The Business of Bodies: Calculating Return on Investment for Pimps in the Roman World

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Introduction

Our current understanding of the prostitution industry in the ancient Roman world suggests it occupied a contradictory position within broader culture. It was socially, politically, and religiously stigmatized, yet ubiquitous throughout the empire and a common part of daily life for the lower social classes. While the driving force behind the demand for prostitution services may be straightforward, it is less clear why someone would participate in its purveyance considering the social costs. An attractive return on investment may seem like an obvious solution, yet despite a recent focus on the economic aspects of the prostitution industry,[1] scholars have yet to develop a model that would quantify such financial benefits.[2] This paper develops an economic model for owning and running a *Lupanar*-style brothel, quantifying the potential financial return on investment. These returns are then compared to the money lending interest rates to determine whether brothel ownership would have been an attractive endeavor for an ancient Roman investor.

Social Status in the Sex Industry

Much of the scholarship on the ancient Roman prostitution industry has focused on the social status of the pimps, prostitutes, and courtesans.[3] Individuals engaged in these trades were categorized as *infames,* ranking among the lower rungs of Roman social class, status, and reputation. As part of this group, pimps and prostitutes were legally prohibited from many aspects of Roman society.[4] They were broadly barred from public office, had limited access to the private law system, and were banned or segregated from most cult activity.[5] The low-standing legal status of pimps and prostitutes in ancient Rome is echoed in their portrayal by historians, poets, and playwrights.[6] Cicero, for example, continually characterizes Catiline's followers as prostitutes, adulterers, robbers, assassins and various other undesirables.[7] Regardless of the veracity of this claim, these associations support what their legal status suggests – pimps and prostitutes were not thought highly of in ancient Roman society.

Ballio's portrayal in Plautus' *Pseudolus* supports this villainous depiction.[8] He is cruel and rapacious in his treatment of women, and avaricious in his desire for financial gain. As Dennis Feeney describes him, he is a "a hyperpimp of phenomenal outrageousness and zest."[9] In one of his many diatribes against his workers, Ballio questions his motives

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for entering the business in the first place, "I'm a fool to keep you and was a fool to buy, with never any one of 'em having any notion of doing anything right, with no possibility of getting anything out of 'em,…Why do I furnish you with clothes, jewels, and the things you need? Or what have I to show for any work of yours today except a loss?"[10] Although Ballio is a caricature of a Roman pimp, he exemplifies the qualities most commonly associated with those in the profession. And while it is possible to dismiss this as rhetorical questioning, his concerns raise a serious point: was working in the ancient Roman prostitution industry worth the trouble and stigmatization?

Modern Economic Analysis and the Ancient Economy

The economic model presented here is a simplification of the dynamic, multivariable reality of a Roman brothel during the late Republic and early Empire. By sacrificing some level of detail and nuance, the model is designed to highlight the major logical relationships between the variables that drive the performance of the business. Specific variables can roughly be grouped into three categories: one-time investment costs, recurring operating costs, and revenue.

Modern financial theory argues that returns on investment should be examined by identifying the relevant cash flows invested in a new business; the incremental cash flows that are expected to be generated is a direct consequence of the decision to invest in that activity. A potential investment requires the initial outlay of funds for equipment, for securing leases, for obtaining new employees, and for working capital. Once initiated, the project will generate additional revenues over time and incur operating expenses, including taxes. At the end of the project's economic life, what remains of the initially invested assets are liquidated and returned to the owner.[11]

While modern financial management terminology was not used in antiquity, Romans engaged in business management were financially sophisticated. Loans, maritime investments, trade finance, agricultural investments, and commercial investments are well documented. Different interest rates were charged to different groups of borrowers suggesting that investors understood the link between the risk of a particular investment and the necessary return needed to justify this risk, and therefore were conversant regarding the time value of money.[12] Papyrological records from Roman Egypt show that investors diligently tracked revenues, expenses, and margins and appeared to aggressively pursue ever greater monetary returns.[13] Thus, it can be assumed that a potential Roman investor in a five room brothel would consider the price of the initial investment, the revenue generated from the project, and the endpoint liquidation of the business – just as modern finance demands.

Quantifying Costs and Revenue for a Roman Brothel

To establish a brothel, a proprietor would have to obtain a lease for the building, identify a manager to oversee the business, hire or purchase the client-facing staff of the business, and engage a support staff to provide security, food, and beverages for guests. In addition, a cash business such as a brothel would require that the business maintain inventories of food, beverages, and other supplies as well as cash on hand (i.e. working capital) to pay day-to-day expenses.

Archaeological and literary evidence suggests that prostitution was housed in a wide variety of physical locations within the cities of Roman Italy. As a result of this diversity in physical location, it is difficult to draw clear lines about what constitutes a physical brothel and what does not.[14] For the purposes of this study, we will consider a building similar to that of the *Lupanar* of Pompeii. Located on the corner of a highly trafficked intersection near the town's forum, the *Lupanar* covered approximately 58 m^2 and contained five rooms[15] plus a latrine.[16] The identification of the building as a brothel was made based on the presence of masonry beds in each room, erotic frescoes located above the entranceway to each chamber, and graffiti describing various information related to sexual activity. While the *Lupanar* was likely only one of many brothels at Pompeii, it still stands as our best-preserved example of a purpose-built brothel.

There are few historical records regarding lease rates.[17] To determine an approximate lease rate, this analysis builds on Allen's estimates of the percentage of household income allocated towards lodging. Allen's work on living expenses in the ancient Mediterranean suggests that a basket of consumer goods during the early Principate cost 163.9 grams of silver per year.[18] Further, he concluded that rent within the city would cost an additional 10% or 16.4 grams of silver per year. If converted to residential use, the five rooms in the first floor of the *Lupanar* could hold two families of three. Therefore, as a residence, this location could be rented for 101.5 grams of silver per year or approximately As 484.[19] However, as a commercial space at a prominent intersection the building would have greater value. For the purposes of this analysis we assume a commercial rental rate three times that of a residential location, or As 1,452 per year.

Staffing for the new business would require a staff of seven: a free man or free woman to manage the operation, report on performance, solicit business, and if necessary provide security; five slaves to serve as prostitutes;[20] and a slave to provide support to the workers, clean the premises, obtain and deliver food and drinks to clients, and provide security if necessary.[21] For the analysis of the *Lupanar,* the assumed purchase price of the female slaves was As 4,000 each, based on Scheidel's[22] and Jongman's estimates of slave prices for unskilled workers in the early Roman empire.[23] Working capital for the new business is estimated to equal one month of operating expenses, or As 1,184.

In addition to these startup costs, five major recurring expenses are associated with the operation of the brothel. Rent, calculated using the consumption basket method detailed above, would continue to be paid on an annual basis (As 1,452).[24] The staff also needed payment and upkeep. In this analysis, the manager of the enterprise would be paid two times the cost of Allen's Mediterranean cost-of-living basket, or As 1,561 per year. The annual cost of living for each the slave is estimated to be 150% of Allen's Mediterranean cost-of-living basket, or As 1,171 per year, totaling As 7,026 for all six slaves. These above-subsistence estimates allow for workers to remain physically healthy and attractive to clientele and provide an umbrella to cover detailed expenses that do not receive line items in the model.

While Pompeii's *Lupanar* lacks a kitchen, it is reasonable to assume that food and drink would have been available to interested clients. To account for this, the staff-support slave stipulated above would also serve as a food runner for the guests, taking orders and filling them at a nearby inn, bar, or restaurant. Thus, there is no initial outlay for cooking equipment or food, but there is a recurring cost. We assume that one in five guests[25] would have taken advantage of this service, ordering bread and wine. Based on our best price data,[26] this would total As 4,171 per year.

Taxation of prostitution was instituted by the emperor Claudius in 40 CE, taxing[27] prostitutes at the rate of one act of intercourse.[28] Scholars have debated whether this referred to the cost of one act per day or per month,[29] and this analysis assumes a daily tax. Based on the frequency of client interactions and the cost per transaction detailed below, this tax would have cost the purveyor As 3,750 per year.[30]

Annual revenues for a new establishment are based on the number of prostitutes employed, the number of days worked per year, the number of clients serviced per day

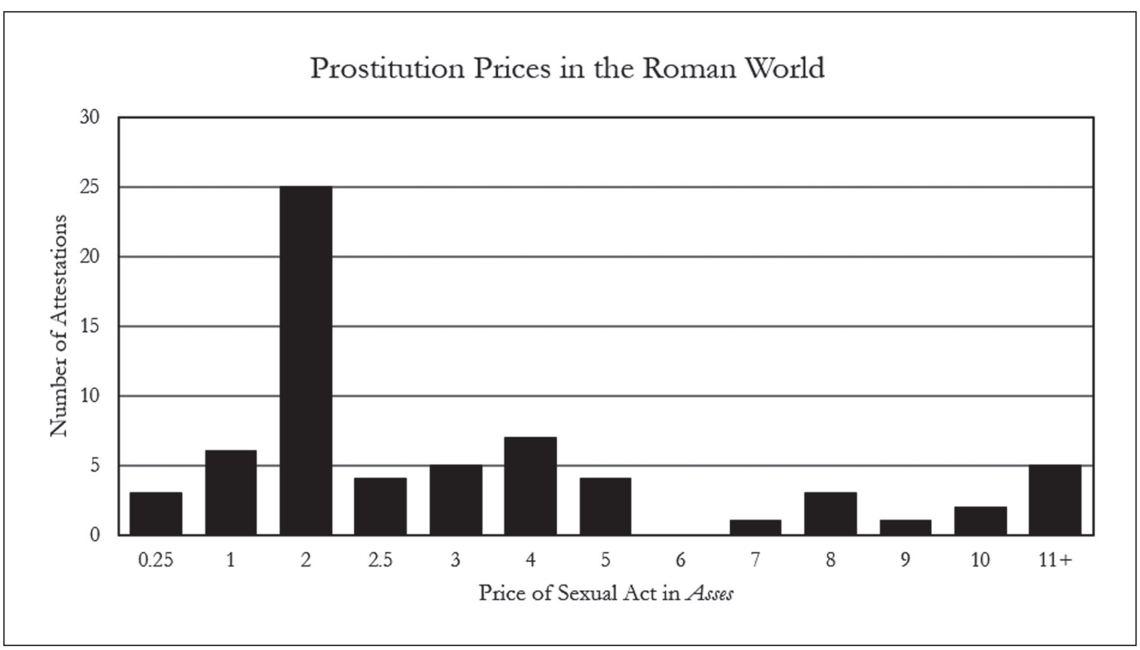

Fig. 1: Prostitution prices in the Roman world.[34]

per prostitute, and the price charged for each sexual encounter. Based on the number of rooms in the *Lupanar,* this project assumes five prostitutes working the brothel. Data on the number of clients serviced per day in the Roman world does not exist. Based on historical and ethnographic comparative data, McGinn estimates that brothel workers would have serviced between five and twenty customers per day.[31] For the purposes of this analysis, we assume five client transactions per day. Based on comparative data for a free laborer in the ancient world,[32] this analysis assumes each prostitute worked 25 days per month, 12 months per year.

Graffiti from Pompeii and literary references provide a more sizeable body of evidence for the price of prostitution. For the 66 examples of price data provided by McGinn, the mean cost of a sexual transaction with a prostitute is As 4, and the median and mode are As 2.[33] This project assumes an average price of As 2.5 per transaction for each of the five prostitutes working five interactions per day, 25 days per month, 12 months per year. For a workforce of five prostitutes, this results in revenue of As 18,750 per year.

To this total, we add in revenue from the sale of food and drink. Prices for wine and bread are based from Allen's Mediterranean cost-of-living basket,[35] and are marked

Initial Costs		**Operating Costs**		**Revenue**		**Net Income**	
Rent	1,452	Rent	1,452	Workers per day	5	Annual Revenue	24,382
Number of Slaves	6	Number of Slaves	6	Working days per month	25	Annual Costs	17,960
Cost per Slave	4,000	Upkeep per Slave	1,171	Working months per year	12	**NET INCOME**	**6,422**
Total Slave Cost	24,000	Total Slave Upkeep	7,026	Clients per day	5		
Working Capital	1,184	Manager's Wages	1,561	Revenue per client interaction	2.5		
INITIAL COSTS	**26,636**	Food and Drink	4,171	Revenue from Sex Sale	18,750		
		Taxation	3,750	Revenue from Food and Drink	5,631		
		ANNUAL COSTS	**17,961**	**ANNUAL REVENUE**	**24,382**		

Fig. 2: Estimates for annual costs and revenue (in *asses*) of a Lupanar-style brothel.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Income	6,422	6,422	6,422	6,422	6,422	6,422	6,422	6,422	6,422	6,422
Investment	(26,636)									1,184
Cash Flow	(20,214)	6,422	6,422	6,422	6,422	6,422	6,422	6,422	6,422	7,606
Cumulative Earnings	(20,214)	(13,792)	(7,370)	(948)	5,474	11,896	18,318	24,740	31,162	37,584
Internal Rate of Return	28.7%									
Payback Years	4.15 years									

Fig. 3: Estimated annual net income and cash flows (in *asses*) of Lupanar-style brothel.

up by a 35% profit margin. We assume that only one client in five requested food and drink. Based on these calculations, annual food and drink revenue total As 5,631. After combining this food and drink revenue with that from prostitution transactions, annual revenue totals As 24,382. When measured against the recurring operating costs of As 17,961, this revenue produces an annual net income of As 6,422.

Calculating Estimated Returns

To determine the financial performance of an investment, a modern financial analysis would project this net income into the future over the assumed life of the project, a termination date for the project is set, and a liquidation value is estimated. In the case of the *Lupanar,* we assume a 10-year life span, that the workers are manumitted at the end of the project, and that only the working capital is returned to the investor. An internal rate of return calculation will provide a discounted cash flow return which provides insight into the relative economic attractiveness of the brothel.

This analysis shows that based on the assumptions used in this model, an investment in this brothel could generate an estimated internal rate of return of 28.7 percent. Moreover, its initial investment would be paid back to investors in the form of cash flow over 4.15 years.

Alternative Investment Options

Was 28 percent an acceptable rate of return? There is little evidence detailing the actual returns on investment which were available in the Roman world. It is possible, however, to use interest rates as comparative data points to measure the relative attractiveness of a given venture.[36] Certainly, a Roman investor had the option of making loans in lieu of investing in a brothel. We know that the maximum interest rate allowed to be charged by a Roman citizen was 12%,[37] and this rate was frequently too high to attract borrowers.[38] Maloney argues that interest rates on typical low-risk loans ranged from 4% to 8% during this period.[39] A 28% return on investment – a rate that is over twice the usury limit – would therefore appear to be attractive relative to typical returns gained from direct lending.

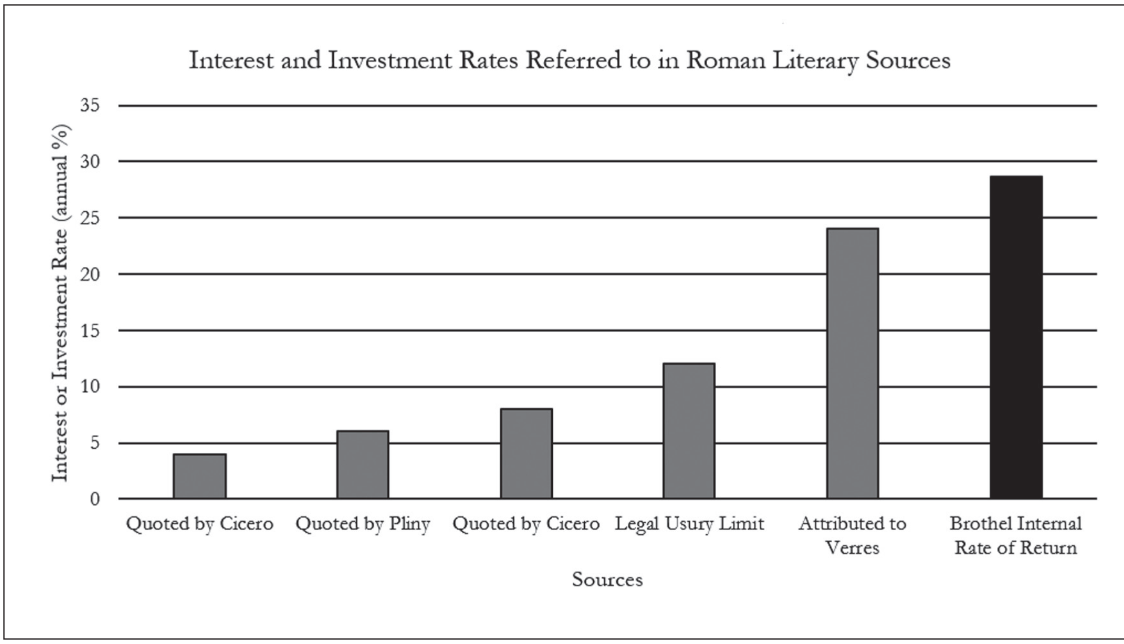

Fig. 4: Interest and investment rates referred to in Roman literary sources.[40]

Conclusions

Roman society accepted prostitution as a legal business run by social outcasts. This analysis illustrates that prostitution and specifically running a modest sized brothel was a highly profitable business. This may explain the apparently ubiquitous nature of prostitution within Roman cities and the willingness of investors to take part in such a stigmatized industry. The profitability of a brothel is sufficiently strong to support a relatively comfortable standard of living for both its workers and its manager at well over "survival" levels.

There are a number of assumptions built into this model that need further refinement. There are few data available on commercial rental prices, alternative returns on investment, and slave motivation in the personal service business. The numbers in this analysis have been estimated from archaeological and documentary evidence, but it is important to remember that these are only estimates. Future research may improve our understanding of any or all of these variables, and it is perfectly reasonable that other scholars may support different estimates for these categories of data. The model does, however, make explicit the assumptions about critical variables and suggests the way in which these variables interacted. In doing so, it allows us to test how changes in a given variable affect the bottom-line return for the investor and assess the reasonableness of our estimates. Within this model, Ballio certainly seems to be well compensated for all his troubles.

Notes

[1] Cohen 2006; Flemming 1999; McGinn 2004.

[2] McGinn 2011, 649 highlights the initial types of expenditures but does not quantify costs.

[3] McGinn 1998, 21–69; Edwards 1997; McGinn 2011.

[4] Edwards 1997.

[5] McGinn 1998, 21–69.

[6] Rauh 2011; McCoy 2006.

[7] Rauh (2011, 200) calls attention to Cicero, In Catilinam 2.7; In Catilinam 4.17.

[8] Plautus, Pseudolus; Stewart 2008.

[9] Feeney 2010, 282.

[10] Plautus, Pseudolus, 1.2; Nixon translation 163–167.

[11] Ross et al. 1995, 229–260.

[12] Cohen 1997, 111–189; Temin 2006, 143–146; Temin 2013.

[13] Bogaert 2000; Bogaert 2001; Temin 2013, 157–190.

[14] Foxhall 2013, 104–106; McGinn 2004, 78–111. 267–290; McGinn 2011, 649.

[15] The *Lupanar* also contained a second story. It is still debated as to whether this second story was part of the brothel since it had a separate entrance and lacked the masonry beds of the floor level. For the purposes of this study, it is considered separate and distinct from the brothel.

[16] McGinn 2004, 232–239.

[17] Plutarch (Life of Sulla, 1.2) provides our cheapest lease price of HS 2,000 per year, approximately double the annual pay of a legionary in the Roman army. See Frier 1980, 35 for a detailed discussion of lease rates.

[18] Allen 2009, Table 16.2.

[19] All monetary values in this analysis are provided in *asses* (AS) since this best fits the cost of individual sexual transactions and since a single denomination allows for greater commensurability. During this period, 1 denarius would roughly equal 4 sesterces (HS), and each sestertius would roughly equal 4 asses (As).

[20] McGinn 2004, 37–40; McGinn 2011, 652.

[21] Based on our assumption of one prostitute for each of the *Lupanar*'s five bedrooms.

[22] Scheidel 2005, 7.

[23] Jongman 2007, 602.

[24] Frier 1980, 32–37.

[25] The method for calculating the total number of clients is detailed below in the discussion of revenue.

[26] Prices for bread and wine are derived from Allen 2009's analysis on consumption baskets and living expenses. See also McGinn 2004, 47.

[27] McGinn 1998, 248–287 for a detailed overview of Caligula's tax.

[28] Suetonius, Caligula, 40; McGinn 1998, 249.

[29] McGinn 1998, 264–268. Although most scholars favor the monthly tax, this analysis assumes a tax at the rate of one sexual act per day.

[30] See revenue analysis below for a discussion on the number of client interactions per year.

[31] McGinn 2004, 47–49.

[32] Roughly in line with Allen's (2009, 337) estimate of 250 working days per year for a free laborer.
[33] McGinn (2004, 42) provides an overview of the prices and original data references.
[34] Data from McGinn 2004, 42.
[35] Allen 2009, 336 tab. 16.2; McGinn 2004, 47.
[36] Temin 2004; Temin 2013, 137–162.
[37] Maloney 1971, 91 referring to Cicero, Epistulae ad Atticum 5.21; Plutarch, Life of Lucullus, 20.35; Appian, De bello Mithridatico 62, 63, 83.
[38] Pliny, Epistulae 7.62, 7.63.
[39] Maloney 1971, 88–95.
[40] Data from Maloney 1971, 91–92; Cicero's 4% and 8% rate from Epistulae ad Atticum 4.15; Pliny's 6% rate from Epistulae 7.18; 12% legal limit from Cicero, Epistulae ad Atticum 5.21; 24% rate attributed to Verres in Cicero, Actio in Verrem 2.3.71.

Image Credits

Fig. 1: Data from McGinn 2004, 42; graph by Stephan and Hintz 2018. – Fig. 2: Stephan and Hintz 2018. – Fig. 3: Stephan and Hintz 2018. – Fig. 4: Data from Maloney 1971, 91–92; Cicero's 4% and 8% rate from Epistulae ad Atticum 4.15; Pliny's 6% rate from Epistulae 7.18; 12% legal limit from Cicero, Epistulae ad Atticum 5.21; 24% rate attributed to Verres in Cicero, Actio in Verrem 2.3.71; graph by Stephan and Hintz 2018

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