano/informacion\\_contra\\_tacion/cuentas\\_auditoria.shtml](http://www.adif.es/es_ES/compromisos/ciudadano/informacion_contra_tacion/cuentas_auditoria.shtml)

<sup>4</sup> Full record of EIB loans to Spain available at <https://www.eib.org/en/projects/loans/index.htm?countries=ES>

<sup>5</sup> On the basis of data available at <https://www.eib.org/en/projects/loans/index.htm?q=&sortColumn=loanParts.loanPartStatus.statusDate&sortDir=desc&pageNumber=0&itemPerPage=25&pageable=true&language=EN&defaultLanguage=EN&loanPartYearFrom=1959&loanPartYearTo=2020&orCountries.region=true&orCountries=true&orSectors=true>

<sup>6</sup> During research in Valdeluz, I was accompanied by Diego Ruedas Torres, whose friendship and comradeship extended well beyond the confines of the term research assistant. I am indebted to Diego not only for his practical help, but for his generous intellectual camaraderie and patient advice.

<sup>7</sup> Data available at <http://www.renfe.com/empresa/organizacion/memoria.html> and [http://www.adif.es/es\\_ES/conoceradif/conoceradif.shtml](http://www.adif.es/es_ES/conoceradif/conoceradif.shtml)

<sup>8</sup> Data available at [http://www.adif.es/es\\_ES/infraestructuras/doc/Plan\\_Integral\\_Madrid.pdf](http://www.adif.es/es_ES/infraestructuras/doc/Plan_Integral_Madrid.pdf)

<sup>9</sup> Names have been changed to ensure anonymity.

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